TENDER NO: 274G/2025/26

TENDER DESCRIPTION: PROCUREMENT OF NEW CREMATORS AND ASSOCIATED WORKS

CONTRACT PERIOD: 36 MONTHS FROM THE COMMENCEMENT DATE OF THE CONTRACT

CLOSING DATE	**27 July 2026**
CLOSING TIME	**10:00 am**
TENDER BOX NUMBER	**183**
TENDER FEE	**R200**

Non – refundable tender fee payable to the City of Cape Town (CCT) for a hard copy of the tender document. This fee is not applicable to website downloads of the tender document.

TENDERER	
NAME of Company/Close Corporation or Partnership / Joint Venture/ Consortium or Sole Proprietor /Individual (hereinafter the "Tenderer")	
TRADING AS (if different from above)	
Registration number of Tenderer	
Physical address and chosen domicilium citandi et executandi of Tenderer	

NATURE OF TENDER OFFER (please indicate below)	
Main Offer (see clause 2.2.11.1)	
Alternative Offer (see clause 2.2.11.1)	

TENDER SERIAL NO.:
SIGNATURES OF CCT OFFICIALS AT TENDER OPENING
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THE TENDER

T.1 GENERAL TENDER INFORMATION

TENDER ADVERTISED	**:**	**12 June 2026**
SITE VISIT/CLARIFICATION MEETING	:	Time: **10:00** on Date: **1 July 2026** (Not compulsory, but strongly recommended)
VENUE FOR SITE VISIT/CLARIFICATION MEETING:		**Virtual Meeting – MS Teams** https://teams.microsoft.com/meet/314239656715464?p=F9fcW5fHnYbREeZAYK Meeting ID: 314 239 656 715 464 Passcode: yL7A2DR6 Send request for link to Virtual Meeting to SCM.Tenders25@capetown.gov.za
TENDER BOX & ADDRESS	:	**Tender Box as per front cover** at the **Tender & Quotation Boxes Office**, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town.
	:	The Tender Document (which includes the Form of Offer and Acceptance) completed and signed in all respects, plus any additional supporting documents required, must be submitted in a sealed envelope with the name and address of the tenderer, the endorsement "**TENDER NO. 274G/2025/26 TENDER DESCRIPTION: PROCUREMENT OF NEW CREMATORS AND ASSOCIATED WORKS,** the tender box number. and the closing date indicated on the envelope. The sealed envelope must be inserted into the appropriate official tender box before closing time. If the tender offer is too large to fit into the abovementioned box or the box is full, please enquire at the public counter (Tender Distribution Office) for alternative instructions. It remains the tenderer's responsibility to ensure that the tender is placed in either the original box or as alternatively instructed.
CCT TENDER REPRESENTATIVE	**:**	Email: SCM.Tenders25@capetown.gov.za

TENDERERS MUST NOTE THAT WHEREVER THIS DOCUMENT REFERS TO ANY PARTICULAR TRADE MARK, NAME, PATENT, DESIGN, TYPE, SPECIFIC ORIGIN OR PRODUCER, SUCH REFERENCE SHALL BE DEEMED TO BE ACCOMPANIED BY THE WORDS "OR EQUIVALENT"

T.2 CONDITIONS OF TENDER

2.1 General

2.1.1 Actions

2.1.1.1 The City of Cape Town (hereafter referred to as the "CCT") and each tenderer submitting a tender offer (hereinafter referred to as the "tenderer" or the "supplier") shall comply with item T.2 of this Tender Document Goods and Services (hereinafter referred to as these "Conditions of Tender"). The tenderer and the CCT shall collectively hereinafter be referred to as the "Parties" and individually a "Party"). In their dealings with each other, the Parties shall discharge their duties and obligations as set out in these Conditions of Tender, timeously and with integrity, and behave equitably, honestly and transparently, and shall comply with all legal obligations imposed on the Parties herein and in accordance with all applicable laws.

The Parties agree that this tender Tender Document Goods and Services (hereinafter referred to as the"Tender" / "Tender Document"), its evaluation and acceptance and any resulting contract shall also be subject to the CCT's Supply Chain Management Policy ('SCM Policy') that was applicable on the date the bid was advertised and as amended from time to time. If the CCT adopts a new SCM Policy which contemplates that any clause therein would apply to the Contract emanating from this tender (hereinafter referred to as the "Contract"), such clause shall also be applicable to that Contract. Please refer to this document contained on the CCT's website.

Abuse of the supply chain management system is not permitted and may result, inter alia, (1) in the tender being rejected; (2) cancellation of the contract; (3) restriction of the supplier, and/or (4) the exercise by the CCT of any other remedies available to it as provided for in the SCM Policy and/or the the Contract and/or this tender and/or any applicable laws .

2.1.1.2 The CCT, the tenderer and their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the CCT shall declare any conflict of interest to the CCT at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict, and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

2.1.1.3 The CCT shall not seek, and a tenderer shall not submit a tender, without having a firm intention and capacity to proceed with the contract.

2.1.2 Interpretation

2.1.2.1 The additional requirements contained in Annexure F to the contract (hereinafter referred to as the "returnable documents" / "Returnable Schedules") are part of these Conditions of Tender and are specifically hereby incorporated into these Conditions of Tender.

2.1.2.2 These Conditions of Tender and returnable Documents which are required for CCT's tender evaluation purposes herein, shall form part of the Contract arising from the CCT's corresponding invitation to tender.

2.1.3 Communication during tender process

Verbal or any other form of communication, from the CCT, its employees, agents or advisors during site visits/clarification meetings or at any other time prior to the award of the Contract, will not be regarded as binding on the CCT, unless communicated by the CCT in writing to suppliers / tenderers by its Director: Supply Chain Management or his nominee. Similarly, any communication of the tenderer / supplier that is not reduced to writing by the tenderer / supplier, its employees, agents or advisors, shall not be regarded as binding on the CCT, unless communicated to the CCT in writing by the suppliers / tenderers, or their duly authorised representatives.

2.1.4 The CCT's right to accept or reject any tender offer

2.1.4.1 The CCT may accept or reject any tender offer and may cancel the corresponding tender process or reject all tender offers at any time before the formation of a contract. The CCT may, prior to the award of the tender, cancel a tender if:

(a) due to changed circumstances, there is no longer a need for the services, works or goods requested; or
(b) funds are no longer available to cover the total envisaged expenditure; or
(c) no acceptable tenders are received;
(d) there is a material irregularity in the tender process; or
(e) the Parties are unable to negotiate market related pricing.

The CCT shall not accept or incur any liability to a tenderer for such cancellation or rejection, but will give written reasons for such action upon receiving a written request to do so.

2.1.5 Procurement procedures

2.1.5.1 General

Unless otherwise stated in the Conditions of Tender, a contract will be concluded with the tenderer who scores the highest number of tender adjudication points.

The CCT intends to appoint two tenderers: "the winner" and "an alternative" tenderer, for the allocation of work. If insufficient responsive bids are received, the CCT reserves the right to appoint fewer tenderers, or not to appoint any tenderer at all.

The supplier, once appointed and subject to operational requirements, will be invited to deliver the goods or services on a "winner-takes-all" basis, whereby the order will always be offered and, if accepted, allocated to the highest ranked tenderer ("the winner"), and only if he refuses will the work be offered to the next highest ranked tenderer (the alternative tenderer).

The contract period shall be 36 months from the commencement date of the contract.

2.1.5.2 Proposal procedure using the two stage-system

A two-stage system will not be followed.

2.1.5.3 Nomination of Standby Bidder

"Standby Bidder" means a bidder, identified by the CCT at the time of awarding a bid that will be considered for award should the contract be terminated for any reason whatsoever. In the event that a contract is terminated during the execution thereof, the CCT may consider the award of the contract, or non-award, to the Standby Bidder in terms of the procedures included its SCM Policy, as amended from time to time.

2.1.6 Objections, complaints, queries and disputes/ Appeals in terms of Section 62 of the Systems Act/ Access to court

2.1.6.1 Disputes, objections, complaints and queries

In terms of Regulations 49 and 50 of the Local Government: Municipal Finance Management Act, 56 of 2003 Municipal Supply Chain Management Regulations (Board Notice 868 of 2005):

a) Persons aggrieved by decisions or actions taken by the CCT in the implementation of its supply chain management system, may lodge within 14 days of the decision or action, a written objection or complaint or query or dispute against the decision or action.

2.1.6.2 Appeals

a) In terms of Section 62 of the Local Government: Municipal Systems Act, 32 of 2000 a person whose rights are affected by a decision taken by the CCT, may appeal against that decision by giving written

notice of the appeal and reasons to the City Manager within 21 days of the date of the notification of the decision.

b) An appeal must contain the following:
   i. Must be in writing
   ii. It must set out the reasons for the appeal
   iii. It must state in which way the Appellant's rights were affected by the decision;
   iv. It must state the remedy sought; and
   v. It must be accompanied with a copy of the notification advising the person of the decision

c) The relevant CCT appeal authority must consider the consider the appeal and **may confirm, vary or revoke** the decision that has been appealed, but no such revocation of a decision may detract from any rights that may have accrued as a result of the decision.

2.1.6.3 Right to approach the courts and rights in terms of Promotion of Administrative Justice Act, 3 of 2000 and Promotion of Access to Information Act, 2 of 2000

The sub- clauses above do not influence any affected person's rights to approach the High Court at any time or its rights in terms of the Promotion of Administrative Justice Act (PAJA) and Promotion of Access to Information Act (PAIA).

2.1.6.4 All requests referring to sub clauses 2.1.6.1 and 2.1.6.2 must be submitted in writing to:
The City Manager - C/o the Manager: Legal Compliance Unit, Legal Services Department, Office of the City Manager
Via hand delivery at: 20th Floor, Tower Block, 12 Hertzog Boulevard, Cape Town 8001
Via post at: Private Bag X918, Cape Town, 8000
Via email at: MSA.Appeals@capetown.gov.za

2.1.6.5 All requests referring to clause 2.1.6.3 must be submitted in writing to:
The City Manager - C/o the Manager: Access to Information Unit, Legal Service Department, Office of the City Manager
Via hand delivery at: 20th Floor, Tower Block, 12 Hertzog Boulevard, Cape Town 8001
Via post at: Private Bag X918, Cape Town, 8000
Via email at: Access2info.Act@capetown.gov.za

2.1.6.6 The minimum standards regarding accessing and 'processing' of any personal information belonging to another in terms of Protection of Personal Information Act, 2013 (POPIA).

For purposes of this clause 2.1.6.6, the contract and these Conditions of Tender, the terms "data subject", "Personal Information" and "Processing" shall have the meaning as set out in section 1 of POPIA, and "Process" shall have the corresponding meaning.

The CCT, its employees, representatives and sub-contractors may, from time to time, Process the tenderer's and/or its employees', representatives' and/or sub-contractors' Personal Information, for purposes of, and/or relating to, the tender, the contract and these Conditions of Tender, for research purposes, and/or as otherwise may be envisaged in the CCT's Privacy Notice and/or in relation to the CCT's Supply Chain Management Policy or as may be otherwise permitted by law. This includes the Processing of the latter Personal Information by the CCT's due diligence assurance provider, professional advisors and the Appeal Authority as applicable. The CCT's justification for the processing of such aforesaid Personal Information is based on section 11(1)(b) of POPIA, i.e., in terms of which the CCT's Processing of the said Personal Information is necessary to carry out actions for the conclusion and/or performance of the contract, to which the applicable data subject (envisaged in this clause 2.1.6.6 above) is a party.

All requests relating to data protection must be submitted in writing to:
The City Manager - C/o the Information Officer, Office of the City Manager
Via hand delivery at: 20th Floor, Tower Block, 12 Hertzog Boulevard, Cape Town 8001
Via post at: Private Bag X9181, Cape Town, 8000
Via email at: Popia@capetown.gov.za.

2.1.6.7 Compliance to the CCTs Appeals Policy.

In terms of the CCT's Appeals Policy, a fixed upfront administration fee will be charged. In addition, a surcharge may be imposed for vexatious and frivolous or otherwise manifestly inappropriate tender related appeals.

The current approved administration fee is R300.00 and may be paid at any of the Municipal Offices or at the Civic Centre in Cape Town using the GL Data Capture Receipt attached as Annexure F.13: Appeal Application Form. Alternatively, via EFT into the CCT's NEDBANK Account:

CITY OF CAPE TOWN and using Reference number: 198158966. You are required to send proof of payment when lodging your appeal.

The current surcharge for vexatious and frivolous or otherwise manifestly inappropriate tender related appeals will be calculated as ½ (Administrative cost of the tender appeal) + 0.25 %(Appellant's tender price).

Should the payment of the administration fee of R300.00 or the surcharge not be received, such fee or surcharge will be added as a Sundry Tariff to the bidder's municipal account.

In the event where the bidder does not have a Municipal account with the CCT, the fee or surcharge may be recovered in terms of the CCT's Credit Control and Debt Collection By-law, 2006 (as amended) and its Credit Control and Debt Collection Policy.

2.1.7 CCT Supplier Database Registration

Tenderers are required to be registered on the CCT Supplier Database as a service provider. Tenderers must register as such upon being requested to do so in writing and within the period contained in such a request, failing which no orders can be raised or payments processed from the resulting contract. In the case of Joint Venture partnerships this requirement will apply individually to each party of the Joint Venture.

Tenderers who wish to register on the CCT's Supplier Database may collect registration forms from the Supplier Management Unit located within the Supplier Management / Registration Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5). Registration forms and related information are also available on the CCT's website www.capetown.gov.za (follow the Supply Chain Management link to Supplier registration).

It is each tenderer's responsibility to keep all the information on the CCT Supplier Database updated.

2.1.8 National Treasury Web Based Central Supplier Database (CSD) Registration

Tenderers are required to be registered on the National Treasury Web Based Central Supplier Database (CSD) as a service provider. Tenderers must register as such upon being requested to do so in writing and within the period contained in such a request, failing which no orders can be raised or payments processed from the resulting contract. In the case of Joint Venture partnerships this requirement will apply individually to each party of the Joint Venture.

Tenderers who wish to register on the National Treasury Web Based Central Supplier Database (CSD) may do so via the web address **https://secure.csd.gov.za**.

It is each tenderer's responsibility to keep all the information on the National Treasury Web Based Central Supplier Database (CSD) updated.

2.2 Tenderer's obligations

2.2.1 Eligibility Criteria

2.2.1.1 Tenderers are obligated to submit a tender offer that complies in all aspects to the conditions as detailed in this tender document and the Conditions of Tender. An 'acceptable tender must "COMPLY IN ALL" aspects with the tender, Conditions of Tender, all Specifications (i.e., item C.5 below, hereinafter the "Specifications"), pricing instructions herein and the Contract including its conditions.

2.2.1.1.1 Submit a tender offer

Only those tender submissions from which it can be established, *inter alia* that a clear, irrevocable and unambiguous offer has been made to CCT, by whom the offer has been made and what the offer constitutes, will be declared responsive.

2.2.1.1.2 Compliance with requirements of CCT SCM Policy and procedures

Only those tenders that are compliant with the requirements below will be declared responsive:

a) A completed **Details of Tenderer** to be provided (applicable schedule below to be completed);
b) A completed **Certificate of Authority for Partnerships/ Joint Ventures/ Consortiums** to be provided authorising the tender to be made and the signatory to sign the tender on the partnership /joint venture/consortium's (applicable schedule below to be completed);
c) A copy of the partnership / joint venture / consortium agreement to be provided, where applicable.
d) A completed **Declaration of Interest – State Employees** to be provided and which does not indicate any non-compliance with the legal requirements relating to state employees (applicable schedule below to be completed);
e) A completed **Declaration – Conflict of Interest and Declaration of Bidders' past Supply Chain Management Practices** to be provided and which does not indicate any conflict or past practises that renders the tender non-responsive based on the conditions contained thereon (applicable schedules below to be completed);
f) A completed **Certificate of Independent Bid Determination** to be provided and which does not indicate any non-compliance with the requirements of the schedule (applicable schedule below to be completed);
g) The tenderer (including any of its representatives, directors or members), has not been restricted in terms of abuse of the Supply Chain Management Policy,
h) The tenderer's tax matters with SARS are in order, or the tenderer is a foreign supplier that is not required to be registered for tax compliance with SARS;
i) The tenderer is not an advisor or consultant contracted with the CCT whose prior or current obligations creates any conflict of interest or unfair advantage;
j) The tenderer is not a person, advisor, corporate entity or a director of such corporate entity, who is directly or indirectly involved or associated with the bid specification committee;
k) A completed **Authorisation for the Deduction of Outstanding Amounts Owed to the CCT** to be provided and which does not indicate any details that renders the tender non-responsive based on the conditions contained thereon (applicable schedules below to be completed);
l) The tenderer (including any of its representatives, directors or members), has not been found guilty of contravening the Competition Act 89 of 1998, as amended from time to time;
m) The tenderer (including any of its representatives, directors or members), has not been found guilty on any other basis listed in the Supply Chain Management Policy.

2.2.1.1.3 Compulsory clarification meeting

Not Applicable – not compulsory clarification meeting but strongly advised to attend to familiarise themselves with aspects of the proposed work, services or supply and pose questions.

2.2.1.1.4 Minimum score for functionality

Only those tenders submitted by tenderers who achieve the minimum score for functionality as stated below will be declared responsive.

The description of the functionality criteria and the maximum possible score for each is shown in the table below. The score achieved for functionality will be the sum of the scores achieved, in the evaluation process, for the individual criteria.

Evaluation Criteria	Weight
1. Entity Track Record	60
2. Suppliers Representative Experience	40
Total	100

The minimum qualifying score for functionality is **60** out of a maximum of **100**.

Where the entity tendering is a Joint Venture, the tenderer's tender response must be accompanied by a statement describing exactly what aspects of the work will be undertaken by each party to the joint venture.

Tenderers shall ensure that all relevant information has been submitted with the tender offer in the prescribed format to ensure optimal scoring of functionality points for each Evaluation Criteria. Failure to provide all information **IN THIS TENDER SUBMISSION** could result in the tenderer not being able to achieve the specified minimum scoring.

A more detailed explanation of the functionality criteria is given below:

For the purposes of evaluation under this section, a **Relevant Project** is defined as either;

- The supply, delivery, installation, commissioning and testing of a new cremator / incinerator / furnace including verifiable emissions testing results or;
- The complete refractory rebuilding including hearth, recommissioning and testing, recommissioning and testing of an existing cremator / incinerator / furnace refractory complete including verifiable emissions testing results.

This infrastructure must have verifiable emissions performance test results, undertaken by an accredited tester in compliance with Atmospheric Emission Licence Conditions in terms of the Minimum Emission Standards for "new plant" as prescribed in regulation 893 of 22 November 2013 (Government Gazette No. 37054) as amended by GN1207 dated 31 October 2018 (GG 42013), promulgated in terms of the NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004 (ACT NO. 39 OF 2004) applicable as amended in the year of completion (at the time of installation or as specified in the appointment).

Verifiable performance emissions test results, undertaken by an accredited tester for cremators installed outside of the Republic of South Africa is permissible.

Criteria 1. Entity Track Record (60 points maximum)		
Indicator	**Evaluation Criteria** (Number of Relevant Projects successfully completed by the tenderer)	**Points**
1	Zero Relevant Projects	0
2	1 No. Relevant Project	20
3	2 No. Relevant Projects	40
4	3 No. or above Relevant Projects	60

It is noted that only specific projects matching the Relevant Project criteria will be considered in terms of scoring functionality. It is imperative to provide contactable references for each Relevant Project listed in order for the City to evaluate your offer.

Functionality points will be awarded as per the table above.

A detailed list of successfully completed projects must be completed in **Schedule F13.A - Schedule of Entity Track Record.**

Criteria 2. Suppliers Representative (40 points maximum)		
Indicator	**Evaluation Criteria for Relevant Experience:** (Number of Relevant Projects successfully completed by the representative)	**Points**
1	Zero Relevant Projects	0
2	1 No. Relevant Project	15
3	2 No. Relevant Projects	30
4	3 No. or above Relevant Projects	40

A Suppliers Representative is a person having performed the duties and overall responsibilities for activities and associated management of the defined relevant projects. The Suppliers Representative must have relevant on-site experience, acted in the role as Suppliers Representative and successfully completed Relevant Projects as defined above (please note that current active projects will not be considered in the evaluation).

Tenderers must demonstrate that the proposed Suppliers Representative has successfully **completed** Relevant Projects to be awarded points on this criteria (please note that current projects will not be considered in the evaluation). Details of Relevant Projects must be included in **Schedule F13.B – Suppliers Representative.**

The proposed suppliers representative must be in the permanent employment of the tenderer.

It is imperative to provide contactable references for each Relevant Project listed in order for the City to evaluate your offer.

Contact details must be provided to verify information provided in Schedule F13.B. Functionality points will be awarded as per the table above.

2.2.1.1.5 Compliance with Specifications

In order to be declared responsive, the tenderer must comply fully with the specifications outlined in the tender documents. The tenderer's attention is specifically drawn to the following sections of the specifications:

- **Section E1 – Requirements for Cremators**

In addition to the above, the tenderer is required to demonstrate compliance with the full extent of the technical specifications. In order to be evaluated for compliance with the technical specifications, the tenderer should complete Schedule F.13.

- **Schedule F13.C - Standard-size Cremator Technical Data Sheet**
- **Schedule F13.D - Over-sized Cremator Technical Data Sheet**

Tenderers shall ensure that all relevant information has been submitted with the tender offer in the prescribed format to ensure optimal scoring of functionality points for each Evaluation Criteria. Failure to provide all information **IN THIS TENDER SUBMISSION** could result in the tenderer not being able to achieve the specified minimum scoring.

2.2.1.1.6 Provision of samples

Not Applicable

2.2.2 Cost of tendering

The CCT will not be liable for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

2.2.3 Check documents

The documents issued by the CCT for the purpose of a tender offer are listed in the index of this tender document.

Before submission of any tender, the tenderer should check the number of pages, and if any are found to be missing or duplicated, or the figures or writing is indistinct, or if the Price Schedule contains any obvious errors, the tenderer must apply to the CCT at once to have the same rectified.

2.2.4 Confidentiality and copyright of documents

The tenderer shall treat as strictly confidential all matters arising in connection with the tender. Use and copy the documents issued by the CCT only for the purpose of preparing and submitting a tender offer in response to the invitation.

2.2.5 Reference documents

The tenderer shall obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, Conditions of Contract and other publications, which are not attached but which are incorporated into the tender document(s) by reference.

2.2.6 Acknowledge and comply with notices

The tenderer shall acknowledge receipt of notices to the tender documents, which the CCT may issue, and shall fully comply with all instructions issued in the said notices, and if necessary, apply for an extension of the closing time stated on the front page of the tender document, in order to take the notices into account. Notwithstanding any requests for confirmation of receipt of the said notices issued, the tenderer shall be deemed to have received such notices if the CCT can show proof of transmission thereof via electronic mail, facsimile, or registered post or other lawful means.

2.2.7 Clarification meeting

The tenderer shall attend, where required, a clarification meeting at which tenderers may familiarise themselves with aspects of the proposed work, services or supply and pose questions. Details of the meeting(s) are stated in the General Tender Information (i.e., in item T.1 above).

Tenderers should be represented at the site visit/clarification meeting by a duly authorised person who is suitably qualified and experienced to comprehend the implications of the work involved.

2.2.8 Seek clarification

The tenderer shall request clarification of the tender documents, if necessary, by notifying the CCT at least one week before the closing time stated in the General Tender Information (i.e., in item T.1 above), where possible.

2.2.9 Pricing the tender offer

2.2.9.1 The tenderer shall comply with all pricing instructions as stated on the Price Schedule.

2.2.10 Alterations to documents

The tenderer shall not make any alterations or additions to the tender documents, except to comply with instructions issued by the CCT in writing, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations.

2.2.11 Alternative tender offers

2.2.11.1 Unless otherwise stated in the Conditions of Tender, the tenderers may submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted.

If a tenderer wishes to submit an alternative tender offer, he/she/it shall do so as a separate offer on a complete set of tender documents. The alternative tender offer shall be submitted in a separate sealed envelope clearly marked “Alternative Tender” in order to distinguish it from the main tender offer.

Only the alternative of the highest ranked acceptable main tender offer (that is, submitted by the same tenderer) will be considered, and if appropriate, recommended for award.

Alternative tender offers of any but the highest ranked main tender offer will not be considered.

An alternative tender offer to the highest ranked acceptable main tender offer that is priced higher than the main tender offer may be recommended for award, provided that the ranking of the alternative tender offer is higher than the ranking of the next ranked acceptable main tender offer.

The CCT will not be bound to consider alternative tenders and shall have sole discretion in this regard.

In the event that the alternative is accepted, the tenderer warrants that the alternative offer complies in all respects with the CCT’s standards and requirements as set out in the tender document.

2.2.11.2 Acceptance of an alternative tender offer by the CCT may be based only on the criteria stated in the Conditions of Tender or applicable criteria otherwise acceptable to the CCT.

2.2.12 Submitting a tender offer

2.2.12.1 The tenderer is required to submit one tender offer only on the original tender documents as issued by the CCT, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the Conditions of Contract and described in the Specifications. Only those tenders submitted on the tender documents as issued by the CCT together with all Tender Returnable Documents duly completed and signed will be declared responsive.

2.2.12.2 The tenderer shall return the entire tender document to the CCT after completing it in its entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.

2.2.12.3 The tenderer shall sign the original tender offer where required in terms of the Conditions of Tender. The tender shall be signed by a person duly authorised by the tenderer to do so. Tenders submitted by joint ventures of two or more firms shall be accompanied by the document of formation / founding document of the joint venture or any other document signed by all Parties, in which is defined precisely the conditions under which the joint venture will function, its period of duration, the persons authorised 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. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner.

2.2.12.4 Where a two-envelope system is required in terms of the Conditions of Tender, place and seal the returnable documents listed in the Conditions of Tender in an envelope marked “financial proposal”

and place the remaining returnable documents in an envelope marked “technical proposal”. Each envelope shall state on the outside the CCT’s address and identification details stated in the General Tender Information (i.e., item T.1 above), as well as the tenderer's name and contact address.

2.2.12.5 The tenderer shall seal the original tender offer and copy packages together in an outer package that states on the outside only the CCT's address and identification details as stated in the General Tender Information. . If it is not possible to submit the original tender and the required copies (see 2.2.12.3) in a single envelope, then the tenderer must seal the original and each copy of the tender offer as separate packages marking the packages as “ORIGINAL” and “COPY” in addition to the aforementioned tender submission details.

2.2.12.6 The CCT shall not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

2.2.12.7 Tender offers submitted by facsimile or e-mail will be rejected by the CCT, unless stated otherwise in the Conditions of Tender.

2.2.12.8 By signing the offer part of the Form of Offer (**Section 5, Part A hereto**) the tenderer warrants and agrees that all information provided in the tender submission is true and correct.

2.2.12.9 Tenderers shall properly deposit its bid in the designated tender box (as detailed on the front page of this tender document) on or before the closing date and before the closing time, in the relevant tender box at the Tender & Quotation Boxes Office situated on the 2nd floor, Concourse Level, Civic Centre, 12 Hertzog Boulevard, Cape Town. If the tender submission is too large to fit in the allocated box, please enquire at the public counter for assistance.

2.2.12.10 The tenderer must record and reference all information submitted contained in other documents for example cover letters, brochures, catalogues, etc. in the Returnable Schedule titled **List of Other Documents Attached by Tenderer**.

2.2.13 Information and data to be completed in all respects

Tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the CCT as non-responsive.

2.2.14 Closing time

2.2.14.1 The tenderer shall ensure that the CCT receives the tender offer, together with all applicable documents specified herein, at the address specified in the General Tender Information herein prior to the closing time stated on the front page of the tender document.

2.2.14.2 If the CCT extends the closing time stated on the front page of the tender document for any reason, the requirements of these Conditions of Tender apply equally to the extended deadline.

2.2.14.3 The CCT shall not consider tenders that are received after the closing date and time for such a tender (late tenders).

2.2.15 Tender offer validity and withdrawal of tenders

2.2.15.1 The tenderer shall warrant that the tender offer(s) remains valid, irrevocable and open for acceptance by the CCT at any time for a period of 120 days after the closing date stated on the front page of the tender document.

2.2.15.2 Notwithstanding the period stated in clause 2.2.15.1 above, bids shall remain valid for acceptance for a period of twelve (12) months after the expiry of the original validity period, unless the CCT is notified in writing of anything to the contrary by the bidder. The validity of bids may be further extended by a period of not more than six months subject to mutual agreement by the parties, administrative processes and upon approval by the City Manager, unless the required extension is as a result of an appeal process or court ruling.

In circumstances where the validity period of a tender has expired, and the tender has not been awarded, the tender process is considered “completed”, despite there being no decision (award or cancellation) made. This anomaly does not fall under any of the listed grounds of cancellation and should be treated as a "non award". A “non award” is supported as a recommendation to the CCT’s Bod Adjudication Committee (“BAC”) for noting.

2.2.15.3 A tenderer may request in writing, after the closing date, that its tender offer be withdrawn. Such withdrawal will be permitted or refused at the sole discretion of the CCT after consideration of the reasons for the withdrawal, which shall be fully set out by the tenderer in such written request for withdrawal. Should the tender offer be withdrawn in contravention hereof, the tenderer agrees that:

a) it shall be liable to the CCT for any additional expense incurred or losses suffered by the CCT in having either to accept another tender or, if new tenders have to be invited, the additional expenses incurred or losses suffered by the invitation of new tenders and the subsequent acceptance of any other tender;

b) the CCT shall also have the right to recover such additional expenses or losses by set-off against monies which may be due or become due to the tenderer under this or any other tender or contract or against any guarantee or deposit that may have been furnished by the tenderer or on its behalf for the due fulfilment of this or any other tender or contract. Pending the ascertainment of the amount of such additional expenses or losses, the CCT shall be entitled to retain such monies, guarantee or deposit as security for any such expenses or loss, without prejudice to the CCT’s other rights and/or remedies available to it in accordance with any applicable laws.

2.2.16 Clarification of tender offer, or additional information, after submission

Tenderer’s shall promptly provide clarification of its tender offer, or additional information, in response to a written request to do so from the CCT during the evaluation of tender offers within the time period stated in such request. No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

Note: This clause does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the CCT elect to do so.

Failure, or refusal, to provide such clarification or additional information within the time for submission stated in the CCT’s written request may render the tender non-responsive.

2.2.17 Provide other material

2.2.17.1 Tenderer’s shall promptly provide, upon request by the CCT, any other material that has a bearing on the tender offer, the tenderer’s commercial position (including joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the CCT for the purpose of the evaluation of the tender. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the CCT’s request, the CCT may regard the tender offer as non-responsive.

2.2.17.2 The tenderer shall provide, on written request by the CCT, where the transaction value inclusive of VAT **exceeds R 10 million**:

a) audited annual financial statement for the past 3 years, or for the period since establishment if established during the past 3 years, if required by law to prepare annual financial statements for auditing;
b) a certificate signed by the tenderer certifying that the tenderer has no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days;
c) particulars of any contracts awarded to the tenderer by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract;
d) a statement indicating whether any portion of the goods or services are expected to be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality or municipal entity is expected to be transferred out of the Republic.

Each entity to a Consortium/Joint Venture bid shall submit separate certificates/statements in the above regard.

2.2.17.3 Tenderers shall be required to undertake to fully cooperate with the CCT's external service provider appointed to perform a due diligence review and risk assessment upon receipt of such written instruction from the CCT.

2.2.18 Samples, Inspections, tests and analysis

Tenderers shall provide access during working hours to premises for inspections, tests and analysis as provided for in the Conditions of Tender or Specifications.

If the Specifications requires the tenderer to provide samples, these shall be provided strictly in accordance with the instructions set out in the Specification.

If such samples are not submitted as required in the bid documents or within any further time stipulated by the CCT in writing, then the bid concerned may be declared non-responsive.

The samples provided by all successful bidders will be retained by the CCT for the duration of any subsequent contract. Bidders are to note that samples are requested for testing purposes therefore samples submitted to the CCT may not in all instances be returned in the same state of supply and in other instances may not be returned at all. Unsuccessful bidders will be advised by the Project Manager or dedicated CCT Official to collect their samples, save in the aforementioned instances where the samples would not be returned.

2.2.19 Certificates

The tenderer must provide the CCT with all certificates as stated below:

2.2.19.1. Preference Points for Specific Goals

"In order to qualify for preference points for Specific Goals, it is the responsibility of the tenderer to submit sufficient, relevant and verifiable documentary proof in support of any claim for preference points.

Failure to submit adequate and verifiable evidence may result in the non-awarding of preference points claimed.

Tenderers are further referred to the Preference Schedule for the detailed methodology, scoring criteria, and conditions applicable to the allocation of preference points for Specific Goals."

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2.2.19.2 Evidence of tax compliance

Tenderers shall be registered with the South African Revenue Service (SARS) and their tax affairs must be in order and they must be tax compliant subject to the requirements of clause 2.2.1.1.2.h. In this regard, it is the responsibility of the Tenderer to submit evidence in the form of a valid Tax Compliance Status PIN issued by SARS to the CCT at the Supplier Management Unit located within the Supplier Management / Registration Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5), or included with this tender. The tenderer must record its Tax Compliance Status PIN number on the **Details of Tenderer** pages of the tender submission.

Each party to a Consortium/Joint Venture shall submit a separate Tax Compliance Status Pin.

Before making an award the CCT must verify the bidder's tax compliance status. Where the recommended bidder is not tax compliant, the bidder should be notified of the non-compliant status and be requested to submit to the CCT, within 7 working days, written proof from SARS that they have made arrangement to meet their outstanding tax obligations. The proof of tax compliance submitted by the bidder must be verified by the CCT via CSD or e-Filing. The CCT should reject a bid submitted by the bidder if such bidder fails to provide proof of tax compliance within the timeframe stated herein.

Only foreign suppliers who have answered "NO" to all the questions contained in the Questionnaire to Bidding Foreign Suppliers section on the **Details of Tenderer** pages of the tender submission, are not required to register for a tax compliance status with SARS.

2.2.20 Compliance with Occupational Health and Safety Act, 85 of 1993

Tenderers are to note the requirements of the Occupational Health and Safety Act, 85 of 1993. The Tenderer shall be deemed to have read and fully understood the requirements of the above Act and Regulations and to have allowed for all costs in compliance therewith.

In this regard the Tenderer shall submit **upon written request to do so by the CCT**, a Health and Safety Plan in sufficient detail to demonstrate the necessary competencies and resources to deliver the goods or services all in accordance with the Act, Regulations and Health and Safety Specification.

2.2.21 Claims arising from submission of tender

By responding to the tender herein, the tenderer warrants that it has:

a) Inspected the Specifications and read and fully understood the Conditions of Contract.
b) Read and fully understood the whole text of the Specifications and Price Schedule and thoroughly acquainted himself with the nature of the goods or services proposed and generally of all matters which may influence the Contract.
c) visited the site(s) where delivery of the proposed goods will take place, carefully examined existing conditions, the means of access to the site(s), the conditions under which the delivery is to be made, and acquainted himself with any limitations or restrictions that may be imposed by the Municipal or other Authorities in regard to access and transport of materials, plant and equipment to and from the site(s) and made the necessary provisions for any additional costs involved thereby.
d) requested the CCT to clarify the actual requirements of anything in the Specifications and Price Schedule, the exact meaning or interpretation of which is not clearly intelligible to the Tenderer.
e) Received any notices to the tender documents which have been issued in accordance with the CCT's Supply Chain Management Policy.

The CCT will therefore not be liable for the payment of any extra costs or claims arising from the submission of the tender.

2.2.22 Collection and issuing of tender documents

The CCT will only issue tender documents though it's Tender Distribution Office and/or the official CCT tender portal. Bidders who obtain documents through any means other than described herein, will not be known to the CCT and may thus not receive tender notices and addendums. Tenderers are not allowed to distribute tender documents to other potential bidders.

It is the responsibility of bidders who obtain documents through any means other than described herein, to notify the CCT tender representative thereof that they are participating in the tender. The CCT accepts no liability for any tender notices or addendums not reaching any bidders, who obtained documents through any means other than described herein or who provided incorrect contact details to the CCT.

2.3 The CCT's undertakings

2.3.1 Respond to requests from the tenderer

2.3.1.1 Unless otherwise stated in the Conditions of Tender, the CCT shall respond to a request for clarification received up to one week (where possible) before the tender closing time stated on the front page of the tender document.

2.3.1.2 The CCT's duly authorised representative for the purpose of this tender is stated on the General Tender Information page above.

2.3.2 Issue Notices

If necessary, the CCT may issue addenda in writing that may amend or amplify the tender documents to each tenderer during the period from the date the tender documents are available until one week before the tender closing time stated in the Tender Data. The CCT reserves its rights to issue addenda less than one week before the tender closing time in exceptional circumstances If, as a result a tenderer applies for an extension to the closing time stated on the front page of the tender document, the CCT may grant such extension and, shall then notify all tenderers who drew documents.

Notwithstanding any requests for confirmation of receipt of notices issued, the tenderer shall be deemed to have received such notices if the CCT can show proof of transmission thereof via electronic mail, facsimile or registered post.

2.3.3 Opening of tender submissions

2.3.3.1 Unless the two-envelope system is to be followed, CCT shall open tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the Conditions of Tender.

Tenders will be opened immediately after the closing time for receipt of tenders as stated on the front page of the tender document, or as stated in any Notice extending the closing date and at the closing venue as stated in the General Tender Information.

2.3.3.2 Announce at the meeting held immediately after the opening of tender submissions, at the closing venue as stated in the General Tender Information, the name of each tenderer whose tender offer is opened and, where possible, the prices indicated.

2.3.3.3 Make available a record of the details announced at the tender opening meeting on the CCT's website (http://www.capetown.gov.za/en/SupplyChainManagement/Pages/default.aspx.)

2.3.4 Two-envelope system

2.3.4.1 Where stated in the Conditions of Tender that a two-envelope system is to be followed, the CCT shall open only the technical proposal of tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the Conditions of Tender and announce the name of each tenderer whose technical proposal is opened.

2.3.4.2 The CCT shall evaluate the quality of the technical proposals offered by tenderers, then advise tenderers who have submitted responsive technical proposals of the time and place when the financial proposals will be opened. The CCT shall open only the financial proposals of tenderers, who have submitted responsive technical proposals in accordance with the requirements as stated in the Conditions of Tender, and announce the total price and any preference claimed. Return unopened financial proposals to tenderers whose technical proposals were non responsive.

2.3.5 Non-disclosure

The CCT shall not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

2.3.6 Grounds for rejection and disqualification

The CCT shall determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

2.3.7 Test for responsiveness

2.3.7.1 Appoint a Bid Evaluation Committee and determine after opening whether each tender offer properly received:

a) complies with the requirements of these Conditions of Tender,
b) has been properly and fully completed and signed, and
c) is responsive to the other requirements of the tender documents.

2.3.7.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the CCT's opinion, would:

a) Detrimentally affect the scope, quality, or performance of the goods, services or supply identified in the Specifications,
b) Significantly change the CCT's or the tenderer's risks and responsibilities under the contract, or
c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of any material deviation or qualification.

The CCT reserves the right to accept a tender offer which does not, in the CCT's opinion, materially and/or substantially deviate from the terms, conditions, and specifications of the tender documents.

2.3.8 Arithmetical errors, omissions and discrepancies

2.3.8.1 Check the responsive tenders for:

a) The gross misplacement of the decimal point in any unit rate;
b) Omissions made in completing the Price Schedule; or
c) Arithmetic errors in:
    i) line item totals resulting from the product of a unit rate and a quantity in the Price Schedule; or
    ii) The summation of the prices; or
    iii) Calculation of individual rates.

2.3.8.2 The CCT must correct the arithmetical errors in the following manner:

a) Where there is a discrepancy between the amounts in words and amounts in figures, the amount in words shall govern.
b) If pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as tendered shall govern, and the unit rate shall be corrected.
c) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if Price Schedules apply) to achieve the tendered total of the prices.

Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of the arithmetical error in the manner described above.

2.3.8.3 In the event of tendered rates or lump sums being declared by the CCT to be unacceptable to it because they are not priced, 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 tendered rates or lump sums objected to. If, after submission of such evidence and any further evidence requested, the CCT is still not satisfied with the tendered 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 CCT, but this shall be done without altering the tender offer in accordance with this clause.

Should the tenderer fail to amend his tender in a manner acceptable to and within the time stated by the CCT, the CCT may declare the tender as non-responsive.

2.3.9 Clarification of a tender offer

The CCT may, after the closing date, request additional information or clarification from tenderers, in writing on any matter affecting the evaluation of the tender offer or that could give rise to ambiguity in a contract arising from the tender offer, which written request and related response shall not change or affect their competitive position or the substance of their offer. Such request may only be made in writing by the Director: Supply Chain Management using any means as appropriate.

2.3.10 Evaluation of tender offers

2.3.10.1 General

2.3.10.1.1 The CCT may reduce each responsive tender offer to a comparative price and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the Conditions of Tender.

2.3.10.1.2 For evaluation purposes only, the effects of the relevant contract price adjustment methods will be considered in the determination of comparative prices as follows:

a) If the selected method is based on bidders supplying rates or percentages for outer years, comparative prices would be determined over the entire contract period based on such rates or percentages.
b) If the selected method is based on a formula, indices, coefficients, etc. that is the same for all bidders during the contract period, comparative prices would be the prices as tendered for year one.
c) If the selected method is based on a formula, indices, coefficients, etc. that varies between bidders, comparative prices would be determined over the entire contract period based on published indices relevant during the 12 months prior to the closing date of tenders.
d) If the selected method includes an imported content requiring rate of exchange variation, comparative prices would be determined based on the exchange rates tendered for the prices as tendered for year one. The rand equivalent of the applicable currency 14 days prior to the closing date of tender will be used (the CCT will check all quoted rates against those supplied by its own bank).
e) If the selected method is based on suppliers' price lists, comparative prices would be the prices as tendered for year one.
f) If the selected method is based on suppliers' price lists and / or rate of exchange, comparative prices would be determined as tendered for year one whilst taking into account the tendered percentage subject to rate of exchange (see sub clause (d) for details on the calculation of the rate of exchange).

2.3.10.1.3 Where the scoring of functionality forms part of a bid process, each member of the Bid Evaluation Committee must individually score functionality. The individual scores must then be interrogated and calibrated if required where there are significant discrepancies. The individual scores must then be added together and averaged to determine the final score.

2.3.10.2 Decimal places

Score financial offers, preferences and functionality, as relevant, to two decimal places.

2.3.10.3 Scoring of tenders (price and preference)

[2.3.10.3.1 Points for price will be allocated in accordance with the formula set out in this clause based on the price per item / rates as set out in the **Price Schedule (Section 7)**:

- Based on the sum of the prices/rates in relation to a typical project/job.

2.3.10.3.2 Points for preference will be allocated in accordance with the provisions of **Preference Schedule** and the table in this clause.

2.3.10.3.3 The terms and conditions of **Preference Schedule** as it relates to preference shall apply in all respects to the tender evaluation process and any subsequent contract.

2.3.10.3.4 Applicable formula:

The 80/20 price/preference points system will be applied to the evaluation of responsive tenders up to and including a Rand value of R50'000'000 (all applicable taxes included), whereby the order(s) will be placed with the tenderer(s) scoring the highest total number of adjudication points.
Price shall be scored as follows:

$$Ps = 80 \times \left(1 - \frac{Pt - Pmin}{Pmin}\right)$$

Where: Ps is the number of points scored for price;
Pt is the price of the tender under consideration;
Pmin is the price of the lowest responsive tender.

Preference points shall be based on the Specific Goal as per below:

Table B1: Awards above R750 000 and up to R50 mil (VAT Inclusive)

#	Specific goals allocated points	Preference Points (80/20)
	Reconstruction and Development Programme (RDP) as published in Government Gazette	
1	***Promotion of Micro and Small Enterprises*** *Micro with a turnover up to R20million and Small with a turnover up to R80 million as per National Small Enterprise Act, 1996 (Act No.102 of 1996)* *SME partnership, sub-contracting, joint venture or consortiums*	8
2	***Enterprise Supplier Development and Socio Economic Development*** *> 15% of total expenditure = 6 points* *> 12% up to 15% of total expenditure = 5 points* *> 9% up to 12% of total expenditure = 4 points* *> 6% up to 9% of total expenditure = 3 points* *> 3% up to 6% of total expenditure = 2 points* *>= 1% up to 3% total expenditure = 1 points* *< 1% of total expenditure = 0 points*	6
3	***Skills Development OR Employee Share Scheme*** ***Skills Development*** *> 5% of total profit = 6 points* *> 4% up to 5% of total profit = 5 points* *> 3% up to 4% of total profit = 4 points* *> 2% up to 3% of total profit = 3 points* *> 1% up to 2% of total profit = 2 points* *>= 0.5% up to 1% of total profit = 1 points* *< 0.5% of total profit = 0 points* ***OR Employee Share Scheme*** *> 15% employee ownership = 6 points* *> 12% up to 15% employee ownership = 5 points* *> 9% up to 12% employee ownership = 4 points* *> 6% up to 9% employee ownership = 3 points* *> 3% up to 6% employee ownership = 2 points* *>= 1% to 3% employee ownership = 1 points* *< 1% employee ownership = 0 points*	6
	Total points	**20**

2.3.10.5 Risk Analysis

Notwithstanding compliance with regard to any requirements of the tender, the CCT 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's 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, capacity, experience, reputation, personnel to perform the contract, etc.; the CCT reserves the right to consider a tenderer's existing contracts with the CCT in this regard
d) any other matter relating to the submitted bid, the tendering entity, matters of compliance, verification of submitted information and documents, etc.

The conclusions drawn from this risk analysis will be used by the CCT in determining the acceptability of the tender offer.

No tenderer will be recommended for an award unless the tenderer has demonstrated to the satisfaction of the CCT that he/she has the resources and skills required.

2.3.11 Negotiations with preferred tenderers

The CCT may negotiate the final terms of a contract with tenderers identified through a competitive tendering process as preferred tenderers 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 tender as submitted.

If negotiations fail to result in acceptable contract terms, the City Manager (or his delegated authority) may terminate the negotiations and cancel the tender, or invite the next ranked tenderer for negotiations. The original preferred tenderer should be informed of the reasons for termination of the negotiations. If the decision is to invite the next highest ranked tenderer for negotiations, the failed earlier negotiations may not be reopened by the CCT.

Minutes of any such negotiations shall be kept for record purposes.

The provisions of this clause will be equally applicable to any invitation to negotiate with any other tenderers.

In terms of the CCT's SCM Policy, tenders must be cancelled in the event that negotiations fail to achieve a market related price with any of the three highest scoring tenderers.

2.3.12 Acceptance of tender offer

Notwithstanding any other provisions contained in the tender document, the CCT reserves the right to:

2.3.12.1 Accept a tender offer(s) which does not, in the CCT's opinion, materially and/or substantially deviate from the terms, conditions, and specifications of the tender document.

2.3.12.2 Accept the whole tender or part of a tender or any item or part of any item or items from multiple manufacturers, or to accept more than one tender (in the event of a number of items being offered), and the CCT is not obliged to accept the lowest or any tender.

2.3.12.3 Accept the tender offer(s), if in the opinion of the CCT, it does not present any material risk and only if the tenderer(s):

a) is not under restrictions, has any principals who are under restrictions, or is not currently a supplier to whom notice has been served for abuse of the supply chain management system, preventing participation in the CCT's procurement,
b) can, as necessary and in relation to the proposed contract, demonstrate that he or she

possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,

c) has the legal capacity to enter into the contract,

d) is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing, complies with the legal requirements, if any, stated in the tender data, and

e) is able, in the opinion of the CCT, to perform the contract free of conflicts of interest.

If an award cannot be made in terms of anything contained herein, the CCT reserves the right to consider the next ranked tenderer(s).

2.3.12.4 The CCT reserves the right not to make an award, or revoke an award already made, where the implementation of the contract may result in reputational risk or harm to the CCT as a result of (inter alia):

a) reports of poor governance or unethical behaviour, or both;
b) association with known notorious individuals and family of notorious individuals;
c) poor performance issues, known to the CCT;
d) negative media reports, including negative social media reports;
e) adverse assurance (e.g. due diligence) report outcomes; and
f) circumstances where the relevant vendor has employed, or is directed by, anyone who was previously employed in the service of the state (as defined in clause 1.53 of the SCM Policy), where the person is or was negatively implicated in any SCM irregularity.

2.3.12.5 The CCT reserves the right to nominate an StandbyBbidder at the time when an award is made and in the event that a contract is terminated during the execution thereof, the CCT may consider the award of the contract, or non-award, to the Standby Bidder in terms of the procedures included its SCM Policy.

2.3.13 Prepare contract documents

2.3.13.1 If necessary, revise documents that shall form part of the contract and that were issued by the CCT as part of the tender documents to take account of:

a) Notices issued during the tender period,
b) Inclusion of some of the returnable documents, and
c) Other revisions agreed between the CCT and the successful tenderer.

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

2.3.14 Notice to successful and unsuccessful tenderers

2.3.14.1 Before accepting the tender of the successful tenderer the CCT shall notify the successful tenderer in writing of the decision of the CCT's Bid Adjudication Committee to award the tender to the successful tenderer. No rights shall accrue to the successful tenderer in terms of this notice

2.3.14.2 The CCT shall, at the same time as notifying the successful tenderer of the Bid Adjudication Committee's decision to award the tender to the successful tenderer, also give written notice to the other tenderers informing them that they have been unsuccessful.

2.3.15 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these Conditions of Tender, but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

TENDER NO: 274G/2025/26

TENDER DESCRIPTION: PROCUREMENT OF NEW CREMATORS & ASSOCIATED WORKS

CONTRACT PERIOD: 36 MONTHS FROM THE COMMENCEMENT DATE OF THE CONTRACT

THE CONTRACT

THE CITY OF CAPE TOWN	
A metropolitan municipality, established in terms of the Local Government: Municipal Structures Act, 117 of 1998 read with the Province of the Western Cape: Provincial Gazette 5588 dated 22 September 2000, as amended ("the Purchaser") herein represented by	
AUTHORISED REPRESENTATIVE	

AND

SUPPLIER	
NAME of Company/Close Corporation or Partnership / Joint Venture/ Consortium or Sole Proprietor /Individual (The "Supplier" / "tenderer")	
TRADING AS (if different from above)	
REGISTRATION NUMBER	
PHYSICAL ADDRESS / CHOSEN DOMICILIUM CITANI ET EXECTUANDI OF THE SUPPLIER	
AUTHORISED REPRESENTATIVE	
CAPACITY OF AUTHORISED REPRESENTATIVE	

(HEREINAFTER COLLECTIVELY REFERRED TO AS "THE PARTIES" AND INDIVIDUALLY A "PARTY")

NATURE OF TENDER OFFER (please indicate below)	
Main Offer (see clause 2.2.11.1)	
Alternative Offer (see clause 2.2.11.1)	

C.1 DETAILS OF TENDERER/SUPPLIER

1.1 Type of Entity (Please tick one box)

☐ Individual / Sole Proprietor ☐ Close Corporation ☐ Company

☐ Partnership or Joint Venture or Consortium ☐ Trust ☐ Other:

1.2 Required Details (Please provide applicable details in full):

Name of Company / Close Corporation or Partnership / Joint Venture / Consortium or Individual /Sole Proprietor	
Trading as (if different from above	
Company / Close Corporation registration number (if applicable)	
Postal address	Postal Code _____
Physical address (Chosen Domicilium Citandi Et Executandi)	Postal Code _____
Contact details of the person duly authorised to represent the tenderer	Name: Mr/Ms _____ (Name & Surname) Telephone :(____) _____ Fax :(____) _____ Cellular Telephone:_____ E-mail address:_____
Income tax number	
VAT registration number	
SARS Tax Compliance Status PIN	
CCT Supplier Database Registration Number (See Conditions of Tender)	
National Treasury Central Supplier Database registration number (See Conditions of Tender)	
Is tenderer the accredited representative in South Africa for the Goods / Services / Works offered?	☐Yes ☐No If yes, enclose proof
Is tenderer a foreign based supplier for the Goods / Services / Works offered?	☐Yes ☐No If yes, answer the Questionnaire to Bidding Foreign Suppliers (below)
Questionnaire to Bidding Foreign Suppliers	a) Is the tenderer a resident of the Republic of South Africa or an entity registered in South Africa? ☐Yes ☐No
	b) Does the tenderer have a permanent establishment in the Republic of South Africa? ☐Yes ☐No
	c) Does the tenderer have any source of income in the Republic of South Africa? ☐Yes ☐No
	d) Is the tenderer liable in the Republic of South Africa for any form of taxation? ☐Yes ☐No
Other Required registration numbers	

C.2 FORM OF OFFER AND ACCEPTANCE

TENDER 274G/2025/26: PROCUREMENT OF NEW CREMATORS AND ASSOCIATED WORKS

C.2.1 Offer (To Be Completed by the Tenderer as Part of Tender Submission)

The tenderer, identified in the offer signature table below,

HEREBY AGREES THAT by signing the *Form of Offer and Acceptance,* the tenderer:

1. confirms that it has examined the documents listed in the Index (including Schedules and Annexures) and has accepted all the Conditions of Tender;

2. confirms that it has received and incorporated any and all notices issued to tenderers issued by the CCT;

3. confirms that it has satisfied itself as to the correctness and validity of the tender offer; that the price(s) and rate(s) offered cover all the goods and/or services specified in the tender documents; that the price(s) and rate(s) cover all its obligations and accepts that any mistakes regarding price(s), rate(s) and calculations will be at its own risk;

4. offers to supply all or any of the goods and/or render all or any of the services described in the tender document to the CCT in accordance with the:
   4.1 terms and conditions stipulated in this tender document;
   4.2 specifications stipulated in this tender document; and
   4.3 at the prices as set out in the **Price Schedule**.

5. accepts full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on it in terms of the Contract.

SIGNED AT _____ (PLACE) ON THE _____ (DAY) OF_____ (MONTH AND YEAR)

_____
For and on behalf of the Supplier
(Duly Authorised)
Name and Surname:

_____
Witness 1 Signature
Name and Surname:

_____
Witness 2 Signature
Name and Surname:

INITIALS OF CCT OFFICIALS		
1	2	3

FORM OF OFFER AND ACCEPTANCE (continued)

TENDER 274G/2025/26: PROCUREMENT OF NEW CREMATORS AND ASSOCIATED WORKS

C.2.2 Acceptance (To Be Completed by the CCT)

By signing this part of this *Form of Offer and Acceptance*, the CCT accepts the tenderer's (if awarded the Supplier's) offer. In consideration thereof, the CCT shall pay the Supplier the amount due in accordance with the conditions of contract. Acceptance of the Supplier's offer shall form an agreement between the CCT and the Supplier upon the terms and conditions contained in this document.

The terms of the agreement are contained in the Contract (as defined) including drawings and documents or parts thereof, which may be incorporated by reference.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the *Tender Returnable Documents* as well as any changes to the terms of the offer agreed by the tenderer and the CCT during this process of offer and acceptance, are contained in the *Schedule of Deviations* attached to and forming part of this *Form of Offer and Acceptance*. No amendments to or deviations from said documents are valid unless contained in the *Schedule of Deviations.*

The Supplier shall within 2 (two) weeks after receiving a complete, copy of the Contract, including the *Schedule of Deviations* (if any), contact the CCT to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documents to be provided in terms the *Special Conditions of Contract*. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation / breach of the agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the Commencement Date, being the date upon which the Supplier confirms receipt from the CCT of 1 (one) complete, signed copy of the Contract, including amendments or deviations contained in the *Schedule of Deviations* (if any).

_____
For and on behalf of the City of Cape Town
(Duly Authorised)
Name and Surname:

_____
Witness 1 Signature
Name and Surname:

_____
Witness 2 Signature
Name and Surname:

FORM OF OFFER AND ACCEPTANCE (continued)

TENDER 274G/2025/26: PROCUREMENT OF NEW CREMATORS AND ASSOCIATED WORKS

C.2.3 Schedule of Deviations (To be Completed by the CCT upon Acceptance)

Notes:

1. The extent of deviations from the tender documents issued by the CCT before the tender closing date, is limited to those permitted in terms of the conditions of tender.
2. 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.
3. 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 to become an obligation of the Contract, shall be recorded here.
4. Any change or addition to the tender documents arising from the above agreements and recorded here, shall form part of the Contract.

1 Subject . . . . . .

Details . . . . . .

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2 Subject . . . . . .

Details . . . . . .

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3 Subject . . . . . .

Details . . . . . .

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4 Subject . . . . . .

Details . . . . . .

. . . . . .

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By the duly authorised representatives signing this agreement, the CCT and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to this tender document and addenda thereto as listed in the *Tender Returnable Documents*, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the CCT 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 Commencement Date, shall have any meaning or effect between the Parties arising from the agreement.

FORM OF OFFER AND ACCEPTANCE (continued)

TENDER 274G/2025/26: PROCUREMENT OF NEW CREMATORS AND ASSOCIATED WORKS

C.2.4 Confirmation of Receipt (To be Completed by Supplier upon Acceptance)

The Supplier identified in the offer part of the Contract hereby confirms receipt from the CCT of 1 (one) complete, signed copy of the Contract, including the *Schedule of Deviations* (if any) on:

The..... (Day)

Of..... (Month)

20..... (year)

At..... (Place)

For the Supplier: Signature(s) . . . . . .

Name(s) . . . . . .

Capacity . . . . . .

Signature and name of witness:

Signature . . . . . Name . . . . . .

C.3 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

AGREEMENT MADE AND ENTERED INTO BETWEEN THE CCT (HEREINAFTER CALLED THE "CCT") AND

……..……. ,
(Supplier/Mandatary/Company/CC Name)

IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 85 OF 1993 AS AMENDED.

I, ……..……., representing

……..……. , as an employer
in its own right in its own right, do hereby undertake to ensure, as far as is reasonably practicable, that all work will be performed, and all equipment, machinery or plant used in such a manner as to comply with the provisions of the Occupational Health and Safety Act (hereafter "OHSA") and the Regulations promulgated thereunder.

I furthermore confirm that I am/we are registered with the Compensation Commissioner and that all registration and assessment monies due to the Compensation Commissioner have been fully paid or that I/We are insured with an approved licensed compensation insurer.

COID ACT Registration Number: ……..

OR Compensation Insurer: ..... Policy No.: .....

I undertake to appoint, where required, suitable competent persons, in writing, in terms of the requirements of OHSA and the Regulations and to charge him/them with the duty of ensuring that the provisions of OHSA and Regulations as well as the Council's Special Conditions of Contract, Way Leave, Lock-Out and Work Permit Procedures are adhered to as far as reasonably practicable.

I further undertake to ensure that any subcontractors employed by me will enter into an occupational health and safety agreement separately, and that such subcontractors comply with the conditions set.

I hereby declare that I have read and understand the Occupational Health and Safety Specifications contained in this tender and undertake to comply therewith at all times.

I hereby also undertake to comply with the Occupational Health and Safety Specification and Plan submitted and approved in terms thereof.

Signed at .....on the.....day of.....20….

_____ _____
Witness **Mandatary**

Signed at..... on the.....day of.....20 ....

_____ _____
Witness for and on behalf of
CCT

C.4 PRICE SCHEDULE

Bid specifications may not make any reference to any particular trade mark, name, patent, design, type, specific origin or producer, unless there is no other sufficiently precise or intelligible way of describing the characteristics of the work, in which case such reference must be accompanied by the words “or equivalent”.

TENDERERS MUST NOTE THAT WHEREVER THIS DOCUMENT REFERS TO ANY PARTICULAR TRADE MARK, NAME, PATENT, DESIGN, TYPE, SPECIFIC ORIGIN OR PRODUCER, SUCH REFERENCE SHALL BE DEEMED TO BE ACCOMPANIED BY THE WORDS ‘OR EQUIVALENT”

Item	Description	Unit	Rate
A	**GENERAL**		
A1	**Preliminary and General**		
A1.1	Compilation, approval and submission of an over arching Health and Safety Plan for this Framework Contract.	sum	
A1.2	Works Order specific Health and Safety Risk Assessment for inclusion / insertion in the overarching Health and Safety Plan.	sum	
A1.3	Site Establishment per Works Order	sum	
A1.4	Site De-establishment per Works Order	sum	
A2	**Rental**		
A2.1	Supply, delivery, positioning, rental and removal of 6m Container, office.	day	
A2.2	Supply, delivery, positioning, rental and removal of 6m Container, storage.	day	
A2.3	Supply, delivery and positioning and removal of Portable Toilet	sum	
A2.4	Rental of Portable Toilet	day	
A2.5	Supply, delivery and positioning of 12m Refrigerated Shipping Container, 5 degrees celcius operating temperature	sum	
A2.6	Rental of 12m Refrigerated Shipping Container, 5 degree celcius operating temperature	monthly	
A2.7	Collection and removal of 12m Refrigerated Shipping Container	sum	
B	**PLANT AND EQUIPMENT**		
B1	**Skip Hire**		
B1.1	Clean Waste Skip, standard 6m^3, 8 tons, rental including dumping per 7 calendar days	no.	
B1.2	Building Waste Skip, standard 6m^3, 8 tons, rental including dumping per 7 calendar days	no.	
B2	**Scaffold Tower, Working Height: <4m**		
B2.1	Supply and delivery of single bay independent/free standing scaffolding not exceeding 4m, erecting, inspection, approval and dismantling.	no.	
B2.2	Operation/Rental	day	
B3	**Scaffold Tower, Working Height: <6m**		
B3.1	Supply and delivery of single bay independent/free standing scaffolding not exceeding 6m, erecting, inspection, approval and dismantling.	no.	
B3.2	Operation/Rental	day	
B4	**Scaffold Tower, Working Height:<8m**		
B4.1	Supply and delivery of single bay independent/free standing scaffolding not exceeding 8m, erecting, inspection, approval and dismantling.	no.	
B4.2	Operation/Rental	day	
B5	**Scaffold Tower, Working Height: <10m**		
B5.1	Supply and delivery of single bay independent/free standing scaffolding not exceeding 10m, erecting, inspection, approval and dismantling.	no.	
B5.2	Operation/Rental	day	

Item	Description	Unit	Rate
B6	**Light Transport and Small Plant**		
B6.1	Light Delivery Vehicle (0.5 ton – 1.0 ton LDV)	km	
B6.2	Truck, 3 ton flat bed	km	
B6.3	3t Fork Lift, Delivery and Collection	sum	
B6.4	3t Fork Lift, Rental	day	
B6.5	Pallet Jack	day	
B6.6	24m Cherry Picker, Delivery and Collection	sum	
B6.7	24m Cherry Picker, Rental	day	
B6.8	Pipe Threading Machine	day	
B6.9	Welding Machine (Tig/ Mig)	day	
B6.10	Pan mixer	day	
B6.11	Hi frequency Vibrator	day	
B6.12	Brick cutter	day	
B6.13	Chipping hammer	day	

B7	**Mobile Generator, 88kVA rated**		
B7.1	Minimum call out fee for supply and delivery of mobile generator, 88kVA rated or larger with acou	sum	
B7.2	Establish and de-establish mobile generator	km	
B7.3	Operate, maintain including fuel of mobile generator	day	

C	**CRANAGE AND RIGGING**		
C1	**10-Ton Crane**		
C1.1	Site establishment & removal of 10-ton crane.	no.	
C1.2	Delivery to and from site of 10-ton crane.	km	
C1.3	Operate & Maintain Weekday (8am-5pm)	hr	
C1.4	Operate & Maintain After Hours	hr	
C1.5	Rigging Crew with basic rigging equipment, without crane	hr	

C2	**20-Ton Crane**		
C2.1	Site establishment & removal of 20-ton crane.	no.	
C2.2	Delivery to and from site of 20-ton crane.	km	
C2.3	Operate & Maintain Weekday (8am-5pm)	hr	
C2.4	Operate & Maintain After Hours	hr	
C2.5	Rigging Crew with basic rigging equipment, without crane	hr	

C3	**50-Ton Crane**		
C3.1	Site establishment & removal of 50-ton crane.	no.	
C3.2	Delivery to and from site of 50-ton crane.	km	
C3.3	Operate & Maintain Weekday (8am-5pm)	hr	
C3.4	Operate & Maintain After Hours	hr	
C3.5	Rigging Crew with basic rigging equipment, without crane	hr	

C4	**75-Ton Crane**		
C4.1	Site establishment & removal of 75-ton crane.	no.	
C4.2	Delivery to and from site of 75-ton crane.	km	
C4.3	Operate & Maintain Weekday (8am-5pm)	hr	
C4.4	Operate & Maintain After Hours	hr	
C4.5	Rigging Crew with basic rigging equipment, without crane	hr	

Item	Description	Unit	Rate
C5	**100-Ton Crane**		
C5.1	Site establishment & removal of 100-ton crane.	no.	
C5.2	Delivery to and from site of 100-ton crane.	km	
C5.3	Operate & Maintain Weekday (8am-5pm)	hr	
C5.4	Operate & Maintain After Hours	hr	
C5.5	Rigging Crew with basic rigging equipment, without crane	hr	

C6	**150-Ton Crane**		
C6.1	Site establishment & removal of 150-ton crane.	no.	
C6.2	Delivery to and from site of 150-ton crane.	km	
C6.3	Operate & Maintain Weekday (8am-5pm)	hr	
C6.4	Operate & Maintain After Hours	hr	
C6.5	Rigging Crew with basic rigging equipment, without crane	hr	

D	**LABOUR AND SERVICES**		
D1	**Semi-Skilled Person**		
	Labourer, Artisan Assistant, Cleaner, Handyman		
D1.1	Normal working hours (8am - 5pm)	hr	
D1.2	After hours and Saturdays	hr	
D1.3	Sunday and Public Holiday	hr	

D2	**Artisan/ Technician**		
	Mechanical Fitter, Welder, Sheet Metal Worker, Refractory Installer		
D2.1	Normal working hours (8am - 5pm), Artisan/Technician	hr	
D2.2	After hours and Saturdays, Artisan/Technician	hr	
D2.3	Sunday and Public Holiday, Artisan/Technician	hr	

D3	**Foreman/Technical supervisor/Site agent**		
D3.1	Normal working hours (8am - 5pm), Foreman/Technical supervisor/Site agent	hr	
D3.2	After hours and Saturdays, Foreman/Technical supervisor/Site agent	hr	
D3.3	Sunday and Public Holiday, Foreman/Technical supervisor/Site agent	hr	

D4	**Draughtsman**		
D4.1	Normal working hours (8am - 5pm), Draughtsman	hr	
D4.2	After hours and Saturdays, Draughtsman	hr	
D4.3	Sunday and Public Holiday, Draughtsman	hr	

D5	**Engineer**		
D5.1	Normal working hours (8am - 5pm), Engineer	hr	
D5.2	After hours and Saturdays, Engineer	hr	
D5.3	Sunday and Public Holiday, Engineer	hr	

D6	**Senior Engineer**		
D6.1	Normal working hours (8am - 5pm), Senior Engineer	hr	
D6.2	After hours and Saturdays, Senior Engineer	hr	
D6.3	Sunday and Public Holiday, Senior Engineer	hr	

D7	**Contractor's representative**		
D7.1	Normal working hours (8am - 5pm), Contractor's representative	hr	
D7.2	After hours and Saturdays, Contractor's representative	hr	
D7.3	Sunday and Public Holiday, Contractor's representative	hr	

Item	Description	Unit	Rate
D8	**Quality Control/ Quality Assurance Officer**		
D8.1	Normal working hours (8am - 5pm), Quality Control/ Quality Assurance Officer	hr	
D8.2	After hours and Saturdays, Quality Control/ Quality Assurance Officer	hr	
D8.3	Sunday and Public Holiday, Quality Control/ Quality Assurance Officer	hr	

D9	**Health and Safety Officer**		
D9.1	Normal working hours (8am - 5pm), Health and Safety Officer	hr	
D9.2	After hours and Saturdays, Health and Safety Officer	hr	
D9.3	Sunday and Public Holiday, Health and Safety Officer	hr	

D10	**Stack Emissions Testing**		
D10.1	Complete emissions testing, particular matter, carbon monoxide (CO), oxides of nitrogen(NOx and mercury (Hg), including Isokinetic Sampling, Stack Gas Velocity, Stack Gas Temperature, Water Vapour Content, Anisokinetic Sampling, Results - Report: Isokinetic Sampling Efficiency, Quality Control and Quality Assurance, Uploading Stack test Results in NAEIS along with Generating of all Neccessary Reports. (cherry picker / scaffolding measured elsewhere)	no.	
D10.2	Retesting of Mercury (Hg) if required as standalone test in the event of failure (cherry picker / scaffolding measured elsewhere)	no.	

D11	**Facility Deep Cleaning**		
D11.1	Supply and delivery of High Pressure Deep Cleaning Rental Equipment for Walls and Floors, Call Out Rate	no.	
D11.2	High Pressure Deep Cleaning	m²	

E	**CREMATION EQUIPMENT**		

E1	**Cremators**		
	Supply, shipping/transport and delivery to site, excludes offloading, placement cranage and installation.		
E1.1	Standard-Size coffin cremator	no.	
E1.2	Over-Size coffin cremator	no.	

E2	**Emissions Monitoring Equipment**		
E2.1	Supply and delivery of Opacity Sensor, Codel Model D-CEM1000/1001 or equivalent.	no.	

E3	**Cremation Equipment**		
	Supply and delivery.		
E3.1	Modern Cremulator	no.	
E3.2	Stainless Steel Cremator Rake	no.	
E3.3	Stainles Steel Cremator Brush	no.	
E3.4	Stainless Steel Ash Pan	no.	
E3.5	Ash Pan Cooling Rack for 6 - 8 Pans	no.	
E3.6	Standard Mobile Coffin Lift	no.	
E3.7	High Lift Coffin Lift	no.	
E3.8	Normal Lift Coffin Lift	no.	
E3.9	Electronic Floor Scale, 1m x 1m, 600kg (recessed, civil measured elsewhere)	no.	

Item	Description	Unit	Rate
F	**CREMATOR MAINTENANCE**		
F1	**Cladding**		
	Supply and delivery.		
F1.1	Chequer Plate, Aluminium 2500mm x 1250mm x 2mm	no.	
F1.2	Chequer Plate, Aluminium 2500mm x 1250mm x 3mm	no.	
F1.3	Chequer Plate, Aluminium 2500mm x 1250mm x 4.5mm	no.	
F1.4	Flat Plate, Mild Steel 2500mm x 1200mm x 6mm	no.	
F1.5	Flat Plate, Mild Steel 2500mm x 1200mm x 8mm	no.	
F1.6	Flat Plate, Mild Steel 2500mm x 1200mm x 10mm	no.	
F1.7	Flat Plate, Mild Steel Powder Coated, 3000mm x 600mm x 2mm	no.	
F2	**Cremator Insulation Material**		
	Supply and delivery.		
F2.1	Insulation Fibre Block, 1000mm x 500mm x 25mm Thick	no.	
F3	**Cremator Refractory Brick**		
	Supply and delivery.		
F3.1	Super Duty, 60% Alumina quality, Refractory Brick	no.	
F3.2	Grade 23 (1260°C) Insulation Bricks	no.	
F4	**Cremator Refractory Castable**		
	Supply and delivery.		
F4.1	Hot hearth, 60% Alumina Castable, High Wearing 1600°C	ton	
F4.2	1650°C Castable	ton	
F4.3	1350°C Insulating Castable	ton	
F4.4	SS430 Needles Additives for Cast Reinforcement, per 20kg bag	no.	
F5	**Gunniting**		
	Supply and delivery.		
F5.1	Gunniting Machine Rental including all hoses	day	
F5.2	400CFM Diesel Compressor	day	
F5.3	1600°C Gunniting	ton	
F6	**Consumables**		
	Supply and delivery.		
F6.1	21x1220x2440mm Shutter Board	no.	
F6.2	75x50mm Sturctural Timber, treated pine, per 3meters	no.	
F6.3	38x38mm Perlin, treated pine, per 3 meters	no.	
F7	**OEM Cremator Parts, US Cremators X-Cel**		
	Supply and delivery.		
F7.1	Cremator Primary Combustion Chamber Temperature Probe	no.	
F7.2	Cremator Secondary Combustion Chamber Temperature Probe	no.	
F7.3	Cremator Primary Combustion Chamber LPG Burner	no.	
F7.4	Cremator Secondary Combustion Chamber LPG Burner	no.	
F7.5	Burner Control Module, Siemens or equivalent	no.	
F7.6	Burner Spark Electrode, Eclipse type or equivalent	no.	
F7.7	Cremator Combustion Chamber Air Supply Fan	no.	
F7.8	Charging Door	no.	
F7.9	Cremator PLC	no.	
F7.10	HMI, 15inch, Compatible with Existing	no.	

Item	Description	Unit	Rate
F7.11	Hydraulic Powerpack, 2.2kW 220V, left hand rotation 7.8cc/rev, 11.5 L/min@1480rpm, 20L tank capacity, oil level gauge with temperature indicator, solinoid subplate with relief set at 80bar.	no.	
F7.12	Hydraulic Solenoid Valve	no.	
F7.13	Spring Returned Direct Coupled Actuator Belimo or equivalent	no.	
F7.14	Door Seal, Ceramic Fibre Rope type	no.	
F7.15	Ash Removal Bucket	no.	

F8	OEM Cremator Parts, JTE Cremators BA2		
	Supply and delivery.		
F8.1	Cremator Primary Combustion Chamber LPG Burner	no.	
F8.2	Cremator Secondary Combustion Chamber LPG Burner	no.	
F8.3	K Type Ceramic Thermocouple, 450mm long	no.	
F8.4	Burner Spark Electrode, Eclipse type or equivalent	no.	
F8.5	Burner Flame Rod, Eclipse type or equivalent	no.	
F8.6	Ceramic Wire Mesh Door Seal, JTE type or equivalent	no.	
F8.7	Hydraulic Door Cylinder, JTE type or equivalent	no.	
F8.8	DUNGS Burner Flame Relay, Programmable Type MPA 4112 Burner Management Unit or equivalent	no.	
F8.9	DUNGS Ignition Transformer, DEZ or equivalent with cables	no.	
F8.10	DUNGS DN25 Gas Filter Element or equivalent	no.	
F8.11	ETS 2-Piece Pre-Cast Hearth Sill (Pre-Dried) or equivalent	no.	
F8.12	B96 Ceramic Fibre Blanket	no.	
F8.13	ISO 68 Hydraulic Oil per 20L drum	no.	
F8.14	GASTECH DN25 Main Gas Regulator / Slam-shut or equivalent	no.	
F8.15	DUNGS 0 - 50mbar Gas Pressure Switch or equivalent	no.	
F8.16	DUNGS 0 - 150mbar Gas Pressure Switch or equivalent	no.	
F8.17	DUNGS 0 - 150mbar Air Pressure Switch or equivalent	no.	
F8.18	IFM Air Flow Monitor Switch or equivalent	no.	
F8.19	DUNGS DN40 Main Gas and Secondary Burner Gas Solenoid or equivalent	no.	
F8.20	DUNGS DN20 Primary Burner gas Solenoid or equivalent	no.	
F8.21	DUNGS DN25 Secondary Burnder Ratio Regulator or equivalent	no.	
F8.22	DUNGS DN15 Primary Burner Ration Regulator or equivalent	no.	
F8.23	Eclipse Primary Burner Alloy Sleeve or equivalent	no.	
F8.24	Eclipse Secondary Burner Alloy Sleeve or equivalent	no.	
F8.25	LS Electrical PLC Processor XEC DR32H or equivalent	no.	
F8.26	LS Electrical Analogue Voltage Output PLC Module	no.	
F8.27	LS Electrical Thermocouple Input PLC Module	no.	
F8.28	LS Electrical 5.5kW VSD 380/3/50	no.	
F8.29	LS Electrical 7inch HMI IFT LCD, 24-Bit Colour, 24VDC, 1 + ETH	no.	
F8.30	Belimo Damper Actuator	no.	
F8.31	Hydraulic Power Pack, 25L tank	no.	
F8.32	5.5kW 2920 rpm Centrifugal Fan	no.	
F8.33	Cremator Combustion Chamber Air Supply Fan	no.	
F8.34	Charging Door	no.	
F8.35	Ash Removal Bucket	no.	

Item	Description	Unit	Rate
F9	**Other**		
	Supply and delivery.		
F9.1	Cardboard Rollers, 40mm diameter	no.	
F9.2	Metal ID Tags (100 Pack)	no.	
F9.3	Heavy Duty Industrial Vacuum Cleaner	no.	
F9.4	Heavy Duty Rotary Floor Polisher	no.	

G	**LIQUID PETROLEUM GAS**		
G1	**LPG Shutoff Valves**		
	Supply and delivery.		
G1.1	LPG Shutoff Valve - DN25 Flanged, SAGA accredited	no.	
G1.2	LPG Shutoff Valve - DN50 Flanged, SAGA accredited	no.	
G2.3	LPG Shutoff Valve - DN80 Flanged, SAGA accredited	no.	

G2	**Piping Sundries**		
	Supply and delivery.		
G2.1	Gaskets - DN25	no.	
G2.2	Gaskets - DN50	no.	
G2.3	Gaskets - DN80	no.	
G2.4	Fasteners cost per flange - DN25	no.	
G2.5	Fasteners cost per flange - DN50	no.	
G2.6	Fasteners cost per flange - DN80	no.	

G3	**Piping Instruments**		
	Supply and delivery.		
G3.1	Pressure Gauge 1/2 Bottom Entry - 0-2000kPa	no.	
G3.2	Pressure Gauge 1/2 Bottom Entry - 0-500kPa	no.	
G3.3	LPG Flow Measurement Device with monitoring capabilities, DN25, PN40	no.	
G3.4	LPG Flow Measurement Device with monitoring capabilities, DN50, PN40	no.	

G4	**Piping Material**		
	Supply and delivery.		
G4.1	BS 1600/API Spec 5L Seamless Steel Pipe - DN25 - SCH80	m	
G4.2	BS 1600/API Spec 5L Seamless Steel Pipe - DN50 - SCH40	m	

G5	**Pipe Fittings**		
	Supply and delivery.		
G5.1	Elbow Long Radius 90° Steel BSPT - DN25 - Class 300	no.	
G5.2	Elbow Long Radius 90° Steel Butt-weld - DN50 - SCH40	no.	
G5.3	Tee Equal Steel BSPT - DN25 - Class 300	no.	
G5.4	Tee Equal Steel Butt-weld - DN50 - SCH80	no.	
G5.5	Reducer Steel BSPT - DN50 to DN25 - Class 300	no.	
G5.6	Union Taper Seat - DN25 - Class 300	no.	
G5.7	Pipe Hanger/Bracket MS Galvanized - DN25	no.	
G5.8	Pipe Hanger/Bracket MS Galvanized - DN50	no.	
G5.9	Threaded Nipple - DN25 - SCH80	no.	
G5.10	Pipe Flexible Braided BSPT Ends - DN25x500mm - PN16	no.	
G5.11	Pipe Flexible Braided Flanged Ends - DN50x500mm - PN16	no.	

Item	Description	Unit	Rate
G6	**Welding per joint:**		
G6.1	DN25 Joint	no.	
G6.2	DN50 Joint	no.	
G6.3	DN80 Joint	no.	

G7	**Painting of Piping**		
	As per SANS 1091 and, National Colour Standard and SANS 10140 final colour marking specification per meter including paint and consumables.		
G7.1	Various nominal size including DN25, DN50 and DN80.	m²	

G8	**LPG Pipe Testing**		
G8.1	LPG COC inspection and issue of compliance certificate	no.	
G8.2	Gas leak detection system according to SANS 10087-3:2013	no.	
G8.3	Leak/Pressure Testing per 30m of Installed Pipe	no.	

H	**SMOKE STACKS AND DUCTING**		
H1	**Smoke Stack, 600mm Diameter**		
	Supply and delivery.		
H1.1	Refractory Lined, 6mm Wall Thickness, Smoke Stack, 600mm Diameter	m	
H1.2	Non Refractory Lined, 6mm Wall Thickness	m	
H1.3	Damper, 6mm Wall Thickness	no.	

H2	**Smoke Stack, 800mm Diameter**		
	Supply and delivery.		
H2.1	Refractory Lined, 8mm Wall Thickness, Smoke Stack, 800mm Diameter	m	
H2.2	Non Refractory Lined, 8mm Wall Thickness	m	
H2.3	Damper, 8mm Wall Thickness	no.	
H2.4	Damper, 10mm Wall Thickness	no.	

H3	**Refractory Lined Ducting, 600mm Diameter**		
	Castable Refractory Lining, 3mm		
	Supply and delivery.		
H3.1	Straight Section, Refractory Lined Ducting, 600mm Diameter	m	
H3.2	Elbow 90deg	no.	
H3.3	Tee section	no.	
H3.4	Fasteners, gaskets and sundries	m	
H3.5	Supports, install height <4m high	no.	

H4	**Refractory Lined Ducting, 800mm Diameter**		
	Castable Refractory Lining, 3mm		
	Supply and delivery.		
H4.1	Straight Section, Refractory Lined Ducting, 800mm Diameter	m	
H4.2	Elbow 90deg	no.	
H4.3	Tee section	no.	
H4.4	Fasteners, gaskets and sundries	m	
H4.5	Supports, install height <4m high	no.	

Item	Description	Unit	Rate
I	**FRESH AIR VENTILATION**		
I1	**Vertical Exhaust Axial Fans, Adjustable Pitch, Galvanised**		
	Supply and delivery.		
I1.1	400mm diameter roof fan, 2 000 m3/hr.	no.	
I1.2	500mm diameter roof fan, 3 000 m3/hr.	no.	
I1.3	560mm diameter roof fan, 5 000 m3/hr.	no.	
I2	**Tubular Axial Fans, Adjustable Pitch, Galvanised**		
	Supply and delivery.		
I2.1	600mm diameter inline fan, 12 000 m3/hr.	no.	
I2.2	700mm diameter inline fan, 15 000 m3/hr.	no.	
I2.3	800mm diameter inline fan, 24 000 m3/hr.	no.	
I3	**Spiral Ducting 125mm Diameter (Gauge 0.6mm) Galvanized Sheet Metal**		
	Supply and delivery.		
I3.1	Straight length, 125mm Diameter (Gauge 0.6mm) Galvanized Sheet Metal	m	
I3.2	Stop end	no.	
I3.3	Reducer	no.	
I3.4	Spigot	no.	
I3.5	45deg Bend	no.	
I3.6	90deg Bend	no.	
I3.7	Sleeve	no.	
I4	**Spiral Ducting 200mm Diameter (Gauge 0.6mm) Galvanized Sheet Metal**		
	Supply and delivery.		
I4.1	Straight length, 200mm Diameter (Gauge 0.6mm) Galvanized Sheet Metal	m	
I4.2	Stop end	no.	
I4.3	Reducer	no.	
I4.4	Spigot	no.	
I4.5	45deg Bend	no.	
I4.6	90deg Bend	no.	
I4.7	Sleeve	no.	
I5	**Spiral Ducting 300mm Diameter (Gauge 0.6mm) Galvanized Sheet Metal**		
	Supply and delivery.		
I5.1	Straight length, 300mm Diameter (Gauge 0.6mm) Galvanized Sheet Metal	m	
I5.2	Stop end	no.	
I5.3	Reducer	no.	
I5.4	Spigot	no.	
I5.5	45deg Bend	no.	
I5.6	90deg Bend	no.	
I5.7	Sleeve	no.	

Item	Description	Unit	Rate
I6	**Spiral Ducting 400mm Diameter (Gauge 0.6mm) Galvanized Sheet Metal**		
	Supply and delivery.		
I6.1	Straight length, 400mm Diameter (Gauge 0.6mm) Galvanized Sheet Metal	m	
I6.2	Stop end	no.	
I6.3	Reducer	no.	
I6.4	Spigot	no.	
I6.5	45deg Bend	no.	
I6.6	90deg Bend	no.	
I6.7	Sleeve	no.	

I7	**Spiral Ducting 600mm Diameter (Gauge 0.6mm) Galvanized Sheet Metal**		
	Supply and delivery.		
I7.1	Straight length	m	
I7.2	Stop end	no.	
I7.3	Reducer	no.	
I7.4	Spigot	no.	
I7.5	45deg Bend	no.	
I7.6	90deg Bend	no.	
I7.7	Sleeve	no.	

I8	**Spiral Ducting 800mm Diameter (Gauge 0.8mm) Galvanized Sheet Metal**		
	Supply and delivery.		
I8.1	Straight length	m	
I8.2	Stop end	no.	
I8.3	Reducer	no.	
I8.4	Spigot	no.	
I8.5	45deg Bend	no.	
I8.6	90deg Bend	no.	
I8.7	Sleeve	no.	

I9	**Air Diffuser 200mm x 200mm**		
	Supply and delivery.		
I9.1	Aluminium Air Diffuser Grill	no.	
I9.2	Galvanized Sheet Metal Plenum with Spigot for Diffuser	no.	

I10	**Air Diffuser 500mm x 500mm**		
	Supply and delivery.		
I10.1	Aluminium Air Diffuser Grill	no.	
I10.2	Galvanized Sheet Metal Plenum with Spigot for Diffuser	no.	

I11	**Air Diffuser 1000mm x 1000mm**		
	Supply and delivery.		
I11.1	Aluminium Air Diffuser Grill	no.	
I11.2	Galvanized Sheet Metal Plenum with Spigot for Diffuser	no.	

I12	**Intake Weather Louver 500mm x 500mm**		
	Supply and delivery.		
I12.1	Aluminium Weather Louver with Galvanised wire mesh vermin protection	no.	
I12.2	Plenum with Spigot for Weather Louver	no.	

Item	Description	Unit	Rate
I13	**Intake Weather Louver 1000mm x 1000mm**		
	Supply and delivery.		
I13.1	Aluminium Weather Louver with Galvanised wire mesh vermin protection	no.	
I13.2	Plenum with Spigot for Weather Louver	no.	

J	REFRIGERATION AND AIR CONDITIONING		
J1	**Refrigeration Systems, Cooling Capacity for 4 degree C**		
	Supply and delivery.		
J1.1	5kW Refrigeration Equipment.	no.	
J1.2	Copper Refrigeration Piping with Sponge Nitrile Insulation for 5kW System.	m	
J1.3	15kW Refrigeration Equipment.	no.	
J1.4	Copper Refrigeration Piping with Sponge Nitrile Insulation for 15kW System.	m	

J2	Split A/C, Inverter Type Units		
	Supply and delivery.		
J2.1	12 000 BTU equipment.	no.	
J2.2	10mm Diameter Copper Refrigeration Piping, Sponge Nitrile Insulation.	m	
J2.3	18 000 BTU equipment.	no.	
J2.4	12mm Diameter Copper Refrigeration Piping, Sponge Nitrile Insulation.	m	
J2.5	24 000 BTU equipment.	no.	
J2.6	16mm Diameter Copper Refrigeration Piping, Sponge Nitrile Insulation.	m	
J2.7	Mild Steel Galvanised Outdoor Security Cages, Lockable.	no.	

J3	Coldroom		
	Supply and delivery.		
J3.1	75mm x 1200mm x 2400mm(H) Polystyrene Insulation, chromadeck or equivalent lined panels.	no.	
J3.2	75mm Insulated Sliding Doors 1,2 x 2,0 (H), chromodeck lined.	no.	
J3.3	Thermometer dial above doors, -30 degrees C to + 30 degrees C	no.	
J3.3	Clear PVC Strip Curtains including rails, 1.2m x 2.0m	no.	

K	COMPRESSED AIR		
K1	**Air Compressors**		
	Supply and delivery.		
K1.1	FAD: 300l/min with 200L air reservoir.	no.	
K1.2	Coalescer compressed air filter, DN25 pipe size, including necessary fittings.	no.	
K1.3	Electronic condensate drain timer with adjustable settings, DN25mm, including necesssar fittings.	no.	
K1.4	Modular regulator, 25mm pipe diameter.	no.	
K1.5	Pressure gauge, 1/4inch rear entry plastic type	no.	

K2	Piping Instruments		
	Supply and delivery.		
K2.1	Pressure Gauge DN15 Bottom Entry - 0- 2000kPa 100mm Face	no.	
K2.2	Pressure Gauge DN15 Bottom Entry - 0- 1000kPa 100mm Face	no.	

K3	Piping Material		
	Supply and delivery.		
K3.1	SANS 62 Medium Wall Thickness Galvanized - DN25	m	

Item	Description	Unit	Rate
K4	**Pipe Fittings**		
	Supply and delivery.		
K4.1	BSPT Elbow Long Radius 90° Galvanized - DN25 - SCH10	no.	
K4.2	BSPT Tee Equal Steel Galvanized - DN25 - SCH10	no.	
K4.3	BSPT Union Taper Seat Galvanized - DN25 - SCH10	no.	
K4.4	Pipe Hanger/Bracket MS Galvanized - DN25	no.	
K4.5	BSPT Threaded Nipple Galvanized - DN25 - SCH10	no.	
K4.6	BSPT Reducing Bush Galvanized - DN25 to DN15 - SCH10	no.	
K4.7	BSPT Socket Galvanized - DN25 - SCH10	no.	

K5	**Flexible Piping**		
	Supply and delivery.		
K5.1	8mm Polyurethane Flexible Tubing	m	
K5.2	8mm Flexible Push in to DN15 BSPT Male Fitting	no.	

K6	**Painting of Piping and Testing**		
	As per SANS 1091 and, National Colour Standard and SANS 10140 final colour marking specification per meter including paint and consumables.		
K6.1	DN25	m	
K6.2	Hydrostatic Pressure Test	no.	

L	**BUILDING**		
L1	**Tiling**		
	Supply and delivery.		
L1.1	Ceramic Tiles, White, 150x150mm	m²	
L1.2	Tile Adhesive / Cement, per 20kg	no.	
L1.3	Tile Grouting, per 20kg	no.	
L1.4	Tile Bonding Liquid, per 20L	no.	

L2	**Civils**		
	Supply and delivery.		
L2.1	Building Sand	m³	
L2.2	Grey Stone 19mm per 40kg bag	no.	
L2.3	Cement 42.5N per 50kg bag	no.	

L3	**Concrete Core Drilling**		
L3.1	Minimum call out fee	sum	
L3.2	Core drilling 50mm diameter hole, core length up to 150mm, reinforced, unreinforced concrete or brickwork.	no.	
L3.3	Core drilling 50mm diameter hole, core length up to 300mm, reinforced, unreinforced concrete or brickwork.	no.	
L3.4	Core drilling 100mm diameter hole, core length up to 150mm, reinforced, unreinforced concrete or brickwork.	no.	
L3.5	Core drilling 100mm diameter hole, core length up to 300mm, reinforced, unreinforced concrete or brickwork.	no.	

L4	**Steel Bars**		
	Supply and delivery.		
L4.1	Mild Steel, Diameter smaller than 20 mm	ton	
L4.2	High Tensile Steel, Diameter up to 20 mm	ton	
L4.3	High tensile Steel, Diameter larger than 20 mm	ton	

Item	Description	Unit	Rate
L5	**Paving**		
	Supply and place, complete inclusive of 20mm sand bedding layer compacted to 100% MOD AAHSTO and cutting of edges, concrete Interlocker pavers.		
L5.1	80mm Thick concrete Interlocker pavers	m²	
L5.2	100mm Thick concrete Interlocker pavers for roads	m²	

L6	**Roof Covering**		
	0,58mm Z600 spelter or equivalent 700mm wide concealed fixing heavy industrial galvanised roof sheeting with specified finishing on one side in single lengths fixed to timber or steel purlins including heavy industrial chromadek finishings all fixed in strict accordance with the manufacturer's instructions, complete.		
	Supply and delivery.		
L6.1	Roof covering with pitches not exceeding 25 degrees	m²	
L6.2	Side cladding	m²	
L6.3	Extra over roof covering for 90 degree bullnose at eaves	m	

	0,58mm Z600 spelter galvanised steel sheet accessories to preceding roof coverings and side cladding		
	Supply and delivery.		
L6.4	Ridge cappings 304mm girth	m	
L6.5	Hip cappings 304mm girth	m	
L6.6	Gable trims 304mm girth	m	
L6.7	Cover flashings 150mm girth	m	
L6.8	Side wall flashings 310mm girth	m	
L6.9	Head wall flashings 310mm girth	m	
L6.10	Drip flashings 155mm girth	m	

L7	**Seamless Aluminium Pre-painted Gutters**		
	Supply and delivery.		
L7.1	100 x 75mm Roof gutters with beaded front edge	m	
L7.2	Extra over gutter for stopped end	no.	
L7.3	Extra over gutter for outlet for 75mm pipe	no.	

L8	**Structural Steel**		
	Supply and delivery.		
L8.1	Columns, beams and other structural members	Ton	
L8.2	Compound and latticed columns, beams and other members	Ton	
L8.3	Roof trusses	Ton	
L8.4	Purlins, girts, bracing, sag rods, etc	Ton	
L8.5	Stairs, balustrading, handrails, cat ladders, flooring, etc integral with structural steelwork.	Ton	
L8.6	Hot dipped galvanised lip channel uncoated 100 x 50 x 20 x 2.5th	no.	

L9	**Metal Coatings**		
	Apply this following coating to mild steel elements including all surface preparation, application, curing and drying, and protection of finished coatings		
L9.1	Hot Dipped Galvanized Coating, less then 5meter length	Ton	
L9.2	Duplex Systems (over extra to hot dipped galvanising rates above)	m²	

Item	Description	Unit	Rate
L10	**Fasteners Including Washers**		
	Supply and delivery.		
L10.1	4.8 Hot Dipped Galvanised Bolts including nut (Full thread, Plain Hexagon, Flanged hexagon)	kg	
L10.2	8.8 Hot Dipped Galvanised Bolts including nut (Full thread, Plain Hexagon, Flanged hexagon)	kg	
L10.3	8.8 Hot Dipped Galvanised Anchor Bolts with heavy duty chemical anchoring compound:	kg	
L10.4	Stainless Steel 316 Bolts (Grade A4-70) including nut (Full thread, Plain Hexagon, Flanged hexagon)	kg	
L10.5	Stainless Steel 316 Concrete Anchor Bolts with heavy duty chemical anchoring compound.	kg	

L11	**Doors**		
	Supply and delivery.		
L11.1	Hardboard Medium Duty Door	no.	
L11.2	Exterior Hardwood Door Open Back Z-Brace	no.	
L11.3	Single Door Frame, Meranti	no.	
L11.4	Hardwood Fire Door	no.	
L11.5	Hardwood Fire Door Frame	no.	
L11.6	Single Door Handles and Locking Mechanism	no.	
L11.7	Roller shutter door complete with electric motor, all guides, rails and adaptions, 75mm slats 1mm thick, hot dipped galvanised, epoxy coated 2200mm x 3300mm, no battery backup.	no.	
L11.8	Roller shutter door complete with electric motor, all guides, rails and adaptions, 75mm slats 1mm thick, hot dipped galvanised, epoxy coated 2650mm x 2350mm, no battery backup.	no.	
L11.9	Large heavy duty cellar swing double doors, opening 2650mm (H) x 2350mm (W) including hinges and locking mechanism complete.	no.	

L12	**Work Surfaces and Coffin Storage**		
	Supply and delivery.		
L12.1	Heavy Duty Mild Steel Galvanised Table, 600mm (deep) x 900mm (high) x 2000mm (length), 100kg min weight capacity.	no.	
L12.2	Heavy Duty Stainless Steel Coffin Shelving Unit	no.	

L13	**Fire Protection**		
	Supply and delivery.		
L13.1	Fire hose, standard, 30m and 580mm diameter reel, SABS 1086 PVC red, chromium plated stopcock, shut-off nozzle, wall brackets complete with all fittings.	no.	
L13.2	9kg Carbon Dioxide Fire Extinguisher	no.	
L13.3	9kg Dry Powder Fire Extinguisher	no.	

L14	**Waterproofing**		
	Supply and delivery.		
L14.1	2mm Reinforced Bitumen Membrane (RBM)	m²	
L14.2	4mm Reinforced Bitumen Membrane (RBM)	m²	
L14.3	Soaker plate, 0.5mm galvanised sheet metal	no.	
L14.4	White paintable polyurethane hardening sealant, Mapeflex PU 45 600ml or equivalent.	no.	

Item	Description	Unit	Rate
L15	**Rainwater Tanks**		
	Supply and delivery.		
L15.1	1000L vertical slim water tank, food grade LLDPE plastic, UV stablised, BPA free preventing algae growth. 10 year warranty. (civils and fittings measured elsewhere)	no.	
L15.2	5000L vertical water tank, food grade LLDPE plastic, UV stabilisedm, BPA free preventing algae growth. 10 year warranty. (civils and fittings measured elsewhere)	no.	
L15.3	10 000L vertical water tank, food grade LLDPE plastic, UV stabilisedm, BPA free preventing algae growth. 10 year warranty. (civils and fittings measured elsewhere)	no.	

L16	**Coatings**		
	Supply and delivery.		
L16.1	Two-part Polyurethane Paint	L	
L16.2	One-part Enamel Based Paint	L	
L16.3	One-part Acrylic Based / PVA Paint	L	
L16.4	MS Anti Rust Primer Paint, Duram NS4, or equivalent, 5L tin	L	
L16.5	Paint Thinners, 5L bottle.	L	
L16.6	High Heat Paint, Duram NS7 or equivalent, 5L tin.	no.	
L16.7	Intermissent paint, minimum 120min rating, 25Litre drum.	no.	
L16.8	3-Coats Plasconguard Gehopon 3000WB Series or equivalent.	m²	

M	**ELECTRICAL RETICULATION**		
M1	**LV Cables**		
	Supply and delivery.		
M1.1	2,5mm2 x 4 Cu, unarmoured cable.	m	
M1.2	4mm2 x 4 Cu, unarmoured cable.	m	
M1.3	2,5mm2 x 4 Cu, armoured cable.	m	
M1.4	4mm2 x 4 Cu, armoured cable.	m	
M1.5	10mm2 x 4 Cu, armoured cable.	m	
M1.6	25mm2 x 4 Cu, armoured cable.	m	
M1.7	50mm2 x 4 Cu, armoured cable.	m	
M1.8	95mm2 x 4 Cu, armoured cable.	m	

M2	**Small Power Cables**		
	Supply and delivery.		
M2.1	Flat twin and earth - 1.5mm2	m	
M2.2	Flat twin and earth - 2.5mm2	m	
M2.3	Cabtyre - 1.5mm2 x 3	m	
M2.4	Cabtyre - 2.5mm2 x 3	m	
M2.5	Cabtyre - 2.5mm2 x 4	m	
M2.6	Cabtyre - 4mm2 x 3	m	
M2.7	Cabtyre - 4mm2 x 4	m	

M3	**Passive Fire Proofing**		
	Supply and delivery.		
M3.1	Cable Coating, KBS or equivalent, 120min fire, 35kg drum	no.	
M3.2	Intumescent Cable Wrap with Collar, 15mm width, 10meter length.	no.	
M3.3	Intumescent Cable Wrap with Collar, 25mm width, 10meter length.	no.	
M3.4	Intumescent Cable Wrap with Collar, 32mm width, 10meter length.	no.	
M3.5	Intumescent Cable Wrap with Collar, 50mm width, 10meter length.	no.	

Item	Description	Unit	Rate
M4	**Flood Lighting Metal Halide**		
	Supply and delivery.		
M4.1	250W metal halide, marine grade aluminium, unpainted (BEKA PROJECTOLUX 250W MH-T-WB) or equivalent.	no.	
M4.2	Wire guard for 250W metal halide, hot dip galvanised.	no.	

M5	**Flood Lighting LED**		
	Supply and delivery.		
M5.1	180W LED, neutral white (4000K, CRI ≥70), wide area, marine grade aluminium, unpainted with 20kV surge protection and high impact polycarbonate diffuser (BEKA LEDflood-maxi 180W) or equivalent.	no.	
M5.2	279W LED, neutral white (4000K, CRI ≥70), wide area, marine grade aluminium, unpainted with 20kV surge protection and high impact polycarbonate diffuser (BEKA LEDflood-maxi 279W) or equivalent.	no.	

M6	**Bulkhead Lighting LED**		
	Supply and delivery.		
M6.1	18W LED, Telegrey (RAL 7045), textured finish (BEKABULK LED 18W) or equivalent.	no.	

M7	**Vapour Proof Lighting LED**		
	Supply and delivery.		
M7.1	65W LED, IP 65, 1270mm L x 136mm W x 90mm H, neutral white (4000K, CRI ≥70) (BEKA VLN LED 65W NW) or equivalent.	no.	

M8	**Light Switches**		
	Supply and delivery.		
M8.1	Indoor, one-way	no.	
M8.2	Indoor, two-way	no.	
M8.3	Indoor, intermediate	no.	
M8.4	Outdoor, one-way	no.	
M8.5	Outdoor, two-way	no.	
M8.6	Photo-cell, 25Amp, IP45 waterproof rating, adjustable lux level, LED compatible.	no.	

M9	**Isolators and Socket Outlets**		
	Supply and delivery.		
M9.1	2-Pole, 16A isolator	no.	
M9.2	3-Pole, 16A isolator	no.	
M9.3	16A socket outlet - single	no.	
M9.4	16A socket outlet - double	no.	

M10	**Cable Trays and Ladders with Brackets**		
	Supply and delivery.		
M10.1	Cable Tray, Medium Duty, Hot Dipped Galvanised, 50mm wide, brackets and fasteners.	m	
M10.2	Cable Tray, Medium Duty, Hot Dipped Galvanised, 100mm wide, brackets and fasteners.	m	
M10.3	Cable Tray, Medium Duty, Hot Dipped Galvanised, 150mm wide, brackets and fasteners.	m	
M10.4	Cable Ladder, Medium Duty, Hot Dipped Galvanised, 50mm wide, brackets and fasteners.	m	
M10.5	Cable Ladder, Medium Duty, Hot Dipped Galvanised, 100mm wide, brackets and fasteners.	m	
M10.6	Cable Ladder, Medium Duty, Hot Dipped Galvanised, 150mm wide, brackets and fasteners.	m	

Item	Description	Unit	Rate
M11	**Conduits with all spacers & mounting accessories**		
	Supply and delivery.		
M11.1	25mm bosal or equivalent, per 4meter length	no.	
M11.2	25mm bosal or equivalent conduit box round, galvanised steel side entry one-way / side angle entry two-way / side entry three-way / side through entry four-way.	no.	
M11.3	25mm PVC conduit white, per 4meter length	no.	
M11.4	25mm PVC box round side entry one-way / side angle entry two-way / side entry three-way / side entry four-way	no.	
M11.5	25mm conduit sprag PVC flexible	m	

M12	**Miniature Circuit Breakers and Earth Protection**		
	Mini rail or DIN rail mounted (CBI, ABB, HAGER, M&G, Schneider or equivalent)		
	Supply and delivery.		
M12.1	5A - 60A, 3kA, 240V, 50Hz, 1 pole, fast curve.	no.	
M12.2	5A - 60A, 3kA, 240V, 50Hz, 2 pole, fast curve.	no.	
M12.3	5A - 60A, 3kA, 415V, 50Hz, 3 pole, fast curve.	no.	
M12.4	5A - 60A, 3kA, 240V, 50Hz, 1+N pole, fast curve.	no.	
M12.5	5A - 60A, 6kA to 10kA, 240V, 50Hz, 1 pole, standard curve.	no.	
M12.6	80A - 100A, 6kA to 10kA, 240V, 50Hz, 1 pole, standard curve.	no.	
M12.7	5A - 60A, 6kA to 10kA, 240V, 50Hz, 2 pole, standard curve.	no.	
M12.8	5A - 60A, 6kA to 10kA, 415V, 50Hz, 3 pole, standard curve.	no.	
M12.9	80A - 100A, 6kA to 10kA, 415V, 50Hz, 3 pole, standard curve.	no.	
M12.10	5A - 60A, 6kA to 10kA, 240V, 50Hz, 1+N pole, standard curve.	no.	
M12.11	5A - 60A, 6kA to 10kA, 240V, 50Hz, 1 pole, slow curve for motor starting	no.	
M12.12	80A - 100A, 6kA to 10kA, 240V, 50Hz, 1 pole, slow curve for motor starting	no.	
M12.13	60A, 6kA to 10kA, 415V, 50Hz, 3 pole, slow curve for motor starting	no.	
M12.14	63A, 30mA, 3kA, 240V, 50Hz, 1+N pole, Earth Leakage Device without over load protection for domestic use.	no.	
M12.15	63A, 30mA, 6kA to 10kA, 240V, 50Hz, 1+N pole, Earth Leakage Device without over load protection.	no.	
M12.16	63A, 30mA, 6kA to 10kA, 415V, 50Hz, 3+N pole, Earth Leakage Device without over load protection.	no.	

M13	**Power Socket Outlets**		
	Schneider S2000 / Crabtree Classic or equivalent		
	Supply and delivery.		
M13.1	16A double switched plug socket outlet to fit 100mm x 100mm box. (SANS 164-1)	no.	
M13.2	16A double dedicated switched plug socket outlet to fit 100mm x 100mm box. (SANS 164-4)	no.	
M13.3	Euro socket with 16A switched plug socket outlet to fit 100mm x 100mm box. (SANS 164-1 + 164-2)	no.	
M13.4	6A plug socket outlet to fit 50mm round box or 50mm x 50mm box (SANS 164-3)	no.	
M13.5	16A switched socket outlet, IP66, 250V, 50Hz (WACO, ESS 1666/S or equivalent) (SANS 164-1)	no.	
M13.6	5A to 16A PVC standard or dedicated plug top. (SANS 164-1 or 164-2 or 164-3)	no.	

Item	Description	Unit	Rate
M14	**Industrial Plug Socket Outlets**		
	Supply and delivery.		
M14.1	16A 2P+E (3pin), 16A 3P+E (4pin) or 16A 3P+N+E (5pin) Industrial plug socket outlet, IP67. (SCAME Advance 2 series Code 5611683, Code 5611686, Code 5611687) or equivalent.	no.	
M14.2	32A 2P+E (3pin), 32A 3P+E (4pin) or 32A 3P+N+E (5pin) Industrial plug socket outlet, IP67. (SCAME Advance 2 series Code 5613283, Code 5613286, Code 5613287) or equivalent.	no.	
M14.3	63A 3P+E (4pin) or 63A 3P+N+E (5pin) Industrial plug socket outlet, IP67.(SCAME Advance 2 series Code 5616386, Code 5616387) or equivalent	no.	
M14.4	125A 3P+E (4pin) or 125A 3P+N+E (5pin) Industrial plug socket outlet, IP66. (SCAME Advance-GRP series Code 503.12586, Code 503.12587) or equivalent.	no.	

M15	**Industrial Plug Tops**		
	Supply and delivery.		
M15.1	16A 2P+E (3pin), Industrial male/female plug, IP67. (SCAME Optima series Code 2181633/3181643) or equivalent.	no.	
M15.2	16A 3P+E (4pin), Industrial male/female plug, IP67. (SCAME Optima series Code 2181636/3181646) or equivalent	no.	
M15.3	16A 3P+N+E (5pin), Industrial male/female plug, IP67. (SCAME Optima series Code 2181637/3181647) or equivalent.	no.	
M15.4	32A 2P+E (3pin), Industrial male/female plug, IP67. (SCAME Optima series Code 2183233/3183243) or equivalent.	no.	
M15.5	32A 3P+E (4pin), Industrial male/female plug, IP67. (SCAME Optima series Code 2183236/3183246) or equivalent	no.	
M15.6	32A 3P+N+E (5pin), Industrial male/female plug, IP67. (SCAME Optima series Code 2183237/3183247) or equivalent.	no.	
M15.7	63A 3P+E (4pin) Industrial male/female plug, IP67. (SCAME Optima series Code 2186336/3186346 or equivalent.	no.	
M15.8	63A 3P+N+E (5pin) Industrial male/female plug, IP67. (SCAME Optima series Code 2186337/3186347) or equivalent.	no.	

M16	**Isolators**		
	Supply and delivery.		
M16.1	30 - 60A Isolator switch to fit 50mm x 100mm or 100mm x 100mm box. (Clipsal S2000/Crabtree Classic) or equivalent.	no.	
M16.2	32A Enclosed isolator, IP65, pad lockable, 3 pole. (Lovato Electric Code: GAZ032) or equivalent.	no.	

N	**ELECTRICAL EQUIPMENT**		
N1	**PV Solar, Inverters and LiFePO4 Batteries.**		
	System to be registered on COCT approved database and price supply installation, commissioning and completion of the SSEG registration process.		
	Single-Phase Inverter		
N1.1	Grid Tied Hybrid String Inverter, Single-Phase, 5 kW, from CCT Approved List, for PV and Lithium-based battery integration, 10yr warranty.	no.	
N1.2	Grid Tied Hybrid String Inverter, Single-Phase, ≥ 10 kW, from CCT Approved List, for PV and Lithium-based battery integration, 10yr warranty.	no.	

Item	Description	Unit	Rate
	Three-Phase Inverter		
N1.3	Hybrid String Inverter, Three-Phase, ≥10 kW per phase (≥30 kW total), from CCT Approved List, for PV and Lithium-based battery integration, 10yr warranty.	no.	
N1.4	Hybrid String Inverter, Three-Phase, ≥ 20 kW per phase (≥60 kW total), from CCT Approved List, for PV and Lithium-based battery integration, 10yr warranty.	no.	
N1.5	Hybrid String Inverter, Three-Phase, ≥40 kW per phase (≥120 kW total), from CCT Approved List, for PV and Lithium-based battery integration, 10yr warranty.		
N1.6	Solar PV Module, monocrystalline silicon, Grade A, ≥ 500 Wp, 10-year defect warranty, 25-year 80% performance guarantee.	no.	
N1.7	5kWh, includes BMS, ≥0.5C rated compatible with hybrid inverter, IP54, 10-year warranty. Includes DC cable and termination kit, as well as any communications cabling.	no.	
N1.8	10kWh, includes BMS, ≥0.5C rated compatible with hybrid inverter, IP54, 10-year warranty. Includes DC cable and termination kit, as well as any communications cabling.	no.	
N1.9	Design of PV system by professional engineer including sign off, oversight testing and approval. (Based on a system with a single inverter)	no.	
N1.10	Certificate of Compliance issued by certified person for PV and BESS systems. (Based on a system with a single inverter)	no.	

N2	**Generator within Container (intended for outdoor use)**		
	Supply and delivery.		
N2.1	New 88kVA, 70dbA@7m generator set, complete with painted weather proof container, 400V, 50Hz, 0.8pf complete with fuel tank, stainless steel exhaust system, battery, Deep Sea controller or equivalent, changeover, sound attenuation, ancillaries and all other items required for a fully functional system. (cable lengths measured elsewhere)	no.	

N3	**Sliding Gates**		
	Supply and delivery.		
N3.1	Sliding Gate Operator, 24V DC, 1000kg, including operator, foundation Plate, controller & Charger (CENTURION D10RB000V4 or equivalent). (excluding batteries, safety beams and track)	no.	
N3.2	Theft – resistant steel cage, hot dip galvanised. (CENTURION D10 11400101PL or equivalent).	no.	
N3.3	Gate mounted origin marker with bracket, origin sensor and encoder sensor complete. (CENTURION D10 Doss Kit / Gate magnet 1114SUB040 + Doss Card CP202V2 + Mag switch (origin sensor) 1114SUB07n + Doss Harness WHD10M10524 or equivalent).	no.	
N3.4	Steel gate motor wheel with roller bearing including casing, 80 - 180mm U or V profile.	no.	
N3.5	Roller guide wheel assembly, heavy duty with ball bearing for inside channel guide or gate surface.	no.	
N3.6	Gate brush, 150mm (Mr Sweepie or equivalent).	no.	

Item	Description	Unit	Rate
N4	**Hot Water Heaters**		
	Supply and delivery.		
N4.1	10 litre, 230V, 50Hz, 2400Watt, 340mm wide x 205mm deep x 630mm high, Instant boiling water dispenser with recovery rate of 1.5 cups per minute, white epoxy. (10 litre Zip Hydroboil Code 2610012 or equivalent).	no.	
N4.2	10 litre, 800kPa, under basin mounted, electric water heater including thermostat, 1.5kW element and safety valve. (KWIKOT Code: Prisma Deluxe 10lt Under Basin or equivalent).	no.	
N4.3	150 litre, 600kPa, Geyser including thermostat, 3kW element, drain cock and safety valve, standard or slimline. (KWIKOT Code: ESG-150 600 Dual Slimline or EF-150-2D 600 Dual Standard, IPX4 or equivalent).	no.	
N4.4	3.5kW heating capacity heat pump, 150L water heater capacity, 900W input power, 75lt/h output (KWIKOT Code: Domestic Standard Heat Pump HP-003 or equivalent).	no.	

N5	**Drainage Pumps**		
	Supply and delivery.		
N5.1	0.55kW, 220V Submersible Drainage Pump with Automatic Float Switches, Minimum Operating Requirements: Flow Max 166l/s and Head Max 9m.	no.	
N5.2	0.75kW, 220V Submersible Drainage Pump with Automatic Float Switches, Minimum Operating Requirements: Flow Max 300l/s and Head Max 12m. Capable of pumping dirty water with solid particle size up to 38mm.	no.	

N6	**SCADA LOGGING SYSTEM**		
	Supply and delivery.		
N6.1	SCADA PC including monitor, keyboard and mouse peripherals complete.	no.	
N6.2	Administrative PC including monitor, keyboard and mouse peripherals complete.	no.	
N6.3	Industrial PC (IPC)	no.	
N6.4	Moxa Profinet compatible 16 port switch.	no.	
N6.5	Moxa Profinet compatible 5 port switch.	no.	
N6.6	Enclosure, wall mounted with racks, minumum 15U adequetly sized for PS and Network Attached Storage (NAS).	no.	
N6.7	1500VA UPS, minimum run time 30minutes during power failure	no.	
N6.8	Backup Network Attached Storage (NAS), 2TB Synology or equivalent	no.	
N6.9	SCADA licensing, unlimited Perspective Ignition	no.	
N6.10	Windows 11 Pro or equivalent	no.	

O	**EXTRA OVER**		
O1.1	Allow for provisional sum for the selection, supply, delivery to site and installation of any component, material or spare not detailed above. As per SCM policy.	Prov-Sum	R200 000.00
O1.2	Allow for profit on the above provisional sum.	%	

Pricing Instructions:

5.1 State the rates and prices in Rand unless instructed otherwise in the Conditions of Tender.

5.2 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes (except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the General Tender Information.

5.3 All prices tendered must include all expenses, disbursements and costs (e.g. transport, accommodation etc.) that may be required for the execution of the tenderer's obligations in terms of the Contract, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the Contract as well as overhead charges and profit (in the event that the tender is successful). All prices tendered will be final and binding.

5.4 All prices shall be tendered in accordance with the units specified in this schedule.

5.5 Where a value is given in the Quantity column, a Rate and Price (the product of the Quantity and Rate) is required to be inserted in the relevant columns.

5.6 The successful tenderer is required to perform all tasks listed against each item. The tenderer must therefore tender prices/rates on all items as per the section in the Price Schedule. **An item against which no rate is/are entered, or if anything other than a rate or a nil rate (for example, a zero, a dash or the word "included" or abbreviations thereof) is entered against an item, it will also be regarded as a nil rate having been entered against that item, i.e. that there is no charge for that item. The Tenderer may be requested to clarify nil rates, or items regarded as having nil rates; and the CCT may also perform a risk analysis with regard to the reasonableness of such rates.**

5.7 Provide fixed rates and prices for the duration of the contract that are not subject to adjustment except as otherwise provided for in clause 17 of the Conditions of Contract and as amplified in the Special Conditions of Contract.

INITIALS OF CCT OFFICIALS		
1	**2**	**3**

C.5 SPECIFICATION(S)

TRADE NAMES OR PROPRIETARY PRODUCTS

Tenderers/Suppliers must note that wherever this document refers to any particular trade mark, name, patent, design, type, specific origin or producer, such reference shall be deemed to be accompanied by the words “or equivalent”.

EMPLOYMENT OF SECURITY PERSONNEL

All security staff employed by the Supplier on behalf of the CCT or at any CCT property must be registered with Private Security Industry Regulatory Authority (PSiRA). Proof of such registration must be made available to the CCT or its agent, upon request.

FORMS FOR CONTRACT ADMINISTRATION

The Supplier shall complete, sign and submit with each invoice, the following:

a) Monthly Project Labour Report (described below)

The Monthly Project Labour Report must include details of all labour (including that of sub-contractors) that are South African citizens earning less than **[R450]** per day, as adjusted from time to time (excluding any benefits), who are employed on a temporary or contract basis on this contract in the month in question.

In addition to the Monthly Project Labour Report the Supplier shall simultaneously furnish the CCT’s Agent with copies of the employment contracts entered into with such labour, together with certified copies of identification documents, proof of attendance in the form of attendance register or timesheets as well as evidence of payments to such labour in the form of copies of payslips or payroll runs. If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it and proof of such acknowledgement shall be furnished to the CCT’s Agent.

FORMS FOR CONTRACT ADMINISTRATION

MANAGEMENT

The Supplier will be measured against his/her performance in adhering to the specifications and timelines undersigned per works order.

Attend Site Meetings

- The Supplier to make available a Supplier’s Representative for each works order scope meeting;
- The Supplier’s Representative must be available at short notice and after hours for emergency work as and when required;

Works Order Process

- The Purchaser’s Representative / Works Order Manager visits site and takes the necessary measurements
- The Purchaser’s Representative / Works Order Manager prepares the necessary documents detailing scope of works and estimated quantities in line with the framework price schedule and specification provisions.
- Works Order draft documents are circulated internally (CCT), a CRMS number is generated and the necessary budget is confirmed available. Documents are signed and accepted for circulation.
- The Works Order Manager sends the Supplier’s Representative a copy of the signed Works Order documents for review and acceptance.
- A site meeting is held to discuss the works order scope of works and estimated quantities.
- Following the site meeting, the Supplier’s Representative acceptances the works order scope and estimated quantities or motivates alternative quantities. If alternative quantities are proposed, the Works Order Manager reviews. If deemed acceptable to achieve the scope of work then the works order documents are updated and resubmitted for Supplier acceptance.
- Supplier to provide a realistic Start and Finish date within five (5) working days for when work will

commence and be completed.

- Once the Supplier indicates acceptance of the work scope and the Works Order documents have been accepted and signed by all parties then the Purchaser will create and issue a formal purchase order.
- Upon receipt of the PO, the Supplier to submit the required documentation which may include:
    - Performance guarantee
    - Project program
    - Technical data sheets
    - Method Statements
    - H&S risk assessment and H&S file
    - Drawings

Work scheduled and in progress:

- Supplier performs the work according to tender and scope specifications;
- Safety Files must be available on site with the Supplier from start until finish date of the project;
- Deviation from start/finish dates will only be allowed if the project is stopped or delayed by City of Cape Town;
- Supplier to communicate all issues with regards to the project directly with the Works Order Manager and/or Contract Manager.

Sign off work as complete

- Supplier to attend sign off meeting arranged by Works Order Manager;
- Works Order Manager and Supplier must complete and sign documentation or complete Snag list;
- Works Order Manager and Supplier must sign Snag list, if applicable, and Supplier to provide a new completion date.

Supplier to provide invoice

- Supplier to provide the Project Manager with invoice once signoff has been completed.

Safety Audits

- As and when required work sites will be audited by a Safety Auditor;
- All sites that have been audited must achieve a minimum score of 80%.

Note: where reference to Works Order Manager / Purchaser's Representative is made above, the term is interchangeable with Contract Manager and Project Manager.

PERFORMANCE MANAGEMENT

Periodic and or ad-hoc performance management of the supplier to be performed by the Works Order Manager / Purchaser's Representative. Example below.

Key Performance Indicator	Frequency of Monitoring	Output Measured	Score (1 - 5)
Turnaround/response time for new requests	Ad-hoc: When new projects are initiated	Time to respond to the requesting Project Manager to initiate quotation/proposal process	
Communication	Ad-hoc: When new projects are initiated and during projects	Response time to project related queries and/or emails. The effect of this will have a direct impact on when quotations are finalised in order to raise purchase orders	
Capacity on Projects	Per project	Output measured will be the project team and the expertise of the Key Personnel based on the requirements outlined in the tender document	
Quality of Work	During the project, monthly, per project milestone	Quality output in terms of the deliverables set out in the project brief	
Time	In accordance with Project Schedule	General output will include the measurement of the deliverables in terms of time achieved in accordance with the agreed project timeline/schedule	

PURCHASER'S OBJECTIVES

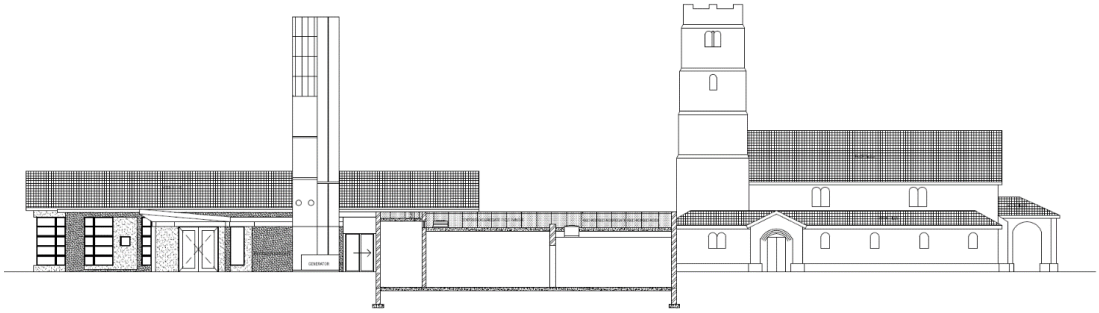
This Framework Contract is part of continuous improvement to ensure that the City of Cape Town's infrastructure operates at its best for all operational and maintenance requirements with reliability, availability and optimal life cycle design as main drivers.

The Purchaser's objective is to provide, through the provision of a competent and experienced Supplier/s, the ad hoc supply, fabrication, delivery, placement, installation, test, commissioning and hand over services to the City of Cape Town.

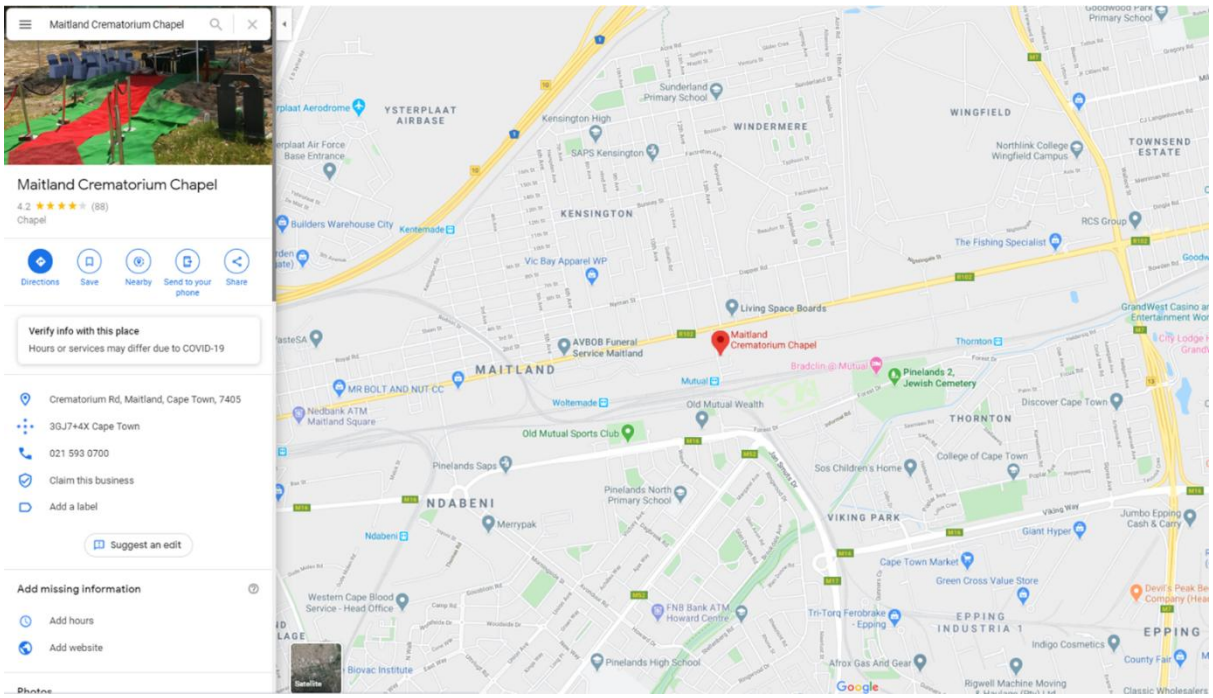
OVERVIEW OF THE WORKS

The Purchaser requires the provision of these services at the primary facility, Maitland Crematorium however includes future crematoriums such as Atlantis as well as any other City facility requiring these supply items and services per specification.

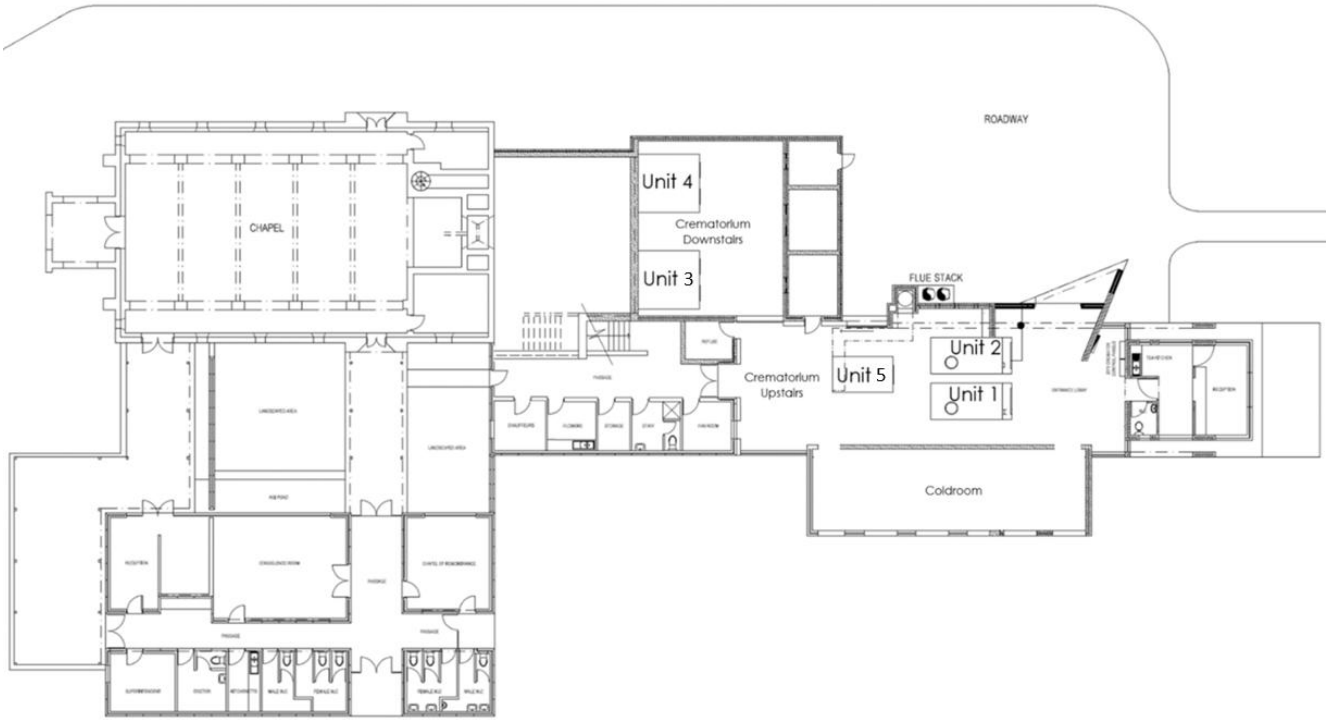
The Maitland Crematorium facilities are leased by ICSA (currently), Independent Crematoriums of South Africa who are responsible for the operations and maintenance of the facility.



SECTION OF CREMATORY AREA



Google Earth Map



Facility Top View Drawing Section indicating Cremator Units

EXTENT OF THE WORKS

The primary goal of this Framework Contract is to provide all necessary works required to maintain and upgrade the City of Cape Town's crematoriums as well as any other City facility requiring these supply items and services per specification. This to include, although not limited to the supply of mechanical, electrical and instrumentation equipment along with all necessary installation, civil, structural and building related works.

The works to be carried out as specified in the Works Order contract documents, as and when required, and as provided for in the Bills of Quantities contained therein. However, if during the execution of the Works Order conditions are found to differ from those anticipated, the Purchaser may modify the scope of works to suit the prevailing conditions and circumstances.

GENERAL

This Specification provide the performance, quality, and overall system requirements of the works. Deviation from the Specification will only be considered if the Purchaser considers such deviation an improvement. The work to meet the approval of the Purchaser in all its parts and details.

The Supplier to carry out any other incidental works or supply and install accessories, not specifically mentioned but considered necessary to bring the whole installation to proper and satisfactory working order. All such works and items not included in the scope should be included in C.4 Price Schedule. All other accessories required to comply fully with Local Authority Regulation / Requirements to also be supplied and installed. No additional claims will be allowed if the Supplier fails to include these items in the tender, or price schedule.

The Supplier will be responsible for the installation of mechanical and electrical control equipment and panels. This includes all the equipment, sensors, cable trays and wiring between panels and equipment along with all civil, structural and building related works.

Drawings and descriptive technical brochures for all equipment will be submitted by the Supplier for review by the Purchaser; prior to order / fabrication and installation of works.

The Supplier will provide all other information and equipment needed to complete related works by other subcontractors.

LABOUR, EQUIPMENT AND MATERIALS

Only competent personnel that have been adequately trained by the Supplier to execute all the required work. All tools, equipment and consumables that are required for undertaking work to be provided by the Supplier at their cost. All material, spare parts, components, equipment and accessories necessary for the repairs, maintenance or upgrading of each installation to be supplied and installed by the Supplier.

COMMUNICATION

The Supplier to ensure that he is reachable by telephone, email and a cellular telephone connection to ensure that he can be reached at any time. CCT to furnish the Supplier with a list of contact details of all his operating personnel at the various installations. Should CCT or operating personnel determine or suspect that preventative, corrective or breakdown maintenance is required, a call to be logged through the call centre to reach the Supplier as soon as possible.

EXISTING CREMATOR INFRASTRUCTURE

The existing Cremators installed at Maitland Crematorium (2026) is as follows:

Unit	Capacity	Make and Model	Country of Origin
1	Over-Size Coffin Cremator	US Cremators Classic X-CEL	United States of America
2	Over-Size Coffin Cremator	US Cremators Classic X-CEL	United States of America
3	Normal-Size Coffin Cremator	JTE BA2 Cremator	South Africa
4	Normal-Size Coffin Cremator	JTE BA2 Cremator	South Africa
5	Over-Size Coffin Cremator	US Cremators Classic X-CEL	United States of America

APPLICABLE STANDARDS

- Government Gazette, Vol. 581 No. 37054 – Subcategory 8.2 - The Emissions Standards for Crematoria and Veterinary Waste Incineration
- The Occupational Health and Safety Act 85 of 1993 - The Occupational Health and Safety
- National Road Traffic Act 96 of 96 - Road Traffic Act
- National Environmental Management Act 107 of 1998 - Environmental Management Act
- SANS - South African National Standards
- SABS – South African Bureau of Standards (certified body accredited by SANS)
- SANS 310 - Storage tank facilities for hazardous chemicals – Above ground storage tank facilities for flammable, combustible and non-flammable chemicals
- SANS 329 - The construction, installation, modification, maintenance, and inspection of vaporizers for LPG.
- SANS 347 - Categorization and conformity assessment criteria for all pressure equipment
- SANS 499 - The design and construction of mounded, horizontal, cylindrical, atmospheric, steel tanks for the storage of refrigerated, liquefied gases with operating temperatures between 0°C and -165°C.
- SANS 1830(2006) - Flexible piping for underground use at service stations and consumer installations
- SANS 10087-3 - The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial, and industrial installations.
- SANS 10142 - The Code of Practice for Wiring of premises
- SANS 10147 - Refrigerating systems, including plants associated with air-conditioning systems
- SANS 10228 - Identification and classification of dangerous goods for transport by road and rail modes
- SANS 10233 - Transport of dangerous goods - Packaging and large packaging for road and rail transport.
- SANS 10087-1 The handling, storage, distribution and maintenance of liquefied petroleum gas in cylinders and other small containers.
- SANS 10087-2 The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial, and industrial installations - Autogas.
- SANS 10087-3 The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial, and industrial installations
- SANS 10089-1 The Petroleum Industry, Part 1: Storage and distribution of petroleum products in above-ground bulk installations
- SANS 10089-1 The Petroleum Industry, Part 2: Electrical and other installations in the distribution and marketing sector
- SANS 10089-1 The Petroleum Industry, Part 3: The installation, modification, and decommissioning of underground storage tanks, pumps/dispensers and pipework at service stations and consumer installations
- SANS 10131 Above-ground storage tanks for Petroleum Products
- SANS 13577-2:2023 – Industrial Furnaces – Combustion and fuel handling systems
- SANS 1238:2005(SABS 1238) Material, constructional and dimensional requirements for steel and

aluminium ductwork (together with fittings and dampers)

- SABS 0158 Glossary of terms for quality assurance and quality control
- SABS Code of Practice 064 The preparation of steel surfaces for coating
- SABS Test Method 772 Profile of blast cleaned surfaces for painting (determined by a micrometer profile gauge)
- SABS Test Method 769 Cleanliness of blast cleaned surfaces for painting (assessed by freedom from dust and debris)
- SABS Test Method 141 Dry film thickness of paint coatings by means of electro-magnetic flux or eddy current type gauges
- SANS 1091 – National Colour Standards
- SANS 10140 – Standard Pipe Marker Colours
- SABS 1217 Standard specification for the production of painted and powder coated steel pipes.
- ISO 8501-1 Preparation of steel substrates before application of paints and related products - Visual assessment of surface cleanliness
- SANS 1238:2005(SABS 1238) - Material, constructional and dimensional requirements for steel and aluminium ductwork (together with fittings and dampers)
- City of Cape Town Standard Specifications for Mechanical Works, custody of Water and Sanitation (2022-08 version available on request)
- City of Cape Town Standard Specifications for Electrical Works, custody of Water and Sanitation (2023-02 version available on request)
- SANS1200 A – 1986 General
- SANS1200 G – 1982 Concrete (Structural)
- SANS1200 H - 1990 Structural Steelwork
- SANS1200 MJ – 1984 Paving and Surfacing
- SANS 10400 - 1990 General Building Regulations
- SANS 1921-1:2004 Part 1: General engineering and construction works
- SANS 1921-2:2004 Part 2: Accommodation of traffic on public roads
- SANS 1921-3:2004 Part 3: Structural Steelwork
- SANS 1921-4:2004 Part 4: Third-Party management support in works contracts
- SANS 1921-5:2004 Part 5: Earthwork activities which are to be performed by hand

Where reference is made to any Code of Practice or Standard in this document, the latest edition or amendment to be applicable, except where specified to the contrary. This list is not all inclusive and the tenderer to apply, subject to end user approval, such other standards and regulations deemed fit to deliver a fit for use product.

PAYMENT STRUCTURE

Small Plant charges

Unit: Hour (hr)/ Day (day)/ Week (wk.) As specified.

The unit of measurement to be a rate to establish and operate plant and equipment.

The rates for plant to, in addition, cover the cost of insurances, transport, hiring where required, consumable stores, fuel and maintenance.

Large Plant Site Establishment & Removal charges

Unit: Number

The unit of measurement to be the amount of times the plant was established and removed from site.

The rate to include charges for overheads, fuel, maintenance, charges and profit for the supply, delivery, offloading, loading and/or removal etc. of a large plant including the delivery of all woven slings, steel rope, steel chains, shackles etc. as required for rigging and lifting. The requirements for rigging and lifting equipment to be the responsibility of the Supplier. The rates to include full compensation for all costs related to travelling, inspecting and assessing the site.

Large Plant Operate & Maintain charges

Unit: Hour (hr) / Day (day) As specified.

The unit of measurement to be an hourly/daily rate to operate a large plant.

The rate to include charges for overheads, fuel, maintenance, charges and profit including woven slings, steel rope, steel chains, shackles etc. as required for rigging and lifting. The requirements for rigging and lifting equipment to be the responsibility of the Supplier.

In the case of rigging equipment, insurance must cover the value of the items being lifted and this must be included in the rate.

Transport Charge

Unit: Kilometer (km)

The unit of measurement to be a kilometre rate for the transport and delivery of materials, equipment or labour into storage or on the site (excluding large or mobile plant measured elsewhere).

The rate to include all charges including overheads, fuel, maintenance, charges, profit etc. Rate must also include insurance for all the goods in transit.

Labour Charge

Unit: Hour (hr)

The unit of measurement to be an hourly rate to supply the required labour. The unit rates for labour and plant, or the percentage allowances for addition to the net cost of labour and materials to cover overhead charges and profit, site supervision and site staff, insurances, holidays with pay, and use and maintenance of tools and equipment. The rates or allowances to also cover travelling allowances or travelling costs, lodging allowances and any other emoluments and allowances payable to the workmen.

Separate items will be listed in the Schedule of Rates for different labour types and working hours.

Supply of Equipment

Unit: Number

The unit of measurement to be the number of unit supplied.

The tendered rates to include full compensation for the supply, manufacture, and transport to site. Separate items will be listed in the Schedule of Rates for different types and sizes of equipment.

Supply of Equipment per Meter

Unit: Meter (m)

The unit of measurement to be the length of hardware to be supplied.

The tendered rates to include full compensation for the supply, manufacture, and transport to site. Separate items will be listed in the Schedule of Rates for different types and sizes of equipment.

Removal of Existing & Supply, Install, Test commission Replacement

Unit: Number
The unit of measurement to be the number of units of equipment replaced.

The tendered rate to include full compensation for removal of the existing equipment as well as the supply, installation, testing and recommissioning of replacement equipment. The tendered amount shall include all other costs and actions necessitated to obtain a complete and efficiently working system.

Supply of Service

Unit: Number

The unit of measurement to be the number of unit supplied.

The tendered rates to include full compensation for the labour, hardware and associated costs to complete the tasks need to supply the mentioned deliverable. Travel to be included in this rate.

Supply per Meter

Unit: Meter (m)

The unit of measurement to be the length of hardware what work is to be completed on.
The tendered rates shall include full compensation the labour rates and associated costs to complete the tasks need to supply the mentioned deliverable.

Rent of Equipment

Unit: Hour (hr)/ Day (day)

The unit of measurement to be an hourly/daily rate to rent and operation of equipment.
The rates for equipment rental shall, in addition, cover the cost of insurances, consumables, fuel, maintenance and labour for operator.

Rigging Crew

Unit: Hour (hr)

This rate is for the use of a rigging crew for the applicable crane size for preparation work for the lift as well as final positioning and crawling of hardware. The Supplier to decide the suitable crew size and needed skill level of members. This rate shall include basic rigging equipment.

PARTICULAR SPECIFICATIONS

A. GENERAL

Various preliminary and general rates are to be supplied relating to the initiation of works, conclusion of works and general services needed on site. Site establishment fee to include all costs associated to initiate a site, this includes planning, signage, and preparation of grounds e.g. partitioning off of construction area.
Site de-establishment cost to include all costs to restore site to condition prior to commencing of works. This includes removing of rubble and removing all equipment and partitioning.

B. PLANT AND EQUIPMENT

Scaffold towers must be independent/free standing single bay towers with platform consist of solid hook-on-boards leaving no openings plus safety netting and toe board to prevent tools and appliance from falling through or off, trap door and hook-on-ladder. All scaffold towers must comply with circumstances for outside or inside use and must comply with SANS 10085.

C. CRANAGE AND RIGGING

Cranes to be annually certified with load test certificates along with road test certification. Rigging crews to be red seal riggers and certified with heavy duty equipment training.

D. LABOUR AND SERVICES

The Supplier is to supply various labour rates as requited in the price schedule. Afterhours rates are also to be submitted.

The following criteria are to be applied to each labour rate.

Semi-Skilled Person
A semi-skilled person is not required to have any specific competencies, however is to be thoroughly trained for work they are assigned to. Semi-skilled workers are to be made fully aware all safety procedures on site and general housekeeping rules of the site.

Artisan/ Technician
An artisan is to be a skilled tradesman in the specific trade they are assigned to work on. Artisans are to have a level N3 certificate or higher in their receptive fields. Or have at least (five) 5 years relevant experience in the trade they are practicing.

Specialized Artisan/Technician
A specialized artisan is a highly skilled tradesman with a specific qualification in the trade they are assigned to work on. Specialized artisans are expected have passed a trade test in the relevant field at an institute accredited by the SAQA.

Foreman/Technical supervisor/Site agent
A foreman is the responsible person site. A foreman is to have a diploma in building management or a minimum of 3-year site management experience.

Draughtsman
Draughtsman to have at least a NQF 4 computer aided drawing certificate with two years post graduate experience.

Engineer
An engineer is to have a Bachelor's degree in Engineer (BEng) or Bachelor of Technology (BTech) with at least 3 (three) years verifiable postgraduate experience. In the case of a National Diploma in Engineering, 5 (years) of verifiable postgraduate experience is needed.

Senior Engineer
BSc / BEng degree with at least 5 (five) years verifiable postgraduate experience and either a PrTech or Pr Eng.

Supplier's representative
The Suppliers shall be a person appointed by the Supplier to represent the Supplier in meetings and be the general contact person to the Supplier. The Supplier's Representative shall be easily reachable and shall, on behalf of the Supplier, receive instructions. The Supplier's Representative shall be a competent person for the duty of communicating tasks and information to and from the Supplier. If the Supplier's Representative is to be temporarily absent during the execution of the Works a suitable replacement person shall be appointed, subject to the Purchaser's prior consent, and the Purchaser shall be notified accordingly.

Quality Control/ Quality Assurance Officer
The quality control officer to have at least a SAQI Certificate in Quality Control (Level 2) and two years' experience in the relevant field that they will practice in. A quality control officer can also have no formal training in quality control however should then have at least 5 (five) years verifiable experience in the relevant field that they will be practicing in

Health and Safety Officer
Must be a registered Construction Health and Safety Officer (CHSO).

D10. Stack Emissions Testing

Stack emissions test to be performed by a competent emissions testing provider that is registered with the National Laboratory Association of South Africa.

Testing will be billed per hour of tests ran. Rate per session also to be given, rate per session to cover the costs of completing a technical report on the findings.

Stack tests are to be done for: Particulate matter, Carbon monoxide, Oxides of Nitrogen and Mercury.
Calibration certificates are to be provide with technical report.

Method of measurements

The Supplier will be required to provide the services of a Refractory specialist for in-stack Testing for the Crematorium chimney stacks as and when required;

The Supplier will be required to provide the services of a Stack Testing specialist to upload results of Stack Testing of NAEIS report.

All isokinetic and anisokinetic sampling and reporting is to be carried out according to internationally accepted reference methods, which comply with the National Environmental Management: Air Quality Act of 2004 (Act 39 of 2004) as detailed and scheduled in the Government Notice 893 of 22 November 2013: List of Activities Which Result in Atmospheric Emissions Which Have or May Have a Significant Detrimental Effect on the Environment, Including Health, Social Conditions, Economic Conditions, Ecological Conditions or Cultural Heritage Amended by Government Notice 1207, dated 31 July 2018, Schedule A

(2) Subcategory 8.2: Crematoria and Veterinary Waste Incineration

Description:	Cremation of human remains, companion animals(pets) and the incineration of veterinary waste		
Application:	All installations		
Substance or mixture of substances		**Plant status**	**Mg/Nm3 under normal conditions of 11% O2, 273 Kelvin and 101.3 kPa.**
Common name	**Chemical System**		
Particular matter	N/A	New	40
		Existing	250
Carbon monoxide	CO	New	75
		Existing	150
Oxides of nitrogen	NOx expressed as NO2	New	500
		Existing	1000
Mercury (applicable to human cremations only)	Hg	New	0.05
		Existing	0.05

All measurements of the prescribed pollutants shall be compared to the New Plant Standards, which came into effect on 1 April 2020, as detailed in Listing Notice 893.

- Particulate Matter (TPM)
- Mercury (Hg)
- Combustion Gas Components (O2, NO, NO2, NOx, CO,)

In addition to the above, the following parameters are to be measured:

- Gas exit velocity
- Gas volumetric flow rate
- Gas exit temperature as well as absolute and static pressure
- Water vapour content of the stack gas

A minimum of three (3) tests are to be conducted with a minimum duration of sixty (60) minutes each (and a maximum of 8 hrs), per component measured, per point source as is prescribed in Government No. 37054. Document and report the start and finish times of each sample run. For Mercury (Hg) five (5) test samples are required.

Isokinetic sampling

Isokinetic sampling techniques are to be applied to measure the concentration of:

- Particulate Matter (PM)
- Heavy Metal Components

The sampling methods for the abovementioned components comply with the specifications of the following internationally accepted methods:

- DMP Page 9 of 27 December 2014 Eq 282/14;
- USEPA Method 17: “Determination of Particulate Matter Emissions from Stationary Sources”;
- Or equivalent ISO or British Standard as specified in Annexure A of Notice 1207.

Stack gas velocity

The gas velocities are to be calculated from data obtained from a minimum of 12 point velocity pressure measurements. The location of the sampling points is based on the assumption that the distribution of gas velocity in a section of a duct/stack adjacent to the wall approximates a 1/7th power law curve. This procedure complies with the specifications of the following internationally accepted method:

- USEPA Method 1: “Sample and Velocity Traverses for Stationary Sources”.

Velocity pressure measurements are taken by means of an S-type pitot tube and digital manometer. Volumetric flow rates are to be calculated from the individual point velocities and internal dimensions of the stack. This procedure complies with the specifications of the following internationally accepted method:

- USEPA Method 2: “Determination of Stack Gas Velocity and Volumetric Flow Rate;
- (Type S Pitot Tube)”;
- DMP Page 10 of 27 December 2014 Eq 282/14.

Stack gas temperature

The gas temperatures are to be measured by means of a Type-K thermocouple connected to a digital thermometer.

Water vapour content

The water vapour content of the gas stream is to be calculated from the temperature of the gas leaving the condenser unit and the mass of water condensed during each test. This procedure complies with the specifications of the following internationally accepted method:

- USEPA Method 4: “Determination of Moisture Content in Stack Gases”.

Anisokinetic sampling:

Combustion Gas Components:
A portable emissions analyser is to be used to measure the concentrations of O2, NO, NO2, NOx, CO, CO2 present in the stack gas streams on a volume/volume basis, in accordance with

- EN 50379-2:2004, Specification for portable electrical apparatus designed to measure combustion gas parameters of heating appliances.
- DMP Page 11 of 27 December 2014, Eq 282/14

Results

USEPA Method 17 indicates that isokinetic results will be acceptable if the isokinetic sampling efficiency is found to be: -10% ≤ Sampling Efficiency ≤ 10%

Where concentrations are reported at NTP or mg/Nm-3 it refers to the conversion of concentrations to normal conditions of 0 ºC (273 K) and 101.325 kPa.

Normal temperature and pressure: This condition is also referred to as NTP and Implies concentrations are recalculated from actual conditions to gas volumes at 0ºC (273.15 K) and 101.325 kPa.
As these conditions imply a reduction in the sampled gas volume due to the effect of reduced temperature and increased pressure, the resulting calculated concentration is higher than at actual stack gas conditions.

NTP, dry: Current emission limits imposed by the Department of Environmental Affairs require results to be reported at NTP on a dry basis, i.e. based on the gas volume with water vapour removed. The removal of the water vapour content from the stack gas implies a further reduction in gas volume, resulting in even higher calculated concentrations.

NTP, dry, corrected to 11% O2: This reporting condition was introduced to ensure that everybody report results at the same conditions. If the measured concentration of O2 is higher than the reference level of 11% the resulting calculated concentration will be higher. If the measured concentration of O2 is less than 11% the calculated concentration will be less.

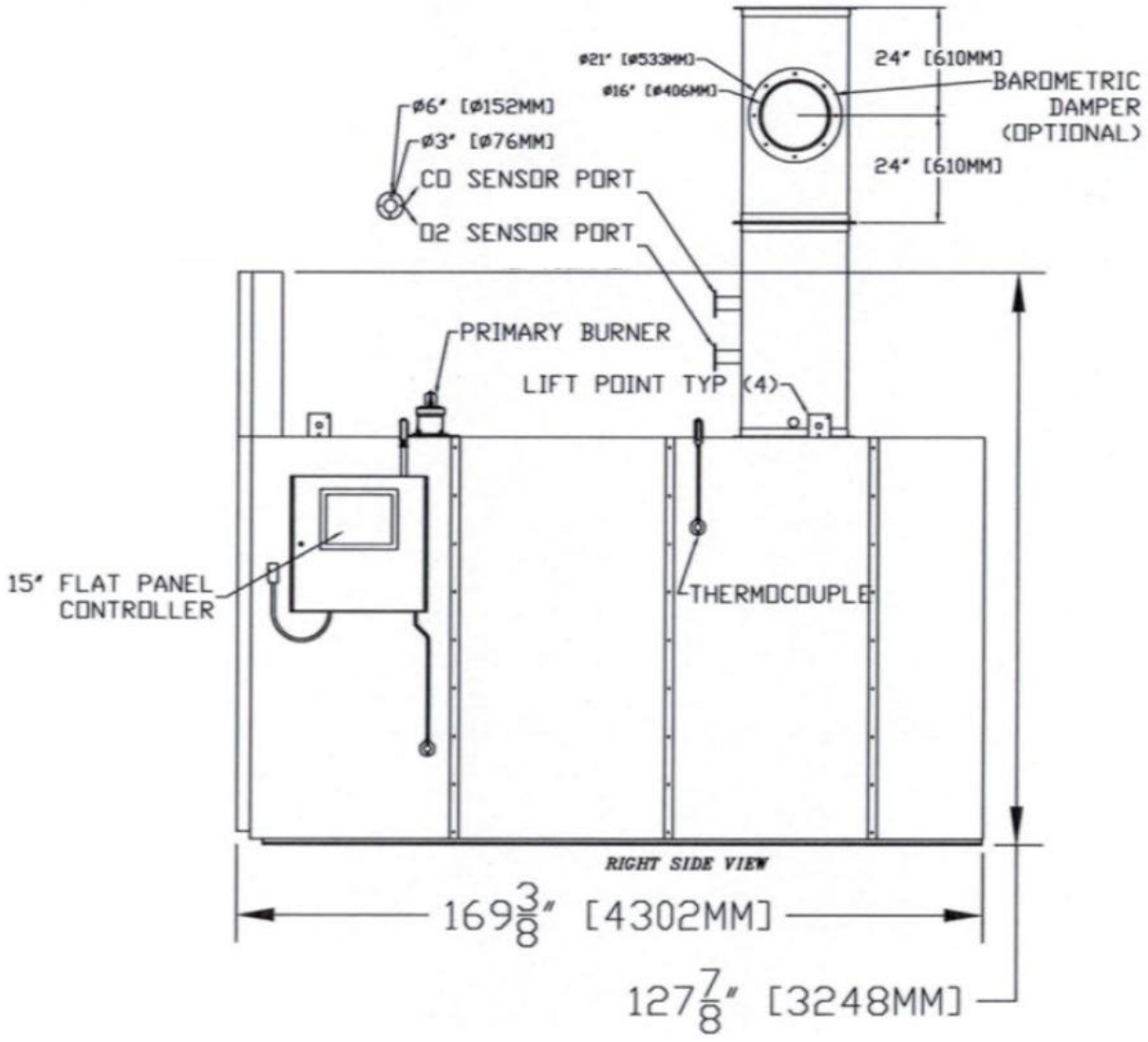
Isokinetic Sampling Efficiency

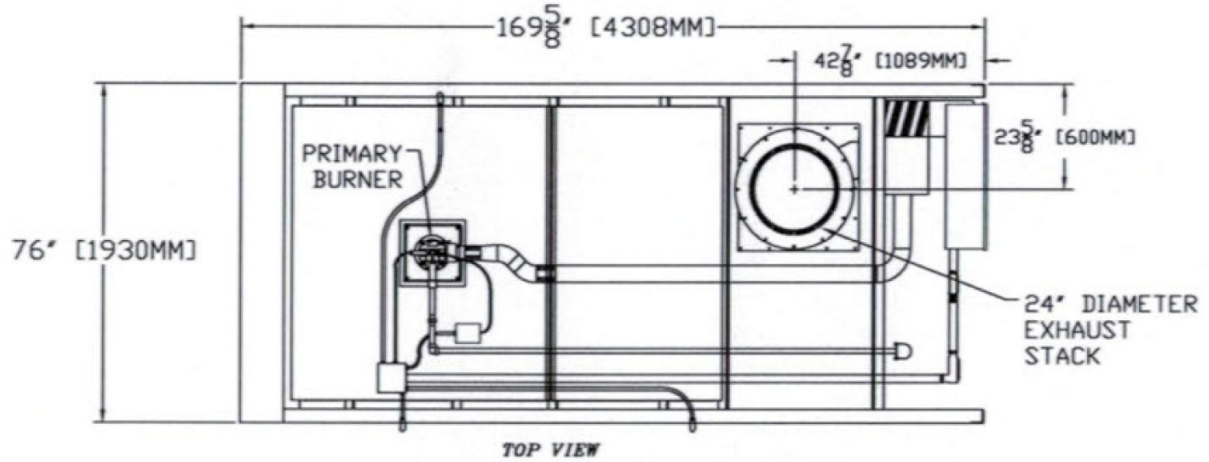
The parameter which must be controlled to establish isokinetic sampling is the gas velocity as it enters the nozzle of the sample probe, which must be equal to the actual gas velocity at the specific sample point in the duct/stack.

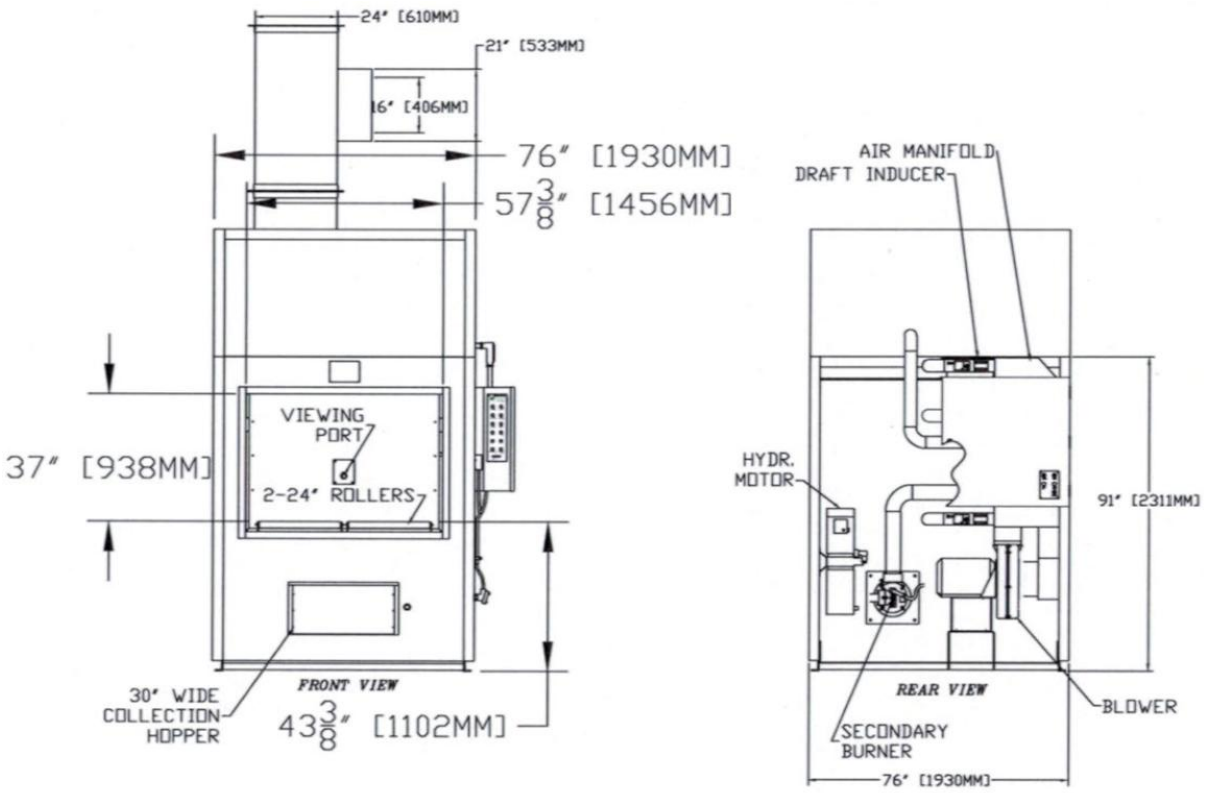
The isokinetic sampling efficiencies are to be calculated to be within the specified limit of the prescribed method for all isokinetic measurements.

E. CREMATION EQUIPMENT

Existing US Cremators X-CEL

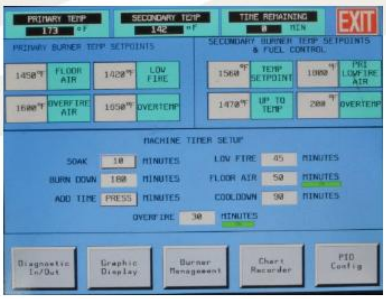

ø21" [ø533MM]
ø16" [ø406MM]
24" [610MM]
BAROMETRIC DAMPER (OPTIONAL)
24" [610MM]
ø6" [ø152MM]
ø3" [ø76MM]
CO SENSOR PORT
O2 SENSOR PORT
PRIMARY BURNER
LIFT POINT TYP (4)
15" FLAT PANEL CONTROLLER
THERMOCOUPLE
RIGHT SIDE VIEW
169 3/8" [4302MM]
127 7/8" [3248MM]

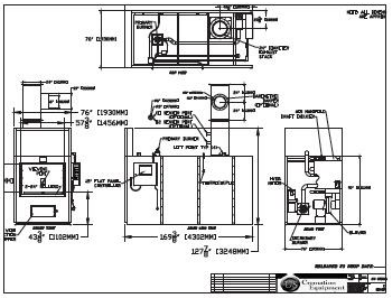

169 5/8" [4308MM]
42 7/8" [1089MM]
23 5/8" [600MM]
PRIMARY BURNER
76" [1930MM]
24" DIAMETER EXHAUST STACK
TOP VIEW

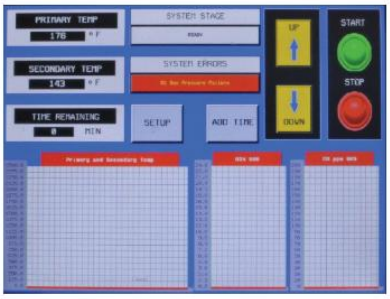

24" [610MM]
21" [533MM]
16" [406MM]
76" [1930MM]
57 3/8" [1456MM]
37" [938MM]
VIEWING PORT
2-24" ROLLERS
30" WIDE COLLECTION HOPPER
FRONT VIEW
43 3/8" [1102MM]
AIR MANIFOLD
DRAFT INDUCER
HYDR. MOTOR
91" [2311MM]
REAR VIEW
BLOWER
SECONDARY BURNER
76" [1930MM]


THE CLASSIC
X-CEL
HIGH PERFORMANCE FOR HIGH-VOLUME FACILITIES
US CREMATION EQUIPMENT
UL LISTED

The newest model from U.S. Cremation Equipment – the Classic X-CEL – brings the highest level of efficiency to the cremation industry. The Classic X-CEL is designed for high volume and lower operational costs for that segment of the market experiencing substantially higher cremation rates. Utilizing the latest technology, the Classic X-CEL offers performance and equipment features not found in any other unit and is backed by a two-year limited warranty.







Standard features of the Classic X-CEL

- No cool-down between cycles
- Cremation of up to ten cases in a 12-hour workday
- Continuous operation over a 24-hour period
- Accommodation of cases in excess of 1000 pounds
- Cremation chamber accepting caskets/containers 52" wide
- Over fire air ports for improved performance
- Secondary chamber retention time over two seconds
- PLC control system with 15" touch screen interface
- Opacity monitoring and control system
- Underwriters Laboratories, Inc. (UL) listed

Classic X-CEL options

- Continuous Emission Monitoring (CEM) system
- Oxygen monitoring and modulation
- Remote monitoring and diagnostics
- Data logger and acquisition system
- Self-propelled mobile insertion machine

To learn why the Classic X-CEL is earning attention from the industry and satisfaction from its customers, contact the cremation professionals, 321.282.7357.

Assistance is always a phone call away.

US Cremation Equipment

598 Northlake Blvd., Suite 1016 • Altamonte Springs, FL 32701 | 321.282.7357 | www.uscremationequipment.com

HUMAN CREMATION CHAMBER SPECIFICATION Model US 200 "Classic X-CEL"

Equipment

U.S. Cremation Equipment, a division of American Incinerators Corporation - Multiple Chambered Human Cremator; Natural Gas, Propane (LP) or Oil fired.

Manufacturer

U.S. Cremation Equipment a division of American Incinerators Corporation.

Construction standards

The cremator shall be constructed of U.L./CSA listed components and will meet or exceed nationally accepted incinerator construction standards as originally established per the Incinerator Institute of America (IIA) publication guidelines; i.e.:

- Primary chamber will not exceed 60% of total furnace volumes. Flue connection shall not be considered part of furnace volume.
- Flame supervision through continuous ultraviolet scanning flame detectors on all burners.
- High temperature refractory construction with air-cooled walls to prevent excessive heat radiation.
- Exhaust gas temperature reduction.

Safety certifications

Underwriters Laboratories (UL) listed appliance File number MH47704.

Cremator dimensions

Chamber volumes:	Primary - 114 CF (3.23 CM) Secondary - 101 CF (2.86 CM)
Primary Chamber:	101” L x 52" W x 39" H (2565 mm x 1321 mm x 991 mm)
Structural footprint:	169" L x 76" W (4293 mm x 1930 mm)
Over-all dimensions:	169" L x 87" W (W/ Control Panel) x 128" H (4293 mm L x 2210 mm W x 3251 mm H

Power charging door

Door Height: 42” (1067 mm)
Door Width: 55 ¼” (1403 mm)

Primary chamber opening

Width: 52” (1321 mm)
Roof Arch Height: 39” (984 mm) @ High Point – 35” @ Low Point

Operating temperature

Temperatures are determined as a result of federal, state or local permitting authority operating standards.

Typical primary chamber setting: 1,000ºF-1,200ºF (538ºC - 648ºC)
Typical secondary chamber setting: 1,400ºF-1,800ºF (760ºC - 982ºC)

Retention Time

In excess of 2 seconds.

Capacity

Single load capacity of 1200 lbs (544 kg) per cremation cycle. Burn Rate of 150-400 lbs/hr (68 - 181 kg)

Draft

Induced via refractory lined draft inducer.

Shipping weight

34,000 lbs. (15,422 kg)

Emissions

The U.S. Cremation Equipment cremator shall meet or exceed federal, state/province and local environmental regulations.

Emission control

Secondary chamber equipped with one 2,500,000 BTU/HR burner. Also equipped with an electronic exhaust gas scanner system which temporarily suspends operation of the primary chamber burner if the opacity of the exhaust gases reaches the maximum locally authorized level.

Steel construction specifications

- The structure to be heavy 3" steel angle, square tube; 3/8" steel plate, seal welded construction.
- Subfloor to be 3/16" steel plate, seal welded construction.
- The exterior shell to be 12 gauge steel removable panels.
- Interior shell to be 10 gauge steel, seal welded construction.

Insulation & refractory specifications:

- Hot Hearth: 3000ºF (1650°C) abrasion resistant cast refractory monolithic cast 7"-13" thick, 1 ½ " recessed top and rounded, stressed arched bottom.
- Chamber Floors: 3000ºF (1650°C) abrasion resistant cast refractory, 5" thick on top of 2" 2400ºF (1316°C) light weight insulating castable.
- Chamber Ceilings: 3000ºF (1650°C) cast refractory, monolithic cast, rounded, stressed arched, 5"-9" thick, topped by 2", 2400ºF (1316°C) light weight insulating castable.
- Interior Walls: 2800ºF (1538°C) alumina-silicate firebrick, 2 1/2" x 4 1/2" x 9”, all chambers are backed by 4" (102 mm) of 1900ºF (1038°C) ceramic fiber insulation.
- Stack: Lined with 2-3" (51 to 76 mm) of 2200ºF (1205°C) insulating refractory.

Skin temperature control

Integral dual casing, completely air-cooled design to prevent excessive heat radiation.

Combustion equipment:

- Combustion Air - One (1) single or 3 phase, 220/460V, 17-15.5/7.6 amp, 7.5 hp air blower motor 1,700 CFM (158 CMM)
- Primary Chamber - One 1,500,000 BTU/hr nozzle mix, gas-fired burner; Eclipse, North American, or equal.
- Secondary Chamber - One, 2,500,000 BTU/hr modulating, nozzle mix, gas-fired burner. Eclipse, North American, or equal.

- Burner Flame Safeguard - Control supervision on each burner via a flame safeguard relay and ultra-violet light detector.

- Low Air Pressure Safety Switch - Interlocked to all burners.

Exhaust gas temperature reduction:

Hot air duct operating exit temperature: 900ºF (482ºC)

Hot air ducts:

10 gauge carbon steel, high temperature 2-3" (50 – 75 mm) refractory lining, pre-drilled flanges, 24" (610 mm) Outside Diameter, 28" (710 mm) at flanges.

Utility requirements:

A. Gas:
   - Pressure:
     - Natural Gas: 7-9" W.C. (178-228 mm)
     - LP Gas (Propane): 11-14" W.C. (288-355 mm)
   - Flow Rate: 4,000,000 BTU/hr

B. Electrical:

Voltage:	208/230/360 Volts
Phase:	Single or 3 Phase
Frequency:	50/60Hz
Amperage:	40 Amp for 3; 70 Amp for single Phase

Cremation chamber loading / clean-out door

Hydraulically operated, refractory lined, upward movement guillotine style door w/view port. It is a front loading-front cleanout design with cremated remains collection/ cooling hopper and removal system. The hydraulic system pump is a 1 HP with a capacity of 15 litres per minute or equivalent system.

Cremation process control

The cremation cycle is controlled by a programmable logic control (PLC) system. Visual confirmation of the system status is provided through a Colour Touch Screen Panel which displays temperatures, elapsed time, burner operation and other functions. Continuous fuel and air modulation is automatically controlled by a time/temperature actuated system. Operator interface performed through the Colour Touch Screen. A Temperature Chart Recorder (if applicable) is provided.

Exterior finish

The top and rear compartments are finished with two coats of high-temperature, textured, black polyurethane. The front and side panels are powder coated in a claret colour. The cremator is trimmed in stainless steel.

Tools

The tools consist of a steel wire brush and rake with long handles, and a short handle rake. A trigger Hand Magnet for removal of metal is also included.

JTE BA2 Cremators

Totally South African design and built for African conditions at all altitudes. Carries out 5 cremations in a normal 8 hour shift. SANS 329 compliant combustion system. Natural Gas or LPG fired.

The hearth of the cremator should give a minimum life of approximately 2000 cremations and may then need to be replaced. This is dependent on use of the machine with trained operators and use of cardboard rollers under the coffins.

Overall dimensions:

- Length 4 000mm
- Width 1 530mm
- Height 2 140mm
- Door Gantry 2 980mm

Stack Physical Details

- Stack Top Height 11 400mm
- Rolled Platework 5mm
- Flanges 10mm
- Stack Mass 1 800kg
- Mass of delivered cremator without stack: 11 000kg

Hearth dimensions

- Length 2 400mm
- Width 1 000mm

Arch roof details

- Side wall height 800mm
- Arch centre height 925mm

Steel casing details

Fully welded steel membrane construction

- Side and rear walls 6mm mild steel plate
- Floor plate 8mm mild steel plate
- Front arch plate 10mm mild steel plate
- Structure 70L6, 180 RCS base

Outer plate work

2mm powder coated mild steel cover plates with stainless steel trim to the front plate work affixed with 6mm screws.

Refractory details

Monolithic castable refractory retained with heat resistant allow steel anchors welded to the inside of the steel shell. The side wall comprises of layers of insulation and hot face castable refractory. The floor consists of two layers of castable refractory, an insulation layer at the bottom overlaid with hot face castable refractory. The hearth cast as a slab following normal modern refractory methods with due regard to the expansion, shrinkage, and wear in service. The roof is cast using hot face castable refractory. The roof is overlaid with insulation materials. The stack is lined with refractory from the base to the stack tip. The stack refractory is a minimum of 5mm thick and retained with heat resistant alloy anchors welded to the stack shell interior.

Burner equipment

Primary Chamber 500MJ/h (140kW max)
Secondary Chamber 1500MJ/h (420kW max)

Electrical Power Requirement

Type 400VAC / 50Hz / 3-Phase 4 Wire and earth
Capacity 7kVA

Total reline could be necessary after approximately 5000 cremations or more depending on how the machine has been operated.

The combustion air fans, hydraulic power pack and combustion system valves, valve actuators and components are to be located to the rear of the cremator main shell.

The control of the cremator is carried out using a programmable logic controller (PLC) fitted with digital and analogue input and output modules.

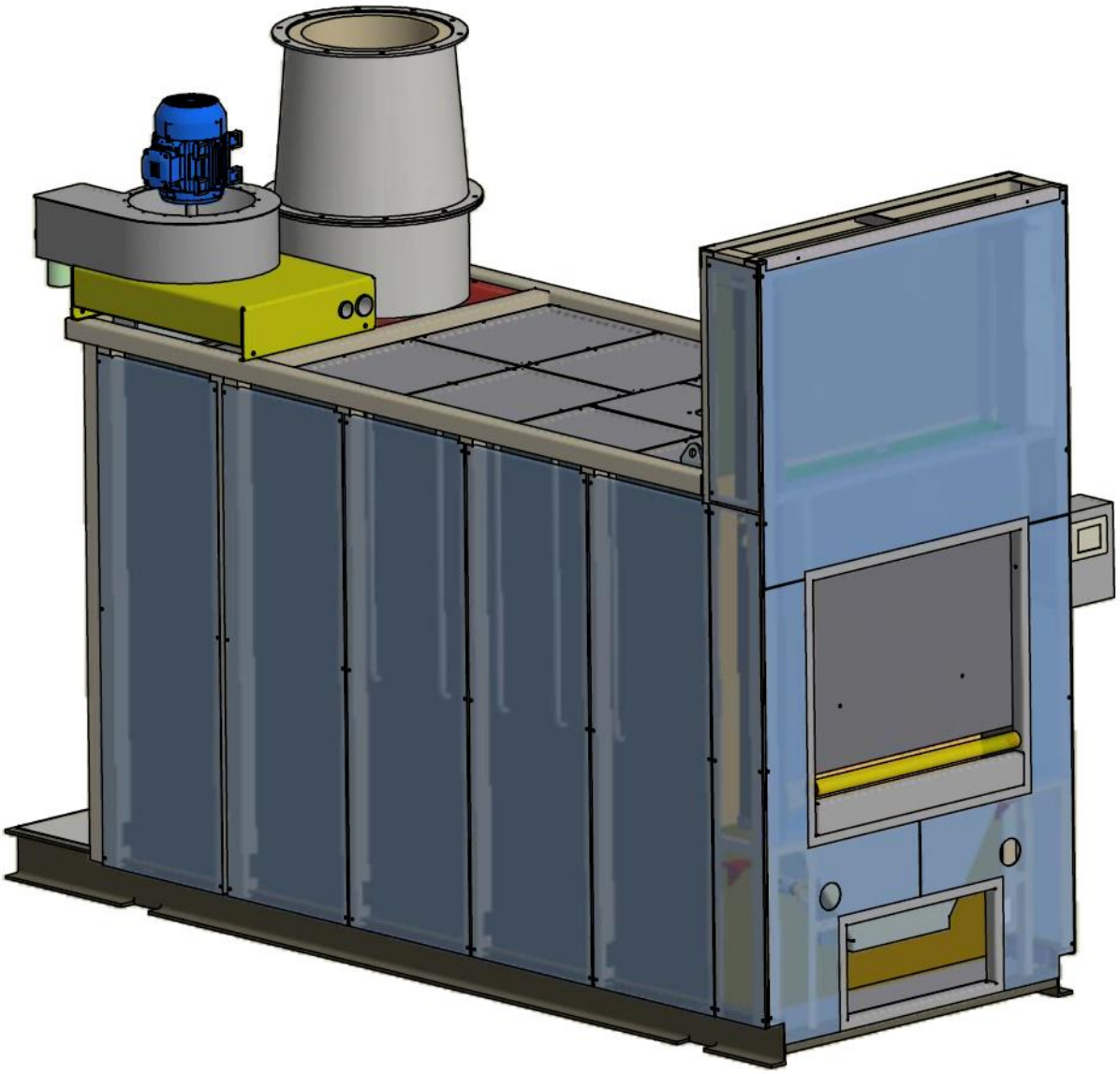
All timers, temperature set-points and control limits are programmed into the PLC. It is arranged to communicate with operators via the touch screen or HMI.

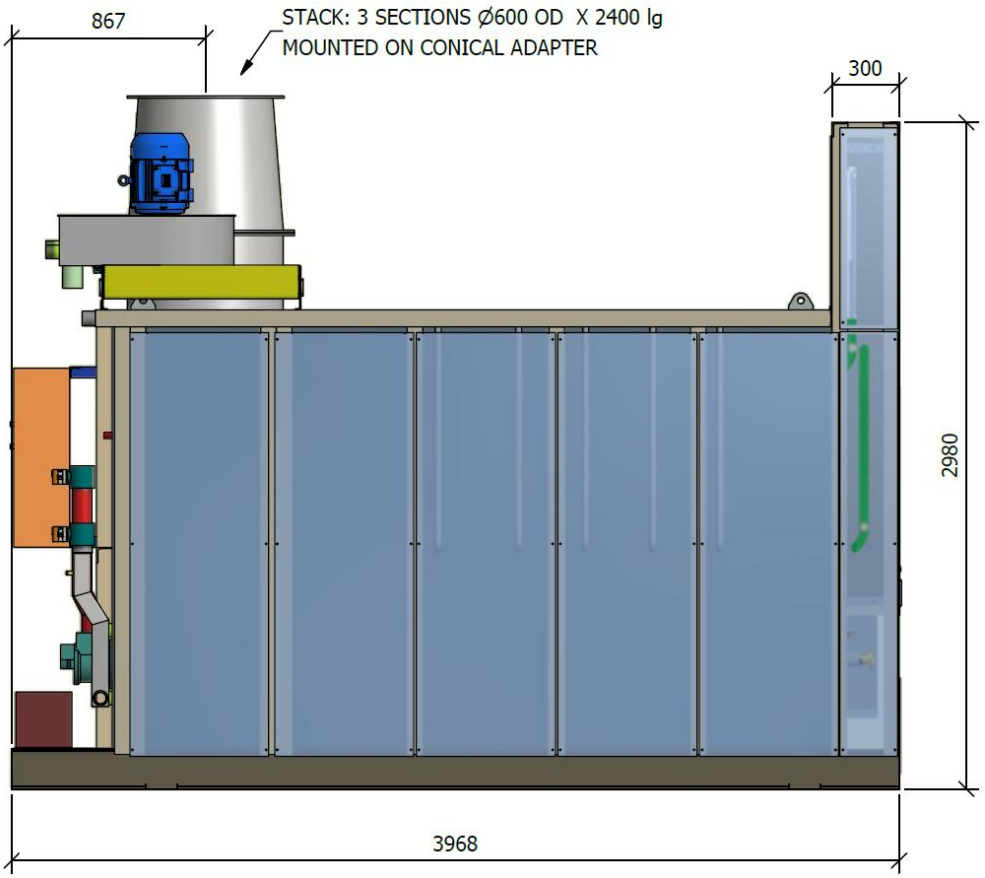
The human machine interface (HMI) or touch screen device is to be located at the front of the cremator at eye level.

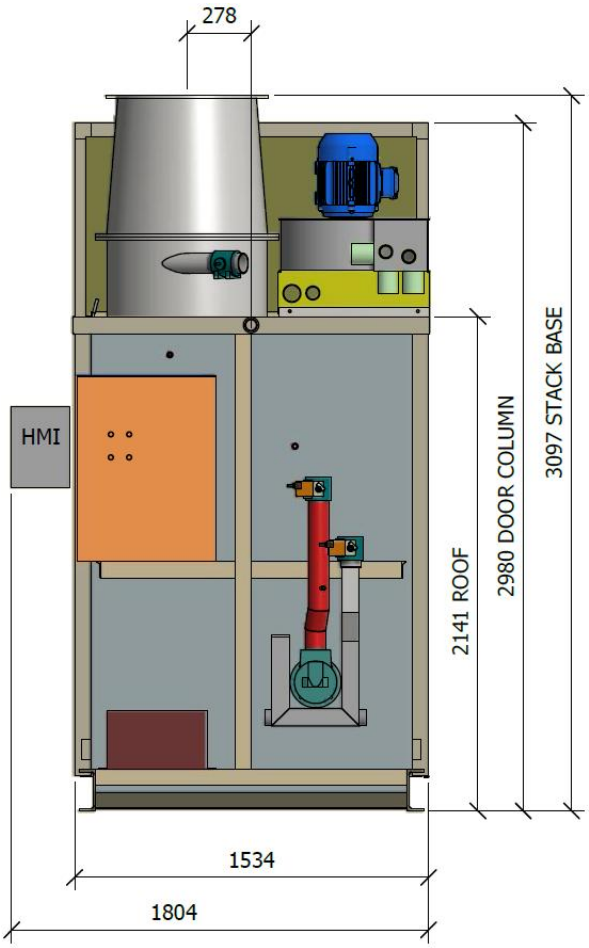
The control panel is located at the rear of the machine and fixed to the cremator main frame. The control panel contains the main isolator, circuit breakers, motor starters, relays, and the PLC. All the components are pre-wired to terminals prior to delivery and installation.

The front if the control panel contains the main door interlocked main isolator mechanism and EMEGERNCY STOP push-button. The emergency stop push-button will switch off the burners. It does not switch off the combustion air fan or hydraulic power pack.

The HMI panel also contains door up and down push-buttons and other hard-wired controls as necessary. Other functions are to be programmed with the HMI such as plant status indication and alarms as well as various process selectors which are activated by touch.




867
STACK: 3 SECTIONS Ø600 OD X 2400 lg
MOUNTED ON CONICAL ADAPTER
300
2980
3968


278
HMI
2141 ROOF
2980 DOOR COLUMN
3097 STACK BASE
1534
1804

E1. Requirements for Cremators

Cremators shall conform to SANS 329 (or the applicable parts of the SANS 13577 series) in its entirety. It's a complete specification for any industrial thermo processing equipment detailing all minimum equipment and safety requirements.

Supplied cremators shall also conform to the following specific specifications:

a) Fuel Supply: New cremators should operate using LP Gas for burners.
b) Gas train: The gas train and combustion/fuel handling system shall fully comply with SANS 329 (or SANS 13577-2). The gas train must be designed, supplied, installed, commissioned, and certified in accordance with the Pressure Equipment Regulations (PER). Installation, commissioning, and issuance of the Certificate of Conformity (CoC) shall be carried out by a SAQCC Gas registered practitioner with the appropriate scope for thermoprocessing / industrial gas systems. If the supplied unit is not already verified as compliant (e.g., via SAGA Safe Gas Equipment Scheme permit where applicable), verification shall be obtained by the Supplier and any costs associated with changes to the unit to be included in the price provided.
c) Electricity Supply: The supplied cremators are to be able to operate with 380 VAC 50Hz three phase and 220 VAC 50 Hz single phase electricity.
d) All electrical systems to comply with SANS 60204-1.
e) Throughput, per 24hour shift, continuous operation:

Coffin Cremator	Throughput
Standard-Size	14
Over-Size	18

f) Loading/Unloading Layout: Cremators shall preferably be of the front load and unload layout.
g) Duty Cycle: Cremators shall operate 24/7.
h) Door opening dimensions and coffin weight capacity minimum:

	Door open dimensions	Weight capacity
Standard-Size	700mm height x 950mm width	250kg
Over-Size	700mm height x 1250mm width	500kg

i) Door Opening and Closing: Cremator loading door is to be mechanised.
j) Minimum hearth dimensions:

	Minimum Dimensions
Standard-Size	700mm height x 950mm width x 2350mm length
Over-Size	750mm height x 1300mm x width x 2400mm length

k) Interface: Cremators must incorporate a touch-screen HMI for controlling all relevant operational and maintenance tasks. HMI to be lockable with password protection.
l) Emissions Monitoring: The cremators shall be able to incorporate continuous emissions monitoring systems to continuously monitor air, combustion temperatures and this data should be used by the PLC to adapt combustion parameters to insure complete combustion. Emissions testing will be executed yearly to acquire an atmospheric emissions licence. Supply of opacity measurement devices shall be listed as a separate item in the price schedule.
m) Secondary Combustion: Cremators to insure adequate secondary combustion chamber retention time and temperature.
n) Monitoring and Data Recording: Cremator PLC to integrate able with onsite SCADA and logging system for real time monitoring and recording operational data. See particular specification N6 below for SCADA Logging System details. SCADA system requires temperature outputs for primary and secondary chamber temperatures as well as start and stop outputs to be available.
o) Control: Cremators shall be PLC controlled with all combustion parameters controlled automatically. PLC will ensure adequate control of combustion temperatures and air flow as to ensure emission levels are maintained as per specification. PLC systems shall comply with the minimum SIL (safety integrity level) requirements of EN 50156-1 and software for safety functions shall be designed in accordance with the requirements of IEC 61508-3 or comparable requirements for functional safety. Safety functions shall be separate from other functions (e.g. control functions.) All safety functions shall be tested at least once during commissioning. Testing shall be documented and the records shall be maintained on site.
Automatic burner control systems shall comply with EN 298 or SANS 50125, if technically applicable. If necessary for process reasons, the characteristics of the system may differ from the requirements

specified in EN 298 or SANS 50125, providing the levels of safety and reliability are not reduced.

p) Safety interlocks: Minimum safety interlocks include:
   - Minimum temperatures to be achieved before the chamber can be loaded.
   - Main burner to shut down if the door is opened.
   - Gas shut-off in case of flame out
   - System shall be fitted with a safety device to effect a safety shutdown of the burner(s) in the event of a failure in the flue venting and or in the event / case of critical fault.
   - System shall be fitted with a safety device to effect a safety shutdown of the burner(s) in the event of case of a critical fault.
   - Gas shut-off in case of combustion air supply failure. Construction air supply will be confirmed by either a deferential pressure sensor or flow sensor. Pressure detectors shall comply with SANS 51854. The air proving device shall be checked in the 'no flow' state before start-up (e.g. by stopping the combustion air supply or by interrupting the air signal to the device(s) in such a way as to simulate stopping the flow of air

q) Technical Support:
   Cremator shall include remote support via internet connection. Supplier shall be able to log into SCADA and control system to troubleshoot and address faults remotely

r) Refractory Quality:
   The supplier must state the useful life of the hearth and other parts of the refractory. The hearth of a cremator must be able to operate for a minimum of 2000 cremations with refractory relining after 5000 cremations.

The refractory for the cremators shall consist of the following:

Brick / Castable:
To be rated 1600° Celsius with outside temperature to be no more than 60° Celsius in operation.

E2. Emissions Monitoring Equipment

Opacity Sensor (Codel Model D-CEM1000/1001 or equivalent to align with existing)

Flue gas opacity measurement system should conform to the following minimum specifications:
- Type: Double pass
- Measured gas temperature: up to 600°C
- Measured gas pressure: −3 to +3kPa
- Measuring range: 0 to 100 %
- Accuracy: -2 to 2 %
- Resolution: 1%
- Damping, selectable: 1 to 60s
- Ingress protection: IP65 for higher
- Analog output: 4 to 20mA
- Power Supply: 240V AC

E3. Cremation Equipment

Modern Cremulator
The Supplier is to supply a modern cremulator with dust free operation.

- Cremulator to operate without the generation of dust
- Cremulator to be of sanitary design and constructed out of 304 Stainless Steel
- Cremulator to be free standing without the need for a workbench to bring it to working height
- To use 220V 50Hz electricity supply.
- The cremulator to have replaceable blades

Cremator Rake
Cremator rake shall be constructed out of Stainless Steel 304 with a 3m long shaft and 300mm wide head.

Cremator Brush
Cremator bush shall be constructed out of Stainless Steel 304 with a 3m long shaft and 300mm wide head. Bristles shall be Stainless Steel. Shaft to be of diameter 30mm or larger.

Ash Pan
Stainless Steel ash pan to be constructed out of 2mm thick Stainless Steel 304 sheet metal. Ash pan dimensions to be 600mm (L) x 250mm (W) x 200mm (H) each or equivalent volume.

Ash Pan Cooling Rack
Ash cooling rack to be 1000mm high and have space for 6 to 8 ash pans. Cooling rack to be constructed out of Stainless Steel 304 and be of sturdy design.
Electronic Floor Scale
Recessed floor type electronic scale intended for outdoor installation, with digital display (5m cable).

Coffin Lifting Equipment

Cremator Charging Lift
The charging lift supplied should make it possible for a single operator to load a cremator and load and unload shelving units. Thus the lift should incorporate a driving mechanism to drive coffins along the length of the lift.

- The charging lift should meet the following specifications:
- Lifting operation to be driven, allowing push button operation of lifting and lowering
- Max lift height at least 2.0m
- Min lift height at lower than 0.6m
- Lift to be electrically driven with a 12V battery to allow wireless operation.
- Lift to be able to lift and charge 400 kg.
- Incorporate locking brake to lock lift to floor
- Lift should be able to be used to change cremator by mechanising the changing proses.
- The same mechanism should be able to be used to load and unload coffins storage shelves.
- Lift to be supplied with charger for battery.

High Lift Coffin Lift

- Lifting operation to be driven, allowing push button operation of lifting and lowering
- Max lift height at least 2.6m
- Min lift height at lower than 0.8m
- Lift to be electrically driven with a 12V battery to allow wireless operation.
- Lift to be able to lift 400 kg.
- Incorporate locking brake to lock lift to floor
- Lift to be supplied with charger for battery.

Normal Coffin lift

- Lifting operation to be driven, allowing push button operation of lifting and lowering
- Max lift height at least 2m.
- Min lift height at lower than 0.6m.
- Lift to be electrically driven with a battery to allow wireless operation.
- Lift to be able to lift 350kg.
- Lift to be supplied with charger for battery.

CREMATOR MAINTENANCE

The refractory for cremator rebuilds shall consist of the following:

- 50mm thick (2x25mm) insulation fibre block used against the steel casing, rated for 1200° Celsius.
- The lower level and the working face lining to consist of refractory brick of 60% Alumina quality or 1600degree Celsius castable suitable for an incinerator.
- The upper hot face lining to be of a minimum 1427° Celsius insulation brickwork.
- The side wall lining is comprised of minimum 75mm of calcium silicate board and at least 114mm of 1200 grade castable
- The main material used for the hot face of the primary and secondary walls and roof is to be 1650 grade low-cement high strength carbon resistant castable or 60% high Alumina brick
- The hot hearth to be constructed from abrasion resistant 60% Alumina, 1650 low-cement high strength carbon resistant castable and 430 stainless steel needles to be added at no more than 2%.

Cardboard Rollers
Combustible cardboard rollers able to support the full weight of a 350kg coffin:- minimum length 290mm and 3mm thickness, diameter as per price schedule descrption.

Metal ID Tags
30mm Diameter Stainless Steel uniquely numbered disk with a thickness of 1mm. Pack of 100.

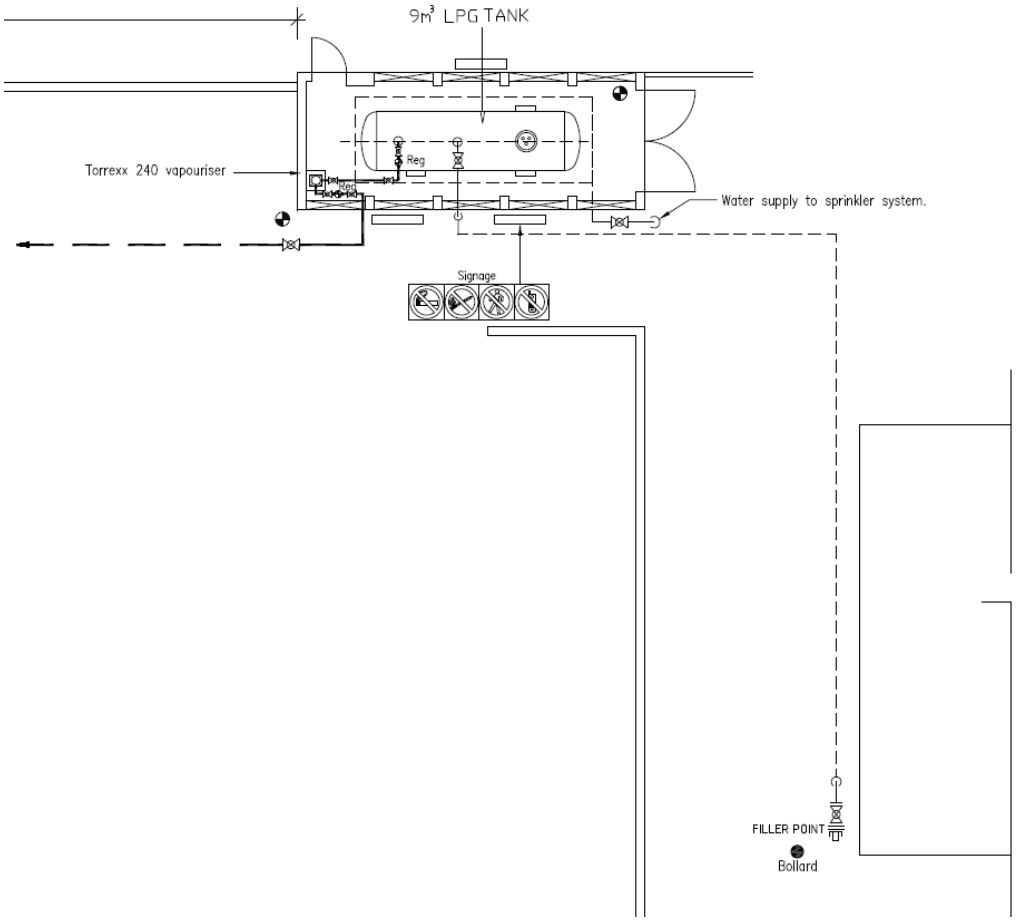
Heavy Duty Industrial Vacuum Cleaner
- Power rating of at least 1600W
- To operate on 230V, 50 Hz power
- Stainless Steel Canister with a volume of 60L or more
- Required Suction Pressure: 200mbar
- Required Flow Rate: 2.5 m^3/min
- Wet and Dry Type

G. LIQUID PETROLEUM GAS

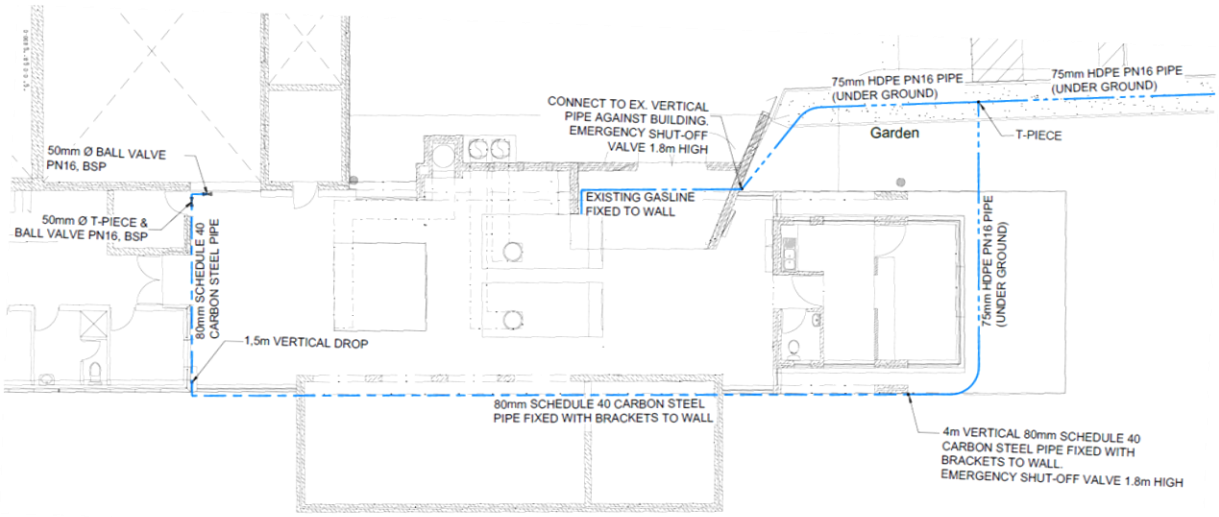
The LPG storage fixed infrastructure at the Maitland Crematorium facitlity belongs to the current bulk LPG service provider (Oryx) and consists of one 9000Litre horizontal tank and associated equipment.

Equipment	Description	Existing Ownership
LPG-Vapourizer	1 x VAP Torrexx 240kg/hr 380volt	Oryx Oil SA (PTY) LTD
LPG-Strainer	1 x ME651SP Strainer Y ¾"w/plug	Oryx Oil SA (PTY) LTD
LPG-Regulator	1 x Fisher Reg 627-7710 1"400kg/hr	Oryx Oil SA (PTY) LTD
	1 x MEGR-1HSRL-CFC 1" 208kpa	Oryx Oil SA (PTY) LTD
LPG-Filler Line	1 x Liquid 40mm filler line	Oryx Oil SA (PTY) LTD
LPG-Wire Cage	5 x 10m Gas cage fencing & mesh wire	Oryx Oil SA (PTY) LTD
LPG-Sprinkler Water	Sprinkler system on LPG tank	Oryx Oil SA (PTY) LTD
LPP-D2 Regs & Piping	2 x LPG high pressure regulator	Oryx Oil SA (PTY) LTD

Existing equipment list for indicative and planning purposes.



G1. to G9. LPG Shutoff Valves and Piping



Supplier to supply rates for piping and gas handling equipment. All equipment listed in the LPG section of the price schedule should is to be conform to SANS 10087-3, SANS 329 and SANS 347. All LPG equipment supplied to be registered with South African Gas Association and obtain a registration certificate for each item.

Where the equipment has a threaded connection, such threads shall comply with SANS 1306-1 or SANS 1109-1. All flanged fittings shall use full face solid gaskets that are compatible with the product to be used in the pipeline.

After assembly, the gas reticulation system shall be tested for leak-tightness and the ability to withstand the internal test pressure. The test pressure shall be not less than 1,5 times the maximum working pressure. The system shall be leak-free. However, allowance shall be made for ambient condition fluctuations.

Welding

Only competent persons, who can provide proof of competency in welding, shall carry out welding on LPG piping.

The Supplier shall appoint a welding inspector from a certified institution at their own cost. Quality control of welds are to be included in the rate per weld and are to be completed as required by the approved inspection authority. The Supplier shall be reasonable for any welds that do not meet the specifications set out by the approved inspection authority.

Rate for welding shall include all sundries associated with completing the welds to satisfactory quality including weld preparation. Plant charge for welding machine only applicable for on-site welding.

Manual Isolation Valves

Manually operated isolation valves up to 50mm (flanged or threaded) shall comply with the requirements of SANS 50331.

Gas Pressure Regulators

A gas pressure regulator shall be incorporated where this is necessary for control of the pressure and the flow rate. Gas pressure regulators, when fitted, shall comply with EN 334,ISO 23551-2 or ISO 23550.Pressure adjustment on the gas pressure regulator shall only be possible with the appropriate tool.

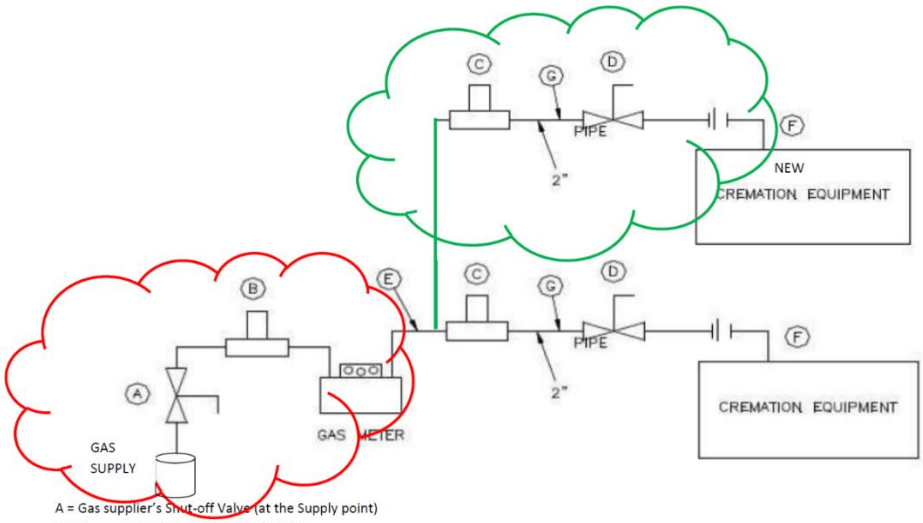
G3.3 and G3.4 LPG Gas Flow Measurement Device with monitoring capabilities, DN25, PN40

- Metal tube type variable area flowmeter for LPG gas.
- DN25, PN40
- Scale calibrated in kg/hr
- Normal flow condition range: 15kg/hr (low fire) and 50kg/hr with 100kg/hr (Vmax)

- High accuracy for average flow condition: 35mkg/hr (Vavg)
- High corrosion resistance
- Vertical installation orientation
- Flange connection
- Low pressure drop
- Indication by magnetic coupling
- Local indication and electronic transmitter with 4-20mA analogue output
- Local volume totalizer

Existing LPG Gas Flow Arrangement – US Cremations Classic X-Cel units:

Layout sketch of the gas system:



A = Gas supplier's Shut-off Valve (at the Supply point)
B = Pressure regulator at the Supply Point
C = CCT's regulator (as close as possible to each Cremator)
D = Manual Shut-off Valve at the Cremator
E = Existing gas pipe (2-inch if I recall correctly – I'LL CONFIRM)
F = Piping conection as supplied with the Cremators
G = Supply pipe to individual Cremators - pressure to be as close as possible to the Supplier's Equipment Recommendation here

LPG gas supply quality report example:

QUALITY REPORT

Dispatch Order Number:	RORD38253
Batch Number:	104V001-2021-032
Product:	LPG Odourised

Property	Units	Method	Result	
Density at 20 Deg.C	kg/m3	IP432	518	(Note 4)
Density at 15 Deg.C	kg/m3	IP432	526	(Note 4)
Vapour pressure at 37.8 Deg.C	kPa	IP432	1021	(Note 4)
Copper Corrosion 1hr @ 37.8 Deg.C	Rating	ASTM D1838	1A	(Note 4)
Total C2	mol%	ASTM D2163	0.9	(Note 4)
Total C3	mol%	ASTM D2163	73.2	(Note 4)
Total C4	mol%	ASTM D2163	25.8	(Note 4)
Total C5 and higher	mol%	ASTM D2163	0.1	(Note 4)
Total Ethylene (Note 1)	mol%	ASTM D2163	0.0	(Note 4)
Total Dienes (Note 1)	mol%	ASTM D2163	0.0	(Note 4)
Free Water	Visual	SABS1774	None	(Note 4)
Total Sulphur content	mg/kg	D3246	1	(Note 4)
Residual on Evaporation (Note 2)	ml/100ml	ASTM D2158	0.05	(Note 4)
Oil Stain Observation	ml	ASTM D2158	Pass	(Note 4)
Gross Calorific Value at 20 Deg.C	MJ/kg	ISO 6976	50.1	(Note 4)
Gross Calorific Value at 20 Deg.C	MJ/L	ISO 6976	26	(Note 4)
Odourisation: Ethyl Mercaptan (Note 3)	µ L/L	ASTM D5305	0	

NOTES:

Note 1: Laboratory test result reported as <0.1 mol%

Note 2: Laboratory test result reported as <0.05 ml/100ml

Note 3: Odourant concentration in the Batched Vessel prior to dosing (if applicable)

Note 4: Result verified to be in compliance with SANS1744:2018 edition 2.1

Final Odourisation: Ethyl Mercaptan*	µ L/L	18

**calculated according to quantity of Ethyl Mercaptan dosed at Loading Bay*

H. SMOKE STACKS AND DUCTING

Stacks to be constructed with wall thickness and outer diameter as specified in the Schedule of Rates. The stack is to be a welded mild steel construction with flanges every 2000mm, along with correctly positioned lifting lugs, flanged connections to be designed so that they are sturdier than the straight section itself. Rate per meter of stack section should include compensation for all flanges, fasteners and sealing material for connections. Paint to be heat resistant paint rated for temperatures up to 600°C.

Damper to be designed for use in non-refractory smoke stack to allow ingress of fresh cool air in to the bottom of the stack as to cool the flue gas though mixing. Thus, dampers should be designed such that it they throttle the amount of fresh air allowed to enter the stack. The diameter of the damper should match that of the smoke stack. The damper should be flanged on both sides. The dampers to be constructed with wall thickness and outer diameter as specified in the Schedule of Rates. The dampers to be of mild steel construction.

Refractory lined smoke stack sections are to have the same steel structure as that of the non-refractory lined stack section while including an internal refractory lining with a thickness of 50mm. Lining to be of the 1350 grade insulating castable. Stack sections to be sufficiently strengthened to support the additional refractory weight without deformation. Paint to be heat resistant paint rated for temperatures up to 600°C.

I. FRESH AIR VENTILATION

I1. Vertical Exhaust Axial Fans

Roof-Mounted Extraction Fans:

- Galvanized steel sheet construction
- Impeller made of aluminium sheet or galvanised sheet metal.
- Galvanized bird protection grid should be included
- Power supply should be Single-phase 220V 50 Hz single phase or 380 VAC 50 Hz three-phase.
- Fan motors are to have ingress protection of at least IP64.

Rates are to be given for the supply of the fan as well as the installation, testing and commissioning.

Rate for installation should include all sundries and costs associated with mounting the fan to the roof.

Waterproofing will be costed separately.

Rates to be given for each fan size listed in the Schedule of Rates.

Flow rate specified can be accepted as flow rate at “free delivery” i.e. without restriction.

Normal temperature and pressure can be assumed.

I2. Tubular Axial Fans

Hot dip galvanised tubular sheet steel casing
Impeller made of aluminium or galvanised mild steel.
Power supply should be single-phase 220V 50 Hz single phase or 380 VAC three-phase.
Fan motors are to have ingress protection of at least IP64.
Fan to be an in-line duct mounted fan.

Rates are to be given for the supply of the fan as well as the installation, testing and commissioning.
Rate for installation should include all sundries and costs associated with mounting the fan to ducting or wall.

Rates for fans to be given for each operating point listed in the price schedule.

Normal temperature and pressure can be assumed.

Operation point to should always be selected right side of peak fan pressure as per common practice.

I3. to I8. Spiral Ducting

- All ductwork including straight sections, tapers, elbows, branches, shoe pieces, collars, terminal diffuse boxes and other transformation pieces must be factory – fabricated according to all applicable SARACCA standards including SANS 1238:2005.
- All ducts, transverse duct connectors (flanges/cleats) and accessories or related hardware such as support systems will be zinc coated (galvanized).
- The fabricated duct dimensions should be as per approved drawings and all connecting sections are dimensionally matched to avoid any gaps.
- Ducts shall be straight and smooth on the inside.
- Changes in dimensions and shape of ducts shall be gradual (between 1:4 and 1:7).
- Supports for round ducts should be a completely galvanized system consisting of fully threaded rods, double L bottom brackets (made from minimum 3.0 mm thick M.S. sheet), nuts, washers and suspension bolts should be used to anchor all ducting to their respective support structures as specified in SANS 0173. Rates for supports should be included in the installation of ducting

General
Rates for ventilation shall include all materials, tools, labour, transport, safety, certifications, commissioning or

any other items required to deliver a complete installation.

Rigid and flexible ducting shall be measured on a linear basis along the run of the duct and priced accordingly. The measurement shall include all lengths from end to end of ducting. Single duct runs will be measured individually and according to the duct size. Pricing will be rounded to the nearest full meter.

Flexible ducting may only be used for the immediate connection between rigid ducting and diffusers/grills, and should be kept straight and to the absolute minimum length. Flexible ducting shall not obstruct airflow or cause undue pressure losses.

All ducts are designated “Low Velocity Ducts” and the duct sizes indicated on drawings shall refer to clear internal dimensions.

All screws and fastening devices of grilles, louvers, etc., shall be corrosion resistant.

All support steelwork, including hanger rods and brackets must be galvanised. Steelwork exposed to the elements must be hot dip galvanised after all fabrication work is complete. Fasteners are to be galvanised and where exposed to the elements are to be stainless steel. Fixing screws for grilles and louvers are to be stainless steel.

All dissimilar metals are to be galvanically isolated from each other by nylon spacers.

Air that is extracted through the exhaust system shall not be used or recycled to any other part of a building. Ventilation Systems shall be controlled through a light switch, except where otherwise stated.
In the case of an electrical substation, an extraction fan shall be used to maintain airflow across the electrical apparatus. Once the temperature reaches a certain level the fan shall start running. The fan shall be interlocked with the CO2 system. Once the CO2 system is activated the fan shall shut down. A ‘test button’ shall be installed with the fan.

All ductwork to be manufactured and installed in accordance with SANS 1238, SANS 10173 and SANS 10400. Equipment required

I9. to I11. Air Diffusers

Air diffusers are to have a throw pattern with equal throw in all directions. Diffusers to be manufactured out of aluminium with a minimum of 50mm boarder frame. Diffusers to have adjustable blades.

Rates for the supply of different sizes of diffuser as per price schedule.

A rate for the supply of a plenum box for each diffuser is also requested.

Diffuser plenum box should be manufactured out of aluminium or galvanised sheet metal and should feature a spigot of appropriate size for connection to ducting.

Rate for installation should include all sundries for mounting air diffuser to plenum box and plenum box to ducting as well as allowance for galvanised metal supports of the diffuser and plenum to hang from roof/ceiling with a maximum distance of 2m. All aluminium hardware supplied should be natural anodised finish.

I12. to I13. Intake Weather louvres

Weather louvers are to have blades spaced 50mm apart. Weather louvers to be manufactured out of aluminium with a minimum of 50mm boarder frame. Weather louvers to feature galvanised metal bird/rodent mesh. Rates for the supply of different sizes of weather louver as per price schedule. A rate for the supply of a plenum box for each weather louvers is also requested. Plenum box should be manufactured out of aluminium or galvanised sheet metal and should feature a spigot of appropriate size for connection to ducting/ attenuators. Rate for installation shall include all hardware and sundries for mounting weather louver to plenum box and plenum box to ducting/attenuator as well as allowance for galvanised metal supports for the weather louver and plenum to a wall or floor with a maximum distance of 0.7m. All aluminium hardware supplied should be natural anodised finish.

J. REFRIGERATION AND AIR CONDITIONING

J1. Refrigeration Systems

Refrigeration systems are needed for the coffin storage cold rooms, all refrigeration equipment to be sized for a set point of 2°C. Rates are required for cooling systems with different cooling capacities ranging from 5kW to 20kW. Rated cooling capacities should be achievable in typical Cape Town climate conditions as listed below:

Barometric Pressure		101,3kPa
Summer Conditions:		
Maximum dry bulb temp.		36°C
Relative Humidity		20-30%
Wet Bulb Temp.		20°C
Maximum dry bulb temp.	24 Hour average	22°C
Maximum wet bulb temp.		23°C
Winter Conditions		
Minimum dry bulb temp.		0°C
Relative Humidity		100%
Wet bulb Temp.		0°C

The supply of refrigeration equipment includes but is not limited to the evaporator, compressor, condenser, expansion valves, fans, temperature probes and controls, all necessary hardware to complete a fully working refrigeration system.
The refrigeration units are to conform to the following specifications:

- System to be equipped with temperature probe to keep room is specified temperature range.
- Evaporators are to have corrosion protective coating.
- Refrigeration equipment to be installed for an expected lifetime of 10 year.
- Installation to conform to SANS: 10147.

The Supplier is to supply a rate for the installation of the refrigeration equipment as well as a supply rate for piping and installation rate for piping. Refrigeration installation and commissioning rate should cover costs associated with leak testing refrigerating lines and filling of refrigerant lines.

The piping rates are to correspond to the adequate piping size for the rated cooling capacity of the refrigeration system.

All copper piping to be supplied with nitrile insulation, pipe brackets and sundries. Installation cost of piping should include associated cost for example waterproof penetrations.

J2. Split A/C, Inverter Type Units

Air conditioning

General

Pricing for new air conditioners shall be for the latest inverter technology models available. Heating and cooling capacity of units offered shall be equivalent to or better than specified. Pricing shall include the supply and installation of the indoor and outdoor units.
All units offered shall be inverter driven units using R410A refrigeration gas. Installations and equipment shall be in accordance with SANS 10147 and SANS 1125.
All equipment shall be installed as per the manufacturer’s specifications by an authorized refrigeration practitioner.

Refrigerants containing hydro-chlorofluorocarbons (HCFC-22) shall not be allowed in any new air-conditioning system.

Pricing for refrigeration pipe runs shall be priced per running meter rounded to the nearest full meter. Only high pressure copper, R410a compatible refrigeration pipe will be accepted. Aluminium refrigeration pipe will not be accepted.

Equipment required to work at heights, wire mesh trays, cable trays, core drilling and power supplies shall be priced separately in all instances.

Installation - split systems with inverter technology

Pricing for new air conditioning units shall be based on a standard “back to back” installation with the condenser and evaporator situated approximately 5 meters apart on outside walls of buildings. Indoor units shall be installed directly below the ceiling as close as practically possible to the outside unit.

The pricing for standard installations shall include the air conditioning unit, refrigerant, refrigerant pipe, condensate pipe, PVC trunking, control cables, labour, transport, safety, certifications, commissioning, training or any other items required to deliver a complete installation.

Installations where the indoor and out-door units are more than 5 meters apart shall be deemed non-standard. In these instances lengths of pipe, conduits or trunking etc. in excess of 5 meters shall be priced via the respective rates.

The cost for labour and transport e.g. to remove redundant equipment, should it be required shall be derived from the respective rates.

Outdoor air conditioner units shall be wall mounted as far as practically possible.

Mounting shall be done by the use of two hot dip galvanised wrap around cantilever arms (CABSTRUT 223 Series or equivalent) bolted to two 400mm long, 41mm x 41mm steel channels with wall thickness of 2.5mm. The steel channels (Unistrut P1000 or equivalent) shall be secured to walls by means of two 10mm steel rawl bolts at each end of the channels. Anchoring by means of chemical mortar and threaded rods can be called for in instances where the walls are hollow or unsuited for standard mechanical rawl bolts.

All metal exposed due to cutting shall be suitably treated and painted with anti-rust paint and coated with two layers of cold galvanising paint.

Condensate drain lines shall be 20mm PVC pipe installed with a fall of 1:100 from the high point to waste gulleys or as instructed by the Project Manager. Where practical, drain lines from multiple units may link, but the line size must then increase.

Connecting condensate drain lines into gutters, down pipes or any existing plumbing will not be allowed.

Drainage pumps shall be priced separately.

All condensate drain lines, pipe bundles and electrical harnesses must be hidden in the ceiling void where possible. Where external to the building, the cabling and piping shall be concealed with 100mm x 40mm PVC trunking.

Refrigeration pipe bundles and cables shall be mounted on galvanized electrical wire mesh cable tray, which shall also serve as support and protection.

All refrigeration piping shall be insulated with foam rubber insulation (“ArmaFlex” or equivalent) with a minimum wall thickness of approximately 9.0 mm. Internal condensate drain lines shall be similarly insulated.

The tenderer shall make good all holes in walls by means of painters mate, plaster or sealing foam. Painting or wet works will not be required.

Each unit must be provided with a wireless remote control and a permanently fitted wall-mounting bracket.

Each air conditioner shall be fed from a suitably rated pad-lockable isolator mounted at the outdoor unit. Each isolating point shall be permanently labelled. The legend card in the distribution board from where the unit is fed shall be updated accordingly. Power supplies to air conditioners shall be priced separately.

Maintenance & repairs - existing units repairs
Repairs are defined as the removal of defective components, the supply and installing of new components as well as testing and commissioning the new components. Included in this rate are all items and tasks required for total replacement of the defective components.

The pricing shall include all tools, consumables, labour, transport, safety, certifications, commissioning or any

other items or small parts required to complete the repair.

The cost for special equipment required to work at heights and the cost for special lifting equipment or transportation should it be required shall be derived from the respective rates.

The cost for labour and transport to perform initial fault diagnostics should it be required shall be derived from the respective rates.

Refrigeration gas (R410a) shall be priced separately.

Decommissioning

Decommissioning of existing units containing hydro-chlorofluorocarbons (HCFC-22) shall be in accordance with legislation.

The disposal or recovery of gasses shall be in accordance with The National Environmental Management: Air Quality Act, 39 of 2004: Regulations Regarding the Phasing-out and Management of Ozone-Depleting Substances, GN 351, GG 37621 of 8 May 2014 (the “Regulations”), published by the Department of Environmental Affairs.

Pricing for the disposal of (HCFC-22) shall include labour, the safe transportation to an appropriately permitted site and the cost for recycling or recovery.

When working at heights the cost for scaffold or extended platforms shall be separately allocated to the respective rates.

The tenderer shall free issue a certificate of disposal. The certificate of disposal shall be issued per works order project. The certificate shall indicate the responsible final management of the refrigerant gas. This certificate can be valid for a batch of units.

Servicing

The rates for maintaining air conditioning units shall include all materials, tools, consumables, labour, transport, safety, certifications, commissioning or any other items required to complete the maintenance servicing.

The cost for special equipment required to work at heights should it be required shall be priced separately via the respective rates.

No travelling or labour costs will be allowed for the purpose of investigating maintenance projects.

Maintenance of air conditioners shall be accompanied by a separate job card for each air conditioner on completion of each service.

The job card shall include the following information for each air conditioner:

- Make
- Model Number
- Serial Number
- Date of Manufacture
- BTU Capacity
- Site Name
- Room Number
- Bar Code Number
- The unit’s Condition as described in the specification.

The following table describes the four terms that will be used to describe the condition of an air conditioner. This information shall be included on the job card:

Condition description

Good
Unit is in good condition or like new, it is functioning properly and there is no sign of any damage or corrosion.

Maintainable
Unit is fully functional; there may be slight signs of damage or corrosion.
Unit is still very much functional and maintainable.

Repairable
Unit is not functioning or is partly functioning and is still economical to repair.
The cost of repair is less than 60% of the value of the unit.

Scrap
Unit is uneconomical to repair. The cost of repair is more than 60% of the value of the unit. The unit should be replaced with new.

Description of service:

Indoor unit:
- Test operation of unit.
- Remove filter for cleaning.
- Remove outer housing if of the removable type.
- Clean out evaporator coil with sprayer.
- Clean drainage pipe and drip tray.
- Clean unit thoroughly inside.
- Check all electrical connections and switch operations.
- Check thermostat.
- Rotate fans for correct operation by hand.
- Sanitize for health reasons
- Record evaporator outlet air temperature.
- Check operation of remote control and receiver units.
- Replace battery of remote control unit.
- Record evaporator temperature.

Outdoor unit:
- Remove outer housing.
- Clean condenser coil by washing with water air and detergent combination (max. 1400 psi)
- Check all electrical connections and switch operations.
- Check thermostat operations – adjust if necessary.
- Rotate fans for correct operation by hand. Lubricate bearings where necessary.
- Test compressor operation.
- Carry out general inspection on all working parts to ensure correct operation.
- Replace outer housing.
- Run unit.
- Test suction pressure if unit is not cooling properly.
- Top up gas if necessary.
- Leak test connections if necessary.
- Record condenser temperature.

The above information shall be included on the job card and recorded on completion.

Cage for air conditioning condenser unit

All condenser units shall be security protected by steel cages to the following specification: The framework of the cage to be of 30x30x5 mm angle iron.
The cage surfaces to be of Expanded metal 320 G – raised (25x25x3.0x3.0 mm). Solid and continuous expanded metal sections, no joins.
A hinged or sliding door to be fitted on one side for service access of condenser unit.
The hinged door shall be fitted with a minimum of two butterfly hinges and to be padlock lockable with a 75 mm discuss lock. Lock to be supplied with at least 3 keys. Lock to be protected by a steel ring.

The sliding door shall be padlock lockable with a 75 mm discuss lock. Lock to be supplied with at least 3 keys. Lock to be protected by steel ring.

Two clearly marked keys to be handed to the manager on site and one marked key to be handed to the air conditioning operations office.

Cages shall be mounted to the wall with 10x75 mm Security Coach Screws (of the snap-off head The cage shall, subsequent to manufacture, be hot dip galvanised to:
SABS/SANS 121:2000/ISO4042:1999
Hot Dip Galvanised Coating On Fabricated Iron and Steel Articles – Specifications and Test Methods. The mean coating thickness shall be 70 microns and no further alterations to the structure shall be permitted after the hot dip galvanising process.

All fasteners shall be coated to:
SANS/SABS 4042:1999/ISO 1461:1999 Fasteners – Electroplated Coatings (commercial grade coatings).

J3. Coldroom

Polystyrene insulation along with insulated sliding doors, to be chromodeck lined and suitable for coldroom facilities.

K. COMPRESSED AIR

K1. Air Compressors

Air compressor to meet the following specifications:

a) Compressor to be belt driven, reciprocating type
b) Powered by 380 VAC 50Hz three phase
c) Include anti-vibration feet for floor mounting
d) Feature adjustable pressure regulator
e) Include after cooler for moisture separation
f) Be rated for 10bar output

Rates for various sizes are to be included in the price schedule. See minimum free air delivery (FAD) and reservoir size for each compressor listed.

Compressor Filter and Water Trap with Timer - DN25 pipe size

The compressed air filter unit must be designed for general industrial applications, with a maximum operating pressure of 16 bar and a flow rate suitable for the connected system.

Must include a water trap with electronic timer control for automatic discharge of condensate.

Filter Housing to be AAF Series, Omega Air or equivalent.

Pipe size: DN25
Operating pressure: 16 bar.
Flow rate: 198 Nm^3/h at 7 bar(g).
Material: High-quality aluminum alloy with corrosion-resistant coating.
Must include a pressure drop indicator for maintenance.
Condensate drain options compatible with housing.

Condensate Drain Timer to be MICDRAIN®-COMBO (JORC) or equivalent.

Timer-controlled drain with adjustable discharge time (0.5 – 10 seconds) and pause time (0.5 – 45 minutes).
Inlet/Outlet connection: 1/2" + 1/4" dual inlet, 1/2" outlet.
Valve type: 2/2-way direct acting, stainless steel components with a 4.0 mm orifice.
Protection: IP65-rated housing for outdoor installation.

All pipe connections to be pressure-tested post-installation to confirm leak-free performance.

Functional testing of the condensate drain timer to confirm adjustable timing settings operate within specified ranges.

Minimum 12-month warranty covering manufacturing defects and operational performance.

K2. To K6. Piping

All compressed air piping is to be screwed and sealed with PTFE tape. All threads to be BSP or BSPT. Various rates for associated hardware to be provided as listed in the price schedule.

Installation costs to cover all associated works including the installation of pipe hangers/ brackets and sealing of threaded connections. Supplier shall be responsible for the repair of connections that fail the hydrostatic pressure test.

L. BUILDING

Fasteners

Standards

Bolts and nuts shall be hexagon head type complying with sans 1700 with threads of the coarse pitch series. Allen head screws of any type shall not be used without the Purchaser's Representative written consent.

Fasteners m12 and smaller

All fasteners m12 and smaller shall be of grade 316 SS, or better.

Fasteners larger than m12 – in corrosive areas

All fasteners in corrosive areas shall be of 316 SS, electroplated, or better. Corrosive areas shall be taken to include any moist or wet area such as in and above settling tanks, in or in the vicinity of open channels, where a continuous spray can be expected and all internal and external areas in the vicinity of the inlet works of a wastewater treatment works. All fasteners embedded in brick, concrete or soil shall also be of 316 SS, electroplated or better.

Fasteners larger than m12 – non-corrosive areas

Fasteners larger than M12 which are in non-corrosive areas shall, except when specified otherwise, be hot-dip galvanized.

High tensile bolts

Where high tensile bolts are required by the design, they shall be hot-dip galvanized and painted. The bolt holes and crevices shall be filled and sealed prior to painting.

Material compatibility

Fastener material shall always be of equal or better corrosion resistance than the items being fastened, e.g. 316 SS bolts must be used to fasten together 316 stainless steel fabrications or flanges.

Washers

Washers of similar material to the bolts shall be provided under each nut and setscrew head. Multiple washers or shims shall not be used. Spring washers or other approved locking arrangement shall be used on all fasteners subject to vibration.

Anti-seize compound

Before assembly, threads shall be treated with a nickel based, anti-seize/corrosion protection compound; Chesterton 725: Nickel Anti-Seize Compound, or equivalent.

The Supplier shall note:

- Copper-based compounds are not acceptable and, if used, shall be cleaned off before the correct compound is applied.
- If it is found during inspection that compound has not been applied, the Contractor shall disassemble all

fasteners and comply with this requirement.
- A small amount of compound shall be applied along the full length of the thread before the nut is applied. Excessive compound visible on the thread after the nut has been applied shall be cleaned off.

Thread projection

Bolt threads shall project between 1 and 6 mm from the head of the nuts when fixed. Longer projections will only be allowed if the Supplier can show that bolts of a more suitable length are not manufactured.

Corrosion protection

After installation the exposed surfaces of bolts not made of 316 SS or of EN 1.4162 shall be coated as for the items being fastened. If the use of Allen head or similar fasteners has been approved, the recessed heads shall be filled with a suitable non-hardening sealing compound.

Anchor Fasteners

Type and material

All anchor fasteners shall be of grade 316 SS, or better.
Anchor fasteners for water retaining structures and for brickwork shall be of the chemical anchor fastening type.
Anchor fasteners for other applications may be of the expanding type or chemical anchor type.

Hook bolts

Grade 316 SS, or better, hook bolts shall be supplied and grouted by the Supplier into pockets which will be provided in the concrete structure in accordance with the information to be supplied by the Supplier. The grouting products shall be used strictly in accordance with the manufacturer's instructions.

Alternative anchor bolts

316 stainless steel "Hilti Kwik Bolt" stud bolts or equivalent. If steel reinforcing bars are encountered while the holes are being drilled, the Contractor shall knock a hole in the concrete around the steel and grout in a stainless steel hook bolt as described above.

Through-bolt anchors

Where machinery is anchored by studs or bolts which extend through the supporting structure and is therefore fastened down with the use of nuts from both sides, these, together with associated washers and brackets, shall also be of grade 316 SS, or better.

Anti-seize compound

A small amount of a nickel-based, anti-seize compound shall be applied along the full length of fastener threads before the nut is applied.

Work Surfaces and Coffin Storage

<u>Shelving</u>

Shelving units are needed for the storage of coffins, the Supplier is to supply a rate for the supply of coffin shelf units meeting the following specifications:
- Shelving unit should be able to support three normal sized coffins individually shelved vertically with space for a forth coffin on the floor under the shelving unit.
- Units to be constructed out of Stainless Steel 304 of equivalent.
- Shelving units to be of sanitary design with neat welding, cleanable surface finish and no open cavities.
- Units to be self-supporting with mounting only to the floor.
- Each shelf should be rated to support 350kg.
- Shelves should be designed to be loaded in the length.
- Shelves should make accommodation for rollers or low friction strips to ease loading and unloading.
- Units should be designed so that coffins overhang to ease loading and unloading.

- Coffins should be supported by at least four supports spaced equally along the length of the coffin, each support covering full width of the coffin.
- Shelving unit dimensions should roughly be: H: 1700mm x W: 800mm x L: 1800 mm.

L11.7 Roller shutter doors

Operators and mounting hardware shall be heavy duty designed to open and close industrial roller doors with a lifting force of up to 900kg. Door travel limits shall be managed by two mechanical limit switches ensuring that the door stops accurately and continuously in the open and close positions. Manual operations shall be possible by means of a steel hand chain.

Pricing for roller shutter door operators shall include the entire installation; purpose manufactured mounting brackets should it be required, the operator, the mounting plate and control gear, chain and sprockets etc. via the respective rates. Canopies, barrels, curtains, guides, push button stations and the electrical supply shall be priced separately.

Gate operators shall as far as possible be installed as per the manufacturer's standard specifications.

Any additional metal or steel mountings that may be required to secure operators to existing doors shall be pre-manufactured and hot dip galvanised prior to installation. Steel work shall be bolted together as far as practically possible. Welding shall be kept to a minimum in an attempt to reduce damage to existing galvanised surfaces and subsequent corrosion. Should welding be required, it shall be professional done. All bending, drilling, chamfering, welding, cutting and sanding shall be done prior to painting.

Steel guides and any mounting brackets etc. shall be suitably bent, braced and welded where necessary to form a rigid structure. Canopies, framework, etc. shall be accurately formed to present a true to line and plumb structure when completed. Where welding is necessary the inevitable excess material shall be ground down to the parent surfaces to present a blemish free surface for painting. All welded surfaces shall be suitably treated and painted with anti-rust paint and coated with two layers of cold galvanising paint.

Roller shutter doors shall be of a curtain of interlocking steel slats that form a solid barrier. The construction shall permit the curtain to be rolled up or down onto a barrel or top shaft which shall be mounted onto a steel support system. The barrel shall be constructed from a heavy duty steel tube with heli-coil counter balance springs, mounted on a steel shaft. The shaft shall be suspended with mild steel bearing blocks and high speed bearings at each end. The bearing blocks shall be bolted to heavy duty end plates.

The bottom rail or bottom bar shall be manufactured from aluminium with a permanent rubber seal at the bottom to reduce water ingress. The bottom bar shall allow for the fitment of handles and locking devices if needed.

Slats shall be manufactured from galvanised mild steel with a galvanised surface coating mass for both surfaces of 275g/m2 (Z275 galvanized mild steel). The surface finish thickness shall be approximately 20µm.

Slats shall be horizontally installed and be of the solid kind only. Slat widths shall be approximately 75mm with a wall thickness of approximately 0.8mm. Slats shall be installed with end locks. Painting of slats shall not be required.

Pricing for slats and guides shall be per running meter rounded to the nearest full meter.

The lifting of curtain slats shall be aided by large helical coil springs suitably sized for the specific application.

Side guides shall be installed vertically only. Guide widths shall be approximately 75mm with a wall thickness of approximately 2.5mm. Lugs of approximately 60mm x 60mm with a wall thickness of approximately 2.5mm shall be welded to guides at intervals not exceeding 1.5 meters. Guides shall be pre-manufactured, welded and galvanised. Painting of guides shall not be required.

Roller shutter door operators, end plates and curtain guides shall be secured in such a way that they will withstand the forces expected at maximum torque with chemical compound and threaded rods of at least 10mm in diameter.

The rolling mechanism shall be enclosed in a suitably sized galvanised steel canopy.

Wicket access doors shall be approximately 685 mm wide and 1830 mm high. Wicket gates shall open inwards or outward as well as left-handed or right-handed. This exact operational requirement shall be determined by the

Works Order Manager. It is recommended that the wickets are positioned on the opposite side to the operator or chain. Roller shutter door operator specifications

Input voltage: 380V AC (three phase) Motor voltage: 380V AC
Duty cycle: 30%
Maximum daily operations: 320 Power: 550W
Motor speed: 1780rpm
Door travel speed: 45mm/sec Current: 2.2A 3Ø
Time rating: 8 min Temperature protector: 115°C Output shaft rotation: 17rpm Gear ratio: 105:1
Gear transmission: Double-layer oblique gear Gear box material: Alluminium
Drive type: Chain Sprocket: 10T Chain: 1 inch Length: 600mm Net weight: 22.1kg
Gross weight: 23.0kg
Packing dimentions: 600mm X 345mm X 245mm Minimum clearance required for installation: 650mm Maximum shutter weight: 900kg
Power source type: Three-phase Integrated wall-pendant: Yes
Manual override facility: Yes Hand chain: Yes

Pedestal for isolator, push button or safety beams

The pedestal shall be manufactured from 1.5mm wall thickness, 304 Stainless Steel sheet metal and powder coated in colours as per client specification.

L14. Waterproofing

Rates for waterproofing material supply and installation shall be supplied in the Schedule or Rates.

Water proofing shall be done using flexible polyester and/or fiberglass reinforced APP polymer modified bitumen membrane (RBM) with a base sheet where needed. Apply waterproofing system according to manufacturer's instructions, including priming procedures. Bonding shall be heat-fused on primed surfaces. All waterproofing to meet the specification set out in SANS 10021.

Testing:
Perform test(s) prior to application of surface finishes.

Horizontal surfaces: a flood test of 48 hours or a spark, vacuum or air pressure test, using suitable testing apparatus

Vertical surfaces: a spark or vacuum test, whichever is easier.

L16. Coating

Application and Control

Surface preparation and coating application shall be carried out by suitably trained and experienced industrial painters who are fully equipped to do such work strictly in accordance with the paint manufacturer's recommendations.

Site Work

Surface preparation and coating application of equipment shall not be done on Site except for minor repairs, for application of the final aesthetic coat or where specifically called for by the Works Order Manager.

Quality Control of Coating Application

Quality plan and records

The Supplier shall provide a Quality Plan which shall include all steps in the surface preparation and corrosion protection process plus technical data sheets for all products proposed.

Records of compliance with the Quality Plan shall be maintained.

Responsibility and Rectification

The Supplier is responsible for the quality of the work and materials used, irrespective of any quality surveillance that may be carried out by the Purchaser.

If unacceptable work is found on Site, the full area associated by the purchaser with that unacceptable area shall be redone after the Supplier has submitted a method proposal.

Inspections

The Supplier shall arrange for the coating application on fabricated steelwork to be inspected throughout by the Purchaser's representative. The Purchaser's representative may approve inspections by an independent competent person (hereinafter called the Inspector) appointed by and at the cost of the Contractor. Inspections shall be adequate to ensure compliance with the Specification and shall be done at the following stages as a minimum:

Coating (hot-metal spray, paint, etc.)

After fabrication but before surface preparation.

After surface preparation but before application of the first coat.

After application of the final hot-metal sprayed coating or after application of the paint primer or first coat (as applicable).

After the final factory applied paint or sealing coat.

Hot-dip galvanizing

After fabrication but before hot-dip galvanizing.

After hot-dip galvanizing.

Dry film thickness

The dry film thickness of any coat or coating system shall be determined in accordance with SANS 2808. The test method defines that the instrument is to be calibrated on a substrate that represents the surface to be coated.

Inspection report

A written report of the inspections, prepared by the Inspector and signed by both the Inspector and the Contractor, shall be submitted for appraisal by the Purchaser's representative before delivery of the equipment to Site.

Surface Preparations

Imperfections

Welding shall be free of blowholes and all welding flux removed. All weld spatter, sharp edges and other imperfections shall be removed prior to abrasive blasting. Prior to painting, weld beads with a surface irregularity exceeding 3 mm or with sharp crests having a radius under 2 mm shall be ground. (Weld grinding must not, however, be performed on stainless steel). Areas to be painted shall be free of crevices.

Edges

Edges shall be rounded to a radius of at least 2 mm.

Cleanliness

The provision of acceptable cleanliness entails not only the removal of existing mill scale, coatings and/or corrosion product, but also the removal of surface contaminants such as oil, grease and soluble salts. Water soluble salts present on the steel before application of the primer shall not exceed 10 µg/cm2.

Abrasive blasting

Before coating, all new steel surfaces shall be abrasive blast cleaned in accordance with Section 4.3 of SANS 10064 to a preparation grade of ISO-Sa3 in accordance with ISO 8501. The blast profile, measured in accordance with SANS 5772 (dial gauge), shall be in the range of 50 to 75 µm. The abrasive shall comply with SANS 10064 and shall be free from all traces of oil, grease, foreign matter and corrosive contaminants such as chlorides, etc. The blasted surface shall be cleaned and degreased as required. The prepared surface shall be given the first coat of the painting system within 4 hours after blasting.

In instances where stainless steel and 3CR12 are to be painted, the surface shall be suitable abrasive blasted prior to primer application.

Between coats

Between coats or with previously painted surfaces in good condition, all traces of oils, greases, soluble salts and corrosive air borne contaminants shall be thoroughly washed from the surface to be painted using a detergent type cleaning agent, rinsed and dried. The previous coat shall then immediately be lightly sanded or otherwise prepared as recommended by the paint manufacturer, wiped clean, dried and painted. Solvents are not acceptable as a surface cleaning agent.

Hot-dip galvanized surfaces

Hot-dip galvanized surfaces to be painted shall not be passivated and shall be free from white rust and shall be cleaned with an approved water based galvanizing cleaner using non-metallic abrasive pads until a "water break free" surface is obtained. The surface shall then be thoroughly rinsed with clean potable water to remove all residues and dried immediately prior to painting. Where necessary to obtain adhesion a sweep blast of the surface shall be done after cleaning.

Corrosion Protection: Metal Coatings and Duplex Coatings

Fabrication of items to be protected by metal coatings shall be in accordance with SANS 14713.

Hot-dip galvanizing

Hot-dip galvanizing shall be done in accordance with SANS 121 and the following shall apply:

- Coatings shall be to the thicknesses detailed in the Standard.
- Hot-dip galvanized material which is to remain unpainted shall be passivated as specified in SANS 121. Items to be painted after hot-dip galvanizing shall be air dried and not passivated.
- Hot-dip galvanized material shall be substantially free from white rust when it is erected on site. Stacking and storing shall at all times be done in a manner to prevent white rust forming.
- Damage to hot-dip galvanizing caused by welding, grinding, etc. is not acceptable. Repair to hot-dip galvanizing damaged by handling or transport shall be done by cleaning the area and applying 3 coats of a zinc rich primer giving a dry film thickness of at least 100 µm and containing at least 94 % zinc in the dried film. If the Purchaser’s representative considers that damage is excessive, such items shall be replaced by the Supplier without cost to the City of Cape Town.
- Welding after hot-dip galvanizing is not acceptable.
- The Supplier shall supply a galvanizer's guarantee or test certificate prior to installation.
- A report depicting all the images of the film thicknesses tests performed at the galvanisers, prior to the final inspections, shall be presented by the Supplier as a supplementary certificate item.

Duplex systems

Preparation and application of organic coatings on hot-dip galvanizing shall be done in accordance with the Hot Dip Galvanizers Association Southern Africa’s Code of Practice for Surface Preparation and Application of Organic Coatings.

The duplex system shall be as follows:

- Hot-dip galvanizing; without passivation of the zinc coating.
- Application of one coat of an epoxy primer (two part; for hot-dip galvanised surfaces) with a dry film thickness (dft) of 75 µm.

- Polyurethane enamel top coat (two part) with a dft of 50 µm; done on Site after suitable repair to the primer.

Acceptable coating products are specified elsewhere.

Hot-metal sprayed coatings

Fabrication and surface preparation of items to be protected by hot-metal spray shall comply with the requirements specified in this standard specification for mechanical works (including General Works).

Hot-metal sprayed coatings shall be in accordance with SANS 2063 and shall comply with the following:

- The minimum coating thickness for both aluminium and zinc shall be 150 µm.
- The thickness shall be checked on every surface plane at points not more than 300 mm apart for small articles and 500 mm for large articles. Angles shall be checked along all 4 surfaces, channels along all 6 surfaces, pipes in 4 planes. The minus tolerance on thickness in isolated areas shall also not exceed – 10 % and such low areas shall not be larger than 50 mm in diameter.
- The time between surface preparation and coating shall be shortened from 4 hours to 2 hours at any application area closer than 10 km from the coast.
- Unless otherwise specified, all hot-metal coatings shall be sealed and coated immediately after hot-metal spraying. The system shall consist of a low viscosity sealant, which is applied until absorption is complete, followed by a suitable coating system.

The sealant systems outlined below are acceptable (where appropriate for the particular application).

System 1 (for immersion applications)

- Application of an epoxy zinc sealer to a dft of 60 µm (Sigmacover 522, or equivalent).
- Application of two coats of epoxy pipe coating to a dft (per coat) of 125 µm; (Sigmaguard 720, or equivalent).

System 2 (for non-immersion applications)

- Application of a two part epoxy primer to a dry film thickness of 40 µm; (Intergard 269, Carboline Rustbond Penetrating Sealer, or equivalent).
- Application of one intermediate coat chemical resistant vinyl copolymer to a minimum dry film thickness of 70 µm (Carboline Polyclad 938 HB, or equivalent).
- Application of one coat of vinyl copolymer chemical resistant enamel to a minimum dry film thickness of 40 µm (Carboline Polyclad 938-2, or equivalent)

System 3 (suitable for crane beams, gantries, etc.)

- Application of one coat of a two-part epoxy primer to a dry film thickness of 40 µm; (Carboline Rustbond Penetrating Sealer, Intergard 269, or equivalent).
- Application of two coats of a two-part polyurethane enamel (two part) to a minimum combined dry film thickness of 70 µm.

System 4

- Application of micaceous oxide pigmented polyamide cured epoxy to achieve a dry film thickness of 60-80 µm; (Sigmacover 522, or equivalent).
- One coat of solvent borne modified acrylic coating to achieve a dry film thickness of 70 µm; (Sigma Topacryl coating, or equivalent).
- One coat of solvent borne modified acrylic finish to a dry film thickness of 30-45 µm; (Sigma Topacryl finish, or equivalent).

Corrosion Protection: Paint Coatings

Paint Quality

Paint shall be of best quality, of approved manufacture and brand and comply with the requirements of the relevant SANS (South African National Standards) or BS specifications.

Compatibility

All materials in a paint system shall be purchased from one paint manufacturer.

Packaging

All coating materials shall be delivered in the manufacturer's original, sealed containers of maximum 25 litre capacity, clearly marked with the following:

- Manufacturer's name.
- Product Brand and Reference Number.
- Batch Number, which may incorporate the date of manufacture.
- Date of manufacture, unless already incorporated in the batch number.
- Abbreviated instructions for storage and use of the material, which shall include mixing ratios of components for multi-component materials, minimum temperature of application, method of application, and minimum and maximum over coating times where applicable.

Confirmation of suitability

Suppliers shall obtain confirmation from their paint suppliers that, when using their paints, the systems specified are technically correct and suitable for the application and the material being coated.

Paint Application

Surface Preparation

All surfaces shall be properly prepared as specified in Clause "Corrosion Protection: Surface Preparation".

Coats shall be clean and free from dust, oil and moisture before over coating. The primary method for determination of oil and grease contamination of surfaces shall be visual inspection. Any surface that exhibits obvious signs of oil and grease, as well as variations in surface rusting and flash rusting, shall be regarded as having oil or grease contamination. All surfaces which have been machined or have had holes drilled shall be regarded as having oil and grease contamination.

Environmental Conditions

Paint shall not be applied if:

- the conditions are windy or dusty.
- the surface temperature is less than 10 ºC.
- the surface temperature is less than 3 ºC above dew point.
- the surface temperature is above 35 ºC.
- the conditions are contrary to the manufacturer’s recommendations.
- the relative humidity is 85% or above (the determination of humidity may be made using moisture sensitive hair-type gauges, electronic gauges or sling psychrometers (whirling hygrometers) having a resolution of at least 1% humidity. Electronic gauges shall have calibration certification not more than 6 months old. Moisture sensitive hair-type and analogue gauges shall have a calibration certificate not more than 1 month old. The accuracy of thermometer used in sling psychrometers shall be tested by placing at least 4 thermometers displaying temperatures within half a degree Centigrade of a mean shall be used).

Mixing

Coating materials shall be mixed thoroughly by a power stirrer.

In the case of two-pack materials, each component shall be thoroughly stirred separately. The two components shall then be mixed together in the proportions supplied by the manufacturer until the mixture is completely homogeneous. The use of part of the contents is not acceptable. In the case of solvent based epoxy materials, the mixed material shall be allowed to stand for the induction period recommended by the material manufacturer.

Painting

Paints shall be applied strictly in accordance with the manufacturer's instructions by tradesmen skilled in this class

of work. Thinning of paint shall only be allowed for spray application and the manufacturer's recommended thinners shall be used.

Stripe coats

All edges and welds shall be provided with at least one stripe coat. This coat shall, preferably, be the same as the primer but can be the same as the intermediate coat.

Coating of hidden areas

Areas which will be inaccessible after erection and surfaces resting on floors shall receive the full paint system prior to erection.

Surfaces in contact

Mating or contact surfaces shall be treated with one of the following systems, the system being chosen to suit the application:

- Surfaces shall be prepared and primed and brought together while the paint is still wet; or,
- Each surface shall be provided with one coat of inorganic zinc silicate; or,
- Surfaces shall be provided with a mastic or sealant; or,
- Surfaces shall be provided with insertion rubber or other gasket material.

Crevices

Crevices will not be permitted. Where unavoidable crevices are accepted by the Engineer, such crevices shall be sealed with either a coal tar product which can be applied at thicknesses of up to 1 000 µm such as Carboline Bitumastic 50 or equivalent; or a two-part solvent free epoxy which can be applied at thicknesses of up to 600 µm such as Sigmaline 523 or equivalent.

Items encased in concrete

Metal to be encased in concrete shall be painted externally up to 30 mm inside the concrete section, leaving the remainder bare so as to facilitate bonding with the concrete.
Protection of machined surfaces

Where painting of machined surfaces is not possible or advisable, these surfaces shall be coated with an approved proprietary anti-corrosion compound giving 12 months' protection under operating conditions. Shaft ends and machined mating or mounting surfaces or pads shall be so coated and shall not be painted.

Coating Thickness

The dry film thickness shall be measured using a non-destructive thickness testing machine and shall comply with the Specification. 90 % of all thicknesses measured shall comply with the minimum requirements of the Specification. Up to 10 % of all readings may be below the specified minimum thickness, but may not be less than 80 % of the specified minimum thickness.

Repair

Painted areas damaged during transportation, erection or any means whatever shall be repaired as follows - Rusted spots shall be removed and cleaned by means of a wire brush or emery paper to a bright metal finish and the surrounding paint which is still intact shall be feathered for a distance of 50 mm beyond the damaged area. Spot priming and repair shall consist of all the coats previously applied and shall overlap the undamaged area.

Protection on Site

Proper and adequate use of cover sheets and other means shall be made to protect the existing paintwork from damage and from metal dust and sparks when welding, grinding, and wire brushing on site. Similarly, effective steps shall be taken to prevent spillage or splashing or other damage to floors, walls and equipment when painting on site and any damage or mess caused shall be corrected at the Contractor's cost.

Final Coat

A continuous, smooth finish with a uniform colour is required. The final external coat/s shall, where applicable, be applied on Site after installation.

Final Colour Code

Colours shall comply with the National Colour Standard, SANS 1091.
The final colour marking shall be in accordance with SANS 10140.

M. ELECTRICAL RETICULATION

Distribution boards, if applicable – manufactured from stainless steel (grade 3CR12)

The pricing for distribution boards shall include all manufacturing and installation costs i.e. designs, drawings, steel works, welding, painting, busbars, wiring from busbars to circuit breakers, labelling, certification and testing, commissioning, transportation, rigging and mounting on site. Circuit breakers and control equipment will be priced separately via the respective schedule of rates. The project manager will specify these items and quantities for all distribution boards. Field cable terminations and items required for working at heights shall be separately priced via the corresponding schedule of rates.

The design shall be submitted to the Project Manager for approval prior to manufacturing.

The schedule of rates also caters for the manufacturing and installation of non-standard sized or specific (once off) distribution boards. These distribution boards shall comply with all specifications and shall be priced via the line item for floor standing and wall mounted distribution boards. These boards shall be priced per cubic meter (m^3 = height x width x depth in meter). This measurement is based on the outer periphery of the steel structure and includes the base or mounting frame. Pricing will be rounded to the nearest full meter.

Distribution boards – manufactured from plastic

The pricing for distribution boards shall include all manufacturing and installation costs i.e. designs, drawings, steel works, welding, painting, busbars, wiring from busbars to circuit breakers, labelling, certification and testing, commissioning, transportation, rigging and mounting on site. Circuit breakers and control equipment will be priced separately via the respective schedule of rates. The project manager will specify these items and quantities for all distribution boards. Field cable terminations and items required for working at heights shall be separately priced via the corresponding schedule of rates.

Plastic distribution boards shall be rated IP40 with a transparent door opening 180° hinged on the left or right side, as specified.

The colour shall be RAL9010 (light grey) with precut profiles for cable/conduit/trunking entry. The boards shall include internal cable tie fixing points with earth/neutral terminals supplied. Flush mounting enclosures shall have a 70mm installation depth.

General construction and manufacturing

The manufacture of distribution boards shall strictly comply with the latest revisions of SANS 10142 and all Normative References.

Switch and distribution boards are defined as any enclosure where circuits are terminated on circuit breakers and where busbars are used to connect circuit breakers on a common point.

All boards must be constructed of folded sheet steel, minimum thickness 1.6 mm (2mm thickness for floor standing boards) or of structural steel framework with sheet metal steel enclosures. All metalwork and welds must be ground smooth and rendered free from blemishes. All screws used in the board shall be electroplated with machined threads. Self-tapping screws and pop rivets cannot be used in the construction of boards nor for the fixing of any panels.

Where the thickness of material for screw tapping is less than 5 x screw pitch and externally knurled and threaded insert shall be installed to accept the machine screw. The insert shall be hydraulically fitted and clinched to ensure a tight fit. The insert shall be able to withstand 200% of the torque required to shear the fitted screw.

Where necessary, either from consideration of space or accessibility, boards must be made up in sections which will be assembled on site. Where boards are made and transported in sections, control wiring; etc. may not be broken through terminals but be pre-wired, disconnected, coiled and reconnected on site. Unless otherwise specified, all boards must be constructed for front and rear access and equipment, etc. must be easily removable from the front. Where the Supply Authority's metering panel or equipment is to be incorporated in boards, sufficient space and provision must be made as specified. All boards must be vermin-proof.

All distribution boards, sub-distribution boards, boxes, trays, covers or any other enclosure housing electrical apparatus supplied, shall be fabricated from grade 3CR12 stainless steel sheet metal only, unless stated to the contrary. The tenderer/supplier/manufacturer shall take cognisance that distribution boards shall in their entirety be manufactured from 3CR12 sheet steel. This shall include all framework used to form the structure of the panel. Angle iron or tubular structures shall not be permissible.

Outer panels, doors, covers, rails, distribution board framework, inner partitions etc. shall be manufactured from at least 1.6mm thick grade 3CR12 stainless steel sheet metal.

The sheet metal shall be suitably bent, braced and welded where necessary to form a rigid structure. Holes, doors, covers, rails, framework, etc. shall be accurately formed to present a true to line and plumb structure when completed. Where welding is necessary the inevitable excess material shall be ground down to the parent surfaces to present a blemish free surface for painting.

Each compartment of the distribution board shall be totally separated from adjacent compartments with 1.6mm sheet steel (3CR12) barriers welded or bolted into position and where wiring is required to pass through these barriers, brass bushed holes shall be provided. There shall be no access via the main switch section to operate any of the load circuit breakers. This is required to lockout load circuit breakers for maintenance purposes.

Panel tiers shall be bolted together and not welded. Accessible PVC wireways shall be provided to afford routes for conductors between the various compartments of each switchboard. Internal wiring shall be kept separated from external wiring and as far as possible the internal serving of CSWAPVC cables entering the switchboard shall be left around the conductors until the cable enters the compartment to which it is to be connected.

Low current and instrumentation/signal cables shall be kept separate from other cables right up to the point where the conductors are connected to the required terminals on the apparatus. Accordingly, where required, separate sheet metal (3CR12) wire ways shall be provided in each board to ensure this separation.

All bending, drilling, chamfering, welding, cutting and sanding shall be done prior to painting.

Font panels and mounting of equipment

Equipment must be chassis mounted flush behind a removable front panel. The front panels on all distribution boards, main boards, sub-main boards or free-standing boards must be fixed by means of locating pins at the bottom and flush square-key operated catches at the top edge of the panel. Self-tapping screws may not be used.

Where panels on any board could be accidentally interchangeable, the fixings, e.g. locating pins, must be arranged or staggered in such a way as to make it impossible to accidentally interchange such panels.

The chassis must be designed to allow for adjustment in depth and for plumb alignment. No equipment may be mounted on the front panel. The front panel must be fitted with plastic windows in front of kWh meters and other instruments which are designed for chassis mounting. Time switches must have a hinged flap to allow ample access for adjustment and for the operation of by-pass switches without the front panel having to be removed.

Where re-settable instruments or meters are specified, e.g. maximum demand indication, suitable cut-outs must be provided in the front panel to permit resetting without opening or removing the panel. Equipment feeding a common load; e.g. kWh meter and controlling MCB or MCB’s fed from contactors or earth leakage units, must be mounted next to each other under a common panel.

Instruments and other equipment which are designed for panel mounting only must be mounted on a hinged front panel and have the wiring laced together with sufficient slack to allow full opening of the hinged panel. Slack wiring must be neatly clipped to the back of the panel.

Unless otherwise specified, motor starters must have push-buttons protruding through the front panel but unattached.

Doors and covers

A door shall enclose the front of each compartment unless otherwise stated in the specification. Enclosures for outdoor or high humidity environments shall be provided with a weather lip angled at 45˚ to the face of the enclosure framework. The top of the outdoor enclosure shall be fitted with a full width canopy projecting at least 100mm from the enclosure face.

All doors shall stand off from the rear or face of the enclosure or board. Each door shall be properly stiffened and shall be twice returned at the periphery. The second turn shall be gusseted at the corners to further brace the door. Doors taller than 1m shall be further stiffened with “top hat” section channel welded to the inside of the door.

Each door shall be mounted via pin type hinges and shall be secured by means of lever operated, tapered tongue catches. Doors taller than 1100mm shall have at least two catches and hinges. The lever shall be provided with an external stop to prevent 360˚ rotation and provide a padlocking facility.

Square hatch key catches shall similarly be used on the rear doors or panels. All of the square hatch key catches shall be pad lockable.

Where doors are mounted adjacent to one another the spacing shall be that each door can open at least 150˚ without fouling the adjacent door. A stop or chain shall be provided which shall prevent the door from opening further to obviate damage to the paint work.

Hinges shall be able to easily support the door and equipment.

Wiring

All boards must be internally wired by the board manufacturer. Connections between all switchgear and the busbars will consist of heavy duty; coloured PVC insulated, stranded annealed copper conductors of cross-section and current rating not less than that of the connected switchgear, complete with crimping lugs bolted in position or with solid high-conductivity copper bars of ample cross-section.

The colours to be used in all instances must be red, white and blue for phase connections and black for neutral connections.

Looping of wiring connections between switchgear phases or neutral terminals is not permitted. All connections and jumpers must be run individually from the appropriate busbars; neutral bars or neutral terminal blocks.

All connections and wiring in small boards must be neatly laced and designed to run horizontally and vertically and be supported and fixed at suitable intervals. In larger boards; PVC wiring channel with removable covers may be used. The wiring at feeder terminals, e.g. MCB’s, must be long enough to allow for current measurement by means of a clamp-on type ammeter.

All wiring costs shall be included in the pricing for distribution boards on the schedule of rates.

Labelling

All distribution boards and circuit breakers shall be numbered with multi-layered, engravable plastic sheet (GRAVOPLY) or similar. Numbering and lettering shall be in black on white unless otherwise stated in the specification or by the Project Manager. The labels shall slide into an aluminium bracket. Each breaker shall have a unique number and the number shall not be repeated on the same board. However the numbering on each board shall start at 1. Multi-phase breakers shall have only one number. The aluminium bracket shall be bolted.

Boards shall be numbered in “levels” e.g. the boards supplied by the transformer, mini substation or municipal kiosk shall be numbered MAIN DB1, MAIN DB2, etc. The sub boards supplied by these boards shall be numbered SUB DB1.1, SUB DB1.2, SUB DB2.1, etc. The numbers shall be repeated on a legend card that is displayed on the inside of the board. The legend card shall indicate the circuit breaker number, the type of circuit e.g. power points, lights, etc.

The proposed numbering shall be submitted to the Project Manager for approval prior to manufacturing of the labels. Labels that are manufactured incorrectly shall be for the account of the supplier. Each board shall carry labelling on the main switch door as per SANS 10142.

The cost for labelling distribution boards manufactured via this tender shall be included in the manufacturing cost and not be priced separately. The cost to label existing distribution boards will be priced separately.

Enclosures

Polyester enclosures shall be rated IP65, insulation class 2, RAL 7035 (light grey). The enclosure shall have a waterproof hood on the top and bottom incorporated in the shell. The front door shall open 180° and be hinged left or right. The door shall seal securely by means of a seamless foamed gasket. The enclosure shall be surface mountable only. Plastic mounting brackets and sheet metal chassis plates shall be included in the price on the schedule of rates.

Polycarbonate enclosures shall be rated IP65, insulation class 2, RAL 7035 (light grey). The enclosure shall have a plain door opening 130° and shall be supplied with chassis plate and mounting bracket.

All enclosures shall be accurately and firmly installed to present a strong, true to line and plumb structure when completed. Mounting bolts shall be as per the manufacturer's specifications. Cable entry shall always be via the bottom unless otherwise specified.

Distribution boards with polycarbonate enclosures

Polycarbonate enclosures shall be rated IP65, insulation class 2, RAL 7035 (light grey). The enclosure shall have a plain door opening 130° and shall be supplied with chassis plate and mounting bracket.

The distribution board shall be rated IP65, fitted with a DIN rail and modular cover and include earth and neutral terminals. The modular cover shall be a hinged door and smoked transparent.

Junction boxes

Junction boxes with 4 treaded cable entry points shall be manufactured from impact, corrosion and UV resistant glass reinforced polyester compound. Rated to IP68, complete with lid and blanking plugs. Means for cable earthing shall be integrated in the box design during manufacturing. Galvanised steel draw boxes shall be bonded to earth.

All boxes shall be accurately and firmly installed to present a strong, true to line and plumb structure when completed. No junction box may be left unfastened. Mounting screws shall be as per the manufacturer's specifications. Cable entry shall always be via the bottom unless otherwise specified.

Circuit breakers & earth leakage protection units general

Circuit breakers and earth leakage protection units will be installed in low voltage distribution boards and will be used for the control and protection of distribution feeder circuits and low voltage wiring circuits in electrical installations. The equipment will be used on a 230/400 V, +/- 10%, 3 Phase, 4-Wire, 50 Hz distribution system. The highest ambient temperature commonly experienced is 40ºC and the lowest -5ºC. Relative humidity varies between 20% and 90%. All equipment shall be coordinated and discrimination shall be taken into account. Cascading of circuit breakers is not allowed. Circuit breakers and earth leakage protection units shall be installed vertically with the upstream (mains) terminal on top. Minimum clearances shall at all times be maintained. Circuit breakers and earth leakage protection units shall be from the same supplier in one application, handles shall provide a clear indication of "ON", "OFF" and "TRIP" status.

Tenderers shall take cognizance of the fact that the Circuit Breaker Industries (CBi Electric), ASEA Brown Boveri (ABB) and HAGER ranges of circuit breakers are installed at the majority of installations covered by this tender. It is therefore envisaged that the majority of circuit breakers required via this tender will be of the same manufacturers and tenderers should take this into consideration when pricing.

Circuit breaker shall be equipped with an instantaneous magnetic release, a thermal release and shall comply with the requirements for switch-disconnectors.

Circuit breakers and earth leakage protection units shall be supplied and fitted with all supplementary equipment e.g. shrouds, mounting bolts, clips, adaptor plates etc.

Compliance with regulations

Reference to a particular standard or recommendation in this specification does not relieve the manufacturer of the necessity of the work complying with other relevant standards or recommendations.

Equipment offered and installed shall comply with the following standards:

- SANS 156 : Moulded-case circuit breakers
- SANS 556-1 : Low voltage switchgear Part 1: Circuit-breakers
- SANS 767-1 : Earth leakage protection units Part 1: Fixed earth leakage protection circuit-breakers
- SANS 60947-1 : Low voltage switchgear and controlgear Part 1 : General rules
- SANS 60947-2 : Low voltage switchgear and controlgear Part 2 : Circuit breakers
- IEC 60898-1 : Circuit breakers for over-current protection for household and similar use
- VC 8035 : Earth leakage protection units
- VC 8036 : Compulsory specification for circuit breakers

Tenderers offering equipment to standards other than those mentioned above may be considered provided it is clearly indicated in which respects the equipment offered does not comply and the likely consequences of such non-compliance.

Requirements

Circuit breakers shall be air-break, miniature circuit breakers (MCBs) complying with VC 8036, SANS 156, SANS 556-1 and SANS 60947-2, and designed for fixed installation.

Tenderers offering equipment to standards other than SANS 556-1 will only be considered if the Tenderer has complied fully with the provisions of VC 8036 in providing a declaration report from an accredited conformity assessment body verifying that the standards are technically equivalent to the SANS 556-1 standard. This declaration report shall have been submitted to the National Regulator for Compulsory Standards (NCRS) during the process of acquiring the Letter of Authority Certificate (LOA) required in terms of VC 8036.

The MCBs shall be Selectivity Category A circuit breakers in accordance with SANS 60947-2.

The earth leakage protection units (ELPUs) shall be single pole and neutral switch disconnectors without overload protection, and shall comply with VC 8035 and SANS 767-1.

The MCBs and ELPUs shall be suitable for rail mounting (35 mm DIN Rail or 57 mm Mini-rail mounting) to integrate with existing installations.

Tenderers offering DIN Rail mounted equipment that does not have integral Mini-rail mounting facilities shall include a suitable DIN Rail to Mini-rail adapter plate.

The MCBs and ELPUs shall be supplied with all necessary terminal covers and mounting hardware.

Where minimum arc venting clearances between the MCB and adjacent earthed metallic components and un-insulated live components are necessary for correct operation, the clearances required shall be taken into consideration in the design and during installation.

The MCBs and ELPUs shall be silent when carrying rated current.

Construction

The MCBs and ELPUs shall be of robust mechanical construction and of compact design. The operating mechanisms shall be contained in a case of strong non-flammable insulating material. All working parts shall be completely enclosed. The operating handle shall be readily accessible. Operating handles shall be of a robust design and of insulating material.

Ratings

The rated operational voltage shall be 240 V AC for single pole MCBs, single pole and neutral MCBs and ELPUs, and 415 V AC for triple pole MCBs.

The rated impulse withstand voltage shall be in accordance with SANS 60947-1 for Overvoltage Category III. The rated current shall be as specified for each Item.
MCBs of a greater load current rating than that specified for any particular item may be offered where the specified load current rating is not provided for in the particular product range and the next highest, appropriately rated MCB of the product range is offered in its place (eg. 63 A in place of 60 A). Appropriate alternative ratings will be determined with reference to Clause 4.1 of SANS 156.

The minimum rated ultimate short circuit breaking capacity (Icu) of the MCBs shall be 3 kA or 6 kA, as specified.

The rated service short circuit breaking capacity (Ics) of the MCBs shall be a minimum of 50% of the rated ultimate short circuit breaking capacity.

Operating mechanism

Each pole of the MCBs shall be provided with a non-adjustable hydraulic inverse time overcurrent release and a magnetic instantaneous short circuit release.

CBs with a thermal inverse time delay overload release instead of a hydraulic inverse time overcurrent release shall not be acceptable.

A common tripping bar shall be provided on single pole and neutral and triple pole MCBs and on the ELPUs to ensure that all poles operate simultaneously.

The operating mechanism shall be trip-free.

Characteristic

The maximum and minimum tripping currents (Trip Current and Hold Current) and maximum tripping time of the overcurrent release of the MCBs shall comply with the requirements of SANS 556-1.

The characteristics of the MCBs shall be the Circuit Breaker Industries (CBi Electric) Standard Curve 3 (fast curve for domestic use), Standard Curve 2 (standard curve) or Special Curve 1 (slow curve for motor starting), as specified for each item, or equivalent.

IEC 60898-1 operating characteristics Curve B, Curve C and Curve D shall be considered equivalent to CBi Curve 3, Curve 2 and Curve 1, respectively, for the purposes of this specification.

The MCB operating characteristics shall not be affected by changes in ambient temperature. The ELPUs shall have an earth leakage tripping sensitivity within the range 15 mA to 30 mA.

Terminal connections

The MCB and ELPU terminals shall be of robust construction and shall be of the metal block design with the conductor being securely clamped by means of a single terminal screw.

The MCBs and ELPUs shall be designed for incoming and outgoing cable termination at the top and bottom of the MCB, respectively, when vertically mounted.

Terminal connections shall be shrouded in an approved manner.

Wire (unarmoured single-core cables without a metal sheath)

General

Wiring shall be measured on a linear basis along the run of the wiring and priced accordingly. The measurement shall include all lengths from end to end of conduits or wireways, exclusive of slack, interconnections inside the switches, luminaires, looping boxes and distribution boards. Single wire runs will be measured individually and according to the wire size. Pricing will be rounded to the nearest full meter.

General purpose wire (house wire)

Wire shall be installed in conduit, trunking, power skirting or any other suitable wireway. Colours shall be RED for live, BLACK for neutral, GREEN/YELLOW for earth, ORANGE for live return from light switches and PINK for intermediate switches. No joints shall be allowed in any wire run except in switch boxes or points of outlet. Jointing shall be done with the use of suitable connectors in such a way that there is no break in the neutral. General purpose wire (HOUSE WIRE) shall not be used for the wiring of control systems except for the wiring of Digital Addressable Lighting Interface (DALI) systems. Open wiring is not allowed. Wire shall be sleeved in conduit or a suitable wireway at all times.

General purpose wire shall be of high conductive annealed stranded copper to SANS1411, insulated with general purpose flexible grade PVC. In all colours and rated for 600/1000V operation between -10°C to 70°C.

Panel wire

Panel wire shall be used for the wiring of items listed under “CONTROL EQUIPMENT” in the schedule of rates. Panel wire shall as far as possible be installed in slotted trunking. Colours shall be according to specification i.e. RED, WITE or BLUE for mains, BLACK for neutral, GREEN/YELLOW for earth and YELLOW for 230VAC control. No joints shall be allowed in any wire run.

Panel wire shall consist of high conductivity bunched plain flexible copper conductors to SANS 1411, insulated with general purpose flexible grade PVC. In all colours and rated for 600/1000V operation between -10°C to 70°C.

Bare copper wire and rod

Earth grids shall be constructed and installed strictly as per the designs. No earth grid shall be installed in the absence of an approved design.

The main earth grid can be constructed from a 10mm diameter black annealed copper rod or 70mm² to 120mm² bare copper wire, buried at least 0.5m below finished ground level or under foundations. The cost for excavations should it be required will be priced separately under the respective items.

All joints shall be exothermically welded or oxy-acetylene brazed using 3mm diameter silver-copper-phosphorus brazing filler metal rods (Silbralloy) or equivalent. No flux is required for copper to copper welds. Copper shall be thoroughly cleaned prior to welding.

There should be a tail of bare copper earth installed from the horizontal grid to each “earth spike” with a 150mm section running perpendicular to the spike where the brazing must be done. A clamp must be installed prior to brazing at each weld.

Copper electroplated steel rods (earth spikes) shall be supplied and installed with couplings, steel drill tips and brass clamp connectors. It must be noted that the quantity of clamps, couplings and steel drill tips required with each earth spike may differ and will depend on the specific design. Tenderers should take this into consideration when pricing

Cables

General

All cables used in the electrical installation shall be high conductivity annealed copper with PVC insulation unless otherwise specified and shall bear at the very least, the manufacturer’s name, the specification to which the cable is manufactured, a description including the number of cores and the voltage rating of the cable.

No joints shall be allowed in any cable run. If joints are detected the cables shall be replaced by the tenderer at his cost. Joints will only be allowed in cable runs where cable lengths exceed drum or coil lengths or where cables are being repaired.

The tenderer shall take the lengths specified in the Scope of Works as a guideline and shall measure the distance before ordering. Cables ordered too short shall be for the account of the tenderer.

Cable drums shall be stored upright to prevent damage to cables. Any damaged cable shall be replaced by the tenderer at his cost. Care must be taken when any cable is uncoiled not to damage or twist the cable. Cables that

are twisted and manhandled will not be accepted.

Cables shall be measured on a linear basis per full meter along the entire run of the cable and priced accordingly. The measurement shall include all lengths from end to end inclusive of slack, interconnections inside panels, boxes and distribution boards. Single cable runs will be measured individually and according to the cable size. Pricing will be rounded to the nearest full meter. This pricing shall include the entire cable installation as well as all supplementary items required for a complete cable installation. Items such as labour, transport, suitable glands, terminations, ferrules, lugs, heat shrink, drilling of holes, cable ties, cable clamps or any other items required to make the cable secure and functional.

The pricing per meter for steel wire armoured (SWA) cable shall exclude joints, terminations and danger warning tape.

The jointing and termination of SWA cables shall be separately priced via the respective rates. Pricing for jointing and terminations of SWA cables shall include resin filled cast joints, crimp ferrules, crimp lugs, Nickel plated Brass SWA cable glands and weather shrouds, special SWA glands for hazardous locations, drilling holes, heat shrink tubing, earth tags or any other items that may be required for termination or jointing.

Cable danger warning tape shall be similarly measured and priced separately via the respective rate. The tape shall be manufactured from polyethylene, orange in colour with black lettering. It shall be approximately 300mm wide and 250 microns thick.

Cables may not utilise the same cable tray as telecommunication and data cables. Where electromagnetic interference may upset data and telecommunication signals the necessary precautions regarding physical separation and screening shall be applied.

All cables shall be in accordance with SANS 1507.

Where cable is installed in the ground the trench shall be of sufficient depth to allow a soil covering to top of cable of at least 600mm. The cable/s shall be installed on a bedding of fine sieved soil and covered with the same type of soil. Suitable soil shall be imported if not available from the excavated material. The remainder of the trench shall be back filled in layers of 150mm thick and properly tamped. Excess material shall be removed from site.

NOTE:
SWA cables shall be installed in the ground, on wire mesh tray, cable ladder, in steel conduit or directly mounted on wood, brick or concrete.
SWA cables shall not be installed in surface mounted PVC wire ways or PVC conduit unless specified by the project manager.
Cable support systems and trenching shall be priced separately via the respective rates.

Termination of steel wire armoured cable

Termination of SWA cables shall be priced separately via the respective rates.

Glands shall be selected to suit the specific cable and environment. Glands shall at all times be fitted to the manufacturer’s specifications. Glands shall secure cables properly and shall be tightened to the manufacturer’s specifications by means of appropriate tools

Cable ends shall be suitably made of and sealed to prevent the ingress of moisture prior to termination.

SWA cable glands shall be manufactured from nickel plated brass and shall be fitted with waterproofing neoprene shrouds.

Care shall be taken that the wire armouring is properly secured. The cutting off of strands will not be permitted.

Jointing of steel wire armoured cable

Jointing of SWA cables shall be priced separately via the respective rates.

Joints shall be resin cast type, prepared and installed as per the manufacturer’s specifications. The armouring shall be suitably ferruled and made continuous through the joint.

CONDUITS AND CONDUIT ACCESSORIES

All conduits and conduit accessories shall comply with SANS 950.

Conduit shall be measured on a linear basis along the run of the conduit and priced accordingly. The measurement shall include all lengths from end to end of conduits, interconnections inside the switches, luminaires, looping boxes and distribution boards. Single conduit runs will be measured individually and according to the wire size. Pricing will be rounded to the nearest full meter.

Where chasing is necessary the chases shall be as narrow as possible and shall be done with mechanical means. The tendered shall be required to liaise with and work with the builder as building work progresses. Once conduit has been installed in a chase it shall be properly secured to prevent springing.

Chasing of steel reinforced concrete will not be allowed unless approved by a structural engineer in writing.

Where conduit is installed in concrete floor slabs it shall be adequately spaced to permit the satisfactory consolidation of the concrete. Conduit shall be well clear of the top and underside of the slab or the sides of vertical columns. The conduit shall be installed so that any condensation that may form shall gravitate to the nearest box.

All joints shall be properly glued with approved PVC glue. An electrician shall be standing by when concrete is cast. Conduit boxes shall be securely fixed, flush with the underside of the ceiling or wall. Conduit laid in screeding on top of concrete slabs shall have a wall thickness of at least 1.6mm.

Where conduits are run in brickwork and are required to pass through a concrete column or beam a conduit sleeve shall be cast into the column or beam. As brickwork is raised the required conduit shall be installed through the sleeve.

All boxes shall be fitted with cover plates where not covered by light fittings or other devices.

All spare conduits or conduits installed for other services e.g. data and telecommunication cables shall be fitted with 1.2mm diameter galvanized steel draw wire.

Flush mounted 100mm x 100mm conduit boxes shall be provided in the wall behind each compartment of power skirting.

Galvanized steel conduit (Bosal or similar and approved) shall be used in the following instances:

- Where conduit and accessories are exposed to ultra violet radiation for more than an hour a day;
- Where flame or explosion proof installations are required; and
- Where the conduit will be load bearing e.g. for the suspension of lighting luminaires.
- When specified by the Project Manager.

The sizes of conduits shall be in accordance with SANS 10142, Wiring of Premises, for the specified number and size of conductors unless otherwise specified in the Scope of Works.

Conduits shall not be installed closer than 150mm to pipes containing hot water, steam, gas or any other material which may damage the conduits or conductors.

Surface conduit shall be saddled with spacer bar saddles. Spacer bars shall be installed with suitably sized brass countersunk screws and PVC plugs.

PVC conduit shall be secured with saddles spaced not more than 900mm apart. Metal conduit shall be secured with saddles spaced not more than 1500mm apart.

Pricing for conduits on the schedule of rates shall include all supplementary materials required to form a complete installation e.g. flexible conduit, surface or flush boxes, round boxes, round lids, brass screws, dome lids, couplings, adaptors, spacer bar saddles, bends etc.

Pricing for conduits 40mm and larger will exclude bends and boxes and will include items required for straight runs only.
Where steel conduit is used as a sleeve for SWA cable the conduit shall have only straight runs, no bends. The ends of these conduit runs shall be capped with PVC end caps.

Cable support systems

General

Pricing for cable support systems on the schedule of rates shall include all supplementary materials required to form a complete installation e.g. mounting bolts and nuts, brackets, threaded rods, hangers, clips, chemical or mechanical anchors, “unistrut” or “Clip-On” support channels, canter lever arms, T-pieces, risers, droppers, reducers, bends, 4 way cross overs, joiner or splice sets and hold down saddles or any other items that may be required to form a complete installation. Cable support systems do not require to be covered.

Cable support systems shall be measured on a linear basis along the run of the structure and priced accordingly. The measurement shall include all lengths from end to end of wire mesh or ladder, interconnections bands etc. Single runs will be measured individually and according to the size (width). Pricing will be rounded to the nearest full meter.

All metal cable support systems shall be earthed in accordance with SANS 10142-1. Pricing for earthing shall be separate via the respective rates.

Installation

Cable ladders or wire mesh trays shall be plumb and shall length wise be arranged either vertically or horizontally. Joints shall be kept to a minimum and shall be properly braced. Bends and tees shall be from the same manufacturer.

Ladders or wire mesh trays fixed to brick or concrete work shall be mounted on brackets manufactured from 2.5mm thick material. The brackets shall be the full width of the ladder and shall be spaced 500mm centres along the length of the tray. Brackets shall be provided where ladders or trays terminate. Each bracket shall be fixed to the brick or concrete work with two (2) 8mm bolts entered at least 70mm into the concrete. The tray shall be secured to each bracket with two (2) 6mm galvanized steel set screws with nuts and washers. The Project Manager may call for chemical anchors or larger size bolts and screws if required.

Cable positioning and fastening mechanical characteristics

Cables shall be neatly fastened to the ladder with 10mm wide black PVC cable straps at 300mm distances.
Where cable trays are installed vertically, power cables shall be installed at the bottom of the tray and instrumentation and signal cables at the top. Where trays are installed horizontally power cables shall be closest to the wall.

Physical characteristics

Welded wire mesh (cabstrut medium duty cable tray - WWMD) or equivalent.
Material: Steel
Corrosion protection: Galvanised (HDG) Construction: Welded
Wire: ø 4mm Pitch: 100x50mm
Side wall height: 50mm (2 wires) Lengths: 3000mm

Cable ladder (cabstrut cl76 cable ladder) or equivalent.
Material: Steel
Corrosion protection: Galvanised (HDG) Construction: Welded
Side rail height: 75mm Rung spacing: 375mm material thickness: 1.6mm (100mm to 400mm wide) / 2mm (500mm to 1000mm wide) Lengths: 3000mm

Wire ways general

Pricing for wire ways on the schedule of rates shall include all supplementary materials required to form a complete installation e.g. mounting screws, flange washers, covers, external elbows, internal elbows, flat elbows, flat tees, cover joiner clips, cable separators, unistrut” support channels, canter lever arms end caps, drilling and fixing or any other items that may be required to form a complete installation. Wire ways must be covered with steel or PVC covers.

Wire ways shall be measured on a linear basis along the run of the structure and priced accordingly. The measurement shall include all lengths from end to end of wire way. Single runs will be measured individually and according to the size. Pricing will be rounded to the nearest full meter.

All metal wire ways shall be earthed in accordance with SANS 10142-1. Pricing for earthing shall be separate via the respective rates.

Trunking and wiring duct

The use of trunking and wiring duct shall be limited to situations where it is impractical to install conduit or cable support systems.

Trunking and wiring ducts installed in ceilings shall as far as practically possible face upwards, in other words the covers shall be on top.

The use of silicones to cover poorly cut surfaces shall not be allowed.

Power skirting

Power skirting shall be manufactured from high impact PVC. When two compartment power skirting is installed the top compartment shall be utilized for the essential and non-essential power cables and sockets. The bottom compartment shall be utilized for data and telecommunication wiring and cables.

All cover plates, end covers, elbows, bends and other fittings shall be from the same manufacturer and equipment range.

50mm holes shall be provided in the back of compartments in positions coincident with other power skirting, power or network/telephone services to facilitate the drawing in of cables and conductors.

House wire shall be used when wiring socket outlets in power skirting, unless otherwise specified by the Project Manager.

The use of “Surfix” or “Twin and Earth” cables in power skirting for the connecting of socket outlets shall not be allowed unless otherwise specified by the Project Manager.

The use of silicones to cover poorly cut surfaces shall not be allowed. Power skirting shall comply with SANS 61084-1.
Socket outlets mounted in power skirting shall comply with SANS 164.

Data outlets shall be installed without any cabling or termination. Only one data outlet shall be installed per cradle.
Covers for power skirting shall only be installed once all services including network cabling are installed.
Power skirting shall be installed with a protective film intact. The protective film shall only be removed once instructed to do so by the Project Manager.

Surface mounted switched sockets

Where conduit or cable is surface run or where specified, switched sockets of the surface mounted type must be used.

Industrial socket outlets

Industrial socket outlets shall be three, four or five pin as specified with mechanical interlock and padlock facility. Sockets shall be rated IP67.

Wiring

Unless otherwise specified, switched socket circuits must be wired with 2,5mm² conductors and 2,5mm² earth wire. Industrial socket wiring shall be rated according to SANS 10142.

Mounting height

Socket outlets shall be mounted at a height of 200mm from finished floor level to the lowest side of the box unless specified otherwise.

Switching devises light SWITCHES
Light switches shall be mounted a height of 1400mm from finished floor level to the lowest side of the box unless specified otherwise.

All light switches shall be 16A, 240V rated and shall be in accordance with SANS 60669-1.

Flush switches

Where conduit is built in, concealed light switches must be fitted in standard flush PVC 100mm x 50mm x 50mm boxes and provided. Bigger boxes (100mm x 100mm x 50mm) may be used in cases where multiple switches are specified.

Luminaires general
Luminaires making use of Light Emitting Diodes (LED's) as light source shall be supplied complete with LED light source and power supply.

Conventional luminaires shall be supplied complete, but without any lamps. Lamps shall be priced separately via the respective items on the schedule of rates.

Pricing on the schedule of rates shall include the luminaire and all related equipment or materials required for the installation e.g. mounting brackets, bolts, nuts, washers, suspension chains/brackets etc.

Pricing shall also include testing and commissioning of the luminaires.

Programming of any Digital Addressable Lighting Interface (DALI) systems shall be priced separately via the respective rates.

Equipment required for working at heights e.g. scaffold or extended platforms shall be priced separately via the respective rates.

Special vehicles for the transportation of lighting poles shall be priced separately via the respective rates.

Floodlighting – metal halide

250W

Description

The luminaire shall consist of a LM6 die-cast aluminium housing with a separate but attached gearbox designed to operate 250 high-pressure sodium and 250 metal halide tubular lamps.

The luminaire shall bear the SANS 475 performance mark and the SANS 60598-2-5 safety mark. IP 65 in compliance with SANS 60598-2-5.

The housing shall be robustly constructed, weatherproof, hail proof, corrosion proof and vandal resistant. It shall be manufactured from LM6 die-cast aluminium. The front glass covering the lamp compartment shall be heat and impact resistant, held to the lamp housing by stainless steel clamps and sealed by an extruded heat resistant silicon gasket.

The reflector system shall be manufactured from 99,98% super-pure anodized aluminium and consist of the back reflector and two side reflectors. The luminaire shall be available in an asymmetrical narrow, medium and wide beam distribution.

Lamp replacement shall be facilitated from the side by a high-pressure die-cast aluminium lampholder housing. It shall be sealed with a one piece silicon gasket and shall be held to the floodlight with two stainless steel screws.

The control gear compartment shall be manufactured from high-pressure die-cast aluminium for good heat

dissipation. It shall consist of a lid and body that seals the control gear compartment to an IP 65 ingress protection rating when closed. The control gear compartment shall be attached to the stirrup.

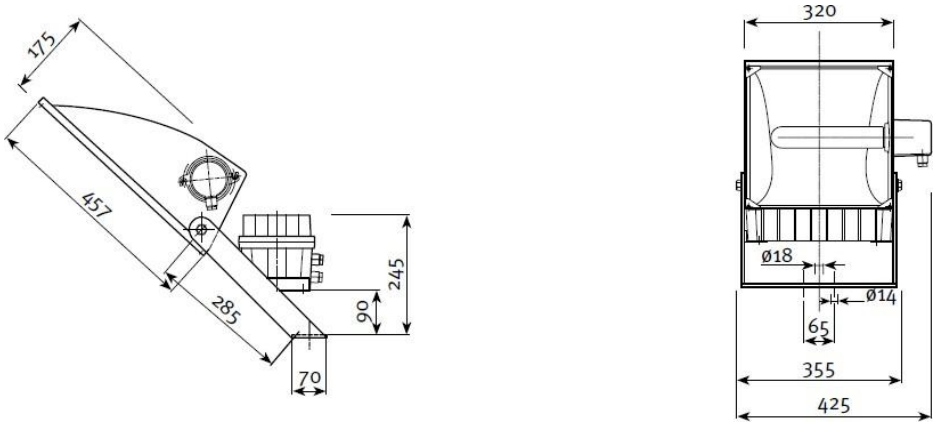
The lamp holder shall comply with VC 8011, shall be rated to withstand 240°C/5kV. The control gear shall be incorporated inside the control gear compartment and shall be mounted on a removable gear tray. It shall be suitable for operation with the 250W lamp on a 230V +3%/-10% 50Hz single phase system.

All screws, bolts and metal parts shall be stainless steel or anti-corrosion treated material. Mains connections shall be by means of a suitable screw terminal block with wire clamping contact.

Ignitors, where applicable, shall be of the superposed pulse type. The luminaire shall be power factor corrected to a minimum of 0,9.

The stirrup shall be manufactured from hot dipped galvanized steel. Holes shall be provided for mounting purposes. Drawing:

Drawing:



Floodlighting – LED

180W & 279W LED

Description
The luminaire shall consists of a Light Emitting Diode (LED) engine, power supply and spigot compartment. This will allow for the easy installation of the LED engine by means of a hinging action onto a spigot base casting, with incorporated leveling device. It shall be secured by stainless steel latches and an access screw. The LED engine, consisting of the LED light source and the power supply, shall be easily replaced or upgraded. Both compartments shall be rated IP 66. Electronic temperature monitoring shall prevent overheating of LEDs and power supply. The power supply shall be automatically disengaged when opening the luminaire. The luminaire housing shall be manufactured from marine grade aluminium. It shall be designed for LED light sources between 50W and 300W. Recommended mounting height shall be up to 30 meters. The bottom-entry mounting stirrup shall be manufactured from 6mm x 60mm hot-dipped galvanised steel. Lamps and components hall have a design life of more than 10 years.

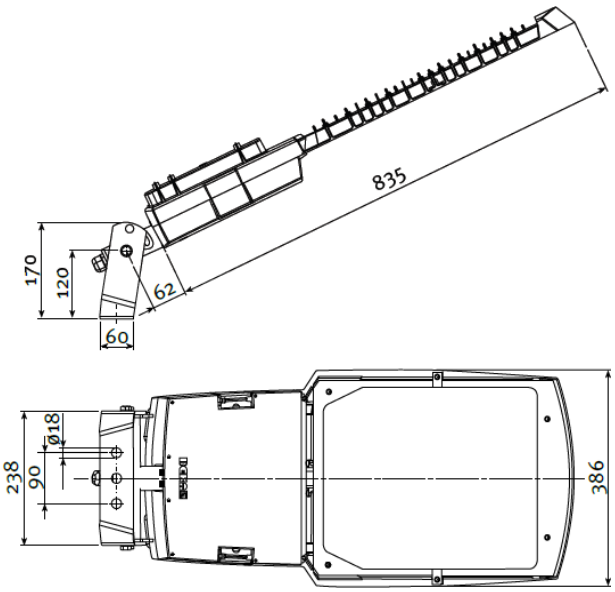
Photometry
Light source: Light Emitting Diode (LED) LED: 2mm2 LED
Colour temperature: Neutral White (4000K) Colour rendering (Ra): ≥70
Optics: Extra wide area Lamp: LED 180w/279w Lumen: 20320lm/32510lm
Lifetime Residual Flux @ tq 25°C: 90%@60.000h

Mechanical Properties
Materials and finishing: Housing – High-pressure die-cast marine grade aluminium (EN 1706 AC-44300) Diffuser: High impact acrylic or glass
Coating: Unpainted Aluminium Installation: Bottom-entry mounting stirrup

Fixing: 3 x ø18 Fixing holes
Dimensions (LxWxH): 897mm x 386mm x 170mm Weight (with gear): 16.5kg

Aerodynamic resistance (CxS): Maxi – 0.045m2

Drawing:



Electrical Characteristics Line Voltage: 230VAC
Mains voltage Tolerance (AC): 198 - 265V
Electronic control Gear: Constant Current Driver IP66 Line frequency: 50Hz
Electrical Safety Class (IEC): Class I or II Surge protection: 20kV/20kA

Power Supply Power Factor: ≥0.95 Removable: Yes Thermal Safety: Yes

Environment
Storage temperature: -40< T < 60ºC
Operating temperature: Designed to operate LED light sources of up to 279W in an ambient temperature (Tq) environment of up to 25ºC, without reducing the useful lifetime of 100 000 hours, at a lumen depreciation of not more than 30% (L70)
Enclosure Tightness: IP 66
Enclosure Mechanical Withstand Impact: IK 08
Enclosure Mechanical Withstand Vibrations: Modified IEC 60068-2-6

54144, 108288 & 162432 Lumen LED

Housing and finish:
Housing: High-pressure die-cast aluminium Optic: Silicon lenses and aluminium reflectors Housing finish: Polyester powder coating Tightness level optical unit: IP 66
Tightness level gear box: IP 66 (gear box) or IP 65 (gear cabinet) Impact resistance: IK 09 (glass)
Vibration resistance: IEC 68-2-6 – 1.5g

Mounting:
Standard mounting: Hot-deep galvanised steel U bracket (54144 lm), Aluminium bracket (108288 & 162432 lm)

Electrical information:
Power factor: >90% at full load Nominal voltage: 230-400V – 50-60Hz
120-277V – 50-60Hz
347-480V – 50-60Hz

Surge protection: 230-400V range: 10kV
120-277V range: 20kV 347-480V range: 30kV

Optical information:
LED colour temperature: 5700K CRI ≥ 70

Operating conditions: -30°C up to +55°C

Lifetime residual flux @ TQ 25°C: 90% @ 40,000h

Vapour proof – industrial – flourescent 2x18w, 2x36w & 2x58w

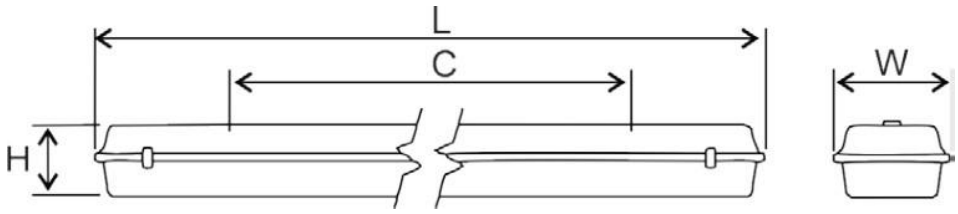
Description

The luminaires shall be rated IP65. Luminaires shall be manufactured from compression moulded glass fibre reinforced polyester. Control gear trays shall be manufactured from white epoxy powder coated steel and shall carry all the control gear and lamp holders. The tray shall also act as a reflector. The tray shall be suspended by two nylon cords during installation and maintenance. Lamp holders shall be manufactured from polycarbonate with bi-pin rotalock action type holders suitable for use with both 26 mm and 38 mm diameter lamps. Two 20 mm diameter plugged cable entries shall be provided for through wiring.

The lens shall be clear injection moulded polycarbonate with linear internal prism. Clips shall be polyamide. Luminaires and control gear shall bare the SABS mark (SABS IEC 60598-2-1)
Nickel cadmium rechargeable cells together with an inverter shall be incorporated as an option into the luminaire to supply emergency lighting for 1 hour at 100% output. Maintained or non-maintained modes shall be available. An inverter shall be incorporated as an option into the luminaire to supply 110VDC lighting. Dimensions (LxWxH):

- 2 x 18w - 700mm x 172mm x 115mm
- 2 x 36w - 1310mm x 172mm x 115mm
- 2 x 58w - 1610mm x 172mm x 115mm

Drawing:



Commercial – led 65w led
Description
The luminaire body shall be manufactured from injection-moulded, flame retardant polycarbonate material. Mounting shall be facilitated through removable external stainless steel mounting brackets, which shall accommodate either surface or suspension mounting.

The luminaire shall be provided with a 20mm gland at one end with a knock out at the opposite end, making it suitable for surface or through wiring.

A silicon sponge gasket shall be fitted into a special groove in the housing. This, in conjunction with the tongue provided on the diffuser, shall ensure an optimal seal of the total enclosure, thereby maintaining the certified IP 65 ingress protection rating.

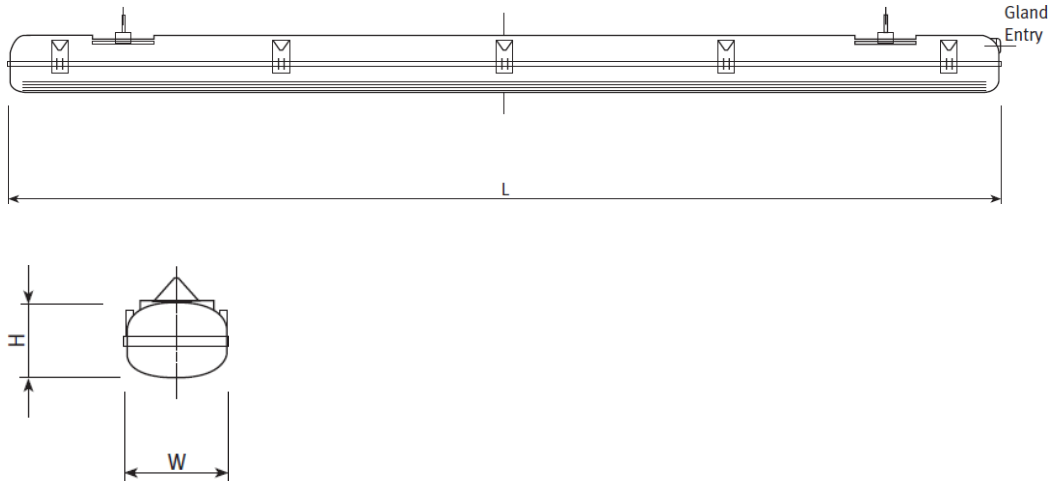
The diffuser shall be manufactured from the same material as the housing, thus ensuring the flame-retardant integrity of the luminaire. Highly effective internal prisms of the diffuser shall ensure an optimal distribution of more than 80%. The diffuser shall be secured in place through multiple sprung stainless steel clips which shall also ensure the integrity of the IP rating. Two of these clips shall keep the diffuser attached to the luminaire when hinged open, for ease of lamp replacement.

The electronic gear shall be mounted on the reverse side of the powder coated steel reflector and shall be accessible for maintenance. The internal reflector and control gear tray shall be attached to the body of the luminaire by multiple wingnut shaped fasteners. Two removable control gear tray straps shall suspend the reflector and control gear tray when released from the body, for ease of maintenance. All control gear components shall be removable and bear the relevant SABS marks. Mains connections shall be by means of a suitable screw terminal block with a wire clamping contact.

The luminaire shall bear the SANS 475 performance mark and the SANS 60598-2-1 safety mark. The luminaire shall have a degree of protection that complies with SANS 60598-2-1.
Lamp compartment: IP 65 Gear compartment: IP 65
The luminaire shall be supplied complete with mounting kit and glands.
The luminaire shall be designed to operate LEDs of up to 65W Photometry
Light source: Light Emitting Diode (LED) LED: 2mm2 LED
Colour temperature: Neutral White (4000K) Colour rendering (Ra): ≥70
Optics: Symmetrical Lamp: LED 65w Lumen: 8100lm
Lifetime: Minimum 50 000hrs useful lifetime (L70)

Mechanical Properties
Materials and finishing: Housing – Injection-moulded, flame retardant polycarbonate

Diffuser: Injection-moulded, flame retardant polycarbonate Diffuser clips: 8 x stainless steel
Coating: Light grey based (RAL 7038) Installation: Suspended or surface mountable
Fixing: Multi-purpose bracket supplied with each luminaire Dimensions (LxWxH): 1270mm x 136mm x 90mm
Weight (with gear): 1.7-2.3kg Aerodynamic resistance (CxS): N/A
Drawing:



Electrical Characteristics Line Voltage: 230VAC
Mains voltage Tolerance (AC): 230V +3%/-10% Electronic control Gear: Constant Current Driver Line frequency: 50Hz
Electrical Safety Class (IEC): Class I Surge protection: 10kV/10kA Lighting control: Dali
Emergency Version: Emergency version maintained, 1hr (at 5% light output)

Power Supply Power Factor: ≥0.95 Removable: Yes Thermal Safety: Yes

Environment
Storage temperature: -40< T < 60ºC Operating temperature: -30< T <35ºC Enclosure Tightness: IP 65
Enclosure Mechanical Withstand Impact: IK 07

N. ELECTRICAL EQUIPMENT

N1. PV Solar, Inverters and LiFePO4 Batteries

The supply shall include design, approval, supply, installation and testing of the system.

The design shall be performed and comply to the Employer, South African National Standards, as well as International best practice, codes, and standards. The Supplier shall obtain the approval of the Works Order Manager prior to proposing any modification to the design or supply of equipment or materials as shown in the specification and the Suppliers proposal

The Supplier assumes full liability for the design, which shall be signed off by professional registered engineers. The Solar PV facility shall have a design life of 20 years.

Support Structure

The supporting structure of the modules and all other PV components shall be designed and installed in line with the latest versions of the relevant South African standards more in particular applicable for PV installations:

- SANS 10160 Part 1 - Basis of structural design
- SANS 10160 Part 2 - Self weight and imposed loads
- SANS 10160 Part 3 - Wind actions
- SANS 1200(all relevant parts)

The wind load on the modules should be calculated (prior to the selection of the supporting structure) for each specific location depending on the wind zone of the site, surroundings of building, roof altitude, inclination of roof and modules, location of modules on the roof (corners, roof edge, etc.), load of PV installation, distance between rows of modules, presence of wind shield, etc.

Mounting to Existing Roof

The number of connection points will be calculated based on the applied loads and the static behaviour of the system. The connection points may not harm the position of or the sealing in-between the roofing.

Structures are typically made out of steel and aluminium; those materials should be new and conform to the current norms in terms of characteristics (i.e. quality and tolerance).

The mounting of other components should not be done by penetrating the structure (e.g. drilling holes) as this might void the galvanization layer and lead to leakages. A clamping method is preferred and adequate measures are to be taken to ensure a corrosion protection.

The supporting structure of the PV system and the connections to the roof may not have an impact on the function of the roof. In all circumstances the building's weather tightness must be maintained.
The supporting structure and the choice of its location on the roof may not block the water drainage on the roof. Special attention should be paid because some supporting structure manufacturers mention a minimum inclination of the roof of approximately 3%. The drainage system shall be well maintained and clean.

The roof clearance around the perimeter of the array has to allow safe O&M activities. It shall be considered corridors to allow the easy access to the module arrays for cleaning activities.
Alignment between all module planes should be guaranteed.

Ground Mounted Structure

In addition to the codes listed in under Support Structure above, ground mounted structures must comply with the latest versions of the following South African National Standards:

- SANS 10160 Part 4 – Seismic actions and general requirements for buildings
- SANS 10160 Part 5 – Basis for geotechnical design and actions
- SANS 10100 Part 1 – Design
- SANS 10100 Part 2 – Materials and execution of work
- SANS 10161 – The design of foundations for buildings
- SANS 10162 Part 1 – Limit-state design of hot-rolled steelwork
- SANS 10162 Part 2 – Limit-state design of cold-formed steelwork

The wind load on the modules should be calculated (prior to the selection of the supporting structure) for each specific location depending on the wind zone of the site, surroundings of building, altitude, location of modules, load of PV installation, distance between rows of modules, presence of wind shield, etc.

Foundations and support structures shall have a minimum design life equal to the design life of the PV system (20 years).

All metalwork used on the support structure shall be corrosion protected to last the full design life of the support structure.

Solar PV Module Mounting

The method used to mount the Solar PV modules to the mounting structure shall be in accordance with the requirements of the module manufacturer and mounting structure manufacturer as described in the instruction manual of both components. If not, written approval on the method of mounting shall be provided by the Supplier from the module manufacturer or/and mounting structure manufacturer.

If modules are clamped onto the mounting structure, at least 4 (four) clamping points should be used. The minimal torque for screwing the modules as stated in the instruction manual shall be respected.

The Supplier shall foresee a minimum inclination of the modules in order to assure the self-cleaning effect by the rain, i.e. at least 10° from the horizontal.

The sheds are to be designed so that the shadow angle is to stay below winter solstice. The shadow angle is defined as the angle between the horizontal and the line connecting the highest point of one row to the lowest point of the following row of modules.

PV Ballast System

In certain cases, a ballast system might be the most appropriate mounting system. Ballast will be placed on certain positions to attach the PV system onto the roof. There will be no penetrations through the roof. The ballast will be dimensioned based on the conclusions of the stability study. The maximum resistance of the thermal insulation material against pressure shall be taken into account when dimensioning the ballast system.

Creep resistance shall be taken into account. E.g.; an aluminium frame of 6 meter shall deform 8 mm with a temperature difference of 50°C.

A protection layer shall be foreseen between the ballast tiles and the roofing in order to prevent damage of sharp edges onto the roofing and to act as a buffer for thermal expansion of the supporting structure. The material of the protection layer needs to be compatible with the roofing material and high UV resistance. The protection layer shall have a minimum thickness of 1.5 mm.

A professionally registered structural engineer must determine whether the roof has sufficient strength to accommodate the additional mass of the PV panels and ballast, taking into consideration the mass and positions of ballast, roof support structure, roof materials, etc.

Anchoring System

The perforation of the module supporting structure through the roofing material can have a direct impact on the water tightness and thermal insulation, which shall be avoided as far as possible. All roof penetrations must be durably sealed using purpose-made products capable of accommodating the movement and temperatures to which they may be subjected.

In addition to uplift and downward forces, the horizontal component of the wind force need to be taken into account in the design of the anchoring system.

Fasteners

All fasteners used on the support structure and for mounting PV panels shall be corrosion protected in such a way that it will last the full design life of the PV system (20 years). Bi-metallic corrosion must be avoided when choosing materials. When choosing the corrosion protection system, consideration must be given to the location of the installation, proximity to the sea and climatic conditions, amongst others.

Electrical Design

Solar PV Modules

The Supplier is only allowed to make use of Monocrystalline silicon, grade A photovoltaic module technologies. Crystalline silicon modules are required to be IEC 61215 certified. Detailed specification sheets and certificates of compliance to these standards are to be provided.

In addition, the modules shall feature the following qualities:

- Normal Operating Cell Temperature (NOCT) is at maximum 46°C with a tolerance of ±2°C.
- The panel operating temperature range is to be at least -40 to 85°C.
- The temperature coefficients for power is to be at least -0.44%/°C (i.e. ≤ -0.45%/°C)
- All modules are required to have a positive output tolerance and the tolerance range is not to be larger than 0 to +3%, preferably 0 - 5Wp.
- Modules shall have anti-reflective coating, The PV panels must have frames sufficiently resistant to potentially corrosive environment (Aluminium Alloy, Anodized Aluminium, etc.); these modules must have valid IEC certifications.
- The PV panels shall be able to support a maximum PV system voltage of 1000V (or 1500V in case of new module generation). When a panel type is certified as per IEC61730 standard, it implies it has been tested and has passed this requirement.
- The panel's ability to withstand up to 5400 Pa must have been proven through the IEC61730 certification being obtained with this load;
- Typical efficiency reduction of maximum 5% at 200 W/m2 according to IEC 60904-1.
- Junction box shall be IP 67 rated.

Inverters

The Supplier must make use of String inverters.

The Inverters must comply with safety requirements according to IEC 62109 and feature anti-islanding according to IEC 62116.

The Inverters must comply with safety requirements according to the NRS 097-2-1 and Employer’s SSEG requirements and specifications.

The selection of inverters must be based on the PV installation design and functional requirements, including the integration requirements into the PV system and the compatibility to the selected PV modules for the installations.

- The inverter supplier has to approve the stringing chosen for the project. Inverters must be designed for PV application and include:
- At least one MPP tracker
- A display showing the faults and the performances
- An advanced system to allow power control and efficiency (maximum efficiency) must be at least 97% (excluding transformer)
- Remote monitoring and control capabilities
- Isolation fault detection
- Anti-islanding
- Ability to start and stop function automatically
- Variable power factor setting
- The ratio of the input DC power to output AC power must be between 80% and 120% at STC
- The MPP voltages of the strings are to be verified to lie in the MPP voltage range of the inverter for temperatures between 0°C and 70°C. The maximum inverter input voltage is not to be exceeded at temperatures of -10°C.
- An IP protection class of at least 54 is required for outdoor mounting and an IP grade of at least 21 is required for indoor mounting of the inverters
- If inverters are installed outdoors must have to be protected from direct sunlight
- The inverter requires an external DC switch

In cases where applicable, there may special grounding requirements for inverters. These are stipulated by the PV module manufacturer. In such cases, it is the Supplier responsibility to notify the Works Order Manager of these requirements.

Protection and Control Devices

The protection and switching methodology shall be determined by the Supplier's proposed design and technology, but the degree of protection shall comply with the applicable standards associated with PV and electrical works in general. Overcurrent and overvoltage devices shall be required on the DC and AC sides. Switchgear used in any switchboards shall comply with SANS (IEC) 60947 and SANS (IEC) 62271.

The Employer requires all devices to be compatible and interface with DPN3 in order to allow the Employer's Network Control Centre to monitor and transmit commands of the PV curtailment in case of grid congestion.

Lightning Protection and Earthing

The Supplier is to conduct a risk mitigation study of lightning damage as per SANS 10313 and IEC 62305 and implement sufficient Lightning Protection System (LPS).

Earthing shall comply with SANS 10142 Parts 1 (LV) and 2 (MV), SANS 10292 and SANS 10199. A neutral earthing design is required.

Lightening protection devices should be included on the communication lines.

All structures, enclosures, PV modules and cabinets shall be earthed appropriately.

Cabling

All cabling shall be installed in accordance with the manufacturers' requirements and should meet the design conditions used in the sizing calculations.

The combined cable DC and AC losses shall not exceed 3%. The Supplier shall submit detailed calculations prior to the commencement of construction.

DC Cabling

- The DC cables of the PV installation must have the following characteristics as minimum:
- Cables used outside shall be UV resistant and ozone protected
- Cables should have Class II rating for insulation
- Cables must be rated for temperatures from -15°C to +90°C. This requirement is also applicable to all materials used in the installation (such as cable conduits).
- The cable shall be made of double insulated component and shall have a minimal life span of 25 years.
- Cables shall comply with SANS 1507
- All DC solar cable shall be halogen free, flame resistant & fire retardant
- Cables shall be terminated with MC4 connectors
- The cable bending radius shall be at minimum four times the cable diameter or as specified by manufacturer, if different.
- Cables have to be sized to allow a current up to 1.25 Isc and up to 1.2 Voc

Cables must be installed in conduits and hooded cable trays. The cable return path should follow the same way to avoid induction loops.

Cables must be dimensioned according to CEI 20-40 and CEI 20-67. Norm CEI 64-8 should be followed to prevent short-circuit-induced current. Norm CEI 82-25 should be followed regarding arrangement of cables and cables trays.

Combined DC cable losses are to be less than 2% at Standard Test Conditions.

AC Cabling

The AC cables of the PV installation must have the following characteristics as minimum:

- All AC cables may be XLPE or PILC with aluminium or copper stranded wire conductors;
- All cable construction shall be according to SANS 97 or 1339, SANS 1507 and IEC 60502;
- All AC cables shall be suitable for direct buried (armoured) or ducted installation;
- All joints and terminations be completed and tested in accordance with the manufacturer's recommendations;

- AC cables are to be terminated in suitable lugs.

Monitoring System

The main standard applicable is the IEC 61724.

A logging tariff meter is to be installed at the delivery point compliant with SANS 474/NRS 057. The meter shall be compatible and integrated into the monitoring system recordings.

The monitoring system must be designed and implemented for a 25-year lifetime. The monitoring system must continuously log data, electrical parameters and the status of the PV plant components. Updated conglomerated data is to be available online at least every 30 minutes. The monitoring system shall feature a UPS with a 24-hour capacity to continue monitoring in times of grid outage.

The monitoring system shall have an online platform with different levels of access control.

The minimum data to be monitored are:
- DC current and voltage at the inverter input, per string
- Inverter behaviour
- DC current and voltage input
- Output active and reactive power
- Phase voltage and current
- Grid frequency
- Grid status
- Energy output
- Alarms and faults
- Energy output at the export meter
- Auxiliary consumption at the import meter
- Status of the equipment (protection devices, inverters etc.)

Additional monitoring system for TMC Goodwood only:
- String monitoring for all PV installation
- 1 x Soiling sensor
- 2 x Pyranometer

Central Disconnect Devices

The Central disconnect devices must meet and comply with all the relevant regulatory requirements and comply with the Employer’s SSEG regulations.

Guarantees and Warranties

Solar PV Modules

Must carry a defect warranty of at least 10 years and a linear 25-year performance guarantee of 80%. The warranties offered by the module manufacturer shall be transferrable to the Employer.

Other terms and conditions for warranties transferability must be clearly defined. The sales agreement with the module manufacturer shall clearly define the claiming procedure of defective modules, the required additional specific independent party involvement and any other conditions that might influence the honouring of the warranty and guarantee.

Inverters

Must have a warranty of at least 10 years. The contract sales agreement with the inverter manufacturer shall clearly define the claiming procedure of defective inverters or parts. The required testing, independent verification requirements and any other conditions that might influence the honouring of the warranties.

Any extension and the full scope of that extension to the standard limited warranty that is included in the price should be indicated clearly.

Upon request by the Works Order Manager, the Supplier must provide proof that the inverter manufacturers have sufficient financial backup that covers manufacturers in bankruptcy or insolvency procedures. The conditions

which void the warranties shall be clearly stated.

The warranties offered by the Inverter manufacturers shall be transferrable to the Employer. Other terms and conditions for warranties transferability must be clearly defined.

Support Structure

The structures shall have at least 10 years' warranty but shall be designed for a minimum lifetime of 25 years. Special attention should be paid to warranty conditions against corrosion. Corrosion prevention must start at the design stage, considering site and soil specific parameters.

Water heaters

General

Water heaters and related equipment shall be equivalent to or better than specified.

Fault finding and repairs to existing units, removal of existing equipment etc. shall be priced via the corresponding rates.

All equipment shall be installed strictly according to the manufacturer's specifications.

Installations and equipment shall be in accordance with SANS 10254.

Pricing for water heaters shall include the entire installation of the specific item listed on the schedule of rates. Any additional items such as, valves, copper pipe (Class 3 - SANS 460), filtration and the electrical supply etc. shall be priced separately via the respective rates.

Instant water heaters

Instant water heaters shall be 10 litre capacity and be designed to operate at a water pressure of up to 400kPa. Units shall be equipped with safety controls to protect against water or power failure.

The water temperature shall be maintained within 3°C of boiling point. Units shall have a white polyester powder coated finish. The unit shall be equipped with a 2400Watt single phase element and the recovery rate shall be1.5 cups per minute.

Hot water cylinders (geysers)

Hot water cylinders shall be fitted with a robust galvanized outer casement and be rated for domestic and commercial applications. The unit shall be durable in severe weather and climatic conditions.

Hot water heaters shall be designed to operate at a water pressure of up to 600kPa.

The inner cylinder for the 150 litre and 200 litre units shall be manufactured from 1.6mm steel and the inner cylinder for the 250 litre units shall be manufactured from 2mm steel. Inner cylinders shall be lined with a thermofused porcelain enamel. Polyurethane insulation shall be installed between the inner cylinder and the outer galvanised casement to reduce energy and heat loss.

It shall be possible to install units horizontally or vertically. Hot water cylinders shall comply with SANS 151.
The 200 litre and 250 litre capacity units must not be wall mounted.

The safety performance and warranty of hot water cylinders shall not be compromised by modifications when flow and return circulation pipes are connected to and from heat pumps.

Heat pumps

Air source water heating heat pump systems shall be micro-computer controlled with timer functions. The heat

pump shall automatically start and stop according to the water temperature and the temperature settings. The unit shall be durable in severe weather and climatic conditions.

Installations and equipment shall be in accordance with SANS 10147, SANS 1352 and SANS 1125 The refrigerant gas used in heat pump systems shall be environmentally friendly and free of pollutants. Heat pump specifications
Heating capacity: 3.5kW / 5.5kW
Water heater size: 100/150lt / 200/250lt Rated power input: 900W / 1.5kW Rated current 4.5 A / 6.0 A
Hot water output: 75lt/h / 110lt/h Net weight: 48kg / 55kg
Dimensions: 885mm x 360mm x 600mm Power supply: 220-240V/1P/50Hz
Fan direction: Horizontal
Heat exchanger: Shell and Tube Refrigerant: R407C
Maximum water temperature: 55°C Air temperature: -10°C to 43°C Water connection: 3/4" BSP Female IPX rating: IPX4
Intelligent defrosting: Yes Electronic expansion valve: Yes Noise level: <50db (A)

N6. SCADA Logging System

SCADA PC and Peripherals

The SCADA PC must meet the following minimum requirements:
- Processor: Ryzen 7 or equivalent.
- RAM: 32GB minimum.
- Mid-Tower Desktop Chassis and Power Supply
- Storage: SSD with a minimum of 2TB in RAID 1.
- Operating System: Windows 11 Pro or higher
- 2 x gigabit network ports
- Peripherals
  - Monitor: 32" 4k monitor, 100hz, desk standing
  - Input devices: Keyboard and mouse.

Administration PC

The Administration PC must meet the following minimum requirements:
- Ryzen 5 or equivalent
- RAM: 16GB
- Mid-Tower Desktop Chassis and Power Supply
- Storage: SSD with a minimum of 1TB .
- Operating system: Windows 11 Pro or higher
- Peripherals:
  - Monitor: 32" 4k monitor, 100hz, desk standing
  - Input devices: Keyboard and mouse

Industrial PCs (IPCs)

The IPCs must meet the following minimum requirements:
- Model: Brandwagon 15.6" IPC or equivalent
- Processor: Intel core i7 minimum or equivalent
- RAM: 8GB minimum
- Storage: 256 GB SSD minimum
- IP65 rating
- Supports Windows 11 Pro or higher

Network & Switches

Gigabit Ethernet switches will be used to connect PLCs, IPCs and the SCADA PC on the control system network. The switches must meet the following minimum requirements:
- Physical network segregation between IT and OT networks with firewall. The firewall shall only allow IT network access to the SCADA server on the OT network. All other OT devices must be blocked from accessing the IT network.

Moxa Profinet compatible switches are preferred:
- 1 x 16 port switch located in rack mount enclosure near SCADA

1 x 5 port switch located in each IPC enclosure
1 x 5 port switch located in each cremator electrical panel (if not already installed)

Enclosure

The enclosure shall be wall mounted with racks, and must meet the following requirements:
Minimum 15U, and adequately sized to house the following pieces of equipment:
- UPS
- NAS

Contain filters for protection against dust without inhibiting ventilation

UPS

The UPS shall supply back up power for the SCADA PC, and must meet the following minimum requirements:
- Free standing in rack mount enclosure
- Capacity: Minimum of 1500VA
- Runtime: Minimum of 30 minutes during power failure

Backup Network Attached Storage (NAS)

The NAS must meet the following minimum requirements:
- Freestanding in the rack mount enclosure
- Capacity: Minimum of 2TB.
- Supplier: Synology or equivalent

Unlimited Perspective Ignition SCADA

The SCADA modules must meet the following minimum requirements:
- Core: Centralized data management
- Perspective: Web-based client access for real-time monitoring
- Reporting: Automated report generation capabilities
- Email: Alerting system via email notifications
- Historian: Data logging and historical data analysis tools
- Communication Protocols
  - Siemens S7+
  - OPC-UA
  - Modbus TCP

SCADA support must be provided:
- 1-Year Care & Upgrade Protection During Development to ensure system reliability.

Windows Licenses

Windows 11 Pro must be used. All systems must be compliant with Microsoft licensing requirements.

Historian/Database

The historian will be used to store time series data. The data must be stored in a relational SQL database using the Ignition historian module. Database system must store historical data from the cremation processes for analytics.

All data tracking to be done in relational tables in the SQL database:
- Pre-load list of deceased
- Deceased list capturing processed information including aggregated data
- Time stamped machine states
- Coffin details
- Undertaker details

Teltonika for VPN Support Access

Suppliers must ensure that the following is provided:
- VPN router for secure remote access to the SCADA system

Firewall between OT and IT networks
VPN access only to OT networks
SIM Cost/Fibre Access as per service provider rates
Data Plan: Minimum of 1GB per month allocated for support access

Analogue Inputs

An independent panel with PLC must be provided. The PLC must provide the following input capabilities:
4x Analog Inputs for fuel monitoring and opacity readings
2x Thermocouple Inputs for stack temperature readings
Preferred supplier and PLC series is Siemens, 1200 series or equivalent.

Data Extraction

Signal transfer of the following must be provided:
Key data points:
Primary Temperature (°C)
Secondary Temperature (°C)
State of Cremator (Off, Idle, Running, Cooling)
Primary Burner Running Status (Yes/No)
Secondary Burner Running Status (Yes/No)

Health monitoring metrics:
Fan Status (Operational/Failure)
Motor Status (Operational/Failure)
Door Hydraulics Status (Operational/Failure)
Valve Feedback where applicable (Operational/Failure)
Air Pressure (Pa)
Primary Burner Status (Operational/Failure)
Secondary Burner Status (Operational/Failure)

Additional Metrics:
Stack Temperature (°C)
Stack Opacity (%)
Fuel Instantaneous Consumption (L/h) and Totalized Consumption (L)
Door Feedback (Closed/Open)

Warranty and Support

2-year extended warranty and maintenance plan

The following components must be covered under a 2-year extended warranty and maintenance plan:
SCADA PC
Admin PC
IPCs
Network Switches
UPS
NAS and NAS drive

Startup support

30-day start-up support must be provided should any operational assistance be required. The support shall be limited to weekdays and business hours.

HEALTH AND SAFETY SPECIFICATION

H1 DEFINITIONS

For the purposes of this Specification, the definitions given in the Occupational Health and Safety Act, 85 of 1993 and the Construction Regulations, 2014, and the following definitions, shall apply:

a) "Construction Regulations, 2014" means the Construction Regulations (GNR. 84 of 7 February 2014) published in terms of the OHS Act.
b) "Supplier" means the Principal Contractor as defined in the Construction Regulations, 2014.
c) "Purchaser" means the Client or his agent as defined in the Construction Regulations, 2014.
d) "Works Project Manager" means the person/firm so named in the Contract Data whose function is to administer the Contract as agent of the Purchaser, acting through, if appointed, a Health and Safety Agent.
e) "OHS Act" means the Occupational Health and Safety Act, 85 of 1993.

H2 SCOPE

In terms of the OHS Act and the Construction Regulations, 2014 the Purchaser must provide the Supplier with a Health and Safety Specification, to which the Supplier must respond with a Health and Safety Plan for approval by the Purchaser.

The purpose of this Specification is to ensure that a Supplier entering into a contract with the Purchaser maintains an acceptable level of compliance with regard to health and safety issues during the performance of the Contract. In this regard the Health and Safety Specification forms an integral part of the Contract and the Supplier shall ensure that his subcontractors and/or suppliers comply with the requirements of this Specification.

H3 INTERPRETATION

The OHS Act and its associated regulations shall have precedence in the interpretation of any ambiguity or inconsistency between it and this Specification.

Responsibility for health and safety relating to the Works lies with the Supplier as described in this Specification. Nothing stated in or omitted from this Specification shall in any way limit the Supplier's obligations and liabilities in terms of the OHS Act.

H4 GENERAL REQUIREMENTS

The Supplier shall:

a) create and maintain a safe and healthy work environment;
b) execute the Works in a manner that complies with all the requirements of the OHS Act and all its associated regulations, and in so doing, minimize the risk of incidents occurring; and
c) respond to the instructions issued by the Works Project Manager through the Works Project's Representative, except in the case of a health and safety issue which requires the Supplier's immediate attention, in which case the Purchaser's Health and Safety Agent can issue an instruction directly to the Supplier.

H5 ADMINISTRATION

H5.1 Application for construction work permit

In terms of Regulation 3 of the Construction Regulations, 2014, read together with the exemptions published by the Department of Labour in Government Notice dated 17 August 201, a purchaser who intends to have construction work carried out, must at least thirty days before that work is to be carried out apply to the Provincial Director in writing for a construction work permit to perform construction work if;

- the works project exceeds 365 days and will involve more than 3600 person days of construction work; or
- the works project is of a value exceeding forty million Rand (R40 000 000) or Construction Industry Development Board (CIDB) grading level 7.

In such cases, the Works Package Manger will not issue an instruction to commence executing the Works, and the Supplier will not be permitted to commence with Works execution, until such time as the required construction work permit has been issued by the Provincial Director.

The purchaser will apply for the construction work permit as soon as possible prior to the work project execution based on the draft Health and Safety Plan submitted. Should the issuing of a construction work permit be delayed by the submission of a draft Health and Safety Plan which, in the opinion of either the Purchaser's Health and Safety Agent, or the Provincial Director of the Department of Labour, is unacceptable, no claim for an extension of time will be entertained.

The issuing of a construction work permit by the Department of Labour shall in no way nullify the requirement to submit a Health and Safety Plan to the Purchaser's Health and Safety Agent for discussion and approval (in terms of Clause H8.3 of this specification) before commencement with Works execution.

H5.2 Notification of intention to commence construction work

The Supplier shall notify the Provincial Director of the Department of Labour in writing using the pro forma contained in Annexure 2 of the Construction Regulations, 2014 before construction work commences, and retain a copy of such notification in the health and safety file, if such work will:

a) include excavation work;
b) include working at a height where there is a risk of falling;
c) include the demolition of a structure; or

The Supplier shall ensure that no work commences on an electrical installation which requires a new supply or an increase in electricity supply before the person who supplies or contracts or agrees to supply electricity to that electrical installation has been notified of such work.

The Supplier shall ensure that no asbestos work is carried out before the Provincial Director of the Department of Labour has been notified in writing.

H5.3 Occupational Health and Safety Agreement

The Supplier shall enter into an Agreement with the Purchaser before the commencement of the Works on Site.

H5.4 Good standing with the Compensation Fund or a licensed compensation insurer

The Supplier shall provide the Works Project Manager with a letter of good standing from the Compensation Commissioner or a licensed compensation insurer before the commencement of the Works on Site.

H5.5 Emergency procedures

The Supplier shall submit for acceptance to the Works Project Manager a health and safety emergency procedure, which includes but is not limited to fire, spills, accidents and exposure to hazardous substances, which:

a) identifies the key personnel who are to be notified of any emergency;
b) sets out details of available emergency services, including contact particulars; and
c) the actions or steps which are to be taken during an emergency.

The Supplier shall within 24 hours of an emergency taking place notify the Works Project Manager in writing of the emergency and briefly outline what happened and how it was dealt with.

H5.6 Health and safety file

The Supplier shall ensure that a Health and Safety file, which shall include all documentation required in terms of the provisions of the OHS Act, the Construction Regulations, 2014 and this Health and Safety Specification, is open and kept on Site at all times.

The Health and Safety file shall be made available for inspection by any inspector, subcontractor, the Purchaser, the Works Project Manager, the Purchaser's Health and Safety Agent, or employee of the Supplier,

upon the request of such persons.

The Supplier shall hand over the Health and Safety file to the Works Project Manager upon Works completion of the Contract and, if applicable, a certificate of compliance accompanied by a test report for the electrical installation in accordance with the provisions of the Electrical Installation Regulations, 1992.

H5.7 Health and safety committee

Where applicable, the Supplier shall establish a health and safety committee, and shall convene health and safety meetings as provided for in the OHS Act.

The Works Project Manager or the Purchaser's Health and Safety Agent shall be invited to attend such meetings as an observer.

The Supplier shall ensure that minutes of the health and safety committee meetings are kept.

H5.8 Inspections, formal enquires and incidents

The Supplier shall inform the Works Project Manager:

a) beforehand of inspections, investigations or formal inquiries of which he has been notified by an inspector; and
b) as soon as reasonably practicable of the occurrence of an incident (as defined in the OHS Act) on the Site.

The Supplier shall record all incidents and notify the Works Project Manager of any incident, except in the case of a traffic accident on a public road, as soon as possible after it has occurred and report such incident to an inspector as designated in terms of the OHS Act.

The Supplier shall investigate all incidents and issue the Works Project Manager with copies of such investigations.

H5.8 Personal protective equipment and clothing

The Supplier shall ensure that all workers are issued with the necessary personal protective clothing.

H6 APPOINTMENTS

H6.1 Appointment of construction manager

The Supplier shall, prior to commencing the Works on Site, appoint a full-time competent person as the construction manager, with the duty of managing all construction work on a single site, including the duty of ensuring occupational health and safety compliance. In the absence of the construction manager an alternative must be appointed by the Supplier.

The Supplier may, having considered the size of the project, appoint, in writing, one or more assistant construction managers for different sections thereof.

No construction manager may manage any construction work on or in any construction site other than the Site in respect of which he or she has been appointed.

H6.2 Appointment of construction supervisor, and health and safety officers

The construction manager shall appoint a competent employee(s) in writing as the construction supervisor(s) for the Site, who will be responsible for construction activities and ensuring occupational health and safety compliance on the construction site. The Supplier may, having considered the size of the project, appoint, in writing, one or more competent employees to assist the appointed construction supervisor(s).

The Supplier may, having considered the size of the project, the degree of danger likely to be encountered or the accumulation of hazards or risks on the Site, appoint a full-time or part-time construction health and safety officer in writing, who has in the Supplier's opinion the necessary competencies and resources, to assist the Supplier in the control of all health and safety related aspects on the Site.

The Supplier shall compile an maintain an organogram which outlines the roles and responsibilities of the construction supervisor's assistants, and health and safety officers.

H6.3 Other competent persons

The Supplier shall appoint in writing competent persons to supervise or inspect, as relevant, any of the following:

a) temporary works operations;
b) excavation work;
c) demolition work;
d) scaffolding work operations;
e) suspended platform work operations;
f) rope access work;
g) material hoists;
h) operation of bulk mixing plant;
i) explosive activated fastening device;
j) cranes;
k) construction vehicles and mobile plant (equipment);
l) the stacking and storage of articles on the Site; and
m) fire equipment.

The Supplier shall appoint in writing competent persons to:

l) induct employees in health and safety; and
m) prepare a fall protection plan.

H6.4 Health and safety representative(s)

The Supplier shall appoint in writing, if necessary in terms of the OHS Act, a health and safety employee representative(s), whose duties shall be as described in the OHS Act.

H7 PURCHASER'S HEALTH AND SAFETY AGENT

The Purchaser's Health and Safety Agent shall:

a) audit the Supplier's compliance with the requirements of this Specification prior to the commencement of any physical construction activities on the Site;
b) accept or reject all safety plans, giving reasons for rejecting such plans;
c) monitor the effective implementation of all safety plans;
d) conduct periodic and random audits on the health and safety file to establish compliance with the requirements of this Specification and the Supplier's health and safety plan; and
e) visit the site at regular intervals to conduct site inspections, and based upon such visits issue, wherever necessary, any notices and/or instructions to the Supplier or any of the Supplier's subcontractors with a copy to the Works Project Manager and, where relevant, to the Supplier.

The Supplier shall invite the Purchaser's Health and Safety Agent to audit compliance with the requirements of this Specification before commencing with any new construction activity on the Site.

The Supplier shall permit the Purchaser's Health and Safety Agent to audit the Supplier's compliance with the approved Health and Safety Plan, and shall provide any assistance and/or documentation as may be required in this regard.

H8 CREATING AND MAINTAINING A SAFE AND HEALTHY WORK ENVIRONMENT

H8.1 General

The Supplier shall with respect to the Site and the construction works that are contemplated:

a) cause a preliminary hazard identification to be performed by a competent person before commencing any physical construction activity;

b) evaluate the risks associated with such work constituting a hazard to the health and safety of such employees and the steps that need to be taken to comply with the OHS Act; and
c) as far as is reasonably practicable, prevent the exposure of such employees to the hazards concerned or, where prevention is not reasonably practicable, minimize such exposure.

The Supplier shall ensure that:

d) all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work;
e) no structure or part of a structure is loaded in a manner which would render it unsafe;
f) relevant information, if any, provided by the designer of the structure is taken into account in the risk assessment; and
g) the designer of any temporary works complies with the requirements of regulation 6(2) of Construction Regulations, 2014.

The Supplier shall carry out regular inspections and audits to ensure that the Works are being performed in accordance with the requirements of this Specification and the Supplier's health and safety plan.

H8.2 Risk assessment

The Supplier shall before the commencement of any construction work on Site and during such construction work, cause risk assessment(s) to be performed by a competent person appointed in writing. Such assessment(s) shall as a minimum:

a) identify the risks and hazards to which persons may be exposed to;
b) analyse and evaluate the identified risks and hazards based on a documented method;
c) document a plan of safe work procedures, including the use of any personal protective equipment or clothing and the undertaking of periodic "toolbox talks" or inductions before undertaking hazardous work, in order to mitigate, reduce or control the risks and hazards that have been identified;
d) provide a monitoring plan; and
e) provide a review plan.

The Supplier shall ensure that as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in the risk assessment.

The Supplier must review the relevant risk assessment -

f) where changes are effected to the design and or construction that result in a change to the risk profile; or
g) when an incident has occurred.

H8.3 Health and safety plans

The Supplier shall prior to commencing the Works to which this Specification applies, submit to the Purchaser's Health and Safety Agent for approval a suitable and sufficiently documented health and safety plan, based on this Specification and the risk assessment that is conducted.

The health and safety plan shall include, but not be limited to, the following:

a) The safety management structure, including the names of all designated persons such as the construction supervisor and any other competent persons;
b) Safety method statements and procedures to be adopted to ensure compliance with the OHS Act; Construction Regulations, 2014 and this Health and Safety Specification;
c) The provision and use of temporary services;
d) Personal protective equipment, devices and clothing required;
e) Emergency procedures;
f) Provision of workers' welfare facilities;
g) Induction and training;
h) Arrangements for monitoring and control to ensure compliance with the safety plan; and
i) Provision and maintenance of the health and safety file and all other relevant documentation.

The Supplier shall provide each subcontractor with the sections of this Health and Safety Specification pertaining to the construction work to be performed by that subcontractor. The subcontractor shall provide the Supplier with a health and safety plan pertaining to his work, for incorporation into the Supplier's health and safety plan.

The Supplier shall discuss the submitted health and safety plan with the Purchaser's Health and Safety Agent, modify such plan in the light of the discussions and resubmit the modified plan for approval.

The Supplier shall apply the approved health and safety plan from the date of its approval and for the duration of the Works to which this Specification applies.

The Supplier shall conduct periodic audits for compliance with the approved health and safety plan at intervals agreed upon with the Employer's Health and Safety Agent, but at least once every month.

The Supplier shall update the health and safety plan whenever changes to the Works are brought about.

H8.4 Responsibilities towards employees and visitors

The Supplier shall, as far as is reasonably practicable, cause every employee to be made conversant with the hazards to his health and safety attached to any work which he has to perform, any article or substance which he has to produce, process, use, handle, store or transport and any plant or machinery which he is required or permitted to use, as well as with the precautionary measures which should be taken and observed with respect to those hazards or safe work procedures.

The Supplier shall ensure that all employees under his control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment.

The Supplier shall cause a record of all induction training to be kept, which indicates the names, identity numbers and job description of all those who attended such training.

The Supplier shall not allow or permit any employee to enter the Site, unless such person has undergone health and safety induction training pertaining to the hazards prevalent on the Site at the time of entry.

The Supplier shall ensure that all of his employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner on the prescribed form.

The Supplier shall ensure that each visitor to the Site, save where such visitor only visits the site office and is not in direct contact with the construction work activities:

a) undergoes health and safety instruction pertaining to the hazards prevalent on the Site; and
b) is in possession of and using the necessary personal protective equipment.

The Supplier shall cause a record of all induction training to be kept in the Health and Safety file.

The Supplier shall provide suitable on-site signage to alert workers and visitors to health and safety hazards and requirements. Such signage shall include but not be limited to:

c) prohibited unauthorized entrance;
d) signage to indicate what personal protective equipment is to be worn; and
e) activity related signs.

The Supplier shall not permit any person who is or who appears to be under the influence of intoxicating liquor or drugs, to enter or remain at a workplace.

H8.5 Subcontractors

The Supplier may only subcontract work in terms of a written subcontract and shall only appoint a subcontractor should he be reasonably satisfied that such a subcontractor has the necessary competencies and resources to safely perform the work falling within the scope of the subcontract.

The Supplier shall ensure that all of his obligations in respect of subcontractors in terms of the Construction

Regulations, 2014 are adhered to.

H8.6 Work permits and wayleaves

The Supplier shall be responsible for obtaining all the wayleaves, permissions or permits applicable to working near any existing services or other infrastructure on Site, and shall abide by the safety conditions imposed by such wayleaves, permissions or permits.

H8.7 Access to the Site

The Supplier shall ensure that access to the Site is strictly controlled and that, where possible, only authorised persons are permitted onto the Site.

The Supplier shall control the access to Site of his own personnel and equipment, and that of his subcontractors and suppliers, in such a way so as to ensure that the safety of all public pedestrian and vehicular traffic is not compromised.

H8.8 First aid and emergency procedures

The Supplier shall, where more than five employees are employed at a workplace, provide a first aid box or boxes at or near the workplace, which shall be available and accessible for the treatment of injured persons at that workplace. Such first aid boxes shall contain suitable first aid equipment.

The Supplier shall ensure, where there are more than 10 employees employed on the Site, that for every group of up to 50 employees at that workplace at least one person is readily available during normal working hours who is in possession of a valid certificate of competency in first aid.

The following information shall be conspicuously posted in the offices of the Supplier for the duration of the Contract:

a) Telephone numbers of emergency services;
b) The names of all safety representatives and safety officers; and
c) The name(s) of the competent first aider(s).

The Supplier shall post, in prominent places, notices indicating where the first aid box(es) is/are kept, as well as the name of the person in charge of the first aid box.

H8.9 Housekeeping

The Supplier shall ensure, *inter alia*, that suitable housekeeping is continuously implemented on the Site, including provision for the:

a) removal of scrap, waste and debris, and materials which are no longer required for use, at appropriate intervals (in accordance with Construction Regulation 27); and
b) proper stacking and storage of materials and equipment (in accordance with Construction Regulations 27 and 28).

H8.10 Fire precautions

The Supplier shall ensure that all appropriate measures are taken to minimize the risk of fire and that appropriate procedures and equipment are in place to deal with the event of a fire, all in accordance with Construction Regulation 29 and the Environmental Management Specification in Part C3.5 of the Scope of Work.

H8.11 Facilities for workers

The Supplier shall provide ablution facilities and eating areas all as specified in the Environmental Management Specification in Part C3.5 of the Scope of Work.

H9. OTHER HEALTH AND SAFETY SPECIFICATION REQUIREMENTS

The Supplier must be aware of the following additional requirements:
Selection of equipment

All selected equipment should be readily available in South Africa should replacements need to be sourced.

What	When	Output
Awareness training (Toolbox Talks)	At least fortnightly and before hazardous work is carried out during works project execution.	Attendance Register
Health and Safety Committee Meetings	Ad hoc during works project execution.	Minutes signed by the employer (Supplier) covering: a) Health and Safety Representative Checklist
Health and Safety Reports	Ad hoc during works project execution.	Report covering: a) Incidents/Accidents and Investigations b) Non-conformance c) Health and Safety Training d) HIRA Updates e) Internal and External Audits
General Inspections	As per Health and Safety Specification and OHSA	Report on Health and Safety Specification and OHSA compliance: a) Scaffolding b) Lifting Machinery c) Excavation
General Inspections	Ad hoc during works project execution.	Covering: a) Fire fighting Equipment b) Portable Electrical Equipment c) Ladders
Record keeping	Ad hoc during works project execution.	Covering: a) General complaints b) Fines c) General incidents d) MSDS e) Surveillance Medicals f) Inspection Register g) Dept of Labour Notices
Permits	Before commencement with certain activities	As stipulated by the Health and Safety Specification and the OHSA / Construction Regulations

Key:

OHSA – Occupational Health and Safety Act, 1993

ANNEXURE A
The Supplier shall submit the info below in an Annexure prior to site work commencement.

	Health and Safety Specification Requirement	**OHSA Requirement**	**Submission date**
1.	Notification of Intention to Commence Construction	Construction Regulations 2014	At least 7 days before commencement on site
2.	Construction Work Permit	Construction Regulations 2014 (only with certain size and duration projects)	At least 30 days prior to project commencement
3.	Assignment of Responsible Person to Manage Building Work via Health and Safety Organogram	Construction Regulations 2014	Before commencement on site
4.	Competency for Health and Safety Positions	Purchaser / Safety Agent requirement	Before commencement on site
5.	Compensation of Occupational Injuries and Diseases Act (COIDA) 130 of 1993	COIDA Requirement	Before commencement on site
6.	Occupational Health and Safety Policy	Purchaser / Safety Agent requirement	Before commencement on site
7.	Risk Assessment, Safety Plan and Fall Protection Plan, Demolition Method Statement	Purchaser / Safety Agent requirement	Before construction work commences

ANNEXURE B

The Supplier shall make the following appointments, as required:

Chief Executive Officer (OSHACT 16(1)
Contract Director/Manager (OSHACT 16(2)
Construction Manager (CR 8(1)
Construction Supervisor (CR 8(7)
Assistant Construction Supervisor (CR 8(8)
Construction Safety Officer (CR 8(5)
Traffic Safety Officer
Safety Representative (where > 20 employees on site)
Temporary work Designer (CR 12(1)
Temporary work Supervisor (CR12(2)
Construction risk assessor (CR 9(1))
Excavation Supervisor (CR13(1)(a)
Demolition Supervisor (CR14(1)
Scaffold Supervisor (CR16(1)
Construction Vehicle and Mobile Plant Operator (CR23(1)(d)(i)
Controller of Temporary Electrical Installations (CR24(c)
Fire Extinguishing Equipment Inspector (CR29(h)
Fall Protection Plan Developer (CR 10(1)(a)
Incident Investigator (OSHACT 9(2)
Competent Person – Confined Spaces (GAR 5(1)

ANNEXURE C - BASELINE RISK ASSESSMENT

Irrespective of the risk presented on site, it will be ensured that sufficient supervision is in place on site, that personnel are trained in accordance with legislation, including the requirement for site specific inductions on site to inform personnel on site of the risks and hazards applicable to the site. Site supervision is responsible for ensuring that the control measures required below are implemented on site.

	Hazard	Risk	Minimum Control Measures
1	Handling and Storage of LPG	Fire or explosion due to leaks or improper handling	Use SANS 10087-3 standards for handling and storage of LPG; regular leak detection and maintenance checks; use of appropriate PPE like flame-retardant clothing.
2	Electrical Installations	Electric shock or electrocution	Adhere to SANS 10142 for wiring and electrical installations; ensure proper grounding and earthing; routine inspections by certified electricians.
3	Handling of Flammable Liquids	Fire risk during storage and handling	Use storage facilities that comply with SANS 310 and SANS 10131; maintain proper ventilation; use explosion-proof containers and equipment.
4	Refractory Works and High Temperature Areas	Burns from contact with hot surfaces or molten materials during repairs or maintenance	Use heat-resistant PPE; establish controlled access zones around hot areas; provide training on handling high-temperature equipment.
5	Emissions from Cremation Processes	Health risks from exposure to carbon monoxide, NOx, particulate matter, and mercury	Conduct regular stack emissions testing as per Government Notice 893 requirements; ensure compliance with subcategory 8.2 emissions standards.
6	Working at Heights	Falls during installation or maintenance activities on stacks or tall structures	Implement fall protection plans in line with Construction Regulation 10; use scaffolding or mobile elevated platforms following SANS 10085.
7	Manual Handling of Equipment	Musculoskeletal injuries from lifting or carrying heavy items	Train workers on safe manual handling techniques; provide mechanical aids like hoists or trolleys; enforce team lifting for heavy loads.
8	Use of Hazardous Substances	Exposure to toxic chemicals used in maintenance and cleaning processes	Adhere to safety data sheets for all chemicals; use appropriate PPE such as gloves and respirators; provide training on safe handling and disposal.
9	Noise from Cremators and Mechanical Equipment	Hearing damage from prolonged exposure to high noise levels	Implement noise monitoring; use ear protection like earplugs or earmuffs; enforce quiet zones for rest breaks.
10	Confined Spaces	Asphyxiation or entrapment risks when working inside combustion chambers or tanks	Use confined space entry permits; provide continuous air monitoring and rescue plans; ensure two-way communication during confined space work.
11	Structural Stability During Modifications	Structural failure leading to injury or entrapment	Follow SANS 1200 standards for structural works; perform stability assessments before and after modifications.
12	Hot Work (Welding, Cutting, Grinding)	Fire or explosion from sparks near flammable materials	Implement hot work permits; ensure fire watchers and fire extinguishing equipment are available during operations.

13	Movement of Heavy Machinery	Crush injuries or equipment damage during transport	Use lifting plans compliant with SANS 10228 for transporting hazardous goods and SANS 10131 for equipment handling.
14	Air Quality During Demolition or Refurbishment	Respiratory issues for workers and nearby residents	Use dust suppression techniques and provide respiratory protection; conduct air quality monitoring.
15	Environmental Spills or Leaks	Soil and water contamination, legal penalties	Spill response plans, secondary containment measures, and training on handling hazardous substances.
16	Electrical Lockout/Tagout (LOTO) Procedures	Accidental energization leading to electrocution or injury	Implement a LOTO system for all maintenance activities; train staff on proper lockout procedures.
17	Ergonomic Risks	Strains or injuries from poor working posture or repetitive movements	Provide ergonomic tools, rotate job tasks, and train workers on proper techniques.
18	Fire and Emergency Evacuation Procedures	Injury or fatalities in the event of a fire or explosion	Develop and drill emergency evacuation plans, maintain clear exit routes, and install fire detection systems.
19	Interaction with Existing Facility Operations	Disruptions to operations or exposure of workers to cremation processes	Coordinate scheduling to minimize overlap, implement work area demarcation, and maintain communication with facility operators.
20	Weather-related Risks	Slips, trips, and falls; lightning strikes during storms	Monitor weather conditions, establish weather-related work stoppage protocols, and provide non-slip footwear.

C.6 SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract, referring to the National Treasury – Conditions of Contract (revised July 2010), are applicable to this agreement.

1. Definitions

Insert new clause 1.1A with the following:

1.1A "Commencement Date" means the date the Supplier confirms receipt from the Purchaser of 1 (one) complete, signed copy of the Contract, the *Schedule of Deviations* (if any).

1.1B "Conditions of Contract" means the general conditions of contract and special conditions of contract including all other contract data incorporated by reference.

Delete Clause 1.15 and substitute with the following

1.15 The word 'Goods' is to be replaced everywhere it occurs in the GCC with the phrase 'Goods and / or Services' which means all of the equipment, machinery, materials, services, products, consumables, etc. that the Supplier is required to deliver to the Purchaser under the agreement. This definition shall also be applicable, as the context requires, anywhere where the words "supplies" and "services" occurs in the GCC.

Delete Clause 1.19 and substitute with the following

1.19 The word 'Order' is to be replaced everywhere it occurs in the GCC with the words 'Purchase Order' which means the official purchase order authorised and released on the Purchaser's SAP System.

Delete Clause 1.21 and substitute with the following:

1.21 'Purchaser' means the City of Cape Town. The address of the Purchaser is 12 Hertzog Boulevard, Cape Town, 8001 (chosen domicilium citandi et executandi).

Add the following after Clause 1.25:

1.26 'Supplier' means the provider of Goods and / or Services with whom the Contract is concluded also referred to as "contractor" in the GCC.

1.27 "Intellectual Property" means any and all intellectual property rights of any nature anywhere in the world whether registered, registerable or otherwise, including patents, trademarks, registered designs and domain names, applications for any of the foregoing, trade or business names, copyright and rights in the nature of copyright, design rights, rights in databases, know-how, trade secrets and any other intellectual property rights which subsist in computer software, computer programs, websites, documents, information, techniques, business methods, drawings, logos, instruction manuals, lists and procedures and particulars of customers, marketing methods and procedures and advertising literature, including the "look and feel" of any websites

1.28 "Working Day" means Monday to Friday excluding weekends and Public Holidays (in the Republic of Sotuh Africa).

3. General Obligations

Delete Clause 3.2 in its entirety and replace with the following clauses.

3.2 The Parties will be liable to each other arising out of or in connection with any breach of the obligations detailed or implied in this contract, subject to clause 28.

3.3 If the Supplier is a joint venture, all parties in a joint venture or consortium shall be jointly and severally liable to the Purchaser in terms of the Contract and shall carry individually the minimum levels of insurance stated in the Contract, if any.

3.4 The Parties shall comply with all laws, regulations and bylaws of local or other authorities having jurisdiction regarding the Delivery of the Goods and/or Services and give all notices and pay all charges required by such authorities.

3.4.1 The Parties agree that this Contract shall also be subject to the CCT's Supply Chain Management Policy ("SCM Policy") that was applicable on the date the bid was advertised as amended from time to time. If the Purchaser adopts a new SCM Policy which contemplates that any clause therein would apply to the Contract emanating from this tender, such clause shall also be applicable to the Contract. Please refer to this document contained on the CCT's website.

3.4.2 Abuse of the supply chain management system is not permitted and may result in termination of the Contract, restriction of the Supplier, and/or the exercise by the CCT of any other remedies available to it as described in the SCM Policy or in law.

3.5 The Supplier shall:

3.5.1 Arrange for the documents listed below to be provided to the Purchaser prior to the issuing of the Purchase Order by the Purchaser and no later than the periods as set out in the Contract:

a) Proof of Insurance (Refer to Clause 11) or Insurance Broker's Warrantee,
b) Letter of good standing from the Compensation Commissioner, or a licensed compensation insurer (Refer to Clause 11),
c) Initial delivery programme, and
d) Other requirements as detailed in the Contract.

3.5.2 Only when notified of the acceptance of the bid on the Date of Commencement of Contract, the Supplier shall commence with and carry out the Delivery of the Goods and/or Services in accordance with the Contract, to the satisfaction, of the Purchaser.

3.5.3 Provide all of the necessary materials, labour, plant and equipment required for the delivery of the Goods and/or Servces including any temporary services that may be required.

3.5.4 Insure his workmen and employees against death or injury arising out of the delivery of the Goods.

3.5.5 Be continuously represented during the Delivery of the Goods and/or Services by a competent representative duly authorised to execute instructions.

3.5.6 In the event of a loss resulting in a claim against the insurance policies stated in clause 11, pay the first amount (excess) as required by the insurance policy.

3.5.7 Comply with all written instructions from the Purchaser subject to clause 18.

3.5.8 Complete and Deliver the goods within the period stated in clause 10, or any extensions thereof in terms of clause 21.

3.5.9 Make good at his own expense, all incomplete and defective Goods during the warranty period.

3.5.10 Pay to the Purchaser any penalty for delay as due on demand by the Purchaser. The Supplier hereby consents to such amounts being deducted from any payment due to the Supplier.

3.5.11 Comply with the provisions of the OHAS Act & all relevant regulations.

3.5.12 Comply with all laws relating to wages and conditions generally governing the employment of labour in the Cape Town area and any applicable Bargaining Council agreements.

3.5.13 Deliver the Goods in accordance with the Contract and with all reasonable care, diligence and skill in accordance with generally accepted professional techniques and standards.

3.6 The Purchaser shall:

3.6.1 Issue Purchaser Orders for the Goods and/or Services required under this Contract. No liability for payment will ensue for arising out of the Delivery of the Goods and/or Services, unless a Purchase Order

has been issued to the Supplier.

3.6.2 Make payment to the Supplier for the Goods and/or Services as set out herein.

3.6.3 Take possession of the Goods and /or Services upon Delivery by the Supplier.

3.6.4 Regularly inspect the Goods to establish that it is being delivered in compliance with the Contract.

3.6.5 Give any instructions and/or explanations and/or variations to the Supplier including any relevant advice to assist the Supplier to understand the Contract.

3.6.6 Grant or refuse any extension of time requested by the Supplier of the period stated in clause 10.

3.6.7 Inspect the Goods and/or Services to determine if, in the opinion of the Purchaser, it has been delivered in compliance with the Contract, alternatively in such a state that it can be properly used for the purpose for which it was intended.

3.6.8 Brief the Supplier and issue all documents, information, etc. in accordance with the contract.

5. Use of contract documents and information; inspection, copyright, confidentiality, etc.

Add the following after clause 5.4:

5.5 Copyright of all documents prepared by the Supplier in accordance with the relevant provisions of the Copyright Act (Act 98 of 1978) relating to the Contract shall be vested in the Purchaser. Where copyright is vested in the Supplier, the Purchaser shall be entitled to use the documents or copy them only for the purposes for which they are intended in regard to the agreement and need not obtain the Supplier's permission to copy it for such use. Where copyright is vested in the Purchaser, the Supplier shall not be liable in any way for the use of any of the information other than as originally intended in terms of the agreement and the Purchaser hereby indemnifies the Supplier against any claim which may be made against it by any person / entity, arising from the use of such documentation for other purposes.

The ownership of data and factual information collected by the Supplier and paid for by the Purchaser shall, after payment, vest with the Purchaser.

5.6 Publicity and publication
The Supplier shall not release public or media statements or publish material related to the services or agreement within two (2) years of Delivery of the Goods, without the written approval of the Purchaser, which approval shall not be unreasonably withheld.

5.7 Confidentiality
Both Parties shall keep all information obtained by them in the context of the agreement, confidential and shall not divulge it without the written approval of the other Party.

5.8 Intellectual Property

5.8.1 The Supplier acknowledges that it shall not acquire any right, title or interest in or to the Intellectual Property of the Purchaser.

5.8.2 The Supplier hereby assigns to the Purchaser, all Intellectual Property created, developed or otherwise brought into existence by it for the purposes of the agreement, unless the Parties expressly agree otherwise in writing.

5.8.3 The Supplier shall, and warrants that it shall:

5.8.3.1 Not be entitled to use the Purchaser's Intellectual Property for any purpose other than as contemplated in the agreement;

5.8.3.2 not modify, add to, change or alter the Purchaser's Intellectual Property, or any information or data related thereto, nor may the Supplier produce any product as a result of, including and/or arising from any such information, data and Intellectual Property, and in the event that it does produce any such product, the product shall be, and be deemed in law to be, owned by the Purchaser;

5.8.3.3 Not apply for or obtain registration of any domain name, trademark or design which is similar to any Intellectual Property of the Purchser;

5.8.3.4 Comply with all reasonable directions or instructions given to it by the Purchaser in relation to the form and manner of use of the CCT Intellectual Property, including without limitation, any brand guidelines which the Purchaser may provide to the Supplier from time to time;

5.8.3.5 Ensure that its employees, directors, members and contractors comply strictly with the provisions of this Clasue 5.5.8.4 above unless the Purchaser expressly agrees to the contrary, in writing and only after obtaining due internal authority for such agreement.

5.8.4 The Supplier represents and warrants to the Purchaser that, in providing Goods and/or Services for the duration of the agreement it will not infringe or make unauthorised use of the Intellectual Property rights of any third party and hereby indemnifies the Purchaser from any claims, liability, loss, damages, costs, and expenses arising from the infringement or unauthorised use by the Supplier of any third party's Intellectual Property rights.

5.8.5 Upon expiry of the contract period and in the event that the Contract is terminated, ended or is declared void, any and all of the Purchaser's Intellectual Property, and any and all information and data related thereto, shall be immediately handed over to the Purchaser by the Supplier and no copies thereof shall be retained by the Supplier unless the Purchaser expressly and in writing, after obtaining due internal authority, agrees otherwise.

Add the following after clause 5.8:

5.9 **Protection of Personal Information Act of 2013**

By submitting a tender to the Purchaser, (and by concluding any ensuing related agreement with the City of Cape Town, if applicable), the Tenderer thereby acknowledges and unconditionally agrees:

5.9.1 that the tenderer has been informed of the purpose of the collection and processing of its personal information as defined in the Protection of Personal Information Act of 2013 ("POPIA"), which, for the avoidance of doubt is for, and in relation to, the tender process and the negotiation, conclusion, performance and enforcement of the ensuing agreement, if applicable, as well as for the City of Cape Town's reporting purposes;

5.9.2 to the collection and processing of the tenderer's personal information by the City of Cape Town and agrees to make available to the City of Cape Town, all information reasonably required by the City of Cape Town for the above purposes;

5.9.3 that the personal information the City of Cape Town collects from the tenderer or about the tenderer may be further processed for other activities and/or purposes which are lawful, reasonable, relevant and not excessive in relation to the purposes set out above, for which it was originally collected;

5.9.4 that, the tenderer indemnifies the City of Cape Town and its officials, employees, and directors and undertakes to keep the City of Cape Town and its officials, employees, and directors indemnified in respect of any claim, loss, demands, liability, costs and expenses of whatsoever nature which may be made against the City of Cape Town (including the costs incurred in defending or contesting any such claim) in relation to the tenderer or the tenderer's employees', representatives' and/or sub-Suppliers' non-compliance with POPIA and/or the City of Cape Town's failure to obtain the tenderer's consent or to notify the tenderer of the reason for the processing of the tenderer's personal information;

5.9.5 to the disclosure of the tenderer's personal information by the City of Cape Town to any third party, where the City of Cape Town has a legal or contractual obligation to disclose such personal information to the third party (or a legitimate interest exits therein);

5.9.6 that, under POPIA, the tenderer may request to access, confirm, request the correction, destruction, or deletion of, or request a description of, personal information held by the City of Cape Town in relation to you, subject to applicable law; and

that under POPIA, subject to applicable law, the tenderer also has the right to be notified of a personal information breach and the right to object to, or restrict, the City of Cape Town's processing of its personal information.

5.10 **PERFORMANCE MONITORING**

5.10.1 As required by section 116(2)(b) of the Local Government: Municipal Financial Management Act 56 of 2003, the CCT shall monitor the performance of the Supplier on at least a monthly basis, and the Supplier agrees to provide the CCT with its full cooperation in this regard.

7. Performance Security

Delete clause 7.1 and replace with the following:

7.1 Within 14 (fourteen) days of Commencement Date the Supplier shall furnish to the Purchaser the performance security:

7.1.1 The Guarantee Sum shall be equal to:

- A Works Project with a Rand value less than or equal to R1 000 000: waived (that is, no performance guarantee is required);
- A Works Project with a Rand value exceeding R1 000 000, but less than or equal to R10 000 000: 5% of the bid sum;
- A Work Project with a Rand value exceeding R10 000 000: 7% of the bid sum.

7.1.2 The Performance Security/Guarantee furnished shall be issued by an Approved Financial Institution listed in the Pro Forma Performance Security/Guarantee as at [15 August 2025] (being institutions approved for issue of contract guarantees by the Purchaser).

The performance guarantee shall contain the precise wording of the document included in Part C1.3 of the Contract Data: **Form of Performance Guarantee**, and it shall be issued by a financial institution approved by the Employer, at the date when the guarantee is issued. The list of approved financial institutions current at the date of tender is attached to the **Form of Performance Guarantee**.

Delete clause 7.3 and replace with the following:

7.3 The performance security shall be furnished strictly in accordance with the terms and conditions set out in Form of Performance Security/ Guarantee.

Delete clause 7.4 and replace with the following:

7.4 The performance security will be discharged by the Purchaser and returned to the Supplier strictly in accordance with the terms and conditions set out in the Performance Security/ Guarantee.

8. Inspections, tests and analyses

Delete Clause 8.2 and substitute with the following:

8.2 If it is a bid condition that Goods and/or Services to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or Supplier shall be open, at all reasonable hours, for inspection by a representative of the Purchaser or an organisation acting on behalf of the Purchaser.

10. Delivery and documents

Delete clauses 10.1 and 10.2 and replace with the following:

10.1 Delivery of the goods shall be made by the Supplier in accordance with the terms specified in the contract. The time for Delivery of the goods shall be the date as stated on the Purchase Order. In the case of agreements for Delivery of goods in terms of framework or panel agreements, Purchase Orders for the supply and delivery of goods may be raised up until the expiry of a framework or panel agreement, provided

that the goods can be delivered within 30 (thirty) days of expiry of the framework or panel agreement. In this context, the "goods" does not include services and carries its ordinary meaning. All Purchase Orders other than for the supply and Delivery of goods (i.e. supply of services, professional services or constructions works), must be completed prior to the expiry of the contract period.

10.2 The Purchaser shall determine, in its sole discretion, whether the Goods and/or Services have been delivered in compliance with the Contract, alternatively in such a state that it can be properly used for the purpose for which it was intended. When the Purchaser determines that the Goods and/or Services have been satisfactorily delivered, the Purchaser must issue an appropriate certification, or written approval, to that effect. Invoicing may only occur, and must be dated, on or after the date of such written acceptance of the Goods.

11. Insurance

Add the following after clause 11.1:

11.2 Without limiting the obligations of the Supplier in terms of this Contract, the Supplier shall effect and maintain the following additional insurances:

11.2.1 Public liability insurances, in the name of the Supplier, covering the Supplier and the Purchaser against liability for the death of or injury to any person, or loss of or damage to any property, arising out of or in the course of this Contract, in an amount not less than **[R20 million]** for any single claim;

11.2.2 Motor Vehicle Liability Insurance, in respect of all vehicles owned and / or leased by the Supplier, comprising (as a minimum) "Balance of Third Party" Risks including Passenger Liability Indemnity;

11.2.3 Registration / insurance in terms of the Compensation for Occupational Injuries and Disease Act, Act 130 of 1993. This can either take the form of a certified copy of a valid Letter of Good Standing issued by the Compensation Commissioner, or proof of insurance with a licenced compensation insurer, from either the Supplier's broker or the insurance company itself (see the Pro Forma Insurance Broker's Warranty).

[11.2.4 In the case of Contracts for delivery of professional services, Professional indemnity insurance providing cover in an amount of not less than [**R5 million]** in respect of each and every claim during the contract period.]

11.2.5 In the event of under insurance or the insurer's repudiation of any claim for whatever reason, the Purchaser will retain its right of recourse against the Supplier.

11.3 The Supplier shall be obliged to furnish the Purchaser with proof of such insurance as the Purchaser may require from time to time for the duration of this Contract. Evidence that the insurances have been effected in terms of this clause, shall be either in the form of an insurance broker's warranty worded precisely as per the pro forma version contained in the Pro forma Insurance Broker's Warranty or copies of the insurance policies.

15. Warranty

Add to Clause 15.2:

15.2 The warranty for this Contract shall remain valid for six (6) months from date of Delivery of the Goods and/or Services.

Cremator Refractory	The hearth of a cremator must be able to operate for a minimum of 2000 cremations with refractory relining after 5000 cremations.
Rainwater Tanks	10 year warranty.
Solar PV Modules	Defect warranty of at least 10 years and a linear 25-year performance guarantee of 80%
Inverters	At least 10 year warranty.
SCADA Logging Systems • SCADA PC • Admin PC • IPC's	2-year extended warranty and maintenance plan.

• Network Switches • UPS • NAS and NAS Drive	

16. Payment

Delete Clause 16.1 in its entirety and replace with the following:

16.1 Payment of invoices will be made:

16.1.1 Within 30 (thirty) days of receiving the relevant invoice or statement from the Supplier, unless otherwise prescribed for certain categories of expenditure or specific contractual requirements in accordance with any other applicable policies of the Purchaser.

16.1.2 Notwithstanding anything contained above, the Purchaser shall not be liable for payment of any invoice that pre-dates the date of delivery of any Goods and/or Services.

Delete Clause 16.2 in its entirety and replace with the following:

16.2 The Supplier shall furnish the purchaser's Accounts Payable Department with an original tax invoice, clearly showing the amount due in respect of each and every claim for payment.

Add the following after clause 16.4

16.5 Notwithstanding any amount stated on the Purchase Order, the Supplier shall only be entitled to payment for Goods and/or Services actually delivered in terms of the Specification and Drawings, or any variations thereof made in accordance with clause 18. Any contingency sum included shall be for the sole use, and at the discretion, of the Purchaser.

16.6 The Purchaser will only make advanced payments to the Supplier in strict compliance with the terms and conditions as contained in the Pro forma Advanced Payment Guarantee and only once the authenticity of such guarantee has been verified by the Purchaser's Treasury Department.

16.6.1 The Advance Payment Schedule applicable to this Contract is set out below. The items of plant and materials which have been identified by the Purchaser as being suitable for advance payment in terms of this Contract are listed in the table below, and for which the Purchaser is prepared to make advance payment to the Supplier, subject to the conditions below. Should an item or items be added to the list at tender stage by a tenderer, no obligation to advance payment shall be incurred by the Purchaser, for such items added by the tenderer except as provided for herein.

Plant and materials which have been manufactured and are stored by the supplier	Plant and materials yet to be manufactured and for which a deposit with order is required from the supplier by a third party manufacturer/supplier, and which may be stored by the supplier:
	Supply and deliver standard-size coffin cremator
	Supply and deliver over-size coffin cremator

16.6.2 The Supplier can only rely on advance payment being permitted by the Purchaser in respect of the plant and materials listed in the table above. The Purchaser may, however, permit advance payment for other plant and materials in exceptional circumstances and at its sole discretion, during the course of the Contract, and upon reasonable request from the Supplier.

16.6.3 Advance payment for the purposes of deposits will only be provided up to a limit of **50%** of the value of any one item being claimed.

16.6.4 The Supplier shall provide the Purchaser with documentary evidence of the terms and conditions for which a deposit with order is required by a third party manufacturer/supplier, together with the advance payment guarantee.

16.6.5 The Supplier will also be permitted to obtain advance payment for the balance of the value of the plant and materials in respect of which he has paid a deposit, for an item which after manufacture is stored by the Supplier. The Supplier shall, in respect of such payment, provide an advance payment guarantee, either for such balance or, if the advance payment guarantee in respect of the deposit is to be returned by the Purchaser upon request, for the whole value of the item.

17. Prices

Add the following after clause 17.1

17.2 If as a result of an award of a contract beyond the original tender validity period, the contract execution will be completed beyond a period of twelve (12) months from the expiry of the original tender validity period, then the contract may be subject to contract price adjustment for that period beyond such twelve (12) months. An appropriate contract price adjustment formula will be determined by the Purchaser delegated authority if such was not included in the bid documents.

17.3 If as a result of any extension of time granted, the contract execution will be completed beyond a period of twelve (12) months from the expiry of the original tender validity period, then contract price adjustment may apply to that period beyond such twelve (12) months. An appropriate contract price adjustment formula will be determined by the Director: Supply Chain Management if such was not included in the bid documents.

17.4 The prices for the goods and/or Services delivered and services performed shall be subject to contract price adjustment in terms of Schedule F.1 Contract Price Adjustment and/or Rate of Exchange Variations and the following conditions will be applicable:

These rates which are stated on the Price Schedule shall be adjusted on each 6 month anniversary of the date of contract commencement (recalculation date). For the purpose of contract price adjustment, the following general provisions shall apply in all cases:

Labour and Materials

Permissible Adjustments

Adjustment to the Contract Price for the design, manufacture, painting, testing, supply, delivery, offloading and storage of Plant and Materials manufactured in the Republic of South Africa, shall be allowed **only** for variations in the cost of labour and material based on the indices published by the Steel and Engineering Industries Federation of South Africa (SEIFSA) using the applicable method described below.

For the purpose of this Sub-Clause, Preliminary and General items are included with Labour and material for the sake of convenience, and which otherwise have no relationship with each other. General Items shall comprise General Requirements and Conditions, Health and Safety, Environmental Management, Sundries, and any other items so described or implied in the Schedules of Rates to be adjusted under this Sub-Clause.

The following SEIFSA tables shall be regarded as relevant to Mechanical and Electrical Works in this Contract:

Table C3 Index of actual labour cost

Table G2A Construction input price index (Materials purchased by type of service), Other structures

Method of Price Adjustment

Labour and Materials

$$A = a + b\frac{\mathbf{L}n}{\mathbf{L}o} + c\frac{\mathbf{M}n}{\mathbf{M}o} - 1$$

where A = Adjustment Factor rounded off to the sixth decimal place
a = 0.10 Fixed coefficient (non-adjustable portion)
b = 0.25)

c = 0.65) Coefficients (sum of these coefficients shall be 0,90)
Ln = Current labour index in Table C3
Lo = Base labour index in Table C3
Mn = Current materials index in Table G2
Mo = Base materials index in Table G2

Labour only

$$A = a + b \frac{\mathbf{L}n}{\mathbf{L}o} - 1$$

where A = Adjustment Factor rounded off to the sixth decimal place
a = 0.10 Fixed coefficient (non-adjustable portion)
b = 0.90
Ln = Current labour index in Table C3
Lo = Base labour index in Table C3

Materials only

$$A = a + c \frac{\mathbf{M}n}{\mathbf{M}o} - 1$$

where A = Adjustment Factor rounded off to the sixth decimal place
a = 0.10 Fixed coefficient (non-adjustable portion)
c = 0.90)
Mn = Current materials index in Table G2
Mo = Base materials index in Table G2

The value of any Plant and Materials imported from outside South Africa inserted on the schedule titled "**Price Basis for Imported Plant and Material** and subject to Sub-Clause 13.8.2.2.2(a) shall be deducted from the total values to be adjusted by the SEIFSA Index adjustment. Any Plant and Materials not inserted in Schedule 20 shall be deemed to be manufactured in South Africa for the purposes of Contract Price Adjustment.

17.5 If price adjustment for variations in the cost of plant and materials imported from outside of South Africa is provided for in the contract, such adjustment shall be based on the information contained on the schedule titled "**Price Basis for Imported Resources"** and as below. For the purposes of this clause the Rand value of imported Plant and Materials inserted on the schedule titled "**Price Basis for Imported Resources"** (column (F)) shall be the value in foreign currency (column (A)) converted to South African Rand (column (C)) by using the closing spot selling rate quoted by **CCT's** main banker, NEDBANK, on the Base Date (seven calendar days before tender closing date) rounded to the second decimal place (column(B)), to which shall be added any Customs Surcharge and Customs Duty applicable at that date (columns (D) and (E)).

17.5.1 Adjustment for variations in rates of exchange:

(a) The value in foreign currency inserted in column (A) shall be subject to clause (h) below when recalculating the Rand value.

(b) The rate of exchange inserted in column (B) shall be the closing spot selling rate quoted by Council's main banker, NEDBANK, on the Base Date, rounded to the second decimal place, subject to sub-paragraph (c) below.

(c) If the rate of exchange inserted by the Tenderer differs from the NEDBANK rate referred to above, then the NEDBANK rate shall apply and the Rand value in columns (C) and (F) shall be recalculated accordingly, without altering the price in the Price Schedule for the relevant items.

(d) If a tender from a supplier or sub-contractor provides for variations in rates of exchange, the Supplier may **only** claim for variations in rates of exchange if he binds the supplier or sub-contractor to the same provision to take out forward cover as described in sub-paragraph (e) below.

(e) The Supplier (or sub-contractor) shall within five working days from the date of placing a firm

order on an overseas supplier, cover or recover forward by way of a contract with a bank which is an authorised foreign exchange dealer, the foreign exchange component of the cost of any imported Plant and Materials inserted by the Tenderer on the scheduled titled "**Price Basis for Imported Resources"**.

(f) When the Supplier (or sub-contractor) so obtains forward cover, the Supplier shall immediately notify the CCT of the rate obtained and furnish the CCT with a copy of the foreign exchange contract note.

(g) Based on the evidence provided in sub-paragraph (f) above, the value in Rand inserted in column (C) of on the schedule titled "**Price Basis for Imported Resources** "shall be recalculated using the forward cover rate obtained, and any increase or decrease in the Rand value defined in this clause shall be adjusted accordingly, subject to sub-paragraph (h) below.

(h) The adjustments shall be calculated upon the value in foreign currency in the Supplier's (or sub-contractor's) **forward cover contract**, provided that, should this value exceed the value in foreign currency inserted in column (A) of on the schedule titled "**Price Basis for Imported Resources"**, then the value in column (A) shall be used.

17.5.2 Adjustment for variations in customs surcharge and customs duty

(a) Any increase or decrease in the Rand value between the amounts of Customs Surcharge and Customs Duty inserted in on the schedule titled "**Price Basis for Imported Resources"** and those amounts actually paid to the Customs and Excise Authorities, which are due to changes in the percentage rates applicable or to the foreign exchange rate used by the authorities, shall be adjusted accordingly.

(b) The Tenderer shall state the Customs Duty Tariff Reference applicable to each item and the Supplier shall advise the CCT's Agent of any changes which occur.

17.5.3 Adjustment for variation in labour and material Costs

If the prices for imported Plant and Materials are not fixed, the Supplier shall in his Tender specify the formula for calculating Contract Price Adjustments normally used in the country of manufacture and the indices and relative proportions of labour and material on which his Tender prices are based. Evidence of the indices applicable shall be provided with each claim. The indices applicable 42 days before contractual dispatch date from the factory will be used for the purposes of Contract Price Adjustment.

Failure to specify a formula in the Tender shall mean that the prices are fixed or shall be deemed to be fixed.

18. Contract Amendments

Delete the heading of clause 18 and replace with the following:

18. Contract Amendments and Variations

Add the following to clause 18.1:

Variations means changes to the Goods and/or Services, extension of the contract period or increases in the value of the Contract as a result of written instructions issued by the Purchaser to the Supplier. Such changes are subject to prior approval by the Purchaser's delegated authority. Should the Supplier deliver any Goods not described in a written instruction from the Purchaser, the Purchaser's liability for payment shall no arise until such time as the change has been duly approved and such approval communicated to the Purchaser.

20. Subcontracts

Add the following after clause 20.1:

20.2 The Supplier shall be liable for the acts, defaults and negligence of any subcontractor, his agents or employees as fully as if they were the acts, defaults or negligence of the Supplier.

20.3 Any appointment of a subcontractor shall not amount to a contract between the Purchaser and the subcontractor, or a responsibility or liability on the part of the Purchaser to the subcontractor and shall not relive the Supplier from any liability or obligation under the Contract.

21. Delays in the supplier's performance

Delete Clause 21.2 in its entirety and replace with the following:

21.2 If at any time during the performance of obligations contained in the Contract the Supplier or its subcontractors should encounter conditions beyond their reasonable control which impede the timely delivery of the Goods and/or Services, the Supplier shall notify the Purchaser in writing, within 7 (seven) days of first having become aware of these conditions, of the facts of the delay, its cause(s) and its probable duration. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation, and may at his discretion extend the time for Delivery.

Where additional time is granted, the Purchaser shall also determine whether or not the Supplier is entitled to payment for additional costs in respect thereof. The principle to be applied in this regard is that where the Purchaser or any of its agents are responsible for the delay, reasonable costs shall be paid. In respect of delays that were beyond the reasonable control of both the Supplier and the Purchaser, additional time only (no costs) will be granted.

The Purchaser shall notify the Supplier in writing of his decision(s) in the above regard.

21.3 No provision in this Contract shall be deemed to prohibit the obtaining of Goods and/or Services from a national department, provincial department, or a local authority.

22. Penalties

Delete clause 22.1 and replace with the following:

22.1 Subject to GCC Clause 25, if the Supplier fails to deliver any or all of the Goods and/or Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from amounts payable, as a penalty, a sum as stated herein for each day of the delay until actual Delivery or performance.

The penalty for this contract (each works order) shall be **R6 000 excluding VAT per day. This rate shall be applied up to a maximum of 10% of the works order value.**

22.2 The Purchaser shall, without prejudice to its other remedies under the contract, deduct from amounts payable, financial penalties as contained on the Preference Schedule for breaches of the conditions upon which preference points were awarded.

23. Termination for default

Delete the heading of clause 23 and replace with the following:

23. Termination

Add the following to the end of clause 23.1:

If the Supplier fails to remedy the breach in terms of such notice.

Add the following after clause 23.7:

23.8 In addition to the grounds for termination due to default by the Supplier, the Contract may also be terminated:

23.8.1 Upon the death of the Supplier who was a Sole Proprietor, or a sole member of a Close Corporation, in which case the contract will terminate forthwith.

23.8.2 If the Parties, by mutual agreement, terminate the Contract.

23.8.3 If a material irregularity vitiates the procurement process leading to the conclusion of the Contract, rendering the procurement process and the conclusion of the resulting Contract unfair, inequitable, non-transparent, uncompetitive or not cost-effective the Contract may be terminated by the Purchaser (upon conclusion of applicable processes by the City Manager as described in the Purchaser's SCM Policy).

23.8.4 Reputational risk or harm to the Purchaser

The Purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, may terminate the contract if the implementation of the contract may result in reputational risk or harm to the Purchaser as a result of (inter alia):

a) reports of poor governance and/or unethical behaviour;
b) association with known notorious individuals and family of notorious individuals;
c) poor performance issues, known to the Purchaser
d) negative social media reports;
e) adverse assurance (e.g. due diligence) report outcomes; or
f) circumstances where the relevant vendor has employed, or is directed by, anyone who was previously employed in the service of the state (as defined in clause 1.53), where the person is or was negatively implicated in any SCM irregularity.

By or in relation to the Supplier, the Contract may be terminated by the Purchaser after providing notice to the Supplier.

23.9 If the Contract is terminated in terms of clause 23.8, all obligations that were due and enforceable prior to the date of the termination, must be performed by the relevant Party.

26. Termination for insolvency

Delete clause 26.1 and replace with the following:

26.1 In the event of the Supplier becoming bankrupt or otherwise insolvent the Purchaser may elect to:

26.1.1 At any time, terminate the Contract by giving written notice to the Supplier; or
26.1.2 Accept a Supplier's proposal (via the liquidator) to render delivery utilising the appropriate contractual mechanisms or takes steps to ensure its rights are protected and any negative impact on service delivery is mitigated.

26.2 In the event of the Purchaser electing to cancel the Contract in accordance with clause 26.1.1 above, the Purchaser shall make payment of all verified and signed off invoices. In the event of there being any dispute in respect of any outstanding invoices such dispute shall be dealt with in accordance with the dispute resolution mechanism in the Contract.

27. Settlement of Disputes

Amend clause 27.1 as follows:

27.1 If any dispute or difference of any kind whatsoever, with the exception of termination in terms of clause 23 arises between the Purchaser and the Supplier in connection with or arising out of the Contract, the Parties shall make every effort to resolve such dispute or difference amicably, by mutual consultation.

Delete Clause 27.2 in its entirety and replace with the following:

27.2 Should the Parties fail to resolve any dispute by way of mutual consultation, either party shall be entitled to refer the matter for mediation before an independent and impartial person appointed by the City Manager in accordance with Regulation 50(1) of the Local Government: Municipal Finance Management Act, 56 of 2003 – Municipal Supply Chain Management Regulations (Notice 868 of 2005). Such referral shall be done by either party giving written notice to the other of its intention to commence with mediation. No mediation may be commenced unless such notice is given to the other party.

Irrespective whether the mediation resolves the dispute, the Parties shall bear their own costs concerning the mediation and share the costs of the mediator and related costs equally.

The mediator shall agree the procedures, representation and dates for the mediation process with the Parties. The mediator may meet the Parties together or individually to enable a settlement.

Where the Parties reach settlement of the dispute or any part thereof, the mediator shall record such agreement and on signing thereof by the Parties the agreement shall be final and binding.

Save for reference to any portion of any settlement or decision which has been agreed to be final and binding on the Parties, no reference shall be made by or on behalf of either party in any subsequent court proceedings, to any outcome of an amicable settlement by mutual consultation, or the fact that any particular evidence was given, or to any submission, statement or admission made in the course of amicable settlement by mutual consultation or mediation.

28. Limitation of Liability

Delete clause 28.1 (a) and (b) and replace with the following:

(a) notwithstanding any provision to the contrary contained in this contract, neither the supplier nor any of its officers, directors, employees, agents contractors, consultants or other representatives shall be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect, incidental, special or consequential loss or damage of any kind, including without limitation the loss of use, loss of production, or loss of profits or interest costs, loss of goodwill, lost or damaged data or software, costs of substitute products/services and/or loss of business or business opportunities (whether foreseeable or unforeseeable), provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser;

(b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the sums insured in terms of clause 11 in respect of insurable events, or where no such amounts are stated, to an amount equal to twice the Contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

Add the following after clause 28.1:

28.2 Without detracting from, and in addition to, any of the other indemnities in this Contract, the Supplier shall be solely liable for and hereby indemnifies and holds harmless the Purchaser against all claims, charges, damages, costs, actions, liability, demands and/or proceedings and expense in connection with:

a) personal injury or loss of life to any individual;
b) loss of or damage to property;

arising from, out of, or in connection with the performance by the Supplier in terms of this Contract, save to the extent caused by the gross negligence or wilful misconduct of the Purchaser.

28.3 The Supplier and/or its employees, agents, concessionaires, suppliers, sub-contractors or customers shall not have any claim of any nature against the purchaser for any loss, damage, injury or death which any of them may directly or indirectly suffer, whether or not such loss, damages, injury or death is caused through negligence of the Purchaser or its agents or employees.

28.4 Notwithstanding anything to the contrary contained in this Contract, under no circumstances whatsoever, including as a result of its negligent (including grossly negligent) acts or omissions or those of its servants, agents or contractors or other persons for whom in law it may be liable, shall any party or its servants (in whose favour this constitutes a *stipulatio alteri*) be liable for any indirect, extrinsic, special, penal, punitive, exemplary or consequential loss or damage of any kind whatsoever, whether or not the loss was actually foreseen or reasonably foreseeable), sustained by the other party, its directors and/or servants, including but not limited to any loss of profits, loss of operation time, corruption or loss of information and/or loss of contracts.

28.5 Each party agrees to waive all claims against the other insofar as the aggregate of compensation which might otherwise be payable exceeds the aforesaid maximum amounts payable.

31. Notices

Delete clauses 31.1 and 31.2 and replace with the following:

31.1 Any notice, request, consent, approvals or other communications made between the Parties pursuant to the Contract shall be in writing and forwarded to the addresses specified in the Contract and may be given as set out hereunder and shall be deemed to have been received when:

a) hand delivered – on the day delivery of delivery or the next Working Day,
b) sent by registered mail – five (5) Working Days after mailing,
c) sent by email or telefax – one (1) Working Day after transmission.

32. Taxes and Duties

Delete the final sentence of 32.3 and replace with the following:

. In this regard, it is the responsibility of the Tenderer to submit evidence in the form of a valid Tax Compliance Status PIN issued by SARS to the CCT at the Supplier Management Unit located within the Supplier Management / Registration Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5), or included with this tender.

Add the following after clause 32.3:

32.4 The VAT registration number of the CCT is 4500193497.

ADDITIONAL CONDITIONS OF CONTRACT

Add the following Clause after Clause 34:

35. Reporting Obligations

35.1 The Supplier shall complete, sign and submit with each delivery note, all the documents as required in the Specifications including Monthly Project Labour Reports (Annexure B). Any failure in this regard may result in a delay in the processing of payments.

36. Protection of personal information

a. The Contractor acknowledges that, for the purposes of the service level agreement, they may come into contact with or have access to personal information and other information that may be classified or deemed as private or confidential and for which CCT is responsible in terms of POPIA. Such personal information may also be deemed or considered as private and confidential as it relates to POPIA.
b. The Contractor agrees that they will at all times comply with POPIA and CCT's Privacy Notice, and that it shall only collect, use and process personal information it comes into contact with pursuant to this agreement in a lawful manner, and only to the extent required to execute the services, or to provide the goods and to perform their obligations in terms of the service level agreement.
c. The Contractor agrees that it shall put in place, and at all times maintain, appropriate physical, technological and contractual security measures to ensure the protection and confidentiality of the personal information that it, or its employees, its contractors or other authorised individuals comes into contact in relation to the service level agreement.
d. The Contractor agrees that it shall notify CCT immediately where there are reasonable grounds to believe that the personal information of a data subject has been accessed or acquired by any unauthorised person.
e. Unless so required by law, the Contractor agrees that it shall treat the personal information as confidential and further not disclose any personal information as defined in POPIA to any third party without the prior written consent of CCT.
f. The Contractor hereby indemnifies and holds the CCT harmless against all claims, losses, damages and costs of whatsoever nature suffered by CCT arising from or in relation to the Contractor's (and/or its employees', agents' and sub-contractors') non-compliance with applicable data protection laws and/or other legislation.

The Contractor agrees that CCT may conduct regular data protection audits on the Contractor and undertakes to give its full co-operation in this regard.

C.7 GENERAL CONDITIONS OF CONTRACT

(National Treasury - General Conditions of Contract (revised July 2010))

TABLE OF CLAUSES

1. Definitions

1. The following terms shall be interpreted as indicated:

1.1 'Closing time' means the date and hour specified in the bidding documents for the receipt of bids.

1.2 'Contract' means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the Parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

1.3 'Contract price' means the price payable to the supplier under the contract for the full and proper performance of his or her contractual obligations.

1.4 'Corrupt practice' means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

1.5 'Countervailing duties' are imposed in cases in which an enterprise abroad is subsidised by its government and encouraged to market its products internationally.

1.6 'Country of origin' means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognised new product results that is substantially different in basic characteristics or in purpose or utility from its components.

1.7 'Day' means calendar day.

1.8 'Delivery' means delivery in compliance with the conditions of the contract or order.

1.9 'Delivery ex stock' means immediate delivery directly from stock actually on hand.

1.10 'Delivery into consignee's store or to his site' means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.

1.11 'Dumping' occurs when a private enterprise abroad markets its goods on its own initiative in the RSA at lower prices than that of the country of origin, and which action has the potential to harm the local industries in the RSA.

1.12 'Force majeure' means an event beyond the control of the supplier, not involving the supplier's fault or negligence, and not foreseeable. Such events may include, but are not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

1.13 'Fraudulent practice' means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial, non-competitive levels and to deprive the bidder of the benefits of free and open competition.

1.14 'GCC' means the General Conditions of Contract.

1.15 'Goods' means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.

1.16 'Imported content' means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and
which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the supplies covered by the bid will be manufactured.

1.17 'Local content' means that portion of the bidding price which is not included in the imported content, provided that local manufacture does take place.

1.18 'Manufacture' means the production of products in a factory using labour, materials, components and machinery, and includes other, related value-adding activities.

1.19 'Order' means an official written order issued for the supply of goods or works or the rendering of a service.

1.20 'Project site', where applicable, means the place indicated in bidding documents.

1.21 'Purchaser' means the organisation purchasing the goods.

1.22 'Republic' means the Republic of South Africa.

1.23 'SCC' means the Special Conditions of Contract.

1.24 'Services' means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance, and other such obligations of the supplier covered under the contract.

1.25 'Written' or 'in writing' means handwritten in ink or any form of electronic or mechanical writing.

2. Application

2.1 These general conditions are applicable to all bids, contracts and orders, including bids for functional and professional services, sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.

2.2 Where applicable, special conditions of contract are also laid down to cover specific supplies, services or works.

2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

3. General

3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable, a non-refundable fee for documents may be charged.

3.2 With certain exceptions, invitations to bid are only published in the Government Tender Bulletin. The Government Tender Bulletin may be obtained directly from the Government Printer, Private Bag X85, Pretoria 0001, or accessed electronically from www.treasury.gov.za.

4. Standards

4.1 The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

5. Use of contract documents and information; inspection.

5.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only as far as may be necessary for the purposes of such performance.

5.2 The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1, except for purposes of performing the contract.

5.3 Any document, other than the contract itself, mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.

5.4 The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

6. Patent rights

6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from the use of the goods or any part thereof by the purchaser.

7. Performance Security

7.1 Within 30 (thirty) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in the SCC.

7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.

1.3 The performance security shall be denominated in the currency of the contract or in a freely convertible currency acceptable to the purchaser, and shall be in one of the following forms:

a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
b) A cashier's or certified cheque.

7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than 30 (thirty) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified in the SCC.

8. Inspections, tests and analyses

8.1 All pre-bidding testing will be for the account of the bidder.

8.2 If it is a bid condition that supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or contractor shall be open, at all reasonable hours, for inspection by a representative of the Department or an organisation acting on behalf of the Department.

8.3 If there are no inspection requirements indicated in the bidding documents and no mention of such is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.

8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the supplies to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.

8.5 Where the supplies or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such supplies or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.

8.6 Supplies and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.

8.7 Any contract supplies may on or after delivery be inspected, tested or analysed and may be rejected if found not to comply with the requirements of the contract. Such rejected supplies shall be held at the cost and risk of the supplier, who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with supplies which do comply with the requirements of the contract. Failing such removal, the rejected supplies shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute supplies forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected supplies, purchase such supplies as may be necessary at the expense of the supplier.

8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 23 of the GCC.

9. Packing

9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, specified in the SCC, and in any subsequent instructions ordered by the purchaser.

10. Delivery and documents

10.1 Delivery of the goods shall be made by the supplier in accordance with the terms specified in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified in the SCC.

10.2 Documents to be submitted by the supplier are specified in the SCC.

11. Insurance

11.1 The goods supplied under the contract shall be fully insured, in a freely convertible currency, against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the SCC.

12. Transportation

12.1 Should a price other than an all-inclusive delivered price be required, this shall be specified in the SCC.

13. Incidental Services

13.1 The supplier may be required to provide any or all of the following services, including additional services (if any) specified in the SCC:

(a) performance or supervision of on-site assembly, and/or commissioning of the supplied goods;
(b) furnishing of tools required for the assembly and/or maintenance of the supplied goods;
(c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;
(d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the Parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and
(e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the Parties and shall not exceed the prevailing rates charged to other Parties by the supplier for similar services.

14. Spare parts

14.1 As specified in the SCC, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:

(a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and
(b) in the event of termination of production of the spare parts:

(i) Advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and

(ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

15.1 The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications), or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.

15.2 This warranty shall remain valid for 12 (twelve) months after the goods, or any portion thereof, as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for 18 (eighteen) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in the SCC.

15.3 The purchaser shall notify the supplier promptly, in writing, of any claims arising under this warranty.

15.4 Upon receipt of such notice, the supplier shall, within the period specified in the SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.

15.5 If the supplier, having been notified, fails to remedy the defect(s) within the period specified in the SCC, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

16. Payment

16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified in the SCC.

16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfilment of any other obligations stipulated in the contract.

16.3 Payments shall be made promptly by the purchaser, but in no case later than 30 (thirty) days after submission of an invoice or claim by the supplier.

16.4 Payment will be made in Rand unless otherwise stipulated in the SCC.

17. Prices

17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices tendered by the supplier in his bid, with the exception of any price adjustments authorized in the SCC or in the purchaser's request for bid validity extension, as the case may be.

18. Contract Amendments

18.1 No variation in or modification of the terms of the contract shall be made except by written amendment signed by the Parties concerned.

19. Assignment

19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.

20. Subcontracts

20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.

21. Delays in the supplier's performance

21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.

21.2 If at any time during the performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his or her discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the Parties by amendment of contract.

21.3 No provision in a contract shall be deemed to prohibit the obtaining of supplies or services from a national department, provincial department, or a local authority.

21.4 The right is reserved to procure, outside of the contract, small quantities of supplies; or to have minor essential services executed if an emergency arises, or the supplier's point of supply is not situated at or near the place where the supplies are required, or the supplier's services are not readily available.

21.5 Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 21.2 without the application of penalties.

21.6 Upon any delay beyond the delivery period in the case of a supplies contract, the purchaser shall, without cancelling the contract, be entitled to purchase supplies of a similar quality and up to the same quantity in
substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and, without prejudice to his other rights, be entitled to claim damages from the supplier.

22. Penalties

22.1 Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services, using the current prime interest rate, calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

23. Termination for default

23.1 The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:

(a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;
(b) if the supplier fails to perform any other obligation(s) under the contract; or
(c) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

23.2 In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.

23.3 Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.

23.4 If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than 14 (fourteen) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated 14 (fourteen) days the purchaser may regard the intended penalty as not objected against and may impose it on the supplier.

23.5 Any restriction imposed on any person by the Accounting Officer/Authority will, at the discretion of the Accounting Officer/Authority, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person is or was, in the opinion of the Accounting Officer/Authority, actively associated.

23.6 If a restriction is imposed, the purchaser must, within 5 (five) working days of such imposition, furnish the National Treasury with the following information:
(i) the name and address of the supplier and/or person restricted by the purchaser;
(ii) the date of commencement of the restriction;
(iii) the period of restriction; and
(iv) the reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

23.7 If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, Act 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period of not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction, and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website.

24. Anti-dumping and countervailing duties and rights

24.1 When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidised import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall, on demand, be paid forthwith by the contractor to the State, or the State may deduct such amounts from moneys (if any) which may otherwise be due to the contractor in regard to supplies or services which he or she delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him or her.

25. Force majeure

25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if, and to the extent that, his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.

25.2 If a force majeure situation arises, the supplier shall notify the purchaser promptly, in writing, of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

26. Termination for insolvency

26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

27. Settlement of Disputes

27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the Parties shall make every effort to resolve such dispute or difference amicably, by mutual consultation.

27.2 If, after 30 (thirty) days, the Parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.

27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.

27.4 Mediation proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.

27.5 Notwithstanding any reference to mediation and/or court proceedings herein,
(a) the Parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and
(b) the purchaser shall pay the supplier any monies due to the supplier.

28. Limitation of Liability

28.1 Except in cases of criminal negligence or wilful misconduct, and in the case of infringement pursuant to Clause 6:
(a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and
(b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

29. Governing language

29.1 The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the Parties shall also be written in English.

30. Applicable Law

30.1 The contract shall be interpreted in accordance with South African laws, unless otherwise specified in the SCC.

31. Notices

31.1 Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail, and any other notice to him shall be posted by ordinary mail, to the address furnished in his bid or to the address notified later by him in writing; and such posting shall be deemed to be proper service of such notice.

31.2 The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.

32. Taxes and Duties

32.1 A foreign supplier shall be entirely responsible for all taxes, stamp duties, licence fees, and other such levies imposed outside the purchaser’s country.

32.2 A local supplier shall be entirely responsible for all taxes, duties, licence fees, etc., incurred until delivery of the contracted goods to the purchaser.

32.3 No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid the Department must be in possession of a tax clearance certificate submitted by the bidder. This certificate must be an original issued by the South African Revenue Services.

33. National Industrial Participation (NIP) Programme

33.1 The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.

34 Prohibition of Restrictive practices

34.1 In terms of section 4 (1) (b) (iii) of the Competition Act, Act 89 of 1998, as amended, an agreement between or concerted practice by firms, or a decision by an association of firms, is prohibited if it is between Parties in a horizontal relationship and if a bidder(s) is/are or a contractor(s) was/were involved in collusive bidding (or bid rigging).

34.2 If a bidder(s) or contractor(s), based on reasonable grounds or evidence obtained by the purchaser, has/have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in the Competition Act, Act 89 of 1998.

34.3 If a bidder(s) or contractor(s) has/have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and/or terminate the contract in whole or part, and/or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding 10 (ten) years and/or claim damages from the bidder(s) or contractor(s) concerned.

C.8 ANNEXURES

Annexure A – Pro Forma Insurance Broker's Warranty

Broker Logo

Letterhead of supplier's Insurance Broker

Date _____

CCT
City Manager
Civic Centre
12 Hertzog Boulevard
Cape Town
8000

Dear Sir

***TENDER NO.**: 2023/24*

TENDER DESCRIPTION:

NAME OF SUPPLIER: _____

I, the undersigned, do hereby confirm and warrant that all the insurances required in terms of the abovementioned contract have been issued and/or in the case of blanket/umbrella policies, have been endorsed to reflect the interests of the CCT with regard to the abovementioned contract, and that all the insurances and endorsements, etc., are all in accordance with the requirements of the contract.

I furthermore confirm that all premiums in the above regard have been paid.

Yours faithfully

Signed: _____

For: _____ *(Supplier's Insurance Broker)*

Annexure B – Monthly Project Labour Report

ANNEX 1

CITY OF CAPE TOWN
MONTHLY PROJECT LABOUR REPORT

CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Instructions for completing and submitting forms

General

1 The Monthly Project Labour Reports must be completed in full, using typed, proper case characters; alternatively, should a computer not be available, handwritten in black ink.
2 Incomplete / incorrect / illegible forms will not be accepted.
3 Any conditions relating to targeted labour stipulated in the Contract (in the case of contracted out services or works) shall apply to the completion and submission of these forms.
4 This document is available in Microsoft Excel format upon request from the City's EPWP office, tel 021 400 9406, email EPWPLR@capetown.gov.za.

Project Details

5 If a field is not applicable insert the letters: NA
6 Only the Project Number supplied by the Corporate EPWP Office must be inserted. The Project Number can be obtained from the Coordinator or Project Manager or from the e-mail address in point 4 above.
7 On completion of the contract or works project the anticipated end date must be updated to reflect the actual end date.

Beneficiary Details and Work Information

8 Care must be taken to ensure that beneficiary details correspond accurately with the beneficiary's ID document.
9 A new beneficiary is one in respect of which a new employment contract is signed in the current month. A certied ID copy must accompany this labour report on submission.
10 Was the beneficiary sourced from the City's job seeker database?
11 The contract end date as stated in the beneficiary's employment contract.
12 Where a beneficiary has not worked in a particular month, the beneficiary's name shall not be reflected on this form at all for the month in question.
13 Training will be recorded separately from normal working days and together shall not exceed the maximum of 23 days per month
14 Workers earning more than the maximum daily rate (currently R450 excluding any benefits) shall not be reflected on this form at all.

Submission of Forms

15 Signed hardcopy forms must be scanned and submitted to the City's project manager in electronic (.pdf) format, together with the completed form in Microsoft Excel format.
16 Scanned copies of all applicable supporting documentation must be submitted along with each monthly project labour report. Copies of employment contracts and ID documents are only required in respect of new beneficiaries.
17 If a computer is not available hardcopy forms and supporting documentation will be accepted.

PROJECT DETAILS

Numbers in cells below e.g (6) refer to the relevant instruction above for completing and submitting forms

CONTRACT OR WORKS PROJECT NAME: (6)		EPWP SUPPLIED PROJECT NUMBER: (6)	
DIRECTORATE:		DEPARTMENT:	
CONTRACTOR OR VENDOR NAME:		CONTRACTOR OR VENDOR E-MAIL ADDRESS:	
CONTRACTOR OR VENDOR CONTACT PERSON:		CONTRACTOR OR VENDOR TEL. NUMBER:	CELL WORK

PROJECT LABOUR REPORT CURRENT MONTH (mark with "X")

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR				

ACTUAL START DATE (yyyy/mm/dd)								ANTICIPATED / ACTUAL END DATE (yyyy/mm/dd) (7)							

TOTAL PROJECT EXPENDITURE / VALUE OF WORK DONE TO-DATE (INCLUDING ALL COSTS, BUT EXCLUDING VAT)

R														

ANNEX 1 (continued)

MONTHLY PROJECT LABOUR REPORT

CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

BENEFICIARY DETAILS AND WORK INFORMATION

CONTRACT OR WORKS PROJECT NUMBER:		Year	Month

Sheet		
1	of	

	(8)	(8)	(8)	(9)			(10)		(11)	(12)	(13)	(14)
No.	First name	Surname	ID number	New Beneficiary (Y/N)	Gender (M/F)	Disabled (Y/N)	Job seeker database (Y/N)	Contract start date (DDMMYY)	Contract end date (DDMMYY)	No. days worked this month (excl. training)	Training days	Rate of pay per day (R – c)
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
										0	0	R -

Declared by Contractor or Vendor to be true and correct:	Name		Signature	
	Date			

Received by Employer's Agent / Representative:	Name		Signature	
	Date			

Annexure C - Pro Forma Performance Security/ Guarantee

GUARANTEE PERFORMANCE SECURITY

GUARANTOR *DETAILS AND DEFINITIONS*

"Guarantor" means: .....

Physical address of Guarantor: .....

"Supplier" means: .....

"Contract Sum" means: The accepted tender amount (INCLUSIVE OF VAT) of R .....

Amount in words: .....

"Guaranteed Sum" means: The maximum amount of R .....

Amount in words: .....

"Contract" means: The agreement made in terms of the Form of Offer and Acceptance for tender no …and such amendments or additions to the contract as may be agreed in writing between the Parties.

PERFORMANCE GUARANTEE

1. *The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.*

2. *The Guarantor's period of liability shall be from and including the date of issue of this Guarantee/Performance Security up to and including the termination of the Contract or the date of payment in full of the Guaranteed Sum, whichever occurs first.*

3. *The Guarantor hereby acknowledges that:*

    3.1 *any reference in this Guarantee/Performance to "Contract" is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;*

    3.2 *Its obligation under this Guarantee/Performance Security is restricted to the payment of money.*

4. *Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the CCT the sum due and payable upon receipt of the documents identified in 4.1 to 4.2:*

    4.1 *A copy of a first written demand issued by the CCT to the Supplier stating that payment of a sum which is due and payable has not been made by the Supplier in terms of the Contract and failing such payment within seven (7) calendar days, the CCT intends to call upon the Guarantor to make payment in terms of 4.2;*

    4.2 *A first written demand issued by the CCT to the Guarantor at the Guarantor's physical address with a copy to the Supplier stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum has still not been paid.*

5. *Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the CCT the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the CCT to the Guarantor at the Guarantor's physical address calling up this Guarantee / Performance Security, such demand stating that:*

    5.1 *The Contract has been terminated due to the Supplier's default and that this Guarantee/Performance Security is called up in terms of 5; or*

    5.2 *a provisional or final sequestration or liquidation court order has been granted against the Supplier and that the Guarantee/Performance Guarantee is called up in terms of 5; and*

5.3 The aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.

6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.

7. Where the Guarantor has made payment in terms of 5, the CCT shall upon the termination date of the Contract, submit an expense account to the Guarantor showing how all monies received in terms of this Guarantee/Performance Security have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Guarantee/Performance Security shall bear interest at the prime overdraft rate of the CCT's bank compounded monthly and calculated from the date payment was made by the Guarantor to the CCT until the date of refund.

8. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.

9. The CCT shall have the absolute right to arrange its affairs with the Supplier in any manner which the CCT may deem fit and the Guarantor shall not have the right to claim his release from this Guarantee /Performance Security on account of any conduct alleged to be prejudicial to the Guarantor.

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

11. This Guarantee/Performance Security is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee / Performance Security shall be returned to the Guarantor after it has expired.

12. This Guarantee/Performance Security, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.

13. Where this Guarantee/Performance Security is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at .....

Date .....

Guarantor's signatory (1) .....

Capacity .....

Guarantor's signatory (2) .....

Capacity .....

Witness signatory (1) .....

Witness signatory (2) .....

Approved Financial Institution as at 13 August 2025:

1.1 National Banks

ABSA Bank Limited
Firstrand Bank Limited
Investec Bank Limited
Nedbank Limited
Standard Bank of South Africa Limited

1.2 International Banks (with branches in South Africa)

Barclays Bank PLC Citibank NA
Credit Agricole Corporate and Investment Bank HSBC Bank PLC
JPMorgan Chase Bank Societe Generale Standard Chartered Bank

1.3 Insurance Companies

American International Group Inc (AIG)
Bryte Insurance Company Limited Coface SA
Compass Insurance Company Limited
Credit Guarantee Insurance Corporation of Africa Limited
Guardrisk Insurance Company Limited
Hollard Insurance Company Limited
Infiniti Insurance Limited
Lombard Insurance Company Limited
Old Mutual Alternative Risk Transfer Insure Limited (OMART Insure)
New National Assurance Company Limited
PSG Konsult Ltd (previously Absa Insurance)
Regent Insurance Company Limited
Renasa Insurance Company Limited
Santam Limited

Annexure D - Pro Forma Advance Payment Guarantee

ADVANCE PAYMENT GUARANTEE

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means: .....

Physical address of guarantor: .....

"Supplier" means: .....

"Contract Sum" means: The accepted tender amount (INCLUSIVE of VAT) of R .....

Amount in words: .....

"Contract" means: The agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the Parties.

"Plant and materials" means: The Plant and materials in respect of which an advance payment prior to manufacture is required, which the CCT has agreed may be subject to advance payment, such Plant and materials being listed in the Schedule of Plant and materials.

“Schedule of Plant and materials” means: A list of Plant and materials which shows the value thereof to be included in the Guaranteed Advance Payment Sum.

"Guaranteed Advance Payment Sum" means: The maximum amount of R.....

Amount in words: .....

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Advance Payment Sum.

2. The Guarantor's period of liability shall be from and including the date of issue of this Advance Payment Guarantee and up to and including the termination of the Contract or the date of payment in full of the Guaranteed Advance Payment Sum, whichever occurs first.

3. The Guarantor hereby acknowledges that:

3.1 any reference in this Advance Payment Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;

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

4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the CCT the sum advanced to the Supplier upon receipt of the documents identified in 4.1 to 4.2:

4.1 A copy of a first written demand issued by the CCT to the Supplier stating that payment of a sum advanced by the CCT has not been repaid by the Supplier in terms of the Contract (“default”) and failing such payment within seven (7) calendar days, the CCT intends to call upon the Guarantor to make payment in terms of 4.2;

4.2 A first written demand issued by the CCT to the Guarantor at the Guarantor's physical address with a copy to the Supplier stating that a period of seven (7) calendar days has elapsed since the first written demand in terms of 4.1 and the sum advanced has still not been repaid by the Supplier.

5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the CCT the Guaranteed Advance Payment Sum or the full outstanding balance not repaid upon receipt of a first written demand from the CCT to the Guarantor at the Guarantor's physical address calling up this Advance Payment Guarantee, such demand stating that:

5.1 the Contract has been terminated due to the Supplier's default and that this Advance Payment Guarantee is called up in terms of 5; or

5.2 a provisional or final sequestration or liquidation court order has been granted against the Supplier and that the Advance Payment Guarantee is called up in terms of 5; and

5.3 The aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.

6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.

7. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.

9. The CCT shall have the absolute right to arrange its affairs with the Supplier in any manner which the CCT may deem fit and the Guarantor shall not have the right to claim his release from this Advance Payment Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.

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

11. This Advance Payment Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.

12. This Advance Payment Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.

13. Where this Guarantee/Performance Security is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at .....

Date .....

Guarantor's signatory (1) .....

Capacity .....

Guarantor's signatory (2) .....

Capacity .....

Witness signatory (1) .....

Witness signatory (2) .....

Approved Financial Institution as at 13 August 2025:

1.1 National Banks

ABSA Bank Limited
Firstrand Bank Limited
Investec Bank Limited
Nedbank Limited
Standard Bank of South Africa Limited

1.2 International Banks (with branches in South Africa)

Barclays Bank PLC Citibank NA
Credit Agricole Corporate and Investment Bank HSBC Bank PLC
JPMorgan Chase Bank Societe Generale Standard Chartered Bank

1.3 Insurance Companies

American International Group Inc (AIG)
Bryte Insurance Company Limited Coface SA
Compass Insurance Company Limited
Credit Guarantee Insurance Corporation of Africa Limited
Guardrisk Insurance Company Limited
Hollard Insurance Company Limited
Infiniti Insurance Limited
Lombard Insurance Company Limited
Old Mutual Alternative Risk Transfer Insure Limited (OMART Insure)
New National Assurance Company Limited
PSG Konsult Ltd (previously Absa Insurance)
Regent Insurance Company Limited
Renasa Insurance Company Limited
Santam Limited

Annexure F - Tender Returnable Documents

Schedule F.1: Contract Price Adjustment

1. TENDER CONDITIONS

1.1 The Contract Price Adjustment (CPA) mechanism and/or provisions relating to Rate of Exchange (RoE) Variation, contained in this schedule is compulsory and binding on all Tenderers/Suppliers and this schedule (the parts relevant to the particular tender) must be completed by all Tenderers / Suppliers.

1.2 Tenderers/Suppliers are not permitted to amend, vary, alter or delete this schedule or any part thereof unless otherwise stated in this schedule.

1.3 Tenderers are not permitted to offer fixed and firm prices except as provided for in the Price Schedule.

2. CPA PROVISIONS SELECTION

2.1 The prices stipulated on the Price Schedule are subject to adjustment as set out below.

2.2 Tenderer to indicate the specific CPA and/or RoE provisions applicable to their bid by marking the relevant checkboxes below. Tenderers to note that the CPA and/or RoE provisions are not exclusive and multiple CPA Types can exist if the bid contains both local and foreign exchange based pricing. In such cases the CPA and/or ROE provision applies only to that particular portion of the tendered price.

2.3 The CPA and/or RoE provisions applicable to this tender and resulting contract are to be indicated below by checking the relevant boxes (with multiple selections only where indicated permissible):

	Indicate option	CPA Type	Period	Refer to Section
A	n/a	**FIRM PRICES** as per Pricing Schedule	Annual	*Pricing Schedule C.4 and Schedule F.1 (A)*
		LOCAL (RSA) TENDER CONTENT:		
		EITHER		
B	X	SEIFSA Index based CPA	Bi-Annually	*Schedule F.1 (B)*
		OR		
C	n/a	Pricelist / Quotation Based CPA	Ad-Hoc	*Schedule F.1 (C)*
		OR		
D	n/a	STATS SA CPI Index Based CPA	Annually	*Schedule F.1 (D)*
		OR/AND		
E	n/a	Sectorial Determination 1:Contract Cleaning Sector	Annually	*Schedule F.1 (E)*
		OR		
E	n/a	Sectorial Determination 6: Private Security Sector	Annually	*Schedule F.1 (E)*
		IMPORTED GOODS AND / OR COMPONENTS (IF APPLICABLE)		
F	X	ROE based CPA	Ad-Hoc	*Schedule F.1 (F)*
		AND (IF REQUIRED), EITHER		
G	n/a	Pricelist / Quotation based CPA	Ad-Hoc / Periodic	*Schedule F.1 (G)*
		OR		

H	n/a	Overseas CPI / PPI index based CPA	Ad-Hoc / Periodic	*Schedule F.1 (H)*

2.4 CPA and/or RoE provisions marked as **not applicable** is not relevant and will not apply to this tender and resulting contract.

3. CONTRACT CPA APPLICATIONS AND ADMINISTRATION

3.1 Any claim for variation in the contract price (either CPA or RoE adjustments) must be submitted in writing:

i. By letter to: Director: Community Services and Health – Recreation and Parks, City of Cape Town,
P O Box 655, Cape Town, 8000 or
ii. By email to: Contract Manager *to be advised upon contract stage*

at least 14 days prior to the month upon which the adjustment would become effective in the case of prices being set in advance, and as soon as relevant indices are available and no later than 60 days after the date of delivery of goods or the completion of the project (i.e. date of issue of the Taking-Over Certificate, if applicable) in the case of adjustments being claimed retrospectively for Goods or Services. The latter case is only applicable where specifically provided for in the CPA provisions.

3.2 When submitting a request for CPA and/or RoE adjustment the Supplier shall indicate the Rand Value claimed for each item listed on C.4 - Price Schedule, clearly indicating the item number as per C.4 - Price Schedule. Percentage increases will not be considered. A mere notification of a request for CPA without stating the new price claimed for each item shall, for the purpose of this clause, not be regarded as a valid request.

3.3 The CCT reserves the right to request the Supplier to submit auditor's certificates or such other documentary proof as it may require in order to verify a claim for CPA or RoE adjustments. Price adjustments will not be processed until such time as the Supplier submits such auditor's certificates or other documentary proof to the CCT. Should the Supplier fail to submit the auditor's certificates or other documentary proof to the CCT within 30 days from the written request, it shall be presumed that the Supplier has abandoned his request.

3.4 The CCT reserves the right to withhold payment of any claim for adjustment while only provisional figures are available and until such time as the final (revised) figures are issued by the relevant authority.

3.5 The CCT will confirm in writing once processing of the CPA or RoE adjustments have been completed including the effective date of the adjustments.

3.6 Where pricelist-based and other non-index based CPA requests are investigated and found to be not reasonable and market related, the CCT reserves the right to reject such requests. Where disputes arise with respect to such rejected requests the CCT reserves the right to procure the Goods from other available Suppliers until such time as the dispute is resolved.

3.7 Unless indicated otherwise in the relevant schedule below, the adjustment will apply to all Purchase Orders or Purchase Order lines where the delivery date is on or after the effective date of the adjustment.

Schedule F.2: Certificate of Authority for Partnerships/ Joint Ventures/ Consortiums

This schedule is to be completed if the tender is submitted by a partnership/joint venture/ consortium.

1. We, the undersigned, are submitting this tender offer as a partnership/ joint venture/ consortium and hereby authorize Mr/Ms _____, of the authorised entity _____, acting in the capacity of Lead Partner, to sign all documents in connection with the tender offer and any contract resulting from it on the partnership/joint venture/ consortium's behalf.

2. By signing this schedule the partners to the partnership/joint venture/ consortium:

   2.1 warrant that the tender submitted is in accordance with the main business and objectives of the partnership/joint venture/ consortium;

   2.2 agree that the CCT shall make all payments in terms of this Contract into the following bank account of the Lead Partner:

   Account Holder: _____
   Financial Institution: _____
   Branch Code: _____
   Account No.: _____

   2.3 agree that in the event that there is a change in the partnership/ joint venture/ consortium and/or should a dispute arise between the partnership/joint venture/ consortium partners, that the CCT shall continue to make any/all payments due and payable in terms of the Contract into the aforesaid bank account until such time as the CCT is presented with a Court Order or an original agreement (signed by each and every partner of the partnership/joint venture/ consortium) notifying the CCT of the details of the new bank account into which it is required to make payment.

   2.4 agree that they shall be jointly and severally liable to the CCT for the due and proper fulfilment by the successful tenderer/supplier of its obligations in terms of the Contract as well as any damages suffered by the CCT as a result of breach by the successful tenderer/supplier. The partnership/joint venture/ consortium partners hereby renounce the benefits of excussion and division.

SIGNED BY THE PARTNERS OF THE PARTNERSHIP/ JOINT VENTURE/ CONSORTIUM		
NAME OF FIRM	**ADDRESS**	**DULY AUTHORISED SIGNATORY**
Lead partner		Signature……... Name…… Designation……...
		Signature……... Name…… Designation……...
		Signature……... Name…… Designation……...
		Signature……... Name…… Designation……...

Note: A copy of the Joint Venture Agreement shall be appended to *List of Other Documents Attached by Tenderer Schedule.*

Schedule F.3: Declaration for Procurement above R10 million

If the value of the transaction is expected to exceed R10 million (VAT included) the tenderer shall complete the following questionnaire, attach the necessary documents and sign this schedule:

1. Are you by law required to prepare annual financial statements for auditing? (**Please mark with X**)

YES		NO	

If YES, submit audited annual financial statements:
(i) For the past three years, or
(ii) Since the date of establishment of the tenderer (if established during the past three years)
By attaching such audited financial statements to **List of Other Documents Attached by Tenderer Schedule.**

2. Do you have any outstanding undisputed commitments for municipal services towards the CCT or other municipality in respect of which payment is overdue for more than 30 (thirty) days? (**Please mark with X**)

YES		NO	

2.1 If NO, this serves to certify that the tenderer has no undisputed commitments for municipal services towards any municipality for more than three (3) (three) months in respect of which payment is overdue for more than 30 (thirty) days.
2.2 If YES, provide particulars:

3. Has any contract been awarded to you by an organ of state during the past five (5) years? (**Please mark with X**)

YES		NO	

If YES, insert particulars in the table below including particulars of any material non-compliance or dispute concerning the execution of such contract. Alternatively attach the particulars to **List of Other Documents Attached by Tenderer** schedule in the same format as the table below:

Organ of State	Contract Description	Contract Period	Non-compliance/dispute (if any)

4. Will any portion of the goods or services be sourced from outside the Republic, and if so, what portion and whether any portion of payment from the CCT is expected to be transferred out of the Republic? (**Please mark with X**)

YES		NO	

If YES, furnish particulars below

The tenderer hereby certifies that the information set out in this schedule and/or attached hereto is true and correct, and acknowledges that failure to properly and truthfully complete this schedule may result in steps being taken against the tenderer, the tender being disqualified, and/or (in the event that the tenderer is successful) the cancellation of the contract, restriction of the tenderer or the exercise by the CCT of any other remedies available to it.

_____ _____

Signature
Print name:
On behalf of the tenderer (duly authorised)

Date

Schedule F.4: Preference Points Claim Form In Terms Of the 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**

The applicable preference point system for this tender is the 80/20 preference point system.

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	80
SPECIFIC GOALS	20
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

The following definitions shall apply to this schedule:

(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

POINTS AWARDED FOR PRICE

THE 80/20 PREFERENCE POINT SYSTEMS

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

80/20

Or

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

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

POINTS AWARDED FOR PRICE

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

80/20

Or

Where:

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

5. POINTS AWARDED FOR SPECIFIC GOALS

5.1 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:

5.2 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 (SG) – Points Allocated and Claimed

Tenderers must indicate the preference points claimed for each specific goal applicable to them, for the purposes of this tender.

(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.

The specific goals allocated points in terms of this tender	To be Completed by the Organ of State	To be Completed by the Tenderer
	Number of points Allocated (80/20 system)	Number of points claimed (80/20 system)
Promotion of Micro and Small Enterprises	8	
Enterprise Supplier Development and Socio-Economic Development	6	
Skills Development OR Employee Share Scheme	6	

DECLARATION WITH REGARD TO COMPANY/FIRM

5.3 Name of company/firm…….

5.4 Company registration number: ……...

5.5 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]

5.6 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 4.1 and 4.2, the Supplier 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 Supplier, 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 of Tenderer	*Date*	*Name and Surname*	*Address*

For official use.		
SIGNATURE OF CCT OFFICIALS AT TENDER OPENING		
1.	2.	3.

Table 2: Specific Goals – Declaration by the Tenderer

Tenderers must complete this table to declare the amounts and percentages applicable to the specific goals they are claiming.
NB: In completing Table 2 below, please consult **Notes for Verification** below

The specific goals allocated points in terms of this tender	To be Completed by the Tenderer	
	Refer to "Notes for verification"	**Amount Declared (excluding VAT)**
SG1 Promotion of Micro and Small Enterprises	(i) Total Turnover	
SG2 Enterprise Supplier Development and Socio Economic Development	(ii) Total Enterprise Supplier Development Expenditure	
	(iii) Total Socio Economic Development Expenditure	
	(iv) Total Expenditure	
SG3.1 Skills Development	(v) Total Skills Development Expenditure	
	(vi) Total Profit	
OR **SG3.2** Employee Share Scheme	(vii) Employee Share Scheme Ownership %	

Tenderer Confirmation:
I confirm that the amounts declared in Table 2 above are accurate and in accordance with the *'The Broad-Based Black Economic Empowerment (B-BBEE) Act 53 of 2003, as amended. .*

Signature of Tenderer (Authorised to represent the tenderer)	**Date**	**Name and Surname**	**Address**

Notes for Verification:

All amounts disclosed should be as per the most recent Annual Financial Statements (not older than 12 months) and defined as per the B-BBEE Act

- SG1 – Specific Goal 1
  Promotion of Micro and Small Enterprises
  (i) Total Turnover
  Micro enterprises with a turnover of up to R20million and Small enterprises with a turnover up to R80 million, as per National Small Enterprise Act, 1996 (Act No.102 of 1996)

- SG2 – Specific Goal 2
  Enterprise Supplier Development and Socio-Economic Development
  (ii) Total Enterprise Supplier Development Expenditure
  Qualifying expenditure as defined in the B-BBEE Act: Statement 400 “THE GENERAL PRINCIPLES FOR MEASURING ENTERPRISE AND SUPPLIER DEVELOPMENT"

  (iii) Total Enterprise Socio Economic Development Expenditure
  Qualifying expenditure as defined in the B-BBEE Act: Statement 500 “THE GENERAL PRINCIPLES FOR MEASURING THE SOCIO - ECONOMIC DEVELOPMENT ELEMENT"

  (iv) Total Expenditure
  Total Expenditure as per the most recent Annual Financial Statements (not older than 12 months)

- SG3.1 – Specific Goal 3
  Skills Development
  (v) Total Skills Development Expenditure
  Qualifying expenditure as defined in the B-BBEE Act: Statement 300 “THE GENERAL PRINCIPLES FOR MEASURING SKILLS DEVELOPMENT"

  (vi) Total Profit
  Total Profit as per the most recent Annual Financial Statements (not older than 12 months)

- SG3.2 – Specific Goal 3
  Employee Share Scheme
  (vii) Employee Share Scheme Ownership %
  Total employee ownership as per employee share certificate at the date of tender closing.

The below table (Table 3) must be completed by a B-BBEE Verification Agency (*Note 1) **OR** Commissioner of Oaths
(Refer to *Note 3.2 for the detailed declaration):

Table 3:

Signature and Stamp	**Date**	**Name and Surname**	**Address**

Note 1

1.1 Tendering entity that undergoes B-BBEE verification

- Where a tendering entity undergoes B-BBEE verification, a B-BBEE certificate valid as at the date of tender closing, must be attached to the bid submission or must be made available upon request within the specified period.
- All amounts disclosed in Table 2, should be amounts used in the B-BBEE verification process undergone by the tendering entity
- The B-BBEE verification agency must complete Table 3 above, to confirm the following amounts disclosed by the bidder in Table 2:
  (ii) Total Enterprise Supplier Development Expenditure;
  (iii) Total Socio Economic Development Expenditure;
  (v) Total Skills Development Expenditure

- Where the tendering entity is a Joint Venture/ Consortium, the amounts in Table 2 must be consolidated, with an accompanying consolidated B-BBEE certificate valid as at the date of tender closing must be attached to the bid submission or must be made available upon request within the specified period.

1.2 If the tendering entity does not undergo B-BBEE verification and qualifies as a B-BBEE Qualifying Small Enterprise (QSE) and Exempted Micro-Enterprises (EME)

- Table 3 must be completed by a Commissioner of Oaths to confirm the following amounts disclosed by the bidder in Table 2:
  (ii) Total Enterprise Supplier Development Expenditure;
  (iii) Total Socio Economic Development Expenditure;
  (v) Total Skills Development Expenditure

Note 2

2.1 The tendering entity must attach with the bid submission or must be made available upon request within the specified period; the most recent (where applicable) audited financial statements to enable validation of the following amounts disclosed by the bidder in Table 2:
  (i) Total Turnover
  (iv) Total Expenditure
  (vi) Total Profit

2.2 Companies who are required to be audited by legislation, must submit audited financial statements, not older than 12 months with the bid submission or must be made available upon request within the specified period.

Note 3

Sworn affidavit to be deposed by the Commissioner of Oaths to the QSE or EME.

I, the undersigned,

Full Name and Surname *(Authorised to represent the tenderer)*	
Identity Number	

Hereby declare under oath as follows

3.1 The contents of this statement are to the best of my knowledge a true reflection of facts.

3.2 I am a Member/ Director/ Owner of the following enterprise and am duly authorised to act on its behalf.

Enterprise Name:	
Trading Name (If Applicable):	
Registration Number:	
Enterprise Physical Address:	
Type of Entity (CC, Pty (Ltd), Sole Prop etc):	
Nature of Business:	

3.3 I hereby declare under oath that based on the Financial Statements / Management Accounts and information available on the latest financial year end _____

3.3.1 The annual Total Revenue was less than R50 000 000.00 (Fifty Million Rand);

3.3.2 The following amounts disclosed in Table 2 are accurate, complete, consistent with the BBBEE Act (see Notes for Verification) and based on the Financial Statements / Management Accounts and information available on the latest financial year end _____

As per Table 2	Amount Declared (excluding VAT)
(ii) Total Enterprise Supplier Development Expenditure	
(iii) Total Socio Economic Development Expenditure	
(iv) Total Expenditure	
(v) Total Skills Development Expenditure	

As per Table 2	Amount Declared (excluding VAT)
(vi) Total Profit	
(vii) Employee Share Scheme Ownership %	

3.4 I know and understand the contents of this affidavit and I have no objection to take the prescribed oath and consider the oath binding on my conscience and on the owners of the enterprise which I represent I this matter.

3.5 The sworn affidavit will be valid for a period of 12 months from the date signed by the commissioner.

Commissioner of Oaths
Signature, Date and Stamp

Deponent Signature and Date

3.6 KEY NOTES OF DETERMINING VALIDITY OF SWORN AFFIDAVITS

BBBEE Certificates/ Sworn Affidavits	Returnable for declaration requirement must be attached with the bid submission or must be made available upon request within the specified period - Certified and Valid copy of BBBEE Certificate issued by a SANAS Accredited Verification Agent, or - Certified and Valid copy of Sworn Affidavit for either EME or QSE (see key notes below to determine Validity of a Sworn Affidavit); or - Valid copy of BBBEE Certificate issued by CIPC for EME's only **KEY NOTES OF DETERMINING VALIDITY OF SWORN AFFIDAVITS** **Tenderers submitting Sworn Affidavits must ensure that the affidavits meet the following key pointers to ensure their validity:** (a) Name/s of deponent as they appear in the identity document and the identity number. (b) Designation of the deponent as the Director/ Member must be indicated in order to know that person is duly authorised to depose of an affidavit **(mark the applicable**

	option). (c) Name of enterprise as per enterprise registration documents issued by CIPC, where applicable, and enterprise business address. (d) Amounts as per Table 2 must be inserted **(No blank spaces to be left).** (e) Indicate total revenue for the year under review and whether it is based on audited financial statements or management accounts **(mark the applicable option).** (f) Financial year end as per the enterprise's registration documents, which was used to determine the total revenue (financial year end to be stipulated by day/ month/ year). (g) Date deponent signed and date of Commissioner of Oath must be the same. (The sworn affidavit must be signed in the presence of the Commissioner of Oath. Furthermore the Commissioner must also sign ad stamp). (h) Commissioner of Oath cannot be an employee or ex officio of the enterprise because, a person cannot by law, commission a sworn affidavit in which they have an interest. If the relevant documentation/ information as stipulated in the enquiry is not submitted and/or does not meet the above requirements; tenderers will be disqualified.

For official use.		
SIGNATURE OF CCT OFFICIALS AT TENDER OPENING		
1.	2.	3.

Schedule F.5: Declaration of Interest – State Employees (MBD 4 amended)

1. No bid will be accepted from:
   1.1 persons in the service of the state[1], or
   1.2 if the person is not a natural person, of which any director, manager or principal shareholder or stakeholder is in the service of the state, or
   1.3 from persons, or entities of which any director, manager or principal shareholder or stakeholder, has been in the service of the City of Cape Town (CCT) during the previous twelve (12) months, or
   1.4 from an entity who has employed a former CCT employee who was at a level of T14 of higher at the time of leaving the CCT's employ and involved in any of the CCT's bid committees for the bid submitted, if:
      1.4.1 the CCT employee left the CCT's employment voluntarily, during the previous twelve (12) months;
   1.5 a person who was a CCT employee, or an entity that employs a CCT employee, if
      1.5.1 the CCT employee left the CCT's employment whilst under investigation for alleged misconduct, or
      1.5.2 was facing disciplinary action or potential disciplinary action by the CCT, or
      1.5.3 was involved in a dispute against the CCT during the previous thirty six (36) months.

2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the tenderer or their authorised representative declare their position in relation to the evaluating/adjudicating authority.

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

   3.1 Full Name of tenderer or his or her representative: _____

   3.2 Identity Number: _____

   3.3 Position occupied in the Company (director, trustee, shareholder[2]): _____

   3.4 Company or Close Corporation Registration Number: _____

   3.5 Tax Reference Number: _____

   3.6 VAT Registration Number: _____

   3.7 The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in <u>paragraph 4</u> below.

   3.8 Are you presently in the service of the state? **YES / NO**
      3.8.1 If yes, furnish particulars: _____

   3.9 Have you been in the service of the state for the past twelve months? **YES / NO**
      3.9.1 If yes, furnish particulars: _____

   3.10 Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid? **YES / NO**
      3.10.1 If yes, furnish particulars: _____

   3.11 Are you, aware of any relationship (family, friend, other) between any other tenderer and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES / NO**
      3.11.1 If yes, furnish particulars: _____

   3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state? **YES / NO**
      3.12.1 If yes, furnish particulars: _____

3.13 Are any spouse, child or parent of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state? **YES / NO**
3.13.1 If yes, furnish particulars: _____

3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract? **YES / NO**
3.14.1 If yes, furnish particulars: _____

3.15 Have you, or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company been in the service of the CCT in the past twelve months? **YES / NO**
3.15.1 If yes, furnish particulars: _____

3.16 Do you have any employees who was in the service of the CCT at a level of T14 or higher at the time they left the employ of the CCT, and who was involved in any of the CCT's bid committees for this bid? **YES / NO**
3.16.1 If yes, furnish particulars: _____

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

Full Name	Identity Number	State Employee Number

If the above table does not sufficient to provide the details of all directors / trustees / shareholders, please append full details to the tender submission.

The tenderer hereby certifies that the information set out in this schedule and/or attached hereto is true and correct, and acknowledges that failure to properly and truthfully complete this schedule may result in steps being taken against the tenderer, the tender being disqualified, and/or (in the event that the tenderer is successful) the cancellation of the contract, restriction of the tenderer or the exercise by the CCT of any other remedies available to it.

_____ _____

Signature
Print name: Date
On behalf of the tenderer (duly authorised)

[1]MSCM Regulations: "in the service of the state" means to be –
(a) a member of –
(i) any municipal council;
(ii) any provincial legislature; or
(iii) the national Assembly or the national Council of provinces;

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

[2] Shareholder" means a person who owns shares in the company and is actively involved in the management of the company or business and exercises control over the company.

Schedule F.6: Conflict of Interest Declaration

1. The tenderer shall declare whether it has any conflict of interest in the transaction for which the tender is submitted. (**Please mark with X**)

YES		NO	

1.1 If yes, the tenderer is required to set out the particulars in the table below:

2. The tenderer shall declare whether it has directly or through a representative or intermediary promised, offered or granted:

2.1 Any inducement or reward to the CCT for or in connection with the award of this contract; or

2.2 Any reward, gift, favour or hospitality to any official or any other role player involved in the implementation of the supply chain management policy. (**Please mark with X**)

YES		NO	

If yes, the tenderer is required to set out the particulars in the table below:

Should the tenderer be aware of any corrupt or fraudulent transactions relating to the procurement process of the CCT, please contact the following:

The CCT's anti-corruption hotline at 0800 32 31 30 (toll free)

The tenderer hereby certifies that the information set out in this schedule and/or attached hereto is true and correct, and acknowledges that failure to properly and truthfully complete this schedule may result in steps being taken against the tenderer, the tender being disqualified, and/or (in the event that the tenderer is successful) the cancellation of the contract, restriction of the tenderer or the exercise by the CCT of any other remedies available to it.

_____ _____

Signature
Print name:
On behalf of the tenderer (duly authorised)

Date

Schedule F.7: Declaration of Tenderer's Past Supply Chain Management Practices (MBD 8)

Where the entity tendering is a partnership/joint venture/consortium, each party to the partnership/joint venture/consortium must sign a declaration in terms of the Municipal Finance Management Act, Act 56 0f 2003, and attach it to this schedule.

1 The tender offer of any tenderer may be rejected if that tenderer or any of its directors/members have:

a) abused the municipality's / municipal entity's supply chain management system or committed any fraudulent conduct in relation to such system;
b) been convicted for fraud or corruption during the past five years;
c) willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
d) been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004) or Database of Restricted Suppliers.

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

Item	Question	Yes	No
2.1	**Is the tenderer or any of its directors/members listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?** (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the *audi alteram partem* rule was applied). **The Database of Restricted Suppliers now resides on the National Treasury's website (www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.**	Yes ☐	No ☐
2.1.1	If so, furnish particulars:		
2.2	Is the tenderer or any of its directors/members listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004) or Database of Restricted Suppliers? **The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.**	Yes ☐	No ☐
2.2.1	If so, furnish particulars:		
2.3	Was the tenderer or any of its directors/members convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
2.3.1	If so, furnish particulars:		

Item	Question	Yes	No
2.4	Does the tenderer or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
2.4.1	If so, furnish particulars:		
2.5	Was any contract between the tenderer and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
2.5.1	If so, furnish particulars:		

The tenderer hereby certifies that the information set out in this schedule and/or attached hereto is true and correct, and acknowledges that failure to properly and truthfully complete this schedule may result in steps being taken against the tenderer, the tender being disqualified, and/or (in the event that the tenderer is successful) the cancellation of the contract,, restriction of the tenderer or the exercise by the CCT of any other remedies available to it.

_____ _____

Signature
Print name:
On behalf of the tenderer (duly authorised)

Date

Schedule F.8: Authorisation for the Deduction of Outstanding Amounts Owed to the CCT

To: THE CITY MANAGER, City of Cape Town

From: _____
(Name of tenderer)

RE: AUTHORISATION FOR THE DEDUCTION OF OUTSTANDING AMOUNTS OWED TO THE CCT

The tenderer:

a) hereby acknowledges that according to SCM Regulation 38(1)(d)(i) the City Manager may reject the tender of the tenderer if any municipal rates and taxes or municipal service charges owed by the tenderer (or any of its directors/members/partners) to the CCT, or to any other municipality or municipal entity, are in arrears for more than 3 (three) months; and
b) therefore hereby agrees and authorises the CCT to deduct the full amount outstanding by the Tenderer or any of its directors/members/partners from any payment due to the tenderer; and
c) confirms the information as set out in the tables below for the purpose of giving effect to b) above;

Physical Business address(es) of the tenderer	Municipal Account number(s)	Inside the CCT municipal boundary (Yes/No)

If there is not enough space for all the names, please attach the information to **List of other documents attached by tenderer** schedule in the same format:

Name of Director / Member / Partner	Identity Number	Physical residential address of Director / Member / Partner	Municipal Account number(s)	Inside the CCT municipal boundary (Yes/No)

The tenderer hereby certifies that the information set out in this schedule and/or attached hereto is true and correct, and acknowledges that failure to properly and truthfully complete this schedule may result in steps being taken against the tenderer, the tender being disqualified, and/or (in the event that the tenderer is successful) the cancellation of the contract, restriction of the tenderer or the exercise by the CCT of any other remedies available to it.

_____ _____
Signature Date
Print name:
On behalf of the tenderer (duly authorised)

Schedule F.9: Certificate of Independent Tender Determination

I, the undersigned, in submitting this tender number **274G/2025/26** and tender description: **PROCUREMENT OF NEW CREMATORS AND ASSOCIATED WORKS** in response to the tender invitation made by THE CCT, do hereby make the following statements, which I certify to be true and complete in every respect:

I certify, on behalf of: _____ (Name of tenderer) that:

1. I have read and I understand the contents of this Certificate;

2. I understand that this tender will be disqualified if this Certificate is found not to be true and complete in every respect;

3. I am authorised by the tenderer to sign this Certificate, and to submit this tender, on behalf of the tenderer;

4. Each person whose signature appears on this tender has been authorised by the tenderer to determine the terms of, and to sign, the tender on behalf of the tenderer;

5. For the purposes of this Certificate and this tender, I understand that the word 'competitor' shall include any individual or organisation other than the tenderer, whether or not affiliated with the tenderer, who:
   (a) has been requested to submit a tender in response to this tender invitation;
   (b) could potentially submit a tender in response to this tender invitation, based on their qualifications, abilities or experience; and
   (c) provides the same goods and services as the tenderer and/or is in the same line of business as the tenderer.

6. The tenderer has arrived at this tender independently from and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium[1] will not be construed as collusive price quoting.

7. In particular, without limiting the generality of paragraphs 5 and 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
   (a) prices;
   (b) geographical area where product or service will be rendered (market allocation);
   (c) methods, factors or formulas used to calculate prices;
   (d) the intention or decision to submit or not to submit a tender;
   (e) the submission of a tender which does not meet the specifications and conditions of the tender; or
   (f) tendering with the intention not to win the contract.

8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this tender invitation relates.

9. The terms of this tender have not been and will not be disclosed by the tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening or of the awarding of the contract.

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to tenders and contracts, tenders 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, Act 89 of 1998, and/o/r may be reported to the National Prosecuting Authority (NPA) for criminal investigation, and/or may be restricted from conducting business with the public sector for a period not exceeding 10 (ten) years in terms of the Prevention and Combating of Corrupt Activities Act, Act 12 of 2004, or any other applicable legislation.

_____ _____

Signature
Print name: Date
On behalf of the tenderer (duly authorised)

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

Schedule F.10: Proposed Deviations And Qualifications By Tenderer

The Tenderer should record any **proposed** deviations or qualifications they may wish to make to the tender documents in this Returnable Schedule. Alternatively, a tenderer may state such proposed deviations and qualifications in a covering letter attached to his tender and reference such letter in this schedule. Any proposed deviations or qualifications contained in a covering letter which is not referenced in this schedule will not be considered.

The Tenderer's attention is drawn to clause 2.3.7.2 of the Standard Conditions of Tender referenced in the Tender Data regarding the CCT's handling of material deviations and qualifications.

If no deviations or qualifications are proposed, the schedule hereunder is to be marked NIL and signed by the Tenderer.

PAGE	CLAUSE OR ITEM	PROPOSED DEVIATION OR QUALIFICATION

List relevant documentation attached in Schedule F.10 below.

_____ _____

Signature
Print name:
On behalf of the tenderer (duly authorised)

Date

Schedule F.11: List of Other Documents Attached By Tenderer

The tenderer has attached to this schedule, the following additional documentation:		
	Date of Document	**Title of Document or Description (refer to clauses / schedules of this tender document where applicable)**
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		

Attach additional pages if more space is required.

_____ _____

Signature
Print name:
On behalf of the tenderer (duly authorised)

Date

Schedule F.12: Record of Addenda to Tender Documents

We confirm that the following communications received from the CCT 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.

_____ _____

Signature
Print name:
On behalf of the tenderer (duly authorised)

Date

Schedule F.13: Information to Be Provided With the Tender

The following information shall be provided with the Tender:

Tendering Entity details:

F.13A - Entity Track Record

F.13B - Suppliers Representative

Technical Data Sheets:

F.13C - Standard-size Cremator Technical Data Sheet

F.13D - Over-size Cremator Technical Data Sheet

F.13E Declaration in terms of submission of electronic rates

_____ _____

Signature
Print name:
On behalf of the tenderer (duly authorised)

Date

Schedule F.13A – Entity Track Record

Note to tenderer: The tenderer shall provide details of previous relevant experience required for the functionality evaluation of this tender. Evaluation will be in terms of the minimum score for functionality. Relevant Projects listed shall comply with the requirements defined in Evaluation Criterion 1.

The Tenderer must list Relevant Projects where the Tenderer was appointed and completed the project as prime contractor or joint venture member.

	CONTRACT / PROJECT TITLE	Description of Relevant Project (select option for each project)		Details of Cremator Infrastructure		COMPLETION DATE	Project Reference (NAME, Active contact details)
		Cremator / Incinerator / Furnace	Supply new / Refractory rebuild existing	Atmospheric Emissions Test results successful and verifiable	Make / model		
	Supply of a new standard size cremator to the Maitland Crematorium.	*Cremator*	*Supply New*	*Yes, verifiable via project reference.*	*ABC classic*	*2020*	*Name: Joe Soap* *Contact Details: 0828969743* *Email: J.Soap@xyz.co.za*
1.							Name: Contact Details: Email:
2.							Name: Contact Details: Email:
3.							Name: Contact Details: Email:
4.							Name: Contact Details: Email:

Number of sheets appended by the tenderer to this Schedule ..... (If nil, enter NIL).

SIGNED ON BEHALF OF TENDERER: . . . . . .

Schedule F.13B – Suppliers Representative

Note to tenderer: The tenderer shall provide details of previous relevant experience of the proposed suppliers representative required for the eligibility evaluation of this project. Evaluation will be in terms of the minimum score for functionality described. Relevant Projects listed shall comply with the requirements defined in Evaluation Criterion 2.

Suppliers Representative				NAME:_____			
	CONTRACT / PROJECT TITLE	Description of Relevant Project (select option for each project)		Details of Cremator Infrastructure		COMPLETION DATE	Project Reference (NAME, Active contact details)
		Cremator / Incinerator / Furnace	Supply new / Refractory rebuild existing	Atmospheric Emissions Test results successful and verifiable	Make / model		
	Supply of a new standard size cremator to the Maitland Crematorium.	*Cremator*	*Supply New*	*Yes, verifiable via project reference.*	*ABC classic*	*2020*	*Name: Joe Soap* *Contact Details: 0828969743* *Emails: J.Soap@xyz.co.za*
1.							Name: Contact Details: Email:
2.							Name: Contact Details: Email:
3.							Name: Contact Details: Email:
4.							Name: Contact Details: Email:

Number of sheets appended by the tenderer to this Schedule ..... (If nil, enter NIL).

SIGNED ON BEHALF OF TENDERER: . . . . . .

Schedule F.13C: Standard-size Cremator Technical Data Sheet

To be completed as part of tender submission for technical evaluation.

NO:	ATTRIBUTE	DESCRIPTION	SUPPLIER RESPONSE
1	Unit Offered	Make and Model	
2	Compliance with SANS 329 (or the applicable parts of the SANS 13577)?	Does the cremator meet all the specifications for Industrial thermos-processing equipment set out by South African National Standards?	
3	Gas Train	Does the gas train and combustion/fuel handling system comply with SANS 329 (or SANS 13577-2) and the Pressure Equipment Regulations (PER)? Is the gas train already verified as compliant (e.g. via SAGA Safe Gas Equipment Scheme permit where applicable)? If not, confirmation that the Supplier will obtain the necessary verification and all costs associated are included in the price, along with any required changes to the unit.	
4	Emissions Achievable	Are the proposed cremators able to meet the latest air emission requirements without additional abatement equipment? (specific reference in terms of Particulate Matter, Hg, NOx and CO needs to made in the response. NB Mercury (Hg))	
5	Physical Size	How much space is required for installation and much service space must be available around the machine?	
6	Fuel Supply	What combustion fuel does the cremator use?	
7	Electrical Supply	Can the cremator operate with 380 VAC 50Hz three phase and 220 VAC 50 Hz single phase electricity?	
8	Electrical Systems	All electrical systems comply with SANS 60204-1?	

9	Throughput	Number of cremations per 24 hour continuous operation?	
10	Loading/Unloading Layout	Front load and unload layout?	
11	Duty Cycle	Cremators can operate 24/7?	
12	Door	Open dimensions exceed / equal minimum required? [height (mm) x width (mm)]?	
13	Coffin capacity	Weight capacity (kg)?	
14	Door Opening & Closing	Cremator loading door is mechanised?	
15	Hearth	Dimensions exceed / equal minimum required? [height (mm) x width (mm) x length (mm)]?	
16	Interface	Touch-screen HMI controlling all operational tasks?	
17	PLC Integration	The cremator PLC can integrate with the existing onsite SCADA and logging system for real time monitoring and recording?	
18	Burners	Automatic burner control systems comply with EN 298 or SANS 50125?	
19	Safety Interlocks	Minimum safety interlocks included?	
20	Refractory Quality	Useful lifespan of the hearth and refractory? (Minimum number of cremations for each per warranty)	

21	Refractory Internal	Rated for temperatures of (degrees C)?	
22	Refractory External	Outside temperature while in operation (degrees C)?	
23	LPG Fuel consumption per cremation	On average, how much fuel is required for each cremation (kg)?	
24	Maintenance	How frequently will the equipment need servicing and what is the estimated annual operating cost? [excluding gas and electricity]	
25	Maintenance teams	Can local teams do the maintenance? If so, will they require special training?	
26	Availability of spares	Will spare parts be available in South Africa?	
27	Training	Will sufficient training / training material be available from you as a supplier?	
28	Availability of supplier support	Will you be available to support the operators and maintenance staff in SA if required? Does the cremator have remote support for the control system?	
29	Worldwide offices	Where is your closest supplier office to Cape Town, South Africa?	
30	Installation teams	Who will do the installation on site? Can local teams do the installation? Will you bring a team for commissioning & training on site?	
31	Warranty Information	What is the duration of the warranty and what items are excluded?	

SIGNED ON BEHALF OF THE TENDERER: . . . . . .

Schedule F.13D: Over-size Cremator Technical Data Sheet

To be completed as part of tender submission for technical evaluation.

NO:	ATTRIBUTE	DESCRIPTION	SUPPLIER RESPONSE
1	Unit Offered	Make and Model	
2	Does cremator fully comply with SANS 329 (or the applicable parts of the SANS 13577)?	Does the cremator meet all the specifications for Industrial thermo processing equipment set out by South African National Standards?	
3	Gas Train	Does the gas train and combustion/fuel handling system comply with SANS 329 (or SANS 13577-2) and the Pressure Equipment Regulations (PER)? Is the gas train already verified as compliant (e.g. via SAGA Safe Gas Equipment Scheme permit where applicable)? If not, confirmation that the Supplier will obtain the necessary verification and all costs associated are included in the price, along with any required changes to the unit.	
4	Emissions Achievable	Are the proposed cremators able to meet the latest air emission requirements without additional abatement equipment? (specific reference in terms of Particulate Matter, Hg, NOx and CO needs to made in the response. NB Mercury (Hg))	
5	Physical Size	How much space is required for installation and much service space must be available around the machine?	
6	Fuel Supply	What combustion fuel does the cremator use?	
7	Electrical Supply	Can the cremator operate with 380 VAC 50Hz three phase and 220 VAC 50 Hz single phase electricity?	
8	Electrical Systems	All electrical systems comply with SANS 60204-1?	

9	Throughput	Number of cremations per 24 hour continuous operation?	
10	Loading/Unloading Layout	Front load and unload layout?	
11	Duty Cycle	Cremators can operate 24/7?	
12	Door	Open dimensions exceed / equal minimum required? [height (mm) x width (mm)]?	
13	Coffin capacity	Weight capacity (kg)?	
14	Door Opening & Closing	Cremator loading door is mechanised?	
15	Hearth	Dimensions exceed / equal minimum required? [height (mm) x width (mm) x length (mm)]?	
16	Interface	Touch-screen HMI controlling all operational tasks?	
17	PLC Integration	The cremator PLC can integrate with the existing onsite SCADA and logging system for real time monitoring and recording?	
18	Burners	Automatic burner control systems comply with EN 298 or SANS 50125?	
19	Safety Interlocks	Minimum safety interlocks included?	
20	Refractory Quality	Useful lifespan of the hearth and refractory? (Minimum number of cremations for each per warranty)	
21	Refractory Internal	Rated for temperatures of (degrees C)?	

22	Refractory External	Outside temperature while in operation (degrees C)?	
23	LPG Fuel consumption per cremation	On average, how much fuel is required for each cremation (kg)?	
24	Maintenance	How frequently will the equipment need servicing and what is the estimated annual operating cost? [excluding gas and electricity]	
25	Maintenance teams	Can local teams do the maintenance? If so, will they require special training?	
26	Availability of spares	Will spare parts be available in South Africa?	
27	Training	Will sufficient training / training material be available from you as a supplier?	
28	Availability of supplier support	Will you be available to support the operators and maintenance staff in SA if required? Does the cremator have remote support for the control system?	
29	Worldwide offices	Where is your closest supplier office to Cape Town, South Africa?	
30	Installation teams	Who will do the installation on site? Can local teams do the installation? Will you bring a team for commissioning & training on site?	
31	Warranty Information	What is the duration of the warranty and what items are excluded?	

SIGNED ON BEHALF OF THE TENDERER: . . . . . .

Schedule F.13E– Declaration in terms of submission of electronic rates

I, the undersigned, in submitting this tender for Contract **274G/2025/26** in response to the invitation for the tender made by the City of Cape Town, do hereby make the following statements that I certify to be true and complete in every Respect:

I certify, on behalf of: _____ that:
(Name of Tenderer)

1. I have read and I understand the contents of this Certificate;
2. I understand that as per clause 22.4 of the Local Government: Municipal Finance Management Act, 2003, “Where bids are requested in electronic format, such bids must be supplemented by sealed hard copies.”
3. I understand that I am required to submit one (1) electronic copy (on a USB Flash drive), and one (1) hardcopy (printed) of the Schedule of Rates, and that both copies submitted are to be in the same format as those issued by the Employer.
4. I confirm that both the hardcopy and electronic copy of rates submitted with this tender are a replica of each other.
5. I accept that if/when a Notice to Tenderer (NTT) is issued by the Employer for changes relevant to the Schedule of Rates, I will be required to attach the respective addenda separately to that which has been issued with the original document.

Schedule F.14: Appeal Application

OFFICIAL RECEIPT
(Valid only if printed by official cash receipting machine)

IRISITI ESESIKWENI
(Isemthethweni kuphela xa ishicilelwe ngumatshini wokukhupa irisiti osesikweni.)

AMPTELIKE KWITANSIE
(Geldig alleenlik indien deur amptelike kontantvangs masjien gedruk.)

GL DATA CAPTURE RECEIPT
(CASHIER TO RETAIN A COPY)

RECEIPT NO: _____

DATE: _____

SAP GL:

8	1	0	1	0	0

PROFIT CENTRE:

1	3	0	5	0	0	0	1

NAME/COMPANY NAME:

AMOUNT:

						R	3	0	0	-	0	0

SERVICE DEPARTMENT DETAILS-

DEPARTMENT: LEGAL SERVICES; APPEALS UNIT

EMAIL; MSA.Appeals@capetown.gov.za

OFFICIAL RECEIPT
(Valid only if printed by official cash receipting machine)

IRISITI ESESIKWENI
(Isemthethweni kuphela xa ishicilelwe ngumatshini wokukhupa irisiti osesikweni.)

AMPTELIKE KWITANSIE
(Geldig alleenlik indien deur amptelike kontantvangs masjien gedruk.)

GL DATA CAPTURE RECEIPT
(CASHIER TO RETAIN A COPY)

RECEIPT NO: _____

DATE: _____

SAP GL:

8	1	0	1	0	0

PROFIT CENTRE:

1	3	0	5	0	0	0	1

NAME/COMPANY NAME:

AMOUNT:

						R	3	0	0	-	0	0

SERVICE DEPARTMENT DETAILS-

DEPARTMENT: LEGAL SERVICES; APPEALS UNIT

EMAIL; MSA.Appeals@capetown.gov.za