



WESTERN CAPE GOVERNMENT
DEPARTMENT OF HEALTH AND WELLNESS

NEC4 TERM SERVICE SHORT CONTRACT (TSSC4)

16B – Delivery & Maintenance of Infrastructure

Template Version 1.07 – April 2023

TENDER No : WCGHIC0003/2025

PROJECT TITLE : **FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT**

TENDER CLOSING : **11:00 on 30 JULY 2025**

<u>CLIENT</u>		<u>CLIENT'S REPRESENTATIVE</u>	
DEPARTMENT OF HEALTH AND WELLNESS		BVi Consulting Engineers - Western Cape	
<u>PHYSICAL ADDRESS</u>	<u>POSTAL ADDRESS</u>	<u>PHYSICAL ADDRESS</u>	<u>POSTAL ADDRESS</u>
22nd Floor	PO Box 2060	Edison Square	P.O. Box 86
4 Dorp Street	CAPE TOWN	Edison Way	Century City
CAPE TOWN	8000	Century City	CAPE TOWN
8001		CAPE TOWN	7446
		Contact: Gernot Halberstadt	
		Phone: +27 (0)21 527 7000	
		Email: GernotH@bviwc.co.za	

NOTE:

All returnable documents as listed on page 12 in this document, including the Form of Offer C1.1 on page 43 must be completed in full and signed. The entire document, from page 1 through 150 must be submitted with your bid. Non-compliance will render your tender invalid.

Name of Tenderer:

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT

IMPORTANT NOTICE: Please DO NOT disassemble or dismember this document. DO NOT insert any attached pages to returnable schedules within the page sequence of the document. All additional pages must be attached AFTER the last page of the document and clearly marked to which returnable schedule they belong.

CONTENTS

The Tender

Part T1: Tendering procedures	Page 3
T1.1 Tender notice and invitation to tender	Page 4
T1.2 Tender Data	Page 5

Part T2: Returnable documents	Page 11
T2.1 List of returnable documents	Page 12
T2.2 Returnable schedules	Page 13

The Contract Page 41

Part C1: Agreement and Contract Data	Page 42
C1.1 Form of Offer and Acceptance	Page 43
C1.2 Contract Data	Page 47
Contract Data Part One: Data provided by the <i>Client</i>	Page 47
Contract Data Part Two: Data provided by the <i>Contractor</i>	Page 54

Part C2: Pricing Data	Page 55
C2.1 Pricing assumptions & instructions	Page 56
C2.2 Pricing schedule	Page 58

Part C3: Scope of Work	Page 62
Scope	Page 63

Appendix: Drawings, schematics & annexures	Page 150
---	-----------------

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR
TERM SERVICE AGREEMENT**

Part T1: Tendering procedures	
T1.1 Tender notice and invitation to tender	Page 4
T1.2 Tender Data	Page 5

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW

T1.1 Tender notice and invitation to tender

The **DEPARTMENT OF HEALTH AND WELLNESS, WESTERN CAPE GOVERNMENT**, invites tenders for Tender No **WCGHIC0003/2025: FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT**

It is estimated that tenderers should have a CIDB contractor grading designation of **7EB or 7EP** or higher.

Preferences are allocated to tenderers for Broad-Based Black Economic Empowerment (B-BBEE) status level of contribution.

Documents will be available after **08:00** from **2 JULY 2025** on E-tender via the following link:

<https://www.etenders.gov.za/>

Queries relating to the technical specification of these documents may be addressed to:

Name:	BVi Consulting Engineers - Western Cape
Phone:	+27 (0)21 527 7000
Email:	GernotH@bviwc.co.za

The closing time for receipt of tenders is **11:00 on 30 JULY 2025**. Facsimile, e-mail, copied and late tenders will not be accepted.

Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.

A compulsory site/clarification meeting with representatives of the Client will take place at:

Location: Auditorium, M9 Genses Building, Karl Bremer Hospital, corner Mike Pienaar Boulevard & Frans Conradie Drive, Bellville

Date: 15 JULY 2025

Starting Time: 10:00 am

No late coming will be tolerated!!

Supplier Database Registration

All **prospective** Service Providers **MUST** be registered on the Central Supplier Database (CSD) at the time of tender closing and tax compliant. **Tenderers who are not tax compliant at closing date will be deemed non-compliant.**

All prospective Service Providers who are not registered on the **CSD** are requested to self-register on www.csd.gov.za. **Should** service providers require assistance with the registration process, you may contact Roderick April on (021) 483 0582/ Roderick.April@westerncape.gov.za

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT -

T1.2 Tender Data

The Conditions of Tender are the **Standard Conditions of Tender as contained in Annex C of the CIDB Standard for Uniformity in Engineering and Construction Works Contracts, August 2019**, as per Board Notice 136 of 2015 in Government Gazette 38960 of 10 July 2015 and any erratum notices issued thereafter (see www.cidb.org.za).

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this bid. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard Conditions of Tender. Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

Clause	Tender Data														
C.1	General														
C.1.1	In this document " <i>Client</i> " means the "employer" as referenced in the Standard Conditions of Tender, and the terms may be used interchangeably in this document. The <i>Client</i> is DEPARTMENT OF HEALTH AND WELLNESS, WESTERN CAPE GOVERNMENT .														
C.1.2	Tender Documents The Tender Document (this document), issued by the <i>Client</i> and comprising the following parts: Part T: The Tender Part T1: Tendering Procedures T1.1 Tender notice and invitation to tender T1.2 Tender Data Part T2: Returnable Documents T2.1 List of returnable documents T2.2 Returnable schedules Part C: The Contract Part C1: Agreement and Contract Data C1.1 Form of Offer and Acceptance C1.2 Contract Data: Contract Data Part One: Data provided by the <i>Client</i> Contract Data Part Two: Data provided by the <i>Contractor</i> Part C2: Pricing Data C2.1 Pricing assumptions & instructions C2.2 Pricing schedule Part C3: Scope of Work Part C4: Site information Appendix: Drawings, schematics & annexures This tender document must be completed in black ink and contains the "returnable documents" which must be completed in terms of submitting a tender offer.														
C.1.4	The <i>Client's</i> Agent is: <table border="1"> <tr> <td>Name:</td><td>BVi Consulting Engineers - Western Cape</td></tr> <tr> <td>Address Line 1</td><td>Edison Square</td></tr> <tr> <td>Address Line 2</td><td>Edison Way</td></tr> <tr> <td>Address Line 3</td><td>Century City</td></tr> <tr> <td>Postal Code:</td><td>CAPE TOWN</td></tr> <tr> <td>Contact no:</td><td>+27 (0)21 527 7000</td></tr> <tr> <td>Email address:</td><td>GernotH@bviwc.co.za</td></tr> </table>	Name:	BVi Consulting Engineers - Western Cape	Address Line 1	Edison Square	Address Line 2	Edison Way	Address Line 3	Century City	Postal Code:	CAPE TOWN	Contact no:	+27 (0)21 527 7000	Email address:	GernotH@bviwc.co.za
Name:	BVi Consulting Engineers - Western Cape														
Address Line 1	Edison Square														
Address Line 2	Edison Way														
Address Line 3	Century City														
Postal Code:	CAPE TOWN														
Contact no:	+27 (0)21 527 7000														
Email address:	GernotH@bviwc.co.za														

* Address for electronic communications

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

 1)..... 2).....
 SIGNED SIGNED

Clause	Tender Data
C.2	Tenderer's obligations
C.2.1	Only those tenderers who are registered with the CIDB and whose registrations are active at close of tender and who satisfy the grading requirement of a CIDB grading of a 7EB or 7EP or higher, as calculated in terms of the CIDB regulations, are eligible to have their tenders evaluated.
C.2.7.1	<p>A compulsory site/clarification meeting with representatives of the <i>Client</i> will take place at:</p> <p>Location: Auditorium, M9 Genses Building, Karl Bremer Hospital, corner Mike Pienaar Boulevard & Frans Conradie Drive, Bellville</p> <p>Date: 15 JULY 2025</p> <p>Starting Time: 10:00 am</p> <p>THE FOLLOWING CONDITIONS APPLY:</p> <ul style="list-style-type: none"> (a) A tender will automatically be disqualified if the meeting is not attended by a representative of the tendering entity. (b) Representatives of tendering entities must complete and sign the meeting attendance register, providing full details as required on the register, failure of which will disqualify the tender. (c) The name of the lead entity in an envisaged consortium/joint venture must appear on the attendance register, failure of which will disqualify a tender submitted by the consortium/joint venture. (d) A representative may not attend the meeting on behalf of more than one tendering entity. This constitutes anti-competitive behaviour, and when multiple tenders are submitted which reference the attendance of the same person at the site/clarification meeting, ALL those tenders will be disqualified. (e) Tendering entities must be represented by a person who is suitably qualified and experienced to comprehend the implications of the tender. (f) The chairperson may delay the start of the meeting at his sole discretion, as dictated by circumstances. After official start of the meeting by the chairperson, late arrivals will be allowed to join the meeting but the chairperson is under no obligation to repeat any information conveyed prior to such late arrivals. (g) Recorded minutes as well as addenda or any other information, where applicable, will be issued to all whom attended the meeting. (h) Requests for additional information can be directed to the <i>Client's</i> representative via email, not later than one week prior to tender closing. Requests received after the cut-off date will not be responded to. The response to requests for clarification or additional information will be disseminated among all tenderers who attended the meeting. (i) Information provided to tenderers at the clarification meeting or thereafter and which is recorded in the <i>Client's</i> minutes of the meeting or other documentation issued, forms part of the Conditions of Tender. Failure to comply with such conditions may disqualify the tender. Addenda issued (if any) MUST be included in the tender submission, failure of which will disqualify the tender. If the tenderer claims that addenda were not received but the <i>Client</i> can prove transmission thereof to the email address as provided by the tenderer, the submitted offer will be rejected. (j) If local content provisions apply to this tender the Department of Trade, Industry and Competition (DTIC) will be invited to the meeting to address questions regarding same. If the DTIC are not present to address queries of the bidders pertaining to local content, the bidders can contact DTIC via email at localcontent@thedtic.gov.za.
C.2.10.5	The tenderer must submit the electronically calculated pricing schedule for the necessary evaluation purposes. The fully completed pricing schedule shall be printed and included with the tender document, subject to the following:

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

Clause	Tender Data
	<ol style="list-style-type: none"> 1) The electronic pricing schedule (e.g. spreadsheet) must be officially issued by the <i>Client</i>; 2) The electronic pricing schedule may not be altered in any way, including descriptions, item numbers, quantities or units. Only the rates and prices may be entered where appropriate, failure of which will constitute a qualification i.e. an unacceptable counter offer, and will therefore be disqualified; 3) The total/s from the electronically calculated pricing schedule must be carried and inserted as appropriate to the Pricing Summary schedule in the document. IMPORTANT: Any material differences between the amounts carried to the Pricing Summary and the total/s from the electronically calculated pricing schedule will disqualify the tender; 4) The total price offer must be carried from the Pricing Summary and inserted into the Form of Offer and Acceptance. Failure to do so will disqualify the tender; 5) <i>The printout of the electronic Pricing Schedule must be signed by the duly authorised signatory on the last page of the printout and also initialled by same on each page: Excel pricing schedule to be printed, initialled, signed and attached to bidding document.</i>
C.2.11	<p>PLEASE NOTE: No alterations/corrections to inserted information in the document (including pricing) may be performed by erasing or using masking fluid ("Tipp-Ex" or similar) on any submitted page. Alterations/corrections to inserted information may only be performed as follows:</p> <ol style="list-style-type: none"> (a) Strike a line through the incorrect information, write the corrected information as appropriate (under, above or next to the information to be corrected), and initial at every incidence of alteration/correction. (b) In the case of access to a digital copy of the tender document (PDF), simply reprint the page, enter the information on the reprinted page and substitute in the document before submission. <p>Tender submissions with alterations/corrections not in compliance with the requirements as described above, will be rejected.</p>
C.2.12.1	No alternative tender offers will be considered.
C.2.13.2	<p>PLEASE NOTE: The complete tender document comprising pages 1 through 150 must be returned to the <i>Client</i> when submitting a tender offer. If the pricing schedule or parts thereof are contained in the Appendix to this document, the duly completed pricing schedule or parts thereof must be returned with the tender document. Failure to do so will invalidate the tender. Other drawings, schematics or annexures in the Appendix need NOT be returned with the tender offer, unless there are specific instructions for a specific item to be returned, or if the tenderer wishes to utilise any item for clarification purposes when submitting an alternative tender offer, when applicable.</p>
C.2.13.4	<p>The tender shall be signed by a person duly authorised to do so.</p> <p>Tenders submitted by joint ventures of two or more entities shall be accompanied by the document of formation of the joint venture, authenticated by a notary public or other official deputed to witness sworn statements, 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 entities forming the joint venture, and any other information necessary to permit a full appraisal of its functioning. The document of formation of the joint venture shall state explicitly what the percentage participation in the joint venture will be of each entity involved.</p> <p>It is a specific condition of this tender that the lead entity of a joint venture shall have the highest CIDB grading of all entities comprising the joint venture, and that the lowest CIDB grading of any entity in the joint venture shall be no more than two grades below the highest. Correspondingly, the value of the percentage of work executed by each entity shall not exceed 20% of the maximum of its designated CIDB grading value range.</p>

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

Clause	Tender Data								
C.2.13.6	A two-envelope procedure will not be followed.								
C.2.13.7	<p>The <i>Client's</i> address for delivery of tender offers and identification details to be shown on each tender offer package are:</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>Seal the original tender offer and state on the outside, the Employer's address and identification details to be shown on the tender offer package as:</p> <table> <tr> <td>Tender box:</td><td>Marked DEPARTMENT OF HEALTH</td></tr> <tr> <td>Location of tender box:</td><td>Foyer on Ground Floor main entrance of the Western Cape Government Building</td></tr> <tr> <td>Physical address:</td><td>4 Dorp Street, Cape Town Adjacent to the Cape High Court, Junction of Dorp and Keerom Streets, Cape Town</td></tr> <tr> <td>Identification details:</td><td>DEPARTMENT OF HEALTH AND WELLNESS 4 Dorp Street, Cape Town, 8001 Tender reference number, Title of Tender, Tenderer name and contact address of tenderer</td></tr> </table> </div> <p>The tender box is open 24 hours a day, 7 days a week.</p>	Tender box:	Marked DEPARTMENT OF HEALTH	Location of tender box:	Foyer on Ground Floor main entrance of the Western Cape Government Building	Physical address:	4 Dorp Street, Cape Town Adjacent to the Cape High Court, Junction of Dorp and Keerom Streets, Cape Town	Identification details:	DEPARTMENT OF HEALTH AND WELLNESS 4 Dorp Street, Cape Town, 8001 Tender reference number, Title of Tender, Tenderer name and contact address of tenderer
Tender box:	Marked DEPARTMENT OF HEALTH								
Location of tender box:	Foyer on Ground Floor main entrance of the Western Cape Government Building								
Physical address:	4 Dorp Street, Cape Town Adjacent to the Cape High Court, Junction of Dorp and Keerom Streets, Cape Town								
Identification details:	DEPARTMENT OF HEALTH AND WELLNESS 4 Dorp Street, Cape Town, 8001 Tender reference number, Title of Tender, Tenderer name and contact address of tenderer								
C.2.14	<p>The <i>Client</i> requires tenderers to return a fully priced pricing schedule with the tender submission. ALL items in the pricing schedule MUST be priced. Please note the following:</p> <ol style="list-style-type: none"> Tenders showing a pattern of unpriced items in the pricing schedule, will be disqualified. Summarising parts or sections of the pricing schedule into single lump sums or rates without providing the breakdown of pricing of items as per the pricing schedule, is not acceptable and will disqualify the tender. Where an item is encountered against which no Price or rate is entered and it can be reasonably attributed to accidental omission on the part of the tenderer that item will be treated as covered by other Prices or rates in the pricing schedule. 								
C.2.15	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender. Facsimile, e-mail, copied and late tenders will not be accepted.								
C.2.16	The tender offer validity period is approximately 12 weeks , expiring on 28 October 2025 . The <i>Client</i> reserves the right to extend the validity period for any additional period if deemed in the interest of the <i>Client</i> .								
C.3	The <i>Client's</i> undertakings								
C.3.4.1	Tenders will not be read out in public.								
C.3.8.1	<p>Test for responsiveness: Tenders will be considered non-responsive if:</p> <ul style="list-style-type: none"> - the tender is not in compliance with the requirements of the Conditions of Tender; - the tender has not been properly and fully completed and signed, - the tender is not responsive to the other requirements of the tender document/s including the specifications; - the tenderer has not provided proof of tax compliance either via an attached printout of a Central Supplier Database (CSD) tax compliance verification report dated no more than one week prior to tender closing, or by attaching written proof by SARS of approved arrangements in terms of the tenderer's tax clearance; - the tenderer has failed to clarify or submit any supporting documentation within seven days of being requested to do so by the <i>Client</i> in writing. 								

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

Clause	Tender Data
C.3.9.2	<p>Arithmetical errors and discrepancies:</p> <ul style="list-style-type: none"> - If pricing for the tender is a lump sum offer without a breakdown of rates and prices in a pricing schedule and there is a discrepancy between the amount in words and the amount in figures, the amount in words shall govern. - If a pricing schedule in the form of a bill of quantities, a price list, activity schedule or other format applies, the <i>Client</i> shall check all substantively responsive tenders for errors and discrepancies in the pricing schedule and offer form, and correct such errors and discrepancies in the following manner: <ul style="list-style-type: none"> o Where there is a discrepancy between the unit rate and the total price for any line item that is obtained by multiplying the unit rate and the quantity stated for that line item, the unit rate shall prevail and the total price for that line item shall be corrected, unless in the opinion of the <i>Client</i> there is an obvious misplacement of the decimal point in the unit rate, in which case the total price for that line item shall prevail and the unit rate shall be corrected. o Where there is an error in the total of the prices either as a result of corrections made in accordance with the above or in the tenderer's addition of prices, the total of the prices shall be corrected. o Where there is a discrepancy between the total of the prices in the pricing schedule and the total tender amount, or a discrepancy between the total amount in words and the total amount in figures, the amount corresponding to the correct total of the prices in the pricing schedule shall prevail and the others corrected. - Tenderers shall be notified by the <i>Client</i> of corrections made in accordance with C.3.9.2 and requested to accept the corrections including, where applicable, a corrected total tender offer. If the tenderer fails to accept the corrections so notified within a stated period after receipt of the <i>Client</i>'s request to do so, the tender will be rejected. - If corrections made in accordance with C.3.9.2 results in a change in the total tender amount of any of the tenderers, all substantively responsive tenderers shall be notified of the corrected amounts by the <i>Client</i>, to ensure transparency of the correction process. <p>If local content provisions apply to this tender, the arithmetical error checking process will include arithmetic checking of Local Content percentage as well.</p>
C.3.11	<p>The procedure for the evaluation of responsive tenders is Method 4 (Financial offer, quality and preferences)</p> <p>Price will be scored using the Formula $P_s = 80(1 - ((P_t - P_{min}) / P_{min}))$ where:</p> <ol style="list-style-type: none"> 1. P_s is the number of points scored for comparative price of tender under consideration; 2. P_{min} is the comparative price of the lowest acceptable tender offer; 3. P_t is the comparative price of tender offer under consideration. <p>Preference will be scored as follows:</p> <p>Up to 10 tender evaluation points will be awarded to tenderers who complete the preferencing schedule and who are found to be eligible for the preference claimed. The maximum attainable combined score for price and preference is 80+20=100 points.</p> <p>Functionality will be scored using the formula $N_q = W_2 \times (S_o / M_s)$ where:</p> <ol style="list-style-type: none"> 1. W_2 is the maximum number of tender evaluation points awarded for functionality, which for this bid submission is 100; 2. M_s is the maximum possible score for functionality in respect of this bid submission, which is 100; 3. S_o is the score for functionality attained by this bid submission. <p>Functionality will be scored according to the criteria contained in the returnable schedule for functionality, with a maximum attainable score as stated for M_s in the formula above. The tenderer must score a minimum of 70 points in order to pass the test for responsiveness for this tender. Bid submissions which fail to attain the minimum score for functionality will be disqualified without any consideration of the offer in terms of price and preference.</p>

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

Clause	Tender Data
C.3.13.1	<p>All responsive tender offers are subject to a comprehensive risk assessment in terms of:</p> <ol style="list-style-type: none"> 1. Financial viability and sustainability; 2. Evaluation and validation of the required information provided by the tenderer in inter alia returnable schedules. <p>The <i>Client</i> reserves the right to request, in writing, additional information from tenderers to clarify their offer if deemed necessary for risk assessment purposes. Failure on the part of the tenderer to provide the additional information within seven days after receipt of such a request will disqualify the tender. Tender offers which present an unacceptable high risk to the <i>Client</i> in terms of one or both of the risk assessment criteria above, will be rejected.</p> <p>Tender offers will only be considered if all the requirements as stated in the Conditions of Tender and Tender Data are complied with. Specific emphasis is placed on the following criteria for responsiveness:</p> <ol style="list-style-type: none"> 1. the tenderer is registered on the Western Cape Supplier Evidence Bank (WCSEB) by close of tender. If the tenderer's status is indicated as suspended on the WCSEB due to expiry of its declaration form WCBD4 on file, the duly completed WCBD4 form (Returnable Schedule 4) included in this document will serve as the updated form to enable responsiveness; 2. the tenderer is registered on the Central Supplier Database (CSD) by close of tender; 3. the tenderer must be shown to be tax compliant either via an attached printout of a CSD tax compliance verification report dated no more than one week prior to tender closing, or by attaching written proof by SARS of approved arrangements in terms of the tenderer's tax clearance; 4. the tenderer is registered with the Construction Industry Development Board (CIDB) in the appropriate contractor grading designation (if applicable) stated in this Tender Data by close of tender; 5. the tenderer submits this complete tender document from page 1 to page 150 inclusive, with all returnable schedules duly completed and priced as per the instructions pertaining to each schedule and section, and requirements stated in this Tender Data at the close of tender; 6. the tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; 7. the tenderer has not: <ul style="list-style-type: none"> - abused the <i>Client's</i> Supply Chain Management System, evidence of which can be clearly demonstrated by the <i>Client</i>; - failed to complete any previous contract due to the tenderer's own fault for any organ of state within the last 2 years; - submitted more than one offer (including participation in joint venture arrangements with others), and 8. has completed inter alia the Compulsory Enterprise Questionnaire and the Declaration of Interests (WCBD4), meets the local content minimum thresholds (if applicable) and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the <i>Client</i> or potentially compromise the tender process.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT**

Part T2: Returnable Documents	
T2.1 List of returnable documents	Page 12
T2.2 Returnable schedules	Page 13

WESTERN CAPE GOVERNMENT: HEALTH	
DIRECTORATE: SUPPLY CHAIN	
(INFRASTRUCTURE SOURCING)	
BID OPENED 11:00	
2025-07-30	
1).....	2).....
SIGNED	SIGNED

WESTERN CAPE GOVERNMENT
DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW

T2.1 List of returnable documents

IMPORTANT: The tenderer must complete all returnable schedules. Use the "Check" column to tick completion of each returnable schedule as a verification procedure to ensure all schedules are duly completed. Please see instructions for completion of returnable schedules under heading T2.2 following on the next page.

1. Returnable schedules required for tender evaluation and contracting purposes

Schedule No	Schedule Description & Location	Check
	Tender Schedules:	
1	Tender offer signature and authority of signatory Page 14	<input type="checkbox"/>
2	Compulsory Enterprise Questionnaire Page 20	<input type="checkbox"/>
3	WCBD 6.1(a): Preference Certificate (80:20) Page 23	<input type="checkbox"/>
4	WCBD4: Declaration of interest Page 29	<input type="checkbox"/>
5	Addenda / Notices issued to tenderers Page 35	<input type="checkbox"/>
6	Functionality Page 36	<input type="checkbox"/>
7	Schedule of work experience Page 39	<input type="checkbox"/>
	Contract Schedules:	
8	C1.1 Form of Offer and Acceptance Page 43	<input type="checkbox"/>
9	C1.2 Contract Data Part Two: Data provided by the Contractor Page 54	<input type="checkbox"/>
10	Pricing Summary Page 58	<input type="checkbox"/>
11	Price List Page 60	<input type="checkbox"/>
12	Contract information required from Contractor Page 129	<input type="checkbox"/>
13	Amendments by Contractor Page 141	<input type="checkbox"/>
14	Contractor's equipment schedule Page 142	<input type="checkbox"/>
15	Contractor's schedule of subcontractors Page 143	<input type="checkbox"/>
16	Contractor's proposed service plan Page 144	<input type="checkbox"/>
17	Contractor's health & safety plan Page 145	<input type="checkbox"/>
18	Contractor's environmental management plan Page 146	<input type="checkbox"/>

2. Returnable Documents to be submitted with bid

Document	Check
• Certificate of registration as a supplier on the CSD including successful bank verification details.	<input type="checkbox"/>
• B-BBEE Status Level Verification Certificate	<input type="checkbox"/>
• A valid Letter of Good standing from the Department of Labour (Compensation Commissioner), where the nature of business listed on the document must be related to the scope of works in this document (COIDA)	<input type="checkbox"/>
• Twenty Million Rand (R 20 million) Public Liability Insurance from an Accredited Insurer	<input type="checkbox"/>
• Proof of Local Office located in the Western Cape	<input type="checkbox"/>
• Joint Venture Agreement (if applicable).	<input type="checkbox"/>

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT

T2.2 Returnable schedules

Important information for completing returnable schedules

1. The returnable schedules list T2.1 shows all the returnable schedules which need to be completed and returned for tender evaluation and contracting purposes. This list includes both document-standard and project-specific schedules. List T2.1 should be used as a checklist by the tenderer to verify that all returnable schedules have been duly completed, to avoid the tender being rejected as non-responsive due to an incomplete submission.
2. Each returnable schedule is numbered, starting at Schedule 1 and following a consecutively incremented whole number sequence through the tender document to the final schedule number assigned, as per the returnable schedules list.
3. Although all returnable schedules are numbered and follow in numeric sequence, they are not all grouped together in a single location in this tender document. Returnable schedules are divided into 2 groups:
 - i. Tender Schedules
 - ii. Contract Schedules

The first group of schedules (Tender Schedules) follow directly from here on forward in Part T2.2, with the remainder (Contract Schedules) following in various sub-sections of Part C of this tender document. Schedules can be quickly located by their document page number given in the list of returnable schedules T2.1.

4. The tenderer must furnish all the information required for each returnable schedule with the indicated amount of detail to ensure compliancy of the tender with responsiveness criteria. Please note: If any returnable schedule or part thereof is not applicable to the tenderer, that schedule or part thereof must be clearly marked "Not Applicable" (N/A), and not simply left blank. Schedules left blank without any indication of response by the tenderer to the requested information in the schedule, will be taken as an omission of the requested information.
5. Some schedules may either require, or have as an option, additional pages of information to be appended by the tenderer when submitting the tender. In each case the exact number of additional pages must be indicated in the space provided on that schedule, or indicated as NIL if no additional pages are appended. All appended pages must be clearly marked with the schedule number to which they belong.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****SCHEDULE 1: Tender offer signature and authority of signatory**

The purpose of this Schedule is:

Section 1: To obtain the necessary information about the tendering entity and the official tender offer signature of the tenderer;

Section 2: To establish authority of the signatory to sign the tender offer and all other documents and/or correspondence in connection with and relating to the tender.

INSTRUCTIONS FOR COMPLETING SCHEDULE 1:

Tendering entities may be sole proprietors, partnerships, trusts, companies, close corporations or consortia / joint ventures. Schedule 1 must be completed as follows:

- **If the tendering entity is a sole proprietor, trust, partnership, company or close corporation**, then complete both this page and Section 2.1 of this Schedule, and leave Sections 2.2 and 2.3 blank.
- **If the tendering entity is a consortium or joint venture**, then complete both this page and Sections 2.2 and 2.3 of this Schedule, and leave Section 2.1 blank.
- The contact details below must be the officially designated contact addresses which will be used by the *Client* for any and all communication in regard to this tender.

Section 1: Official tender offer signature

THE TENDERING ENTITY IS: (Circle or mark with X the applicable option)

Sole proprietor	Partnership	Trust	Company	Close corporation	Consortium	Joint venture
-----------------	-------------	-------	---------	-------------------	------------	---------------

NAME OF THE TENDERING ENTITY:

.....
(Legally correct full name of the tendering entity)

Registration number of the tendering entity:

CONTACT DETAILS:

Physical & Postal Address:

.....

.....

.....

..... (Postal Code)

Telephone number:

Mobile number:

Email address:

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

Section 1 (continued...)

For the purpose of simplifying the tender document and tender submission process, the official tender offer signature below by the tenderer shall apply to this tender document as a whole, inclusive of all forms and returnable schedules which in the past required separate signatures on each form, including the Form of Offer.

DULY AUTHORISED REPRESENTATIVE TO DEPOSE TO AFFIDAVIT/SOLEMNLY AFFIRM

Declaration and signature to be provided by the duly authorised representative of the entity under oath or solemnly affirmed before a Commissioner of Oaths, failure of which will disqualify the tender submission.

I, hereby swear/solemnly affirm

- i. that the information disclosed in this tender document is true and accurate;
- ii. that I understand the contents of this tender document;
- iii. that the entity undertakes to independently arrive at any offer at any time to the *Client* without any consultation, communication, agreement or arrangement with any competitor. In addition, that there will be 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 the *Client*;
- iv. that the entity is aware of, and undertakes not to, disclose the terms of any bid, formal or informal, directly or indirectly, to any competitor, prior to the awarding of the contract, and
- v. that the authorised signature below serves as the required signature for ALL returnable schedules, including but not limited to the Form of Offer and Acceptance, Preference Certificate, Declaration of Interest and others.

AUTHORISED SIGNATURE OF TENDERER

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

TO BE COMPLETED BY COMMISSIONER OF OATHS:

I certify that before administering the oath/solemn affirmation I asked the deponent the following questions and wrote down his/her answers in his/her presence:

- | | | |
|-----|--|---------------|
| 1.1 | Do you know and understand the contents of this declaration? | ANSWER: |
| 1.2 | Do you have any objection to taking the prescribed oath and wish to make a solemn affirmation instead? | ANSWER: |
| 1.3 | Do you consider this declaration to be binding on your conscience? | ANSWER: |

I certify that the deponent has acknowledged that he/she knows and understands the contents of this document inclusive of all declarations therein, which was sworn to/solemnly affirmed before me and the deponent's signature placed thereon in my presence.

.....

SIGNATURE **FULL NAMES** (Commissioner of Oaths)

Designation (rank)ex officio: Republic of South Africa

Date:

Place

Address:

Commissioner's Stamp

Section 2: Authority of signatory**2.1: Resolution of board of *Trustees/Directors/Members/Partners**

Notes:

1. *Delete which is not applicable.
2. IMPORTANT: This resolution must be signed by ALL the trustees/directors/members/partners of the tendering entity.
3. Should the number of trustees/directors/members/partners exceed the space available below, additional names and signatures must be supplied on a separate page.

RESOLUTION by the *Proprietor/Board of *Trustees/Directors/Members/Partners of:

.....
 (Legally correct full name and registration number, if applicable, of the tendering entity)

Taken at On
 (Place) (Date)

	Name of Proprietor/Trustee/Director/Member/Partner	Capacity	Signature
1			
2			
3			
4			
5			
6			

(Append separate page if not enough space)

RESOLVED that:

1. The entity submits a bid to the **DEPARTMENT OF HEALTH AND WELLNESS** in respect of Tender No: **WCGHIC0003/2025: FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT**
- 2.
3. *Mr/Mrs/Ms:

in *his/her capacity as:
 (Position in the entity)

and who will sign the tender offer in Section 1 of this Schedule, be, and is hereby authorised, to sign the tender, and any and all other documents and/or correspondence in connection with and relating to the tender and any and all documentation, resulting from the award of the tender to the entity mentioned above.

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30	
1)..... SIGNED	2)..... SIGNED

2.2: Resolution to enter into Consortium / Joint Venture

Notes:

1. *Delete which is not applicable
2. A separate copy of this Section 2.2 must be duly completed, signed and submitted for each consortium/joint venture partner.
3. IMPORTANT: This resolution must be signed by ALL the trustees/directors/members/partners of the entity entering into the consortium/joint venture.
4. Should the number of representatives exceed the space available below, additional names and signatures must be supplied on a separate page.

RESOLUTION by the *Proprietor/Board of *Trustees/Directors/Members/Partners of:.....
(Legally correct full name and registration number, if applicable, of the entity)Taken at On
(Place) (Date)

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

	Name of Proprietor/Trustee/Director/Member/Partner	Capacity	Signature
1			
2			
3			
4			
5			
6			

(Append separate page if not enough space)

RESOLVED that:

1. The entity submits a bid, in consortium/joint venture with the following entities to the **DEPARTMENT OF HEALTH AND WELLNESS** in respect of Tender No **WCGHIC0003/2025: FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT**

	Full legally correct name of entity	Registration No (if applicable)
1		
2		
3		
4		
5		
6		

(Append separate page if not enough space)

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

2.3: Resolution to bid as Consortium / Joint Venture

Notes:

1. IMPORTANT: This resolution must be signed by ALL the representatives of the bidding consortium/joint venture.
2. Should the number of representatives exceed the space available below, additional names and signatures must be supplied on a separate page.
3. Enter the entity details and representative details in the same and corresponding numerical sequence into the respective tables below.

RESOLUTION of a meeting of the duly authorised representatives of the following legal entities who have entered into a consortium/joint venture to jointly tender for Tender No: **WCGHIC0003/2025: FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT**

	Full legally correct name of entity	Registration No (if applicable)
1		
2		
3		
4		
5		
6		

(Append separate page if not enough space)

Held at On.....
(Place) (Date)

	Name of authorised representative	Capacity	Signature
1			
2			
3			
4			
5			
6			

(Append separate page if not enough space)

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30 1)..... 2)..... SIGNED SIGNED	
---	--

RESOLVED that:

- A. The abovementioned entities submit a bid in consortium/ joint venture to the Department in respect of the tender mentioned above.
- B. *Mr/Mrs/Ms:
 in *his/her capacity as:
 (Position in the bidding consortium/joint venture)
- and who will sign the tender offer in Section 1 of this Schedule, be, and is hereby authorised, to sign the tender, and any and all other documents and/or correspondence in connection with and relating to the tender, as well as to sign any contract, and any and all documentation, resulting from the award of the tender to the entities in the consortium/joint venture mentioned above.
- C. The entities constituting the consortium/joint venture, notwithstanding its composition, shall conduct all business under the name and style of:
 (Consortium/joint venture name)
- D. The entities to the consortium/joint venture accept joint and several liability with the parties above for the due fulfillment of the obligations of the consortium/joint venture deriving from, and in any way connected with, the contract to be entered into with the Department in respect of the tender mentioned above.
- E. Any of the entities to the consortium/joint venture intending to terminate the consortium/joint venture agreement, for whatever reason, shall give the Department 30 days written notice of such intention. Notwithstanding such decision to terminate, the entities shall remain jointly and severally liable to the Department for the due fulfillment of the obligations of the consortium/joint venture as mentioned under item D above.
- F. No entity to the consortium/joint venture shall, without the prior written consent of the other entities to the consortium and of the Department, cede any of its rights or assign any of its obligations under the consortium/joint venture agreement in relation to the contract with the Department referred to herein.
- G. The entities choose as domicilium citandi et executandi of the consortium/joint venture for all purposes arising from the consortium/joint venture agreement and the contract with the Department in respect of the tender mentioned above, the physical address and contact details as furnished on the first page of this Schedule.

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT: HEALTH	
DIRECTORATE: SUPPLY CHAIN	
(INFRASTRUCTURE SOURCING)	
BID OPENED 11:00	
2025-07-30	
1).....	2).....
SIGNED	SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****SCHEDULE 2: Compulsory Enterprise Questionnaire**

Note: In the case of a consortium/joint venture, separate enterprise questionnaires as per this schedule in respect of each consortium/joint venture partner must be completed and submitted.

The tenderer must be shown to be tax compliant either via an attached printout of a CSD tax compliance verification report dated no more than one week prior to tender closing, or by attaching written proof by SARS of approved arrangements in terms of the tenderer's tax clearance

Section 1: Name of enterprise: Address of enterprise:																										
Section 2: VAT registration number, if any:																										
Section 3.1: CIDB registration number, if any:	Section 3.2: CSD Registration Number:																									
Section 4: Particulars of sole proprietors and partners in partnerships																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Name*</th> <th style="padding: 5px;">Identity number*</th> <th style="padding: 5px;">Personal income tax number*</th> </tr> </thead> <tbody> <tr><td style="height: 20px;"></td><td></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td><td></td></tr> </tbody> </table>	Name*	Identity number*	Personal income tax number*																							
Name*	Identity number*	Personal income tax number*																								
* Complete only if sole proprietor or partnership and append separate page if more than 6 partners																										
Section 5: Particulars of companies and close corporations																										
Company registration number.....																										
Close corporation number.....																										
Tax reference number.....																										

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00
2025-07-30

1).....
SIGNED

2).....
SIGNED

Section 6: Record of service of the state

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

- | | |
|--|---|
| <input type="checkbox"/> a member of any municipal council | <input type="checkbox"/> an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| <input type="checkbox"/> a member of any provincial legislature | <input type="checkbox"/> a member of an accounting authority of any national or provincial public entity |
| <input type="checkbox"/> a member of the National Assembly or the National Council of Province | <input type="checkbox"/> an employee of Parliament or a provincial legislature |
| <input type="checkbox"/> a member of the board of directors of any municipal entity | |
| <input type="checkbox"/> an official of any municipality or municipal entity | |

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

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

Append separate page if not enough space

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

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

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

- | | |
|--|---|
| <input type="checkbox"/> a member of any municipal council | <input type="checkbox"/> an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| <input type="checkbox"/> a member of any provincial legislature | |
| <input type="checkbox"/> a member of the National Assembly or the National Council of Province | |
| <input type="checkbox"/> a member of the board of directors of any municipal entity | <input type="checkbox"/> a member of an accounting authority of any national or provincial public entity |
| <input type="checkbox"/> an official of any municipality or municipal entity | <input type="checkbox"/> an employee of Parliament or a provincial legislature |

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

Append separate page if not enough space

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

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

AUTHORISED SIGNATURE OF TENDERER

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW

SCHEDULE 3: WCBD 6.1(a): PREFERENCE CERTIFICATE (80:20)

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022 AND IN TERMS OF THE WESTERN CAPE GOVERNMENT'S INTERIM STRATEGY AS IT RELATES TO PREFERENCE POINTS

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, BIDDERS (TENDERERS) MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER, PREFERENTIAL PROCUREMENT REGULATIONS, 2022 AND THE BROAD BASED BLACK ECONOMIC EMPOWERMENT ACT AND THE CODES OF GOOD PRACTICE

1. DEFINITIONS

- 1.1 **"acceptable tender"** means any tender which, in all respects, complies with the specifications and conditions of tender as set out in the tender document.
- 1.2 **"affidavit"** is a type of verified statement or showing, or in other words, it contains a verification, meaning it is under oath or penalty of perjury, and this serves as evidence to its veracity and is required for court proceedings.
- 1.3 **"all applicable taxes"** includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;
- 1.4 **"B-BBEE"** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- 1.5 **"B-BBEE status level of contributor"** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- 1.6 **"bid"** means a written offer on the official bid documents or invitation of price quotations and "tender" is the act of bidding /tendering;
- 1.7 **"Code of Good Practice"** means the generic codes or the sector codes as the case may be;
- 1.8 **"consortium or joint venture"** 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;
- 1.9 **"contract"** means the agreement that results from the acceptance of a bid by an organ of state;
- 1.10 **"EME"** is an Exempted Micro Enterprise with an annual total revenue of R10 million or less.
- 1.11 **"Firm price"** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;
- 1.12 **"Large Enterprise"** is any enterprise with an annual total revenue above R50 million;
- 1.13 **"non-firm prices"** means all prices other than "firm" prices;
- 1.14 **"person"** includes a juristic person;
- 1.15 **"price" means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;**
- 1.16 **"proof of B-BBEE status level contributor"** means-
 - (a) The B-BBEE status level certificate issued by an authorized body or person;
 - (b) A sworn affidavit as prescribed in terms of the B-BBEE Codes of Good Practice; or

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

(c) Any other requirement prescribed in terms of the Broad-Based Black Economic Empowerment Act.

- 1.17 **QSE** is a Qualifying Small Enterprise with an annual total revenue between R10 million and R50 million;
- 1.18 **"rand value"** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- 1.19 **"sub-contract"** means the primary contractor's assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract.
- 1.20 **"tender"** means a written offer in the form determined by an organ of state in response to an invitation to provide or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- 1.21 **"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;
- 1.22 **"the Act"** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000);
- 1.23 **"the Regulations"** means the Preferential Procurement Regulations, 2022;
- 1.24 **"total revenue"** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the *Government Gazette* on 11 October 2013;
- 1.25 **"trust"** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person; and
- 1.26 **"trustee"** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

2 GENERAL CONDITIONS

- 2.1 The following preference point systems are applicable to all bids:
- 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).
- 2.2 Preference point system for this bid:
- The value of this bid is estimated **not to exceed R50 000 000** (all applicable taxes included) and therefore **the 80/20 preference point system shall be applicable.**
- 2.3 Preference points for this bid shall be awarded for:
- (a) Price; and
 - (b) B-BBEE Status Level of Contribution.

- 2.4 The maximum points for this bid are allocated as follows:

	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTOR	20
Total points for Price and B-BBEE must not exceed	100

- 2.5 Failure on the part of a bidder to fill in, sign this form and submit in the circumstances prescribed in the Codes of Good Practice either a B-BBEE Verification Certificate issued by a Verification Agency accredited by the South African Accreditation System (SANAS) or an affidavit confirming annual total revenue and level of black ownership together with the bid or an affidavit issued by Companies Intellectual Property Commission, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

- 2.6 The Department reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the Department.

3. ADJUDICATION USING A POINT SYSTEM

- 3.1 Subject to Section 2 (1) (f) of the Preferential Procurement Policy Framework Act, 2000, the **bidder obtaining the highest number of total points** will be awarded the contract.
- 3.2 A tenderer must submit proof of its B-BBEE status level of contributor in order to claim points for B-BBEE.
- 3.3 A tenderer failing to submit proof of B-BBEE status level of contributor or is a non-compliant contributor to B-BBEE will not be disqualified but will only score:
- (a) points out of 80 for price; and
 - (b) 0 points out of 20 for B-BBEE
- 3.4 Points scored must be rounded off to the nearest 2 decimal places.
- 3.5 In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for B-BBEE.
- 3.6 As per section 2 (1) (f) of the Preferential Procurement Policy Framework Act, 2000, the contract may be awarded to a bidder other than the one scoring the highest number of total points based on objective criteria in addition to those contemplated in paragraph (d) and (e) of the Act that justifies the award to another tenderer provided that it has been stipulated upfront in the tendering conditions.
- 3.7 Should two or more bids be equal in all respects; the award shall be decided by the drawing of lots.

4. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES**4.1 POINTS AWARDED FOR PRICE****4.1.1 THE 80/20 PREFERENCE POINT SYSTEM**

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

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

P_s = Points scored for price of bid under consideration
 P_t = Price of tender under consideration
 P_{\min} = Price of lowest acceptable tender

5. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT**5.1 POINTS AWARDED FOR PRICE**

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

$$P_s = 80 \left(1 + \frac{P_t - P_{\max}}{P_{\max}} \right)$$

Where

P_s = Points scored for price of tender under consideration
 P_t = Price of tender under consideration
 P_{\max} = Price of highest acceptable tender

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

6 POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION

- 6.1 In terms of WCG interim strategy, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (80/20 system)
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

- 6.2 An **EME** must submit a valid, originally certified affidavit confirming annual turnover and level of black ownership or an affidavit issued by Companies Intellectual Property Commission
- 6.3 A **QSE that is less than 51 per cent (50% or less) black owned** must be verified in terms of the QSE scorecard issued via Government Gazette and submit a valid, original or a legible certified copy of a B-BBEE Verification Certificate issued by SANAS.
- 6.4 A **QSE that is at least 51 per cent black owned (51% or higher)** must submit a valid, originally certified affidavit confirming turnover and level of black ownership as well as declare its empowering status or an affidavit issued by Companies Intellectual Property Commission.
- 6.5 A **large enterprise** must submit a valid, original or originally certified copy of a B-BBEE Verification Certificate issued by a verification agency accredited by SANAS.
- 6.6 A trust, consortium or joint venture, will qualify for points for their B-BBEE status level as a legal entity, provided that the entity submits their B-BBEE status level certificate.
- 6.7 A trust, consortium or joint venture (including unincorporated consortia and joint ventures) must submit a consolidated B-BBEE status level verification certificate for every separate tender.
- 6.6 Tertiary institutions and public entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.

7 BID DECLARATION

- 7.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

8 B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPH 6

- 8.1 B-BBEE Status Level of Contribution..... = **(maximum of 20 points)**

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 6.1 and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or an affidavit confirming annual total revenue and level of black ownership in terms of the relevant sector code applicable to the tender.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

9 SUB-CONTRACTING

- 9.1 Will any portion of the contract be sub-contracted? **YES / NO** (delete which is not applicable)

- 9.1.1 If yes, indicate:

(i) what percentage of the contract will be subcontracted?%

(ii) the name of the sub-contractor?

(iii) the B-BBEE status level of the sub-contractor?

(iv) whether the sub-contractor is an EME or QSE? **YES / NO** (delete which is not applicable)

- 9.1.2 Sub-contracting relates to a **particular** contract and if sub-contracting is applicable, the bidder to state in their response to a particular RFQ that a portion of that contract will be sub-contracted.

10. DECLARATION WITH REGARD TO COMPANY/FIRM

10.1 Name of company/ entity:

10.2 VAT registration number:

10.3 Company Registration number:

10.4 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

[SELECT APPLICABLE ONE]

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1).....	2).....
SIGNED	SIGNED

10.5 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBEE status level of contribution indicated in paragraph 7 above, qualifies the company/ firm for the preference(s) shown and I/we acknowledge that:

- (a) The Western Cape Government reserves the right to audit the B-BBEE status claim submitted by the bidder.
- (b) As set out in Section 13O of the B-BBEE Act as amended, any misrepresentation constitutes a criminal offence. A person commits an offence if that person knowingly:
- (i) misrepresents or attempts to misrepresent the B-BBEE status of an enterprise;
 - (ii) provides false information or misrepresents information to a B-BBEE Verification Professional in order to secure a particular B-BBEE status or any benefit associated with compliance to the B-BBEE Act;
 - (iii) provides false information or misrepresents information relevant to assessing the B-BBEE status of an enterprise to any organ of state or public entity; or
 - (iv) engages in a fronting practice.
- (c) If a B-BBEE verification professional or any procurement officer or other official of an organ of state or public entity becomes aware of the commission of, or any attempt to commit any offence referred to in paragraph 10.5 (a) above will be reported to an appropriate law enforcement agency for investigation.
- (d) Any person convicted of an offence by a court is liable in the case of contravention of 10.5 (b) to a fine or to imprisonment for a period not exceeding 10 years or to both a fine and such imprisonment or, if the convicted person is not a natural person to a fine not exceeding 10 per cent of its annual turnover.
- (e) The purchaser may, if it becomes aware that a bidder may have obtained its B-BBEE status level of contribution on a fraudulent basis, investigate the matter. Should the investigation warrant a restriction be imposed, this will be referred to the National Treasury for investigation, processing and imposing the restriction on the National Treasury's List of Restricted Suppliers. The bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, may 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.
- (f) The purchaser may, in addition to any other remedy it may have –
- (i) disqualify the person from the bidding process;

- (ii) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (iii) 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; and
 - (iv) forward the matter for criminal prosecution.
- (g) The information furnished is true and correct.
- (h) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 2 of this form.

AUTHORISED SIGNATURE OF TENDERER

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****SCHEDULE 4: WCBD 4: DECLARATION OF INTERESTS, BIDDER'S PAST SUPPLY CHAIN
MANAGEMENT PRACTICES AND INDEPENDENT BID DETERMINATION****DETERMINATION**

1. To give effect to the requirements of the Western Cape Procurement (Business Interest of Employees) Act No 8 of 2010, Practice Note 4 of 2006 Declaration of Bidders Past SCM Practices-(SDB8), Instruction note Enhancing Compliance Monitoring and Improving Transparency and Accountability in Supply Chain Management SBD 4 Declaration of Interest, Practice Note 2010 Prohibition of Restrictive practices SBD9, Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998 as amended together with its associated regulations, the Prevention and Combating of Corrupt Activities Act No 12 of 2004 and regulations pertaining to the tender defaulters register, Paragraph 16A9 of the National Treasury Regulations and/or any other applicable legislation.
2. All prospective bidders intending to do business with the Institution must be registered on the central procurement database on this prescribed form.

3. Definitions

"Bid" includes a price quotation, advertised competitive bid, limited bid or proposal

"Bid rigging (or collusive bidding)" occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors

"business interest" means —

- (a) a right or entitlement to share in profits, revenue or assets of an entity;
- (b) a real or personal right in property;
- (c) a right to remuneration or any other private gain or benefit, and includes any interest contemplated in paragraphs (a), (b) or (c) acquired through an intermediary and any potential interest in terms of any of those paragraphs;

"Consortium or Joint Venture" 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;

"CSD" means the Central Supplier Database maintained by National Treasury;

"employee" in relation to —

- (a) a department, means a person contemplated in section 8 of the Public Service Act, 1994 but excludes a person appointed in terms section 12A of that Act;
- (b) a public entity, means a person employed by the public entity;

"entity" means any —

- (a) association of persons, whether or not incorporated or registered in terms of any law, including a company, corporation, trust, partnership, close corporation, joint venture or consortium; or
- (b) sole proprietorship;

"entity conducting business with the Institution" means an entity that contracts or applies or tenders for the sale, lease or supply of goods or services to the Province

***If you know of any corrupt, fraudulent or collusive actions in the Institution, please report it by
calling the National Hotline 0800 701 701***

This form must be completed annually. Should the information herein declared change in the course of the year or before the next renewal or in relation to any bid, quotation or contract, it is the entity's responsibility to advise the Institution in writing of the change in such details.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

“Family member” means a person’s —

- (a) spouse; or
- (b) child, parent, brother or sister, whether such a relationship results from birth, marriage or adoption or some other legal arrangement (as the case may be);

“intermediary” means a person through whom an interest is acquired, and includes a representative or agent or any other person who has been granted authority to act on behalf of another person;

“Institution” means —

A provincial department or provincial public entity listed in Schedule 3C of the Act;

“Provincial Government Western Cape (PGWC)” means

- (a) the Institution of the Western Cape, and
(b) a provincial public entity;

“RWOPS” means — Remunerative Work Outside the Public Service

“spouse” means a person’s —

- (a) partner in marriage or civil union according to legislation;
- (b) partner in a customary union according to indigenous law; or
- (c) partner in a relationship in which he or she cohabits and who is publicly acknowledged by the person as his or her life partner or permanent companion;

4. Regulation 13(c) of the Public Service Regulations (PSR) 2016, effective 1 February 2017, prohibits any employee from conducting business with an organ of state, or holding a directorship in a public or private company doing business with an organ of state unless the employee is a director (in an official capacity) of a company listed in schedules 2 and 3 of the Public Finance Management Act.

- a) Therefore, by 31 January 2017 all employees who are conducting business with an organ of state should either have:
- i. resigned as an employee of the government institution or;
 - ii. cease conducting business with an organ of state or;
 - iii. resign as a director/ shareholder/ owner/ member of an entity that conducts business with an organ of state.

5. Any legal person, or their family members, may make an offer or offers in terms of this invitation to bid. In view of potential conflict of interest, in the event that the resulting bid, or part thereof, be awarded to family members of persons employed by an organ of state, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where the bidder is employed by the Institution.

6. The bid of any bidder may be disregarded if that bidder or any of its directors have abused the institution's supply chain management system; committed fraud or any other improper conduct in relation to such system; or failed to perform on any previous contract.

7. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging). Collusive bidding is a *per se* prohibition meaning that it cannot be justified under any grounds.

8. Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorises accounting officers and accounting authorities to:

- a. disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
- b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.

If you know of any corrupt, fraudulent or collusive actions in the Institution, please report it by calling the National Hotline 0800 701 701

This form must be completed annually. Should the information herein declared change in the course of the year or before the next renewal or in relation to any bid, quotation or contract, it is the entity's responsibility to advise the Institution in writing of the change in such details.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
 SIGNED

2).....
 SIGNED

9. Communication between partners in a joint venture or consortium will not be construed as collusive bidding.
10. In addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or 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 ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

SECTION A: DETAILS OF THE ENTITY

A1.	CSD Registration Number	MAAA _____
A2.	Name of the Entity	
A3.	Entity registration Number (where applicable)	
A4.	Entity Type	
A5.	Tax Reference Number	

A6. Full details of directors, shareholder, member, partner, trustee, sole proprietor or any persons with a right or entitlement to share in profits, revenue or assets of an entity, of the entity should be disclosed in the Table A below.

TABLE A

FULL NAME	DESIGNATION <i>(Where a director is a shareholder, both should be confirmed.)</i>	IDENTITY NUMBER	PERSONAL TAX REFERENCE NO.	PERCENTAGE INTEREST IN THE ENTITY

(if not enough space, attach additional pages)

If you know of any corrupt, fraudulent or collusive actions in the Institution, please report it by calling the National Hotline 0800 701 701

This form must be completed annually. Should the information herein declared change in the course of the year or before the next renewal or in relation to any bid, quotation or contract, it is the entity's responsibility to advise the Institution in writing of the change in such details.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

SECTION B: DECLARATION OF THE BIDDER'S INTEREST

The supply chain management system of an institution must, irrespective of the procurement process followed, prohibit any award to an employee of the state, who either individually or as a director of a public or private company or a member of a close corporation, seek to conduct business with the WCG, unless such employee is in an official capacity a director of a company listed in Schedule 2 or 3 of the PFMA as prescribed by the Public Service Regulation 13 (c).

Furthermore, an employee employed by an organ of state conducting remunerative work outside the public enterprise should first obtain the necessary approval (RWOPS), failure to submit proof of such authority, where applicable, may result in disciplinary action.

B1.	Are any persons listed in Table A identified on the CSD as employees of the Institution? (If yes, refer to Public Service Circular EIM 1/2016 to exercise the listed actions)	<input type="checkbox"/> NO	<input type="checkbox"/> YES
B2.	Are any employees of the entity also employees of an organ of state? (If yes complete Table B and attach their approved "RWOP")	<input type="checkbox"/> NO	<input type="checkbox"/> YES
B3.	Are any family members of the persons listed in Table A employees of an organ of state? (If yes complete Table B)	<input type="checkbox"/> NO	<input type="checkbox"/> YES

TABLE B

Details of persons connected with the bidder who are employees of the Institution as defined should be disclosed in Table B below.

FULL NAME OF EMPLOYEE	IDENTITY NUMBER	DEPARTMENT/ ENTITY OF EMPLOYMENT	DESIGNATION / RELATIONSHIP TO BIDDER**	INSTITUTION EMPLOYEE NO./PERSAL NO. (Indicate if not known)

(if not enough space, attach additional pages)

If you know of any corrupt, fraudulent or collusive actions in the Institution, please report it by calling the National Hotline 0800 701 701

This form must be completed annually. Should the information herein declared change in the course of the year or before the next renewal or in relation to any bid, quotation or contract, it is the entity's responsibility to advise the Institution in writing of the change in such details.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

SECTION C: PERFORMANCE MANAGEMENT AND BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES*To enable the prospective bidder to provide evidence of past and current performance.*

C1. Did the entity conduct business with an organ of state in the last twelve months?
(If yes complete Table C)

NO	YES
----	-----

C2.
TABLE C

Complete the below table to the maximum of the last 5 contracts.

NAME OF CONTRACTOR	PROVINCIAL DEPARTMENT OR PROVINCIAL ENTITY	TYPE OF SERVICES OR COMMODITY	CONTRACT / ORDER NUMBER	PERIOD OF CONTRACT	VALUE OF CONTRACT

(if not enough space, attach additional pages)

C3. Is the entity or its principals listed on the National Database as companies or persons prohibited from doing business with the public sector?

NO	YES
----	-----

C4. Is the entity or its principals listed on the National Treasury Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No. 12 of 2004)?
(To access this Register enter the National Treasury's website, www.treasury.gov.za, click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012) 3265445.)

NO	YES
----	-----

C5. If yes to C3 or C4, were you informed in writing about the listing on the database of restricted suppliers or Register for Tender Defaulters by National Treasury?

NO	YES
----	-----

C6. Was the entity or persons listed in Table A convicted for fraud or corruption during the past five years in a court of law (including a court outside the Republic of South Africa)?

NO	YES
----	-----

C7 Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?

NO	YES
----	-----

If you know of any corrupt, fraudulent or collusive actions in the Institution, please report it by calling the National Hotline 0800 701 701

This form must be completed annually. Should the information herein declared change in the course of the year or before the next renewal or in relation to any bid, quotation or contract, it is the entity's responsibility to advise the Institution in writing of the change in such details.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

SECTION D: DULY AUTHORISED REPRESENTATIVE TO DEPOSE TO AFFIDAVIT*See reference to authorised signature below.*

AUTHORISED SIGNATURE OF TENDERER

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

If you know of any corrupt, fraudulent or collusive actions in the Institution, please report it by calling the National Hotline 0800 701 701

This form must be completed annually. Should the information herein declared change in the course of the year or before the next renewal or in relation to any bid, quotation or contract, it is the entity's responsibility to advise the Institution in writing of the change in such details.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****SCHEDULE 5: Addenda / Notice(s) issued to tenderers**

We confirm that the following communications / addenda / notice(s) to tenderers received from the *Client* before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer (If no addenda/notices mark schedule NIL, if not enough space, attach additional pages):

ADDENDUM No	DATE	SUBJECT MATTER OF ADDENDUM / NOTICE

Documentary evidence of addenda / notices issued to tenderers indicating proof of receipt must accompany this Schedule.

AUTHORISED SIGNATURE OF TENDERER

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT

SCHEDULE 6: Functionality

Notes: In terms of Method 2 (functionality, price and preference) described in the Conditions of Tender for evaluation of this tender, the tenderer must complete this Functionality Schedule. The information required must be provided as additional pages appended to this Schedule, with the number of appended pages specified and the Schedule signed by the authorised signatory in the spaces provided below. ALSO NOTE: The information provided by the tenderer is subject to verification and if any form of falsification or misrepresentation of any of the required details is found, the tender will be disqualified.

The functionality table below shows the fully transparent criteria for functionality evaluation and scoring. PLEASE DO NOT score any items in the table, this will be done by the *Client* during tender adjudication upon scrutiny and verification of the information pages appended to this Schedule.

Definition of Functionality:

"Functionality" means the measurement according to the predetermined norms of a service or commodity designed to be practical and useful, working or operating, taking into account quality, reliability, viability and durability of a service and technical capacity and ability of a tenderer.

Evaluation of the Tenders:

The evaluation of the tenders will be conducted in the following two stages:

- Stage 1. Firstly, the assessment of functionality will be done in terms of information made available by the tenderer according to the criteria in the Functionality Table below, where a total of 100 points are awarded, broken down as per the items listed in the table. The minimum qualifying threshold will be **70%** of the 100 points awarded for functionality. Tenders failing to attain this threshold will be disqualified without consideration of the other criteria of the CIDB Method 2 evaluation (price and preference).
- Stage 2. Thereafter, only the tenders qualifying with a score of **70%** and above will be evaluated in terms of points scored for financial offer and preferences in the applicable ratio as stated in the Conditions of Tender (80:20 or 90:10).

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

FUNCTIONALITY TABLE:

NO	ITEM	POINTS
1	Relevant Project Experience and Capability (total of items 1.1 to 1.3)	30
1.1	<p>References:</p> <ul style="list-style-type: none"> Provide favourable letters of reference from clients for the number of completed Solar PV installations exceeding a value of R5m (Five million Rand). For multiple projects done for the same client, list each of the projects that exceeds the threshold value. <p><i>Total scoring: 5 letters=10 points; 3-4 letters=5 points; 1-2 letters=3 points; No letters=0 points.</i></p>	10
1.2	<p>Solar PV implementation contract experience:</p> <ul style="list-style-type: none"> Provide a list of all installations where the Solar PV implementation work undertaken each exceeded a value of R5m (Five million rand) per installation respectively, which are currently in progress or completed and undertaken during the last 5 years. <p><i>Total scoring: 1 point each per listed installation, up to a maximum of 10 points.</i></p>	10

1.3	<p>Completed Solar PV and Renewable Energy related projects:</p> <ul style="list-style-type: none"> Provide copies of Completion Certificates of all Solar PV and Renewable energy related projects where the total implementation work undertaken each exceeded a value of R5m (Five million rand) per installation respectively, which were completed during the last 5 years. <p><i>Total scoring: 1 point each per Completion Certificate, up to a maximum of 10 points.</i></p>	10
2	Financial Capability	10
2.1	<p>Performance Bond or Performance Guarantee:</p> <ul style="list-style-type: none"> Provision of Performance Bond or Performance Guarantee, as issued by a bank, insurance company, or a financial institution authorized to provide such guarantees. Provide approved Performance Bonds or Performance Guarantees related to Renewable energy project contracts, which are currently in progress or completed and undertaken during the last 5 years. <p><i>Total scoring: >R5M=5 points; Between R5M & R2.5M =2 points; <R2.5M=0 points.</i></p>	10
3	Establishment & Resources (total of items 3.1 to 3.4)	20
3.1	<p>Company in operation:</p> <ul style="list-style-type: none"> Number of years that the practice has been in operation. <p><i>Total scoring: 1 point for every 3 years, up to a maximum of 5 points.</i></p>	5
3.2	<p>Company Organogram:</p> <ul style="list-style-type: none"> Provide a detailed organogram of the key technical, leadership and management structure you intend to mobilize on a substantially full time basis on this contract. Provide the qualification requirement of all the roles. <p><i>Scoring – add up the following: Personnel qualification details=2 points; Personnel experience details=2 points; Client's adequacy rating of organogram=1 points.</i></p>	5
3.3	<p>Company Infrastructure:</p> <ul style="list-style-type: none"> Provide detailed information about infrastructure capacity available locally for your company with specific reference to both skilled labour resources and technical expertise, as well as your proven maximum rate of work execution and delivery during past projects, expressed in monetary value earned per month. <p><i>Total scoring: Infrastructure capacity to deliver at a rate of R2.0m per month=5 points; R1m per month=2 points; R0.7m per month=1 point; Less than R0.7m per month=0 points.</i></p>	5
3.4	<p>CV's of key personnel:</p> <ul style="list-style-type: none"> Provide CV's of the key personnel to be employed substantially full time on this contract and in key supporting roles. <p><i>Scoring – add up the following: Details of the appropriately qualified and experienced personnel responsible for: Solar PV implementation projects=2 points; Solar PV design projects=1 point; Electrical work=1 point; Overall project management and control specifically in Solar PV projects=1 point; Client's adequacy rating of key personnel=1 point.</i></p>	5

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30	
1)..... SIGNED	2)..... SIGNED

4	Contract Management Capability	5
4.1	<p>Contract management personnel:</p> <ul style="list-style-type: none"> Provide details of the company in-house capacity for contract administration by giving the details of at least one personnel member qualified in the field of construction management, who will be employed on this contract. <p><i>Scoring – add up the following: Formal tertiary construction management qualification=5 points; More than 5 years fulltime contract management experience=5 points; Less than 5 years fulltime contract management experience=2 points.</i></p>	5
5	Quality of design & documentation	20
5.1	<p>The quality of design documentation, construction methods proposed, and materials used will be evaluated for these components of the works. These evaluations will exclude any matters relating to performance of equipment.</p> <p>The tenderer shall include a design and documentation layout for a typical Rooftop Solar PV installation generating a capacity of 200kWp and a BESS with a storage capacity of 800kWh. Inverter/s and BESS to be installed inside suitable modified container with all required equipment and systems.</p> <p>Scoring on the documentation and drawings submitted as part of the tender returnables will be done in the following categories:</p> <ul style="list-style-type: none"> Rooftop Solar PV system BESS system Container layout with electrical system System control & monitoring <p>O&M service plan:</p> <ul style="list-style-type: none"> The adequacy of the O&M activities, response times and methodologies will be evaluated. <p><i>Total scoring : Scoring is based on level of detail presented on the documentation provided for each of the categories, which should demonstrate the level of experience.</i></p>	<p>5</p> <p>5</p> <p>5</p> <p>3</p> <p>2</p>
6	Implementation / methodology statement and Preliminary Programme	15
6.1	<p>In order to demonstrate the experience on a typical Solar PV installation the tenderer shall submit as part of the tender returnable documentation the following:</p> <ul style="list-style-type: none"> Implementation / methodology statement for a 200kWp Rooftop Solar PV and 800kWh BESS from inception stage up to final handover stage. Typical programme presented on a Gantt chart showing key dates and events for the full implementation of a 200kWp Solar PV and 800kWh BESS system. <p><i>Total scoring : Scoring is based on level of detail presented on the documentation provided for each of the categories, which should demonstrate the level of experience.</i></p>	<p>10</p> <p>5</p>
TOTAL POINTS FOR FUNCTIONALITY		100

AUTHORISED SIGNATURE OF TENDERER

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

CURRENT CONTRACTS			
CLIENT (NAME, TEL No and FAX No)	NATURE OF WORK	VALUE (R)	ANTICIPATED COMPLETION DATE

(Append separate page if not enough space)

AUTHORISED SIGNATURE OF TENDERER

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT

NEC4 TERM SERVICE SHORT CONTRACT (TSSC4)

16B – Delivery & Maintenance of Infrastructure

A contract between the DEPARTMENT OF HEALTH AND WELLNESS

and

Name of Contractor:

The Contract

Compiled in accordance with CIDB Standard for Uniformity in Engineering and Construction Works Contracts (August 2019)

Part C1: Agreement and Contract Data

Page 42

C1.1 Form of Offer and Acceptance

Page 43

C1.2 Contract Data

Page 47

Part C2: Pricing Data

Page 55

C2.1 Pricing assumptions & instructions

Page 56

C2.2 Pricing schedule

Page 58

Part C3: Scope of work

Page 62

Scope

Page 63

Appendix: Drawings, schematics & annexures

Page 150

NOTE: The complete contract documentation comprises the following:

- This document, from and including page 1 forward, up to and including the last page (page 150) in this document page count;
- All items included by reference or otherwise in this document;
- All addenda/notices issued by the *Client* to tenderers prior to tender closing;
- All deviations included in the Schedule of Deviations on page 45 of this document;
- All additional pages appended by the tenderer to returnable Contract Schedules which are accepted by the *Client*.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT**

Part C1: Agreement and Contract Data	
C1.1 Form of Offer and Acceptance	Page 43
Schedule 8: Form of Offer and Acceptance	Page 43
C1.2 Contract Data	Page 47
Contract Data Part One	Page 47
Schedule 9: Contract Data Part Two	Page 54

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30 1)..... 2)..... SIGNED SIGNED	
---	--

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW****C1.1 Form of Offer and Acceptance****SCHEDULE 8 : C1.1 Form of Offer and Acceptance****The Contractor's Offer**

The *Client*, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement of: **Tender No: WCGHIC0003/2025: FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT**

The tenderer, identified in the offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the returnable schedules, and by submitting this offer has accepted the Conditions of Tender.

By the representative of the tenderer, deemed to be duly authorised, signing this Offer, the tenderer offers to perform all of the obligations and liabilities of the *Contractor* under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the *conditions of contract* identified in the Contract Data.

The offered total of the Prices for the service in Part 1 and Part 2 of the Price List added together INCLUSIVE OF VALUE ADDED TAX IS:

.....

.....Rand (in words);

R..... (in figures).

This offer may be accepted by the *Client* by signing the *Client's* Acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the Tender Data, whereupon the tenderer becomes the party named as the *Contractor* in the *conditions of contract* identified in the Contract Data.

For the tenderer:

AUTHORISED SIGNATURE OF TENDERER

Tenderer MUST complete the following:

CIDB Reg No.....

CSD Reg No.....

B-BBEE Status Level.....

Name of organisation **as per Schedule 1**

Name and capacity of signatory **as per Schedule 1**

Address of organisation **as per Schedule 1**

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1).....	2).....
SIGNED	SIGNED

The Client's Acceptance

By signing this Acceptance, the *Client* identified below accepts the tenderer's offer. In consideration thereof, the *Client* shall pay the *Contractor* the amount due in accordance with the *conditions of contract* identified in the Contract Data. Acceptance of the tenderer's offer shall form an Agreement between the *Client* and the tenderer upon the terms and conditions contained in this Agreement and in the contract that is the subject of this Agreement.

The terms of the contract are contained in Part C1: Contract Data (which includes this agreement) and drawings, schedules and documents or parts thereof, which may be incorporated by reference into Part C1.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto as listed in the tender schedules as well as any changes to the terms of the offer agreed by the tenderer and the *Client* during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

The tenderer shall arrange for the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of this contract. Failure to fulfil any of these obligations in accordance with the terms stipulated, shall constitute a repudiation of this Agreement.

This Agreement comes into effect on the *starting date* as stated in the Contract Data.

For the *Client*: WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

22nd Floor
4 Dorp Street
CAPE TOWN
8001

SIGNATURE OF <i>Client</i>

Name:

Capacity:

Name and signature of witness:

.....

Date:

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

Schedule of Deviations

(Append separate page if not enough space)

1 Subject:

Details:

.....

2 Subject:

Details:

.....

3 Subject:

Details:

.....

4 Subject:

Details:

.....

5 Subject:

Details:

.....

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

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

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

For the Tenderer:

AUTHORISED SIGNATURE OF TENDERER (Only required if the Schedule of Deviations contains entries)	

Name:

Capacity:

Name and address of organisation:

.....

Name and signature of witness:

Date:

For the Client: WESTERN CAPE GOVERNMENT
DEPARTMENT OF HEALTH AND WELLNESS
 22nd Floor
 4 Dorp Street
 CAPE TOWN
 8001

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1).....
 SIGNED

2).....
 SIGNED

SIGNATURE OF <i>Client</i> (Only required if the Schedule of Deviations contains entries)	

Name:

Capacity:

Name and signature of witness:

Date:

Number of additional pages appended by the tenderer to this schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW

Contract Data

C1.2 Contract Data Part One

Data provided by the Client

Clause	Contract Data												
1 General	The <i>conditions of contract</i> are the clauses of, and additional conditions to, the NEC4 Term Service Short Contract (June 2017) , available from ECS Associates (tel 011-803-3008, email admin@ecs.co.za), tenderers to obtain copies at their own cost.												
Clause 10.1	<p>The <i>Client</i> is</p> <table border="1"> <tr> <td>Name:</td><td>DEPARTMENT OF HEALTH AND WELLNESS WESTERN CAPE GOVERNMENT</td></tr> <tr> <td>Address Line 1</td><td>22nd Floor</td></tr> <tr> <td>Address Line 2</td><td>4 Dorp Street</td></tr> <tr> <td>Address Line 3</td><td>CAPE TOWN</td></tr> <tr> <td>Postal Code:</td><td>8001</td></tr> <tr> <td>Email address*:</td><td>GernotH@bviwc.co.za</td></tr> </table> <p>* Address for electronic communications</p> <p>The address for electronic communications is as above or as may be notified in writing to the <i>Contractor</i> from time to time during execution of the contract.</p>	Name:	DEPARTMENT OF HEALTH AND WELLNESS WESTERN CAPE GOVERNMENT	Address Line 1	22nd Floor	Address Line 2	4 Dorp Street	Address Line 3	CAPE TOWN	Postal Code:	8001	Email address*:	GernotH@bviwc.co.za
Name:	DEPARTMENT OF HEALTH AND WELLNESS WESTERN CAPE GOVERNMENT												
Address Line 1	22nd Floor												
Address Line 2	4 Dorp Street												
Address Line 3	CAPE TOWN												
Postal Code:	8001												
Email address*:	GernotH@bviwc.co.za												
Clause 11.2(11)	The service is Tender No WCGHIC0003/2025: FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT.												
Clause 11.2(11)	The Scope is in Part C3: Scope of Work in this document.												
Clause 13.2	The <i>period for reply</i> is 2 weeks .												
Clause 14.6	<p>The <i>Client's Agent</i> is:</p> <table border="1"> <tr> <td>Name:</td><td>BVi Consulting Engineers - Western Cape</td></tr> <tr> <td>Contact no:</td><td>+27 (0)21 527 7000</td></tr> <tr> <td>Email address*:</td><td>GernotH@bviwc.co.za</td></tr> </table> <p>* The address for electronic communications is the <i>Client Agent's</i> email address or as may be notified in writing to the <i>Contractor</i> from time to time during execution of the contract.</p>	Name:	BVi Consulting Engineers - Western Cape	Contact no:	+27 (0)21 527 7000	Email address*:	GernotH@bviwc.co.za						
Name:	BVi Consulting Engineers - Western Cape												
Contact no:	+27 (0)21 527 7000												
Email address*:	GernotH@bviwc.co.za												
Clause 14.6	The authority of the <i>Client's Agent</i> is to act on behalf of the <i>Client</i> in all matters regarding this contract.												
3 Time													

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

Clause	Contract Data								
Clause 30.1	The <i>starting date</i> is the date of receipt of the letter of notification of appointment of the Contractor issued by the Client (in the case of email notification the date on which the email is sent by the <i>Client</i>). The <i>Contractor</i> will only be allowed to start work after receipt and acceptance by the <i>Client</i> of the necessary bonds, guarantees, insurance certificates and other information required by this contract, no later than 4 weeks of the <i>starting date</i> . The period of 4 weeks includes one week for the <i>Client</i> to assess and process the submitted documentation.								
Clause 30.1	The <i>service period</i> is 36 months .								
5 Payment									
Clause 50.1	The <i>assessment day</i> is the 15th day of each month.								
Clause 51.1	Delete the first sentence of Clause 51.1 and replace with the following: The <i>Client</i> certifies a payment within one week of the <i>assessment day</i> . The <i>Contractor</i> prepares a tax invoice for the exact amount certified by the <i>Client</i> . The <i>Contractor</i> submits the tax invoice together with the corresponding payment certificate to the <i>Client</i> for payment. Incomplete and incorrect payment submissions are returned within one week to the <i>Contractor</i> for correction. Payment is made within thirty days of receipt of a complete and correct <i>Contractor's</i> payment submission.								
Clause 51.2	The <i>interest rate</i> is 2% per annum above the prime lending rate as determined by the South African Reserve Bank.								
Clause 52.1	The rates and Prices in the contract are adjusted for inflation on each anniversary of the tender closing date. Non-framework rates shall not be subject to escalation.								
Clause 52.2	The <i>base date</i> for indices is the closing date of this tender . The proportions used to calculate the Price Adjustment Factor are: <table> <tr> <th>Proportion</th><th>Linked to index for</th></tr> <tr> <td>0.85</td><td>People, Equipment, Plant and Materials</td></tr> <tr> <td><u>0.15</u></td><td>Non-adjustable</td></tr> <tr> <td>1.00</td><td></td></tr> </table> <p>The indices are the CPAP indices (Construction Price Adjustment Provisions as published in the Statistical News Release, P0151.1 Table 1) prepared by Statistics South Africa. (www.statssa.gov.za) Consumables or goods subject to statutory price fluctuations are adjusted in terms of their statutory prices.</p>	Proportion	Linked to index for	0.85	People, Equipment, Plant and Materials	<u>0.15</u>	Non-adjustable	1.00	
Proportion	Linked to index for								
0.85	People, Equipment, Plant and Materials								
<u>0.15</u>	Non-adjustable								
1.00									
8 Liabilities and insurance									
Clause 82.4	For any one event, the liability of the <i>Contractor</i> to the <i>Client</i> for loss of or damage to the <i>Client's</i> property is limited to R10 000 000 (ten million rand) ..								
Clause 83.2	The minimum amount of cover for the second insurance stated in the Insurance Table is, for any one event, R10 000 000 (ten million rand) .								
Clause 83.2	The minimum amount of cover for the third insurance stated in the Insurance Table is, for any one event, R20 000 000 (twenty million rand) .								
9 Termination and resolving disputes									

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

Clause	Contract Data
Clause 93.1	The <i>Adjudicator</i> is the person selected by the Parties as follows: A Party may at any time notify the other Party of the names of two persons chosen from the panel of NEC <i>Adjudicators</i> set up by the Joint Civils Division of the Institution of Civil Engineers (ICE)(UK) and the South African Institution for Civil Engineering (SAICE) (see www.jointcivils.co.za) whose availability to act as the <i>Adjudicator</i> , has been confirmed by the notifying Party. The other party selects one of the two persons chosen to be the <i>Adjudicator</i> within the <i>period for reply</i> of receiving the notice, failing which the person chosen by the notifying Party will be the <i>Adjudicator</i> . The Parties appoint the <i>Adjudicator</i> under the NEC4 <i>Adjudicator's Contract</i> , June 2017.
Clause 93.2(2)	The <i>Adjudicator nominating body</i> is The Chairman of the Joint Civils Division of the Institution of Civil Engineers (ICE)(UK) and the South African Institution for Civil Engineering (SAICE) (see www.jointcivils.co.za).
Clause 93.4	The <i>tribunal</i> is arbitration . The arbitration procedure is as set out in the Rules of the Arbitration Foundation of Southern Africa .
Z Additional conditions of contract	
Clause Z1	No clause
Clause Z2	Identified and defined terms The Contract Date is the date this contract came into existence.
Clause Z3	Acts or omissions by mandataries In terms of Section 37(2) of the Occupational health and Safety Act of 1993 (Act 85 of 1993), the <i>Contractor</i> hereby agrees that the <i>Client</i> is relieved of any and all of its liabilities in terms of Section 37(1) of this Act in respect of any acts or omissions of the <i>Contractor</i> and his employees to the extent permitted by this Act, and that this contract comprises the written agreement between the <i>Client</i> and the <i>Contractor</i> contemplated in section 37(2).
Clause Z4	Maintenance of mandatory registrations The <i>Contractor</i> ensures that his registrations with the Construction Industry Development Board (CIDB) and as a supplier on the Western Cape Supplier Evidence Bank (WCSEB) and the Central Supplier Database (CSD) are maintained until the Completion of the whole of the works.
Clause Z5	Compliance with good labour practice The <i>Contractor</i> is registered with, and provides a Certificate of Compliance issued by, the Building Industry Bargaining Council (BIBC) in terms of clause 6A of the Collective Agreement as published in the Government Gazette No 25769 dated 28 November 2003. The <i>Contractor</i> complies with all BIBC requirements in terms of registration and remuneration of employees in the Working Areas, and remains in good standing with the BIBC during the execution of the contract.
Clause Z6	No clause.
Clause Z7	No clause.



Clause	Contract Data
Clause Z8	<p>Performance bond for Task Order</p> <p>The <i>Contractor</i> gives the <i>Client</i> a performance bond for a Task Order, provided by a bank or insurer which the <i>Client</i> has accepted, for the amount stated in the Contract Data and in the form set out in the Scope. Insurers must be duly registered in terms of the Short-Term Insurance Act 1998 (Act 35 of 1998) and banks must be duly registered in terms of the Banks Act, 1990 (Act 94 of 1990). No alterations or amendments of the wording of the form of the performance bond will be accepted. A reason for not accepting the bank or insurer is that its commercial position is not strong enough to carry the bond. If the bond was not given by the Task starting date it is given to the <i>Client</i> within four weeks of the Task starting date. The <i>Contractor</i> does not start work on the Task before acceptance of the bond by the <i>Client</i>. Alternatively, a cash deposit of the same amount is also acceptable as a performance bond.</p> <p>The amount of the performance bond is 10% (ten percent) of the Task Order value excluding VAT, for Task Orders with a value exceeding R1 000 000 (one million rand) excluding VAT.</p> <p>The form of the performance bond is the pro forma Task Order performance guarantee in the Scope.</p> <p>No performance bond will be required for Task Orders with a value below R1 000 000 (one million rand) excluding VAT.</p>
Clause Z9	<p>No gifts/tokens/invitations from the <i>Contractor</i> to <i>Client's</i> officials</p> <p>Although there are formal prescripts and mechanisms in place to regulate and record the receipt of small tokens/gifts/invitations from contractors and service providers, officials of the <i>Client</i> are actively discouraged from accepting any such gifts/tokens/invitations. In terms of this contract, the <i>Contractor</i> shall not offer any gift/token/invitation which carries any monetary benefit, irrespective of value, directly or indirectly, to any official in the <i>Client's</i> service, before or after completion of this contract.</p>
Clause Z10	No clause
Clause Z11	<p>Non-working days and the December/January builders' break</p> <p>Non-working days stated herein are added to delays to a Task Completion Date assessed due to compensation events.</p> <p>Inclusion or exclusion of the annual December/January builders' break in determining and influencing a Task Completion Date as set in a Task Order is as stated herein, omission of which means EXCLUSION by default.</p> <p>If Completion is delayed until after the start of the builders' break, the full period of the builders' break is added in addition to delays to the Task Completion Date due to compensation events only if</p> <ul style="list-style-type: none"> the annual builders' break was EXCLUDED when setting the Task Completion Date in Task Orders, and the delay to Task Completion is not the <i>Contractor's</i> fault. <p>If either Party issues a communication in terms of this contract to the other at any time during the builders' break, the <i>period for reply</i> is extended by the remainder of the period of the builders' break at the time of the communication.</p> <p>Saturdays, Sundays and National public holidays of the Republic of South Africa are non-working days when assessing delays to a Task Completion Date due to compensation events.</p> <p>The full period of the annual builders' break of approximately 4 weeks in December/January during execution of this contract is EXCLUDED from a Task Completion Date as set in the Task Order.</p>
Clause Z12	No clause.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

Clause	Contract Data
Clause Z13	<p>The <i>Contractor</i> provides the following additional insurances to the insurances listed in the Insurance Table:</p> <p>When stated in a Task Order, Insurance against loss of or damage to the works or service, for the replacement cost thereof.</p> <p>A Coupon Policy for Special Risks Insurance issued by the South African Special Risks Insurance Association (SASRIA).</p>
Clause Z14	<p>Extension of the <i>service period</i></p> <p>The <i>Client</i> reserves the option to extend the <i>service period</i> of this contract as a once-off occurrence only. The <i>service period</i> is extended if the extension is notified by the <i>Client</i> to the <i>Contractor</i> before or on the date of expiry of the current <i>service period</i>, and the duration of the extension does not exceed the allowed maximum duration, which for this contract is 12 months.</p>
Clause Z15	<p>Retention on Task Orders</p> <p>An amount is retained from the <i>Contractor</i> in the assessment of each amount due on a Task Order until Task completion. This amount is the <i>retention</i> applied to the amount due. The amount is halved in the first assessment made after Task completion and remains at this amount for the <i>retention period</i> after Task completion.</p> <p>The <i>retention</i> is 10% (ten percent) excluding VAT of the Task Order value for Solar PV installations, attained by payment reduction of 10% (ten percent) of the value certified in the amount due for the Task Order until the retention amount is reached. The retention period is 36 months after Task completion.</p> <p>The <i>retention</i> is 5% (five percent) excluding VAT of the Task Order value for battery energy storage system (BESS) installations, attained by payment reduction of 10% (ten percent) of the value certified in the amount due for the Task Order until the retention amount is reached. The retention period is 52 weeks after Task completion.</p> <p>Understanding the Retention Requirement</p> <p>The tender specifies distinct retention policies for Solar PV and BESS installations, applied to Task Orders issued under the contract. Retention serves as a financial safeguard, withheld from payments to the contractor until specific milestones and retention periods are met. Below is a breakdown of the requirements:</p> <ul style="list-style-type: none"> Solar PV Installations <p>Retention Amount: 10% (excluding VAT) of the Task Order value.</p> <p>Mechanism: Achieved by deducting 10% of the value certified in each payment assessment until the full retention amount (10% of the Task Order value) is reached.</p> <p>Post-Completion Adjustment: Upon Task completion, the retention amount is halved (to 5% of the Task Order value) in the first payment assessment following completion.</p> <p>Retention Period: The halved retention (5%) is held for 36 months (3 years) after Task completion, after which it is released to the contractor, provided no defects or liabilities remain.</p> <p>Purpose: Ensures long-term performance and quality of Solar PV systems, covering potential defects in panels, inverters, or installation workmanship.</p> BESS Installations <p>Retention Amount: 5% (excluding VAT) of the Task Order value.</p> <p>Mechanism: Achieved by deducting 10% of the value certified in each payment assessment until the full retention amount (5% of the Task Order value) is reached.</p> <p>Post-Completion Adjustment: Upon Task completion, the retention amount is halved (to 2.5% of the Task Order value) in the first payment assessment following completion.</p>

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

Clause	Contract Data
	<p>Retention Period: The halved retention (2.5%) is held for 52 weeks (1 year) after Task completion, after which it is released to the contractor, provided no defects or liabilities remain.</p> <p>Purpose: Ensures reliability and safety of BESS components (e.g., batteries, Battery Management Systems), with a shorter retention period reflecting the typically shorter warranty and defect liability period for battery systems.</p> <ul style="list-style-type: none"> • Key Terms <p>Task Order: A specific work order issued under the framework contract, detailing the scope, value, and timeline for a Solar PV or BESS installation at a healthcare facility.</p> <p>Task Completion: The point at which the installation is fully commissioned, tested, and handed over to the client, as certified by the project engineer or client representative.</p> <p>Retention Period: The duration during which the halved retention is held to cover potential defects or performance issues.</p> <p>Amount Due: The certified value of work completed in a payment assessment, from which retention is deducted.</p>
Clause Z16	No Clause
Clause Z17	No clause
Clause Z18	<p>Additional compensation events for Task Orders</p> <p>The following are additional compensation events for Task Orders:</p> <p>Z18(1) The <i>Contractor</i> is prevented by weather from carrying out all work in a Task for periods of time, each one full working day, which are in total more than one seventh of the total number of days between the Task starting date and Task Completion Date. In assessing this event, only the working days which exceed this limit and on which work is prevented by no other cause are taken into account.</p> <p>Z18(2) An event or condition which</p> <ul style="list-style-type: none"> • stops the <i>Contractor</i> completing the Task or • stops the <i>Contractor</i> completing the Task by the Task Completion Date <p>and which</p> <ul style="list-style-type: none"> • neither Party could prevent, • an experienced contractor would have judged at the time of quotation for the Task to have such a small chance of occurring that it would have been unreasonable to have allowed for it and • is not one of the other compensation events stated in this contract. <p>In judging the physical conditions for the purposes of assessing any compensation event for Task Orders, the <i>Contractor</i> is assumed to have taken into account</p> <ul style="list-style-type: none"> • the information provided in the Task Order and the Scope, • publicly available information referred to in the Task Order and the Scope, • information obtainable from a visual inspection of the locality where the Task is executed and • other information which an experienced contractor could reasonably be expected to have or to obtain.
Clause Z19	<p>Cost of preparation of quotations for compensation events</p> <p>All costs associated with the preparation of quotations for compensation events for this contract are the <i>Contractor's</i> risk and are not reimbursable by the <i>Client</i>.</p>
Clause Z20	<p><i>Contractor's</i> site attendance register</p> <p>The <i>Contractor</i> keeps an attendance register detailing identity, sign-in and sign-out by all people entering the site or location where the works or service is provided, details of which are made available to the <i>Client</i> upon request.</p>

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

Clause	Contract Data
Clause Z21	<p>Task Order Termination</p> <p>The conditions for termination of the <i>Contractor's</i> obligations to Provide the Service as contained in clauses 90, 91 and 92 of the <i>conditions of contract</i> apply in all respects to termination of any individual Task Order issued to Provide the Service. When terminating a Task Order, that termination does not affect other Task Orders nor the contract itself.</p>
Clause Z22	<p>Liability for defects</p> <p>The <i>end of liability date</i> for defects (latent or otherwise) for work executed via Task Orders is 5 years after Task Completion.</p>
Clause Z23	<p>Compensation event</p> <p><i>In addition to the conditions set out in clause 66.1, a compensation event is implemented when signed by the Client Department.</i></p>

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW

Contract Data

C1.2 Contract Data Part Two

SCHEDULE 9: Data provided by the Contractor

Clause	Contract Data														
1 General Clause 10.1	The Contractor is <table border="1"> <tr> <td>Name:</td><td></td></tr> <tr> <td>Address Line 1</td><td></td></tr> <tr> <td>Address Line 2</td><td></td></tr> <tr> <td>Address Line 3</td><td></td></tr> <tr> <td>Postal Code:</td><td></td></tr> <tr> <td>Contact no:</td><td></td></tr> <tr> <td>Email address*:</td><td></td></tr> </table> <p>* Address for electronic communications</p>	Name:		Address Line 1		Address Line 2		Address Line 3		Postal Code:		Contact no:		Email address*:	
Name:															
Address Line 1															
Address Line 2															
Address Line 3															
Postal Code:															
Contact no:															
Email address*:															
Clause 11.2(3)	The <i>percentage for adjustment for Equipment</i> is as priced in the Price List in Part C2: Pricing Data of this document.														
Clause 11.2(5)	The <i>fee percentage</i> is as priced in the Price List in Part C2: Pricing Data of this document.														
Clause 11.2(7)	The <i>people rates</i> are in the Price List in Part C2: Pricing Data of this document.														
Clause 11.2(9)	The Price List is in Part C2: Pricing Data of this document														

AUTHORISED SIGNATURE OF TENDERER

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT**

Part C2: Pricing Data	
C2.1 Pricing assumptions & instructions	Page 56
C2.2 Pricing schedule	Page 58
Schedule 10: Pricing Summary	Page 58
Schedule 11: Price List	Page 60

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30 1)..... 2)..... SIGNED SIGNED	
---	--

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****C2.1 Pricing assumptions & instructions****Pricing assumptions & instructions****1. GENERAL**

- 1.1 It will be assumed that prices included in the Price List are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.stanza.org.za or www.iso.org for information on standards).
- 1.2 The *Contractor* is paid for completed work i.e. work without Defects. The Price List comprises items using quantities and rates or stated as lump sums. Value related items are not used. Time related items are items measured using rates where the rate is a unit of time.
- 1.3 The Price List needs to be read in conjunction with any drawings, schematics and annexures (if any) identified in the Scope.
- 1.4 The units of measurement described in the Price List are metric units abbreviated as follows:

Abbreviation	Unit
%	percent
h	hour
ha	hectare
kg	kilogram
kl	kilolitre
km	kilometre
km-pass	kilometre-pass
kPa	kilopascal
kW	kilowatt
l	litre
m	metre
mm	millimetre
m ²	square metre
m ² -pass	square metre pass
m ³	cubic metre
m ³ -km	cubic metre-kilometre
MN	meganewton
MN.m	meganewton-metre
MPa	megapascal
No.	number
Prov sum	provisional sum
PC-sum	prime cost sum
R/only	Rate only
sum	Lump sum
t	ton (1000kg)
W/day	Work day

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

- 1.5 For the purpose of the Price List, the following words have the meanings hereby assigned to them:
- | | |
|-----------|--|
| Unit: | The unit of measurement for each item of work as defined in the relevant Standards or Specifications stated in the Scope of this document. |
| Quantity: | The number of units of work for each item. |
| Rate: | The agreed payment per unit of measurement. |
| Price: | The product of the quantity and the agreed rate for an item, or an agreed amount for an item, the extent of which is described in the Price List but the quantity of work of which is not measured in any units. |
- 1.6 Descriptions in the Price List are abbreviated and comply generally with those in the Standards or Specifications stated in the Scope of this document.
- 1.7 Instructions to do work or how it is to be done are not included in the Price List but in the Scope. The Price List is only a pricing document.
- 1.8 As the *Contractor* has an obligation to correct Defects (Clause 42.1) and there is no compensation event for this unless the Defect was due to a *Client's* risk, the lump sum Prices and rates must also include for the correction of Defects.
- 1.9 If the *Contractor* has decided not to identify or to price a particular item of work, it will be assumed that *Contractor* has included the cost to the *Contractor* of doing the work within the other Prices or rates in order to fulfil the obligation to complete the service for the tendered total of the Prices.
- 1.10 There is no adjustment to the lump sum item price if the amount, or quantity, of work within that item later turns out to be different to that which the *Contractor* estimated at time of tender. The only basis for a change to the Prices is as a result of a compensation event. The Prices tendered by the *Contractor* in the Price List shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the *Contractor* in Providing the Service in accordance with the Scope, as it was at the time of tender, as well as correct any Defects not caused by an *Client's* risk.
- 1.11 The *Contractor* does not have to allow in his Prices for matters that may arise as a result of a compensation event.
- 1.12 Those parts of the service to be provided using labour-intensive methods (if applicable) have been marked as such in the Price List and Scope. The service, or parts of the service so designated are to be provided using labour-intensive methods only, and pricing for such items must make provision for this accordingly. The use of equipment to provide such service, other than equipment specifically provided for in the Scope, is not allowed and in contravention of the contract. The items designated as labour-intensive are not necessarily an exhaustive list of all the items which must be done labour-intensively, and this instruction does not override any of the requirements in the general labour intensive specification in the Scope.
- 1.13 All Prices in the Price List exclude VAT, while the total of Prices reflected in the Price List Summary and the *Contractor's* Offer include VAT.

2. COMPENSATION EVENTS

- 2.1 Payment for items in the Price List which are associated with any budgetary allowances, provisional sums and prime costs are dealt with in the same manner as payment for compensation events, i.e. Defined Cost plus the percentage/s for overheads and profit as stated in the Contract Data.

3. THE TOTAL FINANCIAL OFFER FOR THIS TENDER

- 3.1 The financial offer of this tender is the total price reflected in the Pricing Summary of the Price List and, subsequently, in the *Contractor's* Offer.

4. MATERIAL CONFLICT WITH CONDITIONS OF CONTRACT

- 4.1 PLEASE NOTE: If anything in this Price List materially contradicts or is in conflict with any stipulation in the *conditions of contract*, the stipulation in the *conditions of contract* shall prevail.

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT

C2.2 Pricing schedule

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

SCHEDULE 10: Pricing Summary

TOTAL PRICE OFFER FOR THIS CONTRACT

The total price offer, EXCLUSIVE of VAT for all work specified in the Price List, is as follows:

Price carried from Price List Part 1: R.....NOT APPLICABLE.....

Price List PART 2:	PRICING SECTION AND DESCRIPTION:	Pricing Schedules:
PART 2 SCHEDULE A	TYPICAL PROJECT A - IMPLEMENTATION OF A 10kWp ROOFTOP SOLAR PV INSTALLATION ONLY	R
PART 2 SCHEDULE B	TYPICAL PROJECT B - IMPLEMENTATION OF A 20kWp ROOFTOP SOLAR PV INSTALLATION ONLY	R
PART 2 SCHEDULE C	TYPICAL PROJECT C - IMPLEMENTATION OF A 30kWp ROOFTOP SOLAR PV INSTALLATION ONLY	R
PART 2 SCHEDULE D	TYPICAL PROJECT D - IMPLEMENTATION OF A 40kWp ROOFTOP SOLAR PV INSTALLATION ONLY	R
PART 2 SCHEDULE E	TYPICAL PROJECT E - IMPLEMENTATION OF A 50kWp ROOFTOP SOLAR PV SYSTEM	R
PART 2 SCHEDULE F	TYPICAL PROJECT F - IMPLEMENTATION OF A 100kWp ROOFTOP SOLAR PV SYSTEM	R
PART 2 SCHEDULE G	TYPICAL PROJECT G - IMPLEMENTATION OF A 200kWp ROOFTOP SOLAR PV SYSTEM	R
PART 2 SCHEDULE H	TYPICAL PROJECT H - IMPLEMENTATION OF A 400kWp ROOFTOP SOLAR PV SYSTEM	R
PART 2 SCHEDULE I	OPERATIONS & MAINTENANCE ON TYPICAL ROOFTOP SOLAR PV SYSTEMS	R
PART 2 SCHEDULE J	SCHEDULE OF INCIDENTAL COSTS	R

Total for the ROOFTOP SOLAR PV IMPLEMENTATION – Part 2: (excluding VAT):	R
Add 15% VAT:	R
TOTAL PRICE OFFER: (including VAT):	R

This total price offer is to be carried over to C1.1: Form of Offer and Acceptance on page 43 of this document.

AUTHORISED SIGNATURE OF TENDERER

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****C2.2 Pricing schedule****SCHEDULE 11: Price List**

The Price List for the service in this contract **is an electronically calculated spreadsheet (MS-Excel) issued separately to tenderers**, and consists of the following sections:

- **Part 1:** Work described in the Scope which does not require the *Client* to issue a Task Order (referred to in the Scope and Price List as term service items).
 - NOT APPLICABLE
- **Part 2:** Work to be carried out within a stated period of time on a Task by Task basis and instructed by the *Client* by Task Order (referred to in the Scope and Price List as Task Order items). Part 2 is subdivided into the following sections:
 - Part 2 Schedule A: Implementation of a 10kWp Rooftop Solar PV Installation Only
 - Part 2 Schedule B: Implementation of a 20kWp Rooftop Solar PV Installation Only.
 - Part 2 Schedule C: Implementation of a 30kWp Rooftop Solar PV Installation Only.
 - Part 2 Schedule D: Implementation of a 40kWp Rooftop Solar PV Installation Only.
 - Part 2 Schedule E: Implementation of 50kW Rooftop Solar PV system.
 - Part 2 Schedule F: Implementation of 100kW Rooftop Solar PV system.
 - Part 2 Schedule G: Implementation of 200kW Rooftop Solar PV system.
 - Part 2 Schedule H: Implementation of 400kW Rooftop Solar PV system.
 - Part 2 Schedule I: Operations and maintenance.
 - Part 2 Schedule J: Incidental costs.

The service will comprise work under Part 2 only, as per the *conditions of contract*.

IMPORTANT: Please note the following:

1. Ensure that the fully priced Price List is returned with your bid submission. Failure to do so will invalidate your tender.
2. Ensure that the pricing totals in the Price List are carried as appropriate to the Pricing Summary on page 58 of this document, and the total of the Prices from there to the Form of Offer and Acceptance on page 43 of this document. Failure to do so will invalidate your tender.
3. Please check the Tender Data (Clause C.2.10.5) for the requirements pertaining to submission of the priced document, and ensure that you comply with the stipulations thereof. Failure to comply will invalidate your tender.
4. All information given in the Scope must be taken into account for pricing. Unrealistic pricing in terms of the envisaged work will render your tender high-risk, and may therefore be ineligible for award.
5. All items in the Price List are to be priced EXCLUSIVE of VAT.
6. All items in the Price List must be priced. Non-priced items may render your bid invalid – please see the Tender Data (Clause C.2.14) for details.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1).....	2).....
SIGNED	SIGNED

AUTHORISED SIGNATURE OF TENDERER

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT: HEALTH	
DIRECTORATE: SUPPLY CHAIN	
(INFRASTRUCTURE SOURCING)	
BID OPENED 11:00	
2025-07-30	
1).....	2).....
SIGNED	SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****Part C3: Scope of Work**

Scope	Page 63
Preamble to Scope	Page 63
1. Description of the service	Page 64
2. List of drawings, schematics & annexures	Page 83
3. Specifications, standards & workmanship	Page 84
4. Constraints on Providing the Service	Page 124
5. Requirements for the plan	Page 125
6. Services and other things provided by the <i>Client</i>	Page 127
7. Property affected by the service	Page 128
8. Schedules & forms	
Schedule 12: Contract information required from <i>Contractor</i>	Page 129
Schedule 13: Amendments by <i>Contractor</i>	Page 141
Schedule 14: <i>Contractor's</i> equipment schedule	Page 142
Schedule 15: <i>Contractor's</i> schedule of subcontractors	Page 143
Schedule 16: <i>Contractor's</i> proposed service plan	Page 144
Schedule 17: <i>Contractor's</i> health & safety plan	Page 145
Schedule 18: <i>Contractor's</i> environmental management plan	Page 146
Pro Forma Task Order Performance Guarantee	Page 147
Pro Forma Task Order	Page 149

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****Scope****Preamble to Scope****NEC4 defined terms and terms identified in the Contract Data**

The service is to be executed in accordance with the Scope forming part of the NEC4 *conditions of contract* as described in the Contract Data of this document. The Scope is meant to convey all relevant information required for the execution of the works clearly and unambiguously by following the formatting requirements of the *conditions of contract*, with due reference to defined terms and terms identified in the Contract Data.

Clause 11.1 of the *conditions of contract* stipulates that terms identified in the Contract Data are in italics, and defined terms have capital initials.

While every effort is made to ensure that the Scope conforms in full to these formatting requirements, there will always be a possibility that some defined terms and terms identified in the Contract Data may not be formatted in the prescribed manner in the Scope. This possibility increases when the Scope is voluminous and comprises different parts compiled by different contributors and disciplines.

THEREFORE, PLEASE NOTE:

For the purposes of clarity and to remove any ambiguity in regard to defined terms and terms identified in the Contract Data as referenced in the Scope, the following shall apply:

- All defined terms which do not have capital initials, shall be read as if they have capital initials, and
- all terms identified in the Contract Data which are not in italics, shall be read as if they are in italics.

Material conflict with *conditions of contract*

PLEASE NOTE: If anything in the Scope materially contradicts or is in conflict with any stipulation in the *conditions of contract*, the stipulation in the *conditions of contract* shall prevail.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT

Scope

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

1. Description of the service

1.1 Overview.

This section includes the specific requirements for the solar PV equipment, materials, installation, start-up, commissioning and maintenance for various rooftop systems for the Western Cape Government in the Western Cape Province, South Africa. More rooftop Solar PV installations of this typical kWp capacity can be added during the course of the project.

The contractor is responsible for all aspects of the projects including final construction designs and specifications, Small Scale Embedded Generation (SSEG) applications and approval, permits and environmental approvals, procurement, supply, delivery, installation, testing, commissioning, warranty as well as O&M and performance guarantees over a period of three years from completion of each task order.

The *Contractor* is responsible for:

- design, detailed drawings, design sign-offs, as-built sign-offs and certifications;
- completing and submitting the SSEG application and obtaining approval from the supply authority;
- purchasing, transportation and offloading of all equipment and materials;
- construction, erection, installation, assembling;
- testing, commissioning and performance testing;
- preparing operations & maintenance manuals;
- identifying and remedying defects for a defects period of 36 months after Task Order Completion or the end of the service period (completion), as applicable;
- O&M services for 36 months following completion of any installation.

Conceptual System designs are based on the use of 555 W and 570 W poly-crystalline modules. 555 W modules are proposed for CBD locations with limited roof area and 570 W modules are proposed for locations with more extensive and unobstructed roof areas. Conceptual designs envision the use of, inter alia, ATESS / SMA / Megarevo / SolarEdge / Sungrow / Sunsynk / Goodwe (or electricity supply authority approved equivalent) inverters in conjunction with, inter alia, ATESS / SMA / Megarevo / SolarEdge / Sungrow / Sunsynk / Goodwe (or electricity supply authority approved equivalent) DC power optimizers at sites where shading from adjacent buildings occurs. Conventional string inverters (inter alia, ATESS / SMA / Megarevo / SolarEdge / Sungrow / Sunsynk / Goodwe, or approved equivalent) are envisioned at Sites where significant shading is not likely.

The *Contractor* will be responsible for the performance of the installed system over the stated period.

Operations and Maintenance:

The *Contractor* shall be responsible for the effective day-to-day monitoring, operating and maintaining of the PV system for 36 months after completion of each task order. See schedule for minimum requirements on Preventative and Corrective Maintenance over the period.

The *Contractor* is responsible for all sub-contracts, namely roofing, waterproofing and electrical sub-contractors, in terms of the delivery, performance and storage requirements at the site and is to allow for this in their offer.

1.2 Purpose / *Client's* objectives

The DEPARTMENT OF HEALTH AND WELLNESS intends to install Solar Photovoltaic systems and Battery Energy Storage Systems at various Healthcare buildings and facilities in the Western Cape which are owned and / or operated by Western Cape Government. The Solar PV systems will either be grid-tied or hybrid systems and will reduce the purchase of grid electricity from the City of Cape Town Electricity Directorate or Eskom. The savings from avoided electricity purchases will provide the financial returns necessary to justify additional capital and operating costs of the systems.

1.3 Abbreviations and additional defined terms

For the purposes of the Works Definition, the following general definitions apply:

The Works – means all Engineering, Procurement and Construction and related activities described in this Works Information to deliver a defect-free and operating Solar Photovoltaic (PV) and/or Battery Energy Storage with a design lifetime of 25 years and installed capacity typically as per identified building.

PV System – means a collection of equipment comprised of solar photovoltaic modules, inverters and associated hardware at a given site. The functional and operating unit consisting of the materials, equipment and activities in the works able to generate and export electricity. Each Installation shall comprise 2 Task Orders: one for installation and another for the maintenance period of 3 years. The Solar PV system remains the full responsibility of the *Contractor* until Completion of both Task Orders.

Completion of any installation occurs in two stages:

Task Order Completion – means the works (installation) have passed completion testing and the Facility is accepted for the purposes of Commercial Operation. The term service defects period and O&M Period for each installation begins.

Engineer – means the *Client's* technical representative.

1.4 Start up and management

1.4.1 Meetings

The contractor will be required to attend and participate in project meetings from time to time which will take place at the offices of the DEPARTMENT OF HEALTH AND WELLNESS, recorded by the *Engineer*, and keeping records of any pertinent discussions.

1.4.2 Workshops and training

Upon completion of the systems, the *Contractor* will provide a 1-day training workshop for the *Client* which will cover the system safety, operation, and regular maintenance. Training will be specific to the systems installed and will include a visit to each site. The *Contractor* is required to develop and effect a training programme for Facilities Maintenance staff for the duration of the O&M Period.

1.4.3 Documentation

To the extent possible, *Client* will provide all requested drawings and documentation to the *Contractor* relevant to each of the Sites. This may include electrical, architectural, and / or structural as-built drawings, as well as schedule and project management information.

1.4.4 Communication

Communication between the *Client* and the *Contractor* shall be to or from the *Client's* agent only, and in a form that can be readily read, copied and recorded. Communications shall be in the English language. The *Client* shall not take any responsibility for non-receipt of communications from or by the *Contractor*.

The *Contractor* will hold a biweekly meeting with *Client* to share relevant updates about project safety, schedule, setbacks, and coordinate the same with the *Client*. All information discussed in, or pertaining to this meeting will be forwarded to the *Client* and *Client's Engineer* on a regular basis. The *Engineer* will keep record of the meeting.

1.4.5 *Contractor's* supervision and key people

The *Contractor* shall ensure that a site representative competent to administer and control the service is continuously in the Working Areas during the execution of the service. The *Contractor* shall inform the *Client* of the name of the site representative, and any instruction given to the site representative by the *Client* is deemed to be given to the *Contractor*.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

1.4.6 Accounts and records

The *Contractor* shall submit original valid tax invoices satisfying the requirements of the Service Information one week after receiving a payment certificate from the *Client*. Where the *Contractor* does not submit the tax invoices within the time required, the period within which payment is made and the time allowed are extended by the length of time from the date that the *Contractor* should have submitted the tax invoices to the date that the tax invoices are submitted.

The *Contractor* cooperates with the *Client* in the preparation of the final account by timeously supplying all relevant documents on request, upon the later of the end of the service period and the latest Task Completion Date:

- The *Client* submits the final account to the *Contractor* within 13 (thirteen) weeks;
- The *Contractor* gives written acceptance of the final account within 9 (nine) weeks of receipt thereof. On acceptance the *Client* issues the final payment certificate within 1 (one) week of the date of acceptance to the *Contractor*;
- If the *Contractor* disputes the correctness of the final account and such dispute is not resolved within the 9 (nine) week period (or such an extended period as the *Client* may allow on a request from the *Contractor*), the final payment certificate in terms of that final account is issued by the *Client* within 1 (one) week of the end of such period;
- The amount certified in the final payment certificate separately includes the gross amount of the final account and the amounts previously certified during the execution of the service;
- The *Client* concurrently issues with the final payment certificate, a statement to both the *Client* and *Contractor* showing the total amount of tax certified;
- The *Client* pays to the *Contractor* the amount certified for payment in the final payment certificate within 4 (four) weeks of the date of issue of the final payment certificate, subject to the *Contractor* giving the *Client* a tax invoice for the amount due;
- Where the final payment certificate reflects an amount in favour of the *Client*, the *Contractor* pays the amount certified within 1 (one) week of the date of issue of the final payment certificate, subject to the *Client* giving the *Contractor* a tax invoice for the amount due.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

1.5 Procurement**1.5.1 People and employment**

The *Contractor* shall develop the detailed design in full compliance with local and international standards related to electrical works and specifically PV works (where local codes are insufficient). A list of minimum applicable standards is provided in this tender document. The *Contractor* assumes full liability for the design. The PV facility shall have a design life of 25 years. **The Chief Designer shall be named in the list of Key People and shall demonstrate at least 5 years of PV design related experience.**

The *Contractor* shall submit his designs to the *Client*'s appointed *Engineer* for review and comment prior to procurement and construction of the PV System.

1.5.2 Plant and materials

The *Contractor* is responsible for procurement of all equipment and materials that will be required to construct and operate the Systems. The equipment and materials may include PV modules, module racking equipment and associated hardware, module power optimizers, solar inverters, electrical cabling and conduit, string combiner boxes, meteorological instrumentation and communications equipment, weather protection, and all other ancillary equipment. Equipment shall be procured and delivered to Cape Town on insured freight. The *Contractor* is responsible for any applicable import duties that should be paid. The *Contractor* is responsible for approving receipt of equipment, storing equipment prior to Works and for transporting equipment to the Site.

The *Contractor* shall ensure that all materials used on site are transported, handled and stored in accordance with the manufacturer's recommendations. Material or equipment damaged shall be rejected and replaced with undamaged material at the *Contractor*'s expense.

Repair of damaged material will not generally be permitted. Rates are to include for preventing damage and protecting equipment and materials through all stages of construction and commissioning.

1.5.3 Spares and vendor data requirements

The *Contractor* shall be responsible for the procurement, transportation, offloading and care and custody of all equipment, materials and consumables as well as procuring of services required to complete the Works.

In addition, the *Contractor* shall procure (and maintain for the duration of the O&M period) spare parts sufficient to maintain a Facility adequately. The *Contractor* shall ensure that spare parts inventory is fully stocked at the end of the O&M period.

1.5.4 Marking of plant and materials

The erection and installation of the plant is to be carried out by skilled artisans, experienced in this type of work and under the personal supervision of the *Contractor's* site foreman, whose qualifications and experience to supervise this work must be acceptable to the *Engineer*. The plant, when erected and installed, shall be of neat and workmanlike appearance, solidly and evenly supported, true to line and level, plumb and in proper working order. The drilling and grouting of all structural bolts, channels, etc. will be the responsibility of the *Contractor* under this contract.

Before handing over the Plant, the *Contractor* is to ensure that every component is operating satisfactorily. The Contract will not be deemed to have been completed until the *Engineer* is fully satisfied in this regard.

1.5.5 Subcontracting arrangements

As per the conditions of contract.

1.5.6 Program of work

A detailed programme as described in section 5 of the Scope shall be provided by the *Contractor*.

1.5.7 Off-loading, stacking and liability for breakages

The *Contractor* will be required, at his own expense, to make all arrangements for off-loading and carefully stacking all plant and materials delivered under this contract on the Site of the Works. The off-loading and stacking shall be carried out strictly in accordance with the requirements of the *Engineer* so as to permit a thorough and careful examination and testing of all items for breakages, fractures, etc.

Plant and materials shall be stored on site at the cost of the *Contractor* who shall be fully responsible for its protection against theft or damage by water, weather, fire and any interference until such time as it is erected and installed, put into satisfactory operation and accepted by the *Client* as complete.

1.5.8 Handling during off-loading, storage and installation

It is the responsibility of the *Contractor* for the appropriate handling during off-loading, storage and installation of all components according to the specification of the manufacturer. Damages due to improper handling shall be covered by the expense of the *Contractor*.

1.5.9 Storage

Facilities for extended storage on site for plant and materials may not always be available and the *Contractor* shall therefore make his own arrangements for any off-site storage, which may be required for plant, and materials, which become available before delivery to the Site and installation thereof can be commenced.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

No additional payment will be allowed for off-site storage.

1.5.10 Inspections, testing and commissioning

All plant and materials will be carefully examined upon delivery at the site and all items showing defects or damage of any description shall be laid aside as not being in accordance with the requirements of the contract and these shall be removed and replaced by the *Contractor* at his own cost.

On completion of the installation at each Site, the *Contractor* shall test and commission the installation to provide the following information as a minimum:

Visual inspections including, but not limited to the following:

- Broken or cracked module glass;
- Broken or loose module mounting mechanisms;
- Signs of delamination or water infiltration;
- Broken, damaged or discoloured cells;
- Loose electrical connections.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1).....	2).....
SIGNED	SIGNED

Electrical testing in accordance with the latest edition of SANS 10142 as well as demonstration to the *Engineer* and verification of the following:

- Correct operation of anti-islanding feature;
- Correct operation of fireman's switch drop-out;
- Isolation between DC and AC side of system;
- Verification of module output.

Undertake tests to prove that the individual PV modules are providing the correct output for the correct irradiance conditions at time of commissioning. Allow for verification at alternative times if installation is likely to be commissioned during winter.

1.5.11 Preparing post Completion maintenance contracts

The *Contractor* will provide all necessary operations and maintenance services for a period of three (3) years following commissioning of the Systems as part of this Contract. The *Contractor* will guarantee the performance of the Solar PV Systems during this 3 year Guarantee Period using a PV system Performance Ratio approach. The *Contractor* shall issue payment for liquidated damages if the PV Systems fail to meet Performance Guarantees.

1.5.12 Contractor's Equipment

The *Contractor* is required to furnish all equipment necessary for the successful completion of construction and commissioning of Systems. This includes but is not limited to site mobilization, procurement of tools, implements and equipment needed to transport materials to the Sites and complete construction of Systems.

The *Contractor* is required to furnish and calibrate equipment and systems necessary for the demonstration of system performance at commissioning and assessment of performance ratio for a period of three years following plant start-up.

1.6 Execution of the service

1.6.1 DESIGN - Parts of the works which the *Contractor* is to design

The *Contractor* is responsible for producing final design drawings for construction of the PV Systems. All final design and construction drawings shall be signed/sealed by an Engineering Council of South Africa (ECSA) registered Professional Engineer. The *Contractor* is responsible for the design of the following elements:

- Detailed System layout drawings showing location, orientation, and tilt of PV modules on each of the Sites and rooftop areas and allocation of modules to strings, and locations of inverters and other system electrical equipment and relevant building electrical equipment;

- Detailed System layout drawings of BESS installations including all building work, HVAC installations and fire protection installations;
- Detailed System electrical single line diagrams showing configuration of PV modules, DC optimizers, cable sizes, strings, string combiner boxes, inverters, detailed building electrical tie in, grounding / earthing, and location of bi-directional meters;
- Detailed System mounting drawings for each building identifying location and types of roof fixing and anchoring to be used, types of racking equipment, location of ballast;
- Detailed drawings on electrical equipment mounting;
- Calculations demonstrating system electrical loading is kept within applicable limits at each Site;
- Calculations demonstrating that Systems and supporting structures can withstand peak wind speed pressures at relevant height and locations;
- Calculations demonstrating that roof structures can support additional loading from Systems.
- Present Financial Model with relevant calculations.

This contract covers the supply, installation, testing, commissioning, System operation and maintenance during the Guarantee Period (3 year period), and subsequent training of Western Cape Government Staff.

The *Contractor* shall provide all materials, equipment, labour and services necessary for the complete and efficient operation of the installation in accordance with the intent of the specification.

The work shall be carried out strictly in accordance with the Occupational Health and Safety Act (1993) as amended, Local Authority Bye-Laws and Regulations and/or requirements of the Supply Authorities as well as the particular health and safety requirements of The DEPARTMENT OF HEALTH AND WELLNESS, Western Cape Government. In addition, all local and national statutory requirements are to be met including applications and submissions to the relevant departments as required for successful completion.

Requirements for the Financial Model

As part of the design of a specific Solar PV system, the *Contractor* shall also present the financial model.

The Bidder is required to provide 4 (four) inputs:

- The installed capacity of the PV Facility (kWp)
- The tendered lump sum Price for the works (ZAR)
- The tendered O&M Price for the first three years (ZAR)
- The Guaranteed 3 year average Performance Ratio using Global Horizontal Irradiation (GHI) as reference. This PR shall include the *Contractor's* expectation of unscheduled unavailability and degradation. The model applies a fixed assumed rate of degradation thereafter.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

General Requirements at All Sites

- Supply and installation of roof mounted PV arrays, grid-tied solar inverters, associated electrical distribution boards (if required) and electrical cabling, DC string combiner boxes;
- The *Contractor* shall serve as the liaison with the City of Cape Town Electricity Services Department (or any other local authority electrical department, as determined by the location of the installation and specific requirements of such authority in respect of SSEG) and oversee submission of all necessary documentation in order to obtain approval for the Small Scale Embedded Generation (SSEG) systems and subsequent paralleling with the grid;
- Supply and installation of all cables and wire ways outlined in the conceptual diagrams necessary to connect PV modules through to inverters and inverters to the building's existing electrical distribution systems;
- The *Contractor* shall ensure that existing electrical supply buses and distribution boards have sufficient AC electrical capacity to accept the PV system's maximum rated output, or make provisions for additional capacity or connections elsewhere;

- Modifications to the existing main electrical distribution boards should be made without service disruption during regular working hours;
- Supply and installation of all meteorological instrumentation and monitoring equipment necessary to assess system performance on continuous basis. Note that meteorological instrumentation may be shared between multiple nearby sites, the *Contractor* shall determine the number of total installations necessary to monitor and meet desired performance guarantees;
- Assist *Client* with system integration into remote metering system where applicable;
- Supervision of specialist sub-contractors;
- Testing and commissioning, including certificates of compliance for the entire installation, including infrared testing of all electrical distribution boards upon commissioning as well as 6 months after Works completion, including report and rectification of any terminations requiring attention.

For each of the sites, indicative PV module layout drawings have been provided, however, the tenderer shall review the drawings and perform a survey of the site during the costing process and shall include for any particular system requirements that are applicable to that particular site. Tenderer's proposed system layout may vary from the conceptual design drawings supplied as long as Tenderer's proposed system capacity is equal to or greater than what is reflected in the conceptual layouts.

Tenderer will be responsible for developing final system designs factoring in the following elements at a minimum:

- The preferred layout for the PV array that allows for the required array capacity in relation to building orientation, shading, etc
- The preferred mounting/fixing design and hardware necessary to secure the PV systems on each building making allowance for the structural capacity of the building and the maximum wind loading expected on each sub-array.
- The optimized position of individual strings with respect to shading and string length in order to keep the output as high as possible where conventional string inverters are to be used
- Anticipated annual yield of each System in kWh AC
- Anticipated maximum power output of the system
- The PV type and array design shall be chosen to maximize output & system efficiency within the restrictions imposed by the particular site.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1).....	2).....
SIGNED	SIGNED

Mounting and Fixing of PV Modules

The mounting design will be approved by the *Client's Consultant (Electrical Engineer)* to ensure acceptable integration into the overall roofing system, sub-structure, and weather proofing layers. To this extent, shop drawings of the mounting equipment are to be submitted as part of the tender. All support equipment fixed to the roof structure shall be by made using proprietary fixings agreed with the structural engineer.

Mounting of PV modules on flat roof sections will require a combination of roof penetrations with anchors fixing the rack to the building's sub-structure and ballasting using concrete blocks. *Client's Engineer* must approve method and location of penetrations, choice of waterproofing sealants and design of flat roof racking systems. The *Contractor* should make use of racking tray's which incorporate wind shields behind the PV module to minimize wind suction pressure and associated ballasting requirements. *Client's structural Engineer* will approve system loading on each roof area.

All cable penetrations through the roof shall be made using proprietary weather tight cable penetrations. Cable entry shall be above the roof deck to avoid any water ingress with cables dressed so that water falls away from the penetration.

Electrical Connection

To enable the energy generated from the Systems to be utilised, the outputs from the PV system shall be fed to grid-tied inverters. Due to possible shading losses it is preferred that the system utilize conventional string inverters or inter alia, ATESS / SMA / Megarevo / SolarEdge / Sungrow / Sunsynk / Goodwe (or approved equivalent) inverters coupled with DC power optimizers (or approved equivalent) as opposed to larger, "central" inverters.

The DC output from each system is to be converted to 3 phase LV (230/400 V) and connected to the Site's existing electrical distribution system.

Suitably sized interconnecting cabling and associated containment shall be provided from the PV array to the optimizers (if used), from the optimizers to the grid-tied inverters, from the grid-tied inverters to the AC Combiner Panels located on the roof and from the AC Combiner Panels to the building's distribution board(s). This work shall be performed in compliance with applicable codes and standards.

The system shall to be designed to be grid tied and to back feed power to the electrical grid when System output exceeds cumulative load at the Site. As such, the System will be designed and interconnected in accordance with all requirements specified by the City of Cape Town (or other municipality as determined by the location of the project site) or Eskom that apply to Small Scale Embedded Generators (SSEG). The Contractor is responsible for obtaining necessary approvals from the City.

The system is to be designed and installed in such a way that it is possible to remove any source circuit without disconnecting the grounded or grounding system conductor or any other circuits.

A central disconnect switch as stipulated by NRS 097 is required at the entrance to the building in order to disconnect the array from the building supply. This forms part of the scope of this tender.

Design Standards

The system and its components shall be designed to the appropriate standards, including but not limited to the following codes:

- Electricity Regulation Act (Act 4 of 2006);
- Occupational Health and Safety Act (Act 85 of 1993);
- NERSA licensing requirements of consistent approach for utilities;
- Distribution Grid Code (all parts);
- The South African Power Plant Grid Code (all parts);
- City of Cape Town Electricity Supply By-law;
- City of Cape Town: Approved Photovoltaic (PV) Inverter List
- City of Cape Town: Embedded Generation Schematic Drawings Guideline
- City of Cape Town: Requirements for Small-scale Embedded Generation
- City of Cape Town: Standard for the Interconnection of Embedded Generation
- Eskom DST 34-1765 Distribution standard for the interconnection of embedded generation;
- NRS 097-1 Code of practice for the interconnection of embedded generation to electricity distribution networks Part 1: MV and HV (once published);
- NRS 097-2-1 Grid interconnection of embedded generation Part 2: Small scale embedded generation, Section 1: Utility interface.
- NRS 097-2 Grid interconnection of embedded generation Part 2: Small scale embedded generation, Sections 2 to 4 (once published);
- NRS 048 – Electricity supply – Quality of supply: Part 2: Voltage characteristics, compatibility levels, limits and assessment methods and Part 4: Application guidelines for utilities, Part 7, Application practices for end-customers (once published);
- SANS 10142-1 The wiring of premises;
- IEC 60364: Part 7 - Section 712: Solar photovoltaic (PV) power supply systems
- SANS 474/NRS 057 Code of practice for electricity metering;
- Compulsory Specifications Act (Act 5 of 2008) wrt SANS 60065/IEC 60065 Audio, video and similar electronic apparatus – Safety requirements and SANS 61558 – 1/IEC 61558

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

– 1: Safety of power transformers, power supplies, reactors and similar products Part 1: General requirements and tests, together with the appropriate Part(s) 2 of the SANS 61558/IEC 61558 series;

- Energy Networks Association (ENA) Engineering Recommendation (ER) G 83/1-1, ER G59/1 and Engineering Technical Report (ETR) 113
- Regulatory Requirements and Normative References in the City of Cape Town Electricity Services application form for the connection of Embedded Generation (GEN/EMB)
- ENA ER G59/1 and ETR 113;
- Eskom DST 34-1765 Distribution standard for the interconnection of embedded generation;
- EG compatible with utility network fault levels;
- Declaration by ECSA registered professional engineer or professional engineering technologist that installation complies with all requirements;
- EG decommissioning confirmation is required once applicable;

All PV modules are to have the necessary EN IEC 61730 Class B rating/approval thereon and state the following information:

- Maximum series fuse per module protection rating;
- Rated open circuit voltage;
- Rated operating current;
- Rated short circuit current;
- Rated maximum power;
- Maximum permissible system voltage.

PV modules should be rated for wind loads up to 2400 Pa (short buildings - < 6m height) and 3600 Pa (tall buildings - > 6m height) to withstand design wind gusts.

PV modules with a minimum of a 25 year linear performance guarantee should be selected, with maximum performance degradation of 0.7% per annum.

PV modules should be supplied with positive power tolerances.

Module conductors are to be approved for use in a PV array system and of Ölflex XLR PV1 TÜV Type approved or equal and approved and all terminal conductors are to be rated for 90°C and rated for outdoor use.

Solar PV inverters must be included on the City of Cape Town Electricity Directorate and Eskom's Approved PV Inverter list demonstrating conformance to NRS 097-2-1.

Inverters must also be equipped with the following capabilities:

- Maximum power point tracking (MPPT);
- Anti-islanding;
- RS485 or Ethernet connection for real time data transmission to BAS;
- IP rating sufficient for outdoor use;
- NRS 097 Central disconnect switch to disconnect input;
- To conform to IEC 6201; EN 50178 standards.

Tenderers are to treat the approved manufacturers/suppliers as "selected" manufacturers / suppliers, i.e. the non-performance of a particular manufacturer or sub-contractor will not exonerate a *Contractor* from his contractual obligations relating to the contract.

1.6.2 Tests and Acceptance

The *Contractor* conducts tests to evidence achievement of the completion milestones. The *Engineer* may, in terms of contract conduct his own tests and inspections, request additional tests of the *Contractor* or supervise tests conducted by the *Contractor*, without causing unnecessary delay and subject to due notice.

The *Contractor* shall compile checklists of their tests and inspections for the *Engineer's* approval.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

Mechanical Completion Test

The purpose of the Mechanical Completion Test (MCT) is to ensure that all parts of the Facility have been physically completed and installed correctly and according to the As-built documents.

The checks shall be compiled for each section of the Works as defined in the Works Definition focusing on physical installation, connection and compatibility and safety.

Grid Connection Test

The purpose of the Grid Completion Test (GCT) is to ensure safe energisation and synchronisation with the grid.

The *Contractor* shall be responsible for all pre-commissioning and commissioning tests. Unless otherwise stated prior to commencement of the tests, City of Cape Town's SSEG and Eskom's Distribution Standard for Interconnection for Embedded Generation (DST 34-1765) shall be followed.

It shall be confirmed as a minimum that following are acceptable:

- Insulation resistance of all components
- String Voc, ISc, Vmpp and Impp are as expected
- String I-V curves are as expected
- Thermographic imaging detects no hot-spots on modules, combiner boxes and switchboards
- All inverters are functional and export power
- Power factor settings are correct
- Isolation switches are effective
- Protection devices are correctly calibrated, set and operating
- Communications are functional (internally and externally to Monitoring System)
- Alarms and signals are function correctly
- Meteorological station is functioning
- Monitoring system is functioning and remotely accessible
- Monitoring system UPS is functioning

Provisional Acceptance Test

The purpose of the Provisional Acceptance Test (PAT) is to confirm the correct functioning and operation of the PV Facility. These tests shall commence once Mechanical Completion has been achieved and the Grid Connection Tests are passed. The tests consist of:

- Performance Ratio (PR) Test of the entire Facility to confirm quality of design, construction and correct operation. The *Contractor* shall be required to guarantee a 3 (three) year average performance ratio (as entered in the Financial Model).
- Visual Inspection to confirm quality of materials and construction and confirm the plant is defect free for the purposes of commercial operation
- Functional Test to confirm correct operation not directly related to performance

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

PAT PR Test - Methodology

The PAT PR shall be calculated considering:

- a) The PR shall be measured in accordance with IEC 61724 with the exception that Global Horizontal Irradiation shall serve as the reference as measured by the calibrated secondary-standard pyranometer and not Global Inclined Irradiation.
- b) The Facility Meter shall be the reference point for electricity produced in kWh
- c) Data shall be measured in 15 minute intervals
- d) The Facility has demonstrated 5 consecutive days of operations
- e) Only data deemed to be Admissible shall be used in the calculation
- f) The PAT PR shall meet or exceed the 3 year average PR

Admissible data

Data is considered to be Admissible when:

- a) The Facility is 100% available
- b) The average Global Horizontal Irradiation during the 15 minute interval is greater than 400 W/m²
- c) It is free of obvious error, irregularities or anomalies (at the *Engineer's* discretion)

Extension of testing

- a) There shall be at least 3 hours of Admissible data per day else that day is excluded entirely and PAT is extended by an additional day
- b) If the minimum threshold of Admissible data cannot be achieved solely due to the average Global Horizontal Irradiation being less than 400W/m² then testing may be extended up to a maximum of 5 days. If the maximum extension is reached and the minimum threshold of Admissible Data has not been achieved then the *Engineer* may either:
 - Accept the PAT PR based on the lesser amount of Admissible Data or
 - Choose to reduce the average irradiation threshold to 300W/m² and calculate the PAT PR on the increased number of Admissible data
- c) If the minimum threshold of Admissible data cannot be achieved due to Unavailability of the Facility, regardless of the irradiation, then PAT shall be extended indefinitely until 5 consecutive days of Admissible Data are achieved.

Stopping and Restarting of PAT

- a) If, for any reasons beyond the *Contractor's* control, the Facility or part thereof becomes unable to operate then the PAT shall be suspended until proper operation resumes and the *Contractor* may resume with the PAT until the required 5 consecutive days of operation have been achieved.
- b) The *Contractor* shall notify the *Engineer* of any such suspensions and resumptions and maintain a log of the causes of such events.
- c) If, after the occurrence of such a suspensive event, the *Contractor* can reasonably justify the likely occurrence of repeat events within the next 5 days, the *Contractor* may request permission from the *Engineer* to discontinue the PAT.
- d) If the *Engineer* accepts the justification, he grants the *Contractor* permission to discontinue the PAT or else instructs the *Contractor* to continue.
- e) If the PAT is discontinued, the *Engineer* and the *Contractor* shall agree on the Date to begin a new PAT.

Task Order Completion Certificate

At the completion of a successful PAT, the Clients' appointed Electrical *Engineer* issues the *Contractor* with a Task Order Completion Certificate. This signifies the commencement of the defects and O&M period.

1.6.3 Operations and Maintenance after Task Completion

The *Contractor* shall develop an O&M plan to manage his obligations in delivery the guaranteed performance in the O&M Period. A preliminary plan is submitted with the Tender in the appropriate Schedule. The *Contractor's* minimum Scope of Work shall include the following tasks bearing in mind the obligation to work cooperatively with WCG Staff in effecting the Training Plan.

Monitoring

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

- a) The *Contractor* commits to remotely monitor the Facility for 7 days a week, 365 days a year within hours where Global Horizontal Irradiation exceeds 50 W/m².
- b) The *Contractor* maintains a log of all anomalies, faults, failures, safety incidents, maintenance interventions and status of the spares list.
- c) The goal of the monitoring is to remotely identify and troubleshoot faults, failures, incidents and anomalies and to coordinate the intervention with WCG Staff (once suitably trained) prior to launching a corrective maintenance intervention.

- d) The Contractor compiles monthly, quarterly and annual performance reports indicating achieved vs expected and guaranteed performance and trends in performance.

Preventative Maintenance

The following is a minimum prescribed list of activities and frequencies. Should the equipment manufacture require an increased frequency of interventions then those shall supersede those proposed.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

Component / Area	Type of activity	Description	Frequency
Site	Rodent control	Extermination of Rodents (Rooftops – as regarded necessary)	Quarterly or as required
	Cleaning	Cleaning module of dust and debris	Quarterly or as required
Module	Visual	Damage to frame, hot spots, browning, delamination etc. backsheet undamaged, junction box damaged, Cables damaged,	Bi-annually in year 1 thereafter annually
	Visual	Signs of damage, exposure to sharp edges	Annually
Cables	Visual / non-intrusive cleaning	Display is functioning, vents are clean, no signs of damage, mounted firmly, noises, fans are working, excessive heat, cables are connected correctly	Bi-annually in year 1 thereafter annually
Inverters	Testing / intrusive cleaning	Thermographic imagery, earthing, check state of fuses, internal cleaning of vents and fans, clean PCBs and heat sinks Measure AC/DC conversion	Annually
	Visual / non-intrusive cleaning	Door seal condition, handle / lock operates correctly, safety signage, signs of overheating or sparks, condition of cables, connections	Bi-annually
Combiner boxes	Testing / intrusive cleaning	Thermographic imagery, insulation resistance, earthing, stat of fuses and SPDs, String IV testing, Voc, Isc, Vmpp Impp.	Annual
	Visual / non-intrusive cleaning	Door seal condition, handle / lock operates, safety signage, signs of overheating or sparks, condition of cables, connections signs of moisture	Bi-annually
Switchboards	Testing / intrusive cleaning	State of circuit breakers, SPDS, insulation resistance, thermographic imagery	Annually
	Visual / non-intrusive cleaning	Cleaning of instruments, check instruments for damage	Monthly
Metrological station	Testing / intrusive cleaning	Recalibration of instruments / replacement with calibrated instruments	Annually
	Visual / non-intrusive cleaning	Inspect meter, inspect cables, antennae, clean housings	Annually
Monitoring system	Testing / intrusive cleaning	Test comms protocols, test UPS, remove on- site data for permanent backup	Annually

Corrective Maintenance

- a) Any fault, failure, defect, anomaly or incident arising that cannot be resolved remotely by the *Contractor* shall require a corrective intervention;
- b) In such events, the *Contractor* notifies the *Engineer* as soon as he becomes aware of such an issue;
- c) The *Contractor* notifies *Engineer* within the current Business Day or at the beginning of the next Business Day if it is weekend or public holiday of:
 - The nature of the fault
 - The measures taken to correct or troubleshoot it remotely
 - The intended plan of action when on site
- d) The *Contractor* shall then attempt to rectify the fault within 1 (one) Business Day;
- e) If the *Contractor* is unable to remedy the fault within the allowed time, he shall notify the *Engineer* and submit a binding plan to correct the fault for the *Engineer's* approval;
- f) These events shall be considered as Facility Unavailability;
- g) If the *Contractor* identifies, with reasonable evidence, that the fault was caused by the action of Others or Force Majeure then they shall be deemed to be excluded from Facility Unavailability;
- h) If a fault is found to be a Defect claimable under a valid equipment warranty, the *Contractor* shall undertake the warranty claim proceedings on the *Client's* behalf;
- i) Following the resolution of fault or remedying of a defect, the *Contractor* shall compile a report detailing the nature of the problem, the actions taken to correct it, the likelihood of reoccurrence and recommendations on a strategy to prevent reoccurrence;

Reporting

The *Contractor* shall compile quarterly reports of preventative and corrective maintenance activities occurring in that period describing the activities conducted, faults / defects identified and remedied and actions taken to prevent further faults / defects. The time taken, costs incurred and spares used shall be stated. The report shall describe scheduled maintenance visits to occur in the next period.

1.6.4 Performance Measurement during Operations and Maintenance period

The *Contractor's* performance shall be measured on a monthly basis against the following criteria:

- a) Visual inspection and random measurements on PV installation;
- b) Actual measured output performance of the PV system;
- c) Performance Ratio (PR): Anticipated vs. actual

Both performance evaluation criteria involve financial implications, meaning a performance measurement and compensation system will be implemented for the installed PV system. Thus, penalties will apply should the PV system not be operated and maintained properly. Visual inspections and measurements will be done on a three month or ad-hoc basis on all Solar PV installations.

Applicable Standards - The following standards shall apply:

- IEC 61724, Photovoltaic system performance monitoring - Guidelines for measurement, data exchange and analysis
- IEC 61683, Photovoltaic systems - Power conditioners - Procedure for measuring efficiency
- ISO 9845-1, Solar energy - Reference solar spectral irradiance at the ground at different receiving conditions, Part 1: Direct normal and hemispherical solar irradiance for air mass 1.5.
- ISO 9846, Solar energy - Calibration of a pyranometer using a pyrheliometer.
- ISO 9847, Solar energy - Calibration of field pyranometers by comparison to a reference pyranometer. / BS 7621:1993 Method for calibrating field pyranometers by comparison to a reference pyranometer

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

- ISO 9059, Solar energy - Calibration of field pyrheliometers by comparison to a reference pyrheliometer. / BS 7440:1991 method for calibrating field pyrheliometers by comparison to a reference pyrheliometer
- ISO 9060, Solar energy - Specification and classification of instruments for measuring hemispherical solar and direct solar radiation.
- ISO/TR 9901, Solar energy - Field pyranometers - Recommended practice for use.
- IEC 61725, Analytical expression for daily solar profiles

Special Testing of an Installation

The *Engineer* may at any time inspect any part of the entire installation. During Maintenance work, the *Engineer* shall at his discretion order special tests to be carried out on the Solar PV installation at intervals of not less than three months, to verify the satisfactory functional condition of the installation.

The *Engineer* reserves the right to select at random component equipment and trade practices to be tested by independent authorities for compliance with specifications as specified in this Contract document.

Performance-Based Payment

The *Engineer* will inspect each installation on a regular basis. The *Engineer* will use a score-card to measure the quality of preventative and corrective maintenance rendered by the *Contractor* during the preceding period, on all components that form part of the installation, in accordance with the maintenance specifications. The *Engineer* will record his inspection directly onto the score-card. The score-card shall serve to evaluate 10 (ten) performance indicators for each period in the manner set out below.

The *Contractor* shall always have the opportunity to score the maximum points, provided that his preventative and corrective maintenance work comply with the Specifications. The *Client* will therefore be protected against a reduced or unsatisfactory service level and may refuse payment or impose penalties on the basis of a point score below defined performance threshold.

Performance indicators

Performance indicators shall be selected to measure the *Contractor's* service level of preventative and corrective maintenance.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

The *Contractor* and the *Engineer* shall each have the opportunity to select five (5) performance indicators for each period, which shall focus on the measurement of maintenance quality against the relevant specifications for the ensuing period. All ten (10) performance indicators are known to both the *Engineer* and the *Contractor*.

The *Contractor* shall aim to perform satisfactorily on all ten performance indicators. All indicators shall be selected from the scope of his normal preventative and corrective maintenance work and shall be based on the maintenance control plan and operating and maintenance manuals. The work shall either be satisfactory, or unsatisfactory, and the *Contractor* shall score one (1) or zero (0) respectively per indicator. Performance indicators shall be used to focus on certain key aspects of the work and shall in no way limit the *Contractor's* responsibility to do all the required work.

Satisfactory performance

The *Engineer* shall inspect the site on an arbitrary day to measure the quality of maintenance against the ten selected performance indicators. Should the *Contractor* score the maximum points (10) he shall receive his full maintenance payment for the installation. Should the quality

of preventative maintenance, or components requiring persistent corrective maintenance be unsatisfactory according to the score-card, the *Contractor* may fail to achieve full payment due to a reduced service level. Each monthly payment for maintenance shall be subject to evaluation based on the score-card.

Measurement and Payment

The performance of the PV System shall be anticipated and consistent, given proper maintenance and swift repairs are in place. In order to promote transparency and accountability, a measuring and evaluating method will be implemented, measuring the performance and compensating the client for the underperformance of the system. The installed PV systems measured performance ratio against the guaranteed performance ratio will be evaluated on a monthly basis over the 36 months period.

Basis for calculation of the liquidated damages

The *Contractor* has to guarantee a certain PR over the O&M period. Periods of outage / low performance that are beyond the control of the *Contractor* are excluded from the PR calculation.

- a) The PR is measured in accordance with IEC 61724 with the exception that Global Horizontal Irradiation (GHI) shall serve as the reference as measured by a calibrated secondary-standard pyranometer, and not Global Inclined Irradiation in module plane. The GHI as the reference is measured by the *Engineer* representing WCG.

The measured PR over period i is:

$$PR_{meas}^i = \frac{Y_f^i}{Y_r^i} \quad \dots\dots(1)$$

where:

$$Y_f^i = \frac{E_{meas}^i}{P_{STC}} \quad \dots\dots(2)$$

where:

Y_f is the specific yield or equivalent nameplate hours of the system measured in kWh/kWp in period i;

E is the energy output of the System measured in kWh AC in period i;

P_{STC} is System rated power measured as the total flash list power of all modules evaluated at standard test conditions (STC) being irradiation of 1 kW/m², cell temperature of 25°C, and air mass of 1.5, measured in kW_p.

And:

$$Y_r^i = \frac{H_m^i}{G_{STC}} \quad \dots\dots(3)$$

where:

Y_r is the equivalent hours of STC experienced by the site in period i;

H_m is the total Global Horizontal Irradiation measured with a secondary standard pyranometer in kWh/m² in period i;

G_{STC} is the reference solar radiation at STC of 1 kW/m².

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

- b) The Contractor guarantees the 3 year average performance ratio PRG,
c) If:

$$PR_{meas}^i < PR_G$$

.....(4)

- d) Then Liquidated Damages for low performance are paid by the *Contractor* to the *Client* as stated in the Financial Model.

The system's performance is expected to degrade initially within the first months of operation and therefore during the contracted O&M period. This means the *Contractor* has to factor that initial degradation into his guaranteed PR.

The Contractor furthermore has to factor in the O&M activities that will influence the performance, e.g. cleaning of the modules.

The Contractor decides on:

- a) Quality of the design
- b) Quality of components
- c) Quality of the O&M (planned downtime, cleaning, reacting to unplanned downtime).

All three components will eventually lead to a PR over the contracted O&M period during which the *Contractor* is solely responsible for the performance of the plant. Only such periods of unplanned downtime that are beyond the control of the *Contractor* are excluded from the PR calculation.

For every percentage point that the actual average performance ratio (PR) during the contracted O&M period is below the guaranteed PR as provided by the *Contractor* in his financial model, which forms part of his design, liquidated damages have to be paid by the *Contractor* to the client.

The liquidated damages are calculated as the present value of the projected amount of energy the client will lose over the lifetime of the PV asset due to the lower-than-expected performance, times a penalty factor. The entire electricity output of the plant excluding the down time outside the control of the *Contractor* where the PV system becomes unable to operate is used for performance ratio calculation. This should encourage the *Contractor* to conduct the O&M maintenance activities and optimize them such that the impact on performance is minimized.

Data submitted to the *Engineer* shall be free of obvious error, irregularities or anomalies, to the *Engineers'* discretion. The captured data shall be presented to the *Engineer* on a monthly basis or as when requested. The *Engineer* shall evaluate the PV systems performance on a monthly basis, using the Performance Ratio method indicated above, and certify the amount payable due to the *Client*, if any.

Guaranteed Performance Ratio

The Contractor shall provide a Guaranteed Performance Ratio which shall be equal to or greater than 74.5%.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

The proposed Guaranteed Performance Ratio will be used as the basis for assessing the PV Facility during the Provisional Acceptance Test prior to Completion and the Final Acceptance Test after the Defects Period with damages payable according to Graph provided should the minimum criteria regarding the Guaranteed Performance ratio not be met.

For every percentage point that the actual average performance ratio (PR) during the contracted O&M period is below the guaranteed PR as provided by the contractor in his Financial Model, which forms part of his design, liquidated damages have to be paid by the contractor to the client. For the installed capacity of the Rooftop Solar PV facility (kWp), the

graph provided indicates the damages payable (excluding VAT) on a monthly basis for every percentage, or part thereof, the facility is underperforming based on the performance ratio measuring method. The underperforming percentage range is from 0.1% up to a maximum of 10.0% below the guaranteed PR. The maximum damages payable for a certain month shall not exceed the potential avoided Energy and Demand Charges of the specific installation, taking the electricity rates applicable to the site into consideration.

In order to ensure the proper operation of the PV Facility, the Contractor shall provide equipment to continuously monitor and document the relevant conditions of the Plant at regular intervals by means of remote monitoring, data assessment and, if applicable, processing of malfunction messages.

Availability

The PV Facility (which includes the grid connection equipment) shall have a guaranteed availability of 98% (considering both planned and unplanned events). The Contractor shall make the necessary provision in order to achieve this availability, which will include but not be limited to:

- sufficient resilience and redundancy in the energy facility and grid connection design
- emergency preparedness plans
- sufficient spare parts
- sufficient operating /maintenance staff
- recommended preventative maintenance intervals and procedures

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

Plant Performance Monitoring

The performance of the PV Facility shall be measured through a Performance Ratio (PR). The PR shall be measured at the provisional acceptance test and final acceptance test of the plant. Both Confirmed Provisional and Confirmed Final Performance Ratios shall not be lower than the Guaranteed Performance Ratio Level provided as part of the design.

The Contractor shall install suitable instruments and make adequate arrangements to monitor the performance and ensure satisfactory compliance of the PV Facility. This shall include all suitable instruments, meters and data loggers etc.

The Contractor shall provide a system for automatic monitoring of the plant's performance in accordance with the International Standard IEC 61724, Photovoltaic system performance monitoring - Guidelines for measurement, data exchange and analysis.

- Performance ratio measurements and monitoring for the purpose of meeting the contract requirements shall only be carried out using ISO 9060.
- The SCADA system provided with the installation shall be capable of calculating and storing information on performance ratio based on the pyranometers supplied data.
- The positioning and total number of temperature sensors used for performance ratio measurements and monitoring for the purpose of metering the contract requirements shall be agreed with The Employer's *Engineer* prior to construction. The reference design marks the location of the metering elements, and should be used as a reference. A means of averaging the signals from the individual sensors shall be provided.

1.6.5 Training Program

The *Contractor* is required to develop and effect a training programme for WCG's Facilities Maintenance staff for the duration of the O&M Period. WCG's staff will assist with basic operations, maintenance and safety related tasks of the Facility.

The vision of the training is to allow WCG staff:

- to assist the *Contractor* in basic O&M activities and thereby reducing call-out time for minor interventions, fault-finding and troubleshooting;
- to demonstrate the Facility; and
- to operate the plant beyond the *Contractor's* O&M period.

The Training Programme shall encompass, at least:

- The basic concepts and technology of Solar PV technology
- The purpose and functionality of the equipment installed in the Facility
- Safety procedures for working in and around the Facility
- The basic operating and control procedures of the Facility
- Basic fault-finding and troubleshooting
- Replacement of minor parts (e.g. fuses)
- How to monitor, interpret and report performance

The knowledge transfer shall be through a phased approach beginning with the staff shadowing the *Contractor* during maintenance visits and eventually the *Contractor* supervising the staff while they conduct the inspections, tests and interventions. These phases shall be adopted on a quarterly basis with a review of the activities and key learnings arising in that quarter.

1.6.6 Certifying Task Completion.

Intermediate Acceptance

The purpose of intermediate acceptance (IAT) testing is to detect early poor performance and performance impacting defects during the defects period. The *Contractor* shall conduct the following at the end of the 1st and 2nd years of operations:

- Annual Performance Ratio (PR) Test as per the FAT methodology of the entire Facility to confirm long-term quality of design, construction and correct operation against guarantees.
- Visual Inspection to confirm wear and tear are within acceptable limits and not attributable to defects.
- Functional Test to confirm correct long-term operation not directly related to performance.

This shall be conducted simultaneously with the major annual O&M preventative maintenance activities to minimise impact on performance.

Final Acceptance Test

The purpose of the Final Acceptance Test (FAT) is to confirm that the Facility has functioned and operated consistently with expectations and guarantees during the Defects period. The tests will consist of the following to confirm the Facility is defect free:

- Performance Ratio (PR) Test of the entire Facility to confirm long-term quality of design, construction and correct operation against guarantees.
- Visual Inspection to confirm wear and tear are within acceptable limits and not attributable to defects.
- Functional Test to confirm correct long-term operation not directly related to performance.

FAT PR Test

The PR shall be measured in accordance with IEC 61724 with the exception that Global Horizontal Irradiation shall serve as the reference as measured by the calibrated secondary-standard pyranometer and not Global Inclined Irradiation. The Facility Meter shall be the reference point for electricity produced in kWh.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

The FAT PR shall be calculated considering:

- a) 36 months of data measured at intervals of 15 minutes from the time of the Task Order Completion is achieved.
- b) Periods of Facility unavailability shall be treated as periods of low performance in PR calculations.
- c) Admissible data that is deemed to be free of obvious error, irregularities or anomalies.
- d) Periods of unavailability related to grid instability or Force Majeure shall be excluded from PR calculations.
- e) The FAT PR shall be compared to the 3 year average guaranteed PR.
- f) Liquidated Damages for low performance are as stated in the Financial Model.

Certificate of Final Completion

At the completion of a successful FAT, the *Engineer* issues the *Contractor* with a Certificate of Final Completion. This signifies the end of the defects period.

1.6.7 Operational maintenance after Task Completion.

The *Contractor* shall provide O&M manuals (1-off hard copies + 1-off electronic) complete with commissioning results, test certification, component technical information and system/component warranties following successful completion of start-up and commissioning.

Provide Certificates of Compliance for each of the PV Systems and all associated electrical works as well as separate certificates for the modifications to each of the MDBs.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****Scope****2. List of drawings, schematics & annexures**

The service is to be executed in accordance with the following design drawings, schematic representations and annexures which form part of this contract. The list below indicates which items are included in the Appendix to this document, and which are issued separately due to size or other considerations. It is the responsibility of tenderers to ensure they have obtained and considered all the listed items for preparing their bid, which is the assumption when tenders are evaluated.

Identification	Size	Description	Included in Appendix
Annexure 1	A4	Price List (PDF & Excel Versions)	Yes

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****Scope****3. Specifications, standards and workmanship**

The service is to be executed subject to these specifications, standards and workmanship requirements. Please note that compliance with all these specifications and standards, including requirements in terms of qualifications, accreditation (where applicable) and work experience of both the tendering entity and its key people will be material in the *Client's* risk assessment for awarding this contract.

Standard Specifications

Where reference is made to the standard specifications in this contract, it means the latest edition of the documents which apply to the specific discipline involved in the works, as referenced under any of the headings below. The standard specifications may, due to their generality and completeness, also cover items not applicable to this particular contract.

Project specifications

Project specifications include amendments to the standard specifications as well as supplemental specifications applicable to work items not covered by the standard specifications. Project specifications, where applicable, may be found throughout the Works Information of this document, including works drawings. The bill of quantities may also contain references to standard specifications as well as project specifications, for clarification in terms of pricing for certain items, where applicable.

In the event of any discrepancy between the project specifications and a part of the standard specifications found in the Works Information of this document, the project specifications take precedence.

Accreditation, qualifications and work experience

Minimum requirements for work experience, qualifications and accreditation (where applicable) as well as minimum personnel are as stated under the headings below. The tenderer must supply the relevant information in regard to accreditations, qualifications and work experience for both the enterprise and key people who will be working on this contract on the appropriate returnable schedule in the Works Information.

3.1 Standard Specifications**3.1.1 General**

This part of the specifications gives the general requirements for electrical installation work related to the Solar PV installation. These requirements are based on the relevant quality specifications and are augmented by the specific requirements for this contract.

3.1.2 Standards

It is a condition of this contract that the standard of workmanship and quality of materials shall comply with the relevant specifications and standards and will be subject to the approval of the *Engineer* and the party finally responsible for the operation and maintenance of the system. All correspondence in this regard shall however be directed to the *Engineer* and the final approval will only be granted by him.

3.1.3 LV PVCSWA Insulated cables**3.1.3.1 General**

This section covers the supply delivery and installation of 600/1000V PVCSWA cables for AC installations and 1500V solar cables for DC installations for use during this project.

All low voltage AC and DC cables shall be manufactured according to the specifications listed in the standardised specification.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

The voltage gradient of the PVC dielectric shall be for 600/1 000 Volts for AC cables and up to 1500 Volts for DC cables unless otherwise stated.

DC cabling refers to those cables which provide the electrical connection between individual modules of a solar generation facility, the string combiner boxes and as well as from PV sub array and PV array combiner boxes to the inverters. Number of combiner boxes between string and connection to inverter shall be defined by the *Contractor* to achieve optimum output and allow suitable access for O&M purpose.

The solar cable shall adhere to the following standard specifications:

- a) Single-core,
- b) Class 5 tinned stranded copper wires bunched together according to SANS 1411-1
- c) Polyolefin insulated
- d) Polyolefin sheathed for a low smoke zero halogen and flame retardant composition.
- e) Resistance to:
 - (i) Ultraviolet radiation
 - (ii) Ozone
 - (iii) Chemicals
 - (iv) Oil
 - (v) Moisture
- f) Maximum conductor temperature rated at 90°C

Insulation and resistance measurements shall be carried out after every cable installation in order to locate any possible faults and records kept so that faults can be identified in future.

Cables shall be logged in a cable schedule according to module and string number for record keeping of the results of required cable tests for future fault finding.

All low voltage PVC insulated cables shall have stranded copper annealed conductors unless otherwise called for.

The following code shall be used for identifying cables:

3.1.3.2 Identification

<u>Component</u>	<u>Code Letters</u>
PVC di-electric	PVC
PVC sheath or extruded bedding	PVC
PVC tape bedding	PVCT
Steel wire armour	SWA
Earth continuity conductor in armour	ECC/SWA
Double wire armour	DWA
Concentric neutral or earth conductor	N, NE or ECC as relevant
PVC outer sheath	PVC
Where a supplementary earth core is included	G/Y

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1).....
 SIGNED

2).....
 SIGNED

3.1.3.3 Joints and terminations of PVC SWA cables

The ends of these cables shall be made off in the conventional way with an earth bond between the armour, and the cores jointed through by means of crimping ferrules, colour to colour (no taping required).

Cable specific jointing kits shall be used and these shall consist of a celluloid jointing mould which shall be placed around the joint and the joint completed using resin to the joint manufacturer recommendations.

No joint will be permitted in any run of cable unless specifically specified or specifically approved by the *Engineer*.

Terminating PVC cable shall only be by means of glands and shrouds. Connecting of cable cores to bolted type terminals shall be affected by means of suitably sized lugs which shall either be sweated or crimped onto the relevant conductor ends.

No cable joints shall be permitted without approval from the *Engineer*.

3.1.3.4 Testing of cable terminations

The following tests are required:

- a) Before terminations. Prior to jointing or termination the insulation and continuity tests by means of resistance shall be done:
 - LV cable : 1 000V
- b) After terminations. The following tests shall be carried out on completed cable sections of laid and jointed cable.

The *Contractor* shall be responsible for all necessary test equipment and instruments and the necessary electricity supply to carry out the test.
- c) PVC insulated cables. A 2 000V Megger shall be used and the insulation between phases and phases to earth shall be measured.
- d) Rejected cables. If breakdown of any cable occurs during testing it shall be replaced and/or the cable end shall be re-done. This shall be to the *Contractor's* account.

3.1.3.5 Handling

During loading and off-loading the cable drums must be handled carefully to avoid damage to the inner layers of the cable. Drums must not be dropped onto or off the delivery vehicle. If no winch, hoist or other mechanical means is available then drums must be gently rolled down suitable ramp or rails.

When rolling a drum of cable on the ground, it must always be rolled in the direction of the arrow stencilled by the manufacturer on the drum flange.

Periodic rotation of wooden drums is essential to avoid drum timbers from rotting through rising damp.

The above mentioned should be taken into account with the specifications from the manufacturer when handling cables during off-loading storage and installation.

Incorrect handling of drums could result in rejection of the cable by the *Engineer*, without additional time for the contract, or any other compensation being granted.

3.1.3.6 Installation of cables**3.1.3.6.1 Cables used for AC circuits**

The following points must be adhered to for the correct installation of cables.

Robust cable jacks with a spindle strong enough to carry the total load, shall be securely mounted and operated with the spindle level.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

The securing ropes must be cut so as to leave the inner end free to move, during unrolling operations.

Correct wire mesh pulling stockings must be used for the drawing in of cables.

The use of adequate, (approximately every 2 metres) well-oiled cable rollers, of the correct size or larger, shall be used.

All pipe ducts must be cleared of all foreign matter before cables are pulled in.

Adequate protection and attention at the entrance and exit to pipe ducts is essential.

Maximum pulling forces specified by the manufacturers must not be exceeded.

No cables must be laid when temperature is 10°C or lower unless the special conditions is required by the *Engineer*, have been fully met.

The following bending radii are the absolute minimum and under no circumstances must the radii be less than these dimensions for the size of cable specified.

PVC insulated cable = 10 x D

Paper insulated lead covered = 12 x D

XLPE insulated cables = 15 x D

Where D = overall sheath diameter

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

The *Engineer* reserves the right to reject any cables which have been twisted, kinked or damaged in other way, without additional time being granted for completion of the contract.

When laying the cable, a certain "snaking" must be permitted so that contraction during cold weather will not detrimentally affect joints, etc. Due allowance for this has been made in this specification.

3.1.3.6.2 Cables used for DC circuits

In conjunction with the guidelines given, the following shall be taken into account for DC cables:

Cables used for the interconnection of PV modules should be installed where possible to the mounting structure with durable fixings to provide protection against inclement weather, UV radiation and damage due to rodents and other animals.

The positive and negative DC cables shall be installed in separate cable trays to prevent electromagnetic coupling between two DC cables of opposing polarities. Where bundles of DC cables with positive and negative polarities run parallel in close proximity to each other a screening material should be installed between bundles to prevent electromagnetic coupling.

The area inside DC cable Longs shall be kept as small as possible to reduce the induction of unwanted voltages and currents.

DC string, array and main cabling must be selected and installed in such a way to prevent the risk of leakage currents.

3.1.3.6.3 Measurement of cables

Quantities as shown on the Schedule of Quantities are approximate and the *Contractor* shall physically measure the route on site before ordering his cable.

All surplus cable at the end of the contract must be removed by the *Contractor* and the quantities for payment will be adjusted accordingly.

Cables shall be measured by the clerk of works by means of a measuring wheel once the trenches have been closed.

In addition to the cable lengths measured in the trenches and in cable trays, THE FOLLOWING SLACK WILL BE ALLOWED:

- | | |
|-------------------------------------|------|
| (i) Slack in cable trays | + 5% |
| (ii) at 400V Distribution boards | + 3m |
| (iii) at 1 000V Distribution boards | + 6m |

3.1.3.6.4 Thermal resistivity

Cable current carrying capacity is affected by the thermal resistivity of the substances encountered.

The following table of values shall be used:

<u>Thermal Res.</u>	<u>°Cm/W</u>
• Water logged ground	0,50
• Concrete	0,90
• Gravel	1,00
• Sandy soil	1,20
• Clay	1,60
• Chalky soil	1,80

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1).....	2).....
SIGNED	SIGNED

Impurities such as slag, ash and intense vegetation in the cable trench cause an increase of "g" and must be avoided, particularly close to the cable.

3.1.3.6.5 Positions of cables

Cables for the interconnection of solar modules shall be neatly installed along the mounting structure of the PV array and fixed with UV resistant cable ties. String cables on rooftops shall be installed in UV resistant trunking to a point where it enters the roof space. If drilling or penetration of the roof surface is required, the entry point should be sealed to prevent water leaks and corrosion at the point of entry. String cables from the PV array should be installed in a cable tray inside the roof space up until the point where cables must be fixed against the walls for entry into the string boxes.

PVC cable conduit of appropriate size shall be used for the installation of cables against walls within buildings. PVC bends shall be installed and fixed on the cable trays and string boxes for cables running into string boxes.

3.1.3.6.6 Testing on completion

Tests on completion shall be carried out on site in the presence of the *Engineer*, and the test results properly recorded and submitted.

On each completed section of laid and jointed cable, the insulated resistance shall be tested on approval, with an approved "Megger" type instrument of not less than 1 000 Volts for LV Low voltage.

All LV switchboards shall be "Megger" tested to approval after erection and installation on site, using the applicable test voltages.

3.1.3.6.7 Installed route plan and cable schedules

The *Contractor* is responsible to submit a final cable route plan (as installed) to the satisfaction of the *Engineer*. Due to allowance shall be made in the tender price for this work.

Failure to comply with this requirement will result in the delay of the issuing of the acceptance certificate. No completion certificate will be issued if these requirements are not met.

The following shall be indicated on this route plan in a satisfactory manner for all installed cables:

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30	
1)..... SIGNED	2)..... SIGNED

- a) The route length for each cable as well as distances between joints.
- b) Cable route with references to fixed points.
- c) Cable joints with references to fixed points.
- d) The cable drum number for each length.
- e) Positions of cable route markers with reference to fixed points. The route markers shall be numbered and a separate drawing showing the face plates of all route markers (numbered), with North reference shall be submitted.

A site plan shall be provided to the *Contractor* for this work, who shall submit a transparent plastic film and three (3) paper prints of the route plan.

Cable schedules shall be submitted on A1 sized sheets containing information as required by the *Engineer*. All documentation and schedules to be provided in PDF format as well to the *Engineer*.

Any uncertainty in this respect shall be cleared before submission of the tender.

3.1.4 Solar photovoltaic modules**3.1.4.1 General**

The *Contractor* is allowed to make use of the following photovoltaic module technologies:

- Monocrystalline silicon (pricing purposes only)
- Polycrystalline silicon (preferred)
- Thin film (pricing purposes only)

Crystalline silicon modules are required to be IEC 61215 certified, thin film modules are required to be IEC 61646 certified. Detailed specification sheets and certificates of compliance to these standards are to be provided. The *Contractor* may use locally assembled modules on condition that proof of these certifications specific to the local assembly facility can 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 $\pm 2^\circ\text{C}$.
- The panel operating temperature range is to be at least -10 to 85°C.
- The temperature coefficients for power is to be at least $-0.45\%/^\circ\text{C}$ (i.e. $\geq -0.45\%/^\circ\text{C}$)
- All modules are required to have a positive output tolerance.
- Modules shall have anti-reflective coating

PV modules shall comply with Standard Specifications as stipulated Standardised Specifications. Proof of PID resistance and PV + testing should be attached to the Technical Schedules.

Modules to be used should be reliable modules with a proven track record in performance, operation and reliability. The *Contractor* shall ensure that PV modules are sourced from a Tier 1 manufacturer. Prove must be attached to the particular technical schedule.

The test results of the Photon International Laboratory for the specific PV Module offered must also be attached to this page.

3.1.4.2 Flash Tests

A comprehensive IV flash test report for each PV module procured shall be provided to the *Engineer* in Excel format prior to commencement of construction (this is not required for tender). The data must have the following information:

- Product name and number (external and internal)
- The test condition the measurement is carried out
- Serial number of the tested panel, including which panels are in which shipping containers and pallets
- Power at maximum power point (Pmpp)
- Voltage at MPP (Vmpp)
- Current at MPP (Impp)
- Fill factor
- Open circuit voltage (Voc)
- Short circuit current (Isc)
- Panel surface temperature (measured by temperature sensor, corrected and uncorrected if possible)

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

This information shall be provided by latest two (2) weeks prior to the arrival of PV modules on the Site.

3.1.4.3 Installation

The *Contractor* is responsible for the installation of modules according to the manufacturer's specifications. The PV module installation manual must be provided as part of the as-built documentation. The manual shall contain all the necessary requirements and specifications for proper module installations such as (but not limited to):

- Types of mounting structures including physical requirements for securing mechanisms (screws, clamps, dimensions, tightening force, locations) and useful information such as recommended mounting types, recommended spacing to guarantee sufficient air circulation, restrictions to certain environments etc.
- Mechanical and electrical configuration guidelines (landscape, portrait, string and array sizing, grounding etc.).
- Earthing requirements.

3.1.4.4 Construction and Technical requirements

All modules supplied shall:

- a) Be of the same type, model and from a single manufacturer.
- b) Be chosen with the intention of maximising the energy output per kW at low irradiation levels and temperature performance shall be considered in the selection.
- c) Bear information on supplier, unique product reference number, CE type approval and main module parameters as stipulated.
- d) Conform to either IEC 61215 Ed.2 for Crystalline cells or IEC 61646 for Thin-film cells as well as IEC 61730 for both types.
- e) Be able to withstand hail according to regulations for PV panels set out in IEC 61215
- f) Have a positive initial power tolerance (i.e. +3%).
- g) Be manufactured to ensure Anti-PID related degradation. Proof should be attached in the technical submission for acceptance.

- h) Be fitted with an earth connection to be connected to the earthing system.
- i) Be fitted with:
 - (i) a box with a protection class of IP65, fitted with three bypass diodes,
 - (ii) 1000mm solar cable leads rated at 1000Vdc for the interconnection of the PV modules,
 - (iii) appropriate male and female connectors (MC4/ KSK4), for the interconnection of PV modules,
 - (iv) a back cover made of composite material which is waterproof and dustproof,
 - (v) a clear anodised aluminium frame with fixture facilities,
 - (vi) an Earthing terminal for connection to earthing/ grounding systems and
 - (vii) 4mm tempered glass according to EN12150 with high light transmission and low iron.

The Contractor shall:

- a) Supply and install the PV Modules to achieve the specified levels of performance for the required design life of 25 years under the prevailing site environmental conditions according to the site conditions. PV Modules shall have minimum product warranties of 12 years and minimum linear power output warranties of 90% of the nameplate power after 10 years and 80% after 25 years.
- b) Be responsible to decide the module arrangements to minimize the losses due to mismatching.
- c) Where the manufacturer's module flasher data show an I_{mpp} deviation of more than 3%, PV modules shall be sorted into three groups to meet a set tolerance. Only modules from the same set shall be used in in the same string.
- d) Ensure that PV modules conform to all relevant International standards with regards to design, testing and approvals.
- e) Allow for, on a project by project basis and as required by the EIA and EMP, the use of anti-reflective coatings in order to mitigate against glint and glare of the protective cover of the solar cells.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

The transportation, storage, handling and installation of the modules shall be in accordance with the specifications from the manufacturer, as to not to void the module manufacturer's warranty.

All modules must be constructed to withstand temporary mechanical forces due to inclement weather, hoisting or lifting during installation and vibrations caused by the structure it is installed on.

The module rated peak power shall be used to determine the peak power of the PV Plant. The peak power shall be the sum of the manufacturer's name plate data sheets for each individual module.

3.1.4.5 Guarantees and Warranties

Modules shall carry a defect warranty of at least 20 years and a linear 25 year performance guarantee of 80%.

The warranties offered by the module manufacturer shall be transferrable to the *Client*. 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.

3.1.5 PV String Boxes**3.1.5.1 General**

The PV string boxes used throughout this contract shall comply with the Standards listed in Standardised specifications, including standards applicable to required components to be fitted in the PV string boxes.

PV string boxes are used to combine a number of PV module arrays to achieve the specified output power requirements of the PV generator. PV modules can be combined to form a sub-string arrangement for sub-string boxes and string arrangements which are fed into inverters.

PV Modules are connected in series to obtain the required input voltage (V) for the DC side of the inverter. In order to obtain the required input current (A) the sub-strings (connected in series) are connected in parallel. The sub-strings are collected in the string box and are fed into the inverter. All PV modules shall be negatively grounded in the string/ sub string boxes.

A single line diagram of the electrical circuit of the PV generator must be attached on the inside of the string box.

3.1.5.2 String box components

Both sub-string and string boxes shall be fitted with:

- a) Non-metallic cable glands for input and output cables. Required cable sizes shall be specified in the Project specifications,
- b) DC fuse holders and fuses rated for each string/ sub-string input to SANS 60269-6,
- c) DC on-load fused switch disconnecter for each string/ sub-string input,
- d) DC on-load fused switch disconnecter for sub-string/ string outputs,
- e) Surge protection devices according to SANS 61643-21,
- f) DIN rails for the installation of fuse holders, on-load DC disconnectors for string inputs and outputs,
- g) Terminals for:
 - (i) Input string/ sub-string
 - (ii) Output string/ sub-string
 - (iii) Grounding / Earthing
 - (iv) Two copper bus bars for the connection of positive and negative input strings/ sub-strings,
 - (v) Earth bar for the connection of surge protection devices and earthing systems.

All components and surge and protection devices shall be rated at a 1000VDC. The calculated ampere ratings shall be specified in the Project Specifications. If an isolator is not provided on the output side of the string/sub-string box a separated DC on-load isolator should be provided next to the inverter. The on-load isolator should be easily accessible for switching during emergency situations.

3.1.5.3 String box construction

The enclosure of the string/ substring box shall have protection index of IP24 according to IEC 60529 as well as a class II degree of insulation against electrical shock according to IEC 61439-1. No metal cable entries shall be used.

Material used for construction shall be:

- a) Self-extinguishing,
- b) Flame retardant,
- c) UV resistant according to IEC 61439-1,
- d) Silicone and Halogen free,

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

- e) Resistant to severe heat and dust.
- f) Resistant to extreme cold and frosting.

String/ sub-string boxes must be vermin-, dust- and waterproof. Installed components should easily be removable for maintenance and replacement of damaged parts. All metal parts shall consist of anti-corrosive materials.

Input and output cables shall be fastened onto the termination terminals according to the torques specified by the manufacturer.

The installation location must be easily accessible and offer a secure base for working on the device. String/ sub-string boxes shall be suitable for indoor and outdoor use, installed with the necessary warning signs and lockable with a pad lock for authorized personnel.

3.1.6 DC~AC Power inverters

3.1.6.1 General – Technical Requirements

The *Contractor* may make use of Central or String inverters.

The Inverters shall comply with safety requirements according to IEC 62109 and feature anti-islanding according to IEC 62116.

The selection of inverters shall 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 must approve the stringing chosen for the project. Inverters must be designed for PV application and include:

- 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 IP54 is required for outdoor mounting and an IP grade of at least IP21 is required for indoor mounting of the inverters
- If inverters are installed outdoors, they must 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 *Contractor's* responsibility to notify the *Engineer* and implement these requirements.

Inverters shall be string inverters and comply to NRS 097-2-1 as well as with Standard Specifications as stipulated in Part C3.1.2-Standardised Specifications.

All inverters shall be of the same manufacturer and type to ensure interconnectivity and ease of maintenance.

The Contractor shall provide inverter arrangement for the PV Plant that is selected to give overall optimal energy yield from the PV Plant over the life of the Project, taking into account the site conditions and the proposed module layouts, shading and orientations.

Datasheets and applicable drawings shall be submitted by the contractor to the Engineer prior to placing orders for purchase.

3.1.6.2 Technical specifications

Apart from the detailed technical specifications required in the technical schedules, Part C2.3, inverters shall meet the following general requirements:

- a) Inverters shall be equipped with communication capabilities as required by the Control and monitoring system (CMS); all inverters shall be able to be controlled / supervised by the same software or CMS system.
- b) All inverters shall be rated up to and including 1000VDC and have an AC-side voltage of 400V.
- c) Inverter specifications shall be selected with respect to the local climatic and environmental conditions. The inverters shall be suitable for installation and operation in conditions as required in Part-C4-Site Conditions.
- d) Inverters to be used shall be reliable inverters with a proven track record in performance, operation and reliability.
- e) Inverters have to comply with applicable norms and standards including but not limited to NRS-097-2-1:2010. All necessary data sheets and test certificates should be attached to the submission.
- f) Inverters shall comply with South Africa Grid Code requirements for renewables.
- g) Inverters shall have a protection class of IP65.
- h) Inverters shall include grid monitoring and detect loss-of-mains from the Municipal/ Eskom grid to provide islanding protection.
- i) Inverters shall have the following functions
 - (i) Over- and under voltages,
 - (ii) Over- and under frequency,
 - (iii) String failure detection,
 - (iv) Voltage vector shift and,
 - (v) Rate of change of frequency (ROCOF),
 - (vi) DC-side disconnection device and Class II Surge protection,
 - (vii) DC-side fuses for sting inputs according to project specifications
 - (viii) Earth fault monitoring,
 - (ix) DC reverse polarity protection,
 - (x) AC short-circuit protection and
 - (xi) Power factor regulation.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30	
1)..... SIGNED	2)..... SIGNED

The protection relays used shall comply with the relevant sections of the international standard for protection relays IEC60255.

The quality of equipment supplied shall be generally controlled to meet the guidelines for engineering design included in the Standardised Specifications.

All transportation, storage, handling and installation of the inverters shall be in accordance with the specifications from the manufacturer, as to not to void the inverter manufacturer's warranty.

The *Contractor* will be required to confirm the inverter manufacturer's warranties for the given environment and installation type. The *Contractor* shall also mention if the inverter warranties can be extended.

3.1.6.3 Guarantees and Warranties

Inverters shall have a warranty of at least 10 years. The contract sales agreement with the inverter manufacturer shall clearly define the claiming procedure of defect 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 *Engineer*, the *Contractor* 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 *Client*. Other terms and conditions for warranties transferability must be clearly defined.

3.1.7 PV Module mounting structure

3.1.7.1 General

A PV module mounting structure is generally a lightweight steel lattice structure used to install the PV modules on rooftops, car parks, shade-structures and as a standalone structure on the natural ground level.

The structure should be capable of supporting the solar modules securely for the intended generation life of the installation. The installation shall comply with the standard specification as well as planning requirements in relation to maximum height.

The installation shall not result in damage to the existing building roof waterproofing installation in any way during the installation or operation of the PV facility. Fixtures shall not require penetrations (e.g. drilling or fixing) to the building roof slab.

The *Contractor* shall select an appropriate structure based upon roof investigations, structural analysis or soil density tests for mounting the modules on the ground.

The *Contractor* shall submit detailed designs with calculations to the *Engineer* for approval or amendments prior to purchasing of parts and installation.

3.1.7.2 Construction and technical specifications

The mounting system shall be designed and selected with specific attention to:

- a) The selection of high-quality materials conforming with relevant SANS/ISO standards;
- b) The stability of the mounting system over the required life of the project;
- c) The need to decommission and remove the system at the end of the project life and reinstate the site according to the requirements under the planning approval;
- d) Suitability of the design for the snow and wind loading regimes;
- e) The response of the system to potential ground movement (land slip), wind vibrations and subsidence over long periods of time;
- f) Avoidance of systems that have a tendency to work their way loose over time;
- g) The corrosive impact of a combination of materials (e.g. unintended bimetallic corrosion).
- h) Maintainability and overall system lifecycle cost;

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

- i) Warranties offered on the materials and components provided;
- j) The static design of the system and the bending and buckling characteristics of the material;
- k) The thermal properties of the material and the impact of this on stresses within the structure;
- l) All movements and dimensional changes that may occur due to thermal changes, deflections, settlement and creep;
- m) Constructional inaccuracies of the supporting structure;
- n) Accidental loads.
- o) Adjustments by small increments in and out, up and down and side to side in the position of the supports to accommodate the full variations in the underlying construction;
- p) Shimming required accommodating local variations in construction tolerances only;
- q) The design of all fixings supporting and/or restraining the PV Modules

The Contractor shall ensure that:

- a) A single type of mounting system is provided for the PV modules;
- b) The mounting system is compatible and intended for use with the proposed PV Modules proposed for the project and that it can support the weight of the PV Modules and transmit this weight safely back to the mounting structure without overloading or permanently displacing any of its components.
- c) The mounting system does not represent a safety hazard in terms of exposed fasteners, sharp edges etc.
- d) The mounting system is compatible with the site environmental conditions.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30	
1)..... SIGNED	2)..... SIGNED

3.1.7.3 Corrosion

Environmental and site conditions must be considered in order to ensure corrosion resistance during the service delivery life of the installation.

Fixing parts; bolts, nuts, screws and brackets shall be of sufficient strength and anti-corrosive. Where bimetallic parts are used a separation barrier shall be installed to prevent bimetallic corrosion.

Cutting and/or drilling of PV modules, brackets, cables that might compromise the integrity of corrosion protection shall be avoided. If penetrations are compulsory the exposed or altered parts shall be treated with anti-corrosive substance to the satisfaction of the *Engineer*.

3.1.7.4 Mechanical considerations

Due to the nature and construction of the PV module installation the finished roof mounted modules are subjected to mechanical forces due to wind, snow and static loads. The mounting structure shall be designed to accommodate the abovementioned loads and movements due to fluctuation in temperatures during the generating life of the installation.

All brackets, anchors and supports shall be designed, fabricated and installed in full compliance with the requirements of the PV modules and mounting systems without distress to any component or assembly or panel joint integrity.

The general requirement for torqueing of bolts shall be highlighted on the Contractor's calculation, designs and drawings. Tightening torque values shall be clearly stated.

3.1.7.5 Types of mounting structures

For use of Aluminium: BS EN 1999: Design of aluminium structures shall be applied.

For use of Steel: BS EN 1993: Design of steel structures shall be applied.

The connections for the fixings onto the mounting structures shall be designed to the relevant codes and methods in the SCI/ BCSA green books.

3.1.8 Low voltage AC distribution boards

3.1.8.1 Scope

This specification covers the minimum requirements for the manufacture, supply and delivery of low-voltage 3CR12 steel AC distribution boards (DB's), suitable for ground/ wall mounting and safe for use in areas accessible to the public.

The design of the DB shall comply with clause 5.1.1 of SANS 10142-1, which states that:

It shall not be possible to touch any live part within arm's reach with the standard finger test;

- a) During normal operation, or
- b) When a cover is removed, unless the cover is removed with the use of a tool or a key.

The DB shall be vermin proof, with a minimum IP rating of IP65, seam welded and with no sharp edges. The *Contractor* shall ensure all anti-corrosive measures are taken during manufacturing. All doors shall have a stainless steel earth stud.

Trunking and cable trays used in the DB must be permanently secured using nuts and bolts.

A single line diagram of the electrical circuit of the PV generator must be attached on the inside of the string box for use during maintenance or outages.

3.1.8.2 System and environmental requirements

System parameters:

Secondary nominal voltage	400/230
Rupturing Capacity	6 kA
Rated Short Time Current (3 s)	10 kA
Frequency	50 Hz
Phases	3/1
Earthing	Neutral/earth

The kiosk shall be manufactured to be in use continuously under all weather and climatic conditions throughout the year, which conditions shall be as follows:

Atmospheric Temperature	-5°C minimum +45°C maximum
Altitude	100m minimum to 1 200m maximum
Lightning	Severe
Dust/sand	Severe
Average Power Factor	0,8
Maximum Humidity	95%

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30	
1)..... SIGNED	2)..... SIGNED

3.1.8.3 Cables

Provision shall be made for the connection of the cables and corresponding cable glands, with separate earth continuity conductors. Cable sizes shall be specified in the Project Specifications.

3.1.8.4 Switching compartment

The construction of the DB shall consist of an outside door with a transparent Perspex cover with cut outs exposing the toggle switches of the MCB's, the MCB locking brackets and other protection devices. All protection devices must be easily operated with the transparent cover installed. The transparent cover shall be fixed with removal bolts. Circuit descriptions and MCB designations should clearly be indicated with engraved plated fixed on the transparent cover.

The AC distribution box shall be sufficiently sized to house the required relays and circuit breakers for the Islanding protection.

3.1.8.5 DB construction**a) General:**

- (i) DB shall be manufactured from 1.6mm thick 3CR12.
- (ii) The DB shall include a door for access to the circuit breaker compartment of the DB. The door's surround shall incorporate a splash proof channel.
- (iii) A rain sill that protrudes past the door shall be installed above the door, to prevent rain falling on to the top surface of the door when it is closed. This sill shall be sturdy enough to be used as a handle to lift the DB.
- (iv) The DB shall be constructed from pickled, passivated 3CR12.
- (v) All cutting, forming, forging, machining, welding, fastening, annealing, stress relieving, post weld cleaning shall comply with the internal standards of the manufacturer of 3CR12 steel.
- (vi) Adequate vermin proof ventilation holes shall be provided in the DB.
- (vii) The circuit breakers must be installed vertically and be accessible from the front of the DB.

b) Door:

- (i) The door shall be provided with a minimum of two non-ferrous handles of the wedge action type, capable of being padlocked in the fully closed position.
- (ii) Two non-ferrous hinges shall be used and shall only be accessible from inside the DB. The door shall be hinged from the left hand side.
- (iii) The door shall be mounted flush with the front surface of the Distribution Box
- (iv) The door shall be fitted with a night latch.
- (v) The locking mechanism shall make use of the 3 point locking principle (B & N type 24132E). The rods used for the 3 point locking system shall be a minimum of 8 mm round bars. All the components of the locking mechanism shall be of pickled and passivated 3CR12 or stainless steel.
- (vi) The door shall be braced using the remnants of the 2 mm 3CR12 sheet in order to improve its rigidity.
- (vii) A sturdy door stay shall be provided on the front door to ensure that the door can be kept in a 90° open position. This door stay shall be manufactured from a non-ferrous metal.
- (viii) The door stay must be of hook and eye type and not window stay type.
- (ix) The hook must be made from a stainless steel rod that has a minimum diameter of at least 6mm. The eye and/or additional steelwork welded to the AC Board to accommodate the door stay
- (x) The door stay shall be constructed from 3mm 3CR12 Stainless steel.
- (xi) The door stay must be robust to withstand wind pressure. The door shall be provided with gaskets of neoprene or approved material. Rubber or felt gaskets are not acceptable.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

3.1.8.6 DB electrical equipment

- a) New circuit breakers shall match existing brand installed at the facility.
- b) The DB shall be supplied with bus bars for phases, earth and neutral with insulators fitted.
- c) The phase and neutral busbars shall be constructed from 10mm thick copper to carry at least 200A and fastened by means of suitable insulators.
- d) The neutral busbar shall be connected to earth busbar with a 70 mm² bridge piece. The neutral busbar shall be insulated from earth in the same manner as the phase bus bars.
- e) The bus bars shall come fitted with a stainless steel set screw, complete with 20 tinned steel washers, a stainless steel spring washer and cadmium plated steel nut, in each pre-drilled hole.
- f) From top to bottom, the phase order of the bus bars shall be red, yellow, blue and black.
- g) All wiring connections shall be made by phase coloured PVC insulated copper conductors, lugged and connected to the correct bus bars. The ends of the conductors that are intended for connection to equipment and shall not be stripped, and shall be protected with heat shrink end caps that can only be removed by cutting them off.

An on-load isolator rated at 420V should be installed next to the AC Distribution box to isolate the inverter with the DC side isolator for maintenance purposes. The on-load isolator should be locked during loss of mains for islanding protection.

3.1.8.7 Circuit breaker mounting

- a) The DB shall be designed to house din rail-mounted circuit-breakers.
- b) DIN-Rails shall be manufactured from stainless steel or aluminium.
- c) The breaker compartment shall be lockable with a separate lock as to prevent unauthorized access to the breakers.

All MCB's in the DB shall be fitted with a lockable bracket. The bracket must be designed such that the MCB can only be locked in the off position. The bracket used in the outdoor board shall be made of 3CR12 stainless steel. All MCCB's used in the AC Board must have a padlocking facility. The padlocking facility must be incorporated in the rotary handle of the MCCB's.

3.1.8.8 Samples

If requested to do so, a sample of each ACDB shall be provided for assessment purposes. The samples must please be collected after the tender has been awarded.

3.1.8.9 Marking and labelling

- a) Notices shall be provided as required by the Occupational Health and Safety Act. All notices shall be secured to the DB using rivets.
- b) The following information shall appear in legible and indelible marking as follows:

The manufacturer's name or trademark;

- A danger sign of minimum size 100 mm x 60 mm that forms an integral part of the housing and/or all doors. The sign shall be as specified in table 1, WW7 of SANS 1186-1; and;
- Appropriate SANS mark(s) of approved performance.

- c) A label showing the name of the manufacturer and the date of manufacture shall be placed on the inside of the ACDB door.
- d) Each circuit breaker must have a removable blank trifoliate to be engraved with a circuit name/ number.
- e) All electrical and control cables shall be labelled.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

3.1.8.10 Drawings

The tenderer must submit for approval a complete drawing of every ACDB offered. Manufacturer's brochures shall be submitted.

3.1.8.11 Earthing and metal fixtures

All metal parts shall be connected individually and direct to the earth bar via a green 4mm² PVC copper conductors. All terminal rails should be fitted with an earthing terminal. All electrical components that have a provision for earth must be earthed. Longing of the earth wire between metal parts will not be acceptable.

All nuts, bolts and washers used for the construction of outdoor distribution board must be stainless steel. The 40x3mm copper earthing bar shall be connected to the copper pad with brass bolts, nuts and washers.

Each metal part shall have its own earth connected to the earth bar or earth stud. A 40 x 40 x 3mm copper pad shall be brazed to the outside of the box. All gland plates shall be earthed to the predrilled earthing bar by means of a braided tinned copper earthing strap with an effective copper cross-sectional area of 12 mm². The contact resistance between the main earth bar/stud and any earth stud located on doors, gland plates etc., must not exceed 0.1 ohms. All earth connections shall be as short as possible and shall not be coiled.

3.1.9 Earthing systems**3.1.9.1 Scope**

This section covers the earthing of electrical installations and PV generators in buildings or other structures. The total earthing system of any electrical installation and PV generator shall be in complete accordance with SANS 10142, SANS 10200:1985 and SANS 10292:2001.

Supplementary earthing and bonding shall be provided throughout the facility with bonding of PV module mounting system, invertors, cable containment and wireways (and any other extraneous metalwork) , including bonds to the roof lightning protection air termination network at suitable intervals with the aim of achieving equipotential of the entire installation.

The *Contractor* shall install an earth mat based earthing system for the PV Plant that eliminates the risk to personnel or animals of electric shock under normal operating condition as well as fault conditions. Furthermore, the earthing system shall ensure the functionality of electrical protection equipment during electrical faults.

3.1.9.2 General Requirements of an effective earth

An effective earth must prevent dangerous over voltages arising between metallic structures, frames, supports or enclosures of electrical equipment and the ground during fault conditions.

An effective earth must be able to permit fault currents of sufficient magnitude to flow so as to operate protective devices to isolate the fault before damage can occur.

The ohmic resistance of an effective earth must be low enough to ensure that the step potential on the ground in the vicinity of the earthing point is within safe limits under fault conditions i.e. a voltage gradient not exceeding 40 V/m for fault durations exceeding 1s.

3.1.10 Meteorological station**3.1.10.1 Scope**

The *Contractor* will procure and install suitable monitoring equipment as per the manufacturer's requirements. The system shall feature meteorological equipment consisting of at least:

- 1x horizontal secondary-standard pyranometer
- 1x secondary-standard pyranometer in plane with the tracker

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

- Ambient temperature
- Module temperature
- Wind speed

All instruments shall have valid calibration certificates and shall re-calibrated (or replaced with calibrated units every two years) for the duration of the O&M period.

3.1.11 Monitoring system

3.1.11.1 Scope

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 should be integrated into the monitoring system. The meter shall be able to share the meter readings with a *client* defined third party.

The monitoring system must be designed and implemented in such a way to have a lifetime of 25 years. The monitoring system is to continuously measure and record meteorological data, electrical parameters and status of the PV plant components. Updated conglomerated data is to be available online at least every 15 minutes. The norm specifies that the sampling frequency should be at least one minute for the parameters varying directly with the sunlight and up to 10 minutes is allowed for the other parameters (e.g. temperature).

The monitoring system shall feature a UPS with 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
- Module temperature
- Ambient temperature
- Irradiation
- Tracker inclination
- Wind speed
- Energy output at the meter
- Status of the equipment (protection devices, inverters etc.)

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

3.1.12 Battery Energy Storage System (BESS)

This specification outlines the technical requirements for a Battery Energy Storage System (BESS) required for grid-scale energy storage applications. The BESS shall be capable of providing various grid services, including frequency regulation, peak shaving, load shifting, and renewable energy integration.

3.1.12.1 System Requirements**Energy Capacity**

- Usable Energy Capacity: >80% of the rated battery capacity
- Power Capacity: As indicated in the Price List
- Energy Density: >200 Wh/kg

Power Conversion System (PCS)

- Rated Power Output: As indicated in the Price List
- Power Factor: 0.8 lagging~0.8 leading
- Efficiency: >97.0%
- Response Time: <10.0ms
- Operational Modes:
 - Four-quadrant operation (active and reactive power control)
 - Grid-forming and grid-following capabilities

Battery System

- Battery Chemistry: Lithium Iron Phosphate (LiFePO₄)
- Cell Form Factor: Large Format heavy-duty prismatic cells of 200Ah each and 3.2V nominal voltage, laser welded electrode connections
- Battery Management System (BMS):
 - Cell voltage monitoring and balancing
 - Temperature monitoring and control
 - State of Charge (SOC) and State of Health (SOH) estimation
 - Fault detection and isolation
 - Communication with PCS and Energy Management System (EMS)

Energy Management System (EMS)

- Functions:
 - Real-time monitoring and control of BESS
 - Optimization of BESS operation for grid services
 - Forecasting and scheduling of BESS operation
 - Integration with SCADA and other grid management systems
 - Data logging and reporting
- Communication Protocols: [CAN-Bus, Modbus, DNP3, IEC 61850]

Enclosures and Environmental Conditions

- Enclosure Type: 3mm thick Aluminium, powder coated, tamper proof, indoor use
- Protection Rating: Minimum IP54, Optimally IP65
- Operating Temperature Range: -20°C to +60°C
- Cooling System: Natural convection, Air-cooled
- Fire Suppression System: External

Safety and Compliance

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

- Safety Standards:
 - UL 1973
 - UL 9540
 - IEC 62619
 - NFPA 855
- Protection: Shunt Trip Circuit Breaker sized to suit max current, can be tripped by BMS if critical fault, manual reset. Protection for overcurrent, cell under and over voltage, temperature, weak cell detection and other critical events
- Grid Code Compliance: NRS-097, NRS048, SANS 10142-1

Performance Requirements

- Round-Trip Efficiency: >96%
- Cycle Life: >16 years (>5 500 cycles) expected life at 80% DoD per cycle, >20 years (>7 500 cycles) at 50% DoD
- Response Time to Frequency Changes: <10 milliseconds

Warranty and Maintenance

- Warranty: 10 years or 4 000 cycles for average 80% DoD, and max 90% DoD
- Maintenance Requirements: As indicated in the preventive maintenance schedule and procedures

Testing and Commissioning

- Factory Acceptance Test (FAT): No
- Site Acceptance Test (SAT): Yes

Documentation

- Technical Manuals: Installation, operation and maintenance
- Drawings: Electrical schematics and mechanical layout
- Test Reports: FAT and SAT reports

Additional Requirements

- Remote Monitoring and Control: Yes
- Cybersecurity: Yes
- Integration with Renewable Energy Sources: Yes

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

3.1.13 SCADA System for Remote Monitoring and Control of Solar PV and BESS Installation**3.1.13.1 Introduction**

Purpose: This specification defines the technical requirements for a Supervisory Control and Data Acquisition (SCADA) system to remotely monitor, control, and optimize a solar photovoltaic (PV) power plant integrated with a Battery Energy Storage System (BESS).

Scope: The SCADA system shall encompass hardware, software, communication infrastructure, data acquisition, visualization, alarming, reporting, remote control capabilities, and cybersecurity features.

3.1.13.2 Objectives

- **Real-time Monitoring:** Provide continuous monitoring of all critical parameters of the PV and BESS systems, including power generation, voltage, current, temperature, and battery state of charge.
- **Remote Control:** Enable remote control of the PV and BESS systems, including power output adjustments, battery charging/discharging, and fault response.
- **Data Logging and Analysis:** Store historical data for performance analysis, troubleshooting, and regulatory compliance.
- **Alarm Management:** Generate alarms for abnormal operating conditions and enable automated responses to maintain system safety and reliability.
- **Reporting:** Generate customized reports for performance tracking, maintenance planning, and regulatory compliance.

3.1.13.3 System Architecture

Hardware Components:

- **Central SCADA Server:** High-performance server located at a secure control centre with redundant power supplies and hot-swappable components for reliability. Minimum specifications:
 - Dual Intel Xeon or equivalent processors
 - 32GB RAM
 - 1TB SSD RAID storage
 - Multiple Ethernet and serial ports
- **Remote Terminal Units (RTUs):** Ruggedized RTUs for field data acquisition and control located at the PV plant and BESS sites. Minimum specifications:
 - Protection rating of at least IP66
 - Wide operating temperature range (-40°C to +70°C)
 - Support for cellular, Ethernet, and other relevant communication protocols
- **Network Infrastructure:** Secure communication infrastructure for remote connectivity. Options include:
 - Cellular networks (4G/5G) with VPN for secure data transmission
 - Satellite communication for areas with limited cellular coverage
 - Fiber optic or wireless Ethernet for local area network (LAN) connections

Software Components:

- **SCADA Software:**
 - Proven track record in renewable energy applications with remote monitoring and control capabilities
 - Support for real-time data acquisition, visualization, and analysis
 - Advanced alarming and event management with remote notification
 - Historical data archiving and trending accessible remotely
 - Comprehensive reporting capabilities with remote access

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1).....
 SIGNED

2).....
 SIGNED

- Integration with BESS control systems for remote optimization
- Robust cybersecurity features (user authentication, access control, encryption)
- Operating System:
 - Windows Server or Linux-based OS with long-term support
 - Hardened for industrial environments and remote access

Communication Protocols:

- Modbus TCP/IP: Primary protocol for communication between SCADA server, RTUs, and field devices.
- IEC 61850: Support for IEC 61850 for interoperability with other substation automation systems.
- DNP3: Optional support for DNP3 for communication with utility systems.
- Other: Compatibility with any proprietary protocols used by the PV and BESS equipment.

3.1.13.4 Remote Monitoring

PV Plant Data:

- Real-time acquisition of:
 - PV array power, voltage, and current
 - Inverter power, voltage, current, and status
 - Meteorological data (irradiance, temperature, wind speed)
 - Combiner box data (voltage, current)
 - String monitoring data
- Calculation of:
 - PV plant energy yield
 - Inverter efficiency
 - Performance ratio
 - Availability

BESS Data:

- Real-time acquisition of:
 - Battery state of charge (SOC)
 - Battery voltage, current, and temperature
 - Battery converter power, voltage, and current
 - BESS status and operating mode
- Calculation of:
 - BESS energy throughput
 - Roundtrip efficiency
 - Battery life estimation
 - Remaining useful life (RUL)

3.1.13.5 Remote Control and Optimization

PV Plant Control:

- Inverter start/stop
- Active power control (curtailment, ramp rate control)
- Reactive power control (power factor correction)
- Inverter control (MPPT, anti-islanding)

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1).....
 SIGNED

2).....
 SIGNED

BESS Control:

- Charge/discharge control based on:
 - Time-of-use tariffs
 - Energy arbitrage
 - Frequency regulation
 - Voltage support
- Setpoint adjustments (e.g., SOC targets)
- Peak shaving
- Demand charge management

3.1.13.6 Alarming and Event Management

Alarm Prioritization: Categorization of alarms based on severity.

Remote Alarm Notification: Multiple notification channels (email, SMS, mobile app push notifications) to authorized personnel.

Event Logging: Detailed logging of events with timestamps, accessible remotely.

Remote Troubleshooting: Tools for analysing fault conditions and troubleshooting remotely.

3.1.13.7 Reporting**Standard Reports:**

- Daily, weekly, monthly, and annual energy yield reports.
- Performance ratio and availability reports.
- BESS performance reports (energy throughput, efficiency, RUL).

Customizable Reports: Ability to create custom reports based on specific requirements, accessible remotely.

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

3.1.13.8 Cybersecurity

Secure Remote Access: Strong authentication mechanisms (multi-factor authentication), encrypted communication channels, and role-based access control.

Intrusion Detection and Prevention: Implementation of intrusion detection systems (IDS) and intrusion prevention systems (IPS) to monitor and protect against cyber threats.

Regular Security Updates: Regular updates of SCADA software and firmware to address security vulnerabilities.

3.1.13.9 WiFi Network - System Overview:

The WiFi network will facilitate communication for the SCADA system, enabling:

- Real-time monitoring of PV generation, BESS state of charge (SOC), voltage, current, and environmental parameters.
- Remote control of inverters, battery management systems (BMS), and other intelligent electronic devices (IEDs).
- Data logging and analytics for performance optimization and maintenance scheduling.
- Secure data transmission to a centralized control center for fleet-wide oversight.

The network will connect:

- **Field Devices:** PV inverters, BESS BMS, meteorological stations, and sensors (e.g., voltage, current, temperature).
- **Remote Terminal Units (RTUs) or Programmable Logic Controllers (PLCs):** For data aggregation and local control.
- **Human-Machine Interface (HMI):** For on-site monitoring and control.
- **Centralized SCADA Server:** Hosted at a control center or cloud platform (e.g., ThingSpeak, Arduino Cloud) for remote access.

- Communication Infrastructure: WiFi access points, routers, and switches, with potential integration of cellular or fiber-optic backhaul for remote sites.

3.1.13.10 Network Requirements

3.1.13.10.1 General Requirements

- Coverage: WiFi coverage across each health facility, including outdoor areas housing PV panels and BESS units, typically spanning 0.5–2 hectares per site.
- Scalability: Support for 50–100 health facilities, with each site having 10–50 networked devices.
- Reliability: 99.9% uptime, with redundancy to handle equipment failures.
- Latency: <100 ms for real-time control commands and data updates.
- Bandwidth: Minimum 10 Mbps per site, supporting simultaneous data streams from multiple devices.
- Security: Compliance with IEC 62443 cybersecurity standards for industrial control systems.
- Environmental Resilience: Equipment rated for outdoor use, withstanding temperatures (-5°C to 45°C), humidity (10–90% RH), and dust/sand exposure common in the Western Cape.

3.1.13.10.2 Data Transmission Requirements

- Protocols: Support for Modbus TCP, MQTT, and HTTP for compatibility with SCADA and IoT platforms.
- Data Types:
 - Electrical parameters: Voltage, current, power (kW), SOC (%), frequency.
 - Environmental parameters: Solar irradiance (W/m²), ambient temperature (°C), module temperature (°C), wind speed (m/s).
 - Control signals: ON/OFF commands, setpoints for inverters and BMS.
- Data Frequency: Real-time updates every 1–5 seconds for critical parameters; historical data logged every 1–15 minutes.
- Data Volume: Estimated 1–5 MB per device per day, depending on sampling rate and parameter count.

3.1.13.11 WiFi Network Architecture

3.1.13.11.1 Network Topology

- Star Topology per Site: Each health facility will have a central WiFi access point (AP) or router connected to field devices via WiFi, with RTUs/PLCs acting as data concentrators.
- Mesh Extensions: For larger sites, WiFi mesh nodes will extend coverage to remote PV arrays or BESS units.
- Backhaul: Connection to the centralized SCADA server via:
 - Fiber-optic or ADSL for urban health facilities with reliable internet.
 - 4G/5G cellular modems for rural sites with limited wired infrastructure.
- Redundancy: Dual APs with automatic failover or redundant cellular backhaul to ensure continuous operation.

3.1.13.11.2 Network Components

3.1.13.11.2.1 WiFi Access Points (APs):

- Standard: IEEE 802.11ac (WiFi 5) or 802.11ax (WiFi 6) for high throughput and device density.
- Frequency Bands: Dual-band (2.4 GHz for range, 5 GHz for speed).
- Capacity: Support for 50+ concurrent devices per AP.
- Range: 100–300 meters (line-of-sight), extendable with mesh nodes or directional antennas.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

- Power: Power over Ethernet (PoE) or solar-powered with battery backup for remote installations.
- Example Models: Ubiquiti UniFi U6-Pro, Cisco Meraki MR56, or equivalent.

3.1.13.11.2.2 Routers/Switches:

- Type: Managed Layer 2/3 switches with VLAN support for network segmentation.
- Ports: Minimum 8 Gigabit Ethernet ports, with 2–4 PoE ports for APs.
- Features: Quality of Service (QoS) for prioritizing SCADA traffic, SNMP for network monitoring.
- Example Models: Cisco Catalyst 9200 Series, Netgear M4300.

3.1.13.11.2.3 Remote Terminal Units (RTUs)/PLCs:

- Connectivity: WiFi or Ethernet interface for communication with APs.
- Protocols: Modbus TCP, MQTT, DNP3.
- Example Models: Schneider Electric SCADAPack 300E, Siemens SIMATIC RTU3030C.

3.1.13.11.2.4 Cellular Modems:

- Standard: 4G LTE Cat 6 or 5G NR for backhaul.
- Features: Dual SIM for carrier redundancy, VPN support for secure tunneling.
- Example Models: Sierra Wireless AirLink RV55, Teltonika RUT950.

3.1.13.11.2.5 Network Management System:

- Cloud-based or on-premises controller for monitoring AP status, traffic, and device connectivity.
- Example: Ubiquiti UniFi Network Management Controller, Cisco DNA Center.

3.1.13.11.3 Network Segmentation

- VLANs:
 - VLAN 10: SCADA traffic (inverters, BMS, RTUs).
 - VLAN 20: Environmental sensors (meteorological stations).
 - VLAN 30: Management traffic (APs, routers).
 - VLAN 40: Guest/admin access (isolated from SCADA).
- Firewall Rules:
 - Restrict traffic between VLANs to authorized protocols (e.g., Modbus TCP, MQTT).
 - Block unauthorized external access to SCADA devices.

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

3.1.13.12 Security Specifications

- Encryption: WPA3-Enterprise for WiFi authentication and AES-256 encryption for data in transit.
- Authentication: 802.1X with RADIUS server for device and user authentication.
- Network Security:
 - Intrusion Detection System (IDS) to monitor for unauthorized access.
 - IPsec or OpenVPN for secure backhaul to the centralized SCADA server.
- Device Security:
 - Secure boot and firmware signing for APs and RTUs.
 - Regular security patches and updates.
- Compliance: Adherence to IEC 62443, NIST SP 800-82, and South African POPIA (Protection of Personal Information Act) for data privacy.

3.1.13.13 Environmental and Power Considerations

- IP Rating: APs and outdoor equipment rated IP65 or higher for dust and water resistance.

- Temperature Range: -20°C to 60°C to account for Western Cape climate variability.
- Power Supply:
 - Primary: Grid power with Uninterruptible Power Supply (UPS) for 4–8 hours of backup.
 - Secondary: Solar-powered with battery backup for remote or off-grid sites.
- PoE support for APs and RTUs to simplify cabling.
- Surge Protection: Lightning arrestors and surge protectors for equipment in lightning-prone areas.

3.1.13.14 Performance Specifications

- Throughput: Minimum 50 Mbps aggregate throughput per AP, supporting 10–50 devices.
- Latency: <50 ms for local WiFi communication, <100 ms end-to-end (including backhaul).
- Packet Loss: <0.1% under normal conditions.
- QoS: Prioritization of SCADA traffic (Modbus TCP, MQTT) over other data types.
- Monitoring: Real-time network performance monitoring via SNMP or proprietary tools.

3.1.13.15 Installation and Maintenance

- Site Survey:
 - Pre-installation RF survey to optimize AP placement and minimize interference.
 - Consideration of physical obstacles (buildings, trees) and RF noise from medical equipment.
- Installation:
 - Pole-mounted or wall-mounted APs for outdoor coverage.
 - Secure cabling (CAT6 or fiber) for backhaul connections.
- Maintenance:
 - Annual inspection of APs, routers, and cabling for wear and tear.
 - Remote firmware updates and configuration changes via network management system.
- Support:
 - 24/7 technical support with SLA for 4-hour response time.
 - Local service provider in Western Cape for on-site repairs.

3.1.13.16 Regulatory Compliance

- South African Standards:
 - ICASA (Independent Communications Authority of South Africa) regulations for WiFi spectrum usage (2.4 GHz and 5 GHz bands).
 - SANS 10400 for electrical and building safety.
- International Standards:
 - IEEE 802.11 for WiFi performance.
 - IEC 61850 for communication in power systems (if applicable).
 - IEC 62443 for cybersecurity in industrial automation.

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

3.1.13.17 Integration with SCADA System

- SCADA Software:
 - Compatibility with platforms like Ignition (Inductive Automation), Ovation Green (Emerson), or open-source solutions (e.g., Emoncms).
 - Support for cloud-based dashboards (e.g., ThingSpeak, Arduino Cloud) for real-time visualization.
- Device Integration:
 - Inverters: Support for major brands (e.g., SMA, Huawei, Sungrow) via Modbus TCP.

- BMS: Communication with BESS BMS for SOC, voltage, and temperature monitoring.
- Meteorological Stations: Integration of sensors for solar irradiance, temperature, and wind speed.
- HMI:
 - Local HMI at each facility for on-site monitoring and control.
 - Remote HMI access via secure VPN or web-based interface.

3.1.13.18 Additional Requirements

Data Backup and Recovery: Regular automated backups of SCADA data to a secure offsite location with a robust disaster recovery plan.

Training and Support: Comprehensive training for operators and maintenance personnel on SCADA system operation and maintenance, along with ongoing technical support.

Scalability: The SCADA system should be scalable to accommodate future expansion of the PV plant and BESS.

3.1.13.19 Tender Requirements

Compliance: The proposed SCADA system must comply with all relevant standards and regulations.

Documentation: Detailed technical documentation, including system architecture diagrams, user manuals, and maintenance manuals, must be provided.

References: Provide references of similar SCADA systems successfully implemented for remote monitoring and control of PV and BESS installations.

Warranty and Support: Offer a comprehensive warranty and support package for the SCADA system.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

3.1.14 Solar PV Carport Structure

This specification outlines the design, materials, construction, and performance requirements for a Solar PV carport structure designed to provide shaded parking while generating electricity from sunlight.

3.1.14.1 General Requirements

- Design and Engineering:
 - Structural analysis and design to ensure safety and compliance with local building codes and standards.
 - Electrical system design for efficient PV module integration and power generation.
 - Site-specific layout optimization for maximum solar exposure and parking capacity.
- Materials:
 - High-quality structural steel for the carport frame (e.g., galvanized steel or aluminium).
 - Corrosion-resistant fasteners and hardware.
 - Durable roofing material suitable for supporting PV modules (e.g., metal standing seam roofing).
 - High-efficiency monocrystalline or polycrystalline PV modules from reputable manufacturers.
 - Wiring, conduits, and electrical components meeting safety standards.
- Configurations:
 - Single Mono (Inclination angle: 5 to 10 degrees):
 - 3 in portrait using 72 cells
 - 4 in portrait using 60 cells
 - 6 in landscape for either 60 or 72 cells
 - Double Mono (Inclination angle: 5 to 10 degrees):
 - 6 in portrait using 72 cells
 - 7 in portrait using 60 cells
 - 12 in landscape for either 60 or 72 cells
 - East West – Butterfly:
 - 3 in portrait using 72 cells each wing
 - 4 in portrait using 60 cells each wing
 - 6 in landscape for either 60 or 72 cells each wing
 - East West-Sawtooth:
 - 1 in portrait using 72 cells each direction east-west
 - 2 in landscape using 72 cells each direction east-west
- Spans distances (Depending on the system loading):
 - 5m (2 parking bays)
 - 7,5m spans (3 parking bays)
- Construction:
 - Foundation design and installation (concrete footings or ground screws).
 - Erection of the carport frame and roof structure.
 - Installation of PV modules, wiring, and electrical equipment.
 - Integration with existing electrical infrastructure or grid connection.

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1).....
 SIGNED

2).....
 SIGNED

- Performance:
 - Specified minimum power output (kWp) based on site conditions and energy needs.
 - Expected annual energy production (kWh) based on solar irradiance data.
 - Monitoring system for tracking power generation and system performance.

3.1.14.2. Structural Requirements

- Load Capacity: Designed to withstand local wind loads and dead loads.
- Durability: Corrosion-resistant materials and coatings for a minimum 25 year service life.
- Maintenance: Easy access for cleaning and maintenance of PV modules.
- Safety: Compliance with electrical safety standards and grounding requirements.
- **Solar PV Car Port Material Specifications – Aesthetic (Option 1):** Single Mono, Double Mono & East West – Butterfly: The system is all aluminium from strut to girder to purlin to module clamp. The weight of the system not only makes construction easier for those onsite, but it also mitigates concerns on additional loading. The consistency of the product always delivers a higher degree of precision and desirable finished aesthetic.

Element	Section	Material	Tensile Strength	Finish / Corrosion Protection
Purlin	CE CAP2	6063 T6 Aluminium	200 MPa	Mill Finish
Girder	203x90.5 CE Aluminium Girder	6063 T6 Aluminium	200 MPa	Mill Finish
Strut	100x80 CE Aluminium Strut	6063 T6 Aluminium	200 MPa	Mill Finish
Foundation	Reinforced concrete with micro-pile	High Tensile Rebar Concrete	450 MPa 25 MPa	Off Shutter
Module Clamps	50mm clamp	6063 T6 Aluminium	200 MPa	Mill Finish
Connections	M20, M16, M10	Stainless Steel	8.8 specified	Stainless Steel

- **Solar PV Car Port Material Specifications – Economic (Option 2):** Single Mono, Double Mono, East West – Butterfly & East West-Sawtooth: The steel foundations of the structure are fixed into pre-drilled holes using concrete or connected to a base plate and chemically anchored to a concrete slab. All steel members are hot-dip galvanised to a thickness of 80 - 100µm. Aluminium purlins are used to ensure stiffer, yet lighter members. Only use S355 structural steel for the steel members.

Element	Section	Material	Tensile Strength	Finish / Corrosion Protection
Purlin	CE CAP2	6063 T6 Aluminium	200 MPa	Mill Finish
Girder	Cold Formed Lipped Channel	S355JR Structural Steel	350 MPa	100µm Hot-dip galvanised
Strut	Cold Formed Lipped Channel	S355JR Structural Steel	350 MPa	100µm Hot-dip galvanised
Module Clamps	50mm clamp	6063 T6 Aluminium	200 MPa	Mill Finish
Connections	M16, M10	Stainless Steel	8.8 specified	Stainless Steel

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30 1)..... SIGNED 2)..... SIGNED	
---	--

- **Solar PV Car Port Material Specifications – Heavy Duty (Option 3):** Single Mono, Double Mono & East West – Butterfly: Large I sections are used as girders to reduce the deflection at the end of each cantilever. The H section struts are cast in concrete below the surface to ensure the overturning moments are adequately catered for. Both the girder and the strut are hot rolled steel.

Element	Section	Material	Tensile Strength	Finish / Corrosion Protection
Purlin	CE CAP2	6063 T6 Aluminium	200 MPa	Mill Finish
Girder	UB 305x165x40	S355JR Structural Steel	350 MPa	100µm Hot-dip galvanised
Column	UC 203x203x46	S355JR Structural Steel	350 MPa	100µm Hot-dip galvanised
Foundation	Reinforced concrete with micro-pile	High Tensile Rebar Concrete	450 MPa 25 MPa	Off Shutter
Module Clamps	50mm clamp	6063 T6 Aluminium	200 MPa	Mill Finish
Connections	M22, M10	Stainless Steel	8.8 specified	Stainless Steel

3.1.14.3. Electrical Requirements

- PV Modules:
 - Minimum efficiency rating (e.g., 18% or higher).
 - Warranty terms from the manufacturer.
 - Certifications (e.g., SANS, IEC, UL).
- Inverters:
 - Type (string inverters, micro-inverters, or central inverters).
 - Efficiency rating.
 - Maximum power point tracking (MPPT) capability.
- Electrical Balance of System (BOS):
 - Wiring, combiner boxes, disconnects, and protection devices.
 - Monitoring system with data logging and remote access capabilities.

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

3.1.14.4. Performance Requirements

- Power Output: Minimum kWp rating to meet energy goals.
- Energy Production: Estimated annual kWh production based on site assessment.
- Monitoring: System monitoring for performance analysis and fault detection.

3.1.14.5. Additional Features

- Energy Storage: Battery system for storing excess energy for later use.
- Lighting: Energy-efficient LED lighting for nighttime illumination.

3.1.14.6. Warranty and Maintenance

- Structural Warranty: Minimum warranty period for the carport structure (25 years for the structural steel installation).
- PV Module Warranty: Warranty terms from the module manufacturer (25 years for performance and 20 years for product).
- Inverter Warranty: Warranty terms from the inverter manufacturer (minimum 10 years).
- Maintenance Plan: Outline of recommended maintenance procedures and schedule.

3.1.14.7. Acceptance Criteria

- Structural Inspection: Verification of structural integrity and load-bearing capacity.
- Electrical Testing: Verification of proper electrical connections and system performance.

- Performance Verification: Meeting the specified power output and energy production targets.

3.1.14.8. References and Standards

- Local building codes and standards:
 - SANS 10400 – National Building Regulations
- Structural codes and standards:
 - SANS 10160-1 – Basis of Structural Design
 - SANS 10160-2 – Self-weight and Imposed Loads
 - SANS 10162-1 – Structural Use of Steel
 - SANS 10100-0 – Structural Use of Concrete (for the foundations)
 - ISO 1461 - Hot dip galvanized coatings
 - Eurocode 9 – Design of aluminium structures
- Electrical & safety standards:
 - NRS-097
 - NRS048
 - SANS 10142-1
 - IEC 60364.
- PV module and inverter certifications.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

3.1.15 Modified Shipping Container for Inverters and BESS installations

Solar PV, Inverter and BESS Installations at Healthcare Facilities, Western Cape, South Africa

3.1.15.1 Introduction

This specification defines the design, construction, and outfitting of a modified shipping container to serve as a secure, environmentally controlled enclosure for inverters and Battery Energy Storage System (BESS) equipment supporting Solar Photovoltaic (PV) installations at health facilities in the Western Cape, South Africa. The container is engineered to ensure reliable operation, safety, and integration with a SCADA system for remote monitoring and control, while complying with South African regulatory standards and environmental conditions.

3.1.15.2 System Overview

The modified shipping container will house:

- Inverters: Convert DC power from PV panels to AC power for health facility use or grid export.
- Battery Energy Storage System (BESS): Lithium-ion or equivalent batteries with Battery Management System (BMS) for energy storage and dispatch.
- Ancillary Equipment: Electrical panels, cooling systems, fire suppression, and communication devices for SCADA integration.
- Cabling and Connectivity: Internal wiring and interfaces for WiFi-based SCADA communication.

The container will be deployed at health facilities as required, typically in outdoor environments, and must withstand the Western Cape's climate (temperature range: -5°C to 45°C, high humidity, occasional dust storms, and lightning).

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

3.1.15.3 Container Requirements**3.1. General Requirements**

- Base Container: ISO-standard 20-foot or 40-foot high-cube shipping container (dimensions: 6.1m/12.2m L x 2.44m W x 2.89m H).
- Capacity: Support for 50–250 kW of inverter capacity and 100–500 kWh of BESS capacity per container, depending on facility size.
- Durability: Minimum 20-year service life with regular maintenance.
- Modularity: Standardized design for scalability across 10–40 health facilities.
- Compliance: Adherence to South African National Standards (SANS), International Electrotechnical Commission (IEC) standards, and local building codes.

3.2. Environmental Requirements

- Temperature Range: -20°C to 60°C (accounting for internal heat generation).
- Humidity: 10–95% RH, non-condensing.
- Ingress Protection: IP54 or higher for dust and water resistance.
- Corrosion Resistance: Suitable for coastal environments with high salinity (e.g., Cape Town).

3.1.15.4 Container Design and Modifications**3.1.15.4.1. Structural Modifications**

- Base Material: Corten steel with reinforced frame to support equipment weight (up to 10 tons for BESS and inverters).
- Insulation:
 - Walls and ceiling insulated with 50–100 mm polyurethane foam or mineral wool (R-value $\geq 3.5 \text{ m}^2 \cdot \text{K/W}$).

- Thermal reflective coating on exterior to reduce solar heat gain.
- Flooring:
 - Reinforced steel floor with anti-slip, non-conductive epoxy coating.
 - Raised false floor (150–200 mm) for cable management and air circulation.
- Doors:
 - Double-leaf, lockable steel doors with weatherproof seals.
 - Secondary personnel door for maintenance access.
 - Anti-tamper locks and intrusion alarms.
- Ventilation Openings:
 - Louvered vents with insect screens and dust filters.
 - Forced ventilation via exhaust fans (see Section 4.4).
- Roof:
 - Reinforced to support HVAC units or solar panels (if used for auxiliary power).
 - Lightning protection system with grounding rods.

3.1.15.4.2. Internal Layout

- Zoning:
 - Inverter Zone: Modular racks for 2–6 inverters (e.g., ATESS, SMA, Sungrow).
 - BESS Zone: Battery racks with seismic bracing, spaced per manufacturer specifications (e.g., 600 mm clearance for lithium-ion batteries).
 - Control Zone: Electrical panels, BMS, and communication equipment.
 - Access Zone: Clear walkways (minimum 800 mm wide) for maintenance.
- Cable Management:
 - Cable trays and conduits for power, control, and communication cables.
 - Segregation of AC and DC cabling to prevent electromagnetic interference.
- Lighting:
 - LED lighting (250–300 lux) with motion sensors.
 - Emergency lighting with 2-hour battery backup.

3.1.15.4.3. Electrical System

- Power Supply:
 - Input: 400V AC, 3-phase from PV system or grid.
 - Auxiliary: 230V AC single-phase for lighting, cooling, and communication equipment.
 - Backup: Uninterruptible Power Supply (UPS) with 2–4 hours capacity for critical systems.
- Distribution:
 - Main distribution board (MDB) with circuit breakers for inverters, BESS, and ancillaries.
 - Surge protection devices (SPDs) compliant with SANS 61643-11.
- Grounding:
 - Earthing system with copper grounding rods and busbars, compliant with SANS 10142-1.
 - Equipotential bonding for all metallic components.
- Monitoring:
 - Smart energy meters for real-time monitoring of power consumption and output.
 - Integration with SCADA via Modbus TCP or MQTT.

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

3.1.15.4.4. Cooling and Ventilation

- Cooling System:
 - Industrial-grade air conditioning units (7–20 kW cooling capacity, depending on container size).
 - Redundant units with automatic failover.
 - Temperature control range: 20–25°C to protect BESS and inverters.
- Ventilation:
 - Exhaust fans (500–1000 CFM) for air circulation and heat dissipation.
 - Temperature and humidity sensors for automated fan control.
- Energy Efficiency:
 - Variable frequency drives (VFDs) for cooling units to optimize power consumption.
 - Solar-powered auxiliary cooling for off-grid operation.

3.1.15.4.5. Fire Safety

- Fire Detection:
 - Smoke and heat detectors with audible alarms.
 - Integration with SCADA for remote alerts.
- Fire Suppression:
 - Automatic clean-agent fire suppression system (e.g., FM-200 or Novec 1230) suitable for lithium-ion battery fires.
 - Manual fire extinguishers (CO2 and dry powder) mounted internally.
- Compliance: SANS 10400 Part T (Fire Protection) and NFPA 855 (Standard for Energy Storage Systems).

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

3.1.15.4.6. Communication and SCADA Integration

- Connectivity:
 - Internal WiFi access point (IEEE 802.11ac/ax) for SCADA communication, per previous network specification.
 - Ethernet switch with 4–8 Gigabit ports for wired connections to inverters and BMS.
- Protocols: Modbus TCP, MQTT, DNP3 for data exchange with SCADA system.
- Interfaces:
 - RS-485 or Ethernet ports for inverter and BMS communication.
 - USB or serial ports for local diagnostics.
- Monitoring:
 - Local HMI panel (touchscreen, 7–10 inches) for on-site monitoring.
 - Remote access via secure VPN or cloud-based SCADA platform.

3.1.15.5 Environmental and Safety Specifications

- IP Rating: IP54 for container exterior; IP20 for internal electrical components.
- Seismic Rating: Designed for seismic zone II (Western Cape), per SANS 10160.
- Noise Level: <60 dB at 1 meter from container, to minimize disturbance in health facility environments.
- Safety Features:
 - Emergency stop buttons at entry points.
 - Warning signage for high voltage and fire hazards (SANS 1186 compliant).
 - Anti-slip flooring and handrails for maintenance access.

3.1.15.6 Installation and Transport

- Transport:
 - Standard ISO container dimensions for compatibility with road and rail transport.
 - Lifting points and forklift slots for easy handling.
- Site Preparation:
 - Concrete foundation (150–200 mm thick) with leveling for stability.
 - Minimum 2-meter clearance around container for ventilation and access.
- Installation:
 - Crane or forklift for placement.
 - Connection to PV array, grid, and SCADA network within 48 hours of delivery.
- Commissioning:
 - Functional testing of inverters, BESS, cooling, and communication systems.
 - Verification of SCADA integration and remote monitoring.

3.1.15.7 Maintenance and Support

- Maintenance Schedule:
 - Quarterly inspection of cooling, fire suppression, and electrical systems.
 - Annual structural integrity and corrosion checks.
 - Battery maintenance per manufacturer guidelines (e.g., cell balancing, capacity testing).
- Remote Monitoring:
 - Real-time diagnostics via SCADA for temperature, humidity, and equipment status.
 - Alerts for faults or maintenance needs.
- Support:
 - 24/7 technical support with 4-hour response time (SLA).
 - Local service provider in Western Cape for on-site repairs.

3.1.15.8 Regulatory Compliance

- South African Standards:
 - SANS 10142-1: Wiring of Premises.
 - SANS 10400: National Building Regulations.
 - SANS 61643-11: Surge Protection Devices.
 - SANS 1186: Symbolic Safety Signs.
- International Standards:
 - IEC 62109: Safety of Power Converters (Inverters).
 - IEC 62619: Safety Requirements for Lithium-ion Batteries.
 - IEC 62477: Safety for Power Electronic Converter Systems.
- Environmental Compliance:
 - Compliance with National Environmental Management Act (NEMA) for waste management and recycling.
 - Hazardous materials handling for battery disposal (per SANS 10234).

**3.1.15.9 Scalability**

- Standardized design allows replication across multiple health facilities.
- Modular internal layout supports upgrades (e.g., additional batteries or inverters).

3.1.15.10 References

- SANS 10142-1: The Wiring of Premises.
- IEC 62619: Secondary Cells and Batteries Containing Alkaline or Other Non-acid Electrolytes.
- NFPA 855: Standard for the Installation of Stationary Energy Storage Systems.
- Western Cape Department of Health Guidelines for Infrastructure.
- SCADA System Architecture for Solar PV and BESS.

WESTERN CAPE GOVERNMENT: HEALTH	
DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

3.2 Particular (Project) Specifications**3.2.1 General**

Information regarding the scope of the project, the site, alterations and additions to the General Specification and other aspects relevant to the construction are given below.

Tenderers must take due cognisance of these and tender rates must make provision for any additional costs due to the factors mentioned.

Notwithstanding the information given, it remains the responsibility of the Tenderer to ascertain the actual conditions on site before submitting the cost for the Task Order.

Tenderers should notice that rates are requested for alternative items as well which might not necessarily be installed.

3.2.2 Supply authority

The electrical supply authority is City of Cape Town (or specific municipality in which the project site is located) or Eskom.

3.2.3 Other contractors

The successful tender shall be notified of future construction activity.

3.2.4 Description of the proposed SPV Generator**3.2.4.1 Power inverters and controllers**

These shall be, inter alia, ATESS / SMA / Megarevo / SolarEdge / Sungrow / Sunsynk / Goodwe, or equivalent accepted and approved.

All power inverters shall be supplied according to the respective standardised specifications listed.

3.2.4.2 Inverter cabin

A rate is requested for an inverter cabin, if necessary, to be installed on the array field for the accommodation of the inverters, control equipment, inverter-type air conditioner, energy efficient interior lighting and electrical distribution to the main distribution board.

The option to install the inverters inside the building, if a saving can be realised, will also be considered once the tendered rates are available. This option will be further investigated in conjunction with the *Contractor*.

3.2.4.3 Solar Photovoltaic panels

The preferred PV panels will have anti potential-induced degradation properties.

All solar photovoltaic modules shall be constructed, supplied and delivered as mentioned in the standardised specifications and Technical specifications.

Poly-crystalline type modules shall be used in this contract with a maximum power output of 555Wp and 570Wp. The solar module should facilitate corner drainage. Only Grade A / Tier 1 panels, the highest grade, will be considered.

3.2.4.4 Ground mounted structures for the PV array

The *Contractor* will be responsible for the submission of a suitable PV module mounting structure design and allowance shall be made for two different footing arrangements namely, drilled footings if the soil bearing pressure permits and concrete footings as an alternative.

The *Contractor* shall submit his design, with calculations, for the two types of footings to the *Engineer* for evaluation and approval prior to the purchase of materials. Only one type of footings will be utilised will be utilised based on the soil bearing pressure and the proposed footing arrangement submitted by the *Contractor*.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

Detailed drawings shall also be submitted indicating earthing and bonding arrangement of the PV modules to the underground earthing system.

The design and calculations must correspond with the standard and technical specifications as stipulated in this tender document.

3.2.4.5 String and sub-string boxes

String boxes should correspond to the standardised and technical specifications as listed. Provision should be made for all positive and negative inputs and outputs.

The positive inputs shall be fitted with suitably rated fused isolators.

The outputs shall be fitted with a 2 pole DC isolator suitably rated and the output terminals shall be fitted with suitable surge protection devices connected to the earthing system.

3.2.5 LV cable reticulation

3.2.5.1 General

The LV cables are used for the cable interconnections in between solar modules, the connection of PV string boxes, supply cables for the DC input side and AC output side of the inverter. Only the AC cables, terminations and BCEC necessary are measured in the Schedule of Quantities and a rate, based on the total kWp installed, is requested for all DC cabling, surge protection, string boxes and ancillary equipment.

3.2.5.2 Cables and BCEC

All low voltage cables shall be SWA PVC Cu cables for the AC reticulation and single core DC cables without armouring as per SANS 1507-3. The required AC cable sizes will be as shown on the applicable drawing whilst the *Contractor* shall submit his DC cable design, with calculations, to the *Engineer* for evaluation and approval prior to the purchase of materials.

An annealed and stranded conductor of high conductivity Cu with cross diameter as indicated on the drawings shall be installed alongside the full route length of all AC LV cables and bonded to the PV array and steel structure. The insulated earth conductor shall terminate onto the PV array mounting structure and earth studs by means of a suitably sized crimped lug and solidly bolted.

3.2.5.3 Terminations

Cables in DC installations shall be terminated by means of suitable PVC cable glands DC cables at string boxes and at inverters. Stainless steel cable glands complete with rubber seal are to be fitted where cables are terminated on an AC distribution board.

3.2.6 Low voltage AC distribution board

Allowance shall be made for the supply and installation of a new LV cable feeder between the load side of the change-over switch and distribution board in the building via the proposed inverter installation.

3.2.7 Earthing

Earthing shall be done according to the General Technical Specifications.

An earth mat consisting of 10 mm² solid copper conductor is required on the platform on which the PV panels and mounting structures will be installed. All joints shall be done by means of a Cadweld® process.

The steel wire armouring of cables must be bonded to the earth bar at the AC distribution boards.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

The solar photovoltaic generator (solar module array, mounting structure and inverters) shall be bonded to the underground earthing network by means of insulated earth conductor installed in galvanized water pipes, where applicable, on the positions as shown.

Copper rods 16mm² in diameter and 600mm in length shall be used in conjunction with the earth mat to obtain an earth resistance reading of less than 2 Ohm.

PV string boxes inverters and distribution boards should also be bonded to the same earthing network to ensure the safety of personnel and maintenance workers during fault conditions.

3.2.8 Inspections, testing, commissioning and handing over

3.2.8.1 Physical inspection procedure

- a) Once the *Contractor* has completed the installation, written notice shall be given to the *Client* in order that a mutually acceptable date can be arranged for a joint inspection.
- b) During the course of the inspection, the *Engineer* will compile a list of items (if any) requiring further attention. A copy of this list will be provided to the *Contractor* who will have a period of 7 days in which to rectify the offending items of the installation.
- c) The *Contractor* shall then provide written notice that he is ready for an inspection of the remedial work to the offending items.
- d) This procedure will continue until the entire installation has been correctly completed to the satisfaction of the *Client*.

3.2.8.2 Testing and operational inspection procedure

- a) In addition to the above the *Contractor* shall have the complete installation tested and approved by the *Engineer* where applicable.
- b) Subsequent to the above testing and approval, the *Contractor* shall in the presence of the *Engineer* test all circuits relays and equipment for proper functioning and with respect to:
 - (i) Phase balance.
 - (ii) Insulation level.
 - (iii) Polarity.
- c) The *Engineer* has the right to call for, or to execute, any reasonable additional tests that may be necessary to render proof of the specification requirements having been met. The *Contractor* shall render all the necessary assistance to have such tests carried out without delay.
- d) All tests shall be carried out in the presence of the *Engineer* and the costs shall be included in the unit prices for the installation thereof.

3.2.8.3 Commissioning and training of the *Client*'s personnel

On completion of the works the *Contractor* shall commission all the equipment installed to ensure proper and safe functioning. This commissioning will be done in the presence of the *Engineer* and the *Client*'s representatives in charge of the operation of this system. At least two representatives will be nominated for induction and operational training to be provided by the *Contractor* at no additional costs.

3.2.8.4 "As built" drawings and completion documentation

- a) The *Contractor* shall provide the *Client* with as-built drawings showing the all sizes and the exact location measured from fixed points of all electrical equipment, cable routes, supporting structures, updated site layout, cables, wiring diagrams, schematic diagrams, etc.
- b) Three complete sets of the "As built" drawings and documentation shall be handed to the *client*.
- c) The safety posters as required by the OHSa shall be permanently mounted inside substation buildings and on the outside of all housings of electrical equipment.

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1).....
 SIGNED

2).....
 SIGNED

- d) The Health and Safety file containing all documentation as required in the Construction Regulations promulgated under the OHSA. All commissioning testing information shall also be filed on this file.
- e) In addition, a complete reticulation diagram showing all supply cables and switchboards shall be provided behind a plastic cover in the substation or adjacent to the Main Switchboard if not located in a substation as well as a schematic diagram of the main supply system.
- f) Copies of all Certificates of Compliance of the completed projects shall be handed over to the *Client*.
- g) Brochures of all equipment supplied must be provided for record purposes.

3.2.8.5 Clearing up and vacating of site

After completion of the Contract and after approval has been obtained from the *Engineer*, the *Contractor* shall remove everything he has brought to the site or has handled in the execution of the Contract, and shall leave the site in a clean and neat condition to the satisfaction of the *Engineer*.

3.2.8.6 Operating & Maintenance

Preventative and corrective maintenance to be carried out by the *Contractor* over a period of 36 months after Task Order Completion.

3.2.8.7 Final handover of the project to the client

The installation shall be formally handed over to the *Client* on completion by means of a written hand over certificate.

The installation will not be regarded as complete and handed over to the *Client* until all the above requirements have been met.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT

Scope

4. Constraints on Providing the Service

All *Contractor's* staff requiring regular access to the site will require access permits and valid identification. The *Contractor* shall submit to the *Client* a full list of all staff (including subcontractors) who will access the site.

Once a permit is in-hand, *Contractor's* staff and Subcontractors' staff may access the site freely as per time table schedule below. Access outside of these times and on weekends and public holidays will require prior arrangement with the *Engineer*.

Special security clearance by SAPS may be required for all staff members working at designated key points. Timeous arrangements shall be made as the application process may take considerable time. Only staff member without any criminal records shall be considered for the application and will be allowed to enter the site.

The *Contractor* will need to ensure that disturbances at each building during project construction are kept to minimum and reasonable levels. This may require that certain activities be performed outside of regular building business / operating hours.

Schedule of Business Hours

Facility / Building type	Weekday Business Hours	Weekend Business Hours
Commercial Facilities	07h00 – 18h00	09h00 – 16h00
Healthcare Facilities	07h00 – 17h00	09h00 – 13h00

Some of the proposed sites also contain existing equipment such as chillers and air-conditioning condensing units including associated refrigerant and chilled water piping and electrical lines, ventilation exhaust systems, and communications equipment. Care must be taken to ensure that services of existing systems are not unreasonably disrupted during construction activities.

The *Contractor* shall communicate with the *Client* and receive approval prior to any planned disruption to existing services. Sufficient clearance space should be provided between existing HVAC equipment and the proposed solar PV arrays to ensure that maintenance activities can be performed on existing HVAC systems without the need to disconnect the PV system or remove PV modules.

Most work takes place on the building rooftop levels. However, the *Contractor* should take the surrounding area into consideration when transporting and offloading of equipment for the purpose of this contract.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30 1)..... SIGNED		2)..... SIGNED
--	--	-------------------

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT

Scope

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

5. Requirements for the plan

- 5.1 The *Contractor* submits a first programme to the *Client* for acceptance within **two weeks** of the *starting date*, or within **one week** of the start date of a Task Order, as applicable.
- 5.2 The *Contractor* shows on each programme which he submits for acceptance
- the starting date, access date/s and the Completion Date,
 - planned Completion,
 - the order and timing of the operations which the *Contractor* plans to do in order to Provide the Service,
 - the order and timing of the work of the *Client* and others as last agreed with them by the *Contractor* or, if not so agreed, as stated in this Scope,
 - the dates when the *Contractor* plans to complete work needed to allow the *Client* and others to do their work,
 - provisions for
 - float,
 - time risk allowances,
 - health and safety requirements and
 - the procedures as set out in this contract,
 - the dates when, in order to Provide the Service in accordance with this programme, the *Contractor* will need
 - access to a part of the site if later than its access date,
 - acceptances,
 - Plant and Materials and other things to be provided by the *Client* and,
 - information from others,
 - for each operation, a statement of how the *Contractor* plans to do the work identifying the principal Equipment and other resources which he plans to use and
 - other information which this Scope requires the *Contractor* to show on a programme submitted for acceptance.
- 5.3 Within two weeks of the *Contractor* submitting a programme to him for acceptance, the *Client* either accepts the programme or notifies the *Contractor* of his reasons for not accepting it. A reason for not accepting a programme is that
- the *Contractor's* plans which it shows are not practicable,
 - it does not show the information which this contract requires,
 - it does not represent the *Contractor's* plans realistically or
 - It does not comply with the Scope.
- 5.4 When revising the programme, the *Contractor* shows on each revised programme
- the actual progress achieved on each operation and its effect upon the timing of the remaining work,
 - the effects of implemented compensation events,
 - how the *Contractor* plans to deal with any delays and to correct notified Defects and
 - any other changes which the *Contractor* proposes to make to the currently accepted programme.
- 5.5 The *Contractor* submits a revised programme to the *Client* for acceptance
- within the period for reply after the *Client* has instructed him to,
 - when the *Contractor* chooses to and, in any case,
 - at no longer than an interval of every four weeks from the *starting date* until Completion of the service or a Task Order as applicable.
- 5.6 Acceptance of any programme where anticipated Task Completion is shown to be later than the Task Completion Date, does not alter the Task Completion Date nor negate the *Contractor's* liability for *delay damages*.

- 5.7 All compensation event claims for events arising after the Task Completion Date which would not have had any effect if the Task had been completed by the Task Completion Date, remain the *Contractor's* risk.
- 5.8 All float in the programme shall be available for the *Client's* benefit to absorb delays to the Task Completion Date when assessing compensation events, except for termination float (if any) in the programme. Termination float is the final portion of float in a programme where anticipated Task Completion is programmed to be earlier than the Task Completion Date.

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1).....	2).....
SIGNED	SIGNED

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT

Scope

6. Services and other things provided by the *Client*

No services and other things provided by the *Client*.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT

Scope

7. Property affected by the service

Properties affected by the service will be identified in a Task Order.

WESTERN CAPE GOVERNMENT: HEALTH	
DIRECTORATE: SUPPLY CHAIN	
(INFRASTRUCTURE SOURCING)	
BID OPENED 11:00	
2025-07-30	
1).....	2).....
SIGNED	SIGNED

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT

Scope

SCHEDULE 12: Contract information required from Contractor

The *Client* requires the following information pertaining to the work for this contract to be furnished at the time of tender. The tenderer must provide ALL the information as stipulated in this schedule.

IMPORTANT – PLEASE NOTE: The information below is required for tender evaluation and adjudication purposes. Failure to provide ALL the information items below may lead to bid disqualification, if it renders the evaluation process ambiguous.

12.1 LOCAL OFFICE

The Service provider shall have an office based in Cape Town (with physical address located within 65km of 4 Dorp Street, Cape Town) that is well established and operational for longer than 5 years.

Proof shall be provided that the tendering entity has an established physical business address within the Western Cape.

Proof can be, inter alia, but is not limited to, a Municipal Rates and Taxes bill addressed to the tendering entity at the tendering entity's business address.

Note that virtual offices, and/or "e-offices" are not considered to be physical business addresses.

Details of the physical location of established office in the Western Cape:

Business Name :

Building / Premises Name :

Street Address 1 :

Street Address 2 :

Suburb :

Town / City :

Province :

Country :

Building Owned / Rental :

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1)..... 2).....
SIGNED SIGNED

12.2 GUARANTEED DELIVERY TIMES

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-301).....
SIGNED2).....
SIGNED

Weeks

- | | | |
|-----|--|-------|
| 1. | Site Establishment | ..... |
| 2. | Solar Photovoltaic panels | ..... |
| 3. | DC~AC Power inverters | ..... |
| 4. | Sub-string and string boxes | ..... |
| 5. | Battery Energy Storage System (BESS) | ..... |
| 6. | Rooftop Mounting Structure | ..... |
| 7. | Solar PV Carport structure | ..... |
| 8. | DC cables | ..... |
| 9. | AC cables | ..... |
| 10. | Distribution Boards and protection equipment | ..... |
| 11. | Other | ..... |

12.3 POLYCRYSTALLINE SOLAR PHOTOVOLTAIC PANELS (Only Grade A will be accepted)

1. PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC)

- | | |
|--|---------------|
| a) Maximum power | : Pmax.....Wp |
| b) Open circuit voltage | : Uoc.....V |
| c) Maximum power point voltage | : Umpp.....V |
| d) Short circuit current | : Isc.....A |
| e) Maximum power point current | : Impp.....A |
| f) Warranty: 5 / 10 / 15 / 20 / 25 years | : |

2. DIMENSIONS

- | | |
|-----------|-----------|
| a) Length | :mm |
| b) Width | :mm |

- c) Height :mm
- d) Frame :material
- e) Weight :kg

3. COMPONENTS MATERIALS

- a) Cells per module :
- b) Cell type :
- c) Cell dimensions :
- d) Front :

4. THERMAL CHARACTERISTICS

- a) NOCT :°C
- b) TC I_{sc} :%/K
- c) TC U_{oc} :%/K
- d) TC P_{mpp} :%/K

5. ADDITIONAL DATA

- a) Power sorting :Wp
- b) Junction Box :
- c) Connectors :

6. PARAMETERS FOR OPTIMAL SYSTEM INTEGRATION

- a) Maximum system voltage SC II :V
- b) Maximum reverse current :A
- c) Load/dynamic load :kN/m²
- d) Number of bypass diodes :
- e) Operating range :°C to°C

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30 1)..... 2)..... SIGNED SIGNED	
---	--

12.4 SUB-STRING AND STRING BOXES

1. Voltage Specifications

- a) Maximum sting input voltage : VDC
- b) Maximum input fuse voltage : VDC
- c) Maximum output voltage : VDC

2. Current Specifications

- a) Maximum sting input current :ADC
- b) Maximum input fuse current :ADC
- c) Maximum continuous output current :ADC
- d) Short Circuit Current :ADC

3. Protection and Surge Devices

- a) Surge arrestor Manufacturer & Class :
- b) Overload protection :
- c) IP Rating :
- d) Earth bar :(L x mm²)

4. Physical Properties

- a) Enclosure material :
- b) Dimensions (W x H x D) : mm
- c) Weight :kg
- d) String Inputs
- i) Amount of Inputs (Positive / Negative) :
- ii) Gland size : mm
- iii) Cable size (Positive / Negative) : mm²
- iv) Positive terminal Torque : N.m
- v) Negative terminal Torque :N.m

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

e) String Outputs

- i) Amount of Outputs (Positive / Negative) :.....
- ii) Gland size :..... mm
- iii) Cable size (Positive / Negative) :..... mm²
- iv) Positive terminal Torque :..... N.m
- v) Negative terminal Torque :.....N.m

f) Fixing/ Mounting Harness Material :.....

12.5 BATTERY ENERGY STORAGE SYSTEM (BESS) – (of a 300kWh full capacity rated BESS)

1. General Performance

- a) Usable Energy Capacity (% of total rated capacity) :.....
- b) Round-Trip Efficiency (%) :.....
- c) Response Time (ms) :.....
- d) Operating Voltage Range (V) :.....

2. Battery Specific Performance

- a) Battery Chemistry :.....
- b) Cycle Life :.....
- c) Depth of Discharge (DoD) (%) :.....
- d) Calendar Life :.....
- e) State of Charge (SoC) Window (%) :.....

3. Performance Parameters

- a) Ramp Rate (kW/s or MW/s) :.....
- b) Frequency Response Capability :.....
- c) Active Power Control :.....
- d) Reactive Power Control :.....

4. Environmental and Safety

- a) Operating Temperature Range (°C) :.....
- b) Cooling System :.....
- c) Safety Certifications :.....

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30 1)..... SIGNED 2)..... SIGNED	
---	--

- d) Fire Suppression System :.....
- 5. Monitoring and Communication
 - a) Battery Management System (BMS) :.....
 - b) Remote Monitoring :.....
 - c) Communication Protocols :.....
- 6. Additional requirements
 - a) Warranty :.....
 - b) Maintenance :.....
 - c) Performance Guarantees :.....

12.6 SCADA SYSTEM FOR REMOTE MONITORING & CONTROL

- 1. System Architecture and Hardware
 - a) Scalability :.....
 - b) Redundancy :.....
 - c) Compatibility :.....
 - d) Cybersecurity :.....
- 2. Communication and Protocols
 - a) Protocol Support :.....
 - b) Network Connectivity :.....
 - c) Remote Access :.....
 - d) Data Logging and Archiving :.....
- 3. Data Acquisition and Monitoring
 - a) Real-time Monitoring :.....
 - b) Alarms and Events :.....
 - c) Historical Trending :.....
 - d) Performance Reporting :.....

4. Control and Optimization

- a) Remote Control :.....
- b) Setpoint Management :.....
- c) Demand Response :.....
- d) Predictive Analytics :.....

5. Visualization and User Interface

- a) Intuitive Interface :.....
- b) Mobile Accessibility :.....
- c) Multi-User Access :.....

6. Warranty and Support

- a) Warranty :.....
- b) Maintenance :.....
- c) Technical Support :.....

12.7 DC CABLES (for typical 200kWp installation)

1. Electrical characteristics

- a) Voltage:
- i) Rated Voltage Rating :.....V
- b) Current rating :
- i) Installed in sleeves :.....A
- ii) Installed on cable tray :.....A
- c) 1s Short circuit rating :.....kA
- d) 1Ø Voltage drop :.....mV/A/m

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

2025-07-30

1).....
SIGNED

2).....
SIGNED

2. Physical properties

a) Conductor:

- i) Material :.....
- ii) Number of cores :.....
- iii) Amount of strands per core :.....
- iv) Cross-Sectional Area :.....mm²
- v) Conductor diameter :.....mm
- vi) Resistance @ 20°C Maximum :.....Ω/km

b) Outer sheath:

- i) Material used :.....
- ii) Average thickness :.....

c) Inner Sheath Insulation

- i) Material used :.....
- ii) Average thickness :.....

d) Ultra Violet Protection

- i) Technology implemented :.....

12.8 AC CABLES (for typical 200kWp installation)

1. Electrical characteristics

a) Voltage:

- i) Rated Voltage Rating :.....V

b) Current rating:

- i) Installed in ground :.....A
- ii) Installed in ducts :.....A
- iii) Installed in air :.....A

c) Current rating :.....kA/s

d) Voltage drop :.....mV/A/m

2025-07-30

1).....
SIGNED

2).....
SIGNED

2. Physical properties

a) Conductor:

- i) Material :
- ii) Number of cores :
- iii) Amount of strands per core :
- iv) Cross-Sectional Area :mm²
- v) Conductor diameter :mm
- vi) Impedance :Ω/km

b) Outer sheath:

- i) Material used :
- ii) Average thickness :mm

c) Inner Sheath Insulation:

- i) Material used :
- ii) Average thickness :mm

d) Conductor insulation:

- i) Material used :
- ii) Average thickness :mm

12.9 DC~AC POWER INVERTERS (for typical 200kWp installation)

1. Input (DC)

- a) Max. DC power (@ $\cos \phi = 1$) :W
- b) Max. DC voltage :V
- c) MPP voltage range :V
- d) DC nominal voltage :V
- e) Min. DC voltage / start voltage :V
- f) Max. input current / per string :A
- g) Number of MPP trackers / strings per MPP tracker :

2. Output (AC)

- a) AC nominal power (@ 400 V, 50 Hz) :W

- b) Max. AC apparent power :.....W
- c) Nominal AC voltage; range :.....V
- d) AC grid frequency; range :.....Hz
- e) Rated power frequency/rated grid voltage :.....Hz.....V
- f) Max. output current :.....A
- g) Power factor ($\cos \phi$) :.....
- h) Phase conductors / connection phases :.....
3. Efficiency
- a) Max. Efficiency / Euro-eta :.....%
4. Protection devices
- a) ESS switch-disconnector :.....
- b) Ground fault monitoring :.....
- c) Grid monitoring :.....
- d) DC reverse-polarity protection :.....
- e) Type II DC Surge arrester integration :.....
- f) Reverse current protection :.....
- g) AC short circuit protection :.....
- h) Galvanically isolated :.....
- i) All-pole sensitive fault current monitoring unit :.....
- j) Protection class / overvoltage category :.....
5. General data
- a) Dimensions (W / H / D) in mm :.....mm
- b) Weight :.....kg
- c) Operating temperature range :.....°C.....°C
- d) Noise emission (typical) :.....dB(A)
- e) Internal consumption (night) :.....W
- f) Topology :.....
- g) Cooling concept :.....

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1).....
 SIGNED

2).....
 SIGNED

- h) Degree of protection :.....
- i) Degree of protection of connection area :.....
- j) Climatic category :.....
- k) Max permissible value for relative humidity (Non-condensing) :..... %
6. Features
- a) DC connection /AC connection :.....
- b) Display :.....
- c) Interfaces :.....
- d) Warranty: 5 / 10 / 15 / 20 / 25 years :.....

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

12.10 DC ISOLATOR (for typical 200kWp installation)

1. Electrical characteristics
- a) Rated Voltage :.....V
- b) Poles :.....
- c) Fault Level :.....kA
- d) Current rating :.....A

12.11 AC PROTECTION DEVICES (for typical 200kWp installation)

1. Circuit breaker
- a) Type :.....
- b) Current rating :.....A
- c) Fault Current level :.....kA
- d) Poles :.....
- e) Voltage :.....V
- f) Dimensions (L x W x H) :.....mm
2. Surge Arrestor
- a) Type & Class :.....
- b) Fault Current level :.....kA
- c) Poles :.....

- d) Voltage :.....V
- e) Dimensions (L x W x H) :.....mm

AUTHORISED SIGNATURE OF TENDERER

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****Scope****SCHEDULE 13: Amendments by Contractor**

The tenderer should record any amendments (i.e. deviations, qualifications, alterations or modifications) he may wish to make to the tender documents in this Schedule. Alternatively, a tenderer may state such amendments in a covering letter and append such letter to this Schedule.

The tenderer's attention is drawn to Clause C.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the *Client's* handling of material deviations and qualifications. If no amendments are allowed for this tender, Clause C.3.8 will state so and same would also be indicated in the table below. If amendments are allowed but none desired by the tenderer, this Schedule is to be marked NIL in the table below.

IMPORTANT: No alternative tender will be considered unless a tender free of qualifications and strictly on the basis of the Tender Documents is also submitted.

PAGE / ITEM	CLAUSE / DESCRIPTION
	<p align="center">NO ALTERATIONS/AMENDMENTS BY CONTRACTOR ALLOWED FOR THIS CONTRACT. TENDERER MUST SIGN SCHEDULE TO ACKNOWLEDGE.</p>

(If not enough space, attach additional pages. If no amendments are desired, mark NIL.)

AUTHORISED SIGNATURE OF TENDERER

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****Scope****SCHEDULE 14: Contractor's equipment schedule**

The tenderer must furnish the details of the equipment required for the execution of this contract. The tenderer must differentiate, where applicable, between equipment immediately available, equipment which will become available by virtue of outstanding orders, and equipment to be acquired or hired for the works should the tenderer be awarded the contract.

EQUIPMENT DESCRIPTION (Type, size, capacity, etc)	AVAILABLE (A) ON ORDER (O) HIRED (H)	NUMBER OF

(Append separate page if not enough space, or enter NIL if nil)

AUTHORISED SIGNATURE OF TENDERER

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30 1)..... 2)..... SIGNED SIGNED	
---	--

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****Scope****SCHEDULE 15: Contractor's schedule of subcontractors**

The tenderer hereby notifies the *Client* of his intention to use the following subcontractors for work in this contract. Acceptance of this tender does not constitute approval of all or any of the listed subcontractors by the *Client*. Should any of the subcontractors not be approved subsequent to acceptance of this tender, this in no way invalidates this tender, and the tendered unit rates for the various items of work remain final and binding, even in the event of a subcontractor not listed below being approved by the *Client*.

WORK TYPE OR CATEGORY	SUBCONTRACTOR (Name, address, contact person, phone, fax, organisation details, experience)	WORK ITEMS (As per Price List)	ESTIMATED COST
TOTAL SUBCONTRACTED AMOUNT (Excluding VAT)			R

(Append separate page if not enough space, or enter NIL if nil)

AUTHORISED SIGNATURE OF TENDERER

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****Scope****SCHEDULE 16: Contractor's proposed service plan**

The tenderer must append a proposed work breakdown and programme, reflecting the proposed sequence and rate of execution of the various activities comprising the work for the contract, to this schedule page.

This programme must be in the form of a sufficiently detailed bar chart (Gantt chart) or similar acceptable time/activity form as per the Scope reflecting the proposed sequence and rate/duration of the various activities and the quantities of work that will be carried out every week under each of the items comprising the work scope for this contract. Working hours for the execution of this contract must be indicated, and the programme must clearly indicate project milestones where applicable and the critical path of the activities through the work schedule.

The tenderer must take into account all requirements as per the project specifications referenced in the Contract Data of this document when drawing up the programme.

Details of the Contractor's proposed work programme must be appended to this Schedule.

AUTHORISED SIGNATURE OF TENDERER

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****Scope****SCHEDULE 17: Contractor's health & safety plan**

Tenderers are to note the requirements of the Occupational Health and Safety (OHS) Act No. 85 of 1993 and the Construction Regulations 2014 (as amended) issued in terms of Section 43 of the Act. 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 *Contractor* shall submit a detailed Health and Safety Plan in respect of the Works in order to demonstrate the necessary competencies and resources to perform the Works all in accordance with the Act and Regulations. The Health and Safety Plan shall cover inter-alia the following details:

- The safety management structure including the names of all designated persons such as the construction supervisor and any other competent persons;
- Safety method statements and procedures to be adopted to ensure compliance with the OHS Act.

Aspects to be dealt with shall be in accordance with the *Client's* Health and Safety specification as issued, which may include inter alia the following:

- Public vehicular and pedestrian traffic accommodation measures;
- Control of the movement of construction vehicles;
- The storage and use of materials;
- The use of tools, vehicles and plant;
- Temporary support structures;
- Dealing with working at height;
- The use of batch plants;
- Excavation work;
- Demolition work;
- Security, access control and the exclusion of unauthorised persons.
- The provision and use of temporary services;
- Compliance with way leaves, permissions and permits;
- Safety equipment, devices and clothing to be employed;
- Emergency procedures;
- Provision of welfare facilities;
- Induction and training;
- Provision and maintenance of the health and safety file and other documentation;
- Arrangements for monitoring and control to ensure compliance with the safety plan.

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

Tenderers are to note that the *Contractor* is required to ensure that all sub-contractors or others engaged in the performance of the contract also comply with the above requirements.

The Contractor will only be given access to start work after approval of his detailed Health and Safety Plan, which must be submitted to the Clients' appointed Engineer within 2 weeks after the Task Order was issued.

AUTHORISED SIGNATURE OF TENDERER

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****Scope****SCHEDULE 18: Contractor's environmental management plan**

When performing installations and/or maintenance at rural healthcare facilities that may require an environmental management plan, the *Contractor* acknowledges that the plan will form part of the instruction to provide the service, and will not carry any additional cost to the *Client*, apart from the rate quoted in the Price List.

The plan will be submitted within **one week** of receipt of the environmental management specification provided by the *Client*.

AUTHORISED SIGNATURE OF TENDERER

Number of additional pages appended by the tenderer to this Schedule:(If nil, enter NIL).

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00 2025-07-30	
1)..... SIGNED	2)..... SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****Scope****Pro Forma Task Order Performance Guarantee (Performance Bond)**

To: **WESTERN CAPE GOVERNMENT**
DEPARTMENT OF HEALTH AND WELLNESS
 22nd Floor
 4 Dorp Street
 CAPE TOWN
 8001

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

Sir

**PERFORMANCE GUARANTEE FOR THE EXECUTION OF A TASK ORDER IN TERMS OF ADDITIONAL CLAUSE
Z8 OF THE NEC4 TERM SERVICE SHORT CONTRACT (TSSC4) JUNE 2017.**

1 With reference to the contract between

.....
 (hereinafter referred to as the "Contractor") and the Western Cape Government in its **DEPARTMENT OF
 HEALTH AND WELLNESS**, (hereinafter referred to as the "Client"), **Tender No: WCGHIC0003/2025**, for
**Project: FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN
 WCGHW, Task Order No:** (enter at issue of Task Order) (hereinafter referred to as the "Task Order")
 in the amount of R, (in words

.....)
 (hereinafter referred to as the "Task Order Sum"),

I / We,

in my/our capacity asand hereby representing

.....
 (hereinafter referred to as the "Guarantor")

advise that the guarantor holds at the Client's disposal the sum of R,

(in words)

being ten (10) % of the Task Order Sum (excluding VAT), for the due fulfilment of the Task Order in terms of
 this Contract.

- 2 The Guarantor hereby renounces the benefits of the exceptions *non numeratae pecunia; non causa debiti; excussionis et divisionis*; and all other exceptions which could be pleaded against the enforcement of this guarantee, with the meaning and effect whereof I/we declare myself/ourselves to be conversant, and undertake to pay the Client the amount guaranteed, during the period when the claim is received by the Guarantor, on receipt of a written demand from the Client to do so, and which demand the Client may make if the Client has a right of recovery against the Contractor.
- 3 Subject to the above, but without in any way detracting from the Client's rights to adopt any of the procedures provided for in the Contract, the said demand can be made by the Client, at any stage prior to the expiry of this guarantee.
- 4 The amount paid by the Guarantor in terms of this guarantee may be retained by the Client on condition that upon the issue of the last final Task Order payment certificate, the Client shall account to the Guarantor showing how this amount has been expended and refund any balance due to the Guarantor.

- 5 The *Client* shall have the absolute right to arrange his affairs with the *Contractor* in any manner, which the *Client* deems, fit and the Guarantor shall not have the right to claim his release on account of any conduct alleged to be prejudicial to the Guarantor. Without derogating from the foregoing, any compromise, extension to the Task Completion Date, indulgence, release or variation of the *Contractor's* obligation shall not affect the validity of this guarantee.
- 6 This undertaking is neither negotiable nor transferable, and
- 6.1 must be surrendered to the Guarantor at the time when the *Client* accounts to the Guarantor in terms of clause 4 above, or
 - 6.2 shall lapse 2 (two) weeks after the Task Completion Date; and
 - 6.3 shall not be interpreted as extending the Guarantor's liability to anything more than payment of the amount guaranteed

SIGNED AT **ON THIS** **DAY OF**
 **20**.....

AS WITNESSES

1.
2.

By and on behalf of

.....

.....
(insert the name and physical address of the guarantor)

NAME:.....

CAPACITY:.....
(duly authorised thereto by resolution attached marked Annexure A)

DATE:.....

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

Guarantor's seal or stamp

WESTERN CAPE GOVERNMENT: HEALTH
 DIRECTORATE: SUPPLY CHAIN
 (INFRASTRUCTURE SOURCING)
 BID OPENED 11:00

2025-07-30

1)..... 2).....
 SIGNED SIGNED

WESTERN CAPE GOVERNMENT**DEPARTMENT OF HEALTH AND WELLNESS****FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW -
3 YEAR TERM SERVICE AGREEMENT****Task Order****Pro Forma Task Order for use when work within the service is instructed to be carried out within a stated time period of time on a Task by Task basis**

This Task Order is issued in accordance with Clause 11.2(13) of the NEC4 Term Service Short Contract (TSSC), June 2017.

Task Order No.....(to be assigned by SCM)

To.....(Contractor)

I propose to instruct you to carry out the following Task

Description

.....

Starting date

☐

CIDB Registration verified

Task Completion Date

☐

CSD Tax Compliance verified

Delay damages per week R.....

Please submit your price and programme proposals below.

Signed on behalf of *Client* Date

WESTERN CAPE GOVERNMENT: HEALTH
DIRECTORATE: SUPPLY CHAIN
(INFRASTRUCTURE SOURCING)
BID OPENED 11:00

2025-07-30

1).....
SIGNED

2).....
SIGNED

Total of Prices (inclusive of VAT) for items of work
on the Price List (details attached)

R.....

Total of Prices (inclusive of VAT) for items of work not
on the Price List (details attached)

R.....

Total of the Prices (inclusive of VAT)

R

The programme for the Task is (attached)

Signed on behalf of *Contractor*:

Signature Name Date

I accept the above price and programme and instruct you to carry out the Task.

Signed by delegated authority on behalf of *Client*:

Signature Name Date

Task Order number assigned as above and issued to *Contractor* by SCM on behalf of *Client*:

Signature Name Date

WESTERN CAPE GOVERNMENT

DEPARTMENT OF HEALTH AND WELLNESS

FRAMEWORK FOR THE INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS AND INVERTERS IN WCGHW - 3 YEAR TERM SERVICE AGREEMENT

Appendix: Drawings, schematics & annexures

The Appendix to this contract is a separate document, independent of the main contract document (this document) and does not follow, or integrate with, the page numbering sequence of the main contract document. The Appendix may contain the **Price List** as well as drawings, schematics and annexures ("items") which are referenced in this document, and which are indicated as included in the Appendix.

PLEASE NOTE:

ALL items which are referenced in the main contract document form part of the complete contract documentation for this contract, irrespective of whether they are physically included in the Appendix or not. It is the responsibility of the tenderer to ensure he acquires and considers all the items referenced in this document in the preparation of his tender, which is the assumption when tenders are evaluated.

The Appendix consists of **1 x electronically calculated spreadsheet (MS-Excel) annexure (WCG Health - TSSC4 - Solar PV & BESS Tender - Price List (BVi Rev 03 - 2025-06-25) BILL)**. When printed as originally formatted, it consists of a total of **41 x A4 landscape pages**. The **unpriced version of Price Schedule in .pdf format (WCG Health - Rooftop Solar PV - Penalty Graph (Rev 01))** - accompanies the tender document. The contractor shall assess both versions and point out any deviations.

Pricing Schedule

NOTE: Tenderers must submit a printout of the electronic Pricing Schedule, annexed to this document for the necessary evaluation purposes. Bidders must then transfer (in black ink) the rates and totals included in the electronic Pricing Schedule to the Pricing Schedule included below, subject to the following:

- A. The electronic version of the Pricing Schedule may not be altered in any way, including descriptions, item numbers, quantities or units. Only the rates and prices may be entered where appropriate;
- B. The printout of the electronic Pricing Schedule must be signed by the duly authorised signatory on the last page of the printout and also initialled by same on each page;
- C. The total/s from the printout Pricing Schedule must be carried as appropriate to the Pricing Schedule below;
- D. The electronic version of the Pricing Schedule must be submitted on appropriate media (memory stick), enclosed with the bid submission at close of bid. The electronic version of the Price Schedule shall exactly match the hard copy version of the Price Schedule.
- E. The memory stick MUST be clearly labelled with the tendering entity's name and the information must be protected.
- F. **IMPORTANT: Where discrepancies are found between the rates and prices in the electronic Pricing Schedule and the rates and prices in the bid document, the rates and prices in the bid document shall prevail. Incorrect pricing per item in the either Pricing Schedule will not result in revised pricing of the affected item.**

WESTERN CAPE GOVERNMENT: HEALTH DIRECTORATE: SUPPLY CHAIN (INFRASTRUCTURE SOURCING) BID OPENED 11:00	
2025-07-30	
1)..... SIGNED	2)..... SIGNED