



TENDER DOCUMENT

FOR

**BID NO: SCMU3-2627-0193-BCM: SCHEDULED MAINTENANCE TO VARIOUS LV,
NURSES CALL, COMMS, PV AND UPS FOR BCM**

THREE VOLUME APPROACH:

**VOLUME 1 – TENDERING PROCEDURES
VOLUME 2 – RETURNABLE DOCUMENTS
VOLUME 3 – DRAFT CONTRACT**

**PREPARED FOR:
EASTERN CAPE DEPARTMENT
OF HEALTH
BUILDING, INDEPENDENCE
AVENUE
P.O. BOX X0038
BHISHO
6505**

**PREPARED BY:
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NAME OF TENDERER: _____

CRS NUMBER: _____

AUGUST 2026

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VOLUME 1: TENDERING PROCEDURES

T1.1: TENDER NOTICE AND INVITATION TO TENDER

T1.1: TENDER NOTICE AND INVITATION TO TENDER
THE EASTERN CAPE DEPARTMENT OF HEALTH INVITES TENDERER FOR:

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

The attention of Tenderer is drawn to the eligibility criteria in the table below. Tenderer are required to familiarize themselves thoroughly with the conditions of tender as contained in the Tender Data (T1.2) and the Standard Conditions of Tenderer (T1.3) which form part of the tender document. Only tenderer that are responsive to responsiveness criteria contained in the table below are eligible to have their tenders evaluated:

☒	<u>Joint ventures are eligible to submit tenders provided that:</u> They have a signed joint venture agreement
☒	Only Tenderer who have access to a suitably qualified and experienced Electrical Maintenance manager who will be the single-point of accountability and responsibility for the management of the contract works as described in clause C.2.1.2 shall be eligible to have their Tenders evaluated. <i>Experience must be on Low Voltage installation and maintenance</i>
☒	Only Tenderer who have access to a suitably qualified and experienced Electrical Maintenance supervisor as described in clause C.2.1.3 shall be eligible to have their Tenders evaluated. <i>Experience must be on low voltage installation and maintenance.</i>
☒	Tenderer that are responsive to the criteria stated above shall be evaluated furtherin accordance with the conditions of Tender as stipulated in the Tender Data (T1.2) and the Standard Conditions of Tender (as amended), which form part of this Tender document.

Preferences are offered to tenderer in accordance with the points systems as below:

☒ 80/20 or 90/10 Preference point scoring system

Preference:		Price:	
SPECIFIC GOALS Status Level:	20 or 10 Points	Price:	80 or 90 Points
Total must equal:	20 or 10 Points	Total must equal:	80 or 90 Points

1. **AVAILABILITY OF TENDER DOCUMENTS:**

- ☒ Tender documents may be freely downloaded from Tender portal www.echealth.go.za OR www.etenders.go.za **from 04 September 2026**
- ☒ A compulsory clarification meeting with the representatives of the Employer will take place as follows:

Date: 15 September 2026

Microsoft Teams meeting

Join: <https://teams.microsoft.com/meet/372732276682430?p=Ha3C92xxr4KsqBZK9q>

Meeting ID: 372 732 276 682 430

Passcode: hh73rM3j

Time: 11:00am

2. **ENQUIRIES RELATED TO TENDER DOCUMENTS MAY BE ADDRESSED TO:**

Procurement Contact:	Ms Thabisa Notshe	E-mail	thabisa.notshe@echealth.gov.za
Tel. No.	040 608 9641		

3. **DEPOSIT / RETURN OF TENDER DOCUMENTS:**

The closing time and date for submission of Tender is **11:00am on 02 October 2026**
Tenders will not be opened to the public.

The following must be noted by all tenderers;

- Service Providers must be registered on the National Treasury Central Supplier Data Base and proof of registration must be submitted with the proposal (<https://secure.csd.gov.za>).
- Bid response documents must be submitted online via the National Treasury eTender Portal. Ensure timely submission.
- **No physical documents are to be delivered to Bhisho.**
- It is the responsibility of the Service Provider to ensure that bid document is submitted on or before closing time.
- Technical enquiries shall be directed only in writing to Supply Chain Management enquiries to Thabisa Notshe at thabisa.notshe@echealth.gov.za within office hours.
- Physical, Telegraphic, telephonic, telex, facsimile, e-mail and late submissions will not be accepted.
- All bids must be uploaded before the closing time and date stipulated above and must be submitted on e-tender portal (www.etenders.gov.za) No late bid submission will be accepted.

Guide: How to submit a response to the E-tender Portal

1. (<https://www.etenders.gov.za/>)
2. Click "Login"
3. Select "Supplier Login"
4. Type in your Central Supplier Database (CSD) login credentials.
5. Click Browse Opportunities
6. Select Currently Advertised.
7. Click "+" on any tender opportunity you wish to apply for.
8. Click on "Start e-Submission Process"
9. Select Supplier
10. Click "Start response"
11. Check the submission checklist and attached the compulsory documents.
12. Confirm and proceed.

If you experience difficulties with e-Submission please contact:
012 406 9229 /012 406 9222 or email etenders@treasury.gov.za

Issued by:
Supply Chain Management
Bhisho

COMPILED BY:

Section	Department	Date
Engineering and Technical Services	MJT Consulting	August 2026

T1.2: TENDER DATA

T1.2: TENDER DATA

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Clause number	
	The conditions of Tenderer are the Standard Conditions of Supplier as contained in Annex F of Board Notice 136 of 2015 in Government Gazette No. 38960 of 10 July 2015, Construction Industry Development Board (CIDB) Standard for Uniformity in Construction Procurement. (See www.cidb.org.za) which are reproduced without amendment or alteration for the convenience of Tenderer as an Annex to this Tender Data. The Standard Conditions of Supplier make several references to the tender Data for details that apply specifically to this Tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of Supplier. Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tenderer to which it mainly applies. The following variations, amendments and additions to the Standard Conditions of Tenderer as set out in the Tender Data below shall apply to this Tenderer:
C.1.1	<i>Add the following:</i> The employer is the Eastern Cape Department of Health Global Life Center c/o R63 and Phalo Avenue Bhisho
C.1.2	<i>Add the following:</i> Tender documents issued by the Employer comprise of: <u>Volume 1: Tendering Procedures</u> T1.1 Tender Notice and Invitation to Tenderer T1.2 Tender Data T1.3 Annex F: CIDB Standard Conditions of Tender <u>Volume 2: Returnable Documents</u> SBD1 Invitation Bid: Part A and B SBD4 Declaration of Interest SBD6.1 Preference Points Claim Form in Terms of the Preference Regulations 2022 C1.1a Final Summary Page C2.2 Preliminaries and General & Bill of Quantities T2.1 List of Returnable Schedules/Documents T2.2a Resolution of Signatory T2.2b Resolution of Board of Directors to Enter into Consortium or Joint Venture (JV) Agreements (if applicable) T2.2c-1a Schedule of Proposed Subcontractors T2.2c-1a Schedule of Proposed Specialised Subcontractors T2.2c-1b Schedule of Proposed Subcontractors T2.2d Schedule of Proposed Plant and Equipment

	T2.2e Schedule of key personnel T2.2f Bank Rating T2.2n Record of Addenda to Tenderer Document T2.2r Compulsory Enterprise Questionnaire T2.2u CIDB grading certificate – Proof of registration T2.2v CIPC – company registration certificate T2.2x Company Reference Forms (min. of three) T2.2y Proof of Registration with Centralized Supplier Database T2.2z Valid Letter of Good Standing T2.3 Returnable schedules or documents: Annexures related to evaluation Annexure A: Method Statement (Generic) Annexure B1: Key personnel qualifications (Electrical Maintenance manager) Annexure B2: Key personnel qualifications (Electrical Maintenance Supervisor) Annexure B3: Key personnel qualifications (OHS Safety officer) Annexure B4: Proof of business address Annexure B5: Proof of company experience <u>Volume 3: The Draft Contract</u> Part C1: Agreement and Contract data C1.1: Form of offer and Acceptance C1.2: Contract Data C1.3: Fixed Performance Guarantee C1.4: CIDB adjudicator's agreement C1.5: Certificate of receipt of contract Part C2: Pricing Data C2.1: Pricing Instructions C2.2: Bills of Quantities Part C3: Scope of Works C3.1: Scope of Works C3.1a: Specifications for Electrical Work: Part 1: -Installations Details C3.1b: Standard Electrical Specification: Part 2: - Quality Specifications for Materials and Equipment C3.2: Health and Safety Specification C3.3: Material Offered on Service Part C4: Site Information C4.1: Site Information
C.1.4	<i>Add the following:</i> The employer's agent: MJT Consulting
C1.6.1	<i>Add the following to the clause:</i> The Department reserves the right to not accept the tender from the tenderer with the highest number of points, or award any contract. To mitigate the risk of overextended resources and to ensure satisfactory service delivery across the province, the Employer reserves the right to limit the number of districts awarded to a single tenderer. The Employer will assess the tenderer's total resource capacity (personnel, plant, and

	equipment) against the requirements of all districts where they are the preferred bidder. If the Employer determines that the tenderer's resources are insufficient to manage multiple districts simultaneously, the Employer may elect to award only a limited number of districts to that tenderer and proceed to the next highest-ranked, responsive, and low-risk bidder for the remaining districts
C1.6.3	<i>Add the following:</i> A two-stage system will not be followed.
C.2.1	<i>Add the following:</i> Only those tenderers who satisfy the following eligibility criteria are eligible to submittenders: 1. Tenderer who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in ac Contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations, for Class EB, Grade 7 or higher construction work, are eligible to have their tenders evaluated. 2. Joint ventures are eligible to submit tenders provided that: 2.1 Every member of the joint venture is registered with the CIDB; 2.2 The lead partner has a contractor grading designation in Class EB, Grade 6-construction work; 2.3 The combined Contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal or higher than a contractor grading designation determined in accordance with the sum tendered for Class EB, Grade 7 or higher construction work or a value determined in accordance with Regulations 25 (1B) or 25 (7A) of the Construction Industry Development Regulations; and 2.4 The joint venture is registered on Central Supplier Database or proof of application 2.5 All members of the joint venture must submit copies of the returnable documentations or original where it is so stipulated for all members. 2.6 In the case of a Partnership/Joint Venture/Consortium the tax clearance must be the Partnership/Joint Venture/Consortium or individual valid tax clearance certificates for all the members of the Partnership/Joint Venture/Consortium. 2.7 In the case of a Partnership/Joint Venture/Consortium the CIPRO certificates must be submitted indicating percentage of ownership for specific goals points scoring, failing which the tenderer will score zero points. 2.8 The partner of the JV must be registered with CIDB with a grading that is not lower than one level of the required grading.
C.2.1.2	<i>Add the following</i> Responsibilities for Electrical LV Maintenance manager shall be: • Prepare maintenance plans, works program, cash flow projections for all the facilities under this contract • Appointment and managing of competent personnel for the maintenance of equipment in different facilities Responding and ensure attendance to emergency calls from DOH Call Centre
C.2.1.3	<i>Add the following</i> Responsibilities for Electrical LV Maintenance supervisor shall be: • Responsible for all operations of the process unit. • Maintenance and inspection of all LV installation including lightning protection. • Issuing of COC's for all works carried out

C2.2	Add the following to the clause: Accept that the Employer will not compensate the tenderer for any costs incurred in attending briefing session, negotiation meetings or any meeting or interviews in the office of the Employer or Employer's agent (if required).
C.2.7	For particulars regarding a pre-Tender site inspection meeting, see Tender Notice and Invitation to Tenderer T1.1 "A compulsory briefing session will be held and no compensation will be paid for attendance at this meeting. Tenderer must be represented by a person who is suitably qualified and experience to comprehend the extent of the work involved and who is at the employ of the prospective Tenderer. The Tenderer representative must sign the attendance register in the name of the tendering entity. Addenda will be issue to and tenders will be received only from those tendering entities appearing in the attendance register of the briefing session."
C.2.12	No alternative tenders are allowed.
C.2.13.2	<i>Replace sub-clause C.2.13.2 with the following;</i> Return all returnable documents to the employer after completing them in their entirety by writing in non-erasable ink
C.2.13.3	<i>Add the following:</i> Parts of each tenderer offer communicated on paper shall be submitted as an original, plus 0 (naught) copies.
C.2.13.4	<i>Add the following:</i> The Tender shall be signed by a person duly authorized to do so. Tenders submitted by joint ventures of two or more firms shall be accompanied by the document of formation of the joint venture, in the form of a joint venture agreement, in which it is defined precisely the conditions under which the joint venture will function, its period of duration, the persons authorized to represent and obligate it, the participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning. Failure to provide the joint venture agreement, bound with the tenderer submission, on the date and time of the closing of the bid, shall render the tenderer non-responsive.
C.2.13.5	<i>Add the following:</i> Tender documents must be clearly marked as per the identification details below: Tender No. TITLE OF TENDERER: SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
C.2.13.6	<i>Add the following:</i> A two-envelope procedure will not be followed.
C2.13.9	Telephonic, telegraphic, telefax, facsimile or e-mailed tender offers will not be accepted.
C.2.13.10	<i>Add the following:</i>

	By signing the offer part of C1.1 Form of Offer and Acceptance the tenderer declares that all information provided in the Tenderer submission is correct and free of misrepresentation.
C.2.15.1	<i>Add the following to C.2.15.1:</i> The closing time for submission of tenderer offers is as stated in the Tender Notice and Invitation to tenderer. Telephonic, telegraphic, telex, facsimile or e-mailed Tenderer offers will not be accepted.
C.2.16.1	<i>Add the following to C.2.16.1:</i> The Tenderer offer validity period is 12 weeks.
C.2.17	Insert the following at the end of the last sentence of the note: “..... elect to do so, provided that the competitive position of the preferred tenderer is not affected” A Tenderer may be rejected as non-responsive if the tenderer fails to provide any clarification requested by the employer within the time for submission stated in the employer’s written request for such clarification. The clarification of a tenderer offer includes the provision of the priced bills of quantities (Part C2.2: Bills of Quantities).
C.2.18	<i>Add the following:</i> The Tenderer will be required to submit his fully priced Bills of Quantities (complete document inclusive of all parts) together with this tender.
C.3.4	<i>Add the following:</i> The opening of the tender offers will take place immediately after the closing time of tenders.
C.3.8	<i>Add the following:</i> Tenderer will be considered non-responsive if, inter alia: 1. the Tenderer has failed to attend the compulsory briefing meeting; 2. the Tenderer is submitted by Telegraphic, telephonic, telex, facsimile (faxed) or email media or if the Tenderer is submitted late. 3. the Tenderer does not comply with the eligibility criteria listed in C2.1 above; 4. The resolution for signatory is not attached to the tenderer submission on a company letterhead. 5. the Tenderer has failed to fully complete and sign SBD1, SBD4 & the Compulsory Enterprise Questionnaire. Failure to submit the required information shall be subjected to a request from SCM to the tenderer to submit the required information within 7 days of the request. Failure to comply with such request will result in the bid being deemed non-responsive
C.3.11.1	<i>Add the following:</i> This is a two-stage evaluation process: Stage 1: Administrative compliance Stage 2: Evaluation for price and preference The following procedure will be used to evaluate tender offers received: a. Open and record tender offers received b. Determine whether or not tender offers are complete. c. Determine whether or not tender offers received are responsive, and reject non-responsive tenders. d. Perform Technical Evaluation of Equipment as per technical Data Sheet.

	e. A bid with Equipment proposed that does not conform to scope of work or specification will be found non responsive. f. Score tender evaluation points for each price g. Confirm that Tenderer are eligible for the preferences claimed and, if so, score tender evaluation points for preferencing. h. Calculate total tender evaluation points i. Rank tender offers from the highest number of tender evaluation points to the lowest. j. Perform a risk analysis on the tenderer having the highest ranking/number of points to ascertain if the submission presents an acceptable risk to the employer. k. Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so. The Employer shall in the evaluation of tender offers take due account of the tenderer past performance in the execution of similar engineering works of comparable magnitude, and the degree to which possesses the necessary technical, financial and other resources to enable him to complete the Works successfully with the contract period. The tenderer shall be required to satisfy the Employer and the Engineer as to his ability to perform and complete the Works timeously, safely and with satisfactory quality, and furnish details in section T2.2z of contracts of a similar nature and magnitude which they have successfully executed in the past. The Employer is restricted in accordance with clause 7. (c)(iii) of the Construction Regulations, 2014, to only appoint a contractor to whom he is satisfied has the necessary competencies and resource to carry out the work safely. Submitting inferior and inadequate information relating to health and safety shall be regarded as justifiable and compelling reasons not to accept the tender offer of the tenderer scoring the highest number of tender evaluation points.
C.3.11.3	The procedure for the evaluation of responsive tenders is Method 1: Administrative, Price and Specific Goals
C.3.11.7	<i>Add the following:</i> The financial offer will be scored using Formula 2 (Option 1): $N_{FO} = (1 - (P - P_M) / P_M) \times W_1$ Where. N_{FO} = number of tenderer evaluation points awarded for financial offer W_1 = the maximum possible number of tenderer evaluation points Tender P_M = the comparative offer of the most favorable tenderer offer P = the comparative offer of the tenderer offer under consideration
C.3.11.8	Up to 100 minus W_1 (refer C.3.11.7 above) tenderer evaluation points will be awarded to Tenderer according to their SPECIFIC GOALS status level, determined in accordance with section 9(1) of the Broad-Based Black Economic Empowerment Act (No 53 of 2003), and who have submitted original valid or valid, certified copies of SPECIFIC GOALS status verification certificates issued by either a verification agency accredited by the South African Accreditation System (SANAS) or a sworn affidavit in terms of the amended SPECIFIC GOALS codes. The points will be awarded as follows, based on the SPECIFIC GOALS status level of the tenderer:

		Number of points	Number of points
	The specific goals allocated points in terms of this tender	allocated (80/20 system) (To be completed by the organ of state)	claimed (80/20 system) (To be completed by the TENDERER)
	Historically Disadvantaged Individuals Ownership	20% (4)	
	Women Ownership	20% (4)	
	Youth Ownership	20% (4)	
	Disability Ownership	20% (2)	
	Military Veterans Ownership	10% (2)	
	Locality Ownership (Buffalo City)	10% (4)	
	TOTAL	100% (20)	
	A trust, consortium or joint venture will qualify for points for their SPECIFIC GOALS status level as a legal entity, provided that the entity submits their SPECIFIC GOALS status level certificate. A trust, consortium or joint venture will qualify for points for their SPECIFIC GOALS status level as an unincorporated entity, provided that the entity submits their consolidated SPECIFIC GOALS scorecard as if they were a group		
C.3.11.10	<i>Add the following new sub-clause:</i> The Employer will perform a risk analysis in respect of the following: (a) reasonableness of the financial offer (b) reasonableness of unit rates and prices (c) the Tenderer ability to fulfil its obligations in terms of the tender document, that is, that the Tenderer can demonstrate that he/she possesses the necessary professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience, reputation, personnel to perform the contract, etc. NB: All shortlisted service providers will be subjected to a risk analysis and given an opportunity to respond should areas of concern be picked up during the risk assessment. Verification and Confirmation Exercise: After the top 3 or 4 tenders have been identified through the specified adjudication process, the client will carry out a verification and confirmation exercise. In accordance with the "Risk assessment" guidelines, this may include physical site visits to the offices or depots of the tenderer. The client will notify tenderers whose risk level is determined to be medium or high of the outcome of this verification exercise. Such tenderers will be granted an opportunity to submit additional information to allow for further assessment, intended to determine if the risk level can be improved (e.g., from High risk to medium or low risk).		
C.3.13.1	Tenderer offers will only be accepted if: a) the Tenderer is registered and in good standing with the South African Revenue Service (SARS) or proof that he or she has made arrangement with SARS to meet his or her outstanding tax obligations. This will be verified by the Employer on the Centralized Tenderer Database. Where the recommended tenderer is not tax compliant, the tenderer will be notified of the non-compliant status and be granted seven (7) working days to rectify their compliance status with the SARS. The tenderer must thereafter provide the Department with proof of its tax compliance which must be verified via the CSD or eFiling.		

	b) the tenderer or any of its directors is not listed on the Register of Tenderer Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; c) the Tenderer or any of its directors is not listed on the Database of Restricted tenderer kept by the National Treasury and updated from time to time; d) the Tenderer has not: 1. abused the Employer's Supply Chain Management System; e) The Tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer ability to perform the contract in the best interests of the employer or potentially compromise the tenderer process.
C.3.17	Add the following: The number of paper copies of the signed contract to be provided by the Employer is one
C.4	ADDITIONAL CONDITIONS OF TENDER The additional conditions of Tender are:
C.4.1	Invalid Tender Tenderer shall be considered invalid and shall be endorsed and recorded as such in the Tenderer opening record, by the responsible official who opened the Tender, in the following circumstances: a) if the tenderer offer is not submitted on the Form of Offer and Acceptance bound into this Tender document (form C1.1, Part C1: Agreements and Contract Data); b) if the Form of Offer and Acceptance has not been completed or has not been signed by the authorized representative of the tenderer c) if the Form of Offer and Acceptance is signed, but the name of the tenderer is not stated or is indecipherable d) if the tenderer offer is not completed in non-erasable ink;
C.4.2	Negotiations with preferred Tenderer The Employer may negotiate the final terms of a contract with tenderer identified through a competitive Supplying process as preferred tenderer provided that such negotiation: a) does not allow any preferred tenderer a second or unfair opportunity; b) is not to the detriment of any other tenderer; and c) does not lead to a higher price than the tenderer as submitted. Minutes of any such negotiations shall be kept for record purposes
C.4.3	General supply chain management conditions applicable to tenderer In terms of its Supply Chain Management Policy the Employer may not consider a tenderer unless the provider who submitted the tender: a) has furnished the Employer with that provider's: • full name; • identification number or company or other registration number; and • tax reference number and VAT registration number, if any; b) has indicated whether: • the provider is in the service of the state, or has been in the service of the state in the previous twelve months; • the provider is not a natural person, whether any of the directors, managers, principal

	shareholders or stakeholders is in the service of the state, or has been in the service of the state in the previous twelve months; or • whether a spouse, child or parent of the provider or of a director, manager, shareholder or stakeholder referred to above is in the service of the state, or has been in the service of the state in the previous twelve months. Irrespective of the procurement process followed, the Employer is prohibited from making an award to: • a person who is in the service of the state; • a juristic entity of which any director, manager, principal shareholder or stakeholder is in the service of the state; • an advisor or consultant contracted with the Employer; or • a person, advisor or corporate entity involved with the tender specification committee, or a director of such corporate entity. In this regard, tenderer shall complete Returnable Schedules: Compulsory Enterprise Questionnaire. Failure to complete this schedule will result in the tenderer not being considered further.
C.4.4	Combating abuse of the Supply Chain Management Policy In terms of its Supply Chain Management Policy, the Employer may reject the Tenderer any Tenderer if that Tenderer or any of its directors has: a) failed, during the last five years, to perform satisfactorily on a previous contract with the Employer or any other organ of state after written notice was given to that tenderer that performance was unsatisfactory; b) abused the supply chain management system of the Employer or has committed any improper conduct in relation to this system; c) been convicted of fraud or corruption during the past five years; d) willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or e) been listed with the Register of tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004) or has been listed on National Treasury's database as a person or juristic entity prohibited from doing business with the public sector. In this regard, tenderer shall complete Part T2.2: Returnable Schedules: Certificate of Independent tenderer Determination and Declaration of tenderer's Past Supply Chain Management Practices. Failure to complete these schedules will result in the tenderer not being considered further.
C.4.6	Claims arising after submission of Tenderer No claim for any extras arising out of any doubt or obscurity as to the true intent and meaning of anything contained in the Conditions of Contract, Scope of Work and Pricing Data, will be admitted by the Employer after the submission of any Tender and the tenderer shall be deemed to have: 1) read and fully understood the whole text of the Contract Data, Scope of Work and Pricing Data and thoroughly acquainted himself with the nature of the works proposed and generally of all matters which may influence the Contract. 2) visited the site of any proposed works. 3) requested the Employer or his duly authorized agent to make clear the actual requirements of anything contained in the Scope of Work and Pricing Data, the exact meaning or interpretation of which is not clearly intelligible to the tenderer. 4) received any Addenda to the tender documents which have been issued in accordance with the Employer's Supply Chain Management Policy.

	Before submission of any tenderer, the tenderer should check the number of pages, and if any are found to be missing or duplicated, or the figures or writing indistinct, or if the Pricing Data contain any obvious errors, the tenderer must apply to the Employer's Agent at once to have the same rectified, as no liability will be admitted by the Employer in respect of errors in any tenderer due to the foregoing.
C.4.7	Imbalance in Tenderer rates In the event of tender rates or lump sums being declared by the Employer to be unacceptable to it because they are either excessively low or high or not in proper balance with other rates or lump sums, the tenderer may be required to produce evidence and advance arguments in support of the tender rates or lump sums objected to. If, after submission of such evidence and any further evidence requested, the Employer is still not satisfied with the supplied rates or lump sums objected to, it may request the tenderer to amend these rates and lump sums along the lines indicated by it. The tenderer will then have the option to alter and/or amend the rates and lump sums objected to and such other related amounts as are agreed on by the Employer, but this shall be done without altering the tender offer as Supplied or, if applicable, the corrected total of prices in accordance with C.3.9.3. Should the tenderer fail to amend his tender in a manner acceptable to the Employer, the Employer may reject the Tender.
C.4.8	The Employer shall not formally issue Tender documents in electronic format as contemplated in C.2.13.2 and C.2.13.3 and shall only issue tender documents in hardcopy. An electronic version of the issued Tender documents may be made available to the tenderer, upon written request in terms of this clause, subject to the following: (a) Electronic copies of the contract document, or parts thereof, will only be provided to Tenderer who have been issued with the Tender documents as contemplated in F.1.2 in hardcopy. (b) The electronic version shall not be regarded as a substitute for the issued Tender documents. (c) The Employer shall not accept tender submitted in electronic format. Tenderer may not complete and submit a printed copy of the electronic version of the Tender document or part thereof. Only those Tenderer that have been completed on the issued hard copy Tender document shall be considered. (d) The Employer accepts no responsibility or liability arising from any reliance on or use of the electronic version provided in terms of this clause. The Employer further does not guarantee that the electronic version corresponds with the issued Tender documents in all respects. Tenderer are alerted to the fact that electronic versions of the Tender documents may not reflect any notices or addenda that amend the Tender document. (e) Any non-compliance with these provisions, including effecting any unauthorized alterations to the tender document as contemplated in F.2.11, shall render the Tender invalid. The Employer reserves the right to take any action against such tenderer allowed in law including, in circumstances where the tenderer had already been awarded, the right to cancel the contract. (f) In requesting the electronic version of the Tender document or parts thereof, the tenderer is deemed to have read, understood and accepted all of the above conditions.

VOLUME 2: RETURNABLE DOCUMENTS

T2.1 LIST OF RETURNABLE DOCUMENTS

T2.1.1: LIST OF RETURNABLE SCHEDULES/DOCUMENTS

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

T2.1.2: ADMINISTRATIVE AND MANDATORY RETURNABLE SCHEDULES REQUIRED FOR TENDERER EVALUATION PURPOSES

	Returnable Documents	Number of Pages Issued	Returnable Document
	ADMINISTRATIVE		
SBD1	Invitation to Bid: Part A and B	2	☐ YES ☐ NO
SBD 4	Declaration of Interest	2	☐ YES ☐ NO
SBD 6.1	Preference Points Claim Form in Terms of The Preferential Procurement Regulations 2022	4	☐ YES ☐ NO
T2.2r	Compulsory Enterprise Questionnaire	3	☐ YES ☐ NO
T2.2v	CIPC- Company registration certificate	1	☐ YES ☐ NO
T2.2y	Proof of Registration with Centralized Supplier Database	1	☐ YES ☐ NO
	MANDATORY DOCUMENTS		
C1.1a	Form of Offer and Acceptance	1	☐ YES ☐ NO
C2.2	Preliminary and General & Bill of Quantities		☐ YES ☐ NO
T2.2a	Resolution for Signatory	1	☐ YES ☐ NO
T2.2b	Resolution of Board of Directors to Enter into Consortium or Joint Venture (JV) Agreements (if applicable)	2	☐ YES ☐ NO
T2.2c-1	Schedule of Proposed Subcontractors	1	☐ YES ☐ NO
T2.2c-1a-1b	Schedule of Proposed Specialist Subcontractors	2	☐ YES ☐ NO
T2.2d	Schedule of Plant and Equipment	1	☐ YES ☐ NO
T2.2e	Schedule of key personnel	1	☐ YES ☐ NO

	Returnable Documents	Number of Pages Issued	Returnable Document
	MANDATORY DOCUMENTS (continued)		
T2.2f	Bank Rating	1	☐ YES ☐ NO
T2.2n	Record of Addenda to Tender Documents	1	☐ YES ☐ NO
T2.2z	Valid Letter of Good Standing (COIDA)	1	☐ YES ☐ NO
T2.2z-2	Resource Allocation and District bid Declaration	1	☐ YES ☐ NO
Annexure A	Method Statement	1	☐ YES ☐ NO
AnnexureA1	Summary Tasks	1	☐ YES ☐ NO
AnnexureA2	Programme with Timelines and planned Resources	1	☐ YES ☐ NO
Annexure B	Company Experience & Key Persons & Proof of address	1	☐ YES ☐ NO
T2.2u	CIDB grading certificate-Proof of registration	1	☐ YES ☐ NO
T2.2x	Company Reference Forms (Minimum of three)	4	☐ YES ☐ NO
C1.1	Form of Offer and Acceptance	3	☐ YES ☐ NO
C1.2	Contract data	5	☐ YES ☐ NO
C1.3	Fixed performance guarantee	3	☐ YES ☐ NO
C2.2	Preliminary and General & Bill of Quantities		☐ YES ☐ NO
	INCORPORATED INTO CONTRACT		
C1.1	Form of Offer and Acceptance	3	☐ YES ☐ NO
C1.2	Contract data	5	☐ YES ☐ NO
C1.3	Fixed performance guarantee	3	☐ YES ☐ NO

C2.1	Pricing Instruction	3	☐ YES ☐ NO
C2.2	Preliminary and General & Bill of Quantities		☐ YES ☐ NO
C3.1	Scope of work	3	☐ YES ☐ NO
C4.1	Site Information	6	☐ YES ☐ NO

T2.2: RETURNABLE SCHEDULES REQUIRED FOR TENDERER'S EVALUATION PURPOSES

T2.2a: RESOLUTION FOR SIGNATORY

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

MUST BE ON COMPANY LETTERHEAD

A: CERTIFICATE OF AUTHORITY FOR SIGNATORY

Signatory for companies shall confirm their authority hereto by attaching a duly signed and dated copy of the relevant resolution of the board of directors to this form. This must be on a company letterhead.

An example is given below:

“By resolution of the board of directors passed at a meeting held on _____

Mr. /Ms _____, whose signature appears below, has been duly authorised to

sign all documents in connection with the TENDERER for Contract No. _____

and any Contract which may arise there from on behalf of (Block Capitals) _____

SIGNED ON BEHALF OF THE COMPANY: _____

IN HIS/HER CAPACITY AS: _____

DATE: _____

SIGNATURE OF SIGNATORY: _____

WITNESSES:

1. _____ SIGNATURE: _____

2. _____ SIGNATURE: _____

T2.2b: RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

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

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

Held at _____ (place)

On _____ (date)

RESOLVED that:

1. The Enterprise submit a Bid /tender, in consortium/Joint Venture with the following Enterprises:

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

to the Eastern Cape Department of Health in respect of the following project:

(Project description as per Bid /tender Document)

Bid Number: _____
(Bid Number as per Document)

2. *Mr./Mrs./Ms:

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

and who will sign as follows: _____

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

3. The Enterprise accepts joint and several liability with the parties listed under item 1 for the due fulfilment of the obligations of the joint venture deriving from, and in any way connected with, the

Contract to be entered into with the Department in respect of the project described under item 1 above.

4. The Enterprise chooses as its domicilium citandi et executandi for all purposes arising from this joint venture agreement and the Contract with the Department in respect of the project under item 1 above:

Physical address: _____

Postal Code _____

Postal address: _____

Postal Code _____

Telephone number _____

Fax number _____

	NAME	CAPACITY	SIGNATURE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			

Note:

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

ENTERPRISE STAMP

T2.2c-1: SCHEDULE OF PROPOSED SUBCONTRACTORS

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

	We notify you that it is our intention to employ the following subcontractors for work in this contract. If we are awarded a contract, we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us.			
	Nature and extent of work	Name and address of proposed Subcontractor	Years of Experience	Value of Work completed in the past the 5 years
1.				
2.				
3.				
4.				
5.				

Signed Date

Name Position

TENDERER.....

T2.2c-1a: SCHEDULE OF PROPOSED SPECIALIST SUBCONTRACTORS

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

	We notify you that it is our intention to employ the following specialist subcontractors for work in this contract. The number of years of installation experience should be a minimum of two (2) years. If we are awarded a contract, we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us.			
	Nature and extent of work	Name and address of proposed Subcontractor	Years of Experience	Value of Work completed in the past the 5 years
1.	Nurse Call Systems			
2.	Public Announcement Systems (PA)			
3.	Photo Voltaic System			
4.	CCTV			
5.	UPS (Uninterrupted Power Supply Systems)			
6.	Access Control			

Signed Date

Name Position

TENDERER.....

T2.2c-1b: SCHEDULE OF PROPOSED SPECIALIST SUBCONTRACTORS

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Attach Company Profile for specialist sub-contractors.

1. Nurse Call Systems
2. Public Announcement Systems (PA)
3. Photo Voltaic System
4. CCTV
5. UPS (Uninterrupted Power Supply Systems)
6. Access Control

T2.2d: SCHEDULE OF PLANT AND EQUIPMENT

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

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

(a) Details of major equipment that is owned by and immediately available for this contract.

Quantity	Description, size, capacity etc.

Attach additional pages if more space is required

(b) Details of major equipment that be hired, or acquired for this contract if my/our tender is acceptable.

Quantity	Description, size, capacity etc.

Attach additional pages if more space is required

Signed Date

Name Position

TENDERER.....

T2.2e: SCHEDULE OF KEY PERSONNEL

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

The tenderer is referred to clause C.2.1.3 of the Tender Data and shall insert in the spaces provided below details of the key personnel required to be in the employment of the tenderer or a specialist consultant/firm, in order for the tenderer to be eligible to submit a Tender for this project. The Curriculum Vitae of the individual must be appended to this schedule.

Notwithstanding having appended the Curriculum Vitae of the key personnel to this schedule, the tenderer must **also** append to this schedule in terms of clause C.2.1.3, a statement for the individual identified, which indicates any field(s) of specialization and any recent experience that is relevant to this particular project (which may or may not have formed part of the individual's CV). Tenderer should indicate what particular aspect of the project the specialization or experience is relevant to.

Name	Qualifications	No. of Years Specified Experience

Signed Date

Name Position

TENDERER.....

T2.2f: BANK RATING

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderer must submit a bank rating from a recognized financial institution as required in clause C.2.1.4 of the Tender Data. The bank rating must be attached to this schedule. Failure to comply with the requirements of C.2.1.4 shall result in the Tender not being evaluated further.

Minimum of Grade C bank required

BANK RATING					
Bank Rating Certificate Annexure F as per returnable list		Bank rating of A: Undoubted for the amount of enquiry – Good to do business with	Annexure F as per returnable list Bank rating certificate issued by the bank.		
		Bank rating of B: Good for the amount of the enquiry – Amount is well within the capacity of ordinary business commitments	Annexure F as per returnable list Bank rating certificate issued by the bank.		
		Bank rating of C: Good for amount quoted if strictly in the way of business – Unlikely to commit themselves beyond their means	Annexure F as per returnable list Bank rating certificate issued by the bank.		

Signed Date

Name Position

TENDERER.....

T2.2n: RECORD OF ADDENDA TO TENDERER DOCUMENTS

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the Tender documents, have been taken into account in this tender offer:

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

Attach additional pages if more space is required.

Signed Date

Name Position

TENDERER.....

*This document must form part of the returnable schedules as it is referenced in the offer portion of the Form of Offer and Acceptance.

T2.2r: COMPULSORY ENTERPRISE QUESTIONNAIRE

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

The following particulars must be furnished. In the case of a joint venture, separate enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:.....

Section 3: CIDB registration number, if any:.....

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number.....

Tax reference number.....

Section 6: Record of service of the state

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

- | | |
|--|---|
| ☐ a member of any municipality | ☐ An employee of any provincial department, national or provincial public entity or constitution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| ☐ a member of any provincial legislature | ☐ a member of an accounting authority of any national or provincial public entity |
| ☐ a member of the National Assembly or the National Council of Province | ☐ an employee of Parliament or a provincial legislature |
| ☐ a member of the board of directors of any municipal entity | |
| ☐ an official of any municipality or municipal entity | |

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

Name of sole proprietor, partner, director, manager, principal, shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service(tick appropriate column)	
		Current	Within last 12months

*insert separate page if necessary

Section 7: Record of spouses, children and parents in the service of the state

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

- | | |
|--|---|
| ☐ a member of any municipality | ☐ An employee of any provincial department, national or provincial public entity or constitution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| ☐ a member of any provincial legislature | |
| ☐ a member of the National Assembly or the National Council of Province | ☐ a member of an accounting authority of any national or provincial public entity |
| ☐ a member of the board of directors of any municipal entity | ☐ an employee of Parliament or a provincial legislature |
| ☐ an official of any municipality or municipal entity | |

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service(tick appropriate column)	
		Current	Within last 12months

*insert separate page if necessary

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the enterprise:

- i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;
- ii) confirms that neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- iv) confirms that I / we are not associated, linked or involved with any other Tendering entities submitting tender offers and have no other relationship with any of the Tenderer or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;
- v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed Date

Name Position

Enterprise name

* The schedule should be used where Tenderer are subject to the Local Government: Municipal Finance Management Act

T2.2u: CIDB grading certificate – Proof of registration

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderer to submit necessary CIDB grading certificate

T2.2v: CIPC – Company registration certificate

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderer to submit necessary company registration certificate

T2.2z: Valid Letter of Good Standing (COIDA)

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderer to submit valid and up to date Letter of Good Standing certificate issued by COIDA relevant to their services

T2.2z-2: Resource Allocation and District bid Declaration

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Note to Tenderer: The Employer requires full transparency regarding the Tenderer's potential workload across the province to mitigate the risk of overextended resources. Tenderers are required to declare all other districts they have submitted bids for and provide a comprehensive **Resource Allocation Plan**.

This plan must demonstrate that the Tenderer has sufficient **separate and dedicated personnel, plant, and equipment** for the Buffalo City District to ensure strict compliance with the following service levels:

- **Emergency Response:** Attendance, evaluation, and reporting within **1 hour** of receipt of a call.
- **Day-to-Day Repairs:** Attendance and resolution within **24 hours**.

SECTION 1: DECLARATION OF OTHER DISTRICT BIDS

The Tenderer shall indicate below whether they have submitted tenders for the equivalent Low Voltage Scheduled Maintenance contracts in other districts:

District	Bid Submitted (Yes / No)
Alfred Nzo	
Joe Gqabi	
OR Tambo	
Chris Hani	
Amathole	
Nelson Mandela Bay	
Sarah Baartman	

SECTION 2: RESOURCE ALLOCATION PLAN (ATTACHMENT REQUIRED)

The Tenderer must attach a detailed Resource Allocation Plan to this schedule. The plan must specifically address the following:

1. **Dedicated District Organogram:** Provide a district-specific organogram identifying the **Electrical Maintenance Manager** and **Electrical Maintenance Supervisor** who will be dedicated to Buffalo City District. These individuals must be independent of teams assigned to other districts.
2. **Dedicated Plant and Equipment:** List the specific vehicles (noting the requirement for **4x4 access to clinics**) and major equipment dedicated to this contract.
3. **Response Logistics:** Describe the central office or depot location and the logistical strategy to ensure that teams can reach any facility in the Buffalo City District within the **1-hour emergency window**.
4. **Aggregate Capacity Declaration:** A signed statement confirming that the resources (personnel and plant) listed for Buffalo City District are **not duplicated** in any other district bid.

NB: All shortlisted service providers will be subjected to a risk assessment based on this information. If the Employer determines that the Tenderer's aggregate resource capacity is insufficient to manage multiple districts simultaneously, the Employer reserves the right to limit the number of districts awarded to that Tenderer.

SIGNED ON BEHALF OF TENDERER: _____

DATE: _____

ENTERPRISE STAMP:

PART A

SBD 1 - INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (NAME OF DEPARTMENT/ PUBLIC ENTITY)					
BID NUMBER:	SCMU3-2627-0193-BCM	CLOSING DATE:	02 October 2026	CLOSING TIME:	11:00AM
DESCRIPTION	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM				
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO			TECHNICAL ENQUIRIES MAY BE DIRECTED TO:		
CONTACT PERSON			CONTACT PERSON		
TELEPHONE NUMBER			TELEPHONE NUMBER		
FACSIMILE NUMBER			FACSIMILE NUMBER		
E-MAIL ADDRESS			E-MAIL ADDRESS		
SUPPLIER INFORMATION					
NAME OF TENDERER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		OR	CENTRAL SUPPLIER DATABASE No:	MAAA
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES OFFERED?		☐ Yes ☐ No [IF YES, ANSWER THE QUESTIONNAIRE BELOW]
QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS					
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?					☐ YES
☐ NO					

DOES THE ENTITY HAVE A BRANCH IN THE RSA?

☐ NO

☐ YES

DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?

☐ YES ☐ NO

DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?

YES ☐ NO

☐

IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?

☐ NO

☐ YES

IF THE ANSWER IS “NO” TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 BELOW.

PART B TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. **ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED (NOT TO BE RE-TYPED) OR IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.**
- 1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
- 1.4. **THE SUCCESSFUL TENDERER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).**

2. TAX COMPLIANCE REQUIREMENTS

- 2.1 TENDERER MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 TENDERER ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS.
- 2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.
- 2.4 TENDERER MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
- 2.5 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED; EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
- 2.6 WHERE NO TCS PIN IS AVAILABLE BUT THE TENDERER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
- 2.7 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE."

NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

SIGNATURE OF TENDERER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:
(Proof of authority must be submitted e.g. company resolution)

DATE:

SBD 4: DECLARATION OF INTEREST

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

- 1.1 Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa, 1996 (Constitution), and further expressed in the various applicable legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.
- 1.2 If a person is listed in the Register for Tender Defaulters and/or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. DECLARATION ON EMPLOYMENT BY ORGAN OF STATE

- 2.1 Is the bidder, or any of the directors / trustees / shareholders / members / partners of the bidder employed by an organ of state, as defined in section 239 of the Constitution? **YES/NO**
- 2.2 If YES, furnish particulars of the names, individual identity numbers, in the table below:

Full Name	Identity Number	Name of organ of state

- 2.3 Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution? **YES/NO**

- 2.3.1 If so, furnish particulars:

.....

.....

¹ the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

- 2.4 Does the bidder or any of its directors/trustees/shareholders members/partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise, whether or not they are bidding for this contract?
YES/NO

2.4.1 If so, indicate all companies registered in the CSD in the table below:

Supplier registration number (MAAA)	Status (active/inactive/deleted)

Failure to disclose all CSD-registered active companies linked to all Directors will lead to disqualification.

3 GENERAL DECLARATION

I,, the undersigned, in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

- 3.1 I have read and I understand the contents of this disclosure.
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found to be false.
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.5 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.6 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.
- 3.7 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act, 1998 (Act No. 89 of 1998) and or may be referred to law enforcement agencies for criminal investigation and or may be restricted from conducting business with the state for a period not exceeding 10 years in terms of the Prevention and Combating of Corrupt Activities Act, 2004 (Act No. 12 of 2004) or any other applicable legislation.

I CERTIFY THAT THE ABOVE IS CORRECT.

I ACCEPT THAT THE PROCURING INSTITUTION MAY REJECT THE BID OR TAKE APPROPRIATE ACTION AGAINST ME IF THIS DECLARATION IS FALSE.

.....

Signature

.....

Date

.....

Designation

.....

Name of bidder

SBD 6.1

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 **To be completed by the organ of state**

(delete whichever is not applicable for this tender).

- a) The applicable preference point system for this tender is the 90/10 preference point system.
- b) The applicable preference point system for this tender is the 80/20 preference point system.
- c) Either the 90/10 or 80/20 preference point system will be applicable in this tender. The lowest/highest acceptable tender will be used to determine the accurate system once tenders are received.

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

- (a) Price; and
- (b) Specific Goals.

1.4 **To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	
SPECIFIC GOALS	
Total points for Price and SPECIFIC GOALS	100

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

2. DEFINITIONS

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

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

80/20	or	90/10
$Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$	or	$Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$

Where

Ps = Points scored for price of tender under consideration
Pt = Price of tender under consideration
Pmin = Price of lowest acceptable tender

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

3.2.1. POINTS AWARDED FOR PRICE

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

80/20	or	90/10
$Ps = 80 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)$	or	$Ps = 90 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)$

Where

Ps = Points scored for price of tender under consideration
Pt = Price of tender under consideration
Pmax = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—
- (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
 - (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,
- then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.)

Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
Equity Ownership by: Historically Disadvantaged Individuals Ownership (South African Citizen)-who, had no franchise in national elections prior to the introduction of the Constitution of the Republic of South Africa, 1983 (Act 110 of 1983) or the constitution of the Republic of South Africa, 1993, (Act 200 of 1993), on the basis of:				
• Race	20% (2)	20% (4)		
• Gender (Women)	20% (2)	20% (4)		
• Disability	10% (1)	10% (2)		
Youth	10% (1)	10% (2)		
Military Veterans	10% (1)	10% (2)		
Locally based entity (Eastern Cape)	30% (3)	30% (6)		
TOTAL	100% (20)	100% (20)		

- a) *Service providers must submit proof of its Specific Goals points claimed / status of contributor.*
- b) *The Specific Goals supporting documents required to verify claimed points may in line with the specified requirements include:*
- *Historically Disadvantaged Individuals Ownership: Proof of ownership (CIPRO certificate) with id no.*
 - *Women Ownership: Ownership: Proof of ownership (CIPRO certificate) with id no.*
 - *Youth Ownership: Ownership: Proof of ownership (CIPRO certificate) with id no.*
 - *Disability Ownership: Proof of ownership (CIPRO certificate) with valid medical documentary proof.*
 - *Military Veterans Ownership: Proof of ownership (CIPRO certificate) with valid proof of veteran status.*
 - *Ownership: Proof of business address (municipal account or valid lease agreement)*
 - *Updated CSD report*

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3 Name of company/firm.....

4.4 Company registration number:

4.5 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One-person business/sole propriety
- ☐ Close corporation
- ☐ Public Company
- ☐ Personal Liability Company
- ☐ (Pty) Limited
- ☐ Non-Profit Company
- ☐ State Owned Company

[TICK APPLICABLE BOX]

4.6 I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the TENDERER or contractor, its shareholders and directors, or

only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the audi alteram partem (hear the other side) rule has been applied; and

- (e) forward the matter for criminal prosecution, if deemed necessary.

.....	
SIGNATURE(S) OF TENDERER(S)	
SURNAME AND NAME:	
DATE:	
ADDRESS:	
	
	
	

T2.2y: Proof of Registration with Centralized Supplier Database

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderer must attach Full CSD report

T2.2x: Company Reference Forms

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderer are required to use reference forms below to get clients' rating on similar projects successfully completed by the TENDERER. **Minimum of three (3) reference forms to be completed and issued with the bid**

Reference No. 1

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Sir/Madam,

We are in the process of evaluating_____for the above project.

They have listed you as a reference. Please evaluate the Tenderer performance on the criteria listed below by ticking the appropriate boxes. Please return upon completion as soon as possible. If you have any questions, please do not hesitate to contact us. **Experience on this reference form to be on LV Maintenance projects similar to tendered project.**

NAME OF EMPLOYER	NAME OF PROJECT	CONTRACT PERIOD (Start and End Date)	VALUE OF WORK

1. QUALITY

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
5	4	3	2	1

2. TIME PERFORMANCE

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
5	4	3	2	1

3. FINANCIAL PERFORMANCE

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
5	4	3	2	1

4. COMMENTS:

Project Manager/ Principal Agent:.....

Tel. No:

E-mail Address:

Signature:..... Date:.....

Reference No. 2

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Sir/Madam,

We are in the process of evaluating_____for the above project.

They have listed you as a reference. Please evaluate the Tenderer performance on the criteria listed below by ticking the appropriate boxes. Please return upon completion as soon as possible. If you have any questions, please do not hesitate to contact us. **Experience on this reference form to be on LV Maintenance projects similar to tendered project.**

NAME OF EMPLOYER	NAME OF PROJECT	CONTRACT PERIOD (Start and End Date)	VALUE OF WORK

1. QUALITY

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
5	4	3	2	1

2. TIME PERFORMANCE

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
5	4	3	2	1

3. FINANCIAL PERFORMANCE

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
5	4	3	2	1

4. COMMENTS:

Project Manager/ Principal Agent:..... Tel. No: E-mail Address: Signature:..... Date:.....	Place Company Stamp
---	---

Reference No. 3

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Sir/Madam,

We are in the process of evaluating_____for the above project.

They have listed you as a reference. Please evaluate the Tenderer performance on the criteria listed below by ticking the appropriate boxes. Please return upon completion as soon as possible. If you have any questions, please do not hesitate to contact us. **Experience on this reference form to be on LV Maintenance projects similar to tendered project.**

NAME OF EMPLOYER	NAME OF PROJECT	CONTRACT PERIOD (Start and End Date)	VALUE OF WORK

1. QUALITY

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
5	4	3	2	1

2. TIME PERFORMANCE

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
5	4	3	2	1

3. FINANCIAL PERFORMANCE

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
5	4	3	2	1

4. COMMENTS:

Project Manager/ Principal Agent:.....

Tel. No:

E-mail Address:

Signature:..... Date:.....

Place Company Stamp

Reference No. 4

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Sir/Madam,

We are in the process of evaluating_____for the above project.

They have listed you as a reference. Please evaluate the Tenderer performance on the criteria listed below by ticking the appropriate boxes. Please return upon completion as soon as possible. If you have any questions, please do not hesitate to contact us. **Experience on this reference form to be on LV Maintenance projects similar to tendered project.**

NAME OF EMPLOYER	NAME OF PROJECT	CONTRACT PERIOD (Start and End Date)	VALUE OF WORK

1. QUALITY

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
5	4	3	2	1

2. TIME PERFORMANCE

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
5	4	3	2	1

3. FINANCIAL PERFORMANCE

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
5	4	3	2	1

4. COMMENTS:

Project Manager/ Principal Agent:..... Tel. No: E-mail Address: Signature:..... Date:.....	Place Company Stamp
---	---------------------

Annexure A: Method Statement (Generic)

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderer are required to submit a method statement to execute the scope of works as defined in Section C3.1 under PartC3 of this tender document.

Annexure A1: Summary Task

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderer are required to submit a summary task per LV equipment type.

Annexure A2: Programme with Timelines and Resources

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderer are required to submit a Programme with timelines and planned resources.

Annexure B1: Key Personnel Qualification (Electrical Maintenance Manager)

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderer are required to submit proof of experience as an Electrical Maintenance manager.

Electrical Maintenance Manager	Education Qualification: B Eng./B-Tech in Electrical Engineering/ National High Diploma in Electrical Engineering/ Advanced National Diploma in Electrical Engineering Experience: Minimum 2 years in the management of Low Voltage Equipment Maintenance OR	Attach certified copies of qualifications the individual's curriculum vitae (CV)
	Education Qualification: National Diploma/T3/N6 in Electrical Engineering Experience: Minimum 4 years in the management of Low Voltage Equipment Maintenance	Attach certified copies of qualifications including the individual's curriculum vitae (CV)

Annexure B2: Key Personnel Qualification (Electrical Maintenance Supervisor)

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderer are required to submit proof of Electrical Maintenance supervisor's experience.

Electrical Maintenance Supervisor	Education Qualification: National Diploma/T3/N5 in Electrical Engineering or higher Accreditation: Installation Electrician (Level 4) Experience: Minimum 2 years in Low Voltage Equipment Maintenance OR	Attach certified copies of qualifications and accreditations including the individual's curriculum vitae (CV)
	Education Qualification: National Diploma/N4 in Electrical Engineering or equivalent Accreditation: Installation Electrician (Level 4) Experience: Minimum 5 years in Low Voltage Equipment Maintenance	Attach certified copies of qualifications and accreditations including the individual's curriculum vitae (CV)

Annexure B3: Key Personnel Qualification (OHS Safety officer)

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderers are required to submit proof of Health and Safety Officer

Health and Safety Officer	Education Qualification: NQF Level 5 (Technical) with 256 credits or NQF Level 6 (Graduate) qualification with 360 credits Accreditation: Professional Construction Health & Safety Officer with SACPMP Experience: At Least two (2) years of functional or practical experience in the health and safety environment	Attach certified copies of qualifications and accreditations including the individual's curriculum vitae (CV)
----------------------------------	---	---

Annexure B4: Proof of Business address

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Tenderer are required to submit proof of business address (municipal account or valid lease agreement not later than 3 months).

Annexure B5: Proof of Company Experience

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Company experience for evaluation purposes

Tenderer are required to:

1. Use the form below to list projects (minimum of 3) the company successfully completed in the field of MAINTENANCE OF LV EQUIPMENT.
2. Provide a minimum of 3 award letters and completion certificates on corresponding projects completed in the field of MAINTENANCE OF LV EQUIPMENT

NAME OF EMPLOYER (Contacts)	NAME OF PROJECT	CONTRACT PERIOD (start and End Date)	VALUE OF WORK [R]

VOLUME 3: CONTRACT

PART C1: AGREEMENT AND CONTRACT DATA

C1.1 FORM OF OFFER AND ACCEPTANCE

OFFER

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

CONTRACT NUMBER:

CONTRACT NAME: SCHEDULED MAINTENANCE OF LOW VOLTAGE FACILITIES-BUFFALO CITY DISTRICT – HEALTH FACILITIES

The Tenderer, identified in the offer signature block below, has examined the documents listed in the Tender Data and addenda thereto as listed in the tender schedules, and by submitting this offer has accepted the conditions of tender.

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

The offered total of the prices inclusive of Value-Added Tax is:

.....

.....

..... Rand (in words)

R (in figures)

This offer may be accepted by the Employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the TENDERER before the end of the period of validity stated in the Tender Data, whereupon the TENDERER becomes the party named as the Contractor in terms of the Conditions of Contract identified in the Contract data.

For and on behalf of the Tenderer:

Name

Capacity

Signature

Date:

Name and address of tenderer:

.....

.....

.....

Witness Name

Witness Signature

Date :

ACCEPTANCE

By signing this part of this form of offer and acceptance, the Employer identified below accepts the Tenderer's offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the Conditions of Contract identified in the Contract data. Acceptance of the Tender's offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this agreement and in the Contract that is the subject of this agreement.

The terms of the Contract are contained in:

Part C1: Agreements and Contract data (which includes this agreement) Part C2: Pricing data

Part C3: Scope of work

Part C4: Site Information and drawings and documents or parts thereof, which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto, as listed in the returnable schedules as well as any changes to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from said documents are valid unless contained in this schedule, which must be duly signed by the authorized representative(s) of both parties.

The tenderer shall, within two weeks after receiving a completed copy of this agreement including the schedule of deviation (if any), contact the Employer's Agent (whose details are given in the Contract data) to arrange the delivery of any securities, bonds, guarantees, proof insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract data at or just after, the date this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now Contractor), within five (5) working days of the date of such receipt, notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding Contract between the parties.

For and on behalf of the Employer:

Name

Capacity

Signature

Date:

Name and address of employer:

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

Witness Name

Witness Signature

Date :

SCHEDULE OF DEVIATIONS

Notes:

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

A Tenderer's covering letter shall not be included in the final Contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, be the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.

Subject

Details

Subject

Details

Subject

Details

Subject

Details

Subject

Details

By the duly authorized representatives signing this schedule of deviations, the Employer and the Tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the returnable schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the tenderer and the Employer during this process of offer and acceptance.

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

C1.2 CONTRACT DATA

Part 1– Data provided by the Employer

Clause	Statement	Data
1. General		
	The conditions of contract are the core clauses and the clauses for main	
	Option:	A Priced contract with price list
	Dispute resolution Option	W1 Dispute resolution procedure
	Secondary Options	X1 Price adjustment for inflation
		X13 Performance Bond
		X17 Low service damages
		X18 Limitation of liability
		X19 Task Order
		X20 Key Performance Indicators
	of the NEC3 Term Service Contract (April 2013)	
10.1	The Employer is (name):	Eastern Cape Department of Health
	Address	Department of Health Global Life Centre Corner Phalo Avenue and R63 (opposite Engen garage) Bhisho 5605
	Represented By:	Thabisa Notshe
	Tel No.	040 608 9641
	Fax No.	
10.1	The Service Manager is (name):	MJT Consulting
	Address	62 Bonza Bay Road Beacon Bay East London 5241
	Tel:	083 3521906
	e-mail:	lengoaf @ gmail.com

11.2(2)	The Affected Property is	Various Health Facilities in the Eastern Cape Province as per Service Information
11.2(13)	The service is	Scheduled and Re-Active Maintenance works
11.2(14)	The following matters will be included in Risk register	N/A
11.2(15)	The Service Information is in	The Contract Part 1: Service Information - Scope of Works. Works Information and all documents and drawings to which it makes reference
12.2	The law of the contract is the law of	the Republic of South Africa
13.1	The language of this contract is	English
13.2	The period for reply is	7 days

2	The Contractor's responsibility (If the optional statement for this section is not used, no data will be required for this section)	
21.1	The Contractor submits a first Plan for	2 weeks of the Contract Date acceptance within

3	Time	
30.1	The starting date is	at the Site Handover Meeting Date
30.1	The service period is	36 Months.

4	Testing and defects	Special testing may be requested by the Service Manager
----------	---------------------	---

5	Payment	
50.1	The assessment interval is	Monthly
51.1	The currency of this contract is the	South African Rand
51.2	The period with which payments are made is	30 Days after submission of a valid TAX Invoice to the Employer
51.4	The interest rate is	(i) zero percent above the publicly quoted prime rate of interest (calculated on a 365-day year) charged by from time to time by the South African Reserve Bank (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands

6	Compensation Events	(if the optional statement for this section is not used, no data will be required for this section
	These are additional compensation events	N/A
7	Use of Equipment Plant and Materials	No data is required for this section of the conditions of contract
8	Risks and Insurance	
80.1	These are additional Employer's risks	N/A
83.1	The Employer provides these insurances from the Insurance Table	N/A
83.1	The Employer provides these additional Insurances	N/A
83.1	The minimum amount of cover for insurance against loss and damage caused by the Contractor to the Employer's property is	R 5 000 000.00
83.1	The insurance against loss of or damage to the works, Plant and Materials is to include cover for Plant and Materials provided by the Employer to an amount of	R 5 000 000.00
83.1	The minimum amount of cover for insurance in respect of loss of or damage to property (except the Employer's property, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the Contractor) arising from or in connection with the Contractor's Providing the Service for any one event is:	R 5 000 000.00
83.1	The Minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the Contractor arising out of and in course of their employment in connection with this contract for any one event is	As prescribed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 and the Contractor's common law liability for people falling outside the scope of the Act with a limit of Indemnity of not less than R 5 000 000.00
9	Termination	No data is required for this section of the conditions of contract.
10.	Data for main Option Clauses	
A	Priced Contract with Price List	Option A
20.5	The Contractor prepares forecast of the final total of the Prices for the whole of the services at intervals of no longer than:	4 Weeks

11	Data for Option W1	
W1.1	The Adjudicator is (Name) Address Tel. No, Fax No. Email	The person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the party intending to refer a dispute to him. (See www.icesa.org.za)
W1.2(3)	The Adjudicator nominating body is:	The Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering Arbitration
W1.4(2)	The Tribunal is	The latest edition of Rules for the Conduct of Arbitrations published by the Association of Arbitrators (South Africa) or its successor body South Africa The Chairman for the time being or his nominee of the Association of Arbitrators (South Africa) or its successor
W1.4(5)	The Arbitration Procedure is	
	The place where arbitration is to be held is The person or organization who will choose the arbitrator • If the Parties cannot agree a body choice or • If the procedure does not state who selects an arbitrator, is	

12	Data for Secondary Option	Clauses																	
X1	Price Adjustment for Inflation	Tender Closing Date																	
X1.1	The base date for indices is The proportions used to calculate the Price Adjustment Factor are Note: Requirements for CPA/Price inflation is that Prices must be Fixed and Firm for the First 12 months of the contract and only subject to escalation thereafter. A minimum of 10% of the contract price / prices is not adjustable throughout the life of the contract <table border="1"> <thead> <tr> <th>Proportion</th><th>Linked to Index for</th><th>Index prepared by (Source)</th></tr> </thead> <tbody> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td>Non-Adjustable</td><td></td></tr> <tr><td>100%</td><td></td><td></td></tr> </tbody> </table>		Proportion	Linked to Index for	Index prepared by (Source)											Non-Adjustable		100%	
Proportion	Linked to Index for	Index prepared by (Source)																	
	Non-Adjustable																		
100%																			
X13	Performance Bond																		
X13.1	The Contractor gives the Employer a performance bond																		
		The TENDERER must provide a Performance Bond in the form of a Fixed Performance Guarantee by means of a Bank Guarantee, or from an Insurer approved by the Service Manager, in the amount of 2.5% of the Awarded Contract Value, once the Contract has been awarded to him. This Bond must be given to the Employer with in four (4) weeks of the Contract Date.																	

X17	Low Service Damages	
X17.1	The service level table is in	As per Demerit Table in Contact Data – Annexure CD1
X18	Limitation of Liability	
X18.1	The Contractor's liability to the Employer for indirect or consequential loss is limited to	R 5 000 000.00
X18.2	For any one event, the Contractor's liability to the Employer for loss of or damage to the Employer's property is limited to	R 5 000 000.00
X18.3	The Contractor's liability for Defect is due to his design of an item of Equipment is limited to:	The greater of - the total of the Prices at the Contract Date - R2 500 000
X18.4	The Contractor's liability to the Employer for all matters arising under or in connection with this contract, other than the excluded matters, is limited to	N/A
X18.5	The end of liability date is	12 Months after the end of the Service Period
X19	Task Order The Contractor submits a Task Order programme to the Service Manager within	Authorization to commence with any Task will be done by Task Order. This Task Order will be issued to the Contractor by the Service Manager. Maintenance Turn- around times are stated in the Works Instructions under specification clause GM7
X20	Key Performance Indicators	Key performance Indicators will be used to monitor Contractor performance on a monthly basis

Part Two – Data provided by the Contractor

Clause	Statement	Data
10.1	The Contractor is (Name): Address: Tel No. Fax No.	
11.2(8)	The Direct Fee Percentage is _____ % The Subcontracted Fee Percentage Is _____ %	
11.2(14)	The following matters will be included in the Risk Register	
11.2(15)	The Service Information for the Contractor's plan is in:	
21.1	The plan identified in the Contract Data is contained in:	
24.1	The Key Persons are: Name : Job : Responsibilities : Qualifications : Experience	
	Name : Job : Responsibilities : Qualifications: Experience	
	CV's and further key person's data are in	
A	Priced Contract with Price List	
11.2(12)	The price list is in	
11.2(19)	The tendered total of the Prices is	
X1	Price adjustment for inflation	

X1.1	Proportion	Linked to Index for	Index prepared by (Source)
		Non-Adjustable	
	100%		

Annexure CD1 – Demerit Table and Penalty Calculation System

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

ANNEXURE CD1: DEMERIT TABLE AND PENALTY CALCULATION SYSTEM

If the Contractor fails to remedy any sub-standard work within the time frame stipulated by the Service Manager, the conditions as per annexure CD1 will apply.

The contractor will incur demerit points for specific measurable poor performance incidents which can lead to the early termination of the Contract as described below.

DESCRIPTION	DEMERIT POINT
Failure to submit the Functional Condition Assessment Report by the due date	1 point/ week that the report is late
Exceeding the maximum allowable response and resolve time for a P1 Breakdown	3 points/ incident
Exceeding the maximum allowable response and resolve time for a P2 Breakdown	2 points/ incident
Exceeding the maximum allowable response and resolve time for a P3 or P4 Breakdown	1 point/ incident
Not meeting the Rework Rate KPI	1 point/ incident
Not meeting the Contractor Contractability KPI	1 point/ incident

The demerit points will accumulate and trigger the following actions:

ACCUMULATED DEMERIT POINTS	ACTION
6	Service Manager to discuss Contractor's performance deviation and agree on improvement measures. If improvement measures are successful and the Contractor has been consistently meeting the required KPI targets for the following two months, the demerit points can be cancelled by the Service Manager.
12	Service Manager to issue notice that Contractor is in Breach of Contract and that Contract Can be terminated if the Contractor does not improve his performance in line with the agreed improvement measures.
15	Service Manager to Terminate Contract as per Clause 9 of the NEC3 Term Service Contract

Poor performance by the Contractor due to late payments by the Employer will not incur demerit points.

Financial penalties, as per the requirements of Secondary Options Clause X17, will be applied on the effected payments at 1% penalty per demerit point by the Service Manager, in the month that the demerit points are allocated to the Contractor

Annexure CD2 – Key Performance Indicator Listing

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

ANNEXURE CD2: KEY PERFORMANCE INDICATOR LISTING

The following Key Performance Indicators (KPI's) will be applicable to this Contract and must be monthly updated and reported on by the Service Manager:

KPI Name	KPI Equation	Frequency	Target
Emergency Job Rate	$= \frac{\frac{\text{Total Number of Emergency Jobs Done}}{\text{Total Number of Jobs Done}}}{\text{Total Number of Planned Maintenance Jobs Scheduled}} \times 100\%$	Monthly	<10%
Cost Estimation Accuracy	$= \frac{\text{Total Actual Cost of Work}}{\text{Total Estimated Cost Of Work}} \times 100\%$	Monthly	100%
Response Performance	$= \frac{\text{Number of Service Calls Completed within Targeted Response Time}}{\text{Total Number of Service Calls}} \times 100\%$	Monthly	100%
Rework Rate	$= \frac{\text{Number of Jobs Requiring Rework}}{\text{Total Number of Jobs Done}} \times 100\%$	Monthly	0%
SHEQ	$= \text{Number of SHEQ Incidents Involving the Contractor}$	Monthly	0
Contractor Contactability	$= \text{Number of Times that Contractor was not Contactable by the Call Centre}$	Monthly	0

The Service Manager must also ensure that the following items are routinely inspected and reported on by the Site Representative for each Health Facility:

1. Compliance with general maintenance requirements as specified in the Service Information.
2. Manner in which preventative and corrective maintenance is carried out.
3. Manner in which the Maintenance Control Plan is implemented and updated.
4. Manner in which Task Orders received from the Service Manager is dealt with.
5. Manner in which records are kept as required by the Service Information as well as the Occupational Health and Safety Act, Act No 85 of 1993 as amended.
6. Quality of services carried out for the month prior to the inspection.

Note: The aim of the above inspection is to determine that all the requirements of the specification have been complied with. Should the Service Manager believe that one or more maintenance items referred to above, have been neglected or totally ignored by the Contractor he may decide to implement demerit points as penalty as per X17 for each type of non-compliance found during the inspection.

C 1.3: FIXED PERFORMANCE GUARANTEE

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

1. With reference to the contract between _____
_____(hereinafter referred to as the
“**contractor**”) and the Eastern Cape Department of Health (hereinafter referred to as the “**employer**”).
Contract No _____ for the
_____ (hereinafter referred
to as the “**Contract**”)
in the amount of R _____
_____(in words), (hereinafter referred to
as the “contract sum”.)
I/We, _____
in my/our capacity as _____ and hereby
representing _____ (hereinafter referred to as the
“**guarantor**”) advise that the **guarantor** holds at the **employer’s** disposal the sum of
R _____, (_____) being **2.5% of**
the **contract sum** (excluding VAT), for the due fulfilment of the contract.
2. The **guarantor** hereby renounces the benefits of the exceptions non numeratae pecunia, non causa debiti;
excussionis et divisionis; and all other exceptions which could be pleaded against the enforcement of this
guarantee, with the meaning and effect whereof i/we declare myself/ourselves to be conversant, and
undertake to pay the **employer** the amount guaranteed, during the period when the claim is received by
the **guarantor**, on receipt of a written demand from the **employer** to do so, and which demand the
employer may make if the **employer** has a right of recovery against the **contractor** in terms of X13 of the
contract.
3. Subject to the above, but without in any way detracting from the **employer’s** rights to adopt any of the
procedures provided for in the contract, the said demand can be made by the **employer**, at any stage prior
to the expiry of this guarantee.
4. The amount paid by the **guarantor** in terms of this guarantee may be retained by the **employer** on condition
that upon the issue of the last final **payment certificate**, the **employer** shall account to the **guarantor**
showing how this amount has been expended and refund any balance due to the **guarantor**.
5. The **employer** shall have the absolute right to arrange his affairs with the **contractor** in any manner which

the **employer** deems fit and the **guarantor** shall not have the right to claim his release on account of any conduct alleged to be prejudicial to the **guarantor**. Without derogating from the foregoing, any compromise, extension of the **construction period**, indulgence, release or variation of the **contractor's** obligation shall not affect the validity of this guarantee.

6. This undertaking is neither negotiable nor transferable, and
- a) must be surrendered to the **guarantor** at the time when the **employer** accounts to the **guarantor** terms of clause 4 above, or
 - b) shall lapse on the date of the last **certificate of practical completion**; and
 - c) shall not be interpreted as extending the **guarantor's** liability to anything more than payment of the amount guaranteed.

SIGNED AT _____ ON THIS _____ DAY OF _____ 20__

AS WITNESS

- 1. _____
- 2. _____

By and on behalf of

(insert the name and physical address of the guarantor)

NAME: _____

CAPACITY: _____
(duly authorized thereto by resolution attached marked Annexure A)

DATE: _____

- A. No alterations and/or additions of the wording of this form will be accepted.
- B. The physical address of the guarantor must be clearly indicated and will be regarded as the guarantor's *domicilium citandi et executandi*, for all purposes arising from this guarantee.
- C. This GUARANTEE must be returned to:

C1.4 CIDB ADJUDICATOR'S AGREEMENT

This agreement is made on the day of between:
..... (name of company / organisation) of
.....
..... (address) and
..... (name of company / organisation) of
.....
..... (address) (the Parties) and
..... (name) of
.....
..... (address)
(the Adjudicator).

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

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

* Delete as necessary

IT IS NOW AGREED as follows:

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

SIGNED BY:

SIGNED BY:

SIGNED BY:

Name: _____	Name: _____	Name: _____
Witness _____	Witness: _____	Witness: _____
Name: _____	Name _____	Name: _____
Address: _____	Address: _____	Address: _____
_____	_____	_____
_____	_____	_____
Date: _____	_____	_____

Contract Data

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

* Delete as necessary

C1.5 CONFIRMATION OF RECEIPT OF CONTRACT (PRO FORMA)
--

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

The (day) of (month)..... (year)

At.....(place)

It is hereby agreed that the official commencement date of the Contract will be:

The (day) of (month)..... (year)

For and on behalf of the Contractor:

Name

Capacity

Signature

Date:.....

Witness Name

Witness Signature

Date:.....

PART C2: PRICING DATA

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

C2.1 Pricing Instructions

GENERAL NOTES

1 Documents

The Schedule of Quantities form part of the Document and must be read in conjunction with the other parts forming the Document in order to gain the full meanings of the descriptions of the work to be done and materials and equipment to be used.

2 Alterations

No alterations, erasure or addition is to be made in the text of the Schedule of Quantities. Should any alteration, erasure or addition be made, it will not be recognized and the original wording of the Schedule of Quantities will be adhered to.

3 Issue of Schedule of Quantities in Electronic Format

The Employer will upon request make the Schedule of Quantities available to Tenderer in electronic (Microsoft Excel Workbook) format, upon request.

If utilized for tender submission, the tenderer will be responsible for ensuring the correctness of all calculations. The Employer cannot be held responsible for any arithmetic inaccuracies in the electronic Schedule of Quantities.

4 Pages

Before submitting his Tender, the TENDERER must check to ensure all pages have been included and are distinct. Should any obvious errors be found the Engineer is to be notified immediately to have them corrected as no liability whatsoever will be admitted by the Engineer in respect of errors in the Tender due to the foregoing.

5 Responsibility

The responsibility for the accuracy of the quantities written into the Schedule of Quantities remains with the person who prepared the Schedule of Quantities. The Tenderer shall be relieved of the responsibility of measuring quantities at the Tender stage, and the Tender Price submitted shall be in respect of the quantities set out in the Schedule of Quantities.

The Tenderer will be required to make his assessment of items such as brackets, fixings, etc., from details stated in the Schedule of Quantities and shall make allowances therefore within the rates tendered.

Tenderer shall make due allowance in their rates for any item of incidental or contingent work, labour and materials not contained in the Schedule of Quantities, but deemed necessary for the successful completion of the Works.

6 Offered rates in the Schedule of Quantities

The rates in the Schedule of Quantities shall be final and no further adjustment will be made.

7 Currency

All the offered rates in the Schedule of Quantities shall be in South African Rands (R). Any items purchased overseas must be converted to local currency with all exchange rates and export charges.

8 Unit Rates

Unless a separate rate for the supply and the installation of any item is specifically called for, the supply and installation costs of any items shall be fully included in the unit price.

The description of each item shall, unless otherwise stated herein, be held to include making, conveying and delivering, unloading, storing, unpacking, hoisting, setting, fitting and fixing in position, cutting and waste, patterns, models and templates plant, temporary works, return of water establishment charges, profit and all other obligations arising out of the Conditions of Contract.

9 Variations

Variations in the scope and extent of the work included in the Schedule of Quantities shall be allowed in order to meet the Employer's requirements and shall be measured and costed at the rates entered in the Schedule of Quantities, where appropriate, forming an addition to or deduction from the total of the Schedule of Quantities. Any items or variations for which rates have not been added in the Schedule of Quantities shall be agreed and priced as non-scheduled items in accordance with the provisions of the contract.

The rules governing the extent and costing of the variations shall be those provided for in the Conditions of Contract and Variations to Sub-contract.

Variations to the planning before the work has been executed shall be priced as above. Alterations to work already executed cannot necessarily be priced as above and must be reviewed on its merits.

The appropriate portions of the Preliminary & General Costs are to be adjusted proportionately to the net additions or omissions of the variations to the contract

10 Preliminary and General

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

11 Provisional Sums

All Provisional Sums shall be expended only as directed by the Client and Engineer and any balance remaining shall be deducted from the amount of the Sub-contract sum. No work for which Provisional Sums are provided shall be commenced without written instructions from the Engineer.

All Provisional Sums may be utilized in full or in part. These Provisional Sums may be deleted in full or in part if not required.

12 Contingency Sums

All Contingency Sums shall be expended only as directed by the Client and Engineer. No work for which Contingency Sums are provided shall be commenced without written instructions from the Engineer.

All Contingency Sums may be utilised in full or in part. These Contingency Sums may be deleted in full or in part if not required.

13 Dayworks

The rates included for day work shall not form part of the Tender Price, but Tenderer shall note that this item must be regarded as provisional and will only be payable to the Sub-contractor if and when a written order to this effect has been issued.

14 Value Added Tax

This Schedule of Quantities shall be priced net, excluding VAT.

VAT shall only be added at the Summary at the end of the Schedule of Quantities for the Principal Contract.

15 Adjustment

The Employer reserves the right to adjust arithmetical errors in the extension of rates and totals in the Tender, and the Tenderer will be informed of the effect of any corrections on his Tender Sum

prior to the award of the Contract. In no case will tender rates be adjusted when correcting such errors.

In the event of there being tendered rates or prices which are declared by the Employer to be unacceptable to him, because they are either excessively low or high or not in proper balance with other rates, the Tenderer may be required to produce evidence and advance arguments in support of the tendered rates or prices objected to. If after submission of such evidence and any further evidence requested, the Employer is still not satisfied with the tendered rates or prices objected to, he may request the Tenderer to amend these rates and prices along the lines indicated by him.

The Tenderer may or may not thereupon alter and amend the rates and prices objected to and such other related prices as are agreed to by the Employer. Should the TENDERER fail to amend his Tender in a manner acceptable to the Employer, or at all, it may prejudice his Tender.

In the case of Tenders with Schedule of Quantities, the total corrected Tender Price in the Tender Form shall constitute the Sub-contract, Sum. Tenderer are advised to check their extensions and additions. In the case of a Lump Sum Tender, the original uncorrected Tender Price shall be considered. The Engineer shall negotiate adjustments to the rates tendered in order to correct the arithmetical extension or addition, whilst the Tender Price as submitted, remains unaltered.

In either case, the Tenderer shall be notified of any arithmetical error in his Tender, and shall be given the opportunity to withdraw the Tender at this stage.

16 Quantification

The successful Tenderer and the Employer or his Agent may agree that the total of any Schedule, including any variations by way of additions thereto or deductions therefrom, represents a fair and accurate quantification of the items set out in the Schedule of Quantities and the parties may agree final payment on that basis. In the event of any dispute as to the quantities, the disputed item or items shall be adjusted where necessary.

17 Ordering

The quantities in this Schedule of Quantities shall not be used for ordering materials. The onus is on the successful Tenderer to order the correct quantities of materials as per the drawings.

18 Payment

The measurement and payment of Work done shall be made in accordance with the unit price rates, and rates of pay listed in the Schedule of Quantities. No payment will be made for any item of associated work not specifically detailed in the Schedule of Quantities.

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

C2.2 Schedules of Quantities

THE SCHEDULE OF QUANTITIES IS TO BE INSERTED AFTER THIS TITLE PAGE

ECDOH GENERAL ELECTRICAL LV MAINTENANCE AND REPAIR CONTRACT**CONTRACT REF. NO:** SCMU3-2627-0193-BCM**Cluster/District:** BUFFALO CITY DISTRICT**ASSET TYPE:** LV INSTALLATIONS

SCHED- ULE NUM- BER	DESCRIPTION	TENDER AMOUNT
1A-1	BUFFALO CITY DM FUNCTIONAL REPAIR SCHEDULE	R
1A-2	BUFFALO CITY DM FUNCTIONAL REPAIR SCHEDULE (SPECIALIST EQUIPMENT)	R
1A-3	BUFFALO CITY DM FUNCTIONAL REPAIR SCHEDULE (SPECIALIST EQUIPMENT)	R
2	SCHEDULE OF RATES	R
3A-1	BUFFALO CITY DM MAINTENANCE SERVICE SCHEDULE	R
3A-2	BUFFALO CITY DM MAINTENANCE SERVICE SCHEDULE (SPECIALIST EQUIPMENT)	R
4	TERM REPAIRS SUBJECT TO APPROVAL OF QUOTATION OF THE WORKS	R
SUBTOTAL AMOUNT OF WORKS (EXCL VAT)		R
ALLOWANCE FOR VAT AT 15.0%		R
TOTAL AMOUNT OF WORKS (INCL VAT) - ENTER THIS AMOUNT TO FORM OF OFFER		R

ECDOH GENERAL ELECTRICAL LV MAINTENANCE AND REPAIR CONTRACT

CONTRACT REF. NO: SCMU3-2627-0193-BCM
 ASSET TYPE: LV INSTALLATIONS

Cluster/
 District: BUFFALO CITY DISTRICT

SCHEDULE 1A-1: FUNCTIONAL REPAIR SCHEDULE

ITEM Nr.	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1A-1	C3.1A	FUNCTIONAL CONDITION ASSESSMENT : Perform Functional Condition Assessment (Inspection and Testing) all buildings withing the listed Health Facilities included in the Tender				
	C3.1A	COMPILE FUNCTIONAL CONDITION ASSESSMENT REPORT: Compile Functional Condition Assessment Report including quotation to repair each Health Facilities included in the Tender to enable issuing of Certificate of Compliance.				
		Hospitals				
1A-1.1		Bhisho Hospital	Item	1	R	R
1A-1.2		Cecilia Makiwane Hospital	Item	1	R	R
1A-1.3		Frere Hospital	Item	1	R	R
1A-1.4		Grey Hospital	Item	1	R	R
1A-1.5		Newhaven Hospital	Item	1	R	R
1A-1.6		Nkqubela Hospital	Item	1	R	R
		Community Health Care Centres				
1A-1.7		Dimbaza CHC	Item	1	R	R
1A-1.8		Duncan Village CHC	Item	1	R	R
1A-1.9		Empilweni Gompo CHC	Item	1	R	R
1A-1.10		Mount Coke CHC	Item	1	R	R
1A-1.11		Nontyatyambo CHC	Item	1	R	R
		Forensic Mortuary				
1A-1.12		ec Woodbrook	Item	1	R	R
1A-1.13		ec Mdantsane	Item	1	R	R
1A-1.14		ec Bhisho				
		CLINICS: Buffalo City Health sub-District				
1A-1.15		ec Alphenale Clinic	Item	1	R	R
1A-1.16		ec Amahleke Clinic	Item	1	R	R
1A-1.17		ec Aspiranza Clinic	Item	1	R	R
1A-1.18		ec Beacon Bay Clinic	Item	1	R	R
1A-1.19		ec Berlin Clinic	Item	1	R	R

1A-1.20		ec Bhisho Gateway Clinic	Item	1	R	R
1A-1.21		ec Bhisho Parliament Clinic	Item	1	R	R
1A-1.22		ec Braelyn Clinic	Item	1	R	R
1A-1.23		ec Braelyn Extension Clinic	Item	1	R	R
1A-1.24		ec Breidbach Clinic	Item	1	R	R
1A-1.25		ec Bulembu Clinic	Item	1	R	R
1A-1.26		ec Cambridge Clinic	Item	1	R	R
1A-1.27		ec Central Clinic (East London)	Item	1	R	R
1A-1.28		ec Chris Hani Clinic	Item	1	R	R
1A-1.29		ec Drake Road Clinic	Item	1	R	R
1A-1.30		ec Fezeka NU 3 Clinic	Item	1	R	R
1A-1.31		ec Fort Grey Clinic	Item	1	R	R
1A-1.32		ec Frere Gateway Clinic	Item	1	R	R
1A-1.33		ec Ginsberg Clinic	Item	1	R	R
1A-1.34		ec Gompo A Ndende Clinic	Item	1	R	R
1A-1.35		ec Gompo B Jwayi Clinic	Item	1	R	R
1A-1.36		ec Gompo C Jabavu Clinic	Item	1	R	R
1A-1.37		ec Gonubie Clinic	Item	1	R	R
1A-1.38		ec Greenfields Clinic	Item	1	R	R
1A-1.39		ec Grey Gateway Clinic	Item	1	R	R
1A-1.40		ec Ilita Clinic	Item	1	R	R
1A-1.41		ec Imidange Clinic	Item	1	R	R
1A-1.42		ec Jafta Clinic	Item	1	R	R
1A-1.43		ec John Dube Clinic	Item	1	R	R
1A-1.44		ec Kwelera Clinic	Item	1	R	R
1A-1.45		ec Luyolo NU 9 Clinic	Item	1	R	R
1A-1.46		ec Masakhane Clinic (Zwelitsha)	Item	1	R	R
1A-1.47		ec Masiphile Clinic	Item	1	R	R
1A-1.48		ec Mdingi Clinic	Item	1	R	R
1A-1.49		ec Mncotsho Clinic	Item	1	R	R
1A-1.50		ec Moore Street Clinic	Item	1	R	R
1A-1.51		ec Mpongo Clinic	Item	1	R	R
1A-1.52		ec Ncera Clinic	Item	1	R	R
1A-1.53		ec Ndevana Clinic	Item	1	R	R
1A-1.54		ec Needs Camp Clinic	Item	1	R	R
1A-1.55		ec Newlands Clinic	Item	1	R	R
1A-1.56		ec Nobuhle NU 8 Clinic	Item	1	R	R
1A-1.57		ec Noncampa Clinic	Item	1	R	R
1A-1.58		ec NU 12 Clinic	Item	1	R	R

1A-1.59		ec NU 13 Clinic	Item	1	R	R
1A-1.60		ec NU 16 Clinic	Item	1	R	R
1A-1.61		ec NU 17 Clinic	Item	1	R	R
1A-1.62		ec Openshaw Clinic	Item	1	R	R
1A-1.63		ec Pakamisa Clinic	Item	1	R	R
1A-1.64		ec Peelton Clinic	Item	1	R	R
1A-1.65		ec Pefferville Clinic	Item	1	R	R
1A-1.66		ec Petros Jobane Clinic	Item	1	R	R
1A-1.67		ec Philani NU 1 Clinic	Item	1	R	R
1A-1.68		ec Pirie Clinic	Item	1	R	R
1A-1.69		ec Potsdam Clinic	Item	1	R	R
1A-1.70		ec Qurhu Clinic	Item	1	R	R
1A-1.71		ec Shornville Clinic	Item	1	R	R
1A-1.72		ec Sinebhongo Clinic	Item	1	R	R
1A-1.73		ec St Thomas Clinic	Item	1	R	R
1A-1.74		ec Sweetwaters Clinic	Item	1	R	R
1A-1.75		ec Tembisa NU 7 Clinic	Item	1	R	R
1A-1.76		ec Thembalethu Clinic (Buffalo City)	Item	1	R	R
1A-1.77		ec Tshabo Clinic	Item	1	R	R
1A-1.78		ec Tshatshu Clinic	Item	1	R	R
1A-1.79		ec Tyamzashe FP Clinic	Item	1	R	R
1A-1.80		ec Tyutyu Clinic	Item	1	R	R
1A-1.81		ec Welcomewood Clinic	Item	1	R	R
1A-1.82		ec Zanempilo Clinic (East London)	Item	1	R	R
1A-1.83		ec Zanempilo Clinic (Zwelitsha)	Item	1	R	R
1A-1.84		ec Zikhova Clinic	Item	1	R	R
1A-1.85		ec Zingisa NU 5 Clinic	Item	1	R	R
1A-1.86		ec Zwelitsha Zone 5 Clinic	Item	1	R	R
1B-2.2	C3.2	OCCUPATIONAL HEALTH AND SAFETY ACT COMPLIANCE COST : The Contractor must comply to the project Health and Safety Specification specific to the type of work that he will be performing on site as per C3.2	Month	36	R	R
1B-2.3	Clause 83.1	INSURANCE : LIMITATION OF LIABILITY (Amounts applicable for whole Contract)				
1B-2.3.1		The minimum amount of cover for insurance against loss and damage caused by the Contractor to the Employer's property liability limit of R5 000 000 to cover requirements of Clause 83.1 in Contract Data	Month	36	R	R
1B-2.4		The insurance against loss of or damage to the works, Plant and Materials is to include cover for Plant and Materials provided by the Employer to a Minimum liability limit of R5 000 000	Month	36	R	R

		to cover requirements of Clause 83.1 in Contract Data				
1B-2.4.1		The minimum amount of cover for insurance in respect of loss of or damage to property and liability for bodily injury to or death of a person to a Minimum liability limit of R5 000 000 to cover requirements of Clause 83.1 in Contract Data	Month	36	R	R
1B-2.5		PERFORMANCE BOND (Amounts applicable for whole Contract)				
1B-2.5.1		Provision for a Performance bond of not less than 2,5% of the Tender Value	Month	36	R	R
1B-2.6		IN-SERVICE TRAINING OF GRADUATES AND INTERNS : Provisional Sum to pay the costs associated with employing nominated Interns and Graduates for the duration of the Contract				
1B-2.6.1		Interns	Months	36	R5000	R180 000
1B-2.6.2		Graduates	Months	36	R7000	R252 000
1B-2.6.3		Direct Fee Percentage (Mark-up) to be charged by Contractor on amount in items 6.1 and 6.2 above	%		R	R
1B-2.7		PROVISION OF ASSET APPLICABLE ACCREDITED TRAINING : Arranging of Accredited Asset Applicable Training for Operating and Maintenance Staff as per SS16	Psum	1	R345 000	R345 000
1B-2.7.1		Direct Fee Percentage (Mark-up) to be charged by Contractor on amount above	%		R	R
TOTAL CARRIED FORWARD TO SUMMARY						R

ECDOH GENERAL ELECTRICAL LV MAINTENANCE AND REPAIR CONTRACT

CONTRACT REF. NO: SCMU3-2627-0193-BCM Cluster/
ASSET TYPE: LV INSTALLATIONS District: BUFFALO CITY DISTRICT

SCHEDULE 1A-2: FUNCTIONAL REPAIR SCHEDULE (SPECIALIST EQUIPMENT)

ITEM Nr.	PAY- MENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	C3.1A	SPECIALIST EQUIPMENT: FUNCTIONAL CONDITION ASSESSMENT : Perform Functional Condition Assessment (Inspection and Testing) on all listed assets at all Health Facilities included in the Tender				
1A-2.1		NURSE CALL SYSTEM				
1A-2.1.1		Bhisho Hospital	item	1	R	R
1A-2.1.2		Cecilia Makiwane Hospital	item	1	R	R
1A-2.1.3		Frere Hospital	item	1	R	R
1A-2.1.4		Grey Hospital	item	1	R	R
1A-2.1.5		Newhaven Hospital	item	1	R	R
1A-2.1.6		Nkqubela Hospital	item	1	R	R
1A-2.2		UNINTERRUPTED POWER SUPPLY SYSTEMS (UPS)				
1A-2.2.1		Bhisho Hospital	item	1	R	R
1A-2.2.2		Cecilia Makiwane Hospital	item	1	R	R
1A-2.2.3		Frere Hospital	item	1	R	R
1A-2.2.4		Grey Hospital	item	1	R	R
1A-2.2.5		Newhaven Hospital	item	1	R	R
1A-2.2.6		Nkqubela Hospital	item	0	R	R
1A-2.3		CCTV				
1A-2.3.1		Bhisho Hospital	item	0	R	R
1A-2.3.2		Cecilia Makiwane Hospital	item	1	R	R
1A-2.3.3		Frere Hospital	item	1	R	R
1A-2.3.4		Grey Hospital	item	1	R	R
1A-2.3.5		Newhaven Hospital	item	1	R	R
1A-2.3.6		Nkqubela Hospital	item	0	R	R
1A-2.4.		Public Announcement (PA) System				
1A-2.4.1		Bhisho Hospital	item	1	R	R
1A-2.4.2		Cecilia Makiwane Hospital	item	1	R	R
1A-2.4.3		Frere Hospital	item	1	R	R
1A-2.4.4		Grey Hospital	item	1	R	R
1A-2.4.5		Newhaven Hospital	item	1	R	R
1A-2.4.6		Nkqubela Hospital	item	0	R	R
1A-2.5		PHOTO VOLTAIC SYSTEM				
1A-2.5.1		Bhisho Hospital	item	0	R	R
1A-2.5.2		Cecilia Makiwane Hospital	item	1	R	R
1A-2.5.3		Frere Hospital	item	0	R	R
1A-2.5.4		Grey Hospital	item	0	R	R
1A-2.5.5		Newhaven Hospital	item	0	R	R

1A-2.5.6		Nkqubela Hospital	item	0	R	R
1A-2.6		ACCESS CONTROL				
1A-2.6.1		Bhisho Hospital	item	0	R	R
1A-2.6.2		Cecilia Makiwane Hospital	item	1	R	R
1A-2.6.3		Frere Hospital	item	1	R	R
1A-2.6.4		Grey Hospital	item	1	R	R
1A-2.6.5		Newhaven Hospital	item	1	R	R
1A-2.6.6		Nkqubela Hospital	item	1	R	R
TOTAL CARRIED FORWARD TO SUMMARY						R

ECDOH GENERAL ELECTRICAL LV MAINTENANCE AND REPAIR CONTRACT

CONTRACT REF. NO: SCMU3-2627-0193-BCM Cluster/
ASSET TYPE: LV INSTALLATIONS District: BUFFALO CITY DISTRICT

SCHEDULE 1A-3: FUNCTIONAL REPAIR SCHEDULE (SPECIALIST EQUIPMENT)

ITEM Nr.	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1A-3	C3.1A	COMPILING OF OPERATING AND MAINTENANCE MANUALS : Compile three sets of O&M Manuals per Facility.				
		COMPILING OF DETAILED REPAIR SCHEDULE : Compile detailed, comprehensive repair schedule including defect description, recommended repair method, detailed quote including priced spare parts, outsourced work, and provisional work program, for each Health Facility.				
1A-3.1		NURSE CALL SYSTEM				
1A-3.1.1		Bhisho Hospital	Item	1	R	R
1A-3.1.2		Cecilia Makiwane Hospital	Item	1	R	R
1A-3.1.3		Frere Hospital	Item	1	R	R
1A-3.1.4		Grey Hospital	Item	1	R	R
1A-3.1.5		Newhaven Hospital	Item	1	R	R
1A-3.1.6		Nkqubela Hospital	Item	1	R	R
1A-3.2		UNINTERRUPTED POWER SUPPLY SYSTEMS (UPS)				
1A-3.2.1		Bhisho Hospital	Item	1	R	R
1A-3.2.2		Cecilia Makiwane Hospital	Item	1	R	R
1A-3.2.3		Frere Hospital	Item	1	R	R
1A-3.2.4		Grey Hospital	Item	1	R	R
1A-3.2.5		Newhaven Hospital	Item	1	R	R
1A-3.2.6		Nkqubela Hospital	Item	0	R	R
1A-3.3		CCTV				
1A-3.3.1		Bhisho Hospital	Item	0	R	R
1A-3.3.2		Cecilia Makiwane Hospital	Item	1	R	R
1A-3.3.3		Frere Hospital	Item	1	R	R
1A-3.3.4		Grey Hospital	Item	1	R	R
1A-3.3.5		Newhaven Hospital	Item	1	R	R
1A-3.3.6		Nkqubela Hospital	Item	0	R	R
1A-3.4		Public Announcement (PA) System				
1A-3.4.1		Bhisho Hospital	Item	1	R	R
1A-3.4.2		Cecilia Makiwane Hospital	Item	1	R	R
1A-3.4.3		Frere Hospital	Item	1	R	R
1A-3.4.4		Grey Hospital	Item	1	R	R
1A-3.4.5		Newhaven Hospital	Item	1	R	R
1A-3.4.6		Nkqubela Hospital	Item	0	R	R
1A-3.5		PHOTO VOLTAIC SYSTEM				
1A-3.5.1		Bhisho Hospital	Item	0	R	R
1A-3.5.2		Cecilia Makiwane Hospital	Item	1	R	R

1A-3.5.3		Frere Hospital	Item	0	R	R
1A-3.5.4		Grey Hospital	Item	0	R	R
1A-3.5.5		Newhaven Hospital	Item	0	R	R
1A-3.5.6		Nkqubela Hospital	Item	0	R	R
1A-3.6		ACCESS CONTROL				
1A-3.6.1		Bhisho Hospital	Item	0	R	R
1A-3.6.2		Cecilia Makiwane Hospital	Item	1	R	R
1A-3.6.3		Frere Hospital	Item	1	R	R
1A-3.6.4		Grey Hospital	Item	1	R	R
1A-3.6.5		Newhaven Hospital	Item	1	R	R
1A-3.6.6		Nkqubela Hospital	Item	1	R	R
TOTAL CARRIED FORWARD TO SUMMARY						R

ECDOH GENERAL ELECTRICAL LV MAINTENANCE AND REPAIR CONTRACT

CONTRACT REF. NO: SCMU3-2627-0193-BCM
 ASSET TYPE: LV INSTALLATIONS

Cluster/
 District: BUFFALO CITY DISTRICT

SCHEDULE 2: SCHEDULE OF RATES

ITEM	DESCRIPTION	UNIT	TOTAL QTY	RATE		AMOUNT R
				MATERIAL	LABOUR	
	<u>SCHEDULE NO. 2</u>					
2	<u>LOW VOLTAGE CABLE</u>					
	1000V PVC/SWA/PVC copper cables.					
2.109	120mm ² x 4-core	m	1	R	R	R
2.110	95mm ² x 4-core	m	1	R	R	R
2.111	70mm ² x 4-core	m	1	R	R	R
2.112	50mm ² x 4-core	m	16	R	R	R
2.113	35mm ² x 4-core	m	16	R	R	R
2.114	25mm ² x 4-core	m	16	R	R	R
2.115	16mm ² x 4-core	m	16	R	R	R
2.116	16mm ² x 3-core	m	16	R	R	R
2.117	10mm ² x 4-core	m	16	R	R	R
2.118	10mm ² x 3-core	m	16	R	R	R
2.119	6mm ² x 4-core	m	16	R	R	R
2.120	6mm ² x 3-core	m	16	R	R	R
2.121	4mm ² x 4-core	m	16	R	R	R
2.122	4mm ² x 3-core	m	16	R	R	R
2.123	2,5mm ² x 4-core	m	16	R	R	R
2.124	2,5mm ² x 3-core	m	16	R	R	R
2.125	1,5mm ² x 4-core	m	16	R	R	R
2.126	1,5mm ² x 3-core	m	16	R	R	R
	<u>LOW VOLTAGE CABLE TERMINATION</u>					
	Terminate 1 000V PVC/SWA/PVC cable					
2.127	120mm ² x 4-core	ea.	1	R	R	R
2.128	95mm ² x 4-core	ea.	1	R	R	R
2.129	70mm ² x 4-core	ea.	1	R	R	R
2.130	50mm ² x 4-core	ea.	16	R	R	R
2.131	35mm ² x 4-core	ea.	16	R	R	R
2.132	25mm ² x 4-core	ea.	16	R	R	R
2.133	16mm ² x 4-core	ea.	16	R	R	R
2.134	16mm ² x 3-core	ea.	16	R	R	R
2.135	10mm ² x 4-core	ea.	16	R	R	R
2.136	10mm ² x 3-core	ea.	16	R	R	R

2.137	6mm ² x 4-core	ea.	16	R	R	R
2.138	6mm ² x 3-core	ea.	16	R	R	R
2.139	4mm ² x 4-core	ea.	16	R	R	R
2.140	4mm ² x 3-core	ea.	16	R	R	R
2.141	2,5mm ² x 4-core	ea.	16	R	R	R
2.142	2,5mm ² x 3-core	ea.	16	R	R	R
2.143	1,5mm ² x 4-core	ea.	16	R	R	R
2.144	1,5mm ² x 3-core	ea.	16	R	R	R
	<u>LOW VOLTAGE CABLE JOINTS</u>					
	Joint 1 000V PVC/SWA/PVC cables					
2.145	120mm ² x 4-core	ea.	1	R	R	R
2.146	95mm ² x 4-core	ea.	1	R	R	R
2.147	70mm ² x 4-core	ea.	1	R	R	R
2.148	50mm ² x 4-core	ea.	16	R	R	R
2.149	35mm ² x 4-core	ea.	16	R	R	R
2.150	25mm ² x 4-core	ea.	16	R	R	R
2.151	16mm ² x 4-core	ea.	16	R	R	R
2.152	16mm ² x 3-core	ea.	16	R	R	R
2.153	10mm ² x 4-core	ea.	16	R	R	R
2.154	10mm ² x 3-core	ea.	16	R	R	R
2.155	6mm ² x 4-core	ea.	16	R	R	R
2.156	6mm ² x 3-core	ea.	16	R	R	R
2.157	4mm ² x 4-core	ea.	16	R	R	R
2.158	4mm ² x 3-core	ea.	16	R	R	R
2.159	2,5mm ² x 4-core	ea.	16	R	R	R
2.160	2,5mm ² x 3-core	ea.	16	R	R	R
2.161	1,5mm ² x 4-core	ea.	16	R	R	R
2.162	1,5mm ² x 3-core	ea.	16	R	R	R
	<u>DISCONNECT SUPPLY CABLE</u>					
	Switch off and disconnect the three or single phase supply cable.					
2.163	50mm ² -120mm ²	ea.	16	R	R	R
2.164	16mm ² -35mm ²	ea.	16	R	R	R
2.165	1,5mm ² -10mm ²	ea.	16	R	R	R
	<u>CABLE PROTECTION KICKER PIPES</u>					
	2.5m long galvanised cable protection kicker pipe					
2.166	75mm dia	ea.	11	R	R	R
2.167	50mm dia	ea.	11	R	R	R
2.168	40mm dia	ea.	11	R	R	R
2.169	32mm dia	ea.	11	R	R	R
2.170	25mm dia	ea.	11	R	R	R
2.171	20mm dia	ea.	11	R	R	R
	<u>EARTHING</u>					
2.172	Test transformer earth submit an earth reading.	ea.	16	R	R	R
2.173	1,5m earth electrode, depth of 600mm below final ground level.	ea.	16	R	R	R
2.174	70mm sq. earth wire with earth electrodes.	m	16	R	R	R
	<u>BARE COPPER EARTH WIRES</u>					

	Provide and install bare copper earth wires through cable sleeves,.					
2.175	70mm ²	m	1	R	R	R
2.176	50 mm ²	m	1	R	R	R
2.177	35 mm ²	m	16	R	R	R
2.178	25 mm ²	m	16	R	R	R
2.179	16 mm ²	m	16	R	R	R
2.180	10 mm ²	m	16	R	R	R
2.181	6 mm ²	m	16	R	R	R
2.182	4 mm ²	m	16	R	R	R
	<u>CABLE TRENCHES</u>					
	Excavate and back-fill cable trenches, 300mm wide x 650mm deep.					
2.183	Earth (Pickable)	m ³	72	R	R	R
2.184	Soft rock (Pneumatic)	m3	72	R	R	R
2.185	Hard rock (Blasting)	m3	72	R	R	R
2.186	Soft soil backfilling material	m3	72	R	R	R
2.187	Excavate and open existing LV cables.	m3	72	R	R	R
2.188	Price for excavation to remove an existing 7 to 11m pole.	ea	72	R	R	R
	<u>CABLE MARKER TAPE</u>					
2.189	Cable marker tape above cables.	m	72	R	R	R
	<u>PVC SLEEVES</u>					
	The following sleeves -black of the KABELFLEX type.					
2.192	160mm dia	m	11	R	R	R
2.193	110mm dia	m	140	R	R	R
2.194	75mm dia	m	140	R	R	R
2.195	32mm dia	m	140	R	R	R
	<u>SLOW BENDS</u>					
	Slow bends through a wall and floor.					
2.196	110mm dia PVC. slow bends.	ea.	39	R	R	R
2.197	75mm dia PVC slow bends.	ea.	39	R	R	R
2.198	50mm dia PVC slow bends.	ea.	39	R	R	R
2.199	40mm dia PVC slow bends.	ea.	39	R	R	R
2.200	32mm dia PVC slow bends.	ea.	39	R	R	R
2.201	25mm dia PVC slow bends.	ea.	39	R	R	R
	<u>SEAL CABLE SLEEVES</u>					
2.202	Seal off cable sleeve ends.	ea.	352	R	R	R
2.205	Branches above 300mm dia.	ea.	39	R	R	R
	<u>DISTRIBUTION KIOSK</u>					
	Distribution kiosks complete without switchgear					
2.206	A new 6-way (meters) ±40 way (MCB'S) outdoor, ventilated, fibre glass distribution kiosk ±600mm x 600mm x 350mm deep including fibre glass plinth.	ea.	11	R	R	R
2.207	A new 9-way (meters) ±60 way (MCB'S), fibre glass distribution kiosk ±1000mm x 600mm x 350mm deep including fibre glass plinth. .	ea.	11	R	R	R

2.208	A new 12-way (meters) ±100 way (MCB'S) outdoor, fibre glass distribution kiosk ±1000mm x 1000mm x 350mm deep including fibre glass plinth.	ea.	11	R	R	R
2.209	A new 6-way (meters) ±40 way (MCB'S) 2mm mild steel distribution kiosk ±600mm x 600mm x 350mm deep.	ea.	11	R	R	R
2.210	A new 9-way (meters) ±60 way (MCB'S) outdoor, 2mm mild steel ventilated distribution kiosk ±1000mm x 600mm x 350mm deep.	ea.	11	R	R	R
2.211	A new 12-way (meters) ±100 way (MCB'S), 2mm mild steel baked ventilated distribution kiosk ±1000mm x 1000mm x 350mm deep.	ea.	11	R	R	R
	<u>SURFACE WALL MOUNTED DISTRIBUTION KIOSK/DISTRIBUTION BOARD</u>					
2.213	1000mm x 1000mm x 350mm, ventilated distribution kiosk.	ea.	11	R	R	R
	<u>REPLACE EXISTING DISTRIBUTION KIOSK</u>					
2.214	Disconnect and remove existing cables, remove existing distribution kiosk. Disconnect switchgear re-install into new distribution kiosk and re-wire.	ea.	11	R	R	R
	<u>SERVICE AND TIDY EXISTING DISTRIBUTION KIOSK</u>					
2.215	Tidy, make safe and label	ea.	11	R	R	R
2.216	Clean sand paper and spray paint an existing distribution kiosk - e.g. 1000mmx1000mmx350mm.	m ²	11	R	R	R
2.217	Hasp and staple at a distribution kiosk.	ea.	11	R	R	R
2.218	Key alike lock for a distribution kiosk. (Viro Type 50mm)	ea.	11	R	R	R
	<u>METERING EQUIPMENT</u>					
2.219	Supply and replace 5A electronic meter similar to existing meter	ea.	11	R	R	R
	<u>STREET LIGHT CONTROL</u>					
2.220	Replace a street light control in a distribution kiosk or distribution board.	ea.	16	R	R	R
2.221	Replace a street light installation timer.	ea.	16	R	R	R
2.221	Replace a street light photocell	ea.	16	R	R	R
	<u>STREET LIGHT POLE</u>					
	Provide and install hot dipped galvanised streetlight poles.					
2.222	8m mounting height	item	11	R	R	R
2.222	10m mounting height	item	11	R	R	R
2.223	11m mounting height	item	11	R	R	R
	<u>POLE CAPS AND ACCESS DOORS</u>					
	Provide and install the pole caps and access doors.					
2.224	Pole cap for two streetlight fittings mounted horizontal.	ea	11	R	R	R
2.225	Pole cap for a single streetlight fittings mounted at 15°	ea	11	R	R	R
2.225	Pole access doors	ea	16	R	R	R
	<u>STREETLIGHT POLE WIRING</u>					
2.226	Provide and install streetlight pole wiring.	ea	16	R	R	R
2.226	Provide and install 5A MCCB for streetlight pole.	ea	16	R	R	R

	<u>EXCAVATION AND BACKFILLING FOR A STREET LIGHT POLE</u>					
2.227	Price for excavation and backfilling of a street light pole (+-1,5m). Back filling shall be compacted in 150mm layers.	ea	11	R	R	R
	<u>CABLE MARKER</u>					
2.228	Provide and install concrete cable route markers - 300mm high, 150mm x 150mm at the top and 250 x 250mm at the bottom.	ea	39	R	R	R
	<u>SCHEDULE NO 3</u>					
	-					
3	<u>GENERAL ELECTRICAL INSTALLATION:</u>					
	<u>DISTRIBUTION BOARDS</u>					
	<u>REPLACE EXISTING DISTRIBUTION BOARD</u>					
	As above but for the following surface distribution boards:					
3.8	Up to 24 way 13mm	ea.	11	R	R	R
3.9	Up to 36 way 13mm	ea.	11	R	R	R
3.10	Up to 36 way 3-phase 13mm	ea.	11	R	R	R
3.15	Up to 36 way 3-phase 13mm	ea.	11	R	R	R
3.18	Up to 24 way 13mm	ea.	11	R	R	R
3.19	Up to 36 way 13mm	ea.	11	R	R	R
3.20	Up to 36 way 3-phase 13mm	ea.	11	R	R	R
3.21	Up to 60 way 3-phase 13mm	ea.	11	R	R	R
3.22	Up to 144 way 3-phase 13mm	ea.	11	R	R	R
3.23	Ready board with three plugs, one light, earth leakage (main) and 2x 20A (plugs) circuit breakers.	ea.	11	R	R	R
3.24	Ready board with three plugs, earth leakage (main), 1x10A (light) and 1x 20A (plugs) circuit breakers.	ea.	11	R	R	R
3.25	Ready board with, earth leakage (main), 1x10A (light) and 1x 20A (plugs) circuit breakers.	ea.	11	R	R	R
	<u>X-RAY DISTRIBUTION BOARD</u>					
3.26	6-way surface mounted CLIPSAL or GEM board including 100A 3P 5kA (CBI) isolator	ea	11	R	R	R
3.27	Up to 24 way 13mm	ea.	39	R	R	R
3.28	Up to 36 way 13mm	ea.	11	R	R	R
3.29	Up to 36 way 3-phase 13mm	ea.	11	R	R	R
3.30	Up to 60 way 3-phase 13mm	ea.	11	R	R	R
3.31	Up to 144 way 3-phase 13mm	ea.	11	R	R	R
	<u>CLEAN AND PAINT AN EXISTING DISTRIBUTION BOARD</u>					
3.32	Clean, sandpaper and spray paint an existing distribution board.	ea.	11	R	R	R
	<u>HASP AND STAPLE</u>					
3.33	Hasp and staple at a distribution board.	ea.	11	R	R	R
	<u>KEY-ALIKE LOCK</u>					
3.34	Key-alike lock for a distribution board. (50mm Viro Type)	ea.	16	R	R	R

	<u>CHECK DISTRIBUTION BOARD EARTH</u>					
3.35	Check earthing at each distribution board and provide a written report inline with SANS 10142-1 Earthing and Bonding.	ea.	44	R	R	R
	<u>SWITCHGEAR</u>					
	Connect, test and commission the following switchgear to be installed shall match existing. All DB cover plates should close. (Safety).					
	<u>CIRCUIT BREAKERS</u>					
3.36	1A, 2A 1P 5kA - din rail or mini rail, Curve 2 - single space - 13mm	ea.	11	R	R	R
3.37	5A to 25A 1P 5kA - din rail or mini rail, Curve 2 - single space - 13mm	ea.	56	R	R	R
3.38	1-PHASE+NEUTRAL - 10A to 25A 5kA - din rail or mini rail, Curve 2 - single space - 26mm	ea.	28	R	R	R
3.39	10A to 25A 2P 5kA - din rail or mini rail, Curve 2 - single space - 26mm	ea.	44	R	R	R
3.40	10A to 25A 3P 5kA - din rail or mini rail, Curve 2 - single space - 39mm	ea.	84	R	R	R
3.41	10A to 25A 1P 5kA - din rail or mini rail, Curve 1 - single space - 13mm	ea.	16	R	R	R
3.42	10A to 25A 3P 5kA - din rail or mini rail, Curve 1 - single space - 39mm	ea.	16	R	R	R
3.43	1A, 2A 1P 5kA - din rail or mini rail, Curve 2 - double space - 26mm	ea.	11	R	R	R
3.44	5A to 63A 1P 5kA - din rail or mini rail, Curve 2 - double space - 26mm	ea.	56	R	R	R
3.45	80A to 100A 1P 5kA - din rail or mini rail, Curve 2 - double space - 26mm	ea.	56	R	R	R
3.46	10A to 63A 2P 5kA - din rail or mini rail, Curve 2 - double space - 52mm	ea.	56	R	R	R
3.47	1-PHASE +NEUTRAL - 10A to 63A 5kA - din rail or mini rail, Curve 2 - double space - 52mm	ea.	28	R	R	R
3.48	10A to 63A 3P 5kA - din rail or mini rail, Curve 2 - double space - 78mm	ea.	56	R	R	R
3.49	80A 3P 5kA - din rail or mini rail, Curve 2 - double space - 78mm	ea.	28	R	R	R
3.50	100A 3P 5kA - din rail or mini rail, Curve 2 - double space - 78mm	ea.	16	R	R	R
3.51	10A to 63A 1P 5kA - din rail or mini rail, Curve 1 - double space - 26mm	ea.	16	R	R	R
3.52	80A 1P 5kA - din rail or mini rail, Curve 1 - double space - 26mm	ea.	28	R	R	R
3.53	10A to 63A 3P 5kA - din rail or mini rail, Curve 1 - double space - 78mm	ea.	16	R	R	R
3.54	80A 3P 5kA - din rail or mini rail, Curve 1 - double space - 78mm	ea.	16	R	R	R

3.55	100A 3P 5kA - din rail or mini rail, Curve 1 - double space - 78mm	ea.	16	R	R	R
3.56	10A to 60A 1P 5kA - surface, Curve 2 - double space - 26mm	ea.	28	R	R	R
3.57	70A to 100A 1P 5kA - surface, Curve 2 - double space - 26mm	ea.	28	R	R	R
3.58	10A to 60A 3P 5kA - surface, Curve 2 - double space - 78mm	ea.	28	R	R	R
3.59	70A & 80A 3P 5kA - surface, Curve 2 - double space - 78mm	ea.	16	R	R	R
3.60	90A & 100A 3P 5kA - surface, Curve 2 - double space - 78mm	ea.	16	R	R	R
3.61	10A to 60A 1P 5kA - surface, Curve 1 - double space - 26mm	ea.	44	R	R	R
3.62	70A & 80A 1P 5kA - surface, Curve 1 - double space - 26mm	ea.	28	R	R	R
3.63	90A & 100A 1P 5kA - surface, Curve 1 - double space - 26mm	ea.	11	R	R	R
3.64	10A to 60A 3P 5kA - surface, Curve 1 - double space - 78mm	ea.	11	R	R	R
3.65	70A & 80A 3P 5kA - surface, Curve 1 - double space - 78mm	ea.	23	R	R	R
3.66	90A & 100A 3P 5kA - surface, Curve 1 - double space - 78mm	ea.	11	R	R	R
3.67	10A to 60A 1P 10kA - mini rail, Curve 2 - double space - 26mm	ea.	16	R	R	R
3.68	70A & 80A 1P 10kA - mini rail, Curve 2 - double space - 26mm	ea.	16	R	R	R
3.69	1-PHASE +NEUTRAL - 10A to 60A 10kA - mini rail, Curve 2 - double space - 52mm	ea.	11	R	R	R
3.70	10A to 60A 3P 10kA - mini rail, Curve 2 - double space - 78mm	ea.	11	R	R	R
3.71	70A & 80A 3P 10kA - mini rail, Curve 2 - double space - 78mm	ea.	11	R	R	R
3.72	100A 3P 10kA - mini rail, Curve 2 - double space - 78mm	ea.	11	R	R	R
3.73	10A to 60A 1P 10kA - mini rail, Curve 1 - double space - 26mm	ea.	11	R	R	R
3.74	70A & 80A 1P 10kA - mini rail, Curve 1 - double space - 26mm	ea.	11	R	R	R
3.75	10A to 60A 3P 10kA - mini rail, Curve 1 - double space - 78mm	ea.	11	R	R	R
3.76	70A to 100A 3P 10kA - mini rail, Curve 1 - double space - 78mm	ea.	11	R	R	R
3.77	15A to 60A 1P 15kA - surface mounted thermal magnetic	ea	23	R	R	R

3.78	70A to 100A 1P 15kA - surface mounted thermal magnetic	ea	16	R	R	R
3.79	15A to 60A 3P 15kA - surface mounted thermal magnetic	ea	16	R	R	R
3.80	70A to 100A 3P 15kA - surface mounted thermal magnetic	ea	16	R	R	R
3.81	125A 3P 15kA - surface mounted thermal magnetic	ea	11	R	R	R
3.82	150A to 160A 3P 15kA -surface mounted thermal magnetic	ea	11	R	R	R
3.83	175A to 225A 3P 15kA - surface mounted thermal magnetic	ea	11	R	R	R
3.84	300A 3P 20kA - surface mounted hydraulic magnetic	ea	11	R	R	R
3.85	350A & 400A 3P 20kA - surface mounted hydraulic magnetic	ea	11	R	R	R
3.86	450A & 500A 3P 20kA - surface mounted hydraulic magnetic	ea	11	R	R	R
3.87	600A 3P 20kA - surface mounted hydraulic magnetic	ea	11	R	R	R
3.88	15A to 60A 1P 25kA - thermal magnetic	ea	11	R	R	R
3.89	70A to 100A 1P 25kA - thermal magnetic	ea	11	R	R	R
3.90	15A to 60A 3P 25kA - thermal magnetic	ea	11	R	R	R
3.91	70A to 100A 3P 25kA - thermal magnetic	ea	11	R	R	R
3.92	125A 3P 25kA - thermal magnetic	ea	11	R	R	R
3.93	150A to 160A 3P 25kA - thermal magnetic	ea	11	R	R	R
3.94	175A to 225A 3P 25kA - thermal magnetic	ea	11	R	R	R
3.95	250A 3P 25kA - thermal magnetic	ea	11	R	R	R
3.96	300A to 400A 3P 25kA - thermal magnetic	ea	11	R	R	R
	25kA hydraulic magnetic surface mounted circuit breakers.					
3.97	15A to 60A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	11	R	R	R
3.98	70A to 100A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	11	R	R	R
3.99	125A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	11	R	R	R
3.100	150A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	11	R	R	R
3.101	160A to 200A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	11	R	R	R
3.102	225A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	11	R	R	R
3.103	250A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	11	R	R	R
3.104	300A to 630A, 35kA surface mounted adjustable circuit breakers.	ea	11	R	R	R
3.105	400A to 800A, 35kA min surface mounted adjustable circuit breakers.	ea	11	R	R	R
	<u>CIRCUIT BREAKER ACCESSORIES</u>					
	<u>MECHANICAL INTERLOCKED AUTOMATED CHANGE OVER CIRCUIT BREAKER ASSEMBLIES</u>					

	<u>CIRCUIT BREAKER AUXILIARY SWITCH</u>					
3.106	For 15A to 225A 15kA to 35kA circuit breakers e.g. CBI - F35D	ea.	16	R	R	R
3.107	For 100A to 400A 25kA to 35kA circuit breakers e.g. CBI - K35D	ea.	16	R	R	R
	<u>CIRCUIT BREAKER SOLENOID OPERATOR</u>					
3.108	For 15A to 225A 15kA to 35kA circuit breakers e.g. CBI - F35D	ea.	16	R	R	R
3.109	For 100A to 400A 25kA to 35kA circuit breakers e.g. CBI - K35D	ea.	16	R	R	R
	<u>MECHANICAL INTERLOCK AND BASE PLATE</u>					
3.110	For 15A to 225A 15kA to 35kA circuit breakers e.g. CBI - F35D	ea.	16	R	R	R
3.111	For 100A to 400A 25kA to 35kA circuit breakers e.g. CBI - K35D	ea.	11	R	R	R
	<u>CYLINDRICAL LOCK</u>					
3.112	A cylindrical lock with different key for a 100A to 400A 25kA to 35kA circuit breaker e.g. CBI - K35D	ea	11	R	R	R
	<u>MOTORISED CHANGE OVER</u>					
3.113	125A 3-pole motorised changeover - SOCOMEC ATyS 3s type.	ea	5	R	R	R
3.114	160A 3-pole motorised changeover - SOCOMEC ATyS 3s type.	ea	5	R	R	R
3.115	250A 3-pole motorised changeover - SOCOMEC ATyS 3s type.	ea	5	R	R	R
3.116	400A 3-pole motorised changeover - SOCOMEC ATyS 3s type.	ea	5	R	R	R
3.117	630A 3-pole motorised changeover - SOCOMEC ATyS 3s type.	ea	5	R	R	R
3.118	800A 3-pole motorised changeover - SOCOMEC ATyS 3s type.	ea	5	R	R	R
	<u>ISOLATORS / SWITCH DISCONNECTORS</u>					
3.119	63A 2P 5kA - din or mini rail - single space 26mm	ea.	28	R	R	R
3.120	63A 2P 5kA - din or mini rail - double space 52mm	ea.	84	R	R	R
3.121	100A 2P 5kA - din or mini rail - double space 52mm	ea.	11	R	R	R
3.122	63A 3P 5kA - din or mini rail - single space 39mm	ea.	28	R	R	R
3.123	63A 3P 5kA - din or mini rail - double space 78mm	ea.	56	R	R	R
3.124	100A 3P 5kA - din or mini rail - double space 78mm	ea.	28	R	R	R
3.125	60A 2P 10kA - din or mini rail - double space 52mm	ea.	28	R	R	R
3.126	100A 2P 10kA - din or mini rail - double space 52mm	ea.	11	R	R	R
3.127	60A 3P 10kA - din or mini rail - double space 78mm	ea.	28	R	R	R
3.128	100A 3P 10kA - din or mini rail - double space 78mm	ea.	16	R	R	R
3.129	250A 3P 20kA - surface mounted	ea	11	R	R	R
3.130	300A 3P 20kA - surface mounted	ea	11	R	R	R

3.131	400A 3P 20kA - surface mounted	ea	11	R	R	R
3.132	450A 3P 20kA - surface mounted	ea	11	R	R	R
3.133	500A 3P 20kA - surface mounted	ea	11	R	R	R
3.134	600A 3P 20kA - surface mounted isolators/disconnectors.	ea	11	R	R	R
	<u>PHOTO CELL BY-PASS SWITCH</u>					
3.135	5kA (Test switch) single space 13mm - din or mini rail mounted.	ea.	16	R	R	R
3.136	5kA (Test switch) double space 26mm - din or mini rail mounted.	ea.	11	R	R	R
3.137	10A, 1-Pole 5kA MCB (Test switch) double space 26mm - surface mounted in distribution board behind the front panel.	ea.	11	R	R	R
	<u>EARTH LEAKAGE UNITS</u>					
3.138	30mA, three phase earth leakage 60A isolator type 5kA - single space 78mm.	ea.	28	R	R	R
3.139	30mA, three phase earth leakage 80A isolator type 5kA - double space 117mm.	ea.	28	R	R	R
3.140	30mA, single phase earth leakage 60A isolator type 5kA - single space 26mm.	ea.	28	R	R	R
3.141	30mA, single phase earth leakage 60A/100A isolator type 5kA - double space 65mm.	ea.	28	R	R	R
3.142	30mA, single phase earth leakage 20A circuit breaker type 5kA - single space 26mm.	ea.	28	R	R	R
3.143	30mA, single phase earth leakage 20A circuit breaker type 5kA - double space 65mm.	ea.	28	R	R	R
	<u>FUSES</u>					
	New din rail or mini rail mounted HRC fuse complete					
3.144	0 - 10A din rail or mini rail mounted HRC fuse.	ea.	11	R	R	R
3.145	10-20A din rail or mini rail mounted HRC fuse.	ea.	11	R	R	R
3.146	100A to 250A HRC fuse in an existing fused switch.	ea	11	R	R	R
	Metering/control HRC fuse complete with base and fuse.					
3.147	6-10A	ea	11	R	R	R
	Replace an existing metering/control HRC fuse					
3.148	6-10A	ea	11	R	R	R
	<u>CIRCUIT BREAKER SPACE BLANK PLATES</u>					
3.149	Circuit breaker space blank plate.	ea.	352	R	R	R
	<u>CONTACTORS</u>					
3.150	630A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	11	R	R	R
3.151	400 - 450A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	11	R	R	R
3.152	310 - 320A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	11	R	R	R
3.153	250 - 265A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	11	R	R	R
3.154	150A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	11	R	R	R
3.155	95 - 105A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	11	R	R	R

3.156	80-85 A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	11	R	R	R
3.157	60 - 65A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	11	R	R	R
3.158	30 - 32A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	11	R	R	R
3.159	20 - 25A 3P AC3 rating - 1 x n/o & 1 x n/c aux. contact	ea.	11	R	R	R
3.160	15A - 16A 3P AC3 rating - 1 x n/o & 1 x n/c aux. contact	ea.	11	R	R	R
3.161	10 - 12A 3P AC3 rating - 1 x n/o & 1 x n/c aux. contact	ea.	11	R	R	R
3.162	10 - 20A 3P AC1 rating surface, mini rail or din rail mounted - 1 x n/o & 1 x n/c aux. contact	ea.	11	R	R	R
<u>CONTACTOR COILS</u>						
3.163	630A 3P	ea.	11	R	R	R
3.164	400 - 450A	ea.	11	R	R	R
3.165	310 - 320A 3P	ea.	11	R	R	R
3.166	250 - 265A 3P	ea.	11	R	R	R
3.167	150A 3P	ea.	11	R	R	R
3.168	95 - 105A 3P	ea.	11	R	R	R
3.169	80-85 A 3P	ea.	11	R	R	R
3.170	60 - 65A 3P	ea.	11	R	R	R
3.171	30 - 32A 3P	ea.	11	R	R	R
3.172	20 - 25A 3P	ea.	11	R	R	R
3.173	15A - 16A 3P	ea.	11	R	R	R
3.174	10 - 12A 3P	ea.	11	R	R	R
<u>CONTACT KIT FOR CONTACTORS</u>						
3.175	630A 3P	ea.	11	R	R	R
3.176	400 - 450A 3P	ea.	11	R	R	R
3.177	310 - 320A 3P	ea.	11	R	R	R
3.178	250 - 265A 3P	ea.	11	R	R	R
3.179	150A 3P	ea.	11	R	R	R
3.180	95 - 105A 3P	ea.	11	R	R	R
3.181	80-85 A 3P	ea.	11	R	R	R
3.182	60 - 65A 3P	ea.	11	R	R	R
<u>THERMAL OVERLOAD RELAYS</u>						
	Thermal overload relay					
3.183	For contactors up to 16A (AC3)	ea.	11	R	R	R
3.184	For contactors up to 40A (AC3)	ea.	11	R	R	R
<u>MECHANICAL INTERLOCK FOR CHANGE OVER CONTACTORS</u>						
	mechanical interlock					
3.185	0 - 50A	ea.	11	R	R	R
3.186	90-125A	ea.	16	R	R	R
3.187	160-800A	ea.	11	R	R	R
<u>SELECTOR SWITCHES THREE-WAY</u>						

3.188	Up to 30A, 3P, 3-way.	ea.	11	R	R	R
3.189	Up to 100A, 3P, 3-way	ea.	11	R	R	R
3.190	Up to 200A, 3P, 3-way	ea.	11	R	R	R
3.191	Up to 250A, 3P, 3-way	ea.	11	R	R	R
3.192	Up to 500A, 3P, 3-way	ea.		R	R	R
	<u>BY-PASS SWITCH IN GENERATOR CHANGE OVER PANEL</u>					
3.193	Up to 100A, 3P	ea.	5	R	R	R
3.194	Up to 160A, 3P	ea.	5	R	R	R
3.195	Up to 250A, 3P	ea.	5	R	R	R
3.196	Up to 500A, 3P	ea.	5	R	R	R
3.197	Up to 630A, 3P	ea.	5	R	R	R
	<u>TIMER</u>					
3.198	Rail mounted timer	ea.	11	R	R	R
	<u>SURGE PROTECTION IN DISTRIBUTION BOARDS</u>					
3.199	Lightning protection surge arrester - 1P 20kA	ea	11	R	R	R
	<u>230V/12/24V TRANSFORMER</u>					
3.200	Supply and replace 300VA 230/24V or 230/12V isolation transformer.	ea.	11	R	R	R
	<u>kVA and kWh METERS</u>					
	The Quality meters shall have the following: Measurement: True RMS (TRMS) measurement of current, voltage, active/reactive/apparent power, and power factor; Accuracy: Class 0.2S for active energy (in accordance with IEC 61557-12); Power Quality: Capable of measuring Total Harmonic Distortion (THD) and individual voltage and current harmonics up to the 63rd harmonic; Data & Recording: Includes internal data logging capabilities, demand values, and customizable alarms; Communication: Built-in RS-485 port supporting Modbus RTU protocol; Display: High-resolution back-lit LCD screen; Input/Output: Configurable digital inputs/outputs and integrated relay outputs.					
3.201	Three Phase Power quality Meter (CTs elsewhere measured)	ea.	1	R	R	R
3.202	Three phase 40 - 100A surface mounted kVA meter	ea.	1	R	R	R
3.203	Single phase 20 - 80A surface mounted kWh	ea.	1	R	R	R
3.204	Three phase 40A - 100A surface mounted kWh	ea.	1	R	R	R
3.205	Single phase 65A rail mounted (1P+N) kWh	ea.	1	R	R	R
3.206	Three phase 65A rail mounted (3P+N) kWh	ea.	1	R	R	R
	<u>REPLACE METERING CURRENT TRANSFORMERS</u>					
3.207	Up to 650:5A	ea.	11	R	R	R
3.208	Up to 500:5A	ea.	11	R	R	R
3.209	Up to 300:5A	ea.	11	R	R	R
3.210	Up to 100:5A	ea.	11	R	R	R
	<u>INDICATING METERS IN KIOSKS/DISTRIBUTION BOARDS</u>					
3.211	Indicating AC volt meter	ea.	11	R	R	R
3.212	Direct and maximum demand indicating AC ammeter	ea.	11	R	R	R

3.213	DC volt meter	ea.	11	R	R	R
3.214	Direct indicating DC ammeter (96x96).	ea.	11	R	R	R
	<u>VOLT METER ROTARY SWITCH</u>					
3.215	7-way volt meter rotary switch	ea.	11	R	R	R
	<u>TERMINAL BLOCKS</u>					
	Din rail mounted terminal blocks	Ea.	2	R	R	R
	<u>PIN INSULATORS</u>					
3.216	Up to 60A pin insulators	ea.	2	R	R	R
3.217	Up to 100A pin insulators	ea.	2	R	R	R
3.218	Up to 200A pin insulators	ea.	2	R	R	R
3.219	Up to 400A pin insulators	ea.	2	R	R	R
3.220	Up to 600A pin insulators	ea.	2	R	R	R
	<u>TRACING OF CIRCUITS AND PRINTING OF LEGEND CARDS</u>					
3.221	Trace existing circuits for each Distribution Board.	ea.	39	R	R	R
	Supply and install Legend card	ea.	39	R	R	R
	<u>AS BUILT DRAWINGS IN KIOSKS AND DISTRIBUTION BOARDS</u>					
	"As Built"					
3.222	A4 paper size "As Built"	ea.	39	R	R	R
3.223	A3 paper size "As Built"	ea.	39	R	R	R
	<u>LAMINATED CIRCUIT LABEL</u>					
3.224	New label - minimum 9mm with 5mm letter height, Brother P-Touch	ea.	39	R	R	R
	<u>CONDUIT AND ACCESSORIES</u>					
3.225	32mm dia PVC conduit chased into a wall	m	280	R	R	R
3.226	25mm dia PVC conduit chased into a wall.	m	352	R	R	R
3.227	20mm dia PVC conduit chased into a wall.	m	700	R	R	R
3.228	50mm dia PVC conduit surface in roof space.	m	72	R	R	R
3.229	32mm dia PVC conduit surface in roof space.	m	212	R	R	R
3.230	25mm dia PVC conduit surface in roof space.	m	352	R	R	R
3.231	20mm dia PVC conduit surface in roof space.	m	560	R	R	R
	conduit surface inside.					
3.232	32mm dia PVC conduit surface inside on wall etc.	m	72	R	R	R
3.233	25mm dia PVC conduit surface inside on wall etc.	m	72	R	R	R
3.234	20mm dia PVC conduit surface inside on wall etc.	m	140	R	R	R
	Galvanised surface outside					
3.235	32mm dia galvanised conduit surface outside.	m	72	R	R	R
3.236	25mm dia galvanised conduit surface outside.	m	212	R	R	R
3.237	20mm dia galvanised conduit surface outside.	m	560	R	R	R
	Slow bends for conduit					
3.238	32mm dia galvanised conduit slow bend in roof space.	ea	16	R	R	R
3.239	50mm dia PVC conduit slow bend in roof space.	ea	16	R	R	R
3.240	32mm dia PVC conduit slow bend in roof space.	ea	16	R	R	R

3.241	50mm dia PVC conduit slow bend chased into a wall and floor.	ea	16	R	R	R
3.242	32mm dia PVC conduit slow bend chased into a wall and floor.	ea	16	R	R	R
	2.5m long PVC flexible conduit					
3.243	32mm dia 2.5m long PVC flexible conduit connection including adaptors.	m	16	R	R	R
3.244	25mm dia 2.5m long PVC flexible conduit connection including adaptors.	m	16	R	R	R
3.245	20mm dia 2.5m long PVC flexible conduit connection including adaptors.	m	16	R	R	R
	2.5m long steel PVC coated flexible					
3.246	32mm dia 2.5m long steel PVC coated flexible conduit connection including adaptors.	ea	16	R	R	R
3.247	25mm dia 2.5m long steel PVC coated flexible conduit connection including adaptors.	ea.	16	R	R	R
3.248	20mm dia 2.5m long steel PVC coated flexible conduit connection including adaptors.	ea.	16	R	R	R
	<u>CONDUIT BOXES</u>					
3.249	20 and 25mm dia round galvanised steel,1-4 way or back entry - chased into a wall	ea.	16	R	R	R
3.250	100x50mm galvanised steel - chased into a wall	ea.	16	R	R	R
3.251	100x100mm galvanised steel - chased into a wall	ea.	16	R	R	R
3.252	20 and 25mm dia galvanised steel round box - in roof space	ea.	16	R	R	R
3.253	100x50mm galvanised - in roof space	ea.	16	R	R	R
3.254	100x100mm galvanised - in roof space	ea.	16	R	R	R
3.255	150 x 150 x 100 mm galvanised with lid - in roof space	ea.	16	R	R	R
3.256	200 x 200 x 100 mm galvanised with lid - in roof space	ea.	16	R	R	R
3.257	300 x 300 x 150 mm galvanised with lid - in roof space	ea.	16	R	R	R
3.258	20 and 25mm dia galvanised steel round - installed surface.	ea.	16	R	R	R
3.259	100x50mm galvanised - installed surface.	ea.	16	R	R	R
3.260	100x100mm galvanised - installed surface.	ea.	16	R	R	R
3.261	20 and 25mm dia round PVC - chased into a wall.	ea.	16	R	R	R
3.262	100x50mm PVC - chased into a wall.	ea.	16	R	R	R
3.263	100x100mm PVC - chased into a wall.	ea.	16	R	R	R
3.264	20 and 25mm dia PVC round box - in roof space.	ea.	16	R	R	R
3.265	100x50mm PVC - in roof space.	ea.	16	R	R	R
3.266	100x100mm PVC - in roof space.	ea.	16	R	R	R
3.267	20 and 25mm dia PVC round box - surface as draw box.	ea.	16	R	R	R
3.268	100x50mm PVC - surface as draw box.	ea.	16	R	R	R

3.269	100x100mm PVC - surface as draw box.	ea.	16	R	R	R
	<u>EXTENSION BOXES</u>					
3.270	100 x 50 x 50mm - metal extension boxes.	ea.	16	R	R	R
3.271	100 x 100 x 50mm - metal extension boxes.	ea.	16	R	R	R
3.272	100 x 50 x 50mm PVC extension boxes	ea.	11	R	R	R
3.273	100 x 100 x 50mm PVC extension boxes	ea.	11	R	R	R
	<u>CONDUIT BOX COVER PLATES</u>					
3.274	Blank galvanised round box cover plates.	ea.	16	R	R	R
3.275	Blank white or ivory round box cover plates.	ea.	28	R	R	R
3.276	Blank PVC round box cover plates.	ea.	28	R	R	R
3.277	Blank galvanised over size round box cover plates.	ea.	16	R	R	R
3.278	Blank over size white or ivory round box cover plates.	ea.	16	R	R	R
3.279	Blank PVC over size round box cover plates.	ea.	16	R	R	R
3.280	Blank 100x50 white or ivory cover plates PVC or steel.	ea.	16	R	R	R
3.281	Blank 100x100 white or ivory cover plates PVC or steel.	ea.	39	R	R	R
	<u>POWER SKIRTING AND POWER TRUNKING</u>					
	<u>METAL POWER SKIRTING</u>					
	(Brand name/codes are based on equipment found on site. Similar approved equal products shall be accepted)					
3.282	Single compartment P802 - installed on a wall.	m	11	R	R	R
3.283	Two compartment P801 - installed on a wall	m	16	R	R	R
3.284	Galvanised wiring duct P8000 in roof space	m	11	R	R	R
3.285	Galvanised wiring duct P9000 in roof space.	m	11	R	R	R
3.286	Galvanised P2000 wiring channel in roof space.	m	16	R	R	R
	Replace an existing or provide and install the following new 90° flat elbow for the following:					
3.287	P802 90° flat elbow.	ea.	16	R	R	R
3.288	P801 90° flat elbow.	ea.	16	R	R	R
3.289	P8000 90° flat elbow.	ea.	16	R	R	R
3.290	P9000 90° flat elbow.	ea.	16	R	R	R
	Replace an existing or provide and install the following new 90° inner- or outer corner piece for the following metal power skirting or power trunking:					
3.291	P802 90° inner- or outer corner piece.	ea.	16	R	R	R
3.292	P801 90° inner- or outer corner piece.	ea.	16	R	R	R
3.293	P8000 90° inner- or outer corner piece	ea.	16	R	R	R
3.294	P9000 90° inner- or outer corner piece.	ea.	16	R	R	R
	Replace an existing or provide and install the following new end-caps for the following metal power skirting or power trunking:					
3.295	P802 end-caps.	ea.	23	R	R	R
3.296	P801 end-caps.	ea.	23	R	R	R
3.297	P8000 end-caps.	ea.	23	R	R	R
3.298	P9000 end-caps.	ea.	23	R	R	R

	<u>PVC POWER SKIRTING</u>					
	Cabstrut Jupiter					
	(Brand name/codes are based on equipment found on site. Similar approved equal products shall be accepted)					
3.299	Single cover single compartment PVC (BD152).	m	72	R	R	R
3.300	Two compartment, two cover PVC (BD162).	m	72	R	R	R
	90° inner- or outer corner piece for the following PVC power skirting:					
3.301	Single cover single compartment PVC(BD152)90° inner- or outer corner piece.	ea.	72	R	R	R
3.302	Two compartment, two cover PVC (BD162) 90° inner- or outer corner piece.	ea.	72	R	R	R
	end-caps					
3.303	Single cover single compartment PVC (BD152) end-caps.	ea.	72	R	R	R
3.304	Two compartment, two cover PVC (BD162) end-caps.	ea.	72	R	R	R
	<u>HOLES THROUGH WALLS FOR POWER SKIRTING</u>					
3.305	110mm brick wall	ea.	39	R	R	R
3.306	220mm brick wall	ea.	39	R	R	R
	<u>PVC DUCTING</u>					
	(Brand name/codes are based on equipment found on site. Similar approved equal products shall be accepted)					
3.307	YT1 ducting	m	39	R	R	R
3.308	YT2 ducting	m	39	R	R	R
3.309	YT3 ducting	m	39	R	R	R
3.310	YT4 ducting	m	39	R	R	R
3.311	YT5 ducting	m	39	R	R	R
	End cap for PVC ducting					
3.312	End cap for YT1	ea.	39	R	R	R
3.313	End cap for YT2	ea.	39	R	R	R
3.314	End cap for YT3	ea.	39	R	R	R
3.315	End cap for YT4	ea.	39	R	R	R
3.316	End cap for YT5	ea.	39	R	R	R
	<u>CABLE TRAY</u>					
	surface mounted					
3.317	50mm in roof space or surface mounted.	m	72	R	R	R
3.318	76mm in roof space or surface mounted.	m	72	R	R	R
3.319	100mm in roof space or surface mounted.	m	72	R	R	R
3.320	150mm in roof space or surface mounted.	m	72	R	R	R
3.321	200mm in roof space or surface mounted.	m	72	R	R	R
	<u>PVC INSULATED CONDUCTOR</u>					
3.322	35mm ² PVC conductors	m	212	R	R	R
3.323	25mm ² PVC conductors	m	212	R	R	R
3.324	16mm ² PVC conductors	m	352	R	R	R
3.325	10mm ² PVC conductors	m	352	R	R	R

3.326	6mm ² PVC conductors	m	700	R	R	R
3.327	4mm ² PVC conductors	m	700	R	R	R
3.328	2,5mm ² PVC conductors	m	700	R	R	R
3.329	1,5mm ² PVC conductors	m	700	R	R	R
	<u>BARE COPPER EARTH CONDUCTOR</u>					
3.330	25 mm ² bare copper earth conductors.	m	107	R	R	R
3.331	16 mm ² bare copper earth conductors.	m	280	R	R	R
3.332	10 mm ² bare copper earth conductors.	m	179	R	R	R
3.333	6 mm ² bare copper earth conductors.	m	179	R	R	R
3.334	4.0 mm ² bare copper earth conductors.	m	700	R	R	R
3.335	2.5 mm ² bare copper earth conductors.	m	700	R	R	R
	<u>PVC INSULATED EARTH CONDUCTOR</u>					
3.336	10 mm ² PVC insulated earth conductor	m	72	R	R	R
3.337	6 mm ² PVC insulated earth conductor	m	72	R	R	R
3.338	4 mm ² PVC insulated earth conductor	m	72	R	R	R
3.339	2.5 mm ² PVC insulated earth conductor	m	72	R	R	R
	<u>DRAW WIRE</u>					
3.340	1,5mm ² rust proof draw wire	m	1.400	R	R	R
3.341	2mm ² rust proof draw wire	m	39	R	R	R
	<u>TRAILING CABLES</u>					
3.342	2.5mm ² x 4 core copper trailing cable.	m	10	R	R	R
3.343	2.5mm ² x 7 core copper trailing cable	m	10	R	R	R
3.344	4.0mm ² x 4 core copper trailing cable	m	10	R	R	R
3.345	6.0mm ² x 3 core copper trailing cable	m	10	R	R	R
3.346	10mm ² x 3 core copper trailing cable	m	10	R	R	R
3.347	Gripper gland for a 2.5mm ² x 4 core trailing cable.	ea.	2	R	R	R
3.348	Gripper gland for a 2.5mm ² x 7 core trailing cable.	ea	2	R	R	R
3.349	Gripper gland for a 4.0mm ² x 4 core trailing cable.	ea.	2	R	R	R
3.350	Gripper gland for a 6.0mm ² x 3 core trailing cable.	ea.	2	R	R	R
3.351	Gripper gland for a 10mm ² x 3 core trailing cable.	ea.	2	R	R	R
	<u>SCREENED WIRING</u>					
3.352	1,5mm ² x 2 core + E - Surfix	m	72	R	R	R
3.353	1,5mm ² x 4 core + E - Surfix	m	72	R	R	R
3.354	2,5mm ² x 2 core + E - Surfix	m	72	R	R	R
3.355	2,5mm ² x 4 core + E - Surfix	m	72	R	R	R
3.356	4mm ² x 2 core + E - Surfix	m	72	R	R	R
3.357	4mm ² x 4 core + E - Surfix	m	72	R	R	R
3.358	Gripper gland for a 1,5mm ² x 2 core + E - Surfix cable.	ea	39	R	R	R
3.359	Gripper gland for a 1,5mm ² x 4 core + E - Surfix cable.	ea	39	R	R	R
3.360	Gripper gland for a 2,5mm ² x 2 core + E - Surfix cable.	ea	16	R	R	R
3.361	Gripper gland for a 2,5mm ² x 4 core + E - Surfix cable.	ea	16	R	R	R
3.362	Gripper gland for a 4mm ² x 2 core + E - Surfix cable.	ea	16	R	R	R

3.363	Gripper gland for a 4mm ² x 4 core + E - Surfex cable.	ea	16	R	R	R
	<u>FLAT TWIN AND EARTH WIRING</u>					
3.364	1,5mm ² x 2 core + E - twin and earth	m	72	R	R	R
3.365	2,5mm ² x 2 core + E - twin and earth	m	72	R	R	R
3.366	4mm ² x 2 core + E - twin and earth	m	72	R	R	R
3.367	Gripper gland for 1,5mm ² x 2 core + E - twin and earth	ea.	39	R	R	R
3.368	Gripper gland for 2,5mm ² x 2 core + E - twin and earth	ea.	39	R	R	R
3.369	Gripper gland for 4mm ² x 2 core + E - twin and earth	ea.	39	R	R	R
	<u>CABTYRE FLEX</u>					
	(Brand name/codes are based on equipment found on site. Similar approved equal products shall be accepted)					
3.370	1,0 mm ² x 3 core (2 + E) Cabtyre flex.	m	16	R	R	R
3.371	1,5 mm ² x 3 core (2 + E) Cabtyre flex.	m	16	R	R	R
3.372	1,5 mm ² x 5 core (4 + E) Cabtyre flex.	m	16	R	R	R
3.373	2,5 mm ² x 3 core (2 + E) Cabtyre flex.	m	16	R	R	R
3.374	2,5 mm ² x 5 core (4 + E) Cabtyre flex.	m	16	R	R	R
3.375	2,5 mm ² x 7 core (6 + E) Cabtyre flex.	m	16	R	R	R
	<u>WELDING CABLE</u>					
3.376	95mm ² welding cable inside a distribution board.	m	10	R	R	R
3.377	70mm ² welding cable inside a distribution board.	m	10	R	R	R
3.378	50mm ² welding cable inside a distribution board.	m	10	R	R	R
	<u>LIGHT FITTINGS</u>					
	(Brand name/codes are based on equipment found on site. Similar approved equal products shall be accepted)					
	Type A					
3.379	Fluorescent - 2 x 58W industrial type open channel (wings) - conventional ballast.	ea.	72	R	R	R
	Type B					
3.380	Fluorescent - 2 x 58W industrial type open channel (wings) - electronic ballast.	ea.	212	R	R	R
	Type C					
3.382	Fluorescent - 1x58W open channel - conventional ballast.	ea.	39	R	R	R
	Type D					
3.383	Fluorescent 1x58W open channel - electronic ballast.	ea.	107	R	R	R
	Type E					
3.384	Fluorescent - 2 x 58W open channel - conventional ballast.	ea.	39	R	R	R
	Type F					
3.385	Fluorescent - 2 x 58W open channel - electronic ballast.	ea.	107	R	R	R
	Type G					
3.386	Fluorescent - 1 x 36W open channel - conventional ballast.	ea.	39	R	R	R
	Type H					

3.387	Fluorescent - 1 x 36W open channel - electronic ballast.	ea.	107	R	R	R
	Type I					
3.388	Fluorescent - 2 x 36W open channel - conventional ballast.	ea.	39	R	R	R
	Type J					
3.389	Fluorescent - 2 x 36W open channel - electronic ballast.	ea.	107	R	R	R
	Type K					
3.390	Fluorescent, theatre ambient - 1,5m - conventional ballasts and 2x58W cool white lamps.	ea.	72	R	R	R
	Type L					
3.391	Fluorescent, theatre ambient - 1,5m - electronic ballasts and 2x58W.	ea.	23	R	R	R
	Type M					
3.392	Fluorescent, theatre ambient - 1,2m - conventional ballasts and 2x36W.	ea.	11	R	R	R
	Type N					
3.393	Fluorescent, theatre ambient - 1,2m - electronic ballasts and 2x36W.	ea.	39	R	R	R
	Type O					
3.394	Emergency fluorescent - 2 x 58W open channel - electronic ballasts.	ea.	11	R	R	R
	Type P					
3.395	Emergency fluorescent - 2 x 36W open channel - electronic ballasts.	ea.	23	R	R	R
	Type P.1					
3.396	Emergency fluorescent luminaire 2 x 10W - WACO.	ea.	23	R	R	R
	Type Q					
3.397	Corrosion proof fluorescent - - water tight diffuser, conventional ballast, 2 x 58W.	ea.	23	R	R	R
	Type R					
3.398	Corrosion proof fluorescent -, water tight diffuser, electronic ballast 2 x 58W.	ea.	56	R	R	R
	Type S					
3.399	Corrosion proof fluorescent - water tight diffuser, conventional ballast, 1 x 58W.	ea.	11	R	R	R
	Type T					
3.400	Corrosion proof fluorescent - water tight diffuser, electronic ballast, 1 x 58W.	ea.	23	R	R	R
	Type U					
3.401	Corrosion proof fluorescent -, water tight diffuser, conventional ballast, 2 x 36W.	ea.	23	R	R	R
	Type V					
3.402	Corrosion proof fluorescent - water tight diffuser, electronic ballast, 2 x 36W.	ea.	56	R	R	R
	Type W					
3.403	Corrosion fluorescent -,water tight diffuser, conventional ballast, 1 x 36W.	ea.	11	R	R	R
	Type X					

3.404	Corrosion proof fluorescent -, water tight diffuser, electronic ballast, 1 x 36W.	ea.	39	R	R	R
	Type Y					
3.405	Flame proof fluorescent electronic ballasts, 2x36W.	ea.	23	R	R	R
	Type AB					
3.406	Fluorescent - recessed 1200mmx600mm, low brightness diffuser, conventional ballast 3x36W.	ea.	39	R	R	R
	Type AC					
3.407	Fluorescent - recessed 1200mmx600mm - low brightness diffuser, electronic ballast and 3x36W.	ea.	72	R	R	R
	Type AD					
3.408	Fluorescent - recessed 600mmx600mm - low brightness diffuser, conventional ballast and 3x18W.	ea.	23	R	R	R
	Type AE					
3.409	Fluorescent - recessed 600mmx600mm - low brightness diffuser, electronic ballast and 3x18W.	ea.	39	R	R	R
	Type AF					
3.410	Fluorescent - recessed 1200mmx600mm - acrylic, prismatic diffuser, conventional ballast and 3x36W.	ea.	39	R	R	R
	Type AG					
3.411	Fluorescent - recessed decorative 1200mmx600mm acrylic, prismatic diffuser, electronic ballast and 3x36W.	ea.	95	R	R	R
	Type AH					
3.412	Fluorescent - recessed 1200mmx600mm - single parabolic white louvre - 12 cross blades, conventional ballast and 3x36W.	ea.	23	R	R	R
	Type AI					
3.413	Fluorescent - recessed 1200mmx600mm - single parabolic white louvre - 12 cross blades, electronic ballast and 3x36W.	ea.	56	R	R	R
	Type AJ					
3.414	Fluorescent - recessed 600mmx600mm - single parabolic white louvre - 6 cross blades, conventional ballast and 3x18W.	ea.	23	R	R	R
	Type AK					
3.415	Fluorescent - recessed 600mmx600mm - single parabolic white louvre - 6 cross blades, electronic ballast and 3x18W.	ea.	39	R	R	R
	Type AL					
3.416	Fluorescent - surface mounted - low brightness diffuser, conventional ballast, 2x58W.	ea.	72	R	R	R
	Type AM					
3.417	Fluorescent - surface mounted - low brightness diffuser, electronic ballast, 2x58W.	ea.	72	R	R	R
	Type AN					
3.418	Fluorescent - surface mounted - low brightness diffuser, conventional ballast, 3x36W.	ea.	23	R	R	R
	Type AO					
3.419	Fluorescent - surface mounted - low brightness diffuser, electronic ballast, 3x36W.	ea.	56	R	R	R

	Type AP					
3.420	Fluorescent - surface mounted - acrylic prismatic dif-fuser, conventional ballast, 2x58W.	ea.	23	R	R	R
	Type AQ					
3.421	Fluorescent - surface mounted - acrylic prismatic dif-fuser, electronic ballast, 2x58W.	ea.	39	R	R	R
	Type AR					
3.422	Fluorescent - surface mounted - acrylic prismatic dif-fuser, conventional ballast, 3x36W.	ea.	11	R	R	R
	Type AS					
3.423	Fluorescent - surface mounted - acrylic prismatic dif-fuser, electronic ballast, 3x36W.	ea.	39	R	R	R
	Type AT					
3.424	Fluorescent - surface mounted - acrylic prismatic dif-fuser, conventional ballast, 2x36W.	ea.	11	R	R	R
	Type AU					
3.425	Fluorescent - surface mounted - acrylic prismatic dif-fuser, electronic ballast, 2x36W.	ea.	56	R	R	R
	Type AV					
3.426	Bowl type 200 dia glass IP55 bathroom fitting 20W en-ergy saving BC/ES lamp.	ea.	23	R	R	R
	Type AW					
3.427	Bowl type 150, polycarbonate 13W energy saving BC/ES lamp.	ea.	23	R	R	R
	Type AX					
3.428	Bowl type polycarbonate 200, 20W energy saving.	ea.	72	R	R	R
	Type AY					
3.429	Bowl type open bowl 150 dia polycarbonate bathroom fit-ting 13W energy saving	ea.	72	R	R	R
	Type AZ					
3.430	Bowl type open bowl 200 dia polycarbonate bathroom fit-ting 20W energy saving	ea.	72	R	R	R
	Type BA					
3.431	Pendant. 1 light complete 13W, 15W or 20W energy saving BC/ES lamp.	ea.	11	R	R	R
	Type BB					
3.432	Pendant 2 light 13W, 15W or 20W energy saving BC/ES lamps.	ea.	11	R	R	R
	Type BC					
3.433	Pendant 3 light 13W, 15W or 20W energy saving BC/ES lamps.	ea.	11	R	R	R
	Type BE					
3.434	Incandescent external water tight - bottle type glass 13W, 15W or 20W energy saving BC/ES lamp.	ea.	11	R	R	R
	Type BF					
3.435	Bulkhead luminaire with 2xTC9W lamps, 2-ballasts,	ea.	212	R	R	R
	Type BG					
3.436	Bulkhead luminaire with 1xTC-D 26W lamp,	ea.	23	R	R	R
	Type BH					
3.437	Bulkhead wall mounted light fitting - type BEKA AZI-MUTH 125W MV.	ea.	23	R	R	R

	Type BI					
3.438	Bulkhead wall mounted light fitting - type BEKA AZI-MUTH 2xTC-D 26W lamps.	ea.	23	R	R	R
	Type BJ					
3.439	Bulkhead wall mounted, rectangular - opal diffuser - BEKA 41126 with TC-D 26W lamp.	ea.	56	R	R	R
	Type BK					
3.440	Recessed downlighter - 1xTC-D 26W, 2m cord set including 5A 3-pin plug top.	ea.	23	R	R	R
	Type BL					
3.441	Recessed downlighter - 2xTC-D 26W, 2m cord set including 5A 3-pin plug top.	ea.	72	R	R	R
	Type BM					
3.442	Downlighter - 1 x 5W PL lamp - in the ceiling with 2m cord set including 5A 3-pin plug top.	ea.	11	R	R	R
	Type BN					
3.443	Surface downlighter - 1xTC-D 26W compact fluorescent lamp.	ea.	11	R	R	R
	Type BO					
3.444	Safe light - red surface (max 120x120mm) with 230V LED/s.	ea.	11	R	R	R
	Type BP					
3.445	Emergency exit luminaire, charge indicating LED, 1x26W PL lamp.	ea.	23	R	R	R
	Type BQ					
3.446	Infra red dark room, safe light. 15W 230V "Pearl" type pygmy ES lamp cord set - 5A 3-pin plug top.	ea.	11	R	R	R
	Type BR					
3.447	Over door or ceiling mounted prism LED lamp.	ea.	23	R	R	R
	Type BR.1					
3.448	Flood light wall mounted, 70W MH (external igniter).	ea.	11	R	R	R
	Type BS					
3.449	Flood light wall mounted, 70W HPS (external igniter).	ea.	23	R	R	R
	Type BT					
3.450	Flood light wall mounted, 100W metal halide lamp.	ea.	11	R	R	R
	Type BT.1					
3.451	Flood light wall mounted, BEKAMAX-F-250W MH-T.	ea.	11	R	R	R
	Type BU					
3.452	Flood light wall mounted, BEKAMAX-F-250W HPS/T.	ea.	11	R	R	R
	Type BV					
3.453	Flood light pole or wall mounted, BEKABEAM-250W HPS/T.	ea.	11	R	R	R
	Type BW					
3.454	Flood light pole or wall mounted, BEKABEAM-400W HPS/T.	ea.	11	R	R	R
	Type BX					
3.455	Flood light pole or wall mounted, BEKABEAM-250W MH-T.	ea.	11	R	R	R
	Type BX.1					

3.456	Flood light pole or wall mounted, BEKABEAM-400W MH-T.	ea.	11	R	R	R
	Type CB					
3.457	Post top BEKARAY 100W MH.	ea.	11	R	R	R
	Type CD					
3.458	Post top BEKARAY 70W HPS.	ea.	11	R	R	R
	Type CE					
3.459	Post top BEKARAY 100W HPS.	ea.	11	R	R	R
	Type CE.1					
3.460	Post top area light of the BEKA BEKAWAY 100W MH type. Pole measured elsewhere.	ea.	11	R	R	R
	Type CF					
3.461	Post top BEKAWAY 70W HPS.	ea.	11	R	R	R
	Type CG					
3.462	Post top BEKAWAY 100W HPS.	ea.	11	R	R	R
	Type CH.1					
3.463	Streetlight, bottom or side entry - BEKALUX 70W MH/MCB or ILM-SL-AP-70MH-BE-SE-MCB.	ea.	11	R	R	R
	Type CI					
3.464	Streetlight, bottom or side entry - BEKALUX 70W HPS/T-MCB or ILM-SL-AP-70HPS/T-BE-SE-MCB.	ea.	11	R	R	R
	Type CI.1					
3.465	Streetlight, bottom or side entry - BEKALUX 100W MH/MCB or ILM-SL-AP-100MH-BE-SE-MCB.	ea.	11	R	R	R
	Type CJ					
3.466	Streetlight, bottom or side entry - BEKALUX 100W HPS/T-MCB or ILM-SL-AP-100HPS/T-BE-SE-MCB.	ea.	11	R	R	R
	Type CJ.1					
3.467	Streetlight, bottom or side entry - BEKASTRADA SUPRA 250W MH-T/MCB.	ea.	11	R	R	R
	Type CK					
3.468	Streetlight, bottom or side entry - BEKASTRADA SUPRA 250W HPS/T-MCB.	ea.	11	R	R	R
3.469	Streetlight, bottom or side entry - BEKASTRADA SUPRA 400W MH-T/MCB.	ea.	11	R	R	R
	Type CL					
3.470	Streetlight, bottom or side entry - BEKASTRADA SUPRA 400W HPS/T-MCB.	ea.	11	R	R	R
	Type CM					
3.471	Wall mounted medical inspection luminaire.	ea.	23	R	R	R
	Type CN					
3.472	Ceiling mounted examination light.	ea.	23	R	R	R
	Type CO					
3.473	Surface wall mounted X-ray viewing box for viewing one (1) radiographic image	ea.	16	R	R	R
	Type CP					
3.474	Surface wall mounted X-ray viewing box for viewing two (2) radiographic images (350x430mm each).	ea.	11	R	R	R
	Type CP					

3.475	Surface wall mounted X-ray viewing box for viewing two (2) radiographic images (350x430mm each).	ea.	11	R	R	R
	Type CQ					
3.476	Up light in bedhead trunking 1x58W, electronic ballast.	ea	11	R	R	R
	Type CR					
3.477	Night light in bedhead trunking 5W compact fluorescent or LED lamp.	ea	11	R	R	R
	Type CS					
3.478	Reading light in the bedhead trunking - 1x26W PL lamp.	ea	11	R	R	R
	Type CT					
3.479	Ultraviolet Germicidal Irradiation (UVGI) fitting of the R1 type	ea.	11	R	R	R
	Type CU					
3.480	Ultraviolet Germicidal Irradiation (UVGI) fitting of the R2 type	ea.	16	R	R	R
	LED LIGHT FITTINGS (FOR REPLACEMENT)					
	(Brand name/codes are based on equipment found on site. Similar approved equal products shall be accepted)					
3.481	Type A,B,E,F : 5FT - T8 Dual Open Channel Fitting Pre-wired for LED Tubes - Must include Removable Fuse	ea.	56	R	R	R
3.482	Type A,B,E,F : 2 x 5ft - 24W T8 LED Tube Frosted Glass housing 1Kv Surge Protection 220V Power to one side (Cool white -840)	ea.	56	R	R	R
3.483	Type C,D : 5FT - T8 Single Open Channel Fitting Pre-wired for LED Tubes - Must include Removable Fuse	ea.	56	R	R	R
3.484	Type A,B,C,D,E,F : 5ft - 24W T8 LED Tube Frosted Glass housing 1Kv Surge Protection 220V Power to one side (Cool white -840)	ea.	56	R	R	R
3.485	Type G, H : 4ft - T8 Single Open Channel Fitting Pre-wired for LED Tubes - Must include Removable Fuse	ea.	56	R	R	R
3.486	Type G, H : 4ft - 18W T8 LED Tube Frosted Glass housing 1Kv Surge Protection 220V Power to one side (Cool white -840)	ea.	56	R	R	R
3.487	Type I, J : 4ft - T8 Dual Open Channel Fitting Pre-wired for LED Tubes - Must include Removable Fuse	ea.	56	R	R	R
3.488	Type I, J : 2 x 4ft - 18W T8 LED Tube Frosted Glass housing 1Kv Surge Protection 220V Power to one side (Cool white -840)	ea.	56	R	R	R
3.489	Type K, L, N : 4ft Easybat Surface Mount LED batten with a steel body and polycarbonate diffuser. CTC - 3000K, 4000K, 6500K. (6200lm)	ea.	39	R	R	R
3.490	Type O : 5ft DBL Open Channel With 2 x LED Tubes. Cosine ES Conversion Kit Emergency Lighting 1Hr Maintained 25W	ea.	39	R	R	R
3.491	Type P : 4ft DBL Open Channel With 2 x LED Tubes. Cosine ES Conversion Kit Emergency Lighting 1Hr Maintained 25W	ea.	39	R	R	R
3.492	Type P.1 : Cosine LED Emergency Bulkhead Maintained. 100% light 3Hr Emergency. IP65	ea.	39	R	R	R

3.493	Type Q,R,S,T : Kuda IP65 5ft 3CCT 50/25W Linear Batten White (6000-3000lm)	ea.	39	R	R	R
3.494	Type U,V,W,X : Kuda IP65 4ft 3CCT 36/18W Linear Batten White (4320-2160lm)	ea.	39	R	R	R
3.495	Type Y : N60LED-Ex 4ft 500mA 98w. Zone 1/2/21/22 hazardous area vapour proof luminaire	ea.	11	R	R	R
3.496	Type AB, AC : Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) 5yr Warranty	ea.	39	R	R	R
3.497	Type AD, AE : Mantra 40W External Driver 600 x 600 Backlit LED Panel 4000k (4000lm) 5yr Warranty	ea.	23	R	R	R
3.498	Type AF, AG,AH : Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) 5yr Warranty	ea.	23	R	R	R
3.499	Type AI : Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) 5yr Warranty	ea.	23	R	R	R
3.500	Type AJ, AK : Mantra 40W External Driver 600 x 600 Backlit LED Panel 4000k (4000lm) 5yr Warranty	ea.	39	R	R	R
3.501	Type AL, AM : 4ft Easybat Sur Mnt LED batten with steel body and polycarbonate diffuser. CTC - 3000K, 4000K, 6500K. (6200lm)	ea.	11	R	R	R
3.502	Type AN, AO : Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) With 12x6 Surface Mnt Kit	ea.	11	R	R	R
3.503	Type AP, AQ : 4ft Easybat Sur Mnt LED batten with steel body and polycarbonate diffuser. CTC - 3000K, 4000K, 6500K. (6200lm)	ea.	11	R	R	R
3.504	Type AR, AS : Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) With 12x6 Surface Mnt Kit (Lighthouse)	ea.	11	R	R	R
3.505	Type AT, AU : 4ft Easybat Sur Mnt LED batten with steel body and polycarbonate diffuser. CTC - 3000K, 4000K, 6500K. (6200lm)	ea.	11	R	R	R
3.506	Type AV, AX : Hero Bulkhead - 3CCT (6000k/4000k/3000k) PC Coastal Grade Wattage Dipswitch	ea.	11	R	R	R
3.507	Type AW, AY, AZ : Hero Bulkhead - 3CCT (6000k/4000k/3000k) PC Coastal Grade Wattage Dipswitch	ea.	11	R	R	R
3.508	Type BE, BF, BG : Hero Round Bulkhead - 3CCT (6000k/4000k/3000k) PC Coastal Grade Wattage Dipswitch	ea.	11	R	R	R
3.509	Type BH, BI, BJ : Hero Square Bulkhead - 3CCT (6000k/4000k/3000k) PC Coastal Grade Wattage Dipswitch	ea.	11	R	R	R
3.510	Type BK, BL : 35W Punch LED Downlighter 4000k. 2k Surge Protection Ip40. 4200lm	ea.	11	R	R	R
3.511	Type BN : 24W Iris Round LED Panel. Surfaced Mounted. 4000k 2250lm. 1kV Surge Protection	ea.	11	R	R	R
3.512	Type BP : LED exit sign with metal body and acrylic diffuser, includes LED driver and 4 pictograms. 3 Hour emergency backup.	ea.	11	R	R	R
3.513	Type BS : 100W Nana Evo LED Floodlight. 10 000lm, 4kV Surge Protection IP65. 6000k	ea.	11	R	R	R

3.514	Type BU : 200W Nana Evo LED Floodlight. 20 000lm, 4kV Surge Protection IP65. 6000k	ea.	11	R	R	R
3.515	Type BV : 200W Thor Coastal Heavy-Duty Floodlight, Incl Pole Holder (84Dia). 26000lm. 6000k	ea.	11	R	R	R
3.516	Type BW : 500W Thor Coastal Heavy-Duty Floodlight, Incl Pole Holder (84Dia). 75000lm. 6000k	ea.	11	R	R	R
3.517	Type CD, CE, CF, CG : 43/54W Argo LED Post Top. Mounting height 3.5m to 6m. Spigot entry 76mm Ø at a depth of 40mm. 4000k	ea.	11	R	R	R
3.518	Type CI : 60W Strada LED Street Light 5700k/4000k 150 Lumen/Watt. 10kV Surge Protection	ea.	11	R	R	R
3.519	Type CJ : 100W Strada LED Street Light 5700k/4000k 150 Lumen/Watt. 10kV Surge Protection	ea.	11	R	R	R
	<u>DISCHARGE EMERGENCY FITTING BATTERIES</u>					
3.520	Discharge and recharge existing emergency light fitting batteries.	ea.	23	R	R	R
	<u>AREA LIGHT POLE</u>					
3.521	Fibreglass reinforced polyester pole 3,5m mounting height (4,1m)	ea.	11	R	R	R
	<u>12M SCISSORS MAST POLE</u>					
3.522	12 meter hot dip galvanised - allow for the mounting of 3x400W flood lights.	item	11	R	R	R
	<u>BASE FOR SCISSORS MAST</u>					
3.523	Flanged planting piece and base plate.	item	11	R	R	R
3.524	Concrete base for the 12 meter scissors mast including a 1.5m 76 dia PVC sleeve.	item	11	R	R	R
	<u>LUMINAIRE AND LAMP MAINTENANCE</u>					
	<u>LIGHT FITTING SPARES</u>					
3.525	Porcelain or fiber glass gallery 84,5mm	ea.	11	R	R	R
3.526	Porcelain or fiber glass gallery 99mm	ea.	11	R	R	R
3.527	200mm bowl,	ea.	11	R	R	R
3.528	150mm bowl.	ea.	11	R	R	R
3.529	200mm bowl.	ea.	11	R	R	R
3.530	200mm open bowl.	ea.	11	R	R	R
3.531	150mm open bowl.	ea.	11	R	R	R
3.532	200mm open bowl.	ea.	11	R	R	R
3.533	ES brass lamp holder - all types.	ea.	11	R	R	R
3.534	SES brass lamp holder	ea.	11	R	R	R
3.535	BC brass lamp holder.	ea.	11	R	R	R
3.536	BC or ES Porcelain lamp holder.	ea.	11	R	R	R
3.537	Opal dome diffuser - Beka series 30	ea.	11	R	R	R
	<u>EMERGENCY FLUORESCENT BATTERY</u>					
3.538	5' or 4' emergency fluorescent fitting battery (1 hour @ 20%).	ea.	16	R	R	R
3.539	Replace a battery pack for a WACO type 2 x 10W fluorescent emergency light fitting.	ea	11	R	R	R
	<u>LAMPS</u>					

3.540	120W 24V halogen operating luminaire	ea.	39	R	R	R
3.541	50W spot halogen lamp with integral metal reflector.	ea.	16	R	R	R
3.542	50W/75W 12V pre-focused spot halogen lamp.	ea.	16	R	R	R
3.543	40W BC/ES	ea.	16	R	R	R
3.544	60W BC/ES	ea.	16	R	R	R
3.545	100W BC/ES	ea.	16	R	R	R
3.546	150W BC/ES	ea.	16	R	R	R
3.547	200W BC/ES	ea.	16	R	R	R
3.548	500W GES (giant)	ea.	16	R	R	R
3.549	15W BC/ES Pigmy	ea.	16	R	R	R
3.550	40W & 60W SBC/ SES (small)	ea.	16	R	R	R
3.551	40W & 60W BC/ES candle - (small)	ea.	16	R	R	R
3.552	Fluorescent slimline 2,4m cool white.	ea.	16	R	R	R
3.553	Fluorescent switch start 1,5m cool white.	ea.	16	R	R	R
3.554	Fluorescent switch start 1,2m cool white.	ea.	16	R	R	R
3.555	Fluorescent switch start 1,5m warm white.	ea.	16	R	R	R
3.556	Fluorescent switch start 1,2m warm white.	ea.	16	R	R	R
3.557	Fluorescent 1,5m colour 21, 58W.	ea.	16	R	R	R
3.558	Fluorescent 1,2m colour 21, 36W.	ea.	16	R	R	R
3.559	Fluorescent 0.6m colour 21, 18W.	ea.	16	R	R	R
3.560	Fluorescent PL9	ea.	16	R	R	R
3.561	Fluorescent PL13	ea.	16	R	R	R
3.562	Fluorescent PL18	ea.	16	R	R	R
3.563	Fluorescent PL26	ea.	16	R	R	R
3.564	PAR 38 - all types	ea.	16	R	R	R
3.565	70W HPS	ea.	11	R	R	R
3.566	100W HPS	ea.	11	R	R	R
3.567	150W HPS/T	ea.	11	R	R	R
3.568	250W HPS/T	ea.	11	R	R	R
3.569	400W HPS/T	ea.	11	R	R	R
3.570	160W Mercury blended	ea.	11	R	R	R
3.571	250W Mercury blended	ea.	11	R	R	R
3.572	80W HP Mercury vapour	ea.	11	R	R	R
3.573	125W HP Mercury vapour	ea.	11	R	R	R
3.574	250W HP Mercury vapour	ea.	11	R	R	R
3.575	400W HP Mercury vapour	ea.	11	R	R	R
3.576	500W Quarts Halogen floodlight lamp.	ea.	11	R	R	R
3.577	70W Metal halide MH-T	ea.	11	R	R	R
3.578	100W Metal halide MH-T	ea.	11	R	R	R
3.579	250W Metal halide MH-T	ea.	11	R	R	R
3.580	400W Metal halide MH-T	ea.	11	R	R	R
3.581	58W T8 LED 1,5m	ea.	16	R	R	R
3.582	36W T8 LED 1,2m	ea.	16	R	R	R
3.583	24W T8 LED 1,2m	ea.	16	R	R	R
3.584	9W T8 LED 0,6m	ea.	16	R	R	R
	<u>STARTER</u>					
3.585	FSU fluorescent lamp starter.	ea.	16	R	R	R
	<u>BALLASTS</u>					

3.586	Switch start for 1 lamp 1,5m.	ea.	16	R	R	R
3.587	Switch start for 1 lamp 1,2m.	ea.	16	R	R	R
3.588	For PL9 lamp	ea.	16	R	R	R
3.589	For PL11 & PL13 lamp	ea.	16	R	R	R
3.590	For PL18 lamp	ea.	16	R	R	R
3.591	For PL26 lamp	ea.	16	R	R	R
3.592	For 70W HPS/T lamp	ea.	16	R	R	R
3.593	For 150W HPS/T lamp	ea.	11	R	R	R
3.594	For 250W HPS/T lamp	ea.	16	R	R	R
3.595	For 400W HPS/T lamp	ea.	16	R	R	R
3.596	For 80W HP Mercury Vapour lamp	ea.	11	R	R	R
3.597	For 125W HP Mercury Vapour lamp	ea.	16	R	R	R
3.598	For 250W HP Mercury Vapour lamp	ea.	11	R	R	R
3.599	For 400W HP Mercury Vapour lamp	ea.	11	R	R	R
3.600	250W Metal Halide	ea.	11	R	R	R
3.601	400W Metal Halide	ea.	11	R	R	R
	<u>IGNITERS</u>					
3.602	For 70W HPS/T lamp	ea.	11	R	R	R
3.603	For 150W HPS/T lamp	ea.	11	R	R	R
3.604	For 250W HPS/T lamp	ea.	11	R	R	R
3.605	For 400W HPS/T lamp	ea.	11	R	R	R
3.606	For 250W Metal Halide lamp	ea.	11	R	R	R
3.607	For 400W Metal Halide lamp	ea.	11	R	R	R
	<u>CAPACITORS</u>					
3.608	12 MFD for 70W HPS lamp	ea.	11	R	R	R
3.609	1 x 20MFD for 150W HPS lamp	ea.	11	R	R	R
3.610	2 x 20MFD for 250W HPS lamp	ea.	11	R	R	R
3.611	For 400W HPS lamp	ea.	11	R	R	R
3.612	8MFD for 80W HP Mercury Vapour lamp	ea.	11	R	R	R
3.613	For 125W HP Mercury Vapour lamp	ea.	11	R	R	R
3.614	20MFD for 250W HP Mercury Vapour lamp	ea.	11	R	R	R
3.615	For 400W HP Mercury Vapour lamp	ea.	11	R	R	R
3.616	2 x 20MFD for 250W Metal Halide lamp	ea.	11	R	R	R
3.617	2 x 20MFD for 400W Metal Halide lamp	ea.	11	R	R	R
	<u>SWITCHES</u>					
3.618	16A single lever switch (Conduit box existing).	ea.	16	R	R	R
3.619	16A two lever switch (Conduit box existing).	ea.	16	R	R	R
3.620	16A three lever switch (Conduit box existing).	ea.	16	R	R	R
3.621	16A four lever switch (Conduit box existing).	ea.	11	R	R	R
3.622	16A two-way switch (Conduit box existing).	ea.	16	R	R	R
3.623	16A intermediate switch (Conduit box existing).	ea.	16	R	R	R
3.624	16A limit switch for darkroom film hopper protection.	ea.	11	R	R	R
	<u>PULL SWITCH</u>					
3.625	Replace 16A pull switch	ea.	16	R	R	R

3.626	Replace a canopy pull switch with nylon cord.	ea	16	R	R	R
	<u>SURFACE INDUSTRIAL SWITCHES</u>					
3.627	16A single lever switch.	ea.	16	R	R	R
3.628	16A two lever switch.	ea.	16	R	R	R
	<u>DIMMER SWITCHES</u>					
	100 x 50mm flush draw box.					
3.629	1000W dimmer switch (Conduit box existing)	ea.	11	R	R	R
3.630	2000W dimmer switch (Conduit box existing)	ea.	11	R	R	R
3.631	1200W dimmer + 1x1 lever switch (Conduit box existing).	ea.	11	R	R	R
	<u>WATER TIGHT SWITCHES</u>					
3.632	16A Water tight switch - silicon sealer	ea.	11	R	R	R
	<u>DEVELOPMENT ROOM SWITCH</u>					
3.633	1 lever double pole switch.	ea.	11	R	R	R
	<u>BELL PUSH</u>					
3.634	16A single lever bell push.	ea.	11	R	R	R
	<u>TOGGLE SWITCH</u>					
3.635	20A single pole single throw toggle switch	ea.	11	R	R	R
	<u>STOP LOCK</u>					
3.636	Industrial stop lock push button.	ea	11	R	R	R
	<u>PHOTOCELL</u>					
3.637	16A, plug in day light switch.	ea.	11	R	R	R
3.638	16A bracket mounted day light switch.	ea.	11	R	R	R
3.639	Day light switch in bulkhead luminaire - dummy - Beka.	ea.	11	R	R	R
	<u>SOCKET OUTLETS</u>					
	in existing draw box					
3.640	16A 3-pin single socket outlet in existing draw box	ea.	16	R	R	R
3.641	16A 3-pin double socket outlet in existing draw box	ea.	16	R	R	R
3.642	16A 3-pin single socket outlet with circuit breaker in existing draw box	ea.	16	R	R	R
3.643	16A 3-pin dedicated single socket outlet in existing draw box	ea.	16	R	R	R
3.644	16A 3-pin dedicated double in existing 100x100mm box,	ea.	16	R	R	R
3.645	5A 3-pin single unswitched socket outlet in a existing 50mm dia round box.	ea.	16	R	R	R
3.646	16A 3-pin double plug - industrial type	ea.	16	R	R	R
	<u>FLUSH ISOLATOR SWITCHES</u>					
3.647	30A 3P isolator in existing conduit box.	ea.		R	R	R
3.648	45A stove isolator with indication light in existing conduit box.	ea.	11	R	R	R
3.649	30A 2P isolator in power skirting with or without cord grip.	ea.	16	R	R	R
	<u>INDOOR SURFACE ISOLATOR SWITCHES</u>					
3.650	60A 3P surface isolator including box.	ea.	11	R	R	R
3.651	60A 2P surface isolator including box.	ea.	11	R	R	R

3.651	30A 3P surface isolator including box.	ea.	11	R	R	R
3.652	30A 2P surface isolator including box.	ea.	11	R	R	R
3.652	30A 2P with cord grip for A/C / Heaters - surface isolator including box.	ea.	11	R	R	R
3.653	Stove isolator surface isolator including box.	ea.	11	R	R	R
	<u>WATER TIGHT ISOLATOR SWITCHES</u>					
3.654	Water tight surface double pole - CLIPSAL 56SW232GY	ea.	11	R	R	R
3.655	Water tight surface mounted 32A, 3-pole isolator - CLIP-SAL 56SW332GY	ea.	11	R	R	R
	<u>INDUSTRIAL SOCKET OUTLETS</u>					
3.656	32A 5-pole of the CLIPSAL LUMEX 75252-6 RED type (plus socket).	ea.	11	R	R	R
3.657	63A 5-pole of the CLIPSAL LUMEX 75352-6 RED type (plus socket).	ea.	11	R	R	R
	<u>FLOOR MOUNTED PEDESTAL</u>					
3.658	2mm mild steel baked powder epoxy coated floor mounted pedestal 1200mm high	ea	11	R	R	R
	<u>FLOOR BOX FOR SOCKET OUTLETS</u>					
3.659	Floor box - Cabstrut FD3 type including 2 x double 16A 3-pin socket outlet covers. Socket outlets measured elsewhere.	ea	11	R	R	R
3.660	Dark room fan - 230mm dia Woods Xpelair Cat no GX 9.	ea.	11	R	R	R
3.661	Dark room fan speed regulator Woods Xpelair Cat No. DC 9.	ea.	11	R	R	R
	<u>ISOLATING TRANSFORMER</u>					
3.662	5kVA centre tap isolating transformer and support platform	ea.	11	R	R	R
	<u>ISOLOC/EARLY BIRD</u>					
3.663	Line isolation monitor - ISOLOC or EARLYBIRD	ea.	11	R	R	R
3.664	Line isolation monitor - Iso-GardA by Square D - Schneider Electric.	ea.	11	R	R	R
	<u>THEATRE EARTHING INSTALLATION TEST</u>					
3.665	Insulated earthing test on a theatre, etc. by a Master Electrician.	ea.	11	R	R	R
	<u>TOOLBOX SET</u>					
3.666	Pliers set – 3 off – pliers, side cutter, long nose	ea	11	R	R	R
3.667	Pliers - water pump 300mm	ea	11	R	R	R
3.668	File set - - flat, round, triangle, flat/round,	ea	11	R	R	R
3.669	Vice grip	ea	11	R	R	R
3.700	Utility knife	ea	11	R	R	R
3.701	Scriber - two points	ea	11	R	R	R
3.702	Engineering square	ea	11	R	R	R
3.703	Hacksaw – frame e.g. Mitco	ea	11	R	R	R
3.704	Combination square	ea	11	R	R	R
3.705	Earth leakage circuit breaker polarity tester	ea	11	R	R	R
3.706	Digital clamp meter e.g. MAJORTECH 600V MODEL 2017	ea	11	R	R	R

	<u>BEDHEAD TRUNKING</u>					
	Installation of additional bedhead trunking and bedhead trunking equipment will form part of this contract. The bedhead trunking installation will be finalised on site with the user department and engineer.					
3.707	General Ward: 1-bed Horizontal Bedhead Trunking (refer to Standard ECDOH Guideline Drawings)	ea	5	R	R	R
3.708	General Ward: 2-bed Horizontal Bedhead Trunking (refer to Standard ECDOH Guideline Drawings)	ea	5	R	R	R
3.709	General Ward: 3-bed Horizontal Bedhead Trunking (refer to Standard ECDOH Guideline Drawings)	ea	5	R	R	R
	<u>LIGHT FITTINGS FOR EXISTING BEDHEAD TRUNKING</u>					
3.710	Up light luminaire in the bedhead trunking with 1x58W colour 21 fluorescent lamp, electronic ballast and BJB type lamp holder of the HUTZ type.	ea	16	R	R	R
3.711	Night light luminaire in the bedhead trunking with 5W compact fluorescent or LED lamp of the HUTZ type.	ea	16	R	R	R
3.712	Reading light luminaire in the bedhead trunking with 1x26W PL lamp of the HUTZ type.	ea	16	R	R	R
	<u>SOCKET OUTLETS FOR EXISTING BEDHEAD TRUNKING</u>					
3.713	16A 3-pin single socket outlet in a bedhead duct, normal (white cover), essential (red cover) or UPS power (blue cover).	ea.	16	R	R	R
3.714	16A 3-pin dedicated single socket outlet (D-pin - top) in bedhead duct, normal or essential with red cover plate.	ea.	16	R	R	R
3.715	16A 3-pin single socket outlet, double pole isolator switched, with insulated earth and white cover plate in bedhead ducting.	ea.	16	R	R	R
	TOTAL CARRIED FORWARD TO SUMMARY					

ECDOH GENERAL ELECTRICAL LV MAINTENANCE AND REPAIR CONTRACT

CONTRACT REF. NO: SCMU3-2627-0193-BCM
ASSET TYPE: LV INSTALLATIONS

Cluster/
District: BUFFALO CITY DISTRICT

SCHEDULE 2: SCHEDULE OF RATES

ITEM	PAY- MENT REF	DESCRIPTION	UNIT	TOTAL QTY	RATE		AMOUNT
					MATERIAL	LABOUR	R

	C3.1A + B	<u>SCHEDULE NO. 2</u>					
2	R1.34	<u>LOW VOLTAGE CABLE</u>					
		1000V PVC/SWA/PVC copper cables.					
2,1		120mm ² x 4-core	m	53	R	R	R
2,2		95mm ² x 4-core	m	53	R	R	R
2,3		70mm ² x 4-core	m	125	R	R	R
2,4		50mm ² x 4-core	m	125	R	R	R
2,5		35mm ² x 4-core	m	125	R	R	R
2,6		25mm ² x 4-core	m	125	R	R	R
2,7		16mm ² x 4-core	m	125	R	R	R
2,8		16mm ² x 3-core	m	125	R	R	R
2,9		10mm ² x 4-core	m	125	R	R	R
2,10		10mm ² x 3-core	m	53	R	R	R
2,11		6mm ² x 4-core	m	53	R	R	R
2,12		6mm ² x 3-core	m	53	R	R	R
2,13		4mm ² x 4-core	m	53	R	R	R
2,14		4mm ² x 3-core	m	53	R	R	R
2,15		2,5mm ² x 4-core	m	53	R	R	R
2,16		2,5mm ² x 3-core	m	53	R	R	R
2,17		1,5mm ² x 4-core	m	53	R	R	R
2,18		1,5mm ² x 3-core	m	53	R	R	R
	R1.34	<u>LOW VOLTAGE CABLE TERMINATION</u>					
		Terminate 1 000V PVC/SWA/PVC cable					
2,19		120mm ² x 4-core	ea.	13	R	R	R
2,20		95mm ² x 4-core	ea.	13	R	R	R
2,21		70mm ² x 4-core	ea.	13	R	R	R
2,22		50mm ² x 4-core	ea.	13	R	R	R
2,23		35mm ² x 4-core	ea.	13	R	R	R
2,24		25mm ² x 4-core	ea.	13	R	R	R
2,25		16mm ² x 4-core	ea.	13	R	R	R
2,26		16mm ² x 3-core	ea.	13	R	R	R
2,27		10mm ² x 4-core	ea.	13	R	R	R
2,28		10mm ² x 3-core	ea.	13	R	R	R
2,29		6mm ² x 4-core	ea.	13	R	R	R
2,30		6mm ² x 3-core	ea.	13	R	R	R
2,31		4mm ² x 4-core	ea.	13	R	R	R
2,32		4mm ² x 3-core	ea.	13	R	R	R

2,33		2,5mm ² x 4-core	ea.	5	R	R	R
2,34		2,5mm ² x 3-core	ea.	5	R	R	R
2,35		1,5mm ² x 4-core	ea.	5	R	R	R
2,36		1,5mm ² x 3-core	ea.	5	R	R	R
	R1.34	<u>LOW VOLTAGE CABLE JOINTS</u>					
		Joint 1 000V PVC/SWA/PVC cables					
2,37		120mm ² x 4-core	ea.	5	R	R	R
2,38		95mm ² x 4-core	ea.	5	R	R	R
2,39		70mm ² x 4-core	ea.	5	R	R	R
2,40		50mm ² x 4-core	ea.	5	R	R	R
2,41		35mm ² x 4-core	ea.	5	R	R	R
2,42		25mm ² x 4-core	ea.	5	R	R	R
2,43		16mm ² x 4-core	ea.	5	R	R	R
2,44		16mm ² x 3-core	ea.	5	R	R	R
2,45		10mm ² x 4-core	ea.	5	R	R	R
2,46		10mm ² x 3-core	ea.	5	R	R	R
2,47		6mm ² x 4-core	ea.	5	R	R	R
2,48		6mm ² x 3-core	ea.	5	R	R	R
2,49		4mm ² x 4-core	ea.	5	R	R	R
2,50		4mm ² x 3-core	ea.	5	R	R	R
2,51		2,5mm ² x 4-core	ea.	5	R	R	R
2,52		2,5mm ² x 3-core	ea.	5	R	R	R
2,53		1,5mm ² x 4-core	ea.	5	R	R	R
2,54		1,5mm ² x 3-core	ea.	5	R	R	R
	R1.34	<u>DISCONNECT SUPPLY CABLE</u>					
		Switch off and disconnect the three or single phase supply cable.					
2,55		50mm ² -120mm ²	ea.	5	R	R	R
2,56		16mm ² -35mm ²	ea.	13	R	R	R
2,57		1,5mm ² -10mm ²	ea.	13	R	R	R
	R1.34	<u>CABLE PROTECTION KICKER PIPES</u>					
		2.5m long galvanised cable protection kicker pipe					
2,58		75mm dia	ea.	13	R	R	R
2,59		50mm dia	ea.	5	R	R	R
2,60		40mm dia	ea.	5	R	R	R
2,61		32mm dia	ea.	13	R	R	R
2,62		25mm dia	ea.	13	R	R	R
2,63		20mm dia	ea.	16	R	R	R
	R1.48	<u>EARTHING</u>					
2,64		Test transformer earth submit an earth reading.	ea.	21	R	R	R

2,65		1,5m earth electrode, depth of 600mm below final ground level.	ea.	21	R	R	R
2,66		70mm sq. earth wire with earth electrodes.	m	93	R	R	R
	R1.34	<u>BARE COPPER EARTH WIRES</u>					
		Provide and install bare copper earth wires through cable sleeves,.					
2,67		70mm ²	m	501	R	R	R
2,68		50 mm ²	m	501	R	R	R
2,69		35 mm ²	m	501	R	R	R
2,70		25 mm ²	m	501	R	R	R
2,71		16 mm ²	m	501	R	R	R
2,72		10 mm ²	m	501	R	R	R
2,73		6 mm ²	m	501	R	R	R
2,74		4 mm ²	m	501	R	R	R
	R1.34	<u>CABLE TRENCHES</u>					
		Excavate and back-fill cable trenches, 300mm wide x 650mm deep.					
2,75		Earth (Pickable)	cub m	77	R	R	R
2,76		Soft rock (Pneumatic)	cub m	16	R	R	R
2,77		Hard rock (Blasting)	cub m	16	R	R	R
2,78		Soft soil backfilling material	cub m	53	R	R	R
2,79		Excavate and open existing LV cables.	cub m	152	R	R	R
2,80		Price for excavation to remove an existing 7 to 11m pole.	ea	26	R	R	R
	R1.35	<u>CABLE MARKER TAPE</u>					
2,81		Cable marker tape above cables.	m	376	R	R	R
	R1.34	<u>PVC SLEEVES</u>					
		The following sleeves -black of the KABEL-FLEX type.					
2,82		160mm dia	m	26	R	R	R
2,83		110mm dia	m	26	R	R	R
2,84		75mm dia	m	26	R	R	R
2,85		32mm dia	m	77	R	R	R
	R1.34	<u>SLOW BENDS</u>					
		Slow bends through a wall and floor.					
2,86		110mm dia PVC. slow bends.	ea.	5	R	R	R
2,87		75mm dia PVC slow bends.	ea.	5	R	R	R
2,88		50mm dia PVC slow bends.	ea.	5	R	R	R
2,89		40mm dia PVC slow bends.	ea.	5	R	R	R
2,90		32mm dia PVC slow bends.	ea.	5	R	R	R
2,91		25mm dia PVC slow bends.	ea.	5	R	R	R
	R1.34	<u>SEAL CABLE SLEEVES</u>					

2,92		Seal off cable sleeve ends.	ea.	53	R	R	R
		<u>BUSHCLEARING</u>					
		Cut the following branches to clear overhead lines.					
2,93		Branches up to 100mm dia.	ea.		R	R	R
2,94		Branches up to 200mm dia.	ea.		R	R	R
2,95		Branches up to 300mm dia.	ea.		R	R	R
2,96		Branches above 300mm dia.	ea.		R	R	R
	R1.41	<u>DISTRIBUTION KIOSK</u>					
		Distribution kiosks complete without switch-gear					
2,97		A new 6-way (meters) ±40 way (MCB'S) outdoor, ventilated, fibre glass distribution kiosk ±600mm x 600mm x 350mm deep including fibre glass plinth.	ea.	5	R	R	R
2,98		A new 9-way (meters) ±60 way (MCB'S), fibre glass distribution kiosk ±1000mm x 600mm x 350mm deep including fibre glass plinth.	ea.	5	R	R	R
2,99		A new 12-way (meters) ±100 way (MCB'S) outdoor, fibre glass distribution kiosk ±1000mm x 1000mm x 350mm deep including fibre glass plinth.	ea.	5	R	R	R
2,100		A new 6-way (meters) ±40 way (MCB'S) 2mm mild steel distribution kiosk ±600mm x 600mm x 350mm deep.	ea.	5	R	R	R
2,101		A new 9-way (meters) ±60 way (MCB'S) outdoor, 2mm mild steel ventilated distribution kiosk ±1000mm x 600mm x 350mm deep.	ea.	5	R	R	R
2,102		A new 12-way (meters) ±100 way (MCB'S), 2mm mild steel baked ventilated distribution kiosk ±1000mm x 1000mm x 350mm deep.	ea.	5	R	R	R
	R1.41	<u>SURFACE WALL MOUNTED DISTRIBUTION KIOSK/DISTRIBUTION BOARD</u>					
2,103		1000mm x 1000mm x 350mm, ventilated distribution kiosk.	ea.	5	R	R	R
	R1.41	<u>REPLACE EXISTING DISTRIBUTION KIOSK</u>					
2,104		Disconnect and remove existing cables, remove existing distribution kiosk. Disconnect switchgear re-install into new distribution kiosk and re-wire.	ea.	5	R	R	R
	R1.41	<u>SERVICE AND TIDY EXISTING DISTRIBUTION KIOSK</u>					
2,105		Tidy, make safe and label	ea.	13	R	R	R
2,106		Clean sand paper and spray paint an existing distribution kiosk - e.g.1000mmx1000mmx350mm.	m²	13	R	R	R
2,107		Hasp and staple at a distribution kiosk.	ea.	13	R	R	R
2,108		Key alike lock for a distribution kiosk. (Viro Type 50mm)	ea.	13	R	R	R
		<u>METERING EQUIPMENT</u>					
2,109		Supply and replace 5A electronic meter similar to existing meter	ea.	5	R	R	R
	R1.38	<u>STREET LIGHT CONTROL</u>					
2,110		Replace a street light control in a distribution kiosk or distribution board.	ea.	13	R	R	R
2,111		Replace a street light installation timer.	ea.	16	R	R	R

2,112		Replace a street light photocell	ea.	26	R	R	R
	R1.38	<u>STREET LIGHT POLE</u>					
		Provide and install hot dipped galvanised streetlight poles.					
2,113		8m mounting height	item	5	R	R	R
2,114		10m mounting height	item	5	R	R	R
2,115		11m mounting height	item	5	R	R	R
	R1.38	<u>POLE CAPS AND ACCESS DOORS</u>					
		Provide and install the pole caps and access doors.					
2,116		Pole cap for two streetlight fittings mounted horizontal.	ea	5	R	R	R
2,117		Pole cap for a single streetlight fittings mounted at 15°	ea	5	R	R	R
2,118		Pole access doors	ea	26	R	R	R
	R1.38	<u>STREETLIGHT POLE WIRING</u>					
2,119		Provide and install streetlight pole wiring.	ea	26	R	R	R
2,120		Provide and install 5A MCCB for streetlight pole.	ea	26	R	R	R
	R1.34	<u>EXCAVATION AND BACKFILLING FOR A STREET LIGHT POLE</u>					
2,121		Price for excavation and backfilling of a street light pole (+/-1.5m). Back filling shall be compacted in 150mm layers.	ea	16	R	R	R
	R1.35	<u>CABLE MARKER</u>					
2,122		Provide and install concrete cable route markers - 300mm high, 150mm x 150mm at the top and 250 x 250mm at the bottom.	ea	16	R	R	R
		<u>SCHEDULE NO 3</u>					
		-					
3		<u>GENERAL ELECTRICAL INSTALLATION:</u>					
		<u>DISTRIBUTION BOARDS</u>					
	R1.41	<u>REPLACE EXISTING DISTRIBUTION BOARD</u>					
		As above but for the following surface distribution boards:					
3,1		Up to 24 way 13mm	ea.	5	R	R	R
3,2		Up to 36 way 13mm	ea.	5	R	R	R
3,3		Up to 36 way 3-phase 13mm	ea.	5	R	R	R
3,4		Up to 60 way 3-phase 13mm	ea.	5	R	R	R
3,5		Up to 144 way 3-phase 13mm	ea.	6	R	R	R
	R1.41	<u>CLEAN AND PAINT AN EXISTING DISTRIBUTION BOARD</u>					
		Clean, sandpaper, spray paint and make good existing distribution boards.					
3,6		Up to 24 way 13mm	ea.	0	R	R	R
3,7		Up to 36 way 13mm	ea.	0	R	R	R
3,8		Up to 36 way 3-phase 13mm	ea.	0	R	R	R

3,9		Up to 60 way 3-phase 13mm	ea.	0	R	R	R
3,10		Up to 144 way 3-phase 13mm	ea.	0	R	R	R
	R1.41	<u>X-RAY DISTRIBUTION BOARD</u>					
3,11		6-way surface mounted CLIPSAL or GEM board including 100A 3P 5kA (CBI) isolator	ea	0	R	R	R
	R1.41	<u>KIOSK/DB FRONT PANELS</u>					
3,12		Up to 24 way 13mm	ea.	0	R	R	R
3,13		Up to 36 way 13mm	ea.	0	R	R	R
3,14		Up to 36 way 3-phase 13mm	ea.	0	R	R	R
3,15		Up to 60 way 3-phase 13mm	ea.	0	R	R	R
3,16		Up to 144 way 3-phase 13mm	ea.	0	R	R	R
	R1.41	<u>CLEAN AND PAINT AN EXISTING DISTRIBUTION BOARD</u>					
3,17		Clean, sandpaper and spray paint an existing distribution board.	ea.	5	R	R	R
	R1.41	<u>HASP AND STAPLE</u>					
3,18		Hasp and staple at a distribution board.	ea.	5	R	R	R
	R1.41	<u>KEY-ALIKE LOCK</u>					
3,19		Key-alike lock for a distribution board. (50mm Viro Type)	ea.	16	R	R	R
	R1.41	<u>CHECK DISTRIBUTION BOARD EARTH</u>					
3,20		Check earthing at each distribution board and provide a written report.	ea.	40	R	R	R
	R1.41	<u>SWITCHGEAR</u>					
		Connect, test and commission the following switchgear to be installed shall match existing. All DB cover plates should close. (Safety).					
	R1.41	<u>CIRCUIT BREAKERS</u>					
3,21		1A, 2A 1P 5kA - din rail or mini rail, Curve 2 - single space - 13mm	ea.	5	R	R	R
3,22		5A to 25A 1P 5kA - din rail or mini rail, Curve 2 - single space - 13mm	ea.	53	R	R	R
3,23		1-PHASE+NEUTRAL - 10A to 25A 5kA - din rail or mini rail, Curve 2 - single space - 26mm	ea.	26	R	R	R
3,24		10A to 25A 2P 5kA - din rail or mini rail, Curve 2 - single space - 26mm	ea.	40	R	R	R
3,25		10A to 25A 3P 5kA - din rail or mini rail, Curve 2 - single space - 39mm	ea.	77	R	R	R
3,26		10A to 25A 1P 5kA - din rail or mini rail, Curve 1 - single space - 13mm	ea.	16	R	R	R
3,27		10A to 25A 3P 5kA - din rail or mini rail, Curve 1 - single space - 39mm	ea.	16	R	R	R
3,28		1A, 2A 1P 5kA - din rail or mini rail, Curve 2 - double space - 26mm	ea.	5	R	R	R
3,29		5A to 63A 1P 5kA - din rail or mini rail, Curve 2 - double space - 26mm	ea.	53	R	R	R
3,30		80A to 100A 1P 5kA - din rail or mini rail, Curve 2 - double space - 26mm	ea.	53	R	R	R
3,31		10A to 63A 2P 5kA - din rail or mini rail, Curve 2 - double space - 52mm	ea.	53	R	R	R
3,32		1-PHASE +NEUTRAL - 10A to 63A 5kA - din rail or mini rail, Curve 2 - double space - 52mm	ea.	26	R	R	R
3,33		10A to 63A 3P 5kA - din rail or mini rail, Curve 2 - double space - 78mm	ea.	53	R	R	R

3,34		80A 3P 5kA - din rail or mini rail, Curve 2 - double space - 78mm	ea.	26	R	R	R
3,35		100A 3P 5kA - din rail or mini rail, Curve 2 - double space - 78mm	ea.	16	R	R	R
3,36		10A to 63A 1P 5kA - din rail or mini rail, Curve 1 - double space - 26mm	ea.	16	R	R	R
3,37		80A 1P 5kA - din rail or mini rail, Curve 1 - double space - 26mm	ea.	26	R	R	R
3,38		10A to 63A 3P 5kA - din rail or mini rail, Curve 1 - double space - 78mm	ea.	16	R	R	R
3,39		80A 3P 5kA - din rail or mini rail, Curve 1 - double space - 78mm	ea.	16	R	R	R
3,40		100A 3P 5kA - din rail or mini rail, Curve 1 - double space - 78mm	ea.	16	R	R	R
3,41		10A to 60A 1P 5kA - surface, Curve 2 - double space - 26mm	ea.	26	R	R	R
3,42		70A to 100A 1P 5kA - surface, Curve 2 - double space - 26mm	ea.	26	R	R	R
3,43		10A to 60A 3P 5kA - surface, Curve 2 - double space - 78mm	ea.	26	R	R	R
3,44		70A & 80A 3P 5kA - surface, Curve 2 - double space - 78mm	ea.	16	R	R	R
3,45		90A & 100A 3P 5kA - surface, Curve 2 - double space - 78mm	ea.	16	R	R	R
3,46		10A to 60A 1P 5kA - surface, Curve 1 - double space - 26mm	ea.	40	R	R	R
3,47		70A & 80A 1P 5kA - surface, Curve 1 - double space - 26mm	ea.	26	R	R	R
3,48		90A & 100A 1P 5kA - surface, Curve 1 - double space - 26mm	ea.	5	R	R	R
3,49		10A to 60A 3P 5kA - surface, Curve 1 - double space - 78mm	ea.	5	R	R	R
3,50		70A & 80A 3P 5kA - surface, Curve 1 - double space - 78mm	ea.	21	R	R	R
3,51		90A & 100A 3P 5kA - surface, Curve 1 - double space - 78mm	ea.	5	R	R	R
3,52		10A to 60A 1P 10kA - mini rail, Curve 2 - double space - 26mm	ea.	16	R	R	R
3,53		70A & 80A 1P 10kA - mini rail, Curve 2 - double space - 26mm	ea.	16	R	R	R
3,54		1-PHASE +NEUTRAL - 10A to 60A 10kA - mini rail, Curve 2 - double space - 52mm	ea.	5	R	R	R
3,55		10A to 60A 3P 10kA - mini rail, Curve 2 - double space - 78mm	ea.	5	R	R	R
3,56		70A & 80A 3P 10kA - mini rail, Curve 2 - double space - 78mm	ea.	5	R	R	R
3,57		100A 3P 10kA - mini rail, Curve 2 - double space - 78mm	ea.	5	R	R	R
3,58		10A to 60A 1P 10kA - mini rail, Curve 1 - double space - 26mm	ea.	5	R	R	R
3,59		70A & 80A 1P 10kA - mini rail, Curve 1 - double space - 26mm	ea.	5	R	R	R
3,60		10A to 60A 3P 10kA - mini rail, Curve 1 - double space - 78mm	ea.	5	R	R	R
3,61		70A to 100A 3P 10kA - mini rail, Curve 1 - double space - 78mm	ea.	5	R	R	R
3,62		15A to 60A 1P 15kA - surface mounted thermal magnetic	ea	26	R	R	R
3,63		70A to 100A 1P 15kA - surface mounted thermal magnetic	ea	16	R	R	R
3,64		15A to 60A 3P 15kA - surface mounted thermal magnetic	ea	16	R	R	R
3,65		70A to 100A 3P 15kA - surface mounted thermal magnetic	ea	16	R	R	R

3,66		125A 3P 15kA - surface mounted thermal magnetic	ea	5	R	R	R
3,67		150A to 160A 3P 15kA -surface mounted thermal magnetic	ea	5	R	R	R
3,68		175A to 225A 3P 15kA - surface mounted thermal magnetic	ea	5	R	R	R
3,69		300A 3P 20kA - surface mounted hydraulic magnetic	ea	5	R	R	R
3,70		350A & 400A 3P 20kA - surface mounted hydraulic magnetic	ea	5	R	R	R
3,71		450A & 500A 3P 20kA - surface mounted hydraulic magnetic	ea	5	R	R	R
3,72		600A 3P 20kA - surface mounted hydraulic magnetic	ea	5	R	R	R
3,73		15A to 60A 1P 25kA - thermal magnetic	ea	5	R	R	R
3,74		70A to 100A 1P 25kA - thermal magnetic	ea	5	R	R	R
3,75		15A to 60A 3P 25kA - thermal magnetic	ea	5	R	R	R
3,76		70A to 100A 3P 25kA - thermal magnetic	ea	5	R	R	R
3,77		125A 3P 25kA - thermal magnetic	ea	5	R	R	R
3,78		150A to 160A 3P 25kA - thermal magnetic	ea	5	R	R	R
3,79		175A to 225A 3P 25kA - thermal magnetic	ea	5	R	R	R
3,80		250A 3P 25kA - thermal magnetic	ea	5	R	R	R
3,81		300A to 400A 3P 25kA - thermal magnetic	ea	5	R	R	R
		25kA hydraulic magnetic surface mounted circuit breakers.					
3,82		15A to 60A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	5	R	R	R
3,83		70A to 100A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	5	R	R	R
3,84		125A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	5	R	R	R
3,85		150A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	5	R	R	R
3,86		160A to 200A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	5	R	R	R
3,87		225A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	5	R	R	R
3,88		250A 3P 25kA - hydraulic magnetic surface mounted circuit breakers.	ea	5	R	R	R
3,89		300A to 630A, 35kA surface mounted adjustable circuit breakers.	ea	5	R	R	R
3,90		400A to 800A, 35kA min surface mounted adjustable circuit breakers.	ea	5	R	R	R
		<u>CIRCUIT BREAKER ACCESSORIES</u>					
	R1.41	<u>MECHANICAL INTERLOCKED AUTOMATED CHANGE OVER CIRCUIT BREAKER ASSEMBLIES</u>					
		<u>CIRCUIT BREAKER AUXILIARY SWITCH</u>					
3,91		For 15A to 225A 15kA to 35kA circuit breakers e.g. CBI - F35D	ea.	5	R	R	R
3,92		For 100A to 400A 25kA to 35kA circuit breakers e.g. CBI - K35D	ea.	5	R	R	R
	R1.41	<u>CIRCUIT BREAKER SOLENOID OPERATOR</u>					
3,93		For 15A to 225A 15kA to 35kA circuit breakers e.g. CBI - F35D	ea.	5	R	R	R
3,94		For 100A to 400A 25kA to 35kA circuit breakers e.g. CBI - K35D	ea.	5	R	R	R

	R1.41	<u>MECHANICAL INTERLOCK AND BASE PLATE</u>					
3,95		For 15A to 225A 15kA to 35kA circuit breakers e.g. CBI - F35D	ea.	5	R	R	R
3,96		For 100A to 400A 25kA to 35kA circuit breakers e.g. CBI - K35D	ea.	5	R	R	R
	R1.41	<u>CYLINDRICAL LOCK</u>					
3,97		A cylindrical lock with different key for a 100A to 400A 25kA to 35kA circuit breaker e.g. CBI - K35D	ea	5	R	R	R
	R1.41	<u>MOTORISED CHANGE OVER</u>					
3,98		125A 3-pole motorised changeover - SO-COMEC ATyS 3s type.	ea	5	R	R	R
3,99		160A 3-pole motorised changeover - SO-COMEC ATyS 3s type.	ea	5	R	R	R
3,100		250A 3-pole motorised changeover - SO-COMEC ATyS 3s type.	ea	5	R	R	R
3,101		400A 3-pole motorised changeover - SO-COMEC ATyS 3s type.	ea	5	R	R	R
3,102		630A 3-pole motorised changeover - SO-COMEC ATyS 3s type.	ea	5	R	R	R
3,103		800A 3-pole motorised changeover - SO-COMEC ATyS 3s type.	ea	5	R	R	R
		<u>ISOLATORS / SWITCH DISCONNECTORS</u>					
3,104		63A 2P 5kA - din or mini rail - single space 26mm	ea.	26	R	R	R
3,105		63A 2P 5kA - din or mini rail - double space 52mm	ea.	77	R	R	R
3,106		100A 2P 5kA - din or mini rail - double space 52mm	ea.	5	R	R	R
3,107		63A 3P 5kA - din or mini rail - single space 39mm	ea.	26	R	R	R
3,108		63A 3P 5kA - din or mini rail - double space 78mm	ea.	53	R	R	R
3,109		100A 3P 5kA - din or mini rail - double space 78mm	ea.	26	R	R	R
3,110		60A 2P 10kA - din or mini rail - double space 52mm	ea.	26	R	R	R
3,111		100A 2P 10kA - din or mini rail - double space 52mm	ea.	5	R	R	R
3,112		60A 3P 10kA - din or mini rail - double space 78mm	ea.	26	R	R	R
3,113		100A 3P 10kA - din or mini rail - double space 78mm	ea.	16	R	R	R
3,114		250A 3P 20kA - surface mounted	ea	5	R	R	R
3,115		300A 3P 20kA - surface mounted	ea	5	R	R	R
3,116		400A 3P 20kA - surface mounted	ea	5	R	R	R
3,117		450A 3P 20kA - surface mounted	ea	5	R	R	R
3,118		500A 3P 20kA - surface mounted	ea	5	R	R	R
3,119		600A 3P 20kA - surface mounted isolators/disconnectors.	ea	5	R	R	R
	R1.41	<u>PHOTO CELL BY-PASS SWITCH</u>					
3,120		5kA (Test switch) single space 13mm - din or mini rail mounted.	ea.	26	R	R	R
3,121		5kA (Test switch) double space 26mm - din or mini rail mounted.	ea.	26	R	R	R
3,122		10A, 1-Pole 5kA MCB (Test switch) double space 26mm - surface mounted in distribution board behind the front panel.	ea.	26	R	R	R

	R1.41	<u>EARTH LEAKAGE UNITS</u>					
3,123		30mA, three phase earth leakage 60A isolator type 5kA - single space 78mm .	ea.	16	R	R	R
3,124		30mA, three phase earth leakage 80A isolator type 5kA - double space 117mm .	ea.	16	R	R	R
3,125		30mA, single phase earth leakage 60A isolator type 5kA - single space 26mm .	ea.	26	R	R	R
3,126		30mA, single phase earth leakage 60A/100A isolator type 5kA - double space 65mm .	ea.	26	R	R	R
3,127		30mA, single phase earth leakage 20A circuit breaker type 5kA - single space 26mm .	ea.	26	R	R	R
3,128		30mA, single phase earth leakage 20A circuit breaker type 5kA - double space 65mm .	ea.	16	R	R	R
	R1.41	<u>FUSES</u>					
		New din rail or mini rail mounted HRC fuse complete					
3,129		0 - 10A din rail or mini rail mounted HRC fuse.	ea.	5	R	R	R
3,130		10-20A din rail or mini rail mounted HRC fuse.	ea.	5	R	R	R
3,131		100A to 250A HRC fuse in an existing fused switch.	ea	5	R	R	R
		Metering/control HRC fuse complete with base and fuse.					
3,132		6-10A	ea	5	R	R	R
		Replace an existing metering/control HRC fuse					
3,133		6-10A	ea	5	R	R	R
	R1.41	<u>CIRCUIT BREAKER SPACE BLANK PLATES</u>		0			
3,134		Circuit breaker space blank plate.	ea.	626	R	R	R
	R1.41	<u>CONTACTORS</u>					
3,135		630A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	5	R	R	R
3,136		400 - 450A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	5	R	R	R
3,137		310 - 320A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	5	R	R	R
3,138		250 - 265A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	5	R	R	R
3,139		150A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	5	R	R	R
3,140		95 - 105A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	5	R	R	R
3,141		80-85 A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	5	R	R	R
3,142		60 - 65A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	5	R	R	R
3,143		30 - 32A 3P AC3 rating - 2 x n/o & 2 x n/c aux. contact	ea.	5	R	R	R
3,144		20 - 25A 3P AC3 rating - 1 x n/o & 1 x n/c aux. contact	ea.	5	R	R	R
3,145		15A - 16A 3P AC3 rating - 1 x n/o & 1 x n/c aux. contact	ea.	5	R	R	R
3,146		10 - 12A 3P AC3 rating - 1 x n/o & 1 x n/c aux. contact	ea.	5	R	R	R
3,147		10 - 20A 3P AC1 rating surface, mini rail or din rail mounted - 1 x n/o & 1 x n/c aux. contact	ea.	5	R	R	R
	R1.41	<u>CONTACTOR COILS</u>					
3,148		630A 3P	ea.	5	R	R	R

3,149		400 - 450A	ea.	5	R	R	R
3,150		310 - 320A 3P	ea.	5	R	R	R
3,151		250 - 265A 3P	ea.	5	R	R	R
3,152		150A 3P	ea.	5	R	R	R
3,153		95 - 105A 3P	ea.	5	R	R	R
3,154		80-85 A 3P	ea.	5	R	R	R
3,155		60 - 65A 3P	ea.	5	R	R	R
3,156		30 - 32A 3P	ea.	5	R	R	R
3,157		20 - 25A 3P	ea.	5	R	R	R
3,158		15A - 16A 3P	ea.	5	R	R	R
3,159		10 - 12A 3P	ea.	5	R	R	R
	R1.41	<u>CONTACT KIT FOR CONTACTORS</u>					
3,160		630A 3P	ea.	5	R	R	R
3,161		400 - 450A 3P	ea.	5	R	R	R
3,162		310 - 320A 3P	ea.	5	R	R	R
3,163		250 - 265A 3P	ea.	5	R	R	R
3,164		150A 3P	ea.	5	R	R	R
3,165		95 - 105A 3P	ea.	5	R	R	R
3,166		80-85 A 3P	ea.	5	R	R	R
3,167		60 - 65A 3P	ea.	5	R	R	R
	R1.41	<u>THERMAL OVERLOAD RELAYS</u>					
		Thermal overload relay					
3,168		For contactors up to 16A (AC3)	ea.	5	R	R	R
3,169		For contactors up to 40A (AC3)	ea.	5	R	R	R
	R1.41	<u>MECHANICAL INTERLOCK FOR CHANGE OVER CONTACTORS</u>					
		mechanical interlock					
3,170		0 - 50A	ea.	5	R	R	R
3,171		90-125A	ea.	13	R	R	R
3,172		160-800A	ea.	5	R	R	R
	R1.41	<u>GENERATOR CONTROLLER</u>		0			
3,173		LOVATO RGK 60 type generator controller.	ea	5	R	R	R
	R1.41	<u>MODEM FOR GENERATOR CONTROLLER</u>					
3,174		New WAVECOM type modem in C/O panel	ea.	5	R	R	R
	R1.41	<u>REGULATOR FOR GENERATOR</u>					
3,175		Generator regulator (excitation) on existing alternator or in control board.	ea.	5	R	R	R
	R1.41	<u>CONTROL RELAYS</u>					
3,176		11-pin, 10A, plug in control relay complete with base	ea.	13	R	R	R
3,177		Automotive solenoid control relay 24V DC	ea.	13	R	R	R
3,178		Starter solenoid control relay	ea.	13	R	R	R

	R1.41	<u>SELECTOR SWITCHES THREE-WAY</u>					
3,179		Up to 30A, 3P, 3-way.	ea.	5	R	R	R
3,180		Up to 100A, 3P, 3-way	ea.	5	R	R	R
3,181		Up to 200A, 3P, 3-way	ea.	5	R	R	R
3,182		Up to 250A, 3P, 3-way	ea.	5	R	R	R
3,183		Up to 500A, 3P, 3-way	ea.	5	R	R	R
	R1.41	<u>BY-PASS SWITCH IN GENERATOR CHANGE OVER PANEL</u>					
3,184		Up to 100A, 3P	ea.	5	R	R	R
3,185		Up to 160A, 3P	ea.	5	R	R	R
3,186		Up to 250A, 3P	ea.	5	R	R	R
3,187		Up to 500A, 3P	ea.	5	R	R	R
3,188		Up to 630A, 3P	ea.	5	R	R	R
	R1.41	<u>TIMER</u>					
3,189		Rail mounted timer	ea.	16	R	R	R
	R1.41	<u>SURGE PROTECTION IN DISTRIBUTION BOARDS</u>					
3,190		Lightning protection surge arrester - 1P 20kA	ea	53	R	R	R
	R1.40	<u>230V/12/24V TRANSFORMER</u>					
3,191		Servicing of 300VA 230/24V or 230/12V isolation transformer.	ea.	13	R	R	R
		Supply and replace 300VA 230/24V or 230/12V isolation transformer.	ea.	13	R	R	R
	R1.41	<u>kVA and kWh METERS</u>					
3,192		Three phase 40 - 100A surface mounted kVA meter	ea.		R	R	R
3,193		Single phase 20 - 80A surface mounted kWh	ea.		R	R	R
3,194		Three phase 40A - 100A surface mounted kWh	ea.		R	R	R
3,195		Single phase 65A rail mounted (1P+N) kWh	ea.		R	R	R
3,196		Three phase 65A rail mounted (3P+N) kWh	ea.		R	R	R
	R1.41	<u>REPLACE METERING CURRENT TRANS- FORMERS</u>					
3,197		Up to 650:5A	ea.	5	R	R	R
3,198		Up to 500:5A	ea.	13	R	R	R
3,199		Up to 300:5A	ea.	13	R	R	R
3,200		Up to 100:5A	ea.	13	R	R	R
	R1.41	<u>INDICATING METERS IN KIOSKS/DISTRI- BUTION BOARDS</u>					
3,201		Indicating AC volt meter	ea.	26	R	R	R
3,202		Direct and maximum demand indicating AC ammeter	ea.	26	R	R	R
3,203		DC volt meter	ea.	26	R	R	R
3,204		Direct indicating DC ammeter (96x96).	ea.	26	R	R	R
	R1.41	<u>VOLT METER ROTARY SWITCH</u>					
3,205		7-way volt meter rotary switch	ea.	26	R	R	R

	R1.41	<u>TERMINAL BLOCKS</u>					
		Din rail mounted terminal blocks					
3,206		Terminal blocks up to 15A - 2.5mm ² wire p.m	ea.		R	R	R
3,207		Terminal blocks up to 30A - 6mm ² wire p.m	ea.		R	R	R
3,208		Terminal blocks up to 60A - 16mm ² wire p.m	ea.		R	R	R
3,209		Terminal blocks up to 80A - 25mm ² wire p.m	ea.		R	R	R
3,210		Terminal blocks up to 150A - 70mm ² wire p.m	ea.		R	R	R
3,211		Terminal blocks up to 225A - 120mm ² wire p.m	ea.		R	R	R
	R1.41	<u>PIN INSULATORS</u>					
3,212		Up to 60A pin insulators	ea.		R	R	R
3,213		Up to 100A pin insulators	ea.		R	R	R
3,214		Up to 200A pin insulators	ea.		R	R	R
3,215		Up to 400A pin insulators	ea.		R	R	R
3,216		Up to 600A pin insulators	ea.		R	R	R
	R1.41	<u>LEGEND CARD</u>					
3,217		Trace existing circuits and prepare Legend card (laminated) for each Distribution Boards.	ea.	125	R	R	R
		Supply and install Legend card to suit new circuits.	ea.	125	R	R	R
	R1.20	<u>AS BUILT DRAWINGS IN KIOSKS AND DISTRIBUTION BOARDS</u>					
		"As Built"					
3,218		A4 paper size "As Built"	ea.	125	R	R	R
3,219		A3 paper size "As Built"	ea.	125	R	R	R
		<u>OUTLET POINT LAMINATED LABEL</u>					
3,220		New label - minimum 9mm with 5mm letter height, Brother P-Touch	376	2200	R	R	R
	R1.36	<u>CONDUIT AND ACCESSORIES</u>					
3,221		32mm dia PVC conduit chased into a wall	m	26	R	R	R
3,222		25mm dia PVC conduit chased into a wall.	m	77	R	R	R
3,223		20mm dia PVC conduit chased into a wall.	m	93	R	R	R
3,224		50mm dia PVC conduit surface in roof space.	m	77	R	R	R
3,225		32mm dia PVC conduit surface in roof space.	m	77	R	R	R
3,226		25mm dia PVC conduit surface in roof space.	m	101	R	R	R
3,227		20mm dia PVC conduit surface in roof space.	m	501	R	R	R
		conduit surface inside.					
3,228		32mm dia PVC conduit surface inside on wall etc.	m	53	R	R	R
3,229		25mm dia PVC conduit surface inside on wall etc.	m	93	R	R	R
3,230		20mm dia PVC conduit surface inside on wall etc.	m	176	R	R	R
		Galvanised surface outside					
3,231		32mm dia galvanised conduit surface outside.	m	26	R	R	R
3,232		25mm dia galvanised conduit surface outside.	m	53	R	R	R

3,233		20mm dia galvanised conduit surface outside.	m	53	R	R	R
		Slow bends for conduit					
3,234		32mm dia galvanised conduit slow bend in roof space.	ea	5	R	R	R
3,235		50mm dia PVC conduit slow bend in roof space.	ea	5	R	R	R
3,236		32mm dia PVC conduit slow bend in roof space.	ea	5	R	R	R
3,237		50mm dia PVC conduit slow bend chased into a wall and floor.	ea	5	R	R	R
3,238		32mm dia PVC conduit slow bend chased into a wall and floor.	ea	5	R	R	R
		2.5m long PVC flexible conduit					
3,239		32mm dia 2.5m long PVC flexible conduit connection including adaptors.	m	16	R	R	R
3,240		25mm dia 2.5m long PVC flexible conduit connection including adaptors.	m	26	R	R	R
3,241		20mm dia 2.5m long PVC flexible conduit connection including adaptors.	m	40	R	R	R
		2.5m long steel PVC coated flexible					
3,242		32mm dia 2.5m long steel PVC coated flexible conduit connection including adaptors.	ea	5	R	R	R
3,243		25mm dia 2.5m long steel PVC coated flexible conduit connection including adaptors.	ea.	5	R	R	R
3,244		20mm dia 2.5m long steel PVC coated flexible conduit connection including adaptors.	ea.	16	R	R	R
	R1.36	<u>CONDUIT BOXES</u>					
3,245		20 and 25mm dia round galvanised steel, 1-4 way or back entry - chased into a wall	ea.	66	R	R	R
3,246		100x50mm galvanised steel - chased into a wall	ea.	200	R	R	R
3,247		100x100mm galvanised steel - chased into a wall	ea.	152	R	R	R
3,247		20 and 25mm dia galvanised steel round box - in roof space	ea.	40	R	R	R
3,248		100x50mm galvanised - in roof space	ea.	40	R	R	R
3,249		100x100mm galvanised - in roof space	ea.	40	R	R	R
3,249		150 x 150 x 100 mm galvanised with lid - in roof space	ea.	5	R	R	R
3,250		200 x 200 x 100 mm galvanised with lid - in roof space	ea.	53	R	R	R
3,251		300 x 300 x 150 mm galvanised with lid - in roof space	ea.	13	R	R	R
3,251		20 and 25mm dia galvanised steel round - installed surface.	ea.	53	R	R	R
3,252		100x50mm galvanised - installed surface.	ea.	26	R	R	R
3,253		100x100mm galvanised - installed surface.	ea.	40	R	R	R
3,253		20 and 25mm dia round PVC - chased into a wall.	ea.	40	R	R	R
3,254		100x50mm PVC - chased into a wall.	ea.	53	R	R	R
3,255		100x100mm PVC - chased into a wall.	ea.	101	R	R	R
3,255		20 and 25mm dia PVC round box - in roof space.	ea.	253	R	R	R
3,256		100x50mm PVC - in roof space.	ea.	53	R	R	R
3,257		100x100mm PVC - in roof space.	ea.	53	R	R	R

3,257		20 and 25mm dia PVC round box - surface as draw box.	ea.	53	R	R	R
3,258		100x50mm PVC - surface as draw box.	ea.	53	R	R	R
3,259		100x100mm PVC - surface as draw box.	ea.	77	R	R	R
	R1.36	<u>EXTENSION BOXES</u>					
3,260		100 x 50 x 50mm - metal extension boxes.	ea.	66	R	R	R
3,261		100 x 100 x 50mm - metal extension boxes.	ea.	66	R	R	R
3,262		100 x 50 x 50mm PVC extension boxes	ea.	77	R	R	R
3,263		100 x 100 x 50mm PVC extension boxes	ea.	77	R	R	R
	R1.36	<u>CONDUIT BOX COVER PLATES</u>					
3,264		Blank galvanised round box cover plates.	ea.	40	R	R	R
3,265		Blank white or ivory round box cover plates.	ea.	77	R	R	R
3,266		Blank PVC round box cover plates.	ea.	77	R	R	R
3,267		Blank galvanised over size round box cover plates.	ea.	26	R	R	R
3,268		Blank over size white or ivory round box cover plates.	ea.	26	R	R	R
3,269		Blank PVC over size round box cover plates.	ea.	26	R	R	R
3,270		Blank 100x50 white or ivory cover plates PVC or steel.	ea.	53	R	R	R
3,271		Blank 100x100 white or ivory cover plates PVC or steel.	ea.	77	R	R	R
	R1.37	<u>POWER SKIRTING AND POWER TRUNKING</u>					
		<u>METAL POWER SKIRTING</u>					
3,272		Single compartment P802 - installed on a wall.	m	53	R	R	R
3,273		Two compartment P801 - installed on a wall	m	125	R	R	R
3,274		Galvanised wiring duct P8000 in roof space	m	53	R	R	R
3,275		Galvanised wiring duct P9000 in roof space.	m	53	R	R	R
3,276		Galvanised P2000 wiring channel in roof space.	m	125	R	R	R
		Replace an existing or provide and install the following new 90° flat elbow for the following:					
3,277		P802 90° flat elbow.	ea.	16	R	R	R
3,278		P801 90° flat elbow.	ea.	16	R	R	R
3,279		P8000 90° flat elbow.	ea.	16	R	R	R
3,280		P9000 90° flat elbow.	ea.	16	R	R	R
		Replace an existing or provide and install the following new 90° inner- or outer corner piece for the following metal power skirting or power trunking:					
3,281		P802 90° inner- or outer corner piece.	ea.	16	R	R	R
3,282		P801 90° inner- or outer corner piece.	ea.	16	R	R	R
3,283		P8000 90° inner- or outer corner piece	ea.	16	R	R	R
3,284		P9000 90° inner- or outer corner piece.	ea.	16	R	R	R
		Replace an existing or provide and install the following new end-caps for the following metal power skirting or power trunking:					

3,285		P802 end-caps.	ea.	26	R	R	R
3,286		P801 end-caps.	ea.	26	R	R	R
3,287		P8000 end-caps.	ea.	26	R	R	R
3,288		P9000 end-caps.	ea.	26	R	R	R
	R1.37	<u>PVC POWER SKIRTING</u>					
		Cabstrut Jupiter					
3,289		Single cover single compartment PVC (BD152).	m	125	R	R	R
3,290		Two compartment, two cover PVC (BD162).	m	125	R	R	R
		90° inner- or outer corner piece for the following PVC power skirting:					
3,291		Single cover single compartment PVC(BD152)90° inner- or outer corner piece.	ea.	66	R	R	R
3,292		Two compartment, two cover PVC (BD162) 90° inner- or outer corner piece.	ea.	77	R	R	R
		end-caps					
3,293		Single cover single compartment PVC (BD152) end-caps.	ea.	53	R	R	R
3,294		Two compartment, two cover PVC (BD162) end-caps.	ea.	53	R	R	R
	R1.37	<u>HOLES THROUGH WALLS FOR POWER SKIRTING</u>					
3,295		110mm brick wall	ea.	26	R	R	R
3,296		220mm brick wall	ea.	26	R	R	R
	R1.37	<u>PVC DUCTING</u>					
3,297		YT1 ducting	m	125	R	R	R
3,298		YT2 ducting	m	125	R	R	R
3,299		YT3 ducting	m	125	R	R	R
3,300		YT4 ducting	m	125	R	R	R
3,301		YT5 ducting	m	53	R	R	R
		End cap for PVC ducting					
3,302		End cap for YT1	ea.	53	R	R	R
3,303		End cap for YT2	ea.	53	R	R	R
3,304		End cap for YT3	ea.	53	R	R	R
3,305		End cap for YT4	ea.	53	R	R	R
3,306		End cap for YT5	ea.	13	R	R	R
	R1.37	<u>CABLE TRAY</u>					
		surface mounted					
3,307		50mm in roof space or surface mounted.	m	200	R	R	R
3,308		76mm in roof space or surface mounted.	m	200	R	R	R
3,309		100mm in roof space or surface mounted.	m	200	R	R	R
3,310		150mm in roof space or surface mounted.	m	200	R	R	R
3,311		200mm in roof space or surface mounted.	m	200	R	R	R
	R1.36	<u>PVC INSULATED CONDUCTOR</u>					
3,312		35mm ² PVC conductors	m	152	R	R	R

3,313		25mm ² PVC conductors	m	152	R	R	R
3,314		16mm ² PVC conductors	m	152	R	R	R
3,315		10mm ² PVC conductors	m	152	R	R	R
3,316		6mm ² PVC conductors	m	152	R	R	R
3,317		4mm ² PVC conductors	m	200	R	R	R
3,318		2,5mm ² PVC conductors	m	1 501	R	R	R
3,319		1.5mm ² PVC conductors	m	1 501	R	R	R
	R1.36	<u>BARE COPPER EARTH CONDUCTOR</u>					
3,320		25 mm ² bare copper earth conductors.	m	253	R	R	R
3,321		16 mm ² bare copper earth conductors.	m	253	R	R	R
3,322		10 mm ² bare copper earth conductors.	m	501	R	R	R
3,323		6 mm ² bare copper earth conductors.	m	253	R	R	R
3,324		4.0 mm ² bare copper earth conductors.	m	501	R	R	R
3,325		2.5 mm ² bare copper earth conductors.	m	5 000	R	R	R
	R1.36	<u>PVC INSULATED EARTH CONDUCTOR</u>					
3,326		10 mm ² PVC insulated earth conductor	m	253	R	R	R
3,327		6 mm ² PVC insulated earth conductor	m	253	R	R	R
3,328		4 mm ² PVC insulated earth conductor	m	501	R	R	R
3,329		2.5 mm ² PVC insulated earth conductor	m	501	R	R	R
	R1.36	<u>DRAW WIRE</u>					
3,330		1,5mm ² rust proof draw wire	m	253	R	R	R
3,331		2mm ² rust proof draw wire	m	253	R	R	R
	R1.36	<u>TRAILING CABLES</u>			R	R	R
3,332		2.5mm ² x 4 core copper trailing cable.	m		R	R	R
3,333		2.5mm ² x 7 core copper trailing cable	m		R	R	R
3,334		4.0mm ² x 4 core copper trailing cable	m		R	R	R
3,335		6.0mm ² x 3 core copper trailing cable	m		R	R	R
3,336		10mm ² x 3 core copper trailing cable	m		R	R	R
3,337		Gripper gland for a 2.5mm ² x 4 core trailing cable.	ea.		R	R	R
3,338		Gripper gland for a 2.5mm ² x 7 core trailing cable.	ea		R	R	R
3,339		Gripper gland for a 4.0mm ² x 4 core trailing cable.	ea.		R	R	R
3,340		Gripper gland for a 6.0mm ² x 3 core trailing cable.	ea.		R	R	R
3,341		Gripper gland for a 10mm ² x 3 core trailing cable.	ea.		R	R	R
	R1.36	<u>SCREENED WIRING</u>					
3,342		1,5mm ² x 2 core + E - Surfex	m	253	R	R	R
3,343		1,5mm ² x 4 core + E - Surfex	m	125	R	R	R
3,344		2,5mm ² x 2 core + E - Surfex	m	376	R	R	R
3,345		2,5mm ² x 4 core + E - Surfex	m	200	R	R	R

3,346		4mm ² x 2 core + E - Surfix	m	200	R	R	R
3,347		4mm ² x 4 core + E - Surfix	m	200	R	R	R
3,348		Gripper gland for a 1,5mm ² x 2 core + E - Surfix cable.	ea	77	R	R	R
3,349		Gripper gland for a 1,5mm ² x 4 core + E - Surfix cable.	ea	13	R	R	R
3,350		Gripper gland for a 2,5mm ² x 2 core + E - Surfix cable.	ea	77	R	R	R
3,351		Gripper gland for a 2,5mm ² x 4 core + E - Surfix cable.	ea	53	R	R	R
3,352		Gripper gland for a 4mm ² x 2 core + E - Surfix cable.	ea	53	R	R	R
3,353		Gripper gland for a 4mm ² x 4 core + E - Surfix cable.	ea	53	R	R	R
	R1.36	<u>FLAT TWIN AND EARTH WIRING</u>					
3,354		1,5mm ² x 2 core + E - twin and earth	m	752	R	R	R
3,355		2,5mm ² x 2 core + E - twin and earth	m	1 253	R	R	R
3,356		4mm ² x 2 core + E - twin and earth	m	1 000	R	R	R
3,357		Gripper gland for 1,5mm ² x 2 core + E - twin and earth	ea.	77	R	R	R
3,358		Gripper gland for 2,5mm ² x 2 core + E - twin and earth	ea.	152	R	R	R
3,359		Gripper gland for 4mm ² x 2 core + E - twin and earth	ea.	53	R	R	R
	R1.36	<u>CABTYRE FLEX</u>					
3,360		1,0 mm ² x 3 core (2 + E) Cabtyre flex.	m	16	R	R	R
3,361		1,5 mm ² x 3 core (2 + E) Cabtyre flex.	m	16	R	R	R
3,362		1,5 mm ² x 5 core (4 + E) Cabtyre flex.	m	16	R	R	R
3,363		2,5 mm ² x 3 core (2 + E) Cabtyre flex.	m	16	R	R	R
3,364		2,5 mm ² x 5 core (4 + E) Cabtyre flex.	m	16	R	R	R
3,365		2.5 mm ² x 7 core (6 + E) Cabtyre flex.	m	16	R	R	R
	R1.36	<u>WELDING CABLE</u>					
3,366		95mm ² welding cable inside a distribution board.	m		R	R	R
3,367		70mm ² welding cable inside a distribution board.	m		R	R	R
3,368		50mm ² welding cable inside a distribution board.	m		R	R	R
	R1.50	<u>LIGHT FITTINGS</u>					
		Type A					
3,369		Fluorescent - 2 x 58W industrial type open channel (wings) - conventional ballast.	ea.	53	R	R	R
		Type B					
3,370		Fluorescent - 2 x 58W industrial type open channel (wings) - electronic ballast.	ea.	152	R	R	R
		Type C					
3,371		Fluorescent - 1x58W open channel - conventional ballast.	ea.	26	R	R	R
		Type D					
3,372		Fluorescent 1x58W open channel - electronic ballast.	ea.	77	R	R	R
		Type E					

3,373	Fluorescent - 2 x 58W open channel - conventional ballast.	ea.	26	R	R	R
	Type F					
3,374	Fluorescent - 2 x 58W open channel - electronic ballast.	ea.	77	R	R	R
	Type G					
3,375	Fluorescent - 1 x 36W open channel - conventional ballast.	ea.	26	R	R	R
	Type H					
3,376	Fluorescent - 1 x 36W open channel - electronic ballast.	ea.	77	R	R	R
	Type I					
3,377	Fluorescent - 2 x 36W open channel - conventional ballast.	ea.	26	R	R	R
	Type J					
3,378	Fluorescent - 2 x 36W open channel - electronic ballast.	ea.	77	R	R	R
	Type K					
3,379	Fluorescent, theatre ambient - 1,5m - conventional ballasts and 2x58W cool white lamps.	ea.	53	R	R	R
	Type L					
3,380	Fluorescent, theatre ambient - 1,5m - electronic ballasts and 2x58W.	ea.	16	R	R	R
	Type M					
3,381	Fluorescent, theatre ambient - 1,2m - conventional ballasts and 2x36W.	ea.	5	R	R	R
	Type N					
3,382	Fluorescent, theatre ambient - 1,2m - electronic ballasts and 2x36W.	ea.	26	R	R	R
	Type O					
3,383	Emergency fluorescent - 2 x 58W open channel - electronic ballasts.	ea.	5	R	R	R
	Type P					
3,384	Emergency fluorescent - 2 x 36W open channel - electronic ballasts.	ea.	16	R	R	R
	Type P.1					
3,385	Emergency fluorescent luminaire 2 x 10W - WACO.	ea.	16	R	R	R
	Type Q					
3,386	Corrosion proof fluorescent - - water tight diffuser, conventional ballast, 2 x 58W.	ea.	16	R	R	R
	Type R					
3,387	Corrosion proof fluorescent -, water tight diffuser, electronic ballast 2 x 58W.	ea.	40	R	R	R
	Type S					
3,388	Corrosion proof fluorescent - water tight diffuser, conventional ballast, 1 x 58W.	ea.	5	R	R	R
	Type T					
3,389	Corrosion proof fluorescent - water tight diffuser, electronic ballast, 1 x 58W.	ea.	16	R	R	R
	Type U					
3,390	Corrosion proof fluorescent -, water tight diffuser, conventional ballast, 2 x 36W.	ea.	16	R	R	R

		Type V					
3,391		Corrosion proof fluorescent - water tight dif-fuser, electronic ballast, 2 x 36W.	ea.	40	R	R	R
		Type W					
3,392		Corrosion fluorescent -,water tight diffuser, conventional ballast, 1 x 36W.	ea.	5	R	R	R
		Type X					
3,393		Corrosion proof fluorescent -, water tight dif-fuser, electronic ballast, 1 x 36W.	ea.	26	R	R	R
		Type Y					
3,394		Flame proof fluorescent electronic ballasts, 2x36W.	ea.	16	R	R	R
		Type AB					
3,395		Fluorescent - recessed 1200mmx600mm,low brightness diffuser, conventional ballast 3x36W.	ea.	26	R	R	R
		Type AC					
3,396		Fluorescent - recessed 1200mmx600mm - low brightness diffuser, electronic ballast and 3x36W.	ea.	53	R	R	R
		Type AD					
3,397		Fluorescent - recessed 600mmx600mm - low brightness diffuser, conventional ballast and 3x18W.	ea.	16	R	R	R
		Type AE					
3,398		Fluorescent - recessed 600mmx600mm - low brightness diffuser, electronic ballast and 3x18W.	ea.	26	R	R	R
		Type AF					
3,399		Fluorescent - recessed 1200mmx600mm - acrylic, prismatic diffuser, conventional ballast and 3x36W.	ea.	26	R	R	R
		Type AG					
3,400		Fluorescent - recessed decorative 1200mmx600mm acrylic, prismatic diffuser, electronic ballast and 3x36W.	ea.	66	R	R	R
		Type AH					
3,401		Fluorescent - recessed 1200mmx600mm - sin-gle parabolic white louvre - 12 cross blades, conventional ballast and 3x36W.	ea.	16	R	R	R
		Type AI					
3,402		Fluorescent - recessed 1200mmx600mm - sin-gle parabolic white louvre - 12 cross blades, electronic ballast and 3x36W.	ea.	40	R	R	R
		Type AJ					
3,403		Fluorescent - recessed 600mmx600mm - sin-gle parabolic white louvre - 6 cross blades, conventional ballast and 3x18W.	ea.	16	R	R	R
		Type AK					
3,404		Fluorescent - recessed 600mmx600mm - sin-gle parabolic white louvre - 6 cross blades, electronic ballast and 3x18W.	ea.	26	R	R	R
		Type AL					
3,405		Fluorescent - surface mounted - low brightness diffuser, conventional ballast, 2x58W.	ea.	53	R	R	R

		Type AM					
3,406		Fluorescent - surface mounted - low brightness diffuser, electronic ballast, 2x58W.	ea.	53	R	R	R
		Type AN					
3,407		Fluorescent - surface mounted - low brightness diffuser, conventional ballast, 3x36W.	ea.	16	R	R	R
		Type AO					
3,408		Fluorescent - surface mounted - low brightness diffuser, electronic ballast, 3x36W.	ea.	40	R	R	R
		Type AP					
3,409		Fluorescent - surface mounted - acrylic prismatic diffuser, conventional ballast, 2x58W.	ea.	16	R	R	R
		Type AQ					
3,410		Fluorescent - surface mounted - acrylic prismatic diffuser, electronic ballast, 2x58W.	ea.	26	R	R	R
		Type AR					
3,411		Fluorescent - surface mounted - acrylic prismatic diffuser, conventional ballast, 3x36W.	ea.	5	R	R	R
		Type AS					
3,412		Fluorescent - surface mounted - acrylic prismatic diffuser, electronic ballast, 3x36W.	ea.	26	R	R	R
		Type AT					
3,413		Fluorescent - surface mounted - acrylic prismatic diffuser, conventional ballast, 2x36W.	ea.	5	R	R	R
		Type AU					
3,414		Fluorescent - surface mounted - acrylic prismatic diffuser, electronic ballast, 2x36W.	ea.	40	R	R	R
		Type AV					
3,415		Bowl type 200 dia glass IP55 bathroom fitting 20W energy saving BC/ES lamp.	ea.	16	R	R	R
		Type AW					
3,416		Bowl type 150, polycarbonate 13W energy saving BC/ES lamp.	ea.	16	R	R	R
		Type AX					
3,417		Bowl type polycarbonate 200, 20W energy saving.	ea.	53	R	R	R
		Type AY					
3,418		Bowl type open bowl 150 dia polycarbonate bathroom fitting 13W energy saving	ea.	53	R	R	R
		Type AZ					
3,419		Bowl type open bowl 200 dia polycarbonate bathroom fitting 20W energy saving	ea.	53	R	R	R
		Type BA					
3,420		Pendant. 1 light complete 13W, 15W or 20W energy saving BC/ES lamp.	ea.	5	R	R	R
		Type BB					
3,421		Pendant 2 light 13W, 15W or 20W energy saving BC/ES lamps.	ea.	5	R	R	R
		Type BC					
3,422		Pendant 3 light 13W, 15W or 20W energy saving BC/ES lamps.	ea.	5	R	R	R
		Type BE					

3,423		Incandescent external water tight - bottle type glass 13W, 15W or 20W energy saving BC/ES lamp.	ea.	5	R	R	R
		Type BF					
3,424		Bulkhead luminaire with 2xTC9W lamps, 2-ballasts,	ea.	152	R	R	R
		Type BG					
3,425		Bulkhead luminaire with 1xTC-D 26W lamp,	ea.	16	R	R	R
		Type BH					
3,426		Bulkhead wall mounted light fitting - type BEKA AZIMUTH 125W MV.	ea.	16	R	R	R
		Type BI					
3,427		Bulkhead wall mounted light fitting - type BEKA AZIMUTH 2xTC-D 26W lamps.	ea.	16	R	R	R
		Type BJ					
3,428		Bulkhead wall mounted, rectangular - opal diffuser - BEKA 41126 with TC-D 26W lamp.	ea.	40	R	R	R
		Type BK					
3,429		Recessed downlighter - 1xTC-D 26W, 2m cord set including 5A 3-pin plug top.	ea.	16	R	R	R
		Type BL					
3,430		Recessed downlighter - 2xTC-D 26W, 2m cord set including 5A 3-pin plug top.	ea.	53	R	R	R
		Type BM					
3,431		Downlighter - 1 x 5W PL lamp - in the ceiling with 2m cord set including 5A 3-pin plug top.	ea.	5	R	R	R
		Type BN					
3,432		Surface downlighter - 1xTC-D 26W compact fluorescent lamp.	ea.	5	R	R	R
		Type BO					
3,433		Safe light - red surface (max 120x120mm) with 230V LED/s.	ea.	5	R	R	R
		Type BP					
3,434		Emergency exit luminaire, charge indicating LED, 1x26W PL lamp.	ea.	16	R	R	R
		Type BQ					
3,435		Infra red dark room, safe light. 15W 230V "Pearl" type pygmy ES lamp cord set - 5A 3-pin plug top.	ea.	5	R	R	R
		Type BR					
3,436		Over door or ceiling mounted prism LED lamp.	ea.	16	R	R	R
		Type BR.1					
3,437		Flood light wall mounted, 70W MH (external igniter).	ea.	5	R	R	R
		Type BS					
3,438		Flood light wall mounted, 70W HPS (external igniter).	ea.	16	R	R	R
		Type BT					
3,439		Flood light wall mounted, 100W metal halide lamp.	ea.	5	R	R	R
		Type BT.1					
3,440		Flood light wall mounted, BEKAMAX-F-250W MH-T.	ea.	5	R	R	R

		Type BU					
3,441		Flood light wall mounted, BEKAMAX-F-250W HPS/T.	ea.	5	R	R	R
		Type BV					
3,442		Flood light pole or wall mounted, BEKA-BEAM-250W HPS/T.	ea.	5	R	R	R
		Type BW					
3,443		Flood light pole or wall mounted, BEKA-BEAM-400W HPS/T.	ea.	5	R	R	R
		Type BX					
3,444		Flood light pole or wall mounted, BEKA-BEAM-250W MH-T.	ea.	5	R	R	R
		Type BX.1					
3,445		Flood light pole or wall mounted, BEKA-BEAM-400W MH-T.	ea.	5	R	R	R
		Type CB					
3,446		Post top BEKARAY 100W MH.	ea.	5	R	R	R
		Type CD					
3,447		Post top BEKARAY 70W HPS.	ea.	5	R	R	R
		Type CE					
3,448		Post top BEKARAY 100W HPS.	ea.	5	R	R	R
		Type CE.1					
3,449		Post top area light of the BEKA BEKAWAY 100W MH type. Pole measured elsewhere.	ea.	5	R	R	R
		Type CF					
3,450		Post top BEKAWAY 70W HPS.	ea.	5	R	R	R
		Type CG					
3,451		Post top BEKAWAY 100W HPS.	ea.	5	R	R	R
		Type CH.1					
3,452		Streetlight, bottom or side entry - BEKALUX 70W MH/MCB or ILM-SL-AP-70MH-BE-SE-MCB.	ea.	5	R	R	R
		Type CI					
3,453		Streetlight, bottom or side entry - BEKALUX 70W HPS/T-MCB or ILM-SL-AP-70HPS/T-BE-SE-MCB.	ea.	5	R	R	R
		Type CI.1					
3,454		Streetlight, bottom or side entry - BEKALUX 100W MH/MCB or ILM-SL-AP-100MH-BE-SE-MCB.	ea.	5	R	R	R
		Type CJ					
3,455		Streetlight, bottom or side entry - BEKALUX 100W HPS/T-MCB or ILM-SL-AP-100HPS/T-BE-SE-MCB.	ea.	5	R	R	R
		Type CJ.1					
3,456		Streetlight, bottom or side entry - BEKASTRADA SUPRA 250W MH-T/MCB.	ea.	5	R	R	R
		Type CK					
3,457		Streetlight, bottom or side entry - BEKASTRADA SUPRA 250W HPS/T-MCB.	ea.	5	R	R	R

3,458		Streetlight, bottom or side entry - BEKASTRADA SUPRA 400W MH-T/MCB.	ea.	5			
		Type CL			R	R	R
3,459		Streetlight, bottom or side entry - BEKASTRADA SUPRA 400W HPS/T-MCB.	ea.	5	R	R	R
		Type CM					
3,460		Wall mounted medical inspection luminaire.	ea.	16	R	R	R
		Type CN					
3,461		Ceiling mounted examination light.	ea.	16	R	R	R
		Type CO					
3,462		Surface wall mounted X-ray viewing box for viewing one (1) radiographic image	ea.	13	R	R	R
		Type CP					
3,463		Surface wall mounted X-ray viewing box for viewing two (2) radiographic images (350x430mm each).	ea.	5	R	R	R
		Type CQ					
3,464		Up light in bedhead trunking 1x58W, electronic ballast.	ea	5	R	R	R
		Type CR					
3,465		Night light in bedhead trunking 5W compact fluorescent or LED lamp.	ea	5	R	R	R
		Type CS					
3,466		Reading light in the bedhead trunking - 1x26W PL lamp.	ea	5	R	R	R
		Type CT					
3,467		Ultraviolet Germicidal Irradiation (UVGI) fitting of the R1 type	ea.	5	R	R	R
		Type CU					
3,468		Ultraviolet Germicidal Irradiation (UVGI) fitting of the R2 type	ea.	5	R	R	R
	R1.50	LED LIGHT FITTINGS (FOR REPLACEMENT)					
3,469		Type A,B,E,F : 5FT - T8 Dual Open Channel Fitting Pre-wired for LED Tubes - Must include Removable Fuse	ea.	40	R	R	R
3,470		Type A,B,E,F : 2 x 5ft - 24W T8 LED Tube Frosted Glass housing 1Kv Surge Protection 220V Power to one side (Cool white -840)	ea.	40	R	R	R
3,471		Type C,D : 5FT - T8 Single Open Channel Fitting Pre-wired for LED Tubes - Must include Removable Fuse	ea.	40	R	R	R
3,472		Type A,B,C,D,E,F : 5ft - 24W T8 LED Tube Frosted Glass housing 1Kv Surge Protection 220V Power to one side (Cool white -840)	ea.	40	R	R	R
3,473		Type G, H : 4ft - T8 Single Open Channel Fitting Pre-wired for LED Tubes - Must include Removable Fuse	ea.	40	R	R	R
3,474		Type G, H : 4ft - 18W T8 LED Tube Frosted Glass housing 1Kv Surge Protection 220V Power to one side (Cool white -840)	ea.	40	R	R	R
3,475		Type I, J : 4ft - T8 Dual Open Channel Fitting Pre-wired for LED Tubes - Must include Removable Fuse	ea.	40	R	R	R
3,476		Type I, J : 2 x 4ft - 18W T8 LED Tube Frosted Glass housing 1Kv Surge Protection 220V Power to one side (Cool white -840)	ea.	40	R	R	R

3,477	Type K, L, N : 4ft Easybat Surface Mount LED batten with a steel body and polycarbonate diffuser. CTC - 3000K, 4000K, 6500K. (6200lm)	ea.	40	R	R	R
3,478	Type O : 5ft DBL Open Channel With 2 x LED Tubes. Cosine ES Conversion Kit Emergency Lighting 1Hr Maintained 25W	ea.	40	R	R	R
3,479	Type P : 4ft DBL Open Channel With 2 x LED Tubes. Cosine ES Conversion Kit Emergency Lighting 1Hr Maintained 25W	ea.	40	R	R	R
3,480	Type P.1 : Cosine LED Emergency Bulkhead Maintained. 100% light 3Hr Emergency. IP65	ea.	26	R	R	R
3,481	Type Q,R,S,T : Kuda IP65 5ft 3CCT 50/25W Linear Batten White (6000-3000lm)	ea.	26	R	R	R
3,482	Type U,V,W,X : Kuda IP65 4ft 3CCT 36/18W Linear Batten White (4320-2160lm)	ea.	26	R	R	R
3,483	Type Y : N60LED-Ex 4ft 500mA 98w. Zone 1/2/21/22 hazardous area vapour proof luminaire	ea.	26	R	R	R
3,484	Type AB, AC : Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) 5yr Warranty	ea.	26	R	R	R
3,485	Type AD, AE : Mantra 40W External Driver 600 x 600 Backlit LED Panel 4000k (4000lm) 5yr Warranty	ea.	26	R	R	R
3,486	Type AF, AG,AH : Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) 5yr Warranty	ea.	5	R	R	R
3,487	Type AI : Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) 5yr Warranty	ea.	26	R	R	R
3,488	Type AJ, AK : Mantra 40W External Driver 600 x 600 Backlit LED Panel 4000k (4000lm) 5yr Warranty	ea.	16	R	R	R
3,489	Type AL, AM : 4ft Easybat Sur Mnt LED batten with steel body and polycarbonate diffuser. CTC - 3000K, 4000K, 6500K. (6200lm)	ea.	16	R	R	R
3,490	Type AN, AO : Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) With 12x6 Surface Mnt Kit	ea.	16	R	R	R
3,491	Type AP, AQ : 4ft Easybat Sur Mnt LED batten with steel body and polycarbonate diffuser. CTC - 3000K, 4000K, 6500K. (6200lm)	ea.	5	R	R	R
3,492	Type AR, AS : Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) With 12x6 Surface Mnt Kit (Lighthouse)	ea.	5	R	R	R
3,493	Type AT, AU : 4ft Easybat Sur Mnt LED batten with steel body and polycarbonate diffuser. CTC - 3000K, 4000K, 6500K. (6200lm)	ea.	5	R	R	R
3,494	Type AV, AX : Hero Bulkhead - 3CCT (6000k/4000k/3000k) PC Coastal Grade Wattage Dipswitch	ea.	5	R	R	R
3,495	Type AW, AY, AZ : Hero Bulkhead - 3CCT (6000k/4000k/3000k) PC Coastal Grade Wattage Dipswitch	ea.	5	R	R	R
3,496	Type BE, BF, BG : Hero Round Bulkhead - 3CCT (6000k/4000k/3000k) PC Coastal Grade Wattage Dipswitch	ea.	5	R	R	R
3,497	Type BH, BI, BJ : Hero Square Bulkhead - 3CCT (6000k/4000k/3000k) PC Coastal Grade Wattage Dipswitch	ea.	5	R	R	R
3,498	Type BK, BL : 35W Punch LED Downlighter 4000k. 2k Surge Protection Ip40. 4200lm	ea.	5	R	R	R
3,499	Type BN : 24W Iris Round LED Panel. Surfaced Mounted. 4000k 2250lm. 1kV Surge Protection	ea.	5	R	R	R

3,500		Type BP : LED exit sign with metal body and acrylic diffuser, includes LED driver and 4 pictograms. 3 Hour emergency backup.	ea.	5	R	R	R
3,501		Type BS : 100W Nana Evo LED Floodlight. 10 000lm, 4kV Surge Protection IP65. 6000k	ea.	5	R	R	R
3,502		Type BU : 200W Nana Evo LED Floodlight. 20 000lm, 4kV Surge Protection IP65. 6000k	ea.	5	R	R	R
3,503		Type BV : 200W Thor Coastal Heavy-Duty Floodlight, Incl Pole Holder (84Dia). 26000lm. 6000k	ea.	5	R	R	R
3,504		Type BW : 500W Thor Coastal Heavy-Duty Floodlight, Incl Pole Holder (84Dia). 75000lm. 6000k	ea.	5	R	R	R
3,505		Type CD, CE, CF, CG : 43/54W Argo LED Post Top. Mounting height 3.5m to 6m. Spigot entry 76mm Ø at a depth of 40mm. 4000k	ea.	5	R	R	R
3,506		Type CI : 60W Strada LED Street Light 5700k/4000k 150 Lumen/Watt. 10kV Surge Protection	ea.	5	R	R	R
3,507		Type CJ : 100W Strada LED Street Light 5700k/4000k 150 Lumen/Watt. 10kV Surge Protection	ea.	5	R	R	R
	R1.38	<u>DISCHARGE EMERGENCY FITTING BATTERIES</u>					
3,508		Discharge and recharge existing emergency light fitting batteries.	ea.	16	R	R	R
	R1.38	<u>AREA LIGHT POLE</u>					
3,509		Fibreglass reinforced polyester pole 3,5m mounting height (4,1m)	ea.	5	R	R	R
	R1.38	<u>12M SCISSORS MAST POLE</u>					
3,510		12 meter hot dip galvanised - allow for the mounting of 3x400W flood lights.	item	5	R	R	R
	R1.38	<u>BASE FOR SCISSORS MAST</u>					
3,511		Flanged planting piece and base plate.	item	5	R	R	R
3,512		Concrete base for the 12 meter scissors mast including a 1.5m 76 dia PVC sleeve.	item	5	R	R	R
	R1.38	<u>LUMINAIRE AND LAMP MAINTENANCE</u>					
		<u>LIGHT FITTING SPARES</u>					
3,513		Porcelain or fiber glass gallery 84,5mm	ea.	5	R	R	R
3,514		Porcelain or fiber glass gallery 99mm	ea.	5	R	R	R
3,515		200mm bowl,	ea.	16	R	R	R
3,516		150mm bowl.	ea.	16	R	R	R
3,517		200mm bowl.	ea.	16	R	R	R
3,518		200mm open bowl.	ea.	16	R	R	R
3,519		150mm open bowl.	ea.	16	R	R	R
3,520		200mm open bowl.	ea.	26	R	R	R
3,521		ES brass lamp holder - all types.	ea.	26	R	R	R
3,522		SES brass lamp holder	ea.	16	R	R	R
3,523		BC brass lamp holder.	ea.	16	R	R	R
3,524		BC or ES Porcelain lamp holder.	ea.	16	R	R	R
3,525		Opal dome diffuser - Beka series 30	ea.	26	R	R	R
	R1.38	<u>EMERGENCY FLUORESCENT BATTERY</u>					

3,526		5' or 4' emergency fluorescent fitting battery (1 hour @ 20%).	ea.	26	R	R	R
3,527		Replace a battery pack for a WACO type 2 x 10W fluorescent emergency light fitting.	ea	5	R	R	R
	R1.38	<u>LAMPS</u>					
3,528		120W 24V halogen operating luminaire	ea.	26	R	R	R
3,529		50W spot halogen lamp with integral metal reflector.	ea.	53	R	R	R
3,530		50W/75W 12V pre-focused spot halogen lamp.	ea.	53	R	R	R
3,531		40W BC/ES	ea.	125	R	R	R
3,532		60W BC/ES	ea.	125	R	R	R
3,533		100W BC/ES	ea.	125	R	R	R
3,534		150W BC/ES	ea.	77	R	R	R
3,535		200W BC/ES	ea.	77	R	R	R
3,536		500W GES (giant)	ea.	26	R	R	R
3,537		15W BC/ES Pigmy	ea.	26	R	R	R
3,538		40W & 60W SBC/ SES (small)	ea.	26	R	R	R
3,539		40W & 60W BC/ES candle - (small)	ea.	26	R	R	R
3,540		Fluorescent slimline 2,4m cool white.	ea.	200	R	R	R
3,541		Fluorescent switch start 1,5m cool white.	ea.	200	R	R	R
3,542		Fluorescent switch start 1,2m cool white.	ea.	200	R	R	R
3,543		Fluorescent switch start 1,5m warm white.	ea.	200	R	R	R
3,544		Fluorescent switch start 1,2m warm white.	ea.	200	R	R	R
3,545		Fluorescent 1,5m colour 21 58W.	ea.	501	R	R	R
3,546		Fluorescent 1,2m colour 36W.	ea.	501	R	R	R
3,547		Fluorescent 0.6m colour 18W.	ea.	200	R	R	R
3,548		Fluorescent PL9	ea.	200	R	R	R
3,549		Fluorescent PL13	ea.	200	R	R	R
3,550		Fluorescent PL18	ea.	152	R	R	R
3,551		Fluorescent PL26	ea.	152	R	R	R
3,552		PAR 38 - all types	ea.	13	R	R	R
3,553		70W HPS	ea.	5	R	R	R
3,554		100W HPS	ea.	5	R	R	R
3,555		150W HPS/T	ea.	5	R	R	R
3,556		250W HPS/T	ea.	5	R	R	R
3,557		400W HPS/T	ea.	5	R	R	R
3,558		160W Mercury blended	ea.	5	R	R	R
3,559		250W Mercury blended	ea.	5	R	R	R
3,560		80W HP Mercury vapour	ea.	5	R	R	R
3,561		125W HP Mercury vapour	ea.	5	R	R	R
3,562		250W HP Mercury vapour	ea.	5	R	R	R
3,563		400W HP Mercury vapour	ea.	5	R	R	R

3,564		500W Quarts Halogen floodlight lamp.	ea.	5	R	R	R
3,565		70W Metal halide MH-T	ea.	5	R	R	R
3,566		100W Metal halide MH-T	ea.	5	R	R	R
3,567		250W Metal halide MH-T	ea.	5	R	R	R
3,568		400W Metal halide MH-T	ea.	5	R	R	R
3,569		58W T8 LED 1,5m	ea.	253	R	R	R
3,570		36W T8 LED 1,2m	ea.	253	R	R	R
3,571		24W T8 LED 1,2m	ea.	253	R	R	R
3,572		9W T8 LED 0,6m	ea.	253	R	R	R
	R1.38	<u>STARTER</u>					
3,573		FSU fluorescent lamp starter.	ea.	200	R	R	R
	R1.38	<u>BALLASTS</u>					
3,574		Switch start for 1 lamp 1,5m.	ea.	200	R	R	R
3,575		Switch start for 1 lamp 1,2m.	ea.	200	R	R	R
3,576		For PL9 lamp	ea.	200	R	R	R
3,577		For PL11 & PL13 lamp	ea.	200	R	R	R
3,578		For PL18 lamp	ea.	152	R	R	R
3,579		For PL26 lamp	ea.	152	R	R	R
3,580		For 70W HPS/T lamp	ea.	26	R	R	R
3,581		For 150W HPS/T lamp	ea.	5	R	R	R
3,582		For 250W HPS/T lamp	ea.	16	R	R	R
3,583		For 400W HPS/T lamp	ea.	13	R	R	R
3,584		For 80W HP Mercury Vapour lamp	ea.	5	R	R	R
3,585		For 125W HP Mercury Vapour lamp	ea.	26	R	R	R
3,586		For 250W HP Mercury Vapour lamp	ea.	5	R	R	R
3,587		For 400W HP Mercury Vapour lamp	ea.	5	R	R	R
3,588		250W Metal Halide	ea.	13	R	R	R
3,589		400W Metal Halide	ea.	13	R	R	R
	R1.38	<u>IGNITERS</u>					
3,590		For 70W HPS/T lamp	ea.	5	R	R	R
3,591		For 150W HPS/T lamp	ea.	5	R	R	R
3,592		For 250W HPS/T lamp	ea.	5	R	R	R
3,593		For 400W HPS/T lamp	ea.	5	R	R	R
3,594		For 250W Metal Halide lamp	ea.	5	R	R	R
3,595		For 400W Metal Halide lamp	ea.	5	R	R	R
	R1.38	<u>CAPACITORS</u>					
3,596		12 MFD for 70W HPS lamp	ea.	5	R	R	R
3,597		1 x 20MFD for 150W HPS lamp	ea.	5	R	R	R
3,598		2 x 20MFD for 250W HPS lamp	ea.	5	R	R	R

3,599		For 400W HPS lamp	ea.	5	R	R	R
3,600		8MFD for 80W HP Mercury Vapour lamp	ea.	5	R	R	R
3,601		For 125W HP Mercury Vapour lamp	ea.	5	R	R	R
3,602		20MFD for 250W HP Mercury Vapour lamp	ea.	5	R	R	R
3,603		For 400W HP Mercury Vapour lamp	ea.	5	R	R	R
3,604		2 x 20MFD for 250W Metal Halide lamp	ea.	5	R	R	R
3,605		2 x 20MFD for 400W Metal Halide lamp	ea.	5	R	R	R
	R1.39	<u>SWITCHES</u>					
3,606		16A single lever switch (Conduit box existing).	ea.	53	R	R	R
3,607		16A two lever switch (Conduit box existing).	ea.	53	R	R	R
3,608		16A three lever switch (Conduit box existing).	ea.	53	R	R	R
3,609		16A four lever switch (Conduit box existing).	ea.	5	R	R	R
3,610		16A two-way switch (Conduit box existing).	ea.	53	R	R	R
3,611		16A intermediate switch (Conduit box existing).	ea.	16	R	R	R
3,612		16A limit switch for darkroom film hopper protection.	ea.	5	R	R	R
	R1.39	<u>PULL SWITCH</u>					
3,613		Replace 16A pull switch	ea.	26	R	R	R
3,614		Replace a canopy pull switch with nylon cord.	ea	26	R	R	R
	R1.39	<u>SURFACE INDUSTRIAL SWITCHES</u>					
3,615		16A single lever switch.	ea.	26	R	R	R
3,616		16A two lever switch.	ea.	26	R	R	R
	R1.39	<u>DIMMER SWITCHES</u>					
		100 x 50mm flush draw box.					
3,617		1000W dimmer switch (Conduit box existing)	ea.	16	R	R	R
3,618		2000W dimmer switch (Conduit box existing)	ea.	13	R	R	R
3,619		1200W dimmer + 1x1 lever switch (Conduit box existing).	ea.	13	R	R	R
	R1.39	<u>WATER TIGHT SWITCHES</u>					
3,620		16A Water tight switch - silicon sealer	ea.	26	R	R	R
	R1.39	<u>DEVELOPMENT ROOM SWITCH</u>					
3,621		1 lever double pole switch.	ea.	5	R	R	R
	R1.39	<u>BELL PUSH</u>					
3,622		16A single lever bell push.	ea.	16	R	R	R
	R1.39	<u>TOGGLE SWITCH</u>					
3,623		20A single pole single throw toggle switch	ea.	16	R	R	R
	R1.39	<u>STOP LOCK</u>					
3,624		Industrial stop lock push button.	ea	5	R	R	R
	R1.39	<u>PHOTOCELL</u>					
3,625		16A, plug in day light switch.	ea.	53	R	R	R
3,626		16A bracket mounted day light switch.	ea.	16	R	R	R

3,627		Day light switch in bulkhead luminaire - dummy - Beka.	ea.	16	R	R	R
	R1.39	<u>SOCKET OUTLETS</u>					
		in existing draw box					
3,628		16A 3-pin single socket outlet in existing draw box	ea.	200	R	R	R
3,629		16A 3-pin double socket outlet in existing draw box	ea.	200	R	R	R
3,630		16A 3-pin single socket outlet with circuit breaker in existing draw box	ea.	26	R	R	R
3,631		16A 3-pin dedicated single socket outlet in existing draw box	ea.	40	R	R	R
3,632		16A 3-pin dedicated double in existing 100x100mm box,	ea.	26	R	R	R
3,633		5A 3-pin single unswitched socket outlet in a existing 50mm dia round box.	ea.	53	R	R	R
		<u>in power skirting</u>					
3,634		16A 3-pin single socket outlet in power skirting	ea.	200	R	R	R
3,635		16A 3-pin dedicated single socket outlet (D-pin - top) in power skirting	ea.	125	R	R	R
3,636		16A 3-pin single socket outlet, double pole isolator switched in power skirting	ea.	16	R	R	R
		<u>in bedhead trunking</u>					
3,637		16A 3-pin single socket outlet in bedhead trunking	ea.	152	R	R	R
3,638		16A 3-pin dedicated single socket outlet in bedhead trunking	ea.	101	R	R	R
3,639		16A 3-pin single socket outlet, double pole isolator switched in bedhead trunking	ea.	26	R	R	R
	R1.39	<u>SURFACE INDUSTRIAL SWITCHED SOCKET OUTLETS</u>					
3,640		16A 3-pin single plug - industrial type	ea.	77	R	R	R
3,641		16A 3-pin double plug - industrial type	ea.	53	R	R	R
	R1.39	<u>SOCKET OUTLET IN YORK BOX</u>					
3,642		Single socket outlet in a S15 York box.	ea	16	R	R	R
	R1.39	<u>ISOLATOR SWITCHES</u>					
		<u>FLUSH ISOLATOR SWITCHES</u>					
3,643		60A 3P isolator in existing conduit box.	ea.	32	R	R	R
3,644		60A 2P isolator in existing conduit box.	ea.	152	R	R	R
3,645		30A 3P isolator in existing conduit box.	ea.	53	R	R	R
3,646		30A 2P isolator in existing conduit box.	ea.	253	R	R	R
3,647		30A 2P with cord grip for A/C / Heaters in existing conduit box.	ea.	101	R	R	R
3,648		45A stove isolator with indication light in existing conduit box.	ea.	5	R	R	R
3,649		30A 2P isolator in power skirting with or without cord grip.	ea.	53	R	R	R
	R1.39	<u>INDOOR SURFACE ISOLATOR SWITCHES</u>					
3,650		60A 3P surface isolator including box.	ea.	16	R	R	R
3,651		60A 2P surface isolator including box.	ea.	16	R	R	R
3,652		30A 3P surface isolator including box.	ea.	16	R	R	R
3,653		30A 2P surface isolator including box.	ea.	5	R	R	R

3,654		30A 2P with cord grip for A/C / Heaters - surface isolator including box.	ea.	16	R	R	R
3,655		Stove isolator surface isolator including box.	ea.	13	R	R	R
	R1.39	<u>WATER TIGHT ISOLATOR SWITCHES</u>					
3,656		Water tight surface double pole - CLIPSAL 56SW232GY	ea.	16	R	R	R
3,657		Water tight surface mounted 32A, 3-pole isolator - CLIPSAL 56SW332GY	ea.	16	R	R	R
	R1.39	<u>INDUSTRIAL SOCKET OUTLETS</u>					
3,658		32A 5-pole of the CLIPSAL LUMEX 75252-6 RED type (plus socket).	ea.	5	R	R	R
3,659		63A 5-pole of the CLIPSAL LUMEX 75352-6 RED type (plus socket).	ea.	5	R	R	R
	R1.39	<u>FLOOR MOUNTED PEDESTAL</u>					
3,660		2mm mild steel baked powder epoxy coated floor mounted pedestal 1200mm high	ea	5	R	R	R
3,661	R1.39	<u>FLOOR BOX FOR SOCKET OUTLETS</u>					
3,662		Floor box - Cabstrut FD3 type including 2 x double 16A 3-pin socket outlet covers. Socket outlets measured elsewhere.	ea	5	R	R	R
	R 1.43	<u>HAND DRYERS</u>					
3,663		Hand dryer - Stiebel Eltron heavy duty HTE5.	ea.	0	R	R	R
	R1.44	<u>HEATERS</u>					
		"ELEMENT SPACE HEATER".					
3,664		Heater with 2 x 0.5kW elements	ea	0	R	R	R
3,665		Heater with 2 x 0.75kW elements	ea	0	R	R	R
	R1.40	<u>OVERHEAD FAN</u>					
3,666		Ceiling mounted three blade (aluminum) fan - 48" blade	ea.	0	R	R	R
3,667		Ceiling mounted three blade (aluminum) fan - 56" blade.	ea.	0	R	R	R
3,668		Over head fan speed controller.	ea.	0	R	R	R
	R1.40	<u>DARK ROOM FAN</u>					
3,669		Floor box - Cabstrut FD3 type including 2 x double 16A 3-pin socket outlet covers. Socket outlets measured elsewhere.	ea	0	R	R	R
3,670		Dark room fan - 230mm dia Woods Xpelair Cat no GX 9.	ea.	0	R	R	R
3,671		Dark room fan speed regulator Woods Xpelair Cat No. DC 9.	ea.	0	R	R	R
	R1.46	<u>ISOLATING TRANSFORMER</u>					
3,672		5kVA centre tap isolating transformer and support platform	ea.	13	R	R	R
	R1.40	<u>ISOLOC/EARLY BIRD</u>					
3,673		Line isolation monitor - ISOLOC or EARLYBIRD	ea.	5	R	R	R
3,674		Line isolation monitor - Iso-GardA by Square D - Schneider Electric.	ea.	5	R	R	R
	R1.40	<u>THEATRE EARTHING INSTALLATION TEST</u>					
3,675		Insulated earthing test on a theatre, etc. by a Master Electrician.	ea.	21	R	R	R
	R.145	<u>UNINTERRUPTIBLE POWER SUPPLY</u>					
3,676		Single phase 5kVA UPS.	ea.	5	R	R	R

	R.145	<u>UPS UNIT BATTERIES</u>					
3,677		7Ah sealed lead acid UPS battery.	ea.	16	R	R	R
3,678		26Ah sealed lead acid UPS battery.	ea.	16	R	R	R
	R.145	<u>BATTERY CHARGERS</u>					
3,679		12 or 24V battery charger of the constant voltage, current limiting, fully automatic e.g. Switchmode type.	ea.	0	R	R	R
3,680		12V or 24V battery charger for a set of 2.5V, 105Ah vented battery cells .	ea.	0	R	R	R
	R.145	<u>BATTERIES</u>					
3,681		12V, 105Ah maintenance free semi-sealed battery for a generator - National Batteries - or DELTEC.	ea	0	R	R	R
3,682		2.5V, 105Ah vented battery cell.	ea	0	R	R	R
	R1.40	<u>CONNECTION OF EQUIPMENT</u>					
		<u>CONNECTION OF GEYSERS</u>					
3,683		1 Phase geyser connection.	item	0	R	R	R
3,684		3 Phase geyser connection.	item	0	R	R	R
3,685		Wall mounted heater connection.	item	0	R	R	R
	R1.40	<u>CONNECTION OF HEATERS</u>					
3,686		New "ELEMENT SPACE HEATER" connection	ea	0	R	R	R
	R1.24	<u>DEPARTMENTAL TRAINEE TOOLS</u>					
3,687		Three tear metal toolbox	ea	5	R	R	R
3,688		Combination spanner set 6mm – 24mm	ea	5	R	R	R
3,689		Screwdriver set – Electrician 7 piece	ea	5	R	R	R
3,690		Pliers set – 3 off – pliers, side cutter, long nose	ea	5	R	R	R
3,691		Hammer ball / pein 500g	ea	5	R	R	R
3,692		Pliers - water pump 300mm	ea	5	R	R	R
3,693		File set - - flat, round, triangle, flat/round,	ea	5	R	R	R
3,694		Vice grip	ea	5	R	R	R
3,695		Utility knife	ea	5	R	R	R
3,696		Scriber - two points	ea	5	R	R	R
3,697		Engineering square	ea	5	R	R	R
3,698		Hacksaw – frame e.g. Mitco	ea	5	R	R	R
3,699		Combination square	ea	5	R	R	R
3,700		Earth leakage circuit breaker polarity tester	ea	5	R	R	R
3,701		Digital clamp meter e.g. MAJORTECH 600V MODEL 2017	ea	5	R	R	R
		<u>BEDHEAD TRUNKING</u>					
		<u>DUCTING</u>					
3,702		General Ward: 1-bed Horizontal Bedhead Trunking (refer to Standard ECDOH Guideline Drawings)	ea	5	R	R	R
3,703		General Ward: 2-bed Horizontal Bedhead Trunking (refer to Standard ECDOH Guideline Drawings)	ea	5	R	R	R

		General Ward: 3-bed Horizontal Bedhead Trunking (refer to Standard ECDOH Guideline Drawings)	ea	5	R	R	R
	R1.50	<u>LIGHT FITTINGS</u>					
3,704		Up light luminaire in the bedhead trunking with 1x58W colour 21 fluorescent lamp, electronic ballast and BJB type lamp holder of the HUTZ type.	ea	26	R	R	R
3,705		Night light luminaire in the bedhead trunking with 5W compact fluorescent or LED lamp of the HUTZ type.	ea	26	R	R	R
3,706		Reading light luminaire in the bedhead trunking with 1x26W PL lamp of the HUTZ type.	ea	13	R	R	R
	R1.39	<u>SOCKET OUTLETS</u>					
3,706		(See Ref No. R.3.1003 for individual replacements) 16A 3-pin single socket outlet in a bedhead duct, normal (white cover), essential (red cover) or UPS power (blue cover).	ea.	26	R	R	R
3,707		(See Ref No. R.3.1004 for individual replacements) 16A 3-pin dedicated single socket outlet (D-pin - top) in bedhead duct, normal or essential with red cover plate.	ea.	53	R	R	R
3,708		(See Ref No. R.3.1005 for individual replacements) 16A 3-pin single socket outlet, double pole isolator switched, with insulated earth and white cover plate in bedhead ducting.	ea.	26	R	R	R
TOTAL CARRIED FORWARD TO SUMMARY							R

ECDOH GENERAL ELECTRICAL LV MAINTENANCE AND REPAIR CONTRACT

CONTRACT REF. NO: SCMU3-2627-0193-BCM Cluster/
 ASSET TYPE: LV INSTALLATIONS District: BUFFALO CITY DISTRICT

SCHEDULE 3A-1: MAINTENANCE SCHEDULE

ITEM Nr.	PAY- MENT RE- FERS	DESCRIPTION	UNIT	Per Fa- cil- ity	No. of Ser- vices	QTY	RATE	AMOUNT
3A-1	C3.1A	Routine Inspections : the full installation on site will be visually inspected for general compliance with SANS 10142-1. An inspection report will be submitted by the contractor upon completion of the inspection and signed off by the engineer.						
		Routine Inspection : Price per Six Monthly Inspection per Facility. (4 services per facility)						
		Rate shall include for all costs to complete task; such as labour, travelling, accommodation, subsistence allowance, etc.						
3A-1.1		Bhisho Hospital	No	1	4	4	R	R
3A-1.2		Cecilia Makiwane Hospital	No	1	4	4	R	R
3A-1.3		Frere Hospital	No	1	4	4	R	R
3A-1.4		Grey Hospital	No	1	4	4	R	R
3A-1.5		Newhaven Hospital	No	1	4	4	R	R
TOTAL CARRIED FORWARD TO SUMMARY								R

ECDOH GENERAL ELECTRICAL LV MAINTENANCE AND REPAIR CONTRACT

CONTRACT REF. NO: SCMU3-2627-0193-BCM

Cluster/
District:

BUFFALO CITY DISTRICT

ASSET TYPE: LV INSTALLATIONS

SCHEDULE 3A-2:

MAINTENANCE SCHEDULE (SPECIALIST EQUIPMENT)

ITEM Nr.	PAY- MENT RE- FERS	DESCRIPTION	UNIT	Per/ Fa- cil- ity	No. of Ser- vices	QTY (A)	RATE (B)	AMOUNT (C) = (A) x (B)
3A-2	C3.1A	Routine Inspections : the full installation on site will be visually inspected for general compliance. An inspection report and repair quote will be submitted by the contractor upon completion of the inspection and signed off by the engineer. Rate shall include for all costs to complete task; such as labour, travelling, accommodation, subsistence allowance, etc.						
3A-2.1		Bhisho Hospital						
		Routine Inspection : Price per Six Monthly/Annual Inspection per Facility.(4 Services Per Facility, 2 Services for PV)						
3A-2.1.1		Nurse Call System	No	1	4	4	R	R
3A-2.1.2		Uninterrupted Power Supply System (UPS)	No	1	4	4	R	R
3A-2.1.3		CCTV	No	0	4	0	R	R
3A-2.1.4		Public Announcement (PA) System	No	1	4	4	R	R
3A-2.1.5		Photo Voltaic System	No	0	4	0	R	R
3A-2.1.6		Access Control	No	0	4	0	R	R
3A-2.1		Cecilia Makiwane Hospital						
		Routine Inspection : Price per Six Monthly/Annual Inspection per Facility.(4 Services Per Facility, 2 Services for PV)						
3A-2.2.1		Nurse Call System	No	1	4	4	R	R
3A-2.2.2		Uninterrupted Power Supply System (UPS)	No	1	4	4	R	R
3A-2.2.3		CCTV	No	1	4	4	R	R
3A-2.2.4		Public Announcement (PA) System	No	1	4	4	R	R
3A-2.2.5		Photo Voltaic System	No	1	4	4	R	R
3A-2.2.6		Access Control	No	1	4	4	R	R
3A-2.3		Frere Hospital						
		Routine Inspection : Price per Six Monthly/Annual Inspection per Facility.(4 Services Per Facility, 2 Services for PV)						
3A-2.3.1		Nurse Call System	No	1	4	4	R	R
3A-2.3.2		Uninterrupted Power Supply System (UPS)	No	1	4	4	R	R
3A-2.3.3		CCTV	No	1	4	4	R	R
3A-2.3.4		Public Announcement (PA) System	No	1	4	4	R	R
3A-2.3.5		Photo Voltaic System	No	0	4	0	R	R
3A-2.3.6		Access Control	No	1	4	4	R	R

3A-2.4		Grey Hospital						
		Routine Inspection : Price per Six Monthly/Annual Inspection per Facility.(4 Services Per Facility, 2 Services for PV)						
3A-2.4.1		Nurse Call System	No	1	4	4	R	R
3A-2.4.2		Uninterrupted Power Supply System (UPS)	No	1	4	4	R	R
3A-2.4.3		CCTV	No	1	4	4	R	R
3A-2.4.4		Public Announcement (PA) System	No	1	4	4	R	R
3A-2.4.5		Photo Voltaic System	No	0	4	0	R	R
3A-2.4.6		Access Control	No	1	4	4	R	R
3A-2.5		Newhaven Hospital						
		Routine Inspection : Price per Six Monthly/Annual Inspection per Facility.(4 Services Per Facility, 2 Services for PV)						
3A-2.5.1		Nurse Call System	No	1	4	4	R	R
3A-2.5.2		Uninterrupted Power Supply System (UPS)	No	1	4	4	R	R
3A-2.5.3		CCTV	No	1	4	4	R	R
3A-2.5.4		Public Announcement (PA) System	No	1	4	4	R	R
3A-2.5.5		Photo Voltaic System	No	0	4	0	R	R
3A-2.5.6		Access Control	No	1	4	4	R	R
3A-2.6		Nkqubela Hospital						
		Routine Inspection : Price per Six Monthly/Annual Inspection per Facility.(4 Services Per Facility, 2 Services for PV)						
3A-2.6.1		Nurse Call System	No	1	4	4	R	R
3A-2.6.2		Uninterrupted Power Supply System (UPS)	No	0	4	0	R	R
3A-2.6.3		CCTV	No	0	4	0	R	R
3A-2.6.4		Public Announcement (PA) System	No	0	4	0	R	R
3A-2.6.5		Photo Voltaic System	No	0	4	0	R	R
3A-2.6.6		Access Control	No	1	4	4	R	R
TOTAL CARRIED FORWARD TO SUMMARY								R

ECDOH GENERAL ELECTRICAL LV MAINTENANCE AND REPAIR CONTRACT

CONTRACT REF. NO: SCMU3-2627-0193-BCM

ASSET TYPE: LV INSTALLATIONS

Cluster/
District:

BUFFALO CITY
DISTRICT

SCHEDULE4: TERM REPAIRS SUBJECT TO APPROVAL OF QUOTATION OF THE WORKS

ITEM Nr.	PAYMENT REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
4,1	C3.1A	LABOUR RATES APPLICABLE TO UN-SCHEDULED WORK: Labour rates that Contractor will charge for additional adhoc work that is not contained in Schedules 1 to 3.				
4.1.1		Electrical Maintenance Supervisor	Hr	300	R	R
4.1.2		Artisan (Trade Tested)	Hr	792	R	R
4.1.3		Artisan Aid	Hr	792	R	R
4,2	C3.1A	TRAVELLING : Travelling cost will be as per the rates for reimbursable expenses published monthly by the National Department of Public Works at the time of rendering the service/repair. (To be paid on proven cost)				
4.2.1		Vehicle Travelling Estimate	Km	95 040	R	R
4,3	C3.1A	ACCOMMODATION AND SUBSISTENCE : Daily Rates per person that the Contractor will claim for approved trips lasting more than one day at a time. (To be paid on proven cost)				
4.3.1		Accommodation	Per/night	60	R	R
		HOSPITALS AND CHC'S				
4,4	C3.1A	PROVISION TO COVER REPAIRS DURING THE TERM OF THE CONTRACT : Lump Sum Provision to cover repairs and breakdowns during the course of the Contract in addition to the agreed routine servicing of the Assets.	PSum	1	R 2 000 000,00	R 2 000 000,00
4.4.1	C3.1A	DIRECT FEE PERCENTAGE (MARK-UP) ON MATERIALS AND SERVICES THAT IS NOT INCLUDED IN PRICE LISTS : Mark-up on proven cost for materials and/or Outsourced Services based on the Provisional sum listed in Item 4.4 above. (Apply % to provisional sum in Item 4 above when pricing the tender)	%	%	R	R
		CLINICS				
4.6	C3.1A	PROVISION TO COVER REPAIRS DURING THE TERM OF THE CONTRACT (CLINICS) : Lump Sum Provision to cover repairs and breakdowns during the course of the Contract in addition to the agreed routine servicing of the Assets.	PSum	1	R 2 000 000,00	R 2 000 000,00
4.6.1	C3.1A	DIRECT FEE PERCENTAGE (MARK-UP) ON MATERIALS AND SERVICES	%	%	R	R

		THAT IS NOT INCLUDED IN PRICE LISTS : Mark-up on proven cost for materials and/or Outsourced Services based on the Provisional sum listed in Item 4.4 above. (Apply % to provisional sum in Item 4 above when pricing the tender)				
TOTAL CARRIED FORWARD TO SUMMARY						R

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

DECLARATION (In respect of completeness of Tender)

Department of Health
Eastern Cape Department of Health Global Life Centre
c/o R63 and Phalo Avenue
Bhisho

I/We, the undersigned, do hereby declare that these are the properly priced Schedules of Quantities forming Part C2.2 of this Contract Document, upon which my/our tender for **TENDER NO.:**
SCHEDULE MAINTENANCE OF LOW VOLTAGE FACILITIES-BUFFALO CITY DISTRICT – HEALTH FACILITIES

has been based.

SIGNED ON BEHALF OF TENDERER:

DATE:

PART C3: SCOPE OF WORKS

C3.1: SCOPE OF WORKS

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

1. EXTENT OF THE WORK

The electrical installations in the health facilities in the Buffalo City District as listed under item 2 of C4.1 Site Information on this document must be repaired and maintained over a period of 36 months. This contract will exclude all health facility/CHC's fixed appliances/equipment such as laundry equipment, kitchen equipment etc.

Maintenance to electrical installations in clinics will be included in the contract. The appointed contractor will be issued with a task order to conduct a detailed inspection of the Electrical installation at the clinics within the O.R Tambo district, produce the repair list and a quotation to carry out the required repair work

The contract comprises the following:

- Detail inspection and provision of a repair list.
- Maintenance of low voltage panels, (Main LV Panel and sub distribution boards and distribution kiosks
 - Service DB's, trace circuits, make wires neat and safe, provide blank covers, labelling, testing then issue COC's.
 - Install legend cards
 - Replace obsolete or non-compliant switch gears
 - Trenching, installing of cable sleeves and mark cable routes
- Repair / replace non-operational light fittings and photocells.
- Repair / replace non-operational light fittings with equivalent LED fittings.
- Replacement of faulty / damaged lamps.
- Replace faulty / aged socket outlets and switches
- Replace damaged wires and cables.
- Make safe all exposed wires, provide wireways and blank covers where necessary
- Replacement of elements for heaters.
- Replace non-compliant cable joints and terminations
- Provide as built single line diagrams for each LV panel, distribution board and distribution kiosk.
- Existing lightning protection on the buildings to be checked, repaired where necessary, tested and COC issued as per SANS 62305
- Testing and repairs to the Theatre Isolated Supply system (Isoloc) – Contractor to use the services of a masyter electrician for this type of work
- Testing and repairs to the UPS systems.
- Repair faulty nurse call systems

Specialist scope of works: the electronic systems in the following facilities must be repaired and maintained over a period of 36 months

- Nursing Call Systems
- Photo Voltaic System
- CCTV system
- Public Announcement System (PA)
- UPS installation
- Access Control

2. ORDER OF THE WORKS

Repair and maintenance work must be carried out at every health facility building in the following three phases.

- A)** Contractor will carry out a detailed inspection and testing of the LV installation, produce a repair list to be carried out, provide the associated cost based on the rates submitted on the BOQ at tender stage. For non-scheduled items, the contractor will be required to produce a quote for clearing them for review and approval by the engineer.
- B)** Call Outs-Contractor will be dispatched to site, assess the problem, communicate back to the engineer for instruction on the remedial work.

Emergency Work

Fixing of existing installations where injury to a person or damage to property are involved. All facilities must be checked and emergency work done.

Repair Phase

The electrical installation at every building at each facility to be repaired must be checked, repaired and COC issued.

Maintenance Phase

After completion of repair works the contractor shall react on requests for repair work at the institutions. A routine inspection of the electrical installation shall be done monthly as per SANS 10142.

3. BUILDINGS OCCUPIED

The whole maintenance contract is to be executed inside occupied buildings or on electrical services in use.

4. ACCESS

This contract consists of maintenance work to Department of Health facilities in BUFFALO CITY and surrounding areas. Access to some of the facilities will require a four-wheel drive vehicle especially clinics.

5. USE OF MATERIALS MANUFACTURED IN THE EASTERN CAPE PROVINCE

Preference shall be given to materials produced or manufactured within the boundaries of the Eastern Cape Province provided that:

- a) Materials comply on all respects with the requirements of the SABS Specifications.
- b) Availability will not hinder the progress of Works.
- c) The price of such materials is competitive with those elsewhere available of the same specification.
- d) The representative/agent to have final jurisdiction with regard to the decision on local materials.
- e) No additional costs will be claimed for the use of such materials.

6. CREATION OF EMPLOYMENT OPPORTUNITIES

It is an express condition of Contract that only local labour may be employed on the contract. Provided that adequate labour is not available from the area, other labour may be employed subject to satisfactory proof being provided that every effort was made to employ local residents. The Contractor shall in general maximize the involvement of local communities.

7. PRE-COMMENCEMENT DOCUMENTATION / SITE ESTABLISHMENT REQUIREMENTS

Site handover will not be affected until the following are in place:

- Surety as per the conditions of contract
- Insurance in place for persons and property as per the Conditions of Contract.
- Approval of the Health and Safety Plan as required in terms of Regulation 5. (1) of the Construction Regulations, 2003 issued under the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)

The above confirmation is to be provided within 21 (Twenty-one) days of being requested to do so in writing by the Representative / Agent. If the Contractor fails to provide the necessary information within seven days thereafter, the Representative / Agent will be entitled to withdraw the appointment of the Contractor and to proceed with the appointment of another tenderer to execute the contract. No claims for loss of profit due to the Contractor's failure to comply with the provision of the above information will be entertained.

Details of the work required shall be as listed in the Price Lists as per bill of quantities.

C3.1a: SPECIFICATION FOR ELECTRICAL WORKS - INSTALLATION DETAILS

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

Note: The Contractor shall be entirely responsible for referencing all relevant standard specifications of the DPWI, SANS or other applicable published standard whether such standard is referenced in this document or not and ensuring compliance of the Engineering Works therewith. The references in this document to standard specifications shall not be construed as limiting, and are given merely as a guide for basic reference. Where SABS is stated, the applicable SANS shall apply



PART 1

SPECIFICATION

FOR

ELECTRICAL WORK

INSTALLATION DETAILS

PART 1: INSTALLATION DETAILS

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PART 1 - SPECIFICATION FOR ELECTRICAL WORK

1.1 COMPLIANCE WITH REGULATIONS

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

- The latest issue of SANS 10142 10142: "Code of Practice for the Wiring of Premises",
- The Occupational Health and Safety Act, 1993 (Act 85 of 1993) as amended,

1.2 TYPE OF CONTRACT

The successful tenderer shall enter into a Direct Contract with the Department of Health in Bhisho.

1.3 CONTRACT WORK

The contractor shall be responsible for the entire contract in terms of the law and as per the contract documents.

The contractor shall on a permanent basis provide a registered electrician/s and personnel to carry out any emergency repair work on a 24hour basis including weekends and public holidays.

1.4 VALUE ADDED TAX (VAT)

The total tender price must include VAT. All rates, provisional sums, etc. in the Contract must be nett with VAT calculated and added to the total value thereof.

1.5 CONTRACT PRICE ADJUSTMENT PROVISIONS

Quoted Schedule of Quantities unit rates will be adjusted every 12 months for the duration of the contract. **For the first 12 months from the tender date, all unit rates as quoted in the Schedule of Quantities will be fixed and will form the basis of future adjustments.**

For each subsequent 12 months period the Schedule of Quantities rates will be adjusted in accordance with the Steel and Engineering Industries Federation of South Africa (SEIFSA) prices and index pages. The new rates will be valid for the following 12 months.

The contractor shall submit with his tender my information related to price increases not currently (covered by the Contract Price Adjustment Formulas. e.g. copper, aluminium, steel prices) plus exchange rates for equipment forming part of the contract. The Department will remunerate the contractor for the proven cost difference between tender and purchase price. For this purpose, the contractor shall submit proof of supplier prices quoted to the TENDERER at tender stage as well as supplier prices quoted at purchase stage.

1.6 PREFERENCE

In case of any contradiction between this section of the specification and other sections, preference will be given to this part of the specification.

1.7 SERVICE CONDITIONS

All plant shall be designed for the climatic conditions appertaining to the service conditions of the hospital where repair work is required.

1.8 NOTICES

The contractor shall issue all notices and make the necessary arrangements with Supply Authority and the respective health facility's management.

1.9 DAMAGE TO PROPERTY AND MAKING GOOD

The successful tenderer will be responsible for making good in all trades of any damage to buildings or other services that he or his employees may have incurred during the construction of the works.

The contractor shall take adequate precautions to prevent damage to buildings, to fittings and furnishing inside the premises and elsewhere on the site.

The contractor will be held responsible for damage to any existing services brought to his attention by the relevant authorities and will be responsible for the cost of repairs.

The contractor will be responsible for keeping the site and buildings clean and tidy and shall remove from the site all rubble and litter resulting from the construction work.

1.10 MAINTENANCE OF ELECTRICAL SUPPLY

The whole contract is to be executed inside occupied buildings or on electrical services in use.

All interruptions of the electrical supply that may be necessary for the safe execution of the work will be subject to prior arrangement by the contractor between himself, the User Department and the Department's Representative. Any damage or cost caused by the uncontrolled, negligent or failure to co-ordinate switching of power shall be at the full cost of the contractor.

1.11 SUPERVISION AND STAFF COMPOSITION

A single representative of the contractor **with extensive electrical and administrative experience** shall be identified to manage the contract. This representative shall take instructions from the Employer's representative and manage all technical and administrative issues of the entire contract.

The work shall at all times, for the duration of the contract be executed by or under the **direct supervision of a qualified registered electrician** of the contractor, who will be able and authorized to receive and carry out instructions by the Employer's Representative on behalf of the contractor. **A certified copy of the certificates of registration must be submitted with the tender as per annexure B2.** A sufficient number of qualified experienced workmen shall be employed at all times to ensure satisfactory progress of the work.

This project will consist of repair work and after that maintenance of the existing electrical installation and variations will occur.

1.12 EXTENT OF WORK

The work consists of the repair of the existing electrical low voltage installation of the facility as well as maintenance thereof for a total period of 36 months. Repair and maintenance of the electrical installation shall terminate at the low voltage outlet point and will include specialist installations (as stated elsewhere in the document) but will exclude any other health facility equipment. The facilities that will be included in the contract are as indicated under item C4 – Site Information.

As part of the repair stage local facility electrical maintenance staff shall be trained. The contractor will also have a Departmental trainee per team (for the training period) under his supervision for the duration of the repair phase of the project.

New or upgraded buildings under construction or under guarantee will be excluded from this contract until the guarantee period has expired and the facility officially handed over to the User Department. The Engineer must confirm the expiry of the guarantee in writing before any electrical maintenance work is carried out on buildings, facilities or services under guarantee.

No health facility's fixed appliances/equipment e.g. medical, laundry, kitchen, X-ray, generator, etc. will form part of this contract. The facility telephone installation or Telkom telephone installation shall not form part of this contract.

It is a specific condition of this contract that all new work, **additions or upgrading of any nature whatsoever** are excluded from this contract. Work undertaken under this tender comprises replacement and/or repairs of existing components only. Replacement of equipment to make them reliable and maintainable will not be regarded as upgrading **but must be confirmed with the Engineer in advance.**

Replacements may be done with modern equivalents if the original equipment is no longer supported. Changes in order to bring the existing installation in line with the new Wiring Code SANS 10142-1 will be included in this contract.

The Employer retains the right to instruct the contractor through the Engineer to carry out additional or upgrading work. If circumstances require it, the contractor will be allowed to make use of specialist contractors to assist with specialised work. Approval for this must be obtained in writing in advance from the Engineer.

Basic as built information drawings for some of the facilities will be issued to the contractor to confirm and complete where available. As built drawings for the bulk of the work to be carried out are not available and will have to be compiled as part of the contract.

The contractor shall as part of the **Initial Emergency Repair Work stage** confirm if standby power is available at the following facilities and report to the engineer:

- Maternity ward, burns unit, isolation ward, kitchen lights, escape routes, equipment for medical gas and compressor, sterilization in theatre, sterilization in CSSD, fire detection system, refrigeration in kitchen, selected lifts, automatic sliding doors.

The contractor must supply all expendable material such as oil, grease and cleaning material necessary for the proper execution of maintenance, servicing and repair work.

Should the contractor be uncertain about the scope of any work to be executed under this contract, the Engineer must be immediately contacted to clarify its instructions.

The following constitutes the scope of work to be carried out by the contractor:

LV Electrical Infrastructure: Inspect, test, repair or replace, make safe, and maintain the health facility's LV electrical infrastructure or installation for all existing health care buildings within the facility.

Distribution Boards: Inspect, test, tidy (where required), make safe (where required), label (where required), and maintain all distribution boards (main and sub-DBs). Issue Certificates of Compliance (CoCs) for all existing distribution boards with new additional installations and/or existing DBs without CoCs.

Light Fittings and Switches: Inspect, test, repair, replace and maintain all existing light fittings, light switches and socket outlets (SSOs), both normal and dedicated supply

UPS Units: Inspect, test, repair and maintain existing UPS units, test and maintain existing batteries. Purchase, deliver to site, and install new batteries where required with approval from the department and Engineer.

Fixed Heaters: Inspect, test, repair and maintain existing fixed heater units. Purchase, deliver to site, and replace broken space heater units with new infrared element heaters where required with approval from the department and Engineer.

Exterior Lighting: Inspect, test, repair or replace, and maintain all exterior lighting (photocells, streetlights, and area lights) where required, e.g., new streetlights where existing ones were removed or damaged. Inspect all streetlight poles for damages, repair or replace with new street light poles. For standardization, submit a report to the Department and Engineer for approval.

Generators: For the generator, ensure that the earthing is done properly, the cables are terminated properly and the automatic change over panel (where applicable) is installed

Light Fitting Replacements: Inspect, test, repair or replace, and maintain all interior light fittings. All new light fitting replacements shall be SABS approved LED fittings and shall be equivalent to the existing fittings as per table 1.51 (Alternative LED light fittings).

Switches and Socket Outlets: Inspect, test, repair or replace, and maintain all light switches, switch socket outlets (normal, dedicated etc.) All new light switches, normal switch socket outlets, and dedicated socket outlets shall be SABS approved.

Lightning Protection: Inspect and repair the existing lightning protection installation and ensure it is compliant with SANS 62305. Repair or replace and maintain lightning protection for all buildings and issue a COC.

Nurse call System:

- Assess the Nurse Call system and provide a repair list to the ECDOH and Engineer if required.
- Repair/Replace faulty pillow speakers, call buttons, pull cords, alarm devices, control stations, and call lights
- For any needed upgrade, permission ought to be obtained from the ECDOH through its appointed electrical engineer before that is implemented
- Maintain the Nurse Call System regularly for the duration of the contract twice a year and provide a service report and a certificate of inspection to the ECDOH appointed Engineer.

Access Control System

- Assess the installation and provide a repair list to the ECDOH and its appointed Engineer if required.
- Repair/replace damaged components (biometrics, keypad, card and/or RFID readers, magnetic locks and/or electric strikes, monitor(s) and PC tower with access control software installed
- Rewiring of installation where necessary
- Regular maintenance of access control system for the duration of the contract twice a year and provide a service report and a certificate of inspection to the ECDOH appointed Engineer.

CCTV System

- Assess the installation and provide a repair list to the ECDOH and its appointed Engineer if required.
- Update the operating software with the latest software if the current is obsolete in relation to the developments with the installed technology.
- Repair/Replace damaged components
- Regular maintenance of CCTV system for the duration of the contract twice a year and provide a service report and a certificate of inspection to the ECDOH appointed Engineer.

Public Address System

- Assess the installation and provide repair schedule for approval to the ECDOH and its Engineer if required
- Replace faulty or non-functional speakers to ensure consistent audio coverage
- Repair or replace damaged cabling and connectors, including rewiring
- Repair or replace amplifiers and mixers
- Replace non-working microphones
- Repair or replace control panels and user interfaces
- Regular maintenance of the PA system for the duration of the contract twice a year and provide a service report and a certificate of inspection to the ECDOH appointed Engineer

PV System

- Assess the installation and provide a repair list to the ECDOH and its appointed Engineer
- Repair/Replace damaged components
- Regular maintenance of the PV system for the duration of the contract once a year and provide a service report and a certificate of inspection to the ECDOH appointed Engineer

Regular Maintenance: Adhere to manufacturer regular maintenance instructions for all electrical and electronic machinery for the duration of the contract.

1.13.1 CLINICS

Maintenance of clinics shall form part of this contract.

Contractor will be issued with a task order to carry out detailed inspection of the electrical installation at the clinic and develop the repair list and quote for the work required to clear the repair list and produce COC for the clinic. Normal maintenance period for the remainder of the 36 months will proceed.

1.13 EXECUTION OF SERVICE

A Problem Report Form or written request will be issued to the contractor by the Department or User Department to attend to a problem. The contractor must determine the urgency of the requirement before responding to the call. For this purpose, the callouts will be classified as follows:

An Emergency:

Where injury to a person or damage to property is involved or a strong possibility for it, loss of power to a portion of an institution or building, or a total power failure not attributable to a supply authority power failure. Such an emergency shall not in any way be neglected and must be attended to with minimum delay and in any event the contractor must respond to, evaluate the problem and report back to the user department and engineer within **1 (one) hour** of receipt of the call or Problem Report Form (plus travelling time from Bhisho to the facility if a site visit is required). The contractor will address such faults monthly after a routine inspection is conducted and faulty equipment will be repaired as such or will be addressed if the client issues a task order to address it. The Task order will be issued on the problem report form and the work will be regarded as an emergency work. **A penalty of R500.00 per hour (excl. VAT) shall be imposed on the contractor for every hour that the 1-hour limit is exceeded.**

Day-to-day Repair/Replacement:

Faulty plug circuit/outlets causing loss of production. Defective lights or light circuits causing disruption of office routine, or small power losses of a similar nature. The day-to-day repair /replacement work shall **exclude** the day-to-day maintenance work for which the local health facility maintenance personnel were trained and are responsible for e.g. replacement of lamps, starters, socket outlets, etc. These requirements are to be attended to within **24 hours**. **A penalty of R200.00 per hour (excl. VAT) shall be imposed on the contractor for every hour that the 24-hour limit is exceeded.**

Routine Inspection:

Twice a year, the full installation on site will be visually inspected and tests done as per the Certificate of Compliance requirements detailed in SANS 10142-1. An inspection report will be submitted by the contractor upon completion of the inspection and signed off by the client.

Over and above the penalty as stated above, if the contractor fails to respond within the time limits as stated above and in clause 1.15 "WORK SEQUENCE", the Department will have the right to appoint any other contractor to do the work. The additional costs, if any, for such work by another contractor will be for the account of the contractor.

1.14 WORK SEQUENCE

The work will always be coordinated with the User Department and Departmental Representative (ECDOH inspector and engineer's representative).

Site visits will be carried out at any stage by the Engineer throughout the contract to check quality of work, completed work, material and labour claims, etc.

The project will be carried out in specific phases as follows. The phases will overlap:

Initial Emergency Repair Work.

The contractor shall visit each facility on each site, inspect the installation in total and determine emergency repair items. Repair of these items will be coordinated with the Engineer for confirmation and approval. All emergency repair items shall be identified individually per facility. A repair/claim number per emergency repair item shall be issued by the Engineer with completion date issued by the contractor. Materials for the work will be ordered and work carried out as a matter of urgency to meet the completion date submitted. **A penalty of R500.00 per day (excl. VAT) shall be imposed on the contractor for every day that exceeds the agreed period to complete the repair task.**

See "Maintenance Work" phase below for arrangement for payments.

Thorough Inspection, Installation Check and Repair Work. (Complete within *twelve (12)* months from site hand over - this period is fixed. **See penalty clause below**)

This phase will be treated, as a normal 'building' contract and the contractor shall until completion of this phase have two permanent teams daily on site.

During this phase the contractor will train the local hospital staff responsible for the electrical maintenance of the hospital as well as Departmental trainees. See "TRAINING OF HEALTH FACILITY OPERATING STAFF AND DEPARTMENTAL TRAINEES" clause.

The contractor shall spend time on site to inspect and check every electrical outlet point on site. Where existing electrical installation drawings are not available and issued, an as built (hand sketch) of the existing electrical installation indicating electrical reticulation (cable routes etc.) as far as possible, each light outlet, switch, socket outlet, power point etc. complete with circuit switching and complete distribution board information shall be **compiled per building** and submitted to the Engineer. If existing switchboard and circuit numbering is practical the particular system will be re-used and outlet points numbered accordingly. During this inspection all repair items shall be listed per building or identifiable portion of a building with reference to an equipment number on the as built drawing and submitted to the Engineer. If the work is adequate, a repair/claim number with completion date shall be issued or repairs on some buildings combined for one repair/claim number (coordinated between contractor and Engineer). Materials for the work will be ordered and work carried out as a matter of urgency to meet the completion date submitted. **A penalty of 1c/R100 of the contract value (excl. VAT) shall be imposed on the contractor for every day that the 12-month period is exceeded.**

On completion of repair work on a building or piece of work, a Certificate of Compliance shall be issued, by the contractor for that building or repair work. A Certificate of Compliance will also be issued for the electrical reticulation installation. **Without a COC only 70 % of the amount payable and due to the contractor for work completed will be made.**

Maintenance Work. (For 36 months excluding the period when repair work is done at the facility)

Before and on completion of the Repair Work phase at a health facility, the designated/authorized official of the health facility will request repair work by submitting a Problem Report Form to the contractor and Engineer. A repair/claim number with completion date shall be issued for repair work done as requested on a Problem Report Form and approved by the Engineer.

Preference shall be given to carry out maintenance work requested by the health facility during a Routine Inspection. This must however be confirmed with the engineer.

The contractor will carry out maintenance work as described under the headings "EXECUTION OF SERVICE", "OFFICIAL ORDER FORM", "EMERGENCY SERVICES", "PROBLEM REPORT FORMS AND JOB CARDS", "ACCOUNTS", "SUBMISSION OF INVOICES" and "PAYMENT".

For the maintenance period it is anticipated that the contractor will not need a permanent site store. If preferred by the contractor, he can dedicate a lockable secure store in a security area at his premises for storage of materials for this project. During the maintenance period limited material stock for maintenance purposes will be kept with a tight controlled advanced payment for materials on site during the maintenance phase.

Routine Inspection.

Routine inspection shall be carried out twice a year for the duration of the contract.

This work will form part of the Maintenance Work phase. A repair/claim number shall be issued for routine inspections carried out at a health facility.

On completion of the contract a Certificate of Compliance shall be issued for every building as well as the electrical reticulation installation.

1.15 OFFICIAL ORDER FORM

An official Works Order Number for this contract will be issued to the contractor by the Department.

Part payments will be made during all phases in accordance with individual repair/claims submitted for payment.

Only officials of the Department of Health or its official Representative for the project may commission

services to the contractor after confirmation with the Engineer. For each such service a **repair/claim number** with brief description shall be issued in writing to the contractor (faxed/e-mailed) by the Engineer's office.

No payments will be made for work executed without the necessary written authority.

1.16 **EMERGENCY SERVICES**

Emergency services after hours may be executed without receipt of an official repair/claim number and solely on the request of a designated/authorized official of a User Department. The contractor must however ensure that the designated/authorized official of the User Department sign the **Problem Report Form and Job Card on arrival on site as well as the Job Card on completion of the job**. The contractor must also ensure that he obtains the official repair/claim number from the Engineer's office on the following working day. No payment will be made for any emergency callout without a repair/claim number plus the required signatures on the Problem Report Form and Job Card.

1.17 **PROBLEM REPORT FORMS AND JOB CARDS**

A problem at any institution shall be brought to the attention of the contractor by means of a Problem Report Form (in accordance with the example included herein) faxed or handed to the contractor and engineer by the authorized official of the institution or his delegated official. The contractor shall be responsible to make printed Problem Report Forms, in the form of a 50-page duplicate book (perforated), available to each institution for the duration of the contract.

The contractor shall issue a Job Card for every individual reported repair/claim. The contractor must provide his own supply of Job Cards in accordance with the example included herein.

On receipt of the Problem Report Form from the institution, the contractor shall complete up to the end of item 1 on the Job Card and fax this information to the Engineer's office and authorized official of the institution as confirmation of receipt of the service required, the type of service e.g. routine/day to day etc. as well as the program for this service (completion date). If needed the Engineer will be at liberty to change the completion date in collaboration with the contractor.

On completion of the service on site the designated/authorized representative of the User Department (health facility, etc.) or the Department's Representative must sign the Job Card confirming satisfactory completion.

The Job Card must be completed legibly in ink after completion of each service and attached to the payment claim for each individual service.

1.18 **LOGBOOK**

The contractor will provide an electrical inspection logbook for every site. Every site visit of the contractor shall be logged providing the date, description of work done, time of arrival and time of departure. During the repair stage the logbook will be completed on the arrival and departure dates.

1.19 **AS BUILT DRAWINGS, SINGLE LINE DIAGRAM AND REPAIR/MAINTENANCE LIST**

Where existing electrical installation drawings are not available and issued, the contractor shall spend time on site to inspect and check every electrical distribution boards/ LV panels and distribution kiosks on site. **A qualified electrician will compile LV Single line diagram for the inspected installations.** The following as built information must be provided in a legible hand sketch format and must bear signature/stamp and date of the contractor producing it.

- For each building an as built of the existing building in relation to other buildings.
- The route and size of all supply cables with relation to other buildings as far as possible (including dimensions).
- For each building a complete set of distribution board drawings with switchgear type, size, make, switching, etc. information.
- A site drawing indicating positions of cables, overhead lines (pole positions), distribution kiosks, area and street light fittings etc.
- For each distribution kiosk a drawing with switchgear type, size, make, switching etc. information including streetlight control.

The above information shall be compiled and submitted to the Engineer. The office of the Engineer will compile as built drawings from information submitted by the contractor. The contractor will confirm the as built drawing information from the Engineer in writing.

Existing as built information submitted to the contractor shall be confirmed on site and all changes submitted to the engineer who will change and re-issue the drawings to the contractor.

The cost for gathering, submission and checking of site reticulation information e.g. cable routes, distribution boards, area and street light positions, distribution kiosk information etc. shall be included in the outlet point rates allowed for in the buildings.

The cost of compiling a repair or maintenance list, including splitting the particular list up in scheduled and non-scheduled items in terms of the Schedule of Quantities (on the payment claim) for submission and approval by the Engineer on a payment claim, shall be included in the tendered rate for labour of every item.

1.20 TRAVELLING COSTS

NOTE:

Contractor must determine central office location and be in a position to respond within 1 hour after being called out.

The site shall mean the site/building where the work is to be executed, or when different services are carried out on the same day in different areas, a travelling schedule must be submitted with transport costs specifying actual distances travelled separately

The tenderer shall allow for anticipated travelling for this project as follows:

Monthly meetings, supervision and site inspections.

The tenderer shall allow for traveling to and from site for monthly site meetings (28 days), supervision and site inspections (14 days) in the Preliminary and General item. Meetings will be held in East London. Site inspections will be rotated between facilities.

Normal transport cost for staff, obtaining material etc.

The tenderer shall allow for normal travelling cost for staff, obtaining material etc. in the Preliminary and General item.

Travelling during the "Initial Emergency Repair Work" phase.

The contractor will be paid per km as authorized with the submission and confirmation of the Job Card. Labour time of workers and the driver travelling in the vehicle are to be **INCLUDED** in the transport rate per km.

Travelling during the "Thorough Inspection, Installation Check and Repair Work" phase.

The contractor will be paid per km as authorized with the submission and confirmation of the Job Card. **A maximum of three trips per week will be paid.** Additional trips shall be specially authorized in advance. Labour time of workers and the driver travelling in the vehicle shall be **INCLUDED** in the transport rate per km.

Travelling during the "Maintenance" phase.

Normal time: The contractor will be paid per km as authorized with the submission and confirmation of the Job Card. Labour time of workers and the driver travelling in the vehicle shall be **INCLUDED** in the transport rate per km.

After hours: The contractor will be paid per km as authorized with the submission and confirmation of the Job Card. Labour time of workers and the driver travelling in the vehicle plus overtime as per law are to be **INCLUDED** in the transport rate per km.

Travelling for "Routine inspection and maintenance".

The contractor will be paid per km as authorized with the submission and confirmation of the Job Card. Labour time of workers and the driver travelling in the vehicle are to be **INCLUDED** in the transport rate per km.

The tenderer shall allow in the transport rate in the schedule of Quantities for time spent on site on arrival to identify and define the repair or maintenance work to be carried out.

Travelling cost claimed on Job Cards will be checked and the Department's Representative is at liberty to change the claim in consultation with the contractor.

The claim must be accompanied by a detailed travelling log sheet that details the travelling information for each maintenance/repair at each health facility.

1.21 WORK ON A TIME BASIS

Functional Condition assessment phase:

The contractor will carry out the following activities in line with the BOQ;

The contractor will perform functional condition assessment which encompasses the detailed inspection and testing of all the buildings at each of the health facilities covered by the contract and listed under the site information section of this document. This activity will be undertaken preceded by the issue of a task order to do so by the engineer. This detailed inspection will be on the Low Voltage electrical installation and the specialist equipment in each of the health facilities. The key deliverable will be the detailed assessment report containing the details of the faults found and recommended repair list. Further, for the specialist equipment, an operations and maintenance manual will be produced per facility.

The contractor will be remunerated on a time basis as reflected on the BOQ.

Fault Repair Phase:

The contractor will, upon approval of the quotation to implement the findings of the detailed functional condition assessment, carry out those recommendations and issue a COC for each facility. This will be preceded by the issuance of a task order for the contractor to proceed.

The contractor will be remunerated in accordance with approved rates contained in schedule 2 of the BOQ.

Maintenance Phase

During this phase, the contractor will carry out scheduled inspections in accordance with the specified schedule. The contractor will then have to prepare faults to rectify with quotation associated to them for approval by the engineer.

The contractor will also be dispatched to attend to a fault reported by the end user to the call center.

In both cases, a works order will be issued to the contractor to execute such tasks and will be remunerated on a proven cost basis in accordance with the approved rates as they appear on the tendered BOQ.

The contractor should take cognizance of the requirement that as a minimum, requisition and delivery notes for material used shall be submitted with the claim in addition to the task order against which the task was carried out for their payment to be processed.

The contractor will not be remunerated for any unauthorized work or authorised work the contractor can not produce supporting documentation

1.22 NON-SCHEDULED ITEMS FORMING PART OF THE CONTRACT

Work shall be carried out at tendered scheduled rates however due to the nature of the contract, on request by the Department or his representative, repair/maintenance work by specialist contractors or in other disciplines or ordering of non-scheduled material will be required on the contract. The electrical contractor

will assist with such non-scheduled repair/maintenance work or purchasing of material. Purchasing of non-scheduled items shall be based on a three-quotation basis.

The engineer assisted by the contractor shall define non-scheduled items in order to obtain fair quotations.

Assistance shall include negotiations with the engineer, specialist contractors or suppliers, submission of information to the engineer and specialist contractors, getting three quotations, checking and confirmation of designs from the specialist contractor - e.g. board layouts in accordance with the specification, suitability to existing installations e.g. access through doors, position on site, etc, submission to the engineer for approval **as well as interim payment to the specialist contractor**. Non-scheduled items shall be treated the same as purchasing of material by the contractor who shall be fully responsible for the purchasing and interim payment of the service and/or material (within 30 days).

The electrical contractor shall be remunerated for the direct cost (proof submitted) plus a percentage of the value of the direct cost of the non-scheduled service/material including delivery to site if required. Alternatively, three quotes will be required for transport of equipment to site. Transport and off-loading (if required), installation, testing and commissioning shall be remunerated at tendered scheduled rates.

Allowances are made for non-scheduled items in the Schedule of Quantities.

1.23 TRAINING OF HOSPITAL OPERATING STAFF, DEPARTMENTAL TRAINEES AND INTERNS

Training of health facility staff responsible for electrical operation and maintenance at the health facility as well as Departmental trainees shall form part of the repair stage of this contract.

The staff responsible for electrical operation and maintenance at the health facility shall carry out work with the repair crew of the contractor during the repair stage. The contractor shall undertake to train the employer's operating staff to be fully competent in the operation of the electrical installation as well as new equipment installed during the contract. The authority and experience of the maintenance personnel on site shall determine the level of training. All items included in the training and for which the local maintenance personnel take responsibility will be excluded from the day-to-day maintenance of the contractor e.g. replacement of lamps, etc. The contractor shall take full responsibility for the safety of personnel during training and for the quality of work produced by such personnel under his supervision. **The tenderer shall allow for training of hospital staff in the unit rates tendered for.**

The contractor will be responsible for the training of Departmental trainees during their practical training period. One trainee per contractor's team working shall be accommodated for the duration of the repair phase of the contract (12 months). The contractor will provide three sets of tools as follows:

- Three tear metal toolbox
- Combination spanner set 6mm - 24mm Screwdriver set- Electrician 7 piece
- Pliers set - 3 off - pliers, side cutter, long nose Hammer ball / pein 500g
- Pliers - water pump 300mm
- File set - - flat, round, triangle, flat/round, Vice grip
- Utility knife
- Scriber - two points Engineering Square Hacksaw - frame e.g. Mitco Combination square
- Earth leakage circuit breaker polarity tester
- Digital clamp meter e.g. MAJORTECH 600V MODEL 2017

The trainee will sign for the tools and hand it back to the contractor on completion of his training period. Tools will be controlled by the contractor and carried over from one trainee to the next. At the end of the contract. These tools will be handed over to the ECDOH.

The contractor shall price for the tools in the Schedule of Quantities as well as an amount required to assist with training.

Training of interns (technicians) is a high priority for the department. As part of the intern's qualification, they need to get practical experience. Part of the Practical Experience will form part of this contract where the intern will work with the contractor. The Department will remunerate the contractor on a monthly basis for this service. A provisional amount was allowed for this in the Schedule of Quantities

1.24 PAYMENT CLAIMS

Payment claims based on Job Cards must be submitted to the Engineer's office as the services are completed. These claims will be accumulated in a payment claim for the contractor on a monthly basis (linked to a cutoff date). The contractor shall submit a single VAT invoice for the services rendered for that month based on the approved payment claim and payment conditions of the contract. This VAT invoice of the contractor shall be attached to a payment claim submitted to the Department on a monthly basis by the Engineer. Payment will be made within the period stated in the conditions of contract from the date that the Department receives the claim.

A fully completed and signed Job Card per individual repair/claim must accompany payment claims for services rendered.

The unit rates for items on the payment claim must be cross-referenced with the applicable rates for the item in the Schedule of Quantities by means of the reference number e.g. R2.31 (Schedule 2, Ref. item 31).

As a norm non-scheduled work shall be approved in advance by the engineer and carried out on a three quote basis if similar items are not included in the Schedule of Quantities. However, if a single non-schedule item is required to complete repair work and is approved by the engineer as such, proven cost of non-Schedule items claimed should be attached to the particular payment claim. Non scheduled item prices must be verified by means of invoices or priced lists of suppliers. The amount of such invoices, after deduction of any discount, will be paid to the contractor. If such invoices are not submitted it will not be included in the payment claim. Should the prices of the contractor's supplier be abnormally high, then the Department reserves the right to obtain a written quotation for similar item/s from an independent supplier and the rates of such quotation are applicable.

Unauthorized overtime due to the contractor's failure to complete a service in normal time will not be applicable unless authorized by the Engineer in advance. Over time cost shall be calculated as a percentage of the labour rate per completed item during over time hours.

Overtime rates will only be applicable to emergency services to be completed after hours or where after hours travelling or the completion of the work will save an additional trip to site.

Note: Any errors in the compilation of the payment claim discovered at a later stage, shall be rectified and the over/under payment recovered/paid by the Department in terms of the conditions of contract.

1.25 OLD MATERIALS

In order to avoid theft in general no materials or articles on the health facility site including every piece of rubbish and waste or articles from demolitions shall be given to, sold to, lend to, handed to anybody on site. **All old and new material exiting the site will exit it in the registered vehicle of the contractor only**, who will be in possession of an official signed receipt by the designated stores controller on site authorizing and listing the materials, articles, rubbish, waste etc. to be remove from site. If the contractor fails to submit the receipt when requested, it shall be deemed that the materials or articles are stolen and will be dealt with in terms of the law.

All materials including rubbish and waste or articles from demolitions and rejected by the stores shall become the property of the contractor who will remove it regularly from site in accordance with the security arrangement described above.

The tenderer will allow for credit for old material in the Schedule of Quantities.

None of the old materials are to be used for new work except where specifically being set aside for re-use

1.26 ACCESS CARDS TO SECURITY AREAS

The contractor shall arrange for access cards for his personnel and employees who work within the security area. The contractor must comply with any regulations or instructions issued from time to time, concerning the safety of persons and property, by the health facility authority. The contractor's personnel working on site will have some form of identification e.g. identification card, overall etc.

1.27 SECURITY CHECK ON PERSONNEL

The Department may require the contractor to have his personnel or a certain number of them security classified.

In the event of the Department requesting the removal of a person or persons from the site for security reasons, the contractor shall do so forthwith and the contractor shall thereafter ensure that such person or persons are denied access to the site.

1.28 BALANCING OF LOAD

The Electrical contractor is required to balance the load as equally as possible over the multiphase supply.

1.29 SUPPLY OF MATERIALS

The Department reserves the right to supply any item of the material or equipment required for this service. The contractor shall take delivery and install such material or equipment.

1.30 ELECTRICAL EQUIPMENT

All equipment and fittings supplied must be in accordance with the attached specification (Part 2 of this document), suitable for the relevant supply voltage, and frequency and must be approved by the Department's Representative.

All equipment shall be in accordance with the standard electrical specification for health facilities available from the Department of Public works website.

Replacement parts, spares and materials used must be of equal or better specification to the component that is being replaced and must where possible carry the SABS mark of approval. If such equivalent component is not available, then the Department's Representative must approve the alternative component prior to installation.

Where applicable the serial numbers of original and new components or appliances shall be entered on Job Cards and invoices with the guarantee cards attached to Job Cards presented for payment.

1.31 DRAWINGS

No "as built" drawing, except where indicates is available for any of the facilities forming part of this contract. The contractor will inspect and provide as built drawings of each building to be repaired and maintained.

1.32 CABLE SLEEVE PIPES

Where cables cross under roadways, other services and where cables enter buildings, the cables shall be installed in PVC sleeves.

The ends of all sleeves shall be sealed with a non-hardening watertight compound after the installation of cables. All sleeves intended for future use shall likewise be sealed.

1.33 CABLES

1.34.1 GENERAL

The positions and sizes of existing cables on site are not known and will have to be traced by the contractor.

Tenderer must base their tender on the amounts of cable, including earth conductors, as indicated in the Schedule of Quantities. During the course of the work the actual lengths will be measured on site and adjustments will be made according to the price per meter length as inserted by the tenderer for the particular cable size concerned.

Cable routes shall as far as possible not cross big open spaces (in case of future development) and shall be installed parallel to or at 90° with existing fixed structures in order that the cable position could be determined in future. The distances between cable positions and fixed structures shall be indicated on the as built drawings.

1.34.2 EXCAVATION AND BACK-FILLING

Tenderer must base their cost for trenching in earth; soft rock and hard rock on the total quantities as indicated in the Schedule of Quantities. The actual quantities, based on the dimensions as specified below for trenches for the applicable number of cables to be laid, will be measured on site during the course of the service and adjustments made according to the price per cubic meter as inserted by the TENDERER. Payment for cable trenching having a greater volume than that specified for the purpose will not be considered except where extra excavations are necessary to by-pass obstacles such as water pipes, drains, large boulders etc. In all such instances the amount of the extra excavations must be agreed upon on site between the Engineer and the contractor. All excavations will be done by hand and existing services must be protected.

Tenderer are to note that:

Hard rock shall mean: Remove by blasting.

Soft rock shall mean:

Remove with pneumatic tools.

Earth shall mean: Remove by hand.

The storage, transportation, handling and laying of the cables shall be according to first class practice, and the contractor shall have adequate and suitable equipment and labour to ensure that no damage is done to cables during such operations.

The cable trenches shall be excavated to a depth of **650 mm** deep below ground level and shall be **300mm** wide for one to three cables, and the width shall be increased where more than three cables are laid together so that the cables may be placed at least two cable diameters apart throughout the run. The bottom of the trench shall be level and clear and the bottom and sides free from rocks or stones liable to cause damage to the cable.

The contractor must take all necessary precautions to prevent the trenching work being in any way a hazard to the personnel and public and to safeguard all structures, roads, sewage works or other property on the site from any risk of subsidence and damage.

In the trenches made in soft and hard rock the cables shall be laid on a 75 mm thick bed of earth and be covered with a 150 mm layer of earth before the trench is filled in.

Laying, jointing and making off of electrical cables

The use of the term "Inspector", includes the engineer or inspector of the Department or an empowered person of the concerned supervising consulting engineer's firm.

No cable is to be laid before the cable trench is approved and the contractor and inspector agree upon the soil qualification of the excavation.

After the cable has been laid and before the cable trench is back filled the inspector must ensure that the cable is properly bedded and that there is no undesirable material included in the bedding layer.

No cable joints will be allowed on the contract however should it under extreme conditions be required to join a cable the following shall apply:

All cable jointing and the making off of the cables must only be carried out by qualified experienced cable jointers. Helpers of the jointers may not saw, strip, cut, solder, etc. The cable and other work undertaken by them must be carried out under the strict and constant supervision of the jointer.

All joints in underground cables and terminations shall be made either by means of compound filled boxes according to the best-established practice by competent cable jointers using first class materials or by means of approved epoxy-resin pressure type jointing kits such as "Scotchcast". Epoxy-resin joints must be made entirely in accordance with the manufacturer's instructions and with materials stipulated in such instructions. Low tension PVC/SWAPVC cables are to be made off with sealing glands and materials designed for this purpose which must be of an approved make. Where cables are terminated the cores shall be fitted with crimping type cable lugs of the correct size for the cable. Cable lugs shall be bolted to

the equipment using the correct size bolt for the hole in the lug and flat and spring washers shall be used.

The cables must be twisted by hand so that the cores can be jointed according to the core color. Where cables are cut and not immediately made off, the ends are to be sealed without delay.

The laying of cables shall not be commenced until the trenches have been inspected and approved. The cable shall be removed from the drum in such a way that no twisting, tension or mechanical damage is caused and must be adequately supported at intervals during the whole operation. Particular care must be exercised where it is necessary to draw cables through pipes and ducts to avoid abrasion, elongation or distortion of any kind. The ends of such pipes and ducts shall be sealed to approval after drawing in of the cables.

Back filling [after 150mm bedding] of the trenches is to be carried out with a proper grading of the material to ensure settling without voids, and the material is to be tamped down after the addition of every 150mm. The surface is to be made good as required.

On each completed section of the laid and jointed cable, the insulation resistance shall be tested to approval with an approved "Megger" type instrument of not less than 500 V for low tension cables.

Earth continuity conductors are to be run with all underground cables constituting part of a low-tension distribution system. Such continuity conductors are to be stranded bare copper of a cross-sectional area equal to at least half that of one live conductor of the cable, but shall not be less than 4 mm² or more than 70 mm². A single earth wire may be used as earth continuity conductor for two or more cables run together, branch earth wires being brazed on where required.

The contractor shall be responsible to determine positions of existing services. If the contractor encounters any existing services such as cables, pipes or sewers during the execution of the works, he must immediately notify the Representative/Agent, halting all work in the vicinity thereof, until instructions to proceed have been given by the Representative/Agent. Electric wires, telephone wires, pipes, etc., shall not be interfered with during the course of the Contract, but should it be necessary to disconnect or cut any such wires or pipes the Representative/Agent shall be advised thereof and his instructions awaited.

1.34.3 CABLE IN ROOF SPACE

Cables installed in roof space shall be installed on light duty galvanised cable tray, tied to the tray with cable ties at intervals not exceeding 1500mm. The light duty cable tray shall be fixed to roof structures at intervals not exceeding 1500mm. Where cables enter or exit through walls the cable shall be sealed off watertight.

1.34 CABLE MARKERS

Cable markers shall consist of concrete blocks in the shape of truncated pyramids, approx. 300 mm high, 150 x 150 mm at the top and 250 x 250 mm at the bottom.

Brass plates shall be cast into the tops of the blocks in such a manner that they cannot be prised loose. The wording "ELECTRIC CABLE " shall be stamped on the brass plates as well as direction arrows and the cable voltage rating.

Cable markers shall be installed on the surface along all the underground routes and shall project 50 mm above normal ground level unless the projected markers could be a hazard to pedestrian or other traffic in which case they shall be installed flush with the surface.

Cable markers shall be installed at the beginning and end of a cable run (e.g. where a cable enters a substation or building), at all changes of direction, above all joints, above cable pipe entries and exits and at intervals not exceeding 50 m along the cable route.

1.35 CONDUIT, CONDUIT ACCESSORIES AND WIRING

1.36.1 CONDUIT AND CONDUIT ACCESSORIES

All exposed and surface conduit and conduit accessories shall be galvanised screwed conduit or galvanised plain end conduit in accordance with SABS 162, 763 and 1007 respectively. Conduit in floor and roof slabs shall be galvanised steel conduit installed in accordance with the supplier's requirements or PVC glued conduit tied to steel etc. at intervals of 1500mm maximum and saddles shall be provided within 150mm of all fittings or terminations.

PVC conduit in accordance with SABS 1950 carrying the SABS mark may be installed in walls and in roof spaces on the condition that it shall be glued to the supplier's specification, saddled at intervals not exceeding 1500mm with galvanised saddles,; screwed to the roof structure with brass screws and saddles shall be provided within 150mm of all fittings for terminations.

Firewalls shall be sealed with mortar around all conduits where they protrude these walls.

All conduit draw boxes shall be galvanised and no PVC, plated or mild steel boxes shall be allowed.

All conduits, regardless of the system employed, shall be installed strictly as described in the applicable paragraphs of clauses 7 to 11 of Part 1 of the specification. **All conduits for all services shall be installed parallel to or at right angles to wooden roof structures** as per the Departmental standard specification. Wiring of the installation shall be carried out as directed in clause 12 of Part 1 of this specification. All conduit will be treated for galvanizing as per the quality specification and painted with two layers of enamel paint in colours matching the building which will be decided on site in collaboration with the Department's Representative. **Only rust proof brass screws and plastic anchors shall be allowed to fix surface conduits. (No Hilti guns).**

NOTE:

Where plain end conduit is offered all switches and light fittings must be supplied with a permanent earth terminal for the connection of the earth wire. Lugs held by switch fixing screws or self-tapping screws will not be acceptable.

Conduit expansion joints shall be provided at all conduit and building expansion joint crossings. The expansion joint shall consist of a conduit sliding in a 300mm long conduit, one size bigger than the conduit run installed, fixed to one side of the expansion joint. Slack on wiring shall be left on both sides of the expansion joint.

Where multiple conduits cross a building expansion joint, conduit draw boxes with a screwed lid can be provided on both sides of the expansion joint with sliding conduits provided on one of the boxes. Slack on wiring shall be left in both draw boxes.

1.36.2 WIRING

Accept where specifically approved, wiring shall be carried out in conduit throughout. Only one circuit per conduit will be permitted.

Where approved in advance Surfix type cable could be used in roof spaces. The Surfix cable shall be fixed to roof trusses (installed parallel or at right angles to the roof timber) with purpose made saddles of the right size at intervals not exceeding 1500mm. Loose Surfix in roofs or installed along short cuts shall not be allowed. Surface Surfix on walls shall be installed in PVC trunking or conduit of the right size. The trunking or conduit shall only be installed vertical or horizontal. Surfix will not be allowed on any outside installation unless in galvanised conduit.

The wiring of the installation shall be as allowed in this specification and shall comply fully with the / SABS/SANS 10142 Code of Practice.

As a norm wiring to light outlet points and switches shall not be replaced however if required, after confirmation with the Engineer, light circuits shall be wired in 2,5mm² PVC insulated conductor and 2,5mm² bare copper earth wire.

When wiring is replaced all bulkhead and fluorescent light fittings shall be earthed.

The supply wiring earth leakages in bedhead: trucking shall be 2x4mm² copper conductors. with 2,5mm² earth-wire

Conductors shall not be drawn into conduit until the conduit installation has been completed and all conduit ends are provided for.

The loop-in system shall be followed through out, and no joints of any description will be permitted. The earth wire must be continuous and can be common in the same conduit. If cut, the earth wire must be ferruled with a spigot type ferrule.

Galvanized steel draw-wires shall be installed in all empty telephone, computer and PA system / conduits.

As a norm wiring to power points shall not be replaced however if required, after confirmation with the Engineer the following shall be used as guide line:

Circuit breaker up to 20A	2.5mm ²
Circuit breaker up to 30A	4mm ²
Circuit breaker up to 40A	6mm ²
Circuit breaker up to 50A	10mm ²
Circuit breaker up to 60A	16mm ²
Circuit breaker up to 80A	25mm ²
Circuit breaker up to 100A	35mm ²
Circuit breaker up to 125A	50mm ²
Geyser	Normally 6mm ²
Household stoves	Normally 10mm ²

1.36 WIRING CHANNELS AND POWER SKIRTING

Wiring channels and power skirting shall comply with the Quality Specification Part 3 of this specification (Section C3.9). Existing power skirting and wiring channels shall be replaced with the existing type if available. If not, power skirting and wiring channels shall be of the Cab strut or Legrand type or of equal quality, performance and approved. All outlet points on power skirting shall be screwed onto the power skirting and clip in mountings shall be allowed on the Legrand power skirting.

Wiring channels in roof spaces.

As a norm wiring channels were installed in the roof space from where conduits feed to lighting, socket outlet, power, telephone, computer, etc. outlet points.

Replacement or new wiring channel will be galvanised with a galvanised cover e.g. P8000 and P9000.

The wiring channel shall be fixed to the trusses with brass screws and brass washers on every truss. An oversize hole will be provided in the wiring channel to make provision for expansion and contraction.

Pop riveted splices shall be used to join the wiring channels. At building expansion joints the splice will be pop riveted to one side only as close as possible to the expansion joint. At building expansion joints slack shall be left on all wiring to make provision for expansion. An insulated 4mm² earth wire with lugs shall be bolted to the wiring channel **at each joint** to ensure earth continuity.

Firewalls shall be sealed with mortar around the channel where wiring channels protrude these walls.

Power skirting.

Where power skirting is installed at floor level it shall be installed with a gap to the floor to make provision for the installation of carpets.

Circuit wiring shall enter the power skirting through horizontally flush mounted 100x50x50mm draw boxes provided and installed behind the power skirting and linked with appropriate PVC conduits to the wiring channels in the roof space or distribution boards. Power skirting shall be fixed to the wall with plastic plugs and brass screws at intervals of no longer than 1500mm.

1.37 LIGHTING INSTALLATION

1.38.1 LIGHT FITTINGS AND LAMPS

The installation and mounting of luminaires must conform to clause **19 of Part 1** of this specification.

All light fittings to be supplied by the contractor shall have the approval of the Department. See "Schedule of Light Fittings".

This contract will only include repair work and maintenance on existing light fittings. **No** additional light fitting outlet points or light fittings shall be installed as part of this contract. **No** operational light fittings shall be replaced unless the installation is unsafe and cannot be repaired. Replacement of any light fitting shall be confirmed with the Engineer in advance.

Existing damaged or unserviceable light fittings shall be replaced with the same type of light fitting in the same position unless the existing installation is unsafe or impractical.

When replacing existing light fittings, the existing lamp type shall be retained. However, if required to replace an existing light fitting with a 2D lamp the 2D lamps shall as far as possible be phased out and replaced with the same light fitting type with 1xPL26W lamp. In cases where these light fittings are on its own and do not form part of a group of light fittings in a room or passage, clear lens diffusers are preferred.

In a case where a light fitting with GLS lamp requires replacement it will be replaced with a low maintenance low power consumption lamp (screw type) but not in staff houses, flats, single quarters, etc. Confer with the Engineer in advance.

Where required to replace an existing 75W (8') fluorescent light fitting it will be replaced by a similar 1,5m 58W fluorescent light fitting in the same position.

Light fittings with awkward lamp types shall be replaced with a similar fitting with lamps that are more available.

All bulkhead and fluorescent light fittings shall be earthed.

Use of light fittings as draw boxes shall not be allowed.

Provision for additional ceiling rafters for fixing of light fittings shall be made and provided in every position to fix all light fittings properly. Provision for this shall be made in the prices quoted for the light fittings. Except for light fittings positioned in the suspended ceiling T-sections, light fittings suspended from the ceiling boards only, shall under no circumstances be allowed.

1.38.2 LIGHTING INSTALLATION IN X-RAY ROOMS

The lighting installation in X-ray rooms shall as a minimum consist of fluorescent light fittings for general lighting, switched from a switch inside the X-ray room, plus dimmable incandescent or low energy type light fittings switchable at a preset light level and positioned inside the X-ray room. Depending on the type of X-ray facility a red light fitting could be required above the X-ray access door switched from the inside of the X-ray room. As a norm this red light is not required for normal X-ray rooms.

1.38.3 LIGHTING INSTALLATION IN FLAMMABLE STORE

Lighting installations in the flammable stores shall be flame proof. A surface water tight switch of the Clipsal 56SW220LEGY type or of equal quality, performance and approved shall be installed surface outside next to the door. A silicon sealer shall be provided between the switch and the wall. A 1,5mm²x3c cable shall be provided through a 32mm dia PVC sleeve behind the surface watertight switch (gland termination) or run surface to the flameproof light fitting in the flammable store where it shall terminate with a flameproof gland onto the light fitting. Polyurethane sealer shall be used to seal off between the cable and 32mm PVC sleeve or where cable enter the room through the wall.

1.38.4 DARK ROOM LIGHT FITTINGS AND SWITCHING

The following shall be used as a norm/guide line for the lighting installation in X-ray dark rooms.

Infra-red dark room light fittings shall be of the neatly finished off Kodak GBX-2 Compact Safe light type or of equal quality, performance and approved.

All exposed metal edges shall be neatly finished off. Filters of the dark room light fitting shall slide easily into the luminaire body. Heat from the lamp shall not cause the filter to crack, craze, discolour or sag in any way or affect the paintwork. All metalwork must be treated for corrosive conditions. The pre-treatment of finished metalwork must be in accordance with S.A.B.S. 064/1960 "Preparation of steel surfaces for Painting", after manufacture. The interior finish shall be non-yellowing white stove enamel, acrylic or epoxy resin, applied on a suitable primer after rust proofing. The exterior finish shall be matt stove enamel. Self-tapping screws may not be used for any purpose. It shall be possible to tilt the housing. The name and address of the R.S.A. manufacturer or main RSA supplier, lamp type and wattage shall be permanently indicated on the light fitting:

The light fitting shall be provided with a 3-core 1,0mm² extension cord (through a PVC gripper gland) terminating in a 5A socket to plug into a SA unswitched socket outlet in a 50mm round box at 125mm below the ceiling. The light fitting shall be mounted at 1500mm above the worktop.

This luminaire shall be provided with standard porcelain Edison screw brass lamp holder with standard 15 watt, 230 V pygmy lamp, preferably of the "Pearl" type.

The dark room safe lights in the dark room shall be switched through a double pole switch, switching the indication light above the door at the same time. The installation height of these two switches shall be 1400mm above finished floor level (to the top). The light switch for the normal light shall be installed direct above the above switch at a height of 1800mm (to the top). This switch shall be linked to the dark room cupboard with a 20mm dia conduit to inter link the switch with a film hopper protection limit switch.

This micro switch shall be installed in such a way that the main light in the dark room will be switched off as soon as the film hopper cabinet door starts to open.

1.38.5 X RAY VIEWING BOXES

X-Ray viewing boxes are on State Tender and the contractor shall before ordering confirm with the engineer and Department that the viewing boxes must be provided under this contract or must be ordered from the State Tender Supplier.

X-ray viewing boxes shall be surface wall mounted units fixed at 1300mm to the bottom for viewing one or two radiographic images (350x430mm each). The luminaire shall be an epoxy coated steel or aluminium structure with keyholes for fixing to the wall, 36W or 18W fluorescent lamps providing 1700nit or 1700lux with built in bright spot 100W incandescent lamp on a separate switch. The luminaire shall be equipped with marble loaded film clips. The surface X-ray viewing screen shall be provided with a cord set including 15A 3-pin socket and plugged into a socket outlet provided for this purpose - at 1300 mm a.f.f.l to the bottom. The flexible connection will be installed in a PVC YT1 trunking from the socket outlet to the viewing box.

1.38.6 AMBIENT LIGHTING INSTALLATION IN THEATRE

The following shall be used as a guideline for the ambient lighting installation in the theatre.

The ambient lighting installation in the theatre shall consist of eight fluorescent light fittings around the operating table and four 100W incandescent bulkhead light fittings (dimmed). Ambient fluorescent light fittings shall be installed 600mm away from the wall in the centre of the wall with light fittings 100mm apart. Dimmable light fittings in the Theatre shall be installed ± 575 mm (to the centre) away from the wall. Ambient light fittings shall be sealed off with clear silicon between the light fitting and ceiling.

Ambient lighting circuits shall be on earth leakage and switches to control the light fittings shall not be installed on the control panel - provide separate draw boxes.

1.38.7 THEATRE LIGHT INSTALLATION

The contractor shall check the existing theatre light installation at each institution. Theatre lights where the electrical supply to the theatre light head is more than 24V must be reported to the engineer. In this case the contractor must determine where the theatre light is fed from e.g. isolated supply, standby supply etc. For every theatre light the contractor shall confirm that the theatre light is earthed onto the insulated earth.

The contractor shall confirm that each theatre light is equipped with battery backup. If not, it shall be reported to the engineer. As a norm a UPS with by-pass switch to standby supply shall be installed but details confirmed with the engineer in advance.

Theatre lights shall only be upgraded or replaced on instruction of the engineer.

As a guideline the theatre light installation shall be carried out as follows:

The theatre light installation shall be co-ordinated in order to confirm theatre room ceiling type, ceiling height, mounting plate detail, mounting height, required torque, gas, air conditioning etc. installations.

A theatre light specialist contractor shall install and commission the theatre light. Delivery of the theatre light, travelling time and transport cost will be remunerated at tendered scheduled rates.

The theatre light installation shall consist of one of the following components'

- Provision for a main and satellite theatre light with one main 100 000 lux 24V theatre light only. Allowance shall, be made for the addition of a theatre light of the same size in future. The light fitting shall be of the Hutz Solaris 500 combination type with 120W 24V 100 000 lux lamp or Medhold Medical ANGENIEUX AXCELL type with 100W 24V 100 000 lux halogen lamp or of equal quality, performance and approved.
- Provision for a main and satellite theatre light with one main 160 000 lux 24V theatre light only. Allowance shall, be made for the addition of a theatre light of the same size in future. The light fitting shall be of the CHROMOPHARE E805 Type with 150W HID 24V 160 000 lux lamp with a depth of illumination of at least 135 cm or equal quality, performance and approved.
- Hutz Solaris 700-500 combination type with Solaris 700 light with 150W 24V 140 000 lux lamp and Solaris 500 light with 120W 24V 100 000 lux halogen lamp or equal quality, performance and approved.
- Main and satellite theatre light with one main 160 000 lux 24V theatre light plus one satellite 160 000 lux 24V theatre light. The light fitting shall be of the CHROMOPHARE E655 type with 2x 70W HID 24V 160 000 lux lamps with a depth of illumination of at least 120 cm or of equal quality, performance and approved.

The theatre lamp control unit (transformer, power pack & controller) shall be installed in a separate panel positioned in the passage before the red line area say THEATRE DB-1. The theatre light control unit shall be supplied from the theatre light UPS positioned in THEATRE DB-1 (See "SUPPLY TO THEATRE LIGHT UPS AND THEATER CONTROL" under "Power Points").

The supply from the theatre light control unit to the theatre lamp shall consist of 4x10mm² PVC insulated conductors plus a 6mm² green/yellow PVC insulated earth conductor in a 32mm dia PVC conduit terminating in a 100x100x50mm surface draw box in the theatre ceiling next to the theatre light suspension tube. (2x10mm² for the theatre light and 2x10mm² for a future theatre light with 1m slack and labelled on both sides). A theatre light switch with dimmer shall be provided and installed in the theatre control panel or as requested by the supplier and engineer. A theatre light control cable shall be provided and installed in a 20mm dia PVC conduit from the theatre light control unit to the theatre control panel or outlet point as requested by the theatre light supplier.

A 2,5mm² green PVC insulated copper earth conductor shall be installed from the Q-bar in the insulated theatre panel say THEATRE MAIN DB1.1 (with Early Bird insulated earthing) to the surface draw box above the theatre light in a separate 20mm dia PVC conduit. This earth shall be connected to the theatre light frame (insulated earth).

1.38.8 DELIVERY ROOM EXAMINATION LUMINAIRE CEILING MOUNTED

As a guideline the ceiling mounted deliver room examination luminaire installation shall be carried out as follows

The light fittings shall be of the ceiling mounted Hutz Solaris 300 Procedure(or similar and approved) 50 000 lux light type complete with 50W, 12V lamp or ALM Medical Luminaires MTA CENTRY CT 13 TM ceiling mounted type (or Similar and approved) complete with double wound transformer, 12V 75W pre-focused spot halogen lamp (30 000 lux 150mm dia at 600mm) or of equal quality, performance and approved. All these light fittings will be provided with a 2m minimum long, 3-core 1,0mm² extension cord (through a PVC gripper gland) terminating in a 5A socket to plug into a 5A unswitched socket outlet in a 50mm round box above the ceiling, positioned next to the light fitting.

1.38 SWITCHES AND SOCKET OUTLETS

The installation of switches and socket outlets must conform to clause 13 of Part 1 of this specification.

This contract will only include repair work and maintenance on existing switches and socket outlets. No additional switches or socket outlet points shall be installed as part of this contract. No operational switches or socket outlets shall be replaced unless the installation is unsafe and cannot be repaired.

Existing switches and socket outlets shall be replaced with the existing type if available. If not, switches and socket outlets shall be of the Crabtree or Lumex/Clipsal type or of equal quality, performance and

approved. All switch and socket outlet cover lids shall be of the screwed on type except where Legrand type socket outlets are used in power skirting. If an identification colour system for switches and or socket outlets exists on site this colour system will be honoured with replacement covers, switches and socket outlets. As a guideline socket outlets on normal supply and on earth leakage shall be white, sockets outlets on dedicated supply shall be red and socket outlets on UPS supply shall be blue.

All socket outlets fed from isolating transformers (e.g. theatre and maternity areas) shall be of the double pole, switched 16 Amp 3-pin type with insulated earth.

As a norm wiring to socket outlets and switches shall not be replaced however if required, after confirmation with the Engineer, socket outlets on earth leakage and fed from 20A circuit breakers shall be wired in 2,5mm² PVC insulated conductor and 2,5mm² bare copper earth wire. Socket outlets on earth leakage and fed from 30A circuit breakers shall be wired in 4.0mm² PVC insulated conductor and 2,5mm² bare copper earth wire. Where long feeder wiring to socket outlets (voltage drop) occur or the load on the circuit requires it, these circuits shall be wired in 4mm² PVC insulated conductor and 2,5mm² bare copper earth wire. If required existing 30A circuit breakers shall be replaced with 20A circuit breakers. In this case 2,5mm² wiring could be used.

When wiring is replaced all switches shall be earthed and new switches must be provided with a separate earth terminal. All switches switching fluorescent light fittings shall be earthed.

Switched socket outlets without safety locks shall be replaced especially where children have access.

1.39 POWER POINTS

This contract will only include repair work and maintenance on existing power points. No additional power points shall be installed as part of this contract. No operational power points shall be replaced unless the installation is unsafe and cannot be repaired. Replacement of any power point shall be confirmed with the Engineer in advance.

Existing damaged or unserviceable power outlet points shall be replaced with the same type in the same position unless the existing installation is unsafe or impractical.

The following power point descriptions will be used as guidelines where applicable.

1.40.1 GEYSERS (WATER HEATERS)

An isolator must be supplied and installed for the water heater in an extension box next to the water heater, as close as possible to the electrical connection point. The circuit shall consist of PVC insulated copper conductors plus bare copper earth wire in PVC conduit, wiring channel (duct) in the roof space, from the isolator to the relevant DB. Where no duct occurs the conduit will be installed from the isolator to the relevant DB. A double pole circuit breaker shall be provided in the relevant distribution board.

The final connection of the water heater is the electrical contractor's responsibility and shall consist of PVC insulated copper conductors plus bare copper earth wire in PVC coated flexible conduit from the relevant isolator to the geyser.

1.40.2 HEATERS

Where existing electrical heaters needs replacement and an exact replacement unit is not available, is not safe or is a fire hazard, new electrical heaters shall be provided and installed by the electrical contractor who will provide or fix the electrical connection and do the final connection.

Replacement of heaters shall be authorised before ordering or installation.

Heaters shall comply with the "INCOLOY ELEMENT SPACE HEATER" specification forming part of this specification

If heaters need to be replaced the following power point description can be used as guide line.

The heaters shall be wall-mounted at a height of 2 250mm above finished floor level (to the bottom) **or at least 350mm below the ceiling**, in the positions indicated. The contractor shall check the position of **every heater** on site well in advance with building requirements e.g. curtains etc. to ensure that no fire hazard occurs. Heaters shall preferable be controlled with a timer operating a contactor in the relevant distribution board.

If the installation is flush the following shall apply. A 30A, 2-pole isolator, mounted in a vertical galvanised 100x50x50mm flush draw box 100mm below the ceiling (to the top), 1000mm from the centerline of the heater shall be provided. A galvanised 50mm dia flush round box shall be installed on the centre line of the heater direct above the heater at 150mm above the heater to the centre and inter linked with a 20mm dia conduit to the isolator box. The heater connection cable shall enter the round box through a Teflon gripper gland installed in the steel round box cover and terminate on the isolator above. The connection cord from the heater to the round box shall be installed in an YT1 PVC trunking where needed. Heaters shall as far as possible be mounted in the centre of walls.

If the installation is surface the following shall apply. A 30A, 2-pole isolator, mounted in a vertical 100x50x50mm surface extension draw box 100mm below the ceiling (to the top), 1000mm from the centerline of the heater shall be provided. The heater connection cable shall enter the extension box through a Teflon gripper gland and terminate on the isolator above. The connection cord from the heater to the round box shall be installed in an YT1 PVC trunking where needed. Heaters shall as far as possible be mounted in the centre of walls.

In personnel offices, Nurse Stations etc. the isolator shall be installed at a height of 1800mm a.f.f.l. in order to allow switching. Furniture positions must be co-ordinated in these cases.

The circuit shall consist of 2x4mm² PVC insulated copper conductors plus 2,5mm² bare copper earth wire in 20mm PVC conduit fed from a curve 2 MCB in the relevant DB to the isolator

1.40.3 AUTOCLAVES

Depending on the size of the supply as a guideline the electrical connection for the autoclave shall consist of the following:

A 60 A, 3 pole isolator mounted in a 100x100x50mm surface extension box at 1400mm above finished floor level must be supplied and installed within 2m of the autoclave's connection point.

The circuit shall consist of 4x16mm² PVC insulated copper conductors plus 10mm² bare copper earth wire in 32mm PVC conduit and wiring channel fed from a curve 1 circuit breaker in the relevant distribution board to the isolator.

1.40.4 SINGLE PHASE AIR CONDITIONERS

This description shall be used as guideline only. Circumstances on site will determine the detail.

Depending on the size of the air conditioner, the electrical connection for the air conditioner shall consist of the following:

A switched 16A 3-pin dedicated (D-pin - top) red socket outlet, with red cover and red switch if the circuit is on stand by and white switch if on normal power, must be supplied and installed in a 100 x 100 x 50 mm extension box at 2250mm above final floor level. The exact position shall be confirmed on site. The circuit shall consist of 2x4mm² PVC insulated copper conductors plus 2,5mm² bare copper earth wire in 20mm PVC conduit and wiring channel where applicable from the relevant DB to the socket outlet and fed with a 20A curve 1 circuit breaker. If the air conditioner load is higher than 15A, an isolator shall be provided instead of the socket outlet.

If the air conditioner is not remote controlled, a 20 mm diameter conduit must be installed from a position next to the air conditioner evaporation unit (inside) up to a 100 x 50 x 50 mm flush mounted or extension draw box at ± 1400 mm AFFL to accommodate the control of the air conditioner.

1.40.5 THREE PHASE AIR CONDITIONERS:

This description shall be used as guideline only. Circumstances on site will determine the detail.

Depending on the size of the air conditioner, the electrical connection for the air conditioner shall consist of the following:

An outside water tight air conditioning isolator outlet point of the poly-carbonate Lumex/Clipsal WHT3SGY 35A three pole wall mounted conduit connected type, complete with a switched interlock or of equal quality and performance shall be provided and installed at 300mm below the roof overhang in the position indicated. **The isolator positions must be co-ordinated on site with the air conditioner electrical supply**

position.

The circuit shall consist of 4x4mm² PVC insulated copper conductors plus 2,5mm² bare copper earth wire in 20mm PVC and galvanised (outside) conduit fed from a curve 1 MCB in the relevant DB to the isolator.

1.40.6 EXTRACTION FANS CEILING MOUNTED

Before replacement of any fan or fan control the contractor shall confirm if the fan forms part of this contract or the air conditioning and ventilation contract.

As a guideline the electrical connection for the fans shall be provided and installed as follows:

An un-switched SA 3-pin socket outlet, installed in a round box, positioned in the roof space in the positions required shall be provided and installed. The socket outlet shall be on the relevant light circuit. The circuit shall consist of 2x2,5 mm² PVC insulated copper conductors plus 2,5mm² bare copper earth wire in 20mm PVC conduit. Some fans will be switched with the lights and others with a permanent supply from the switch.

Before replacement of any fan or fan control the contractor shall confirm if the fan forms part of this contract or the air conditioning and ventilation contract.

As a guideline the electrical connection for the fans shall be provided and installed as follows:

A galvanised round box shall be installed in the roof space above the position of the under ceiling fan. A 20mm dia conduit shall be provided and installed from the round box to a vertical 100x50x50mm extension box on the wall at 1400mm AFFL (or line up with other adjacent draw boxes) for the speed controller. A 20mm dia PVC conduit will be provided and installed from the round draw box to the wiring channel (where applicable) or directly to the relevant DB. An unswitched SA 3-pin socket outlet complete with SA socket shall be provided and installed in the round box. The circuit shall consist of 2x2,5mm² PVC insulated copper conductors plus 2,5mm² bare copper earth wire from the DB to the 5A socket outlet. A 2,5mm² live wire loop shall be provided and installed from the round box to the 100x50x50mm draw box for the connection of the speed control.

1.40.7 X-RAY MACHINE

As a guideline the electrical connection for the X-ray machine shall be provided and installed as follows:

A surface mounted six-way GEM (blue) distribution board with 100A 3-pole CBI isolator shall be mounted at 1800mm above finished floor level (to the centre) in a position determined on site next to the X-Ray generator. The circuit shall consist of 4x25mm² PVC insulated copper conductors plus 16mm² bare copper earth wire in a 40mm dia PVC conduit and wiring channel from the relevant distribution board to the GEM distribution board.

1.40.8 EXTRACTOR FAN IN DARK ROOM

As guideline the electrical connection for the dark room extractor fan shall be provided and installed as follows:

The fan will be provided with an extension cord terminating in a 15A dedicated socket to plug into a 15A switched dedicated socket outlet (red with D-pin - top) in a 100x100x50mm draw box installed next to the fan - confirm the position on site. A 100x50x50 mm deep outlet box, installed below the above draw box at 1400 mm above finished floor level and interlinked with a 20mm dia conduit shall be installed for the speed regulator or switch.

The circuit shall consist of 2x2,5mm² PVC insulated copper conductors plus 2,5mm² bare copper earth wire in 20mm PVC conduit and wiring channel where applicable from the relevant DB to the socket outlet. A 2,5mm² live wire loop shall be provided and installed from the socket outlet draw box to the 100x50x50mm draw box for the connection of the speed control. The connection cord from the fan to the socket outlet shall be installed in a horizontal/vertical YT1 trunking.

1.40.9 POWER POINTS FOR LAUNDRY OR KITCHEN EQUIPMENT

Where in terms of the specification it is required to repair or replace a power point for laundry or kitchen equipment, existing points shall be replaced with similar material unless the existing point must be upgraded or replaced for safety purposes. If practical, the laundry or kitchen equipment power point shall be as follows:

A P800 or P9000 wiring channel shall be installed on the wall at 1 500mm above finished floor level.

A 5-pole Industrial Switched Socket IP57 rated, of the Clipsal Lumex type e.g. 75252-6 RED complete with 32A IP67 rated industrial plug or of equal quality, performance and approved, fixed onto the wall below the P9000 skirting and linked with a galvanised conduit that suits the wall socket shall be provided and installed.

The circuit shall consist of PVC insulated copper conductors plus bare copper earth wire in the wiring channel and conduit from the relevant distribution board to the Switched Socket fed from a suitably rated earth leakage.

The final connection of the washer extractor forms part of this contract and shall consist of PVC insulated copper conductors plus bare copper earth wire in 32mm PVC coated steel flexible conduit (Copex) from the industrial socket to the equipment.

1.40.10 STOVE

As a guideline the stove connection shall consist of the following:

A 30A, 2-pole stove isolator must be provided and installed in a 100 x 50 x 50 mm conduit box at 1400mm a.f.f.l. in the position of the stove. A 50mm dia round box shall be provided and installed at 500mm a.f.f.l. below the 100x50x50mm draw box and interconnected with a 20mm dia PVC conduit. A Cape Town cooker socket shall be provided and installed in the round box complete with socket.

The circuit shall consist of 2x10mm² PVC insulated copper conductors plus 6mm² bare copper earth wire in the conduit and where required in the wiring channel from the relevant distribution board to the stove isolator and Cape Town cooker socket.

The final connection of the stove forms part of this contract and shall consist of 2 x 10mm² PVC insulated copper conductors plus 6mm² bare copper earth wire from the Cape Town cooker socket to the stove in 20mm PVC coated steel flexible conduit (Copex).

1.40.11 COLD AND FREEZER ROOM POWER SUPPLIES

As a guideline and where required in terms of the contract a cold or freezer room power supply point shall consist of the following:

An outside water tight cold room outlet point of the poly-carbonate Lumex/Clipsal WHT35GY 35A three phase wall mounted conduit connected type, complete with a switched interlock shall be provided and installed next to the cooling unit e.g. at 300mm below the roof overhang.

The circuit shall consist of 4x4mm² PVC insulated copper conductors plus 2,5mm² bare copper earth wire in 20mm PVC and galvanised (outside) conduit from the circuit breaker in the relevant DB to the isolator.

1.40.12 DENTAL CHAIR ELECTRICAL SUPPLY POINT

As guideline the electrical power point for a dental chair shall be provided and installed as follows:

A 30 A, 2 pole isolator must be provided and installed. The isolator shall be mounted in a 100x50x50mm draw box at 1200mm above finished floor level in a positioned in front of the dental chair and as co-ordinated with the dental installation. A 20mm dia PVC conduit shall be installed flush from the 100x50x50mm draw box to the foot position of the dental chair where it will terminate 100mm above floor level - slow bends.

The circuit shall consist of 2x4mm² PVC insulated copper conductors plus 2,5mm² bare copper earth wire in 20mm PVC conduit and wiring channel where applicable from a 20A earth leakage in the relevant distribution board to the isolator.

The final connection shall consist of a 2,5mm²x3c unarmoured cable in the 20mm dia conduit from the isolator to the dental chair foot position where it will terminate in a double switched socket outlet mounted in a 100x100x50mm extension box with gripper gland.

1.40.13 DENTAL COMPRESSOR SUPPLY POINT

As a norm the dental compressor will be placed in the compressor room next to the dental room.

A 30 A, 2 pole isolator mounted in a 100x100x50mm draw box shall be provided and installed 1200mm above the compressor room floor level next to the compressor. A 20mm dia PVC conduit shall be provided and installed from the 100x50x50mm draw box to the relevant distribution board.

The circuit shall consist of 2x4mm² PVC insulated copper conductors plus 2,5mm² bare copper earth wire in 20mm PVC conduit from the relevant distribution board to the isolator.

The final connection of the dental compressor shall consist of 2 x 4mm² PVC insulated copper conductors plus 2,5mm² bare copper earth wire from the surface isolator to the compressor in 20mm dia PVC coated steel flexible conduit (Copex).

1.40.14 DENTAL SUCTION MOTOR SUPPLY POINT

As a norm the dental suction motor will be placed in the dental compressor room next to the dental room.

A 30 A, 2 pole isolator mounted in a 100x100x50mm draw box shall be provided and installed 1200mm above the compressor room floor level next to the dental suction motor. A 20mm dia PVC conduit shall be provided and installed from the 100x50mm flush draw box to the relevant distribution board.

The circuit shall consist of 2x4mm² PVC insulated copper conductors plus 2,5mm² bare copper earth wire in 20mm PVC conduit from the relevant distribution board to the isolator.

The final connection of the dental suction motor shall consist of 2 x 4mm² PVC insulated copper conductors plus 2,5mm² bare copper earth wire from the surface isolator to the dental suction motor in 20mm dia PVC coated steel flexible conduit (Copex).

1.40.15 SUPPLY TO THEATRE LIGHT UPS AND THEATRE LIGHT CONTROL

The contractor shall confirm that each theatre light is equipped with battery backup. If not, it shall be reported to the engineer. As a norm a UPS with by-pass switch to standby supply shall be installed but details confirmed with the engineer in advance.

As a guideline the theatre light UPS and theatre light control installation shall be carried out as follows:

The 5kVA uninterruptible power supply (confirm size of UPS with the Department and engineer) shall be provided, installed and connected by the electrical contractor. The UPS shall be positioned in a panel provided in the passage outside the theatre say THEATRE DB-1.

Theatre light UPS and Theatre Light Controller supply

A 30A 3-pole by-pass switch MAINS/OFF/UPS mounted inside a surface YORK box shall be provided and installed at 1500mm a.f.f.l. in the distribution board in an accessible position close to the UPS.

A 30A 2 pole isolator mounted in a 100x50x50mm surface extension box at 1200mm above finished floor level must be supplied and installed in the distribution board e.g. THEATRE DB-1 below the York box in an accessible position close to the UPS. The circuit shall consist of 2x4mm² PVC insulated copper conductors plus 4mm² bare copper earth wire in 20mm PVC conduit and wiring channel to the YORK box and from the York box to the isolator. The final connection from the isolator to the UPS shall consist of a three core un-armoured 4mm²x3core cable fixed with gripper glands.

A second 100x50x50mm surface extension box shall be installed at a height of 1200mm above finished floor level below the York box in a position next to the UPS. This extension box shall be linked with a 20mm dia PVC surface conduit to the York box and from the York box to the UPS supply panel in THEATRE DB-1. The theatre light transformer and controller shall be installed in a separate panel in THEATRE DB-1. The circuit shall consist of 2x4mm² PVC insulated copper conductors plus 4mm² PVC insulated copper earth wire in 20mm dia surface conduit from the extension box to the York box to the UPS supply panel and theatre light transformer and controller in THEATRE DB-1.

The final connection from the extension box to the UPS shall consist of a three core un-armoured 4mm²x3core cable fixed with gripper glands.

For theatre light wiring and installation see the "THEATRE OPERATING LIGHT INSTALLATION" under LIGHTING INSTALLATION"

UPS Battery and Mains Indication Lights in Theatre panel

A 100x50x50mm surface extension box shall be installed at a height of 1200mm above final floor level in a position next to the UPS. This extension box shall be linked with a 20mm dia PVC surface conduit to a 230V/24V transformer supply. The circuit shall consist of 3x4mm² PVC insulated copper conductors from the 230/24V transformer to the extension box. The final connection from the extension box to the UPS shall consist of a three core un-armoured 4mm²x3core cable fixed with gripper glands.

The final connection for the indicator lights shall consist of 3x4mm² PVC insulated copper conductors in 20mm dia PVC conduit and wiring channel from the extension box to the indicator lamps in the Theatre Control Panel or separate draw box.

1.40.16 SUPPLY TO ISOLATING TRANSFORMER. ISOLATED POWER SUPPLY PANEL AND LINE ISOLATION MONITOR

The following power supply information shall be used as guideline to test and fix existing isolated power supply installations at institutions.

Supply to Isolating Transformers

As a norm 5kVA isolating transformers are used per theatre or isolated supply installation. Isolating transformers shall where possible be installed in accessible positions, preferably not in roof spaces. A wall mounting bracket shall be provided and installed with the isolating transformer.

As a guideline for each isolating transformer installation the following shall apply:

A 30A 2 pole isolator mounted in a 100x50x50mm surface extension box must be supplied and installed in an accessible position close to the isolating transformer. The circuit shall consist of 2x6mm² PVC insulated copper conductors plus 6mm² bare copper earth wire in 25mm PVC conduit from the relevant distribution board to the isolator. The final connection from the isolator to the isolating transformer shall consist of a three core un-armoured 6mm²x3core cable fixed with gripper glands.

Supply to Isolated Power Supply Panel

A second 100x100x50mm surface extension box shall be installed in a position next to the isolating transformer. This extension box shall be linked with a 25mm dia PVC conduit to the isolated power supply board. The circuit shall consist of 2x6mm² PVC (violet) insulated copper conductors (for Early Bird or 3x6mm² for Isoloc- grey conductor centre tap) plus 6mm² green insulated earth wire from the extension box to the isolated power supply board. The final connection from the second extension box to the isolating transformer shall consist of a three core un-armoured 6mm²x3core cable fixed with gripper glands.

At the isolating transformer the 6mm² bare copper earth wire (electrical earth normally from the standby supply board), transformer inter-winding screen, transformer core, transformer enclosure, transformer earth terminal and 6mm² green PVC insulated copper earth conductor (to the isolated power supply board earth terminal) shall be interconnected.

Line Isolation Monitor and Connection

In the Insulated Power Supply Distribution board the line isolation monitor (Early Bird or Isoloc) shall be connected in accordance with the supplier's instructions including the earth terminal to the insulated earth bar (Q-bar) by means of a 6mm² green & yellow PVC insulated earth conductor.

The 6mm² green PVC insulated earth conductor shall be connected to the insulated earth bar (Q-bar) in the Insulated Power Supply Distribution board. All insulated earth conductors to insulated socket outlets, theatre light earthing etc shall consist of 2,5mm² green & yellow PVC insulated earth conductors terminating on the insulated earth bar (Q-bar) in the Insulated Power Supply Distribution board.

The line isolation monitor (Early Bird or Isoloc) shall be installed in the relevant isolated supply distribution board. The monitor shall penetrate the distribution board cover and no door shall be fitted over this panel in order to keep the monitor visible from the passage side.

The line isolation monitor 'healthy' (green) and 'faulty' (red) indication lights forming part of the monitor shall be distinctly labelled. A label stating "HEALTHY EQUIPMENT EARTH" and "FAULTY EQUIPMENT EARTH" shall be provided on the panel below the relevant indication light.

The line isolation monitor 'alarm' and 'mute alarm' facilities forming part of the monitor shall be distinctly labelled. A distinct label stating "FAULTY EQUIPMENT EARTH ALARM" and "MUTE ALARM" shall be provided on the panel below the loudspeaker and mute alarm button.

In some instances the line isolation monitor 'healthy' (green) and 'faulty' (red) indication lights, forming part of the monitor, shall be duplicated in the theatre control panel. Wiring shall consist of 2,5mm² PVC insulated copper conductors connected in accordance with the supplier's prescription. A distinct label stating "HEALTHY EQUIPMENT EARTH" and "FAULTY EQUIPMENT EARTH" shall be provided on the theatre control panel below the relevant indication light.

In some cases the line isolation monitor 'alarm' and 'mute alarm' facilities forming part of the monitor shall be duplicated in the theatre control panel. Wiring shall consist of 2,5mm² PVC insulated copper conductors connected in accordance with the supplier's prescription. A distinct label stating "FAULTY EQUIPMENT EARTH ALARM" and "MUTE ALARM" shall be provided on the theatre control panel below the loudspeaker and mute alarm button.

1.40 DISTRIBUTION BOARDS AND METER/DISTRIBUTION KIOSKS

1.40.1 DISTRIBUTION BOARDS

In addition to the clauses 14 and 15 of the Part 1, Section C17 of the Quality Specification Part 2 and the Departmental Standard Specification, the following shall also be applicable to switchboards required for this service.

Distribution boards supply power to lights, socket outlets, power points as well as other distribution boards.

The supply, delivery to site, offloading, installation and commissioning of distribution boards are included in this contract.

As a norm distribution boards shall be tidied but not replaced or upgraded unless confirmed in writing with the engineer. It is possible that an existing main or distribution board or distribution kiosk needs to be replaced or upgraded as part of this contract. Due to increased load at some facilities, the main board will have to be split into normal / essential and change over panels to suit new requirements.

In order to make provision for essential (standby generator) supply changes to some hospital facilities, existing main boards must be replaced - floor standing over cable channels. The new main board shall consist of three separate sections (sub divided into panels as per the specification and standard drawing) e.g. a normal supply section, an essential supply section and a changeover section. The sections shall be bolted together on site.

The new main boards will be floor standing, with base frame and accessible gland plate (separate panel) for cable connections from the bottom and/or the top. The new main panel shall be manufactured of 2mm mild steel, baked powder epoxy coated, dust and vermin proof with panels not wider than 600mm. The new main board shall be complete with front panels (excluding doors - confirm), access from the back of the panel and include steel work, cradles, mounting plates, gland plates, busbars, wiring to equipment, etc.

On instruction by the Department, the contractor in collaboration with the engineer will determine switchboard upgrade or replacement requirements on site. As a norm, basic distribution board designs in the form of line diagrams will be submitted to the contractor. It will however be the contractor's responsibility to investigate existing circumstances on site e.g. position of low voltage paper/lead cable termination positions, access door, passage etc. sizes and to make the necessary changes in order to get a practical solution to the upgrading or replacement of the existing main or distribution boards.

Shop drawings of the switchboards conforming to the requirements of the specification, site conditions and checked and approved by the contractor must be submitted to the engineer for approval before manufacturing. Type, current and rupturing ratings of switchgear must be indicated on these drawings.

Approval of the above-mentioned schematic and control diagrams not conforming to the specification will not relieve the contractor of his responsibility to provide switchgear and control equipment as specified.

Switchgear shall be of the CBI type or of equal quality, performance and approved. Control equipment e.g. Contactors etc. shall be of the Telemecanique or Lovato type or of equal quality, performance and approved. Only one manufacturer's equipment shall be provided and installed. No switchgear with a fault level lower than 5kA shall be used in this service. **(Samite and small frame breakers are not allowed)**

Lightning protection surge arresters shall be installed on all boards. One arrester shall be installed per each phase, plus neutral. Surge arresters shall be of the crystal valve or pellet type, mounted inside a board for each separate phase, and shall be effectively earthed. Surge arresters shall be of the DYNGARD 275 BLITZDUCTOR type by SURGETECH or of equal quality, performance and approved. Surge arresters shall be installed in close proximity to the main earth-bar.

Operational, approved lightning protection shall be provided on every distribution board feeding fluorescent light fittings with electronic ballasts.

Distribution board layouts must be in accordance with the examples included in the drawings "TYPICAL DB LAYOUT DRAWINGS"

The front panels of normal supply, essential power and no-break (UPS) supply sections shall be painted in distinctive colours as follows :

Normal supply	: Light Orange, colour 826 of SASS 1091
Stand-by power	: Signal Red Colour A11 of SASS 1091
No-break supply	: Dark Violet, Colour F06 of SASS
Frame and doors	: Colour to be confirmed with Department and engineer

All distribution boards shall be manufactured of 2mm mild steel or 3CR12 stainless steel in areas closer than 50km from the sea. The metal work shall be baked powder epoxy coated. All distribution boards shall be dust and vermin proof, with front panels and heavy duty steel hinged pad lockable doors - not wider than 600mm. Cables will enter and exit from the bottom or top of the panel. Distribution boards with piano or PVC hinges or PVC locks will not be accepted.

Generally the following distribution boards will form part of the contract:

- Surface mounted floor standing over trench or on a concrete floor with base frame and **accessible** gland plate.
- Surface mounted covering an existing flush tray or architrave frame.
- Surface on a wall.
- Semi flush distribution board, (50mm protruding), with architrave frame,

The Department and engineer will determine the colour of the distribution boards on site.

1.40.2 METER/DISTRIBUTION KIOSKS

In addition to the clauses 14 and 15 of the Part 1 and Section C18 of the Quality Specification Part 3 and the Departmental Standard Specification, the following shall also be applicable to Meter/ Distribution Kiosks required for this service.

The electrical contractor will supply and install distribution kiosks in accordance with construction line diagram drawings that will be issued by the engineer.

The electrical contractor will supply, delivery to site, off-load, install and commission new Meter/Distribution Kiosks as required.

Meter/ Distribution Kiosks shall be outdoor, weatherproof, plinth mounted, 2mm mild steel or 3CR12 stainless steel, baked powder epoxy coated, moisture, dust and vermin proof, ventilated distribution cubicles (with base frame) consisting of the number of compartments as required, with front panels, heavy duty hinged pad lockable doors and removable triangular roof.

The Meter/ Distribution Kiosks shall be mounted on a steel re-enforced plinth with 50mm chamfer, total depth of 900mm protruding 300mm above the ground. Sleeves with slow bends shall be provided in the plinths to make provision for supply cables. The colour of the kiosks will be determined by the Department and engineer on site.

Shop drawings of the Meter/ Distribution Kiosk, approved by the electrical contractor, must be submitted to the engineer and Department for written approval before manufacture commences.

Switchgear shall be of the CBI type or of equal quality, performance and approved, with a fault level not less than 5 kA. The Meter/ Distribution Kiosk will be manufactured utilising one manufacturer's equipment

only.

Surge arresters shall be installed in all Meter/ Distribution Kiosks. Surge arresters shall be of the crystal valve or pellet type, mounted inside a board for each separate phase and neutral and shall be effectively earthed. Surge arresters shall be of the DYNGARD 275 BLITZDUCTOR type by SURGETECH or of equal quality, performance and approved.

1.41 ULTRAVIOLET GERMICIDAL IRRADIATION INSTALLATIONS

If requested by the Department during the contract period, provision and installation of Ultraviolet Germicidal Irradiation installations will form part of the contract.

The engineer assisted by the user department, employer and electrical contractor shall define the Ultraviolet Germicidal Irradiation installation/s.

The electrical contractor will assist and be responsible for the provision and installation of the Ultraviolet Germicidal Irradiation installations. As part of this contract, a specialist supplier will carry out a survey and recommend the type, number and position of UVGI fittings for a specific installation. The electrical contractor shall obtain three quotes for a specific facility survey or a combination of facilities survey. The quotes shall be split up into time & hourly rates, km & travelling rates and number of overnights & overnight rates.

Assistance by the electrical contractor will include negotiations with the engineer, user department, specialist contractors or suppliers, submission of information to the engineer and specialist contractors, getting three quotations, checking and confirmation of designs from the specialist contractor in accordance with the specification, suitability to existing installations e.g. position, access, etc, submission to the engineer for approval as well as interim payment to the specialist contractor for the survey.

Provisional amounts for Ultraviolet Germicidal Irradiation installation surveys are included in the Schedule of Quantities.

The electrical contractor shall be remunerated for the direct cost (proof submitted) plus a tendered percentage of the value of the direct cost of the survey. Provision, installation, testing and commissioning of outlet points and UVGI fittings shall be carried out at tendered scheduled rates.

1.42 ELECTRICAL HAND DRYERS

Existing hand dryers that are faulty shall be repaired. Where requested by the Department or his representative existing faulty hand dryers shall be replaced with a new unit. **Hand dryers will only be replaced after confirmation with the engineer and Department.** The electrical contractor shall supply hand dryer units which shall be of the hands free automatic operated "HTE 5" type with heavy duty aluminium casing as supplied by Stiebel Eltron or of equal quality, performance and approved.

1.43 FIXED HEATER

Replacement of heaters shall be authorised before ordering or installation.

The element space heaters shall comply with the following requirements:

The heater mounting bracket must be sturdy and rust proof e.g. stainless steel or galvanised - epoxy coated.

The heater body/housing must be sturdy, heat resistant and rust proof - stainless steel, aluminium or galvanised. If epoxy coated, it shall be heat resistant.

The heater reflector must be sturdy, rust proof, shiny, polished, not discolour or deform due to the heat it needs to reflect. Upward heat reflection shall be limited. The reflector must deflect the reflected heat away from the back of the element. A dimpled, rippled/hammered reflector or triangle behind the element and parallel to the element must be provided. A plain/smooth reflector will not be accepted.

Element guards must be sturdy, rust proof, shiny, polished, not discolour or deform due to the heat. 2 x 0,5kW or 2 x 0,75kW (confirm with engineer) medium wave, medium range, stainless steel 321 elements ($\pm 3W/cm^2$) at 230V shall be securely mounted in the casing. No bends shall be allowed in

elements. The mounting fixture/s and supports shall allow for expansion of the elements without deforming or sagging of the elements or touching of the reflector by the element. A support (or two if required) for the element to **slide on** shall be provided in the centre of the element.

Wiring inside the heater (live neutral and earth) shall be 1,0mm² minimum, heat resistant to SABS 1574. e.g. stranded nickel conductor, glass fibre braided insulated (bare silicon wire in heater not acceptable). Wires must terminate on a cold section on the element with a totally sealed or tab connection. Wires must not touch the reflector and must terminate on a porcelain connector outside the heater casing. A one meter length of high quality silicon wire (1,0mm sq minimum) with heat resistant strain gland e.g. Teflon gripper gland or sturdy heat resistant termination must be provided from the terminal or termination point for connection by others.

The heaters shall be of the type specified in the standard hospital specification e.g. Eastern Cape hospital heaters by Deva Trading cc (021-448 9713) or Electro-quip (041 393 4855) or of equal quality, performance and approved.

1.44 UNINTERRUPTIBLE POWER SUPPLY UNITS

1.44.1 GENERAL

Existing UPS units shall not be replaced unless approved in advance by the engineer. Existing faulty UPS units will be fixed. If replacement is required, the UPS units will be provided and installed complete with batteries and interconnecting cables. A by-pass selector switch Mains/Off/UPS shall be provided and installed in order to switch the UPS load onto the mains supply if the UPS needs to be removed for repairs.

1.44.2 TECHNICAL REQUIREMENTS

In general, the UPS shall comply with the following:

The UPS shall be of the 'on line' type.

Size	5kVA, 10kVA
Input Voltage Tolerance	220-240V, 15%
Input Frequency	50 Hz+- 5%
Output Voltage Efficiency	220V or 240V pure sine wave 85%(input output)
Output Voltage Dynamic Regulation	±3%
Output Voltage Steady State Regulation	± 1%
Overload	
216-430V DC bus	
Static and manual by-pass.	
RS232 monitoring with remote alarm	200% for 30 seconds, 125% for 60 minutes

6Hr recharge time Battery Backup Time
Visual Alarm Indicators

Indication

Audible Alarm Cabinet Finish

5kVA-1Hr on 2000VA load (P.F.- 0.8 lag) 10kVA-1,5Hr on 5000VA load (P.F.- 0.8 lag)
Inverter off. Load on reserve
Battery voltage out of limits Warning - battery low
Inverter overload Inverter over temperature Rectifier off. Reserve out of limits
Static switch lockout
A set of voltage free contacts shall be available to indicate "load on UPS battery supply" (mains off) alarm conditions remotely. The contacts shall be open for healthy conditions and be rated at 5 A

Required with all visual alarms
Epoxy powder coated, colour to be

General Alarms

advised

A set of voltage free contacts shall be available to indicate alarm conditions remotely. The contacts shall be open for healthy conditions and be rated at SA

UPS batteries shall be of the 12V 16/26/44Ah sealed lead acid type with a five (5) year plus design life. Batteries shall be of the CSB, Panasonic or Portalac type or of equal quality, performance and approved. Battery racks will preferably form part of the UPS but could be installed in a separate battery box or container.

The UPS shall have a full set of schematic drawings.

A wall-mounted cupboard shall be provided, and installed to contain the spares, maintenance manual and log sheets for the UPS units.

The successful TENDERERS shall submit full technical details including physical dimensions of the UPS to the contractor and Engineer before manufacturing starts.

1.44.3 INSPECTIONS, TESTS AND COMMISSIONING

The manufacturer shall carry out the following tests, in order that the engineer may witness compliance of the unit to specified requirements.

Performance Tests

1.45.3.1	input
1.45.3.2	output
1.45.3.3	output overload
1.45.3.4	regulation
1.45.3.5	efficiency
1.45.3.6	transfer time
1.45.3.7	battery load test
1.45.3.8	1 step full load acceptance
1.45.3.9	full load discharge for 30 minutes

Simulation Tests

1.45.3.10	each alarm condition to be simulated
1.45.3.11	each visual alarm to be tested
1.45.3.12	each audible alarm to be tested

All necessary equipment and test gear shall be made available during these tests.

The contractor shall provide and prepare comprehensive technical data catalogues, operating instructions, maintenance procedures and fault finding instructions for each item supplied.

Maintenance manuals shall spell out **yearly maintenance** procedures tests and checks in a separate section in detail.

Three sets of A4 sized manuals shall be supplied, to enable the Employer to maintain and adjust the system.

These manuals shall be submitted to the engineer for approval prior to final commissioning. The contract will not be regarded as complete until all requirements in this regard have been met.

1.44.4 MAINTENANCE PERIOD

The tenderer shall maintain the UPS unit for the full guarantee period of three (3) year.

1.45 ISOLATED SUPPLY TRANSFORMER

Existing Isolation Transformers shall not be replaced unless approved in advance by the engineer. Existing faulty Isolation Transformers will be fixed where possible. If replacement is required, the Isolation Transformers will be provided and installed complete with interconnecting cables.

In general, the transformers shall be an enclosed unit with wall mounting brackets.

Isolated supply transformers shall be double-wound single-phase units to provide electrical isolation of the secondary winding from the primary winding and earth. It shall be constructed to have a low leakage to earth to limit earth fault currents that flow should either end of the secondary winding be shorted to earth.

The transformer shall be a 5 kVA double-wound, dry type unit with the following voltage ratio and tapings:

Primary winding	: 230-volt
Secondary winding	: 115/115 volt
Primary tapings	: + 2.5 % +/- 0.5 %
Secondary tapping	: 0% plus centre-tapped

An electrostatic safety shield shall be provided to conduct insulation faults on the primary winding safely to earth prior to them adversely affecting the secondary windings. This shield shall be brought out to a suitably marked terminal.

Labelled terminals shall be provided for the following:

CODE	WINDING	VOLTS	OUTLET
A ₄	primary winding	235.75V	phase
A ₃	primary tapping	230,0V	phase
A ₂	primary tapping	224,25V	phase
A ₁	primary winding	0V	neutral
S	electrostatic shield		network earth
C	Core		network earth
E	Earthing		network earth
A ₃	secondary winding	115V	line L2
A ₂	secondary winding	0V	centre
A ₁	secondary winding	115V	line L1

A Diagram Plate shall be fixed in an easily observable and easily readable location detailing:

- Manufacturer's Name
- Serial Number
- Winding configuration
- Terminal markings
- Rated kVA output
- Voltage ratios
- Polarity

The transformer shall be installed in a metal enclosure fitted with an access cover to the terminal block

and a removable cover to facilitate the removal of the transformer. The enclosure shall be ventilated, vermin proof and fitted with a "Unistrut" section for easy fixing to "Unistrut" mountings. The enclosure shall be provided with 4 x 20mm dia conduit entries.

Ready access shall be provided to terminals, diagram plate, conduit entries and switched disconnect.

The electrical connection shall be via a double pole switched disconnect mounted on the fixed part of the enclosure. The disconnect shall not be affected by the removal of the access plate or the ventilated housing cover providing access to the transformer itself.

The circuit breaker, protecting the circuit supplying the transformer, shall be rated at 30A with delayed tripping characteristics in order to accommodate switching in-rush currents.

Voltage regulation shall not exceed 2 % at unity power factor and 2 % at 0,8 power factor. The transformer shall make provision for transient suppression (inrush current limiter).

With the rated voltage connected to the primary winding and the transformer core and electrostatic safety shield connected to earth, the leakage currents measured first between earth and Line L2 and thereafter between earth and line L1 shall not exceed 50 micro amps.

1.46 THERMAL IMAGING OF DISTRIBUTION BOARDS

Before any thermal imaging will be done a written request per installation must be submitted to the Department and engineer for approval. Depending on the availability of the service, three written quotations shall be obtained in advance for approval.

A Certified Thermographer with Level 2 qualification shall carry out the thermal imaging. A certificate must be submitted before any work is done.

The thermal imaging shall consist of images in digital and hard copy format of the particular distribution board as well as a report indicating points where attention is required.

Thermal imaging shall be carried out on an hourly base with travelling and accommodation measured separately. The contractor will be paid per km as authorized. Labour time of workers and the driver travelling in the vehicle shall be **INCLUDED** in the transport rate per km.

1.47 EARTHING AND BONDING

The contractor will be responsible to check all earthing and bonding of each building and installation. The earthing and bonding are to be carried out strictly as described under clause 18 of Part 1 of this specification and to the satisfaction of the Department's Representative.

1.48 NURSE/PATIENT CALL SYSTEM (BASIC REQUIREMENTS)

Faulty nurse call equipment shall only be replaced after confirmation with the engineer.

Where requested, the existing nurse call installation shall be repaired. Where spares for the existing system are not available or cannot be made operational, the existing installation shall be replaced.

1.48.1 GENERAL

The following nurse call installation requirements shall be used as guideline to test and fix existing nurse call installations at institutions.

The basic nurses call system shall have a 2-part operation i.e. the normal patient to nurse station call and an emergency call system. The units shall normally be mounted in a bedhead duct or in a standard 100 x 50x50mm flush draw box and shall consist of the following items: -

- Nurse call, cancel and emergency push button unit in a 100x100x50mm or 100x50x50mm draw box with re-assurance LED, pear push socket and cord with pear push with wall hook and moulded plug. (Code NCA)
- Nurse call, cancel and emergency push button unit **in the bedhead duct** with re-assurance

- LED, pear push socket and cord with pear push with wall hook and moulded plug. (Code NCB)
- Ward over door indication lamp. (Flash in emergency, Steady for normal call.) (Type BR)
- Nurse call, cancel and emergency push button unit **in a bathroom or toilet** with re-assurance LED - normally one per closed off toilet, bathroom or shower area - accessible from WC, bath or shower. Installed in a 100x100x50mm or 100x50x50mm flush vertical draw box at 1400mm a.f.f.l. to the top. (Code NC)
- **Nurse call impulse pull cord unit** with re-assurance LED next to a bath, shower or toilet with no cancel facility or emergency call facility. A nurse call initiated at a pull cord unit shall be cancelled at the "nurse call, -cancel and emergency push button" unit in the particular toilet or bathroom. (Code PC)
- Nurse call **toilet call unit** with re-assurance LED next to a toilet with no cancel facility or emergency call facility. A nurse call initiated at a "toilet call" unit shall be cancelled at the "nurse call, cancel and emergency push button" unit in the particular toilet or bathroom. The toilet call unit shall be mounted at approximately 500mm AFFL and also at skirting level in disabled toilets. (Code TC)
- Indication panel at nurses' station with buzzer and chimes. Buzzer to operate until cancelled. Chimes to be timed.

The system shall have a LED lamp panel at the nurse station with a buzzer and flashing lamps for an emergency call and steady lamp and chime for a normal call. These signals shall emanate from all call units at the beds, bathrooms and toilets. If 2 signals are operated at the same time, the emergency flashing over door and nurse station lamp shall take priority over the normal call, once the emergency call has been answered and cancelled the flashing lights shall revert to steady lamps until the normal call has been answered and cancelled by the attending staff. The length of time for the chime shall be adjustable internally in the panel and not externally. In addition to the nurse station panel, an indication lamp set shall be installed above the nurse station panel inter-connecting, where possible, the nurses stations in the same building or unit. Each nurse station is to be made aware of any call made to a particular station and not answered by that duty staff so that in the event of that particular nurse station being busy or requiring emergency, help can be given by one of the other stations.

1.48.2 NURSE CALL SYSTEM OPERATION

A patient will initiate a call at the bed by pressing the pear push button or the call button on the bed unit. The bed reassurance LED, the over door lamp and the indicator panel LED at the nurse station will light up and stay on until the call is cancelled. The call can only be cancelled at the bed unit from which the call was made. When the call is cancelled all the LED's and lamps go off and the chimes will stop at the emergency points.

The same operation applies to the toilet call unit if the call button or a pull cord is pulled, a pull cord can only initiate a call and not cancel a call. The call can only be cancelled at the toilet call cancel unit.

When any call is made the chimes will sound, the on and off time duration of the chimes shall be adjustable so the chimes do not become disturbing. The chimes at the nurse station shall sound once only for not less than 5 to 10 seconds when a call is made from any location other than the toilet etc. These chimes shall however repeat until the call has been attended to bathrooms or toilet cancel points.

A red over door flashing light leading to a zoned passage shall be used to indicate to the nurse station which zone requires attention. This light shall flash for any call in a particular zone and shall only be cancelled when the patient call has been answered.

Please note a bed unit can have normal call only or normal and emergency call. Normal call from the pear push and emergency call form the bedhead unit. A bathroom or toilet must have emergency call.

1.48.3 INPUT POWER SUPPLY

The electrical contractor shall provide and install electrical power supply points for the nurse call indication panels as follows:

A 16A 3-pin dedicated socket outlet (red) shall be provided and installed in the roof space above the control panel. A 100x100x50mm flush draw box shall be provided and installed at 1400mm above finished floor level. From the draw box 2x25mm dia flush conduits shall be provided and installed to a 150x150x100mm deep galvanised. surface mounted draw box with lid in the roof space positioned next to the dedicated socket. From this draw box conduits shall be provided to nurses call, indicator light etc outlet points.

A 230V/24V (4A) power pack with 2 x 7AHr battery backup and support platform as per equipment supplier's

specification with double wound mains transformer with short circuit, thermal and over load protection shall be provided and installed next to the 150x150x100mm draw box in the roof space and interconnected with the dedicated socket with 1,0mm² x3c Cabtire using a gripper gland. The input shall be fuse or circuit breaker protected and be equipped with a neon indicator showing power on. The regulator and bridge rectifier should be heatsinked to allow for cooling under load conditions. The housing shall be constructed of aluminium with adequate ventilation and powder coated finish in white. The unit shall be protected against spikes and lightning surges. Proper support to position the power pack in the roof space shall be provided.

1.48.4 INDICATION PANELS AT NURSE STATIONS

These shall be engraved natural anodised aluminium panels 2mm thick. The panel shall be mounted in a robust aluminium frame which is hinged on one side to a back frame. The back frame is to be mounted to the wall so that the indicator panel can hinge open. A timed chimes unit and speaker shall be housed in the unit. Bright 5mm LED's must be fitted from inside and the LED's must not be able to be pushed back into the box from the outside. A lamp test switch shall be provided. A buzzer shall be housed in the unit to indicate an emergency call.

1.48.5 OVER DOOR INDICATOR LAMPS

The lens colour shall be red, at least 40mm in overall height prism or dome shaped and easily visible from both sides. At least two (2) high bright red LED's housed within the lens shall be used for illumination. The lamp on failure shall be able to be replaced without removing the fitting. The unit shall fit into a 100 x 50mm vertically mounted outlet box.

1.48.6 BED CALL CANCEL UNITS

These shall be purpose made white ABS plastic clip-in units. No vacuum formed units will be accepted. The unit shall clip in and out of the duct or outlet box without the need of tools for easy maintenance. A touch keypad with symbol signs to indicate the call cancel buttons (which can be easily cleaned) shall be used. The button size shall be at least 17 x 14mm. A red bright reassurance LED shall indicate a call. A panel mounted moulded RCA socket must be fixed to the front of the unit not onto the printed circuit board for the pear push. The printed circuit board must have a plug in cable termination connector so the unit can be changed without removing wires. The unit shall be equipped with an emergency push button to activate the buzzer and cause the over-door light to flash. The unit shall activate a call if the pear push is accidentally pulled out of the RCA socket (stereo phono socket).

1.48.7 PEAR PUSH UNIT

The pear push cord shall be 1.5m long with a RCA socket and switch. The RCA socket must be moulded on to the one end with a robust switch and holder on the other end of the cord. The pear push shall be plugged into the bed call cancel unit and shall not damage the printed circuit board if jerked out of the unit. A wall hook shall be provided.

1.48.8 TOILET CALL UNIT

This unit shall be a purpose made white ABS plastic unit fitted to a 100 x 50mm outlet box. The toilet call unit shall be a one button (labelled call) call only unit with 5mm bright reassurance LED linked to the toilet/ bathroom reset and emergency call unit.

1.48.9 TOILET CALL CANCEL UNIT

This unit shall be the same as the bed call cancel unit with emergency button but without the RCA socket. The unit shall have a call input connection on the printed circuit board to allow calls from a bath or shower pull cord. It shall clip into a 100 x 50 vertical outlet box.

1.48.10 BATH SHOWER IMPULSE PULL CORD UNIT

This unit shall be a purpose made white ABS plastic unit that will clip into a 100 x 50 vertical outlet box. The unit shall have a 2m length nylon pull cord with an acorn at the end, 5mm bright reassurance LED and a label marked "call". The unit shall work with the toilet call cancel unit.

1.48.11 CORRIDOR BUZZER UNIT

A 24V Piezo Buzzer fitted to a 100 x 100 outlet box mounted adjacent to the over door indicator unit. The buzzer shall be connected to the emergency tone generator of the Nurse Station Control Panel.

1.48.12 NURSE CALL CABLES

All nurse call cables shall be a minimum of 0.2mm² PVC insulated copper conductors. The Nurse Call Sub contractor shall determine the number of cores or pairs required for the installation and make provision for 20% spare capacity.

1.48.13 CALL

Normal Call

When a normal call is made from a bed or elsewhere (not a patient bathroom or toilet) the following happens: -

- | | |
|----------|---|
| 1.48.1.1 | The Reassurance Lamp lights up at the unit. |
| 1.48.1.2 | The Over Door Lamp lights up in the passage. |
| 1.48.1.3 | The LED on the Lamp Panel lights up. |
| 1.48.1.4 | The Chime at the Lamp Panel turns on for a timed period. |
| 1.48.1.5 | The Call can only be cancelled by pressing the cancel button on the unit that initiated the call. |
| 1.48.1.6 | All functions return to normal. |

Emergency Call

The feature only applies to systems with Emergency facility. When an emergency call is made from a bed, bathroom or toilet the following happens: -

- | | |
|-----------|---|
| 1.48.1.7 | The Reassurance Lamp flashes at the bed. |
| 1.48.1.8 | The Over Door Lamp flashes in the passage. |
| 1.48.1.9 | The LED flashes on the Lamp Panel. |
| 1.48.1.10 | The Emergency Buzzer turns on continuously. |
| 1.48.1.11 | The Emergency Call can only be cancelled by pressing the cancel button on the unit that initiated the Call. |
| 1.48.1.12 | All functions return to normal |

1.49 SCHEDULE OF LIGHT FITTINGS

The light fittings and installation shall be according to the Quality Specifications in Part 3 and shall be approved by the Department. All new luminaires shall be supplied and installed complete with lamps of the size specified.

All luminaires and their components must bear both the SABS certification marks and brand names as tested by the SABS unless approved in writing by the Department. Luminaires in particular must bear the SABS 1464 mark. Gas discharge luminaires (fluorescent, MV, HPS, etc) shall be power factor corrected to at least 0,85 in terms of SANS 10142 10142.

Electronic ballasts shall be used for all new fluorescent light fittings throughout the service. Fluorescent light fittings with electronic ballasts and electrical installations for fluorescent light fittings with electronic ballasts shall comply with the following requirements:

- The light fitting shall bear the two SASS certification marks and brand name as tested by the SABS - a SABS certificate to be provided.
- One ballast per multiple lamps will be allowed **but if one lamp is out, all the other lamps will stay on.**
- The electronic ballast shall **automatically** restrike after re-lamping. **Switching off of the power supply to the electronic ballast to reset it will not be accepted.**
- Operational, approved lightning protection shall be provided on every distribution board feeding fluorescent light fittings with electronic ballasts. See "Distribution boards" forming part of this specification.
- Lamps of all fluorescent light fittings with electronic ballasts shall be of the colour 21 triphosphor (cool white 840) type.

Lamps for all fluorescent light fittings with conventional ballasts shall be of the Cool White L /20 colour type. Colour 21 triphosphor (cool white 840) type lamps shall not be used with fluorescent light fittings with conventional ballasts.

All lamps to be installed in this project shall bear the approved mark of the S.A.B.S. and shall be of the Osram, Phillips, GEC or GE types. **No-name brands or any other lamps are not acceptable.** Where available discharge lamps shall be of the tubular and not elliptical type.

Low energy lamps, 20W or higher will be used throughout the project. The usage of incandescent lamps will be limited to the minimum and only in cases where there is no alternative choice. Incandescent lamps shall bear the approved mark of the S.A.B.S. and shall have the British light centre length.

All fluorescent light fitting lamp holders shall be of the BJB type or of equal quality performance and approved.

Except for incandescent light fittings in staff houses, bayonet cap lamp holders shall not be used on any light fittings.

Where a specific type of fitting is specified, alternative fittings shall only be allowed if it is of equal quality, performance and approved. **The contractor shall submit an example of the specified fitting as well as alternative fitting well in advance with all lighting output curves etc. complete for both fittings in order for the Engineer to make a fair comparison.**

Non specified and alternative light fittings must be submitted to the Engineer for approval within 14 days of awarding of the contract. Light fittings purchased or installed without approval shall be at the contractor's risk.

Luminaire symbols shall mean the following:

Type A	Fluorescent luminaire 2 x 58W industrial type open channel (wings) with conventional ballast, cool white lamps and BJB type lamp holders. VOLTEX- LP1-158-SS-WINGS or ILM-ATL-FM11-158-SS-WINGS or equal and approved options acceptable.
Type B	Fluorescent luminaire 2 x 58W industrial type open channel (wings) with electronic ballast, colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders. -LP1-158-ECG-COL21-WINGS or ILM-ATL-FM11-158-ECG- COL21-WINGS or equal and approved options
Type C	Fluorescent luminaire 1x58W open channel with conventional ballast, cool white lamp and BJB type lamp holders. LP1-158-SS or ILM-ATL-FM11-158-SS or equal and approved options
Type D	Fluorescent luminaire 1x58W open channel with electronic ballast, colour 21 tri-phosphor (cool white 840) lamp and BJB type lamp holders. LP1-158--ECG- COL21 or ILM-ATL-FM11-158-ECG-COL21 or equal and approved options
Type E	Fluorescent luminaire 2 x 58W open channel with conventional ballast, cool white lamp and BJB type lamp holders.-LP1-258-SS or ILM-ATL-FM11-258-SS or equal and approved options
Type F	Fluorescent luminaire 2 x 58W open channel with electronic ballast, colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders. VOLTEX-LP1-258-- ECG- COL21 or ILM-ATL-FM11-258-ECG-COL21 or equal and approved options
Type G	Fluorescent luminaire 1 x 36W open channel with conventional ballast, cool white lamps and BJB type lamp holders. LP1-136-SS or ILM-ATL-FM11-136-SS or equal and approved options
Type H	Fluorescent luminaire 1 x 36W open channel with electronic ballast, colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders.LP1-136-ECG- COL21 or ILM-ATL-FM11-136-ECG-COL21 or equal and approved options
Type I	Fluorescent luminaire 2 x 36W open channel with conventional ballast, cool white lamps and BJB type lamp holders. LP1-236-SS or ILM-ATL-FM11-236-SS or equal and approved options
Type J	Fluorescent luminaire 2 x 36W open channel with electronic ballast, colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders. LP1-236-ECG- COL21 or ILM-ATL-FM11-236-ECG-COL21 or equal and approved options
Type K	Fluorescent, theatre ambient luminaire 1,5m with conventional blasts and 2x58W cool white lamps, surface mounted hygienically sealed with prismatic diffuser and BJB type lamp holders. Type: K23S-258-SS-230V or of equal quality, performance and approved. Lamps shall be switched Individually

Type L	Fluorescent, theatre ambient luminaire 1,5m with electronic blasts and 2x58W colour 21 tri-phosphor (cool white 840) lamps, surface mounted hygienically sealed with prismatic diffuser and BJB type lamp holders. Type: K23S-258/COL21- ECG/230V or of equal quality, performance and approved. Lamps shall be switched individually
Type M	Fluorescent, theatre ambient luminaire 1,2m with conventional blasts and 2x36W cool white lamps, surface mounted hygienically sealed with prismatic diffuser and BJB type lamp holders. Type: K23S-236-SS-230V or HU23-236-SS type or of equal quality, performance and approved. Lamps shall be switched individually
Type N	Fluorescent, theatre ambient luminaire 1,2m with electronic blasts and 2x36W colour 21 tri-phosphor (cool white 840) lamps, surface mounted hygienically sealed with prismatic diffuser and BJB type lamp holders. Type: K23S-236 COL21-ECG- 230V or HU23-236 COL21-ECG type or of equal quality, performance and approved. Lamps shall be switched individually
Type O	Emergency fluorescent luminaire 2 x 58W open channel with electronic blasts, colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders. Switched and unswitched supply, Ni Cad battery for 1Hr @20% - including self-testing unit. LP1-258-ECG-EMG-STU-60min 20% or ILM-ATL-FM11-258-ECG-EMG-STU-60min 20% or equal and approved options
Type P	Emergency fluorescent luminaire 2 x 36W open channel with electronic blasts, colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders. Switched and unswitched supply, Ni Cad battery for 1Hr @20% - including self-testing unit. LP1-236-ECG-EMG-STU-60min 20% or ILM-ATL-FM 11-236-ECG-EMG-STU-60min 20% or equal and approved options
Type P.1	Emergency fluorescent luminaire 2 x 10W - plug into a 15A or 5A socket outlet. Switched and unswitched supply, lead acid battery for 3Hr - including self testing unit. WACO-V1PEMERG/LITE/KN303A from VOLTEX or of equal quality, performance and approved
Type Q	Corrosion proof fluorescent luminaire IP65 rated, surface mounted with water tight diffuser, stainless steel diffuser clips, conventional ballast, 2 x 58W cool white lamps,
Type R	Corrosion proof fluorescent luminaire IP65 rated, surface mounted with water tight diffuser, stainless steel diffuser clips, electronic ballast and 2 x 58W colour 21 tri-phosphor (cool white 840) lamps, BJB type lamp holders and sealing grommets: C10-258 COL21-ECG-SSCLIPS or Nordland JBS-258 COL21-ECG-SSCLIPS or ILM-INV-DMC-258 COL21-ECG-SSCLIPS type or equal and approved options
Type S	Corrosion proof fluorescent luminaire IP65 rated, surface mounted with water tight diffuser, stainless steel diffuser clips, conventional ballast, 1 x 58W cool white lamp, BJB type lamp holders and sealing grommets: C10-158-SS-SSCLIPS or Nordland JBS-158-SS-SSCLIPS or ILM-1INV-DMC-158-SS-SSCLIPS type or equal and approved options
Type T	Corrosion proof fluorescent luminaire IP65 rated, surface mounted with water tight diffuser, stainless steel diffuser clips, electronic ballast, 1 x 58W colour 21 tri-phosphor (cool white 840) lamp, BJB type lamp holders and sealing grommets: LASCON C10-158 COL21-ECG-SSCLIPS or JBS-158 COL21-ECG-SSCLIPS or ILM-INV-DMC-158 COL21-ECG-SSCLIPS type or equal and approved options
Type U	Corrosion proof fluorescent luminaire IP65 rated, surface mounted with water tight diffuser, stainless steel diffuser clips, conventional ballast, 2 x 36W cool white lamps, BJB type lamp holders and sealing grommets: C10-236-SS-SSCLIPS or JBS-236-SS-SSCLIPS type or ILM-INV-DMC-236-SS-SSCLIPS type or equal and approved options
Type V	Corrosion proof fluorescent luminaire IP65 rated, surface mounted with water tight diffuser, stainless steel diffuser clips, electronic ballast, 2 x 36W colour 21 tri-phosphor (cool white 840) lamps, BJB type lamp holders and sealing grommets: LASCON C10-236W COL21-ECG-SSCLIPS JBS-236 COL21-ECG-SSCLIPS or ILM-INV-DMC-236 COL21-ECG-SSCLIPS type or equal and approved options
Type W	Corrosion proof fluorescent luminaire IP65 rated, surface mounted with water tight diffuser, stainless steel diffuser clips, conventional ballast, 1 x 36W cool white lamps, BJB type lamp holders and sealing grommets: LASCON C10-136-SS-SSCLIPS or Nordland JBS-136-SS-SSCLIPS type or ILM-INV-DMC-136-SS-SSCLIPS type or equal and approved options
Type X	Corrosion proof fluorescent luminaire IP65 rated, surface mounted with water tight diffuser, stainless steel diffuser clips, electronic ballast, 1 x 36W colour 21 tri-phosphor (cool white 840) lamps, BJB type lamp holders and sealing grommets: LASCON C10-136W COL21-ECG-SSCLIPS or Norland JBS-136 COL21-ECG-SSCLIPS or ILM-INV-DMC-136 COL21-ECG-SSCLIPS type.1 or equal and approved options

Type Y	Flame proof fluorescent luminaire with electronic ballasts, 2x36W colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders of the ILM-INV-EXE-236-COL21- ECG or P71-236W type or equal and approved options
Type AB	Fluorescent luminaire recessed 1200mmx600mm with low brightness diffuser, conventional ballast and 3x36W cool white lamps and BJB type lamp holders. The louvre shall be removable, spring clip hinged with spring fixed to the louvre: - Bergstrom VBIR-336-SS-LLB or ILM-PRO-MOD-ARTIC-336-SS-LLB or FRAME MODULE 90 FM90-336-SS-LLB or equal and approved options
Type AC	Fluorescent luminaire recessed 1200mmx600mm with low brightness diffuser, electronic ballast and 3x36W colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders. The louvre shall be removable, spring clip hinged with spring fixed to the louvre: - Bergstrom VBIR-336-COL21-ECG-LLB or ILM PRO-MOD-ARTIC-336-COL21-ECG-LLB or FRAME MODULE 90 FM90-336-COL21-ECG-LLB or equal and approved options
Type AD	Fluorescent luminaire recessed 600mmx600mm with low brightness diffuser, conventional ballast and 3x18W cool white lamps and BJB type lamp holders. The louvre shall be removable, spring clip hinged with spring fixed to the louvre: - Bergstrom VBIR-318-SS-LLB or ILM-PRO-MOD-ARTIC-318-SS-LLB or FRAME MODULE 90 FM90-318-SS-LLB or equal and approved options
Type AE	Fluorescent luminaire recessed 600mmx600mm with low brightness diffuser, electronic ballast and 3x18W colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders. The louvre shall be removable, spring clip hinged with spring fixed to the louvre: - Bergstrom VBIR-318-COL21-ECG-LLB or ILM PRO-MOD-ARTIC-318-COL21- ECG-LLB or FRAME MODULE 90 FM90-318-COL21-ECG-LLB or equal and approved options
Type AF	Fluorescent luminaire recessed decorative 1200mmx600mm with acrylic, prismatic diffuser, conventional ballast and 3x36W cool white lamps and BJB type lamp holders: - FRAME MODULE 90 FM90-AR 27-SS 3x36W or ILM-PRO-MOD-P2-336-SS or equal and approved options
Type AG	Fluorescent luminaire recessed decorative 1200mmx600mm with acrylic, prismatic diffuser, electronic ballast and 3x36W colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders: - FRAME MODULE 90 FM90-AR 27-3x36W COL21- ECG or ILM-PRO-MOD-P2-336-COL21-ECG or equal and approved options
Type AH	Fluorescent luminaire recessed 1200mmx600mm with single parabolic white louvre with 1L cross blades, conventional ballast and 3x36W cool white lamps and BJB type lamp holders. The louvre shall be removable, spring clip hinged with spring fixed to the louvre: - Bergstrom VBIR-336-SS-WHT or ILM-PRO-MOD-ARTIC-336-SS or equal and approved options
Type AI	Fluorescent luminaire recessed 1200mmx600mm with single parabolic white louvre with 12 cross blades, electronic ballast and 3x36W colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders. The louvre shall be removable, spring clip hinged with spring fixed to the louvre: - Bergstrom VBIR-336 COL21-ECG-WHT or ILM-PRO-MOD-ARTIC-336 COL21-ECG or equal and approved options
Type AJ	Fluorescent luminaire recessed 600mmx600mm with single parabolic white louvre with 6 cross blades, conventional ballast and 3x18W cool white lamps and BJB type lamp holders. The louvre shall be removable, spring clip hinged with spring fixed to the louvre: - Bergstrom VBIR-318-SS-WHT or ILM-PRO-MOD-ARTIC-318-SS or equal and approved options
Type AK	Fluorescent luminaire recessed 600mmx600mm with single parabolic white louvre with 6 cross blades, electronic ballast and 3x18W colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders. The louvre shall be removable, spring clip hinged with spring fixed to the louvre: - Bergstrom VBIR-318 COL21-ECG-WHT or ILM-PRO-MOD-ARTIC-318 COL21-ECG or equal and approved options
Type AL	Fluorescent luminaire surface mounted with low brightness diffuser, conventional ballast, 2x58W cool white lamps and BJB type lamp holders. The louvre shall be removable, spring clip hinged with spring fixed to the louvre: - MODULE 30 M30-258-SS-LLB 2X58W or ILM-PRO-SFC-ELZ-258-SS or equal and approved options
Type AM	Fluorescent luminaire surface mounted with low brightness diffuser, electronic ballast, 2x58W colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders. The louvre shall be removable, spring clip hinged with spring fixed to the louvre: MODULE 30 M30-258 COL21-ECG-LLB 2X58W or ILM-PRO-SFC-ELZ-258 COL21-ECG or equal and approved options

Type AN	Fluorescent luminaire surface mounted with low brightness diffuser, conventional ballast, 3x36W cool white lamps and BJB type lamp holders. The louvre shall be removable, spring clip hinged with spring fixed to the louvre: - MODULE 30 M30-336-SS-LLB-3X36W or ILM-PRO-SFC-ELZ-336-SS or equal and approved options
Type AO	Fluorescent luminaire surface mounted with low brightness diffuser, electronic ballast, 3x36W colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders. The louvre shall be removable, spring clip hinged with spring fixed to the louvre: - MODULE 30 M30-336 COL21-ECG-LLB-3X36W or ILM-PRO-SFC-ELZ-336 COL21- ECG or equal and approved options
Type AP	Fluorescent luminaire surface mounted with acrylic prismatic diffuser, conventional ballast, 2x58W cool white lamps and BJB type lamp holders: VOLTEX MODULE 30 M30-258-SS-AR27-2x58W or ILM-PRO-SFC-ELZ-P2-258-SS or equal and approved options
Type AQ	Fluorescent luminaire surface mounted with acrylic prismatic diffuser, electronic ballast, 2x58W colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders: VOLTEX MODULE 30 M30-258 COL21-ECG-AR27-2x58W or ILM-PRO-SFC-ELZ-P2-258 COL21-ECG or equal and approved options
Type AR	Fluorescent luminaire surface mounted with acrylic prismatic diffuser, conventional ballast, 3x36W cool white lamps and BJB type lamp holders: VOLTEX MODULE 30 M30-336-SS-AR27-3x36W or ILM-PRO-SFC-ELZ-P2-336-SS or equal and approved options
Type AS	Fluorescent luminaire surface mounted with acrylic prismatic diffuser, electronic ballast, 3x36W colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders: VOLTEX MODULE 30 M30-336 COL21-ECG-AR27-3x36W or ILM-PRO-SFC-ELZ-P2-336 COL21-ECG or equal and approved options
Type AT	Fluorescent luminaire surface mounted with acrylic prismatic diffuser, conventional ballast, 2x36W cool white lamps and BJB type lamp holders: VOLTEX MODULE 30 M30-236-SS-AR27-2x36W or ILM-PRO-SFC-ELZ-P2-236-SS or equal and approved options
Type AU	Fluorescent luminaire surface mounted with acrylic prismatic diffuser, electronic ballast, 2x36W colour 21 tri-phosphor (cool white 840) lamps and BJB type lamp holders: VOLTEX MODULE 30 M30-236 COL21-ECG-AR27-2x36W or ILM-PRO-SFC-ELZ-P2-236 COL21-ECG or equal and approved options
Type AV	Bowl type 200 dia glass IP55 bathroom fitting with porcelain or fiber glass gallery, porcelain or brass lamp holder and 20W energy saving BC/ES lamp
Type AW	Bowl type 150 dia polycarbonate IP55 bathroom fitting with porcelain or fiber glass gallery, porcelain or brass lamp holder and 13W energy saving BC/ES lamp
Type AX	Bowl type open bowl 200 dia polycarbonate bathroom fitting with porcelain or fiber glass gallery, porcelain or brass lamp holder and 20W energy saving BC/ES lamp
Type AY	Bowl type 150 dia polycarbonate IP55 bathroom fitting with porcelain or fiber glass gallery, porcelain or brass lamp holder and 13W energy saving BC/ES lamp
Type AZ	Bowl type open bowl 200 dia polycarbonate bathroom fitting with porcelain or fiber glass gallery, porcelain or brass lamp holder and 20W energy saving BC/ES lamp
Type BE	Incandescent external water tight light fitting with ceramic or brass lamp holder - bottle type glass (WELL GLASS) or ILM-DEC-BG-JJ with 13W, 15W or 20W energy saving BC/ES lamp.
Type BF	Bulkhead luminaire with 2xTC9W lamps, 2-ballasts, mounted against the wall, concrete or ceiling complete with high impact resistant, acrylic, flat, opal lens diffuser and stainless steel helicoil inserts - type BEKA SERIES 30 BEKA 31209-HELI or ILM-MAS-RBH-2xTC9W-OPAL-HELI or equal and approved options. Trim ring colour shall match existing on site
Type BG	Bulkhead luminaire with 1xTC-D 26W lamp, mounted against the wall, concrete or ceiling complete with high impact resistant, acrylic, dome, opal lens diffuser and stainless steel helicoil inserts - type SEKA Series 30 BEKA 31126-HELI or ILM-MAS-RBH-V-1PL26-DCD-HELI or equal and approved options .Trim ring colour shall match existing on site
Type BH	Bulkhead wall mounted light fitting - type BEKA AZIMUTH 125W MV or equal and approved options
Type BI	Bulkhead wall mounted light fitting - type BEKA AZIMUTH 2xTC-D 26W lamps or equal and approved options
Type BJ	Bulkhead wall mounted, rectangular light fitting with eyelid and clear or opal diffuser - type BEKA SERIES 40 E.G. BEKA 41126 with TC-O 26W lamp or equal and approved options - confirm standard colour

Type BK	Recessed downlighter luminaire with 1xTC-D 26W compact fluorescent lamp, recess mounted in the ceiling complete with lamp, 2m cord set including SA 3-pin plug top. Trim ring colour shall blend with existing. Type: BEKA RONDO-H-1x26W-ECG-CORD SET or ILM-DNL-PRB-MAX-1PL26-S-RW-ECG-CORD SET or equal and approved options
Type BL	Recessed downlighter luminaire with 2xTC-D 26W compact fluorescent lamps, recess mounted in the ceiling complete with lamps, 2m cord set including 5A 3-pin plug top. Trim ring colour shall blend with existing. Type: BEKA RONDO-H-2x26W-ECG-CORD SET or ILM-DNL-PRB-MAX-2PL26-S-RW-ECG-CORD SET or equal and approved options
Type BM	Downlighter luminaire with 1 x 5W PL lamp, mounted in the ceiling complete with ceiling trim - colour to match existing. The light fitting shall be of the Beacon Lighting Series 1300/1x5WPL type complete with lamp and 2m cord set including 5A 3-pin plug top
Type BN	Surface downlighter luminaire with 1xTC-0 26W compact fluorescent lamp, mounted on the ceiling, complete with lamp. Colour shall blend with existing. Type: BEKA RONDO-H-SM-1x26W or ILM-DNL-SF-1PL26-S-RW or equal and approved options
Type BO	Safe light consisting of a neat red surface mounted light fitting (max 120x120mm) with 230V LED/s to fit over a flush 50mm dia round draw box. This light will be switched from the inside of the strong room. Bulls eye indication light red - 230V LED lamp/s
Type BP	Emergency exit luminaire, maintained, power saving, auto test complete with charge indicating LED, integral electronic control gear with Ni Cad batteries. The light fitting shall be complete with 1x26W PL lamp and be of the - LASCON E60-M-EXIT-PS-AT-1PL26 or EXT-RECT-1 PL26-EMG-ST type or equal and approved options
Type BQ	Infra-red dark room, corrosive resistant, surface mounted light fitting - safe light. See "DARK ROOM LIGHT FITTINGS AND SWITCHING" forming part of this specification. The light fitting luminaire shall be complete with a standard porcelain Edison screw brass lamp holder with 15W 230V "Pearl" type pygmy ES lamp and cord set including 5A 3-pin plug top. The light fitting shall be of the neatly finished off Kodak GBX-2 Compact Safe Light type with slide in filter or equal and approved options. Before ordering the contractor shall confirm with the Department that the Safe Light must be provided under this contract or must be ordered from the State Tender Supplier
Type BR	Over door prism shaped light fitting with LED lamp complete as supplied for the MICROSOUND NC-M Nurses call or LEGRAND system or equal and approved options
Type BS	Flood light wall mounted, die cast Al body with OW HPS (external ignitor) lamp and wall fixing clamp - GENLUX-ALTHENA-70HPS-EXT IGN-WALL MOUNT or ILM-GAL-SR-MF-ATH-70HPSE or equal and approved options
Type BU	Flood light wall mounted, die cast Al body 250W HPS/T lamp and wall fixing clamp - BEKA BEKAMAX-F-250W HPS/T or ILM-GAL-SR-PRL-250W HPS/T or equal and approved options
Type BV	Flood light pole mounted, die cast Al body 250W HPS/T lamp and pole clamp - BEKA BEKABEAM-2SOW HPS/T or LASCON L14E-2SOW HPS/T or ILM-GAL-SR-PRL-250W HPS/T or equal and approved options
Type BW	Flood light pole mounted, die cast Al body 400W HPS/T lamp and pole clamp - BEKA BEAM 400W HPS/T or LASCON L14E-400W HPS/T or GAL-SR-PRL-400W HPS or equal and approved options
Type CD	Post top area light of the BEKA BEKARAY 70W HPS type or equal and approved options. Pole measured elsewhere. Post top area
Type CE	Area light of the BEKA BEKARAY 100W HPS type or equal and approved options. Pole measured elsewhere. Post top area
Type CF	Light of the BEKA BEKAWAY 70W HPS type or equal and approved options. Pole measured elsewhere
Type CG	Post top area light of the BEKA BEKAWAY 100W HPS type or equal and approved options. Pole measured elsewhere
Type CI	Streetlight, bottom or side entry, with internal circuit breaker, complete with 70W HPS/T lamp of the BEKA BEKALUX 70W HPS/T-MCB or ILM-SL-AP-70HPS/T-SE-SE-MCS type or equal and approved options.
Type CJ	Streetlight, bottom or side entry, with internal circuit breaker, complete with 100W HPS/T lamp of the SEKA BEKALUX 100W HPS/T-MCS or ILM-SL-AP-100HPS/T-SE-SE-MCB type or equal and approved options
Type CM	Wall mounted medical inspection luminaire of the HUTZ HU MIL 002 wall mounted type complete with 1 built in double wound transformer, SOW 10° spot halogen lamp (11 000 lux at 1.0m) with integral metal reflector. Each medical inspection luminaire shall be equipped with a SASS 1SA plug and 1000mm spiral cable - to plug into bedhead trunking. Equal and approved options accepted.

Type CN	Ceiling mounted examination light of the Hutz Solaris 300 Procedure 50 000 lux light type complete with SOW, 12V lamp or ALM Medical Luminaires MTA CENTRY CT 13 TM ceiling mounted type complete with double wound transformer, 12V? SW pre focused spot halogen lamp (30 000 lux 150mm dia at 600mm). The luminaire shall be complete with anchoring plate, suspension arm, controls and 2m cord set including 5A 3-pin plug top. As part of the installation the electrical contractor shall allow for additional support for fixing of the examination light onto the suspended ceiling. See "DELIVERY ROOM EXAMINATION LUMINAIRE CEILING MOUNTED" forming part of this specification. Equal and approved options accepted.
Type CO	Surface wall mounted X-ray viewing box for viewing one (1) radiographic image (350x430mm each). The luminaire shall be an epoxy coated or stove enamel, mild steel or aluminium structure with keyholes for fixing to the wall, electronic ballasts, 18W fluorescent lamps providing 1700nit or 1700lux with built in bright spot 100W incandescent lamp on a separate switch. The luminaire shall be equipped with marble loaded film clips. The X-ray viewing box shall be of the MMS/EUR-M-1-plate or Hutz HU-XRU 1-plate type or equal and approved options. Before ordering the contractor shall confirm with the engineer and Department that the viewing screen must be provided under this contract or must be ordered from the State Tender Supplier.
Type CP	Surface wall mounted X-ray viewing box for viewing two (2) radiographic images (350x430mm each). The luminaire shall be an epoxy coated or stove enamel, mild steel or aluminium structure with keyholes for fixing to the wall, electronic ballasts, 36W or 18W fluorescent lamps providing 1700nit or 1700lux with built in bright spot 100W incandescent lamp on a separate switch. The luminaire shall be equipped with marble loaded film clips. The X-ray viewing box shall be of the MMS/EUR-M-2-plate or Hutz HU-XRU 2-plate type or equal and approved options. Before ordering the contractor shall confirm with the engineer and Department that the viewing screen must be provided under this contract or must be ordered from the State Tender Supplier
Type CQ	Up light luminaire in the bedhead trunking with 1x58W colour 21 fluorescent lamp, electronic ballast and BJB type lamp holder of the HUTZ type or equal and approved options
Type CR	Night light luminaire in the bedhead trunking with SW compact fluorescent or LED lamp of the HUTZ type or equal and approved options
Type CS	Reading light luminaire in the bedhead trunking with 1x26W PL lamp of the HUTZ type or equal and approved options
Type CT	Ultraviolet Germicidal Irradiation (UVGI) fitting of the R1 type by Technilamp tel 011 - 839 1837 or of equal quality, performance and approved. Before ordering the contractor shall confirm with the engineer and Department that the (UVGI) fitting must be provided under this contract or must be ordered from the State Tender Supplier
Type CU	Ultraviolet Germicidal Irradiation (UVGI) fitting of the R2 type by Technilamp tel 011 - 839 1837 or of equal quality, performance and approved. Before ordering the contractor shall confirm with the engineer and Department that the (UVGI) fitting must be provided under this contract or must be ordered from the State Tender Supplier
	THEATRE LIGHTS Suspended operating luminaire, ceiling mounted in a theatre. All luminaires shall make provision for a main and satellite theatre light and shall be complete with anchoring plate, suspension tube, control box, control transmission and dimmer. The theatre light transformer/controller shall be mounted (by theatre light supplier and contractor) in a separate panel (with UPS supply) in an insulated supply distribution board $\pm 15m$ away from the theatre light fitting. Supply and installation of the control cable from the theatre light control unit to the theatre light controller/ dimmer in the theatre control panel shall form part of the theatre light installation (conduits and draw boxes measured elsewhere). The voltage of the supply down the arm to the light fitting shall not exceed 42V and lamps shall be readily available. Light fittings with special/imported lamps will not be considered. Co-ordination of the theatre light installation by the electrical contractor shall be included in the price. Two spare lamps with lamp holder plus two separate spare sterilisable control handles per light head shall form part of the theatre light installation, which shall be provided and handed over to the User Department who must sign for it. The theatre light supplier shall set up and commission the theatre light installation on site. Allowance for this shall be made in the theatre light price. Travelling and delivery measured elsewhere

Type CV	Provision for a main and satellite theatre light with one main 100 000 lux 24V theatre light only. Allowance shall, be made for the addition of a theatre light of the same size in future. The light fitting shall be of the Hutz Solaris 500 combination type with 120W 24V 100 000 lux lamp or Medhold Medical ANGENIEUX AXCELL type with 100W 24V 100 000 lux halogen lamp or of equal quality, performance and approved.
Type CV 1	Provision for a main and satellite theatre light with one main 160 000 lux 24V theatre light only. Allowance shall, be made for the addition of a theatre light of the same size in future. The light fitting shall be of the CHROMOPHARE E805 Type with 150W HID 24V 160 000 lux lamp with a depth of illumination of at least 135 cm or equal quality, performance and approved
	Main and satellite theatre light combination with one main theatre light plus one satellite theatre light of the following types:
Type CY	Hutz Solaris 700-500 combination type with Solaris 700 light with 150W 24V 140 000 lux lamp and Solaris 500 light with 120W 24V 100 000 lux halogen lamp or equal quality, performance and approved.
Type CZ	Main and satellite theatre light with one main 160 000 lux 24V theatre light plus one satellite 160 000 lux 24V theatre light. The light fitting shall be of the CHROMOPHARE E655 type with 2x 70W HID 24V 160 000 lux lamps with a depth of illumination of at least 120 cm or of equal quality, performance and approved

1.50 **ALTERNATIVE LED LIGHT FITTINGS**

Type A, B, E, F	5FT - T8 Dual Open Channel Fitting Pre-wired for LED Tubes - Must include Removable Fuse
Type A, B, E, F	2 x 5ft - 24W T8 LED Tube Frosted Glass housing 1KV Surge Protection 220V Power to one side (Cool white -840)
Type C, D	5FT - T8 Single Open Channel Fitting Pre-wired for LED Tubes - Must include Removable Fuse
Type A, B, C, D, E, F	5ft - 24W T8 LED Tube Frosted Glass housing 1KV Surge Protection 220V Power to one side (Cool white -840)
Type G, H	4ft - T8 Single Open Channel Fitting Pre-wired for LED Tubes - Must include Removable Fuse
Type G, H	4ft - 18W T8 LED Tube Frosted Glass housing 1KV Surge Protection 220V Power to one side (Cool white -840)
Type I, J	4ft - T8 Dual Open Channel Fitting Pre-wired for LED Tubes - Must include Removable Fuse
Type I, J	2 x 4ft - 18W T8 LED Tube Frosted Glass housing 1Kv Surge Protection 220V Power to one side (Cool white -840)
Type K, L, N	4ft Easybat Surface Mount LED batten or equal and approved options with a steel body and polycarbonate diffuser. CTC - 3000K, 4000K, 6500K. (6200lm)
Type O	5ft DBL Open Channel With 2 x LED Tubes. Cosine ES Conversion Kit Emergency Lighting or equal and approved options 1Hr Main- tained 25W
Type P	4ft DBL Open Channel With 2 x LED Tubes. Cosine ES Conversion Kit or equal and approved options Emergency Lighting 1Hr Main- tained 25W
Type P.1	Cosine LED Emergency Bulkhead Maintained or equal and approved options. 100% light 3Hr Emergency. IP65
Type Q,R,S,T	Kuda IP65 5ft 3CCT 50/25W Linear Batten White (6000-3000lm) or equal and approved options
Type U,V,W,X	Kuda IP65 4ft 3CCT 36/18W Linear Batten White (4320-2160lm) or equal and approved options
Type Y	N60LED-Ex 4ft 500mA 98w. Zone 1/2/21/22 hazardous area vapour proof luminaire or equal and approved options
Type AB, AC	Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) 5yr Warranty or equal and approved options
Type AD, AE	Mantra 40W External Driver 600 x 600 BackLit LED Panel 4000k (4000lm) 5yr Warranty or equal and approved options
Type AF, AG, AH	Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) 5yr Warranty or equal and approved options
Type AI	Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) 5yr Warranty or equal and approved options

Type AJ, AK	Mantra 40W External Driver 600 x 600 BackLit LED Panel 4000k (4000lm) 5yr Warranty or equal and approved options
Type AL, AM	4ft Easybat Sur Mnt LED batten with steel body and polycarbonate diffuser or equal and approved options. CTC - 3000K, 4000K, 6500K. (6200lm)
Type AN, AO	Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) With 12x6 Surface Mnt Kit or equal and approved options
Type AP, AQ	4ft Easybat Sur Mnt LED batten with steel body and polycarbonate diffuser or equal and approved options. CTC - 3000K, 4000K, 6500K. (6200lm)
Type AR, AS	Mantra 72W External Driver 1200 x 600 Backlit LED Panel 4000k (7900lm) With 12x6 Surface Mnt Kit (Lighthouse) or equal and approved options
Type AT, AU	4ft Easybat Sur Mnt LED batten with steel body and polycarbonate diffuser or equal and approved options. CTC - 3000K, 4000K, 6500K. (6200lm)
Type AV, AX	Hero Bulkhead or equal and approved options - 3CCT (6000k/4000k/3000k) PC Coastal Grade Wattage Dipswitch
Type AW, AY, AZ	Hero Bulkhead or equal and approved options - 3CCT (6000k/4000k/3000k) PC Coastal Grade Wattage Dipswitch
Type BE, BF, BG	Hero Round Bulkhead or equal and approved options - 3CCT (6000k/4000k/3000k) PC Coastal Grade Wattage Dipswitch
Type BH, BI, BJ	Hero Square Bulkhead or equal and approved options - 3CCT (6000k/4000k/3000k) PC Coastal Grade Wattage Dipswitch
Type BK, BL	35W Punch LED Downlighter 4000k. 2k Surge Protection Ip40. 4200lm
Type BN	24W Iris Round LED Panel. Surfaced Mounted. 4000k 2250lm. 1kV Surge Protection
Type BP	LED exit sign with metal body and acrylic diffuser, includes LED driver and 4 pictograms. 3 Hour emer- gency backup.
Type BS	100W Nana Evo LED Floodlight. 10 000lm, 4kV Surge Protection IP65. 6000k or equal and approved options
Type BU	200W Nana Evo LED Floodlight. 20 000lm, 4kV Surge Protection IP65. 6000k or equal and approved options
Type BV	200W Thor Coastal Heavy-Duty Floodlight, Incl Pole Holder (84Dia). 26000lm. 6000k or equal and approved options
Type BW	500W Thor Coastal Heavy-Duty Floodlight, Incl Pole Holder (84Dia). 75000lm. 6000k or equal and approved options
Type CD, CE, CF, CG	43/54W Argo LED Post Top. Mounting height 3.5m to 6m. Spigot entry 76mm Ø at a depth of 40mm. 4000k or equal and approved options
Type CI	60W Strada LED Street Light 5700k/4000k 150 Lumen/Watt. or equal and approved options 10kV Surge Protection
Type CJ	100W Strada LED Street Light 5700k/4000k 150 Lumen/Watt or equal and approved options. 10kV Surge Protection

C3.1b: STANDARD ELECTRICAL SPECIFICATION

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM



PART 2

QUALITY SPECIFICATION

FOR

MATERIAL AND EQUIPMENT

"Part 2: Quality specification for materials and equipment" manual of the Department of Public Works is applicable to this Contract. The manual can be obtained from the Department of Public Works website.

The hyperlink to the document is as follows:

<http://www.publicworks.gov.za/consultantsdocs.html> (Electrical Engineers; 6.6 General Electrical Specification Part A,B & C)

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C3.2: HEALTH AND SAFETY SPECIFICATION

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

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1. INTRODUCTION AND BACKGROUND

- 1.1 The Construction Regulations No. 37305 of 7th February 2014 require the Client to prepare a pre-construction Health and Safety Specification, with all existing risks identified.
- 1.2 The Eastern Cape Department of Health (ECDoH) is tasked to provide Healthcare operational facilities across the Eastern Cape.
- 1.3 The ECDoH has a responsibility to limit its risk by ensuring a zero tolerance and best practice approach to Contractors and those affiliated to a construction project. Thus, a high premium is placed on the health and safety (H&S) of ECDoH stakeholders, which includes its employees, professional service providers, public and its physical assets.
- 1.4 The responsibilities that the Department and relevant stakeholders have toward its employees are captured in but not limited to this document. The responsibilities stem from both moral, civil and a variety of legal obligations.
- 1.5 The Principal Contractor is to take due cognizance of the above statement.
- 1.6 The ECDoH, as the Client and where there is an appointed Client on its behalf, shall provide a project specific Health & Safety Specification (PSHSS) for the project and provide the Principal Contractor/s making a bid or appointed to perform construction work for the project, or parts thereof such documentation.
- 1.7 This Health and Safety Specification complies with the Occupational Health and Safety Act No. 85 of 1993 and the Construction Regulations of February 2014.
- 1.8 This Health and Safety Specification is to be used as a management tool to comply with the Occupational Health and Safety Act.

2. KEY ROLE PLAYERS

2.1 CLIENT

- 2.1.1 Electrical Engineer
- 2.1.2 Eastern Cape Department of Health

2.2 ELECTRICAL MAINTENANCE CONTRACTOR

- 2.2.1 Electrical Maintenance Manager
- 2.2.2 Electrical Maintenance Supervisor
- 2.2.3 Registered Construction Health & Safety Officer
- 2.2.4 Other

3. LIST OF ABBREVIATIONS

AAIA	Approved Asbestos Inspection Authority
AIA	Approved Inspection Authority
BoQ	Bill of Quantities
CC	Compensation Commissioner
CR	Construction Regulations
DMR	Driven Machinery Regulations
DoEL	Department of Employment and Labour
FEMA	Federated Employers Mutual Association
GAR	General Administration Regulations
GSR	General Safety Regulations
HCSR	Hazardous Chemical Substances Regulations
HIRA	Hazard Identification Risk Assessment
H&S	Health and Safety
ER	Engineer's Representative
LI	Labour Intensive
OH	Occupational Health
OHSA	Occupational Health and Safety Act No. 85 of 1993 (as amended)
OHSS	Occupational Health and Safety Specification
PSHSS	Project Specific Health and Safety Specification
PC	Principal Contractor
PPE	Personal Protective Equipment
SANS	South African National Standards (Authority)
SDS	Safety Data Sheet
SMME	Small, Micro, Medium Enterprise
SWP	Safe Work Procedure
PC	Principal Contractor
CHSO	Construction H&S Officer

4. DEFINITIONS

The definitions used will be those set out in the Regulation Gazette N0 37305 of 7th February 2014 with the following additions:

4.1 Client:

The Superintendent General, Department of Health of the Province of the Eastern Cape.

4.2 Hazard:

Source of exposure to danger.

4.3 Hazard Identification and Risk Assessment (HIRA) and Risk Control:

Means a documented plan, which identifies hazards, assesses the risks and details the control measures and safe working procedures which are to be used to mitigate and control the occurrence of hazards and risks during construction or operation phases.

4.4 Health and Safety Agent:

Means any person who acts as a representative for the Client in managing the overall health and safety work as their responsible person.

4.5 Health and Safety Plan:

Means a documented plan which answers to the Project Specific Health and Safety Specification; including all the supporting documentation that indicates how the Principal Contractor or Contractor plans to manage H&S for the duration of the Contract.

4.6 Induction Training:

Means once off introductory training on general health and safety issues given to all employees and visitors to the site before commencement of work on site.

4.7 Risk:

Means the probability or likelihood that a hazard can result in injury or damage.

4.8 Regulation/s:

Shall mean the relevant regulation/s promulgated in terms of the Occupational Health and Safety Act, No. 85 of 1993 and the Construction Regulations No. 37305 of 7th February 2014.

4.9 Site:

Means the area in the possession of the Principal Contractor for the construction of the works. Where there is no demarcated boundary it will include all adjacent areas, which are reasonably required for the activities for the Principal Contractor and approved for such use by the Designer.

4.10 The Act:

Means, unless the context indicates otherwise, the Occupational Health and Safety Act, No.85 of 1993 and Regulations promulgated thereunder, as amended

5. KEY REFERENCES

- 5.1 Occupational Health and Safety Act No. 85 of 1993 and Regulations (as amended).
- 5.2 Compensation for Injury and Occupational Diseases Act No. 100 of 1993 (as amended)
- 5.3 The Preferential Procurement Policy Framework Act 2000 and the Preferential Procurement Regulations 2017, the General Conditions of Contract (GCC)
- 5.4 Construction Regulations No. 3705 of 7th February 2014
- 5.5 SANS Code 10400 and others that are applicable.

6. PURPOSE OF THE PROJECT SPECIFIC HEALTH AND SAFETY SPECIFICATION (PSHSS)

- 6.1 The PSHSS is a performance specification to ensure that the Client and any bodies that enter into formal agreements with the Client Viz. Agents, Professional Service Consultants (Engineers, Quantity Surveyors and Architects), Principal Contractors and Contractors achieve an acceptable level of OHS performance.
- 6.2 To assist in achieving compliances with the Occupational Health and Safety Act No. 85 of 1993 and the Ewe Construction Regulations of February 2014, to, as far as is practical, reduce or eliminate incidents or injuries.
- 6.3 No advice, approval of any document required by the PSHSS, such as hazard identification and risk assessments, or any other form of communication from the Client shall be construed as acceptance by the Client of any obligation that absolves the Principal Contractor from achieving the required level of performance and compliance with legal requirements.

- 6.4 Furthermore, there is no acceptance of liability by the Client, which may result from the Principal Contractor failing to comply with the PSHSS, i.e. the Principal Contractor remains responsible for achieving the required performance levels.
- 6.5 A Mandatory Agreement in terms of Section 37.2 of the OHSA will be signed between parties prior to any works commencing.
- 6.6 The PSHSS highlights the aspects to be implemented over and above the minimum requirements of current legislation.
- 6.7 Requirements may be changed should new risks or issues are identified that could not have been foreseen during the design phase of the project, or during the construction phase. Any new legislation or standards (legislated or determined by the (ECDoH) that are promulgated or accepted during the contract will automatically be applied.
- 6.8 Environmental management shall receive due attention as per the requirements of the Environmental Management Act 107 of 1998.
- 6.9 The Contractor shall use this Specification as a basis for the drafting of his and any Subcontractors' Construction Health and Safety Plans.
- 6.10 The Specification sets out the requirements to be followed by all Contractors so that the Health and Safety of all persons who may be affected by the Construction Project will receive proper priority.
- 6.11 The Project Specific Risks that have been identified have been tabulated in Section 18 of this Specification.

7. IMPLEMENTATION OF THE PROJECT SPECIFIC OCCUPATIONAL HEALTH AND SAFETY SPECIFICATIONS (PSHSS)

- 7.1. The project specific H&S specification (PSHSS) forms an integral part of the Contract, and PCs are required to make it an integral part of their Contracts with Contractors and Suppliers.
- 7.2. A PSHSS will be available for each level of Contract and Contractor and must be complied with.
- 7.3. This specification must be read in conjunction with the OHSA, Regulations thereto (as amended) and any other standards relating to work being done and ensure compliance thereto.
- 7.4. The information relative to the scope of the project, the works etc. are detailed in the tender, are to be considered when developing the H&S plan and associated documentation.
- 7.5. The summary of risks is included in Section 18 of the PSHSS.
- 7.6. The OHSA S.37.2 Mandatory Agreement must be fully completed by the PC, supplied by the Client.
- 7.7. No work may commence without written approval of the H&S plan by the Client, or the responsible person in the ECDOH.
- 7.8. Should there be design changes, or change in the scope of works, an amended PSHSS may be issued.
 - 7.8.1. Where amended PSHSSs are issued, the PC will be required to ensure a resubmission of an amended H&S plan for approval.
 - 7.8.2. Further to this, the PC must ensure that similar information must be provided as it applies to the works to all their Contractors, within 5 working days following notification thereof of such design changes.

- 7.9. The Client will visit the facilities under the contract in order to ensure compliance and limit risks.
- 7.9.1. All activities on the site and all appropriate documentation will be monitored and reported on to the Client and the Designer.
- 7.10. Non-conformances will be issued, and penalties or work stoppage will be issued where appropriate. Communication between the Client and the PC will be through the Engineer / PSP (Client Responsible Person) as determined at the commencement of the project.
- 7.11. The Contractor must forward a copy of the Health and Safety plan to all Subcontractors to enable them to prepare their own Health and Safety plans.

8 APPLICATION

- 8.1. This Specification is a compliance document drawn up in terms of the Occupational Health and Safety Act No. 85 of 1993, and the Construction Regulations of February 2014, and is therefore binding on the Contractor as well as the Client.
- 8.2. All Contractors are to comply with the conditions of this Health and safety Specification.
- 8.3. All Direct Contractors carrying out work on behalf of the Eastern Cape Department of Health, for **SCHEDULE MAINTENANCE OF LOW VOLTAGE FACILITIES – BUFFALO CITY DISTRICT – HEALTH FACILITIES** are also required to comply with the conditions of this Health and Safety Specification.
- 8.4. All staff and representatives of, Eastern Cape Department of Health, **SCHEDULE MAINTENANCE OF LOW VOLTAGE FACILITIES – BUFFALO CITY DISTRICT – HEALTH FACILITIES**, who visit the site are required to comply with the conditions of this Health and Safety Specification.
- 8.5. Facility is also required to comply with the conditions of this Health and Safety Specification.
- 8.6. Facilities staff and everyone who visit the site is required to comply with the conditions of this Health and Safety Specification.

9 REQUIREMENTS AT TENDER STAGE

- 9.1. Adequate pricing for H&S is required, and the appropriate section in the BOQ is to be completed.
- 9.1.1. Failure to do so could result in the Tender being regarded as non-responsive.

10 GENERAL REQUIREMENTS

- 10.1. Summary of Risks identified during Risk Assessment process.
- a) At the onset the Engineer/PSP will identify any Project Specific hazards or risks that may affect the work.
 - b) These hazards or risks are listed under section 18 of this Specification.
 - c) Tenderers are also advised to notify the client of any other risks or hazards that have not previously been identified.
 - d) These risks are to be recorded and a recommended procedure for addressing each item agreed on and recorded.
 - e) The Contractor is to conduct inspections of all tools and equipment before the commencement of the works and at least once a week during the works.

- f) The Contractor shall ensure that all Contractors and workers are informed, instructed and trained by a competent person regarding any hazards, risks and related safe work procedures as part of the Induction process before any work commences and thereafter at regular intervals as the risks change and as new risks develop.
- g) Proof of this training must be kept for inspection by the Client or Client's Representative.
- h) The Contractor shall be responsible for ensuring that all persons who could be negatively affected by the operations are informed and trained according to the hazards and risks and are conversant with the safe working procedures, control measures and other related rules (toolbox talk strategy to be implemented).
- i) The format used for the risk assessment must make provision for the following information.
 - Reference Number
 - Project Name
 - Identification of task assessed.
 - Date
 - Risk assessment team & designation
 - Approval of risk assessment team.
 - Risk rating with matrix
 - Review date
 - Task steps
 - What can go wrong (Hazard)
 - The result (Risk)
 - Risk rating
 - Preventative Action (Control Measures)
 - The format The Principal Contractor is to ensure that all Hospital Staff and Management personnel that will be affected by the works are fully informed of the risks and hazards associated with the works.

10.2. Specified Hazardous Chemical Substances

- a) Where the PC is likely to supply the product as the product has not been specified, safety data sheets (SDSs) need to be considered prior to all selections.
- b) Hazardous and potential situations

The Principal Contractor shall immediately notify other Contractors as well as the Client of any hazardous or potentially hazardous situations that may arise during the performance of construction activities.

11 OCCUPATIONAL HEALTH & SAFETY MANAGEMENT

11.1. Scope

- 11.1.1. The Specification covers the requirements for eliminating and mitigating incidents and injuries of **SCHEDULE MAINTENANCE OF LOW VOLTAGE FACILITIES – BUFFALO CITY DISTRICT – HEALTH FACILITIES**.
- 11.1.2. The scope addresses legal compliance, hazard identification, risk assessment, risk control, and promoting a Health and Safety culture on the project.
- 11.1.3. The Specification also provides for the protection of those persons other than employees.

11.2. Scope of Works

This specification is for the repair, maintenance and proper functioning of Low Voltage installation which

entails; Distribution Boards, Light Fittings and Switches, UPS Units, Fixed Heaters, Exterior Lighting, Generators LV Infrastructure, Light Fitting Replacements, Switches and Socket Outlets, Lightning Protection, Nurse call System, Access Control System, PA Systems, CCTV systems, PV systems and other associated equipment for the duration of the Contract period, in the following Health facilities:

BUFFALO CITY DISTRICT

FACILITY	CO-ORDINATES
ec Cecilia Makiwane Hospital	32°55'48"S 27°44'35"E
ec Frere Hospital	32°59'45"S 27°53'30"E
ec Newhaven Hospital	32°58'57"S 27°54'21"E
ec Nkqubela Hospital	32°55'54"S 27°44'23"E
ec Cathcart Hospital	32°17'54"S 27°08'10"E
ec Komga Hospital	32°34'54"S 27°53'08"E
ec Nompumelelo (Peddie) Hospital	33°12'24"S 27°07'53"E
ec SS Gida Hospital	32°40'27"S 27°08'39"E
ec Stutterheim Hospital	32°34'16"S 27°25'07"E
ec Madwaleni Hospital	32°05'47"S 28°52'44"E
ec Butterworth Hospital	32°19'54"S 28°08'18"E
ec Tafalofefe Hospital	32°25'45"S 28°28'26"E
ec Adelaide Hospital	32°42'01"S 26°17'40"E
ec Bedford Hospital	32°40'34"S 26°04'58"E
ec Fort Beaufort Hospital	32°46'50"S 26°37'59"E
ec Victoria Hospital	32°46'37"S 26°50'45"E
COMMUNITY HEALTH CENTRE	
ec Dimbaza CHC	32°50'07"S 27°12'50"E
ec Duncan Village CHC	33°00'28"S 27°53'12"E
ec Empilweni Gompo CHC	33°00'51"S 27°50'56"E
ec Mount Coke CHC	32°58'50"S 27°26'35"E
ec Nontyatyambo CHC	32°56'25"S 27°45'27"E
FORENSIC MORTUARY	
Mdantsane	
Woodbrook	33°02'02"S 27°52'31"E
Bhisho	

Clinics

Maintenance to electrical installations in clinics will be included in the contract. The contractor will be requested to conduct detailed inspection and prepare a repair list for each clinic. The list is as follows:

CLINICS - Buffalo City Health Sub-District (72)	
ec Alphenale Clinic	33°00'48"S 27°50'28"E
ec Amahleke Clinic	32°50'04"S 27°13'48"E
ec Aspiranza Clinic	33°01'08"S 27°50'59"E
ec Beacon Bay Clinic	32°58'04"S 27°56'18"E
ec Berlin Clinic	32°53'02"S 27°34'39"E

ec Bhisho Gateway Clinic	32°49'39"S 27°27'16"E
ec Bhisho Parliament Clinic	32°51'49"S 27°25'43"E
ec Braelyn Clinic	32°59'59"S 27°52'45"E
ec Braelyn Extension Clinic	33°00'14"S 27°51'39"E
ec Breidbach Clinic	32°53'12"S 27°26'16"E
ec Bulembu Clinic	32°52'25"S 27°16'04"E
ec Cambridge Clinic	32°58'40"S 27°53'22"E
ec Central Clinic (East London)	33°01'00"S 27°54'21"E
ec Chris Hani Clinic	32°57'16"S 27°55'30"E
ec Drake Road Clinic	32°59'15"S 27°55'59"E
ec Fezeka NU 3 Clinic	32°56'05"S 27°44'50"E
ec Fort Grey Clinic	33°02'13"S 27°48'11"E
ec Frere Gateway Clinic	32°59'49"S 27°53'23"E
ec Ginsberg Clinic	32°53'31"S 27°23'07"E
ec Gompo A Ndende Clinic	33°00'26"S 27°52'34"E
ec Gompo B Jwayi Clinic	33°00'55"S 27°51'37"E
ec Gompo C Jabavu Clinic	33°00'48"S 27°51'52"E
ec Gonubie Clinic	32°56'29"S 28°01'19"E
ec Greenfields Clinic	33°02'06"S 27°51'42"E
ec Grey Gateway Clinic	32°52'45"S 27°23'44"E
ec Ilita Clinic	32°53'24"S 27°32'02"E
ec Imidange Clinic	32°52'37"S 27°23'30"E
ec Jafta Clinic	32°55'00"S 27°24'59"E
ec John Dube Clinic	32°59'28"S 27°48'58"E
ec Kwelera Clinic	32°49'30"S 27°58'02"E
ec Luyolo NU 9 Clinic	32°55'32"S 27°44'02"E
ec Masakhane Clinic (Zwelitsha)	32°55'32"S 27°25'56"E
ec Masiphile Clinic	32°51'15"S 27°47'21"E
ec Mdingi Clinic	32°55'00"S 27°24'59"E
ec Mncotsho Clinic	32°56'05"S 27°36'00"E
ec Moore Street Clinic	33°00'45"S 27°54'55"E
ec Mpongo Clinic	32°59'00"S 27°52'00"E
ec Ncera Clinic	32°59'43"S 27°49'14"E
ec Ndevana Clinic	32°54'54"S 27°25'11"E
ec Needs Camp Clinic	33°00'18"S 27°38'53"E
ec Newlands Clinic	32°54'03"S 27°45'24"E
ec Nobuhle NU 8 Clinic	32°56'35"S 27°43'23"E
ec Noncampa Clinic	32°55'00"S 27°24'59"E
ec NU 12 Clinic	32°55'58"S 27°43'04"E
ec NU 13 Clinic	32°56'30"S 27°42'12"E
ec NU 16 Clinic	32°57'39"S 27°41'19"E
ec NU 17 Clinic	32°56'54"S 27°41'11"E
ec Openshaw Clinic	32°59'00"S 27°52'00"E
ec Pakamisa Clinic	32°55'00"S 27°25'00"E
ec Peelton Clinic	32°47'10"S 27°30'04"E
ec Pefferville Clinic	33°00'38"S 27°52'50"E
ec Petros Jobane Clinic	32°58'03"S 27°52'59"E

ec Philani NU 1 Clinic	32°56'17"S 27°46'12"E
ec Pirie Clinic	32°47'32"S 27°14'44"E
ec Potsdam Clinic	32°58'52"S 27°38'38"E
ec Qurhu Clinic	33°00'09"S 27°32'38"E
ec Shornville Clinic	32°53'53"S 27°23'51"E
ec Sinebhongo Clinic	32°59'00"S 27°51'22"E
ec St Thomas Clinic	32°56'03"S 27°38'36"E
ec Sweetwaters Clinic	32°55'06"S 27°25'34"E
ec Tembisa NU 7 Clinic	32°56'43"S 27°43'32"E
ec Thembalethu Clinic (Buffalo City)	32°53'37"S 27°44'38"E
ec Tshabo Clinic	32°55'38"S 27°32'51"E
ec Tshatshu Clinic	32°54'10"S 27°25'53"E
ec Tyamzashe FP Clinic	32°51'03"S 27°26'18"E
ec Tyutyu Clinic	32°50'08"S 27°22'50"E
ec Welcomewood Clinic	33°01'29"S 27°31'05"E
ec Zanempilo Clinic (East London)	32°57'16"S 27°59'29"E
ec Zanempilo Clinic (Zwelitsha)	32°48'03"S 27°25'03"E
ec Zikhova Clinic	33°13'45"S 27°28'41"E
ec Zingisa NU 5 Clinic	32°57'23"S 27°44'19"E
ec Zwelitsha Zone 5 Clinic	32°54'50"S 27°25'15"E

Details of the work required shall be as listed in the Price Lists

11.3 Structure and Organization of H&S Responsibilities

Principal Contractor to provide a proper OHS organogram.

11.4 Health and Safety Plan Framework

- a) The H&S aspects related to the project outlined in the Health and Safety Specification are to be considered when drawing up the H&S Plan.
- b) The PC is required to demonstrate competence by providing an H&S Plan that will address the requirements of the scope of work of the project.

11.5 Appointment of Competent Personnel

11.5.1 The CEO (OHSA Sec 16.1) of the PC will take overall responsibility for the appointment of competent staff for the duration of the project. Should the CEO not be personally involved in the project, the H&S responsibilities are to be delegated to the Delegated Authority (OHSA Sec 16.2). Knowledge and training in H&S is required, and certificates indicating H&S training as well as experience to be included in CVs.

11.5.2 All other legal appointments are to be made with relevance to the type of work required and kept in the H&S File for the duration of the project.

11.6 Contracts Supervision

11.6.1 Competent Maintenance manager will be appointed to manage part or all the works and have training and/or experience in the area of responsibility. All site supervisors must show evidence of appropriate training in H&S, and an understanding or training in areas of responsibility (i.e.,

risk assessments, method statements etc.).

11.6.2 Curriculum Vitae (CVs) are to be submitted for approval by the Client or Client Representative.

11.6.3 The Electrical Maintenance Manager will be held responsible for the safety of working teams and subordinates, housekeeping and stacking and storage of materials.

11.7 Construction Health and Safety Management

11.7.1 The PC will employ at least one competent Part Time Construction Health and Safety Officer for the duration of the contract.

11.7.2 The CSHO will have to assess and approve the Safety File of the PC and that of the sub-contractors appointed for any work to be carried out during the project duration.

11.7.3 The H&S Officer CVs are to be submitted for approval to the Client or the Client's Agent.

11.7.4 The CHSO must provide the SACPCMP valid registration certificate, CV and relevant certificates/qualifications. The officer will be required to compile a monthly report, see Annexure A.

11.7.5 In the case of a contract where contractors are employed, the CSHO must have competence to evaluate the Contractors Health and Safety plans and approve such plans accordingly.

11.7.6 The CSHO will be held responsible for all H&S issues on the project.

11.7.7 Senior site staff and supervision, Contractors are to follow systems, instructions etc., always given by the CHSO.

11.7.8 No new workers or Contractors may commence work without a medical certificate of fitness issued by Occupational Medical Health Practitioner.

11.7.9 A monthly report of all H&S activities and incidents is required by the end of the first week of each month, or at a date agreed to by the Client and the CSHO from the PC.

11.7.10 An example of the monthly report is attached as an Annexure C.

11.7.11 The CHSO will be responsible for collating the H&S documentation at the close out of the project in electronic format.

11.7.12 A list of the typical aspects that should be provided is available as Annexure B to this document.

11.7.13 The PC is to ensure that all Contractors documentation follows the same requirements and closed out H&S documentation must be completed and be available with the closeout of the main contract.

11.8 Failure to do so will be considered a serious offence and penalties applied and this may lead to work stoppages depending on the nature of the non-conformance to requirement as stated above.

11.9 Health and Safety Representatives and H&S meetings

11.9.1 H&S Representatives representing workers and Contractors are to be legally appointed before the start-up of the project, irrespective of the number of workers on site. Proof of training of H&S Representative should form part of the PC and /or sub-contractors H&S file.

11.9.2 The appointed H&S Representatives are to be actively involved with H&S and will assist the H&S Officer and site management in meeting legislative duties.

11.9.3 The H&S Officer shall further ensure that H&S is discussed at all internal production or progress meetings.

- 11.9.4 Issues arising from the Client's audits are to be discussed, as well as all H&S related issues.
- 11.9.5 Minutes are to be kept for all H&S interventions and meetings. Failure to do so will be deemed to be a moderate offence.
- 11.9.6 Every team that is allocated to a site should have someone competent to manage safety (Incident investigation/ daily risk assessment/ and feedback on other risk associated found) and proof of competency should form part of the H&S file and if not a training plan should be provided on start of project and executed according to agreed timelines.

11.10 Appointment of Competent Contractors

- 11.10.1 The Principal Contractor is to ensure that appointed Contractors comply with the Client's minimum Technical, H&S requirements and legal requirements as applicable to any work to be performed as required by OHSA.
- 11.10.2 All competent persons shall have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control, and carry out.
- 11.10.3 The Principal Contractor will be responsible to ensure that competent Contractors are appointed to carry out construction work and comply to requirements of the OHSA.
- 11.10.4 The same H&S standards required from the PC are applicable to Contractors appointed.
- 11.10.5 An index of all Contractors and Suppliers is to be on file and kept always updated at all times. The Client/Client Representative must be informed of any changes to the appointed Contractors.
- 11.10.6 Where the ECDoH appoints Direct Contractors or uses the Maintenance staff to carry out works in the site area, the ECDoH is to ensure that the appropriate competent persons are responsible for supervising & controlling the work being undertaken and the CHSO must be informed of such activities in order to assess the risk and impact to the project activities.
- 11.10.7 The PC is to ensure that there is sufficient funding for H&S compliance by each Contractor.
- 11.10.8 The PC and appointed Contractors must ensure that the Health and Safety File to be submitted must follow minimum aspects are applicable to the work to be carried and the Health and Safety File Checklist provided on Annexure G must be filled and used as a guideline to ensure compliance.
- 11.10.9 Failure to provide H&S file will delay the project startup and/or activities being stopped, and penalties implemented as such.

12 General Risk Management

12.1 Health Risks and Medical Surveillance

- 12.1.1 All permanent workers (including those of Contractors) are required to be in possession of a medical certificate of fitness issued by a registered Occupational Medical Practitioner prior to commencing work. Medical surveillance will commence pre-employment.
- 12.1.2 All workers (including Contractors) are required to be in possession of a medical certificate of fitness prior to commencing work.
- 12.1.3 Lung Function test must be done in Medical.
- 12.1.4 Employees required to perform work at heights or from fall risk position must be medically fit to perform such work, such employee's medicals must specify "Fall Risk" or "Working at heights" in the medical fitness certificate. Training of working at heights must be provided prior to work commencing on site and should form part of the H&S file to be approved by Client.
- 12.1.5 Annual medical surveillance is required (unless identified as being required more frequently), as

well as exit medical. The Client wont be held accountable for any claims whatsoever for non-adherence to conduct exit medical surveillance by PC or any Contractors.

12.1.6 Medical records are to be always kept in the H&S File on site and updated conducted annually or as and when required and on appointment of new personnel. Any employee working on site must have a valid medical certificate before allowed to carry any maintenance work.

12.1.7 It is preferable that the PC has a medical surveillance plan.

12.1.8 Where work is required at a TB Facility, the following is required:

- a) Proper ventilation when working in areas with active TB patients
- b) FFP 2 Mask to be worn when working in areas with active TB patients
- c) Medicals must be done for all with Lung function test as a must.

12.1.9 Where work is undertaken at a facility where there's a risk of contact with body fluids either from the patients or the deceased, all employees are to be vaccinated against Hepatitis B Virus

12.1.10 Failure to do so will be considered a serious offence.

12.2 General Environmental Conditions

12.2.1 Compliance with the Environmental Regulations (as amended), among others, is required.

12.2.2 Environmental monitoring of ventilation, lighting and dust may be deemed to be required by the Approved Inspection Authority used to measure the environment.

12.2.3 Copies of the relevant reports and actions taken in respect of these are to be placed in the H&S file.

12.2.4 Any spillages of substances which could be toxic to persons must be dealt with adequately. The Contractor must include his spillage removal system in the OHS Plan. (spill kit to be carried with every bakkie)

12.3 Noise Risks

12.3.1 All plants from plant hire companies (suppliers) or that of the PC is to be compliant with the Noise Induced Hearing Loss Regulations.

12.3.2 Plant identified that has not been tested and marked for noise emissions will result in having to be tested at the Contractors or PCs expense.

12.3.3 Failure to do so within a reasonable time will result in such plant being removed from site.

12.3.4 Audiometric testing of all workers is noted as required in the medical surveillance programme for all permanent workers prior to work commencing.

12.3.5 Temporary labour working in identified noise areas will require testing if the noise levels are indicated on plant or through processes as greater than 85dB.

12.3.6 Audiometry records are to be available in the H&S file.

12.3.7 Suitable SANS approved hearing protective equipment shall be issued and worn where noise levels are identified as equal to or greater than 85 db.

12.3.8 Failure to do so will be considered a serious offence.

12.4 Emergency Procedures

- 12.4.1 The Principal Contractor must prepare a detailed emergency procedure manual for approval by the Client prior to commencement of work on the site.
- 12.4.2 It is advised that the system should be simple and easy for any worker to follow.
- 12.4.3 The plan may be adapted should new information or risks are identified.
- 12.4.4 The procedures for dealing with the emergency evacuation of staff must be agreed upon with the Facility Management.
- 12.4.5 All teams should have knowledge and skills for handling/attending to emergency (Per Bakkie Designation)

12.5 First Aiders and First Aid Equipment

- 12.5.1 Competent, trained First Aider is to be formally appointed for the project.
- 12.5.2 At least one worker is to be trained to level 3.
- 12.5.3 A first aider is to be available at all times and be able to cover each working team.
- 12.5.4 Further first aiders from the community or SMMEs, If not already accredited, are to be sent for accredited first aid training.
- 12.5.5 Appropriately stocked first aid kits are to be available at all times and to assure continual availability and access on site.

12.6 Fires and Emergency Management

- 12.6.1 Attention to emergency planning and procedures is very important.
- 12.6.2 The full emergency plan must form part of the supporting documentation with the H&S Plan.
- 12.6.3 It is advised that the system should be simple and easy for any worker to follow.
- 12.6.4 The plan may be adapted should new information or risks are identified.
- 12.6.5 First aiders shall be available in each working team and be able to work as a team when responding to any emergency on the project.
- 12.6.6 All vehicles used by the working team should have a provision of adequately stocked first aid kits
- 12.6.7 The procedure shall detail the response plan in relation to the works, and include at least (but are not limited to) the following key elements:
 - a) Appointment of a competent emergency response coordinator and wardens;
 - b) Fire Fighting equipment to be supplied per vehicle and a competent person per bakkie to be able to have fire training.

12.7 Incident Management and Compensation Claims

- 12.7.1 The PC will ensure that there is a management system to investigate all incidents.

- 12.7.2 All serious incidents involving any form of disabling injury or fatality are to be reported to the Client immediately and reported to Department of Labour as per requirements of the OSHA.
- 12.7.3 This shall be confirmed in writing following the incident.
- 12.7.4 Full details are to be included in each site meeting or when the Client visits site.
- 12.7.5 A summary of incidents is to be included in the monthly report.
- 12.7.6 All incidences must be investigated, and mitigation actions be implemented to prevent re-occurrence. During monthly meeting and safety meeting, all incidences and remedial actions must be shared with all employees and proof of communication must be kept for auditing purposes in order to prevent re-occurrence.

12.8 Personal Protective Equipment (PPE) and Clothing

- 12.8.1 The PC must ensure that relevant PPE is provided and used at all times and company PPE policy must be shared and complied with by its employees and appointed contractors.
- 12.8.2 The wearing of the identified SANS approved PPE always is non-negotiable.
- 12.8.3 The PC shall ensure that all workers (Including Contractors) are issued with and shall wear as required; the items below are mandatory for all workers:
 - a) Protective footwear.
 - b) Overalls must have reflective strips.
 - c) Overalls that ensure worker visibility
 - d) Eye protection.
 - e) Hearing protection.
 - f) Respiratory protection (minimum of FFP2), and
 - g) Any other necessary PPE identified from SDSs and/or risk assessments.
- 12.8.4 Adequate quantities of PPE shall be available. This shall include the necessary PPE for visitors. The procedures for managing PPE are to be in a formal procedure submitted with the H&S plan for approval.
- 12.8.5 PPE issuing registers and communication to PPE policy must be kept on record in the H&S File.
- 12.8.6 Failure to comply will result in penalties being applied.

12.9 Occupational Health and Safety Signage

- 12.9.1 On-site H&S signage is required.
- 12.9.2 Signage shall be posted up at temporary working areas, or other potential risk areas/operations.
- 12.9.3 These signs shall be in accordance with the requirements of the General Safety Regulations or SANS requirements as amended.
- 12.9.4 Signage is to be noted on the site drawings indicating where fixed/ temporary signage is required.
- 12.9.5 Temporary signage is to include (but not be limited to) the following:

- a) 'Warning: Construction Site – Keep out' or similar.
- b) 'First aid box positions (including vehicles); and where one is working
- c) Fire extinguishers.

12.9.6 Signs shall be posted at areas of work on site indicating that a construction site is being entered and that persons should take note of H&S requirements.

12.9.7 Failure to comply will result in penalties being applied.

12.10 Induction of Employees and Visitors, General H&S Training (to be done at office/ workshop)

12.10.1 A formal induction programme is to be submitted as an addendum for approval with the H&S plan.

12.10.2 Pre-task training is required to ensure workers are familiar with the risks and H&S measures of the work or tasks to be done.

12.10.3 Daily Safety Task Instructions are to be carried out daily at contractor's premises before work commences.

12.10.4 Records of inductions and DSTI' or On-Site Risk Assessments are to be kept in the H&S file.

12.11 Public and Health and Safety

12.11.1 The Contractor shall ensure that each person working on or visiting a site, and the surrounding community, shall be made aware of the dangers likely to arise from onsite activities and the precautions to be observed to avoid or minimize those dangers. Appropriate health and safety signage shall be posted at all times.

12.11.2 Warning notices are to be provided at the main entrance to area of works to each hospital facility, notifying that construction work is taking place within the existing buildings.

12.11.3 Barricades are to be used in working areas and inspected daily and barricade inspection registers to be completed at all times

12.12 Awareness

12.12.1 The Principal Contractor shall ensure that, on site, periodic toolbox talks take place at least once per week at a workshop or office area.

12.12.2 These talks should deal with risks relevant to the construction work at hand.

12.12.3 A record of attendance shall be kept in the Health & Safety File.

12.12.4 All Contractors must comply with this minimum requirement.

12.12.5 At least one of the Toolbox talks shall include an environmental related issue.

12.12.6 The Principal Contractor is to ensure that the Hospital Management & Staff are kept informed of any change in the situation regarding the risks and hazards relating to the construction work on the site.

13. MANAGEMENT OF PLANT AND EQUIPMENT

13.1 The Principal Contractor shall ensure that all such plant complies with the requirements of the OHS Act 85/1993 and Construction Regulations 2014

- a) The Principal Contractor and all relevant Subcontractors shall inspect and keep records of inspections of the construction plant used on site.
- b) Only authorized/competent (certified) persons are to use machinery and used under proper supervision.
- c) Appropriate PPE must be used and relevant safety gear must be provided and maintained in good condition at all times.
- d) Load test certificate must be valid at all times for all lifting equipment and kept on H&S File.

13.12. Plant & Equipment

- a) Close control of plant and equipment is required, including that of Contractors.
- b) Daily inspection of all plant and machinery must be conducted prior to commencement of work.
- c) Full lists of hired and own plant are to be available at the Client audit.
- d) All daily inspection records are to be kept in the H&S file where plant and equipment is brought on to site.
- e) Registers are kept up to date at all times.

13.13. Operators

- a) Only competent and certified plant operators are to operate such plants and machinery.
- b) Medical certificates of fitness are required for all operators.
- c) Operators are to be adequately trained and certified to operate mobile cranes or crane trucks.
- d) Certificates and registers are to be placed in the H&S file.
- e) Failure to do so will be considered a serious offence.

13.14. Machinery and Power Tools

- a) Only authorized competent persons are to operate machinery and power tools.
- b) Appropriate PPE and clothing must be provided, used and maintained.
- c) No unsafe / dangerous equipment or tools may be brought onto, or used, on the site.
- d) The Client / Engineer reserve the right to inspect all tools and equipment at any time in order to prevent / prohibit their use, if found to be unsafe.
- e) The Contractor may not use any machinery or power tools belonging to the Hospital.

13.15. Portable Electrical Tools/Equipment and Explosive Powered Tools

- a) The Principal Contractor shall ensure that use and storage of all explosive powered tools and portable electrical tools are in compliance with relevant legislation.
- b) The Principal Contractor shall ensure that all-electrical tools, electrical distribution boards, extension leads, and plugs are kept in safe working order.
- c) The Principal Contractor is to ensure that extension cables and temporary power supplies do not impede access ways or escape routes.
- d) Regular inspections and toolbox talks must be conducted to make workers aware of the dangers and control measures to be implemented e.g. personal protection equipment, guards, etc.
- e) The Principal Contractor shall ensure the following:

- i. A competent person undertakes routine inspections and records are kept.

13.16.e.1. Only authorized trained persons use the tools.

13.16.e.2. The safe working procedures apply.

13.16.e.3. Awareness training is carried out and compliance is enforced at all times.

13.16.e.4. PPE and clothing is provided and maintained.

13.16.e.5. Electrical cables must be free from any damage.

13.16.e.6. Electrical tools & equipment may not be exposed to water.

13.16.e.7. Signs to be posted up in the areas where explosive powered tools are being used. **(WARNING - EXPLOSIVE POWERED TOOL IN USE - KEEP CLEAR).**

13.16.e.8. That prior arrangement is made with the facility Maintenance Manager before any explosive powered tools are used.

13.16. Hired Plant and Machinery

- a) The Principal Contractor shall ensure that any hired plant and machinery used on site is safe for use.
- b) The necessary requirements as stipulated by the OHS Act 85/1993 and Construction Regulations (February 2014) shall apply.
- c) The Principal Contractor shall ensure that operators hired with machinery are competent and that certificates are kept on site in the health & safety file.
 - i. This includes medical certificates of fitness to operate construction vehicles and appointment of the operator.
 - ii. All relevant Contractors must ensure the same.
- d) Daily inspections must be recorded by each operator.
 - i. A copy of the machines service logbook & planned maintenance schedule must be supplied with the machine.
- e) Operators must be trained on the relevant risk assessments and safe working procedures.
- f) The hired plant company must provide proof of registration with Workman's Compensation or FEM before delivery of plant to site.
- g) The Hire Company must be required to sign a 37(2) Mandatory Agreement with the hire company before commencing with work. (Applicable if an operator is supplied with the machine.

13.17. Hand tools

- a) No handmade or damaged tools may be used on site.
- b) The Principal Contractor needs to exercise control over all contractors on site.
- c) Hand tools may only be used for its intended purpose.

- d) A competent person must be appointed to inspect hand tools monthly.
- e) Inspections need to be recorded on a register and each tool identified with a unique number.

13.18. **Inspection of equipment and tools.**

- a) The following items of equipment must be inspected weekly and maintained, and appropriate records kept where applicable
 - i. First Aid dressing registers
 - ii. Fire equipment
 - iii. Lifting equipment
 - iv. Lifting Gear
 - v. Portable electrical equipment
 - vi. Stacking and storage inspections
 - vii. Explosive power tools
 - viii. Hazardous Chemical Substances (HCS) Materials hoists (where applicable)
 - ix. Ladders
 - x. Excavations
 - xi. Safety harnesses
 - xii. Scaffolds - static and mobile.
 - xiii. Pneumatic tools
 - xiv. Construction vehicles and mobile plant.
 - xv. Health and Safety Representatives checklists.

13.19. **Barricading / Hoarding**

- a) The Principal Contractor shall ensure that his / her employees do not mix with hospital personnel to avoid biological risk.
- b) The working area will be barricaded so that only Principal Contractor's employees are in the working area.
- c) The movement of employees will be restricted.

13.20. **Cranes and lifting equipment. (Where Applicable)**

- a) Should any form of lifting device or crane (fixed or mobile) be used during the project for deliveries, moving of supplies or equipment, the appropriate documentation must be made available.
- b) The Principal Contractor and all Contractors shall ensure that lifting machinery and tackle is inspected before use and thereafter in accordance with the Driven Machinery Regulations and the Construction Regulations (section 20).

- c) Method statements, risk assessments, safe work procedures and training are to be available prior to work commencing.
- d) A procedure for managing loads and lifting must be made available as an addendum to the H&S Plan.
- e) There must be competent lifting machinery and tackle inspector who must inspect the equipment daily or before use, considering that:
- f) All lifting machinery has a safe working load clearly indicated.
- g) All lifting equipment is clearly marked with a unique number and safe working load.
- h) Regular inspection and servicing is carried out:
 - i. Lifting Machinery load test – every 12 months
 - ii. Lifting Machinery Inspection & service – every 6 months
 - iii. Lifting Tackle Load test – every 12 months
 - iv. Lifting Tackle Inspections – every 3 months
- i) Records are kept of inspections and of service certificates.
- j) Any plant or slings used to lift plant or material requires annual load testing by an AIA, and all certificates must have the testers LMI/E number.
- k) There is proper supervision in terms of rigging & guiding the loads that includes a trained banks man to direct lifting operations and check lifting tackle.
- l) The operators are competent as well as physically and psychologically fit to work and in possession of a medical certificate of fitness to be available on site.

14. WORKING PROCEDURES

14.1 Site Works and Excavations

- a) A competent person is to be appointed in writing to supervise the Site Works and Excavations where applicable.
- b) A method statement on the procedures relating to the diversion of existing services and the maintenance of services to the existing facilities is to be agreed between the Contractor and the Principal Agent prior to the commencement of the work.
- c) The Contractor is to ensure Risk Assessments & Safe Working procedures have been communicated to the workers before any work is commenced.

14.2 Excavations

- a) A procedure for managing excavations is to be provided as an addendum to the H&S plan describing how excavations are to be managed.
- b) Excavation method statements are to be approved by the Designer and associated

risk assessments are required.

- c) All Excavations are to be properly barricaded and demarcated. The project will not have deep excavation due to the nature of maintenance projects. It is anticipated that the worst excavation will be from 300mm – 700mm.

14.3 Electrical work

- 14.3.1 All works conducted around areas with Asbestos Containing Material must be carried out in accordance with the requirements of Asbestos Abatement Regulations of 2020.
- 14.3.2 All Preconstruction stage the Principal Contractor must make sure that all personnel on site have been trained, medical records are available, all certification and competencies shall be made available on site. All records that prove compliance with applicable rules and regulations to be kept and made available on site.
- 14.3.3 All personnel to be provided with necessary PPE required for relevant exposure.
- 14.3.4 The principal contractor prior to commencing any work must post all required documents, warning signs and erect barriers to secure their working area.
- 14.3.5 The principal contractor must have an onsite competent OHS representative at all times as the work is in progress. The biggest danger of electricity is that live and dead apparatus are indistinguishable from each other. Therefore, apparatus must never be assumed dead. Always presume it is live. This can only be ascertained by safety testing with the appropriate approved tester. Or by the presence of visual earth connections.
- 14.3.6 The Principal Contractor shall submit documentation for an Initial and/or Negative Exposure Assessment in accordance with Asbestos Regulation.
- 14.3.7 The Principal Contractor shall be responsible for air monitoring as required to meet Asbestos requirements.

14.4 Electrical work

- 14.4.1 In addition to the requirements of the Electrical Machinery Regulations and the General Machinery Regulations any electrical distribution board used for construction work shall be fitted with suitable earth leakage protection.
- 14.4.2 Leads must be properly and firmly connected.
- 14.4.3 Plugs and sockets shall be in good and safe condition.
- 14.4.4 All electrical apparatus, other than electrical hand tools, shall have a physical “lock out” system which will prevent any operation other than that authorized by a supervisor.
 - i. A “lock out” sign shall be displayed when the apparatus is not in use.
- 14.4.5 Method statements and safe work procedures will be required for all work involving electrical apparatus.
- 14.4.6 Because there is serious threat of flashover, shock, arcing etc. When working in a low voltage environment, lower voltages tend to be treated with less respect, it must be remembered that a voltage as low as 50Volts, with a current of +-30 milliamps cause asphyxia and /or heart muscle fibrillation.
- 14.4.7 The biggest danger of electricity is that live and dead apparatus are indistinguishable from each

other. Therefore, apparatus must never be assumed dead. Always presume it is live. This can only be ascertained by safety testing with the appropriate approved tester. Or by the present of visual earth connections.

- 14.4.8 Electricity can jump gaps, which means that it is not even necessary to touch a low voltage conductor to get hurt. Merely approaching too close can have fatal results, therefore is necessary to maintain proximity distance.

CLOSE PROXIMITY

Close proximity is the minimum distance any part of a person body or work tool may encroach to any unearthed, bare LV conductors or any unearthed and unscreened MV/HV conductor.

RATED VOLTAGE	CLEARANCE
Up to 11kV	0,2m

15. AUDITING

-
- a) Frequency of external auditing by the Client or client's agent will be as agreed with the Client and Engineer but will at least conform to the requirements of the Construction Regulations.
- i. The site will be inspected, and the documentation audited relative to the activities and H&S plan.
 - ii. The CHSO of the contractor must accompany the Client, on all audits and inspections.
 - iii. Not all audits will be, or need be announced.
- b) The PC will ensure that all their Contractors are audited at a frequency determined by the Client.
- i. Audit frequency may be increased if Contractors are not performing adequately.
 - ii. Audit results will be acted upon and non-conformances and penalties issued where deemed appropriate.
 - iii. The Client, Designer or Client's Representative may act or require further outcomes if non-compliances are noted or unsafe acts are noted on site.
- c) Internal audits are to include site conditions as well as ensuring H&S files are appropriate, and compliant.
- i. Comprehensive audit reports are to be made available; the format of the audit reports is to be acceptable by the Client.
- d) The PC will be audited using a template as supplied in the tender document.
- i. The audit template will be adjusted from time to time relative to the activities on site.
 - ii. A similar process is to be used by the PC when auditing their Contractors on site.
 - iii. Compliance with legislative requirements and the systems provided by the PC to manage the H&S on site will be measured.
 - iv. Full compliance is required. Time limits for corrective actions will be set and must be adhered to. The Principal Contractor will be expected to submit a closeout report within 3 working days after the receipt of audit.
 - v. The Department of Labour Inspector may at any point in time conduct a safety audit on site to ensure complies to the OSHA and its Regulations.
- e) Failure to address findings or non-conformances will be considered a serious offence and may result in legal liabilities and work stoppages.

16. OCCUPATIONAL HEALTH

16.1. Communication

- a) All H&S communication during the project between the Client and the PC will be done through the Client's agent/Representative and be in writing, including the issue and responses to non-conformances and H&S audit results.
- b) All matters that pose danger to employee or hospital staff must be reported immediately by safety representatives appointed, inform supervisor, CHSO and Client accordingly.

16.2. Care of Workers on Site (Welfare)

- a) Clean, safe drinking water to be provided for staff.
- b) Hand washing facilities to be arranged for staff.
- c) Failure to manage specific conditions or address issues timeously will be considered a serious offence.

16.3. Discipline, Alcohol and Substance Abuse

16.3.1. All employees (management included) are to follow instructions given in the interest of H&S.

16.3.1.a.1 Disciplinary action is to be imposed on those who do not follow such instructions or company rules or policies.

16.3.2. No person can work or access site if under the influence of alcohol or other substances that could impact on their own or others safety.

16.3.2.a.1. The PC is to have a drug and alcohol policy available to manage such instances.

16.3.3. These requirements are applicable to any employee of any organization providing services on site.

16.3.3.a.1. Penalties may also be applied by the Client, OHS Agent, Engineer or Principal Agent.

16.4. Compliance with the Rules of Conduct.

16.4.1. The Principal Contractor, Subcontractors and all employees under their control, including any visitor brought onto site must adhere to the Rules of conduct on site, as listed under Section 12.28.

16.4.2. These Rules of Conduct must also be adhered to by any of the following who visit the Site:

- i. Electrical & Mechanical Engineering
- ii. Hospital Management and Staff
- iii. Direct Contractors

- iv. Trade Representatives
- v. Any other visitors to the Site.

17. SAFETY RULES WITH RESPECT TO WORK TO HEALTH CARE FACILITIES

- a. All persons on the premises shall obey the ECDoh & facilities' Health and Safety rules, procedures and practices.
- b. No smoking will be permitted within the buildings or within the buildings under construction. Smoking will take place in the designated area.
- c. All work shall be carried out within normal working hours except certain essential works which may need to be carried out after hours or over weekends – arrangements for such work to be agreed in advance between the Contractor and Principal Agent.
 - i. Note: That on this contract it is assumed that work will take place 7 days a week including after hours and at night as required.
 - ii. The Contractor is to agree the weekly work schedule in advance with the Client's Agent.
- d. All workers are to be instructed in and familiarize themselves with the existing emergency and safety procedures and to co-operate in any drills or exercises which might be held by the Hospital.
- e. Emergency / Firefighting equipment belonging to the premises is not to be interfered with.
- f. Emergency Exits and Escape Routes, including Temporary Escapes Routes are not to be obstructed.
- g. No persons shall carry out or initiate an unsafe / unhygienic act or operation whilst on the premises.
- h. Workers are not to interfere with the duties of the hospital, its staff, patients or visitors.
- i. The Contractor shall maintain good housekeeping standards in the areas being worked on throughout the duration of the contract.
- j. All waste / scrap materials are to be removed from the work areas on an on-going basis and should not be allowed to accumulate.
- k. The Client and facility Management reserves the right to act in any way necessary to ensure the safety and / or security of any persons or equipment on its premises and will not be liable for any costs incurred or loss evoked by such actions.
- l. The Client and health facility Management reserves the right to search all vehicles entering, leaving or parked on the premises and to inspect any parcel, package, handbag, bag or suitcase.
- m. The health facility reserves the right to search any person entering or leaving the health facility premises.
- n. All workers must wear proper identification labels at all times – The Contractor will be asked to remove persons without identification from the premises.
- o. The Contractor will not be permitted to use any tools or equipment belonging to the health facility.
- p. The Contractor is to ensure that noise is kept to a minimum so as not to unduly interfere with the functioning of the adjacent facilities.
- q. The Contractor is to ensure that dust from the works is properly contained so as not to cause problems with the normal functioning of the adjacent facilities.

18. PROJECT SPECIFIC RISKS

18.1 Risks associated with electrical installation and Maintenance

Project specific risks that the PC needs to ensure that proper mitigation measures are put in place to ensure that the likelihood of this risks materializing is reduced or eliminated by its employees and associated contractors,

- a) Electric shock.
- b) Burns from contact with live parts
- c) Injury from exposure to arcing (when electricity jumps from one circuit to another)
- d) Fire from faulty electrical equipment or installation
- e) Toxic exhaust fumes
- f) Moving and rotating equipment
- g) Explosion caused by unsuitable electrical equipment
- h) Risk of noise & vibration from maintenance activities.
- i) Keeping the escape routes clear and unobstructed.
- j) Working in confined spaces.
- k) Restricted access for materials and work areas.
- l) Encountering biological hazards
- m) Encountering Medical waste
- n) Ergonomic risks.
- o) Working in an operational hospital.
- p) Obstruction of emergency vehicles and teams.
- q) Working at heights.

18. 2. HEALTH AND SAFETY FILE

- 18.2.1. The documentation submitted and approved following the awarding of the contract will be used to form the H&S file.
- 18.2.2. The H&S file is required to be laid out in a logical manner, and documentation filed within the file is to be easily accessible and must checklist provided on Annexure G must be filled out.
- 18.2.3. The following completed information shall be included (but not be limited to) as part of the index:
 - a. The PSHSS;
 - b. The H&S Plan and the approval by Client Representative;
 - c. Appointment of PC by Client;
 - d. Mandatory agreement with Client Sec 37(2);
 - e. Notification of construction work;
 - f. A record of all working drawings, calculations and design where applicable;
 - g. Detailed list of Contractors with contact details, appointments, Mandatories etc., H&S specifications issued;
 - h. Record of Competencies (CVs) and appointments;
 - i. Training Records;
 - j. Permits;
 - k. Method statements;
 - l. Risk assessments;

- m. Safe work procedures;
- n. Emergency and injury management;
- o. Safety data sheets
- p. Medical surveillance records;
- q. Registers;
- r. Records of audits, minutes etc.
- s. Plant lists
- t. Temporary electrical installations
- u. Employee records (who is on site)

19. NON-CONFORMANCES

19.1. Should, at any time, the works, or part of the works, be stopped due to unsafe acts or non-compliance with the Clients or PCs H&S Plan; neither the PC nor any other Contractor shall have a claim for extension of time or any other compensation.

19.2. The following constitute examples of the types of non-conformances that will attract penalties:

Minor: Penalty: R50/count	Medium: Penalty: R500/count and a non-conformance	Severe Penalty: R5000/count, a non-conformance and/or activity stoppage
Non-use of PPE supplied	Toilets not supplied or regularly serviced, lack of drinking water	Contractors working without Health and Safety Plan approval
Non-completion of registers for plant and equipment on site	Contractors not audited	Workers transported in contravention of the OHS plan or legal requirements
Lack of H&S signage at work areas	Working without training or the appropriate, approved H&S method Statements	Invalid Letters of Good Standing
Tools and equipment identified in poor condition during inspections	Legal non-conformances identified during the previous audit and not addressed within the agreed time frame	Non-compliance with traffic accommodation requirements: layout or physical conditions.
	No monthly OHS report on site meeting to report on	Any serious breach of legal requirements.
	No certificates of fitness for workers as required	Working at heights without the necessary PPE relating to work at heights.
	Working without approved method statements	

19.3. Failure to Comply with Provisions

- a) Failure or refusal on the part of the PC or their Contractors to take the necessary steps to ensure the safety of workers and the general public in accordance with these specifications or as required by statutory authorities or ordered by the engineer, shall be sufficient cause for the engineer to apply penalties as follows:
 - A penalty as shown in the Table above shall be deducted for each occurrence of non-compliance with any of the requirements of the PSHSS.

- In addition, a time-related penalty of R500,00 per hour over and above the fixed penalty may be deducted for non-compliance to rectify any non-conformance within the allowable time after a site instruction to this effect has been given by the Designer.
- The site instruction shall state the agreed time, which shall be the time in hours for reinstatement of the defects.
- Should the Contractor fail to adhere to this instruction, the time-related penalty shall be applied from the time the instruction was given.

RESPONSIBILITY	SIGNATURE	DATE
CONTRACTOR SIGNATURE:		
CLIENT SIGNATURE:		

ANNEXURE A

Acknowledgement of the H&S Specification by Principal Contractor

Construction Health & Safety Specification

Issued in terms of the Occupational Health and Safety Act, 1993

Construction Regulations, 2014

I, _____ representing _____

_____ Principal Contractor have satisfied me with the content of this Construction Occupational Health and Safety Specification and shall ensure that the Principal Contractor, all contractors and sub-contractors and all employees on site comply with it.

Signature of Principal Contractor

Date

Signature of Client

Date

ANNEXURE B

CLOSE OUT REQUIREMENTS

The H&S files for the Principal Contractors and all Contractors require closure and handover to the Client at the completion of the project. The following list is an example of what should be included, but is not exhaustive. The OHS Agent or the Client may require further information at the time of completion and the Principal Contractor is to ensure that all instructions are met. Documentation would include all records from the start of the project. Daily or monthly plant inspection records are not required unless they are related to an accident. All records to be in electronic format and submitted to the OHS agent for approval in adequately formatted lists and folders. Layout should be logical and in the same order as in the site files.

Health and Safety close out file requirements include:

- a) Client H&S Specification
- b) Principal Contractor's OHS Plan(s)
- c) Organograms
- d) Legal Appointments
- e) List of all employees employed on a permanent or contractual basis over the duration of the contract
- f) Notification to Department of Labour of commencement of work
- g) Letters of Good Standing for the Project
- h) Full files for all Contractors as well as their close out reports
 - List of Contractors
 - All employees employed on a permanent or contractual basis over the duration of the contract
 - Letters of Approval of Contractors
 - Mandatory Agreements
 - Letters of Good Standing
 - Appointments
- i) Incident Records
- j) Non-Conformance records
- k) Agent's Audits
- l) Method Statements
- m) Risk assessments
- n) Safe work procedures
- o) Medical surveillance certificates of fitness. Medical records are to be kept according to the OH&S Act as amended
- p) All drawings for temporary structures (suspended beams/scaffolds etc.)
- q) All operating manuals for any systems that require on-going maintenance
- r) Copies of test results, policies and procedures for environmental monitoring (silica, noise, dusts etc.)

Defect and Liability Period

The H&S files are to be kept 'live' for the defect and liability period by the Principal Contractor, including those of their Contractors. Any work required during the defect and liability period will require an assessment of the H&S file by the Client or PSP prior to any work commencing.

A copy of drawing records for the as-built drawings are to be placed on file by the Designers once complete.

ANNEXURE C: NON-CONFORMANCES

HEALTH AND SAFETY SITE INSPECTIONNON- CONFORMANCE NO		
AGENT:		PROJECT:
Consultant:		Date and time:
Client		Area:
Contractor:		
ASPECTS NOTED:	COMMENTS:	COMPLETION REQUIRED BY (DATE):
	☐	
	☐	
	☐	
	☐	
	☐	
PHOTOGRAPHIC EVIDENCE (if available):		
OTHER:		
The following penalties are to be applied:		
Signature of H&S Officer/Site Agent		
Signature: of Client/client's Agent		

ANNEXURE D: PRINCIPAL CONTRACTOR MONTHLY HEALTH AND SAFETY REPORT

(To be submitted by the end of the first week of each month and be available with each audit)

CONTRACT NUMBER:		PROJECT NAME:	CONTRACT DETAILS:
1	GENERAL ACTIVITIES FOR THE MONTH		
2	NUMBER OF WORKERS (permanent and		
3	TRAINING DONE (supplier, no of people, type)		
4	INCIDENTS / ACCIDENT (list number and details, attach		
6	NON-CONFORMANCES (closed out or active)		
7	CONTRACTORS (list, approval status)		
8	AUDITS COMPLETED (internal and external)		
9	CRITICAL ISSUES		
10	GENERAL		

Health and Safety Officer: _____ Signature: _____

Date: _____

Construction Manager: _____ Signature: _____

Date: _____

ANNEXURE E - Guidelines to Health and Safety Bill of Quantities

DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
				R	C
Provision for OHSA 85 of 1993 and its regulatory requirements -Safety file, medicals, Health and Safety Plan, PPE, risk assessments, fall prevention/protection plan, Annexure 2 notification to Dept. of Labour, Methods statements, traffic management and any other legally regulatory requirement.	Lump sum	1			
Provision of current workman's compensation cover for employees for the project, and ensuring that contractors appointed have such cover too.	Lump sum	1			
Provision of full-time Construction Manager for the site, Provision of Alternate Construction Manager in absence of Construction Manager and Provision of sufficient Safety Supervision on site	Lump sum	1			
Provision of part- time SACPCMP registered Construction Health & Safety Officer for the site (refer to safety specification for full time / part time requirement) and preparation of safety reports after each safety inspection	Lump sum	1			
Competence assessment, Appointment and Safety training requirements of all sub-contractors working on the site	Lump sum	1			
Maintenance of principal contractor's plant and equipment on site to be in safe condition, including inspection registers, inspections by competent persons, thorough examination certificates, hand over certificates and related documentation done by a competent person	Lump sum	monthly			
Each Construction vehicle to have Safety File in case of Emergencies	Lump sum	1			
Provision of Fall Prevention and Protection Equipment including.					
Principal contractor construction safety management attendance at health and safety meetings called by client.	Lump sum	monthly			
Compilation of consolidated Safety File at Close Out stage and handover of file to safety agent in hard copy or digital format	Lump sum	1			
SUMMARY TOTAL OHS COST PROVISION					

**ANNEXURE F – SAFETY SPECIFICATION AND BASELINE RISK ASSESSMENT
ISSUE REGISTER**

Date of Original Safety Specification Compilation	Compiled By	Issue Date
22 December 2024	Noluthando Mcopele	22 December 2024

Revision Summary	Revised By	Revision Date
Revision 1	Lesiba Ramatladi	31 January 2025
Revision 2	Siyanda Mtshakazi	03 February 2025

Acknowledgment:

I, _____ representing.

_____(Contractor), have satisfied myself with the content of this Health and Safety Specification and shall ensure that our employees and contractors on site comply with the requirements of this document, our safety documentation and health and safety legislation.

Signature of Contractor

Date

Comments:

ANNEXURE G: CONTRACTOR COMPLIANCE FILE ASSESSMENT CHECKLIST

Date of inspection/ Evaluation: _____

Client	
Employer (Principal contractor)	
Registered name of the enterprise	
Trade name of the Enterprise	
Company Registration No	
SARS registration No(PAYE)	
UIF registration No	
COIDA registration no	
Relevant SETA for EEA purpose	
Industry sector	
Bargaining Council	
Contact person & position	
Contact number	
Site Address	
Postal Address	
Chief Executive Officer	
Chief Executive officer's email and contact number	
Construction Manager	
Health and Safety Representative	
Activities/ Service rendered	
Commencement date	
Completion date	
Site Phone	
Total number of employees on site:	
Female	
Male	
People with disabilities	

CONTRACTOR	Complying	Not Complying (i.e. Comments)	Not Applicable
1. Site Specific Organogram of reporting structure. This document must provide all persons appointed in terms of OHS Act No. 85 of 1993 including contact details. (rev, date, approval)			
2. Contractor scope of work information (Company Profile)			
3. Notification of Construction Work to the Department of Labour: Document to display required information as per OHS Act No.85 of 1993 – Construction Regulations Annexure A, Must carry the stamp of acceptance from the Department of Labour <i>(if applicable)</i>			
4. Application for a permit to do construction work <i>(if applicable)</i>			
5. Valid Letter of Good Standing with FEM/WCA: And proof of relevant insurances to carry out work.			
MANAGEMENT PLANS			
6. Copy of reference documents: Health & Safety, Security, Quality, Environmental, and other applicable Specifications Including a signed register of communication to Managers, Supervisors & Safety Officers			
7. Approved Contractor Execution Plan correlating with Specification provided by Transnet (i.e. Approved health and safety plan, environmental plan, security plan etc.)			
8. Contractors Health and Safety Policy			
9. Site Specific Emergency Plan			
10. Contractors Traffic Management Plan (if applicable)			
11. Procedure for handling Hazardous Chemical Substance's and Applicable Safety Data Sheet <i>(if applicable)</i> .			
APPOINTMENTS			
12. Fully completed appointments of the following (depends on the scope of work) but not limited to:			
• Sec. 16(2) – Delegated Authority (Assistant to the CEO)			
• CR 8(1) – Construction Manager			
• CR 8(7) – Construction Supervisor			
• CR 8(8) – Assistant Construction Supervisor			
• CR 8(5) – Construction Safety Officer			
• CR 9(1) – Risk assessment			
• CR 10. (1)(a) – Fall Prevention Planner <i>(if applicable)</i>			
• CR 10.(2)(b) (fall risk) Physical & Psychological fitness			
• CR 23.(d)(k) – Vehicle operator and Inspector			
• GSR 3.4 – First aider			
• CR 29 (h) – Fire Fighter			
• Sec 24, GAR 9(2) – Incident Investigator			
• CR 13(1)(a) – Excavation Supervisor			
• CR 28(a) – Stacking and Storage Supervisor			

• CR 12(1) – Temporary works designer			
• CR 14(1) – Demolition work supervisor			
• CR 16(1) – Scaffolding work supervisor			
• CR 17 (1) – Suspended platform work supervisor			
• CR 18(1)(a) – Rope access supervisor			
• CR 19(8)(a) – Material host Inspector			
• CR 20(1) – Bulk mixing plant supervisor			
• CR 21(2) – Explosive actuated fastening devices inspector			
• Sec 17(1) – SHE Rep (more than 20 employees)			
• GSR 13(a) – Ladder Inspector An abbreviated CV of the above appointed persons shall be attached to the appointment. Competency certificates will also be attached as required in specifications			
13. Elevated work training (Rescue/ Safety harnesses) – accredited Training (<i>If applicable</i>)			
14. Fall Protection Plan by competent person / Rescue Plan (<i>If applicable</i>)			
15. Contract/Project Specific Risk Assessment indicating the full scope of work and risk profile – High risk task inventory registers to be attached.			
16. Risk Assessment (HIRA), Method Statement, Safe Work Procedure to be generated for each specific task to be performed on the contract/project i.e. Site establishment, confined spaces, working at heights, working near water, excavations etc. Note: before establishment they can supply what they will start with – site establishment, fencing, clear & grub...so only request what is relevant at the time.			
17. PPE Policy and most recent issue register.			
INDUCTION			
18. Induction application forms completed for every employee of the contractor performing work on site; The following shall be attached:			
• Employee Dossier with applicable documentation;			
• Proof of site specific induction;			
• Copy of ID Document;			
• Legal Letter of Appointment;			
• Proof of competence i.e.: Artisans, drivers, operators etc.;			
• Valid medical certificate of fitness done by an Occupational Health Practitioner (i.e. Annexure 3 for construction work)			
REGISTERS			
19. Copy of equipment registers to be used with copy of each item's inspection checklist. The registers are not limited to the following, depends on the scope of work:			
• Site visitors register			
• Excavation Inspection Register			
• Hand tools Inspection register			
• Barricading Inspection Register			
• Traffic Inspection Register			
• Mobile Toilet Inspection Register			
• Daily Risk Assessment and Toolbox Talk			

• PPE Inspection Register			
• First Aid kit Inspection Register			
• Fire Fighting Equipment Register			
• Portable electrical Equipment Register			
• Pneumatic Tool Register			
• Compressor Checklist			
• Ladder Inspection Register			
• Vehicle Inspection Register			
• Working at Height Equipment Register			
INCIDENT/ACCIDENT MANAGEMENT			
20. Incident /Accident Management Procedure including reporting, recording and investigation of incidents and accidents			
21. Register of first aid injuries			
22. Register of reportable injuries to the Provincial Director			
OTHERS			
23. Section 37(2) mandatory agreement between client - contractor and contractor - sub contractor. As well as:			
• CR 5.1(k) Principal Contractor appointment			
• CR 7(1)(c)(v) Sub Contractor appointment			
24. Training Matrix (Management, Supervisors and Employees)			
25. Copy of the OHS act and its Regulations , COLD Act Regulations			

CONTRACTOR'S COMPLIANCE FILE REVIEW			
Date	Print Full Name	Designation	Signature
Status			
Approved			
Not Approved		X	
Reasons for not approving			

BASELINE RISK ASSESSMENT FOR MAINTENANCE OF LOW VOLTAGE FACILITIES IN BUFFALO CITY DISTRICT MUNICIPALITY

ANNEXURE H:

RISK ASSESSMENT MATRIX EXPLANATION

Risk rating multiplier	Low =1	Medium =2	High=3
Likely consequences of an accident/incident (what are the potential results)	Minor damage to equipment / first aid treatment /	Possible fractures / lost time injury /compensation payout / equipment in need of repair	Serious injury /occupational disease / fatality, multiple fatalities / loss of equipment
Frequency of Exposure (how often does it happen)	Limited activity, maybe once or twice on a project (e.g. exposure of services)	Occurs fairly often on a project	Occurs on a daily basis, or continually
Probability of harm (likelihood of something going wrong)	Low, due to limited activity, limited people exposed	Moderate risk, happens within the industry, many exposed	Occurs often within industry, many exposed

low	med	high
1	4	12
2	6	18
3	8	27

The purpose of the Design HIRA is to assess risk relative to the existing design requirements and standards, and attempt to understand the typical behaviours and practices of the Contractor or team doing the work. One should consider the standards used and refer to them, use drawings, read the design reports and have seen the site. The Agent needs to know and be able to assess the total circumstances that the project is going to operate in. The Agent also needs to understand the environment, relative to H&S and also the people, presence of the public, any particular issues that are known or could be problematic during the project. The Agent should consider the remoteness, the challenges of local labour, and specific requirements of the Client such as use of local labour. Knowledge of products specified, use of SDSs or MSDSs to be included, as well as statistical knowledge of incidents, diseases and fatality rates for similar types of work.

Risk rating and risk category	Risk rating and risk category	Risk rating and risk category
1	4	12
2	6	18
3	8	27

4
6
8

12
18
27

LEGEND

CR	Construction Regulations
CHSO	Construction Health and Safety Officer
GSR	General Safety Regulations
N-IH I Regs	Noise Induced Hearing Loss Regulations
HBA Regulations	Hazardous Biological Regulations
HIRA	Hazard Identification and Risk Assessment
Db	Decibels
H&S	Health and Safety
PPE	Personal Protective Equipment
PA	Principal Agent
PSHSS	Project Specific Health and Safety Specification

BASELINE RISK ASSESSMENT FOR MAINTENANCE OF LOW VOLTAGE FACILITIES IN BUFFALO CITY DISTRICT MUNICIPALITY

The base line risk assessment is to highlight hazards emanating from project risks identified.

Risk Rating multiplier: Low = 1; Medium = 2; High = 3

Low	Med	High
1	4	12
2	6	18
3	8	27

	Note, this HIRA is a guide only and does not cover all risks. It must be read in conjunction with the Site Specific OHS Specification in the contract document. The contractor must supply a full risk assessment for all activities on site.								Residual risk				
	Operation	Hazard	Design Risks identified as present	Likely consequences of an incident	Frequency of Exposure	Probability of harm	Risk rating and risk category	Describe the obvious control measures to be part of design	Likely consequences of an accident	Frequency of Exposure	Probability of harm	Risk rating and risk category	Accountability
1	Location, exposure and protection of existing services	Electrocution of contractor personnel and damage to existing infrastructure (water pipes, cables)	Contact with electrical cable overhead. Contact with underground cable. Use of equipment under HV cable.	3	2	2	12	The principal contractor must obtain the relevant details and drawings depicting existing services of all kinds from the Competent Authorities, prior to commencement of activities. • Relevant risk assessments and safe working procedures must be developed and implemented accordingly.	2	2	2	8	Contractor, Construction Manager, CHSO
			Underground water pipe being damaged.	2	2	2	8	Care should be taken when excavating. Ensure that staff are experienced and competent to conduct inspections. Existing services are to be located, identified, and subsequently safeguarded	2	1	1	2	Contractor, Construction Manager, CHSO

			overhead telephone cables cut.	1	3	2	6	Erect warning signs, inform workers. Ensure that staff are experience and competent to conduct inspections. Inspections to be performed to identify high restrictions within working areas. • No excavations must be left open over weekends and public holidays.	1	1	1	1	Contractor, Construction Manager, CHSO
2	Site access and drivers operating vehicles on-site.	Struck by vehicle, vehicle overturns, untrained operator, uncertified plant	Collision of vehicles within working area causing damage to property and injury to personnel	2	2	3	12	A clear demarcation, and separation of working spaces or areas between the Principal Contractor and members of the public or residents must be established. Traffic movement to be observed and manually controlled where necessary. All visitors must be warned of the current heavy construction traffic at the entrance/exit point of the site. All vehicle operators must be trained and certified to operate such vehicles.	2	1	1	2	Contractor, Construction Manager, CHSO
			Unroadworthy vehicles, poor road conditions and bad weather conditions	2	2	3	12	All vehicles and mobile plants are to be checked for roadworthiness and safety before they are allowed on-site. All construction vehicle drivers and operators are to be tested for alcohol on a regular basis. All site personnel must be issued and always wear reflective vests while on site for visibility. Everyone entering work area must be inducted before gaining site access. Contractor and subcontractor safety files needs to be approved by CSHO before site access is granted.	2	2	1	4	Contractor, Construction Manager, CHSO
3	Hazardous Chemical Substances	Exposure to hazardous chemicals, pollutants, or contaminated soil. Improper use and storage of Hazardous Chemical Substances (HCS).	Lack of training and handling of HCS	2	1	3	6	Before any employee is allowed to use HCS, they must be trained and made aware of possible hazards as per MSDS. Correct and relevant PPE should be issued and	2	1	2	4	Contractor, Construction Manager, CHSO

4	Electricity	Electrocution	Electrical shock due to contact with live electrical wire	2	2	3	12	Develop detailed method statement and ensure that it is implemented. All persons to be provided with training in the hazards associated with live electrical wire. Exclusion zones to be created with rigid barriers and warning signs. No machine to be operated in an area where any part of machine or equipment can contact electrical wire.	2	1	2	4	Contractor, Construction Manager, CHSO
5	Ladder usage	Falling from ladder	Improper use and inspection of ladders	2	2	2	8	Must be inspected by a competent person. Provide Personal protective Equipment as required by the OHSA.	2	2	1	4	Contractor, Construction Manager, CHSO
6	Drilling and Grinding	Flying particles that can cause asthma, damage to cables underneath, Fires, Noise	Injury to staff and operator while using machinery and damage to property, fire started by grinding operation., Noise induced hearing loss.	3	2	3	18	Machine safe guarded and must be in good working order certified by competent person. Inspection and pre checks to be conducted before using any machine. Employees trained and certified to use such machinery. to be issued. Employees to use appropriate PP. Staff needs to be part of DSTI's before work is conducted	2	2	2	8	Contractor, Construction Manager, CHSO
7	Excavation work	Falling into pits, damage to infrastructure, Injury to personnel	Excavated trenches left open resulting in employees and including members of public falling into, injury to personnel	2	2	1	4	All excavation work must be supervised by a competent person who is appointed in writing as an excavation's supervisor. All excavations must be inspected, and a register must be kept in the contractor's OHS file. All open excavations must be barricaded off with a high visibility orange and yellow net that is not shorter than 1 meter in height. Signs warning of open excavations must be installed. No excavations or trenches may be left open over week- ends and public holidays.	1	2	1	2	Contractor, Construction Manager, CHSO

8	Improper stacking and storage	Material falls due to improper stacking causing injuries to persons.	Injury to personnel, cause fire, theft	2	1	2	4	Stacking should be supervised by competent stacking supervisor appointed. Best stacking practices should be applied. Training for those responsible for discharging this duty should be provided. No stormwater pipes or any other construction material may be stacked blocking the residents' gates or against residents' fences or at the entrances to the facilities. Barricading must be used when stacked outside. All storage rooms need to be safeguarded and locked.	1	2	1	2	Contractor, Construction Manager, CHSO
9	Loading, offloading and installing.	Falling objects, damage to equipment	Loading and offloading of electrical equipment leading to personal injury. Workers back injuries	2	2	1	4	Employees to be trained on safe lifting techniques, reduce and weight of items to be lifted reduced and use the appropriate mechanical equipment to lift heavy items.	1	2	1	2	Contractor, Construction Manager, CHSO
10	Portable Electrical Equipment	Noise induced, electrocution	Noise will be generated by portable electrical equipment which will lead to noise induced hearing loss, injury to personnel	2	2	2	8	Principal Contractor to provide PPE (Ear Protection). Workers should be rotated to reduce exposure. Noise must be measured and if found to be more than 85 decibels, the contractor must provide means to mitigate the impact. All portable electrical tools to be inspected by appointed supervisor and deemed safe for use.	1	1	2	2	Contractor, Construction Manager, CHSO

11	Removal of old services	Disruption to operations. Damage to infrastructure in operation	Unsafe removal of underground services leading to electrocution, waterline bursts/disruption in supply of	2	2	3	12	The Principal Contractor must ensure that the removal of old services is included in the health and safety plan. A detailed method statement must be submitted for re-view and approval before any work can be carried out. Such plans must be shared with the employees once approved. Employees must be provided with the relevant PPE such as gloves and goggles. Appropriate machinery to be used.	2	1	2	4	Contractor, Construction Manager, CHSO
12	Housekeeping	Unhealthy working condition, Danger to staff and public	Housekeeping not being maintained daily. Generated waste, scrap and debris not removed from site at reasonably appropriate intervals. Construction areas near occupied offices/operational areas not sufficiently hoarded. Unsafe workplace	2	2	2	8	Housekeeping to be maintained daily. Hoarding must be maintained daily and must be kept up to standard. Waste needs to be classified and disposed accordingly. A Clean AS You GO approach needs to be exercised.	1	1	2	2	Contractor, Construction Manager, CHSO
13	Working at elevated position / heights	Falling objects. Personnel falling from heights	Falling objects injuring personnel and equipment. Injury to personnel due to unsafe working conditions	2	3	2	12	Adequate training and awareness to be provided to employees on working in elevated/fall position. Approved methods statements by Engineer to be used by contractors. Competent and qualified personnel will be allowed to work at heights. Fall protection plan needs to be approved before work commence and an appointed fall protection planner need to be appointed in writing should the need be. Appropriate PPE needs to be used. Fall arrest kits.	2	3	1	6	Contractor, Construction Manager, CHSO

14	Re-energizing conductors and equipment	Electrocution/ flash over	Risk of electric shock or flash over. Possible cause of fire igniting	2	2	2	8	Check all connections that they are secured, both visually and mechanically as appropriate. Visually inspect insulation of conductors and phase shields etc. Visually inspect integrity of protection sleeves / grommets etc. Check that all unused ways and other openings are suitably blanked. Test in accordance with SANS 10142-1 before rein-statement. Ensure that firefighting equipment is inspected and certified for use. A fire fighter needs to be appointed in writing, trained and certified.	2	1	1	2	Contractor, Construction Manager, CHSO
15	Working in confined spaces	Exposure to dangers entering confined spaces	Exposure to toxic gases, lack of oxygen due to poor ventilation leading to health issues or fatality.	3	2	3	18	Competent persons to be appointed to test and evaluate the air. Proof to be kept in writing after testing. Correct PPE to be used at all times. Only authorised persons to work in designated area. Sufficient training to be provided. Risk assessment and method statement to be done by a competent person and be communicated to workers. Medical surveillance to be done on all workers.	2	2	2	8	Contractor, Construction Manager, CHSO
16	Personal Protective Equipment (PPE):	Inadequate or improper use of PPE.	Reduced protection from workplace hazards.	2	2	2	8	Provide appropriate PPE for specific tasks. - Conduct regular PPE inspections and ensure correct usage. - Enforce compliance with PPE requirements. PPE issuing register to be available and updated	1	1	2	2	Contractor, Construction Manager, CHSO

17	Communication	Lack of communication or unclear instructions during activities.	Misunderstandings leading to accidents or errors. Supervisors being unaware of an accident or other significant event due to unauthorized work. Communication language barrier	1	2	2	4	Establish clear communication channels and protocols. - Conduct daily safety briefings and ensure all team members understand instructions. - Encourage open communication and reporting of safety concerns. English to be used as a standard communication language unless the need to change to offer clarity. Personnel have received training, and are aware of lone working procedures and isolation procedures.	1	1	2	2	Contractor, Construction Manager, CHSO
18	Exposure to Asbestos	Inhalation of asbestos fibres	Illness to employees due to exposure	1	2	3	6	Use of required PPE (Disposable overalls, single use gloves, Respiratory Protective Equipment) Site specific induction Warning signs, Barriers Initial and/or Negative Exposure Assessment Only trained and certified personnel is allowed to handle asbestos	1	1	2	2	Contractor, Construction Manager, CHSO
19	Ergonomic risk	Inadequate or improper use equipment, tools and inappropriate working environment	Injury to body parts. Static stress	1	2	2	4	Provide adjustable tables and chairs. Safe working procedures for lifting heavy object.	1	1	2	2	Contractor, Construction Manager, CHSO

20	Hazardous Biological Agent:	Potential exposure to infectious agents in a hospital environment.	Transmission of infections to Contractors or hospital occupants leading to occupational diseases.	2	2	3	12	Employees to be trained on how to protect themselves when working in the hospital environment to avoid contracting HBA. Adhere to hospital infection control protocols. Wear appropriate PPE, including gloves and masks when entering hospital facilities. Maintain strict hygiene practices, including handwashing and sanitization. Workers working in areas where they will be in direct contact with body fluids to be vaccinated against Hepatitis A & B.	1	1	2	2	Contractor, Construction Manager, CHSO
21	Exposure to contagious diseases and exposure to medical waste	Illness to employees due to exposure	Lack of knowledge of contagious diseases. Dirty / uncleaned working environment.	2	2	3	12	Use appropriate PPE (respiratory masks, disposable overalls) Site specific induction Compliance to DSTI daily Immediate reporting of unsafe conditions to client. Frequent cleaning as per schedule	2	2	2	8	Contractor, Construction Manager, CHSO
22	Working in a operational health facility	Injury to patient and staff. Disruption in operations	Disruption to daily operation, exposure to diseases and injuries	2	3	2	12	Conduct site induction to all personnel involved including client Contractor alignment with client on maintenance execution programme Approved maintenance outages Use appropriate PPE Monthly safety awareness campaigns Adequate supervision	2	3	1	6	Contractor, Construction Manager, CHSO

23		Presence of patients, visitors, and staff in the hospital.	Disturbance to hospital operations, privacy concerns, or accidents involving hospital occupants.	2	2	2	8	Clearly communicate the purpose and duration of construction activities to hospital staff. Implement safety barriers or signage to direct people away from work areas. Minimize disruptions to hospital operations as much as possible.	1	1	2	2	Contractor, Construction Manager, CHSO
24	Emergency Response Coordination :	The potential for emergencies within the hospital during the construction phase.	Delayed emergency response or confusion during an emergency situation.	2	2	3	12	Coordinate emergency response procedures with hospital administration. Ensure Contractors are familiar with hospital evacuation and emergency protocols. Maintain clear communication channels with hospital security and emergency response teams.	1	1	3	3	Contractor, Construction Manager, CHSO
25	Patient Privacy and Confidentiality:	Contractor having access to patient information or sensitive areas.	Breach of patient privacy or violation of healthcare regulations.	2	2	2	8	Limit access to patient areas to only essential personnel. Ensure all Contractors sign confidentiality agreements. Observe patient privacy rules and HIPAA regulations.	1	1	2	2	Contractor, Construction Manager, CHSO
26	Noise and Disturbance:	Noise generated by the contractor's activities affecting patient comfort and recovery.	Increased stress levels among patients and staff.	1	2	2	4	Schedule noisy activities during non-peak hours or low-occupancy times. Use noise-reducing equipment or barriers. Communicate with hospital administration to minimize disruptions.	1	1	2	2	Contractor, Construction Manager, CHSO

27	Hospital-Specific Protocols:	Lack of familiarity with hospital-specific safety protocols and procedures.	Failure to comply with hospital rules, leading to incidents or accidents.	1	2	2	4	Collaborate closely with hospital safety officers. Attend hospital orientation and safety training as required. Adhere to all hospital-specific safety guidelines and policies.	1	1	2	2	Contractor, Construction Manager, CHSO
28	Emergency Medical Services (EMS) Access:	Potential obstruction of EMS access routes due to construction activities.	Delayed medical response in case of emergencies leading to medico legal cases.	1	2	2	4	Coordinate with hospital administration to identify and maintain clear EMS access routes. Ensure all construction equipment and materials are stored in designated areas that do not block access routes.	1	1	2	2	Contractor, Construction Manager, CHSO
29	Communication with Hospital Staff:	Miscommunication or misunderstanding between Contractors and hospital staff.	Errors, conflicts, or disruptions in hospital operations.	1	2	2	4	Establish a clear point of contact within the hospital for communication and issue resolution. Hold regular meetings with hospital staff to review progress and address concerns.	1	1	2	2	Contractor, Construction Manager, CHSO
30	Working at Heights:	Scaffolding not properly erected e.g. scaffolding has no handrails, missing parts, no safe access etc. Scaffolding not properly erected.	Scaffold collapse. Employees falling resulting in serious injuries and even death. Items/objects falling on people below the scaffolding. Fall from height / Falling Object. Employees falling resulting in serious	2	3	3	27	Scaffolding to be done by a competent person. Method statements to be developed and communicated to employees. To be done according to the Design drawings that includes load bearing and approved by competent person. Only employees with the necessary competency to be allowed to work at heights. Employees working at heights to have medical certificate of fitness specific for working at heights. Competent scaffolding erectors and inspectors to be appointed to manage scaffolding operation. Scaffolding to be inspected daily and properly tagged before use.	2	2	2	8	Contractor, Scaffold Erector, Scaffold inspector

			injuries and even death										
		Use of ladders.	Persons / objects falling.	2	3	3	18	Worker training Experienced staff by site staff and P A. Competent Inspection. Method statements. Ladder to be according to General Safety Regulations 13a.	2	2	2	8	Contractor, Scaffold Erector, Scaffold inspector
		Use of fall arrest equipment.	Employees not working according to approved fall protection plan resulting in serious injuries or even death. Items/objects falling on people below the scaffolding.	2	3	3	18	Ensure workers are trained and has necessary competency before being allowed to work at heights. Anchorage points and secure anchor or lifeline (to be discussed and approved by the structural engineer prior to work commencing). Fall Protection and Rescue plan to be developed by Fall Protection Planner. Inspection of equipment. Method statements. Fall protection plan to be updated as conditions on site warrants.	2	2	2	8	Contractor, Fall Protection Planner.
31	Use of electrical equipment:	Contact with electricity.	Possible injuries, electrocution if used incorrectly. Noise generated by portable electrical equipment which will lead to noise induced hearing loss. Properly loss due to fire.	3	2	3	12	Ensure all connections are secure, no breaks in cable. - Proper routing of cables on site. - Certificate of Compliance for electrical supply to be provided. -Principal Contractor to provide PPE (Ear Protection) for employees exposed to noise. Workers should be rotated to reduce exposure. - Noise must be measured and if found to be more than 85 decibels, the contractor must provide means to mitigate the impact. -Only trained competent persons with the knowledge in the use, limits and hazards pertaining to a specific portable electrical tool may work with the tools; -Workers trained on the correct use of personal protective equipment issued for use with the tools; -The person using the portable electrical tools must ensure it is in a safe working condition	3	2	1	6	Contractor, Construction Manager, CHSO, Electrical Supervisor

32	Electrical installations-Permanent and temporary.	Contact with live electricity.	Untrained / incompetent persons carrying out electrical installations (Can lead to electrical shock or electrocution and damage to property and equipment and can also lead to loss of life)	3	2	3	12	Only competent Registered Persons as defined in the Electrical Installation Regulations pertaining to the category of electrical installations carried out may carry out any electrical installations	3	2	1	6	Contractor, Construction Manager, CHSO, Electrical Supervisor
33	Barricading / Hoarding	Construction site - Barricading / Demarcating / Hoarding	Interaction with existing hospital activities / personal and general public during construction could cause injuries. Interruption/obstruction of emergency services and hospital activities.	2	3	3	18	Extra special care and planning and communication between the contractor and hospital staff were working in close vicinity to critical patients' areas. A solid hoarding structure to be above ceiling height to be considered. The contractor is to ensure to price correctly for barricading and hoarding to ensure sufficient barricading around each construction area. Clear warning, directional and safety signage to be fixed in areas where construction is undertaken.	2	2	2	8	Contractor, Construction Manager, CHSO
34	Asbestos Management (Please note: this will only be applicable should there be any Asbestos Containing	Asbestos work	Potential to pollute the environment and pose a health risk to human health	3	3	3	27	Contractor to notify client immediately should any asbestos containing material be identified on site. Asbestos management to be done in accordance with the Asbestos Abatement Regulations of 2020.	2	2	2	8	Contractor, Construction Manager, CHSO / Accredited Asbestos Removal Company

	material identified on site)							All Employees to wear the correct PPE when working in close proximity to areas containing Asbestos					Contractor, Construction Manager, CHSO
35	Excavations	Plant & Manual	Excavation trenches left open resulting employees and members if public tripping and falling resulting in Injuries or even death. Damage to the existing fauna and flora. Employees exposed to ergonomics risks during manual excavation.	3	2	3	18	All excavations work must be supervised by a competent person who has been appointed in writing as an excavation supervisor. All excavations must be inspected regularly and a register be kept for inspection by an auditor. Provide safe access to excavations by means of a step ladder. excavations should not be left open longer than necessary. Excavation should be barricaded/shored as required. Toolbox talks to workers on a regular basis.	3	1	2	6	Contractor, Construction Manager, CHSO, Excavation Supervisor

1. A risk level is attributed to each circumstance in the following manner

- Low Risk = 1 – 15
- Medium Risk = 16 – 30
- High Risk = 31 – 50

2. Risk Ranking calculation

2.1 Consequence

- Medical Treatment only or less (minor injury) = 2
- Average Lost Time Injury = 4
- Major Injury = 6
- Fatality or Permanent disabling injury = 8

2.2 Probability

- Not likely to occur in our lifetime = A
- Could occur = B
- Has happened = C
- Common Occurrence = D

2.3 Calculation of Risk

- Consequence = probability x frequency

3. Evaluation of results

Activities listed in the high-risk zones must be seen as tasks requiring immediate attention. Administration will in most instances solve some of the problems satisfactory, administration would involve training and awareness programmes to educate employees about the hazards and risks associated with their tasks.

An implementation plan must be devised to address the outstanding issues which may need engineering solution or PPE if all attempts fail. The action plan must be cognisance of the specific hazards that need to be eliminated.

4. Assessment Team

The following professionals were involved in the design of this baseline risk assessment for the installation of mechanical and electrical components for healthcare facilities:

Lesiba Ramatladi: CHSO, GCC
Siyanda Mtshakazi: CHSO
Charles Norris: CSHA

5. Task Specific Risk Assessment

Should the baseline risk assessment indicate tasks in high-risk zone, a specific task risk assessment must be conducted. The assessment will then target the specific tasks and hazards attached to the identified activity.

6. Required and Existing Control Measures

- Safe Work Procedures
- Training
- Medical Examination
- Supervision
- Risk assessment
- Mitigation measures
- Consequence management

C3.3: MATERIAL OFFERED ON SERVICE

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

The successful tender must complete the following schedules and submit them to the Department with the tender.

The schedules will be scrutinised by the Representative / Agent and should any material offered not comply with the requirements contained in the specification, the Contractor will be required to supply material in accordance with the contract at no additional cost.

NB: Only one manufacturer's name to be inserted for each item.

Item	Material	Make or trade name	Country of origin	SABS
1	Cable glands			
2	Meter/Distribution Kiosk			
3	Circuit breakers			
4	Isolators in DB's			
5	Earth Leakage			
6	Contactors			
7	Conduit			
8	Conduit boxes			
9	16A flush socket outlets			
10	Socket outlets in power skirting			
11	Flush isolators			
12	Isolators in power skirting			
13	Light switches - flush			
14	Photo cell			
	Light fittings	-----	-----	
15	Type A			

Item	Material	Make or trade name	Country of origin	SABS
16	Type B			
17	Type C			
18	Type D			
19	Type E			
20	Type F			
21	Type G			
22	Type H			
23	Type I			
24	Type J			
25	Type K			
26	Type L			
27	Type M			
28	Type N			
29	Type O			
30	Type P			
31	Type P.1			
32	Type Q			
33	Type R			
34	Type S			
35	Type T			
36	Type U			
37	Type V			

Item	Material	Make or trade name	Country of origin	SABS
38	Type W			
39	Type X			
40	Type Y			
41	Type Z			
42	Type AA			
43	Type AB			
44	Type AC			
45	Type AD			
46	Type AE			
47	Type AF			
48	Type AG			
49	Type AH			
50	Type AI			
51	Type AJ			
52	Type AK			
53	Type AL			
54	Type AM			
55	Type AN			
56	Type AO			
57	Type AP			

NOTE: Under no circumstances will the tenderer be permitted to deviate from the materials specified above unless agreed in writing, by the Engineer, prior to award of tender.

PART C4: SITE INFORMATION

C4: SITE INFORMATION

PROJECT NAME	SCHEDULED MAINTENANCE TO VARIOUS LV, NURSES CALL, COMMS, PV AND UPS FOR BCM
TENDER No.	SCMU3-2627-0193-BCM

C4.1 Site Information

1. GENERAL

- a) The Standard for Uniformity in Construction Procurement published in terms of the Construction Industry Development Board (CIDB) Act, 2000 (Act no 38 of 2000), the Standardized Construction Procurement Documents for Engineering and Construction Works as issued by the CIDB and any other relevant documentation pertaining thereto must be studied and all principles in this regard must be applied to all procurement documentation, practices and procedures.
- b) The Supplier must acquaint themselves fully with all matters pertaining to this section in order to enable prospective Suppliers to price for all eventualities.
- c) All hospitals are functional, caution must be taken in terms of contractor movement and noise.
- d) The employer will advise will confirm where the stripped materials need to be disposed.

2. LIST OF FACILITIES

Due to the large number of health facilities and area over which the Health Facilities covered by this Contract is spread, it is the Contractor's own choice if he/she wants to inspect the sites prior to tendering to ascertain the condition of the equipment, or rely solely on the information provided as part of the Tender Documentation and single site tender briefing meeting. No further claims due to non-compliance with this requirement shall be entertained.

Further to this, in as much as the co-ordinates of the facilities are given on the table below, it is the contractors responsibility to confirm the accuracy of the coordinates before proceeding to that specific site.

BUFFALO CITY DISTRICT

FACILITY	CO-ORDINATES
ec Cecilia Makiwane Hospital	32°55'48"S 27°44'35"E
ec Frere Hospital	32°59'45"S 27°53'30"E
ec Newhaven Hospital	32°58'57"S 27°54'21"E
ec Nkqubela Hospital	32°55'54"S 27°44'23"E
ec Cathcart Hospital	32°17'54"S 27°08'10"E
ec Komga Hospital	32°34'54"S 27°53'08"E
ec Nompumelelo (Peddie) Hospital	33°12'24"S 27°07'53"E
ec SS Gida Hospital	32°40'27"S 27°08'39"E
ec Stutterheim Hospital	32°34'16"S 27°25'07"E
ec Madwaleni Hospital	32°05'47"S 28°52'44"E
ec Butterworth Hospital	32°19'54"S 28°08'18"E
ec Tafalofefe Hospital	32°25'45"S 28°28'26"E
ec Adelaide Hospital	32°42'01"S 26°17'40"E

ec Bedford Hospital	32°40'34"S 26°04'58"E
ec Fort Beaufort Hospital	32°46'50"S 26°37'59"E
ec Victoria Hospital	32°46'37"S 26°50'45"E
COMMUNITY HEALTH CENTRE	
ec Dimbaza CHC	32°50'07"S 27°12'50"E
ec Duncan Village CHC	33°00'28"S 27°53'12"E
ec Empilweni Gompo CHC	33°00'51"S 27°50'56"E
ec Mount Coke CHC	32°58'50"S 27°26'35"E
ec Nontyatyambo CHC	32°56'25"S 27°45'27"E
FORENSIC MORTUARY	
Mdantsane	
Woodbrook	33°02'02"S 27°52'31"E
Bhisho	

Clinics

Maintenance to electrical installations in clinics will be included in the contract. The contractor will be requested to conduct detailed inspection and prepare a repair list for each clinic. The list is as follows:

CLINICS - Buffalo City Health Sub-District (72)	
ec Alphendale Clinic	33°00'48"S 27°50'28"E
ec Amahleke Clinic	32°50'04"S 27°13'48"E
ec Aspiranza Clinic	33°01'08"S 27°50'59"E
ec Beacon Bay Clinic	32°58'04"S 27°56'18"E
ec Berlin Clinic	32°53'02"S 27°34'39"E
ec Bhisho Gateway Clinic	32°49'39"S 27°27'16"E
ec Bhisho Parliament Clinic	32°51'49"S 27°25'43"E
ec Braelyn Clinic	32°59'59"S 27°52'45"E
ec Braelyn Extension Clinic	33°00'14"S 27°51'39"E
ec Breidbach Clinic	32°53'12"S 27°26'16"E
ec Bulembu Clinic	32°52'25"S 27°16'04"E
ec Cambridge Clinic	32°58'40"S 27°53'22"E
ec Central Clinic (East London)	33°01'00"S 27°54'21"E
ec Chris Hani Clinic	32°57'16"S 27°55'30"E
ec Drake Road Clinic	32°59'15"S 27°55'59"E
ec Fezeka NU 3 Clinic	32°56'05"S 27°44'50"E
ec Fort Grey Clinic	33°02'13"S 27°48'11"E
ec Frere Gateway Clinic	32°59'49"S 27°53'23"E
ec Ginsberg Clinic	32°53'31"S 27°23'07"E
ec Gompo A Ndende Clinic	33°00'26"S 27°52'34"E
ec Gompo B Jwayi Clinic	33°00'55"S 27°51'37"E
ec Gompo C Jabavu Clinic	33°00'48"S 27°51'52"E
ec Gonubie Clinic	32°56'29"S 28°01'19"E
ec Greenfields Clinic	33°02'06"S 27°51'42"E
ec Grey Gateway Clinic	32°52'45"S 27°23'44"E
ec Ilita Clinic	32°53'24"S 27°32'02"E
ec Imidange Clinic	32°52'37"S 27°23'30"E
ec Jafta Clinic	32°55'00"S 27°24'59"E

ec John Dube Clinic	32°59'28"S 27°48'58"E
ec Kwelera Clinic	32°49'30"S 27°58'02"E
ec Luyolo NU 9 Clinic	32°55'32"S 27°44'02"E
ec Masakhane Clinic (Zwelitsha)	32°55'32"S 27°25'56"E
ec Masiphile Clinic	32°51'15"S 27°47'21"E
ec Mdingi Clinic	32°55'00"S 27°24'59"E
ec Mncotsho Clinic	32°56'05"S 27°36'00"E
ec Moore Street Clinic	33°00'45"S 27°54'55"E
ec Mpongo Clinic	32°59'00"S 27°52'00"E
ec Ncera Clinic	32°59'43"S 27°49'14"E
ec Ndevana Clinic	32°54'54"S 27°25'11"E
ec Needs Camp Clinic	33°00'18"S 27°38'53"E
ec Newlands Clinic	32°54'03"S 27°45'24"E
ec Nobuhle NU 8 Clinic	32°56'35"S 27°43'23"E
ec Noncampa Clinic	32°55'00"S 27°24'59"E
ec NU 12 Clinic	32°55'58"S 27°43'04"E
ec NU 13 Clinic	32°56'30"S 27°42'12"E
ec NU 16 Clinic	32°57'39"S 27°41'19"E
ec NU 17 Clinic	32°56'54"S 27°41'11"E
ec Openshaw Clinic	32°59'00"S 27°52'00"E
ec Pakamisa Clinic	32°55'00"S 27°25'00"E
ec Peelton Clinic	32°47'10"S 27°30'04"E
ec Pefferville Clinic	33°00'38"S 27°52'50"E
ec Petros Jobane Clinic	32°58'03"S 27°52'59"E
ec Philani NU 1 Clinic	32°56'17"S 27°46'12"E
ec Pirie Clinic	32°47'32"S 27°14'44"E
ec Potsdam Clinic	32°58'52"S 27°38'38"E
ec Qurhu Clinic	33°00'09"S 27°32'38"E
ec Shornville Clinic	32°53'53"S 27°23'51"E
ec Sinebhongo Clinic	32°59'00"S 27°51'22"E
ec St Thomas Clinic	32°56'03"S 27°38'36"E
ec Sweetwaters Clinic	32°55'06"S 27°25'34"E
ec Tembisa NU 7 Clinic	32°56'43"S 27°43'32"E
ec Thembaletshu Clinic (Buffalo City)	32°53'37"S 27°44'38"E
ec Tshabo Clinic	32°55'38"S 27°32'51"E
ec Tshatshu Clinic	32°54'10"S 27°25'53"E
ec Tyamzashe FP Clinic	32°51'03"S 27°26'18"E
ec Tyutyu Clinic	32°50'08"S 27°22'50"E
ec Welcomewood Clinic	33°01'29"S 27°31'05"E
ec Zanempilo Clinic (East London)	32°57'16"S 27°59'29"E
ec Zanempilo Clinic (Zwelitsha)	32°48'03"S 27°25'03"E
ec Zikhova Clinic	33°13'45"S 27°28'41"E
ec Zingisa NU 5 Clinic	32°57'23"S 27°44'19"E
ec Zwelitsha Zone 5 Clinic	32°54'50"S 27°25'15"E

