



CHIEF ALBERT LUTHULI MUNICIPALITY

CONTRACT NUMBER: ALMT 20/2021

**UPGRADE OF CAROLINA WATER TREATMENT WORKS TO 6 ML/DAY
- PHASE 4B**

TENDER DOCUMENT

CIDB GRADING: 5CE or 4CEPE

CLOSING DATE: 06th of MAY 2022 @12:pm

FULL NAME OF BIDDER (BIDDING ENTITY (i.e. CC, PTY, LTD, JV, etc.)	
THE OFFERED TOTAL OF THE PRICES (Including Value Added Tax)	

SUMMARY FOR BID OPENING PURPOSES

NAME OF BIDDING ENTITY:			
PHYSICAL STREET ADDRESS:		POSTAL ADDRESS:	
Area Code:		Area Code:	
Telephone No:		Fax No:	
E-Mail Address:			

CONTRACT PRICE:	R
	(Amount brought forward from the Form of Offer and Acceptance) *

****Note***

Should any discrepancy occur between this figure and that stated in the Form of Offer and Acceptance, the latter shall take precedence and apply.

Signature:
Signed by authorised representative of the Bidding Entity

Date:

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Employer

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THE BID

**NB. (This list of contents indicates the standard sequence for the various parts of the Bid.)*

REF #	CONTENTS	PAGE COLOUR
	THE BID	
PART T1	BIDDING PROCEDURES	
T1.1	Notice and Invitation to Bid	White
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PART T2	RETURNABLE DOCUMENTS	
T2.1	Returnable Schedules required for Bid Evaluation Purposes	Yellow
T2.2	Other Documents required for Bid Evaluation Purposes	Yellow
T2.3	Returnable Schedules that will be incorporated in the Contract	Yellow
	THE CONTRACT	
PART C1	AGREEMENT AND CONTRACT DATA	
C1.1	Form of Offer and Acceptance	Yellow
C1.2	Contract Data	Yellow
C1.3	Form of Guarantee	White
C1.4	Agreement in Terms of Occupational Health and Safety Act, 1993 (Act No 85 Of 1993)	White
PART C2	PRICING DATA	
C2.1	Pricing Instructions	Yellow
C2.2	Bill of Quantities/Schedule of Activities	Yellow
PART C3	SCOPE OF WORKS	
C3.1	Description of Works	Blue
C3.2	Engineering	Blue
C3.3	Subcontracting	Blue
C3.4	Construction	Pink
C3.5	Management of the Works	Blue
C3.6	Health and safety	Blue
PART C4	SITE INFORMATION	Green
	DRAWINGS	
	Tender Drawings	

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PART T1 BIDDING PROCEDURES

- T1.1 BID NOTICE AND INVITATION TO BID

- T1.2 BID DATA

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T1.1 BID NOTICE AND INVITATION TO BID**Chief Albert Luthuli Municipality****TENDER ADVERTS**

The Municipality hereby invites reputable and well experienced service providers to submit tenders for the below-mentioned projects. The services providers must comply with the VAT Act. Tender documents will be available on e-tender, municipal website as well as Carolina Municipal Offices from **11 April 2022** at cashiers point during office hours upon payment of a non-refundable printing fee of **R 716,48** and can also be downloaded on the municipal website or e-tenders free of charge.

Ref No	Description	Contact Person	Valuation Criteria	CIDB Grading	Compulsory Briefing Sessions	Local Content Minimum Content	Closing
ALMT 20/2021	Upgrade of Carolina WTW to 6ML/day – Phase 4B	Mr. B Mdutyulwa @ 017 843 4000	SCM Policy 80/20 and B-BBEE Level	5CE or 4CEPE	12 April 2022 10:30, Carolina WTW	100% (Plastic Pipes & Fittings) 100% components for construction	06 May 2022 @ 12:00

Sealed envelopes must be addressed to: **The Municipal Manager,
Chief Albert Luthuli Municipality
PO Box 24, CAROLINA, 1185**

marked with the correct bid number or deposit it in the **‘TENDER BOX’** situated at Chief Albert Luthuli Municipality Offices, 28 Church Street, CAROLINA, **no later than 12H00 on the specified closing date per tender.**

The following **compulsory documents** must be accompanied with the tender, and failure to provide such documentations shall constitute automatic disqualification: Original Valid Tax Clearance Certificate or SARS Pin, Company Certificate, Municipal Account not in arrear for more than 90 days and not older than three months and proof of CSD registration.

Bidders who do not attend the compulsory briefing will be automatically disqualified. **Attach your valid B-BBEE Certificate to claim preference points. Only bidders who are registered with CSD will be considered.**

Tenders will be evaluated in accordance with the Chief Albert Luthuli Municipality Supply Chain Policy whereby **80 points will be awarded for price and 20 for BEE.**

Chief Albert Luthuli Municipality reserves the right to accept and/or not to accept the lowest priced or any other tender. **No late, telephonic, facsimile or e-mail tenders will be accepted.**

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Only bidders, meeting the stipulated minimum threshold for local production and content will be considered in line with Regulation 8(2) of the Municipal Supply Chain Management Regulations and National Treasury Circular 69.

Bidders must declare local content value as per DTI codes on MBD 6.2 Local Content together with Local Content Declaration Templates (Annex C, D and E).

According to the Municipality Supply Chain Regulations issued by the Minister of Finance in terms of Section 168 of the Municipal Finance Management Act, Act 56 of 2003, persons within the organs of the state, like Councillors, and other elected representatives, full time employees and other directors of the public and municipal entities are prohibited from being eligible to bid or be awarded a contract to provide any services to the municipality.

If you do not hear from the Municipality within 90 working days, please consider your tender unsuccessful.

All administrative matters may be addressed to the Supply Chain Manager Mr. J Nkosi Tel no: 017 843 4025.

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Mr. MS Dlamini
MUNICIPAL MANAGER
06 April 2022

Contractor

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T1.2 BID DATA

The **Standard Conditions of Bid** for Procurements makes several references to the bid data for details that apply specifically to this bid. The bid data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of bid.

Clause number	Data
F.1.1 Actions	The Employer is: Chief Albert Luthuli Municipality
F.1.2 Tender Documents	The bid documents issued by the Employer comprise: THE BID Part T1 Bidding procedures Part T1.1 Bid notice and invitation to bid Part T1.2 Bid data Part T2 Returnable documents Part T2.1 List of returnable documents Part T2.2 Returnable schedules THE CONTRACT Part C1 Agreements and contract data C1.1 Form of offer and acceptance C1.2 Contract data C1.3 Form of Guarantee C1.4 Agreement in terms of Occupational Health and Safety Act, 1993 Part C2 Pricing Data C2.1 Pricing Instructions C2.2 Bill of Quantity Part C3 Scope of Works C3 Scope of Works Part C4 Site Information C4 Site Information
F.1.4 Communication and Employer's Agent	The Employer's agent is: Name: Ceenex (Pty) LTD Address: 291 Sprite Road Faerie Glen Pretoria Tel: (012) 361 4373 E-mail: steyn@ceenex.com

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Clause number	Data
F.2.1 Eligibility	Only those Tenderers who are registered with the CIDB or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to 5CE or 4CEPE of construction work, are eligible to submit tenders. Joint ventures are eligible to submit tenders provided that: - At least one member of the joint venture must be registered for class 5CE or 4CEPE type of construction with the CIDB. - where the joint venture consists of two members at least one member must have a contractor grading designation equal or higher than 5CE or 4CEPE. - Joint ventures consisting out of three or more members will not be considered. The contractor is required to recruit all his unskilled labour and as much skilled labour as is practical possible from the local community (target area). The contractor is permitted to bring his skilled permanent employees, such as machine operators, surveyors, timekeepers, storekeepers, and other skilled employees to the site. The target area for employment of local labour shall be the geographic area which falls within the boundaries of the Local Municipal area. The Contractor shall prepare and attach to his claims for payment, in a form approved by the employer, a schedule which lists the names, identity numbers, nationality, gender, trade/occupation, and period of employment, employment number and the like, of the individuals classed as targeted labour. Non-compliance with these requirements during the construction period, in any way whatsoever, will be adequate reason for suspending the works. No extension of time will be considered for delays due to non-compliance with the abovementioned requirements.
F.2.7 Clarification Meeting	The arrangements for a compulsory clarification meeting are: Location: Carolina Water Treatment Works Date: 12 April 2022 Starting time: 10h30
F.2.13.3 Submitting a Tender Offer	The whole original bid document, as issued by the Local Municipality shall be submitted. No copies will be accepted. Bids may only be submitted on the Bid documentation issued by the Local Municipality.
F.2.13.5 Submitting a Tender Offer	The Employer's address for delivery of bid offers and identification details to be shown on each bid offer package are: Location of bid box: The Tender Box Physical address: Chief Albert Luthuli Municipality 28 Church Street Carolina Identification details:

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Clause number	Data
	Contract Number: ALMT 20/2021 Description: Upgrade of Carolina WTW to 6 ML/day - Phase 4B
F.2.15 Closing Time	The closing time for submission of bid offers is: Day: 06 May 2022 Time: 12:00 Format: Telephonic, telegraphic, telex, facsimile or e-mailed bid offers will not be accepted.
F.2.16 Tender Offer Validity	The bid offer validity period is 90 days
F.2.18 Provide Other Material	None
F.2.19 Inspections, Tests and Analysis	Access must be provided for the inspection of the Tenderers offices if required.
F.3.4 Opening of Bid Submissions	The time and location for opening of the bid offers are: Time: Immediately after the closing time for submission of bids. Location: Chief Albert Luthuli Municipality 28 Church Street Carolina
F.3.5 Two-Envelope System	A two-envelope procedure will not be followed.
F.3.9 3.9.1 Arithmetical Errors	Replace the contents of the clause with the following: “Check responsive tender offers for arithmetical errors, correcting them in the following manner: a) Where there is a discrepancy between the amounts in figures and in words, the amount in figures shall govern. b) If bills of quantities (or schedule of quantities or schedule of rates) apply and there is an error in the line-item total resulting from the product of the unit rate and the quantity, <u>the rate shall govern, and the line-item total shall be corrected.</u> c) Where there is an error in the total of the prices either as a result of corrections required by this checking process or in the Tenderers addition of prices, the total of the prices shall be adjusted to reflect the arithmetically correct summation of corrected line-item totals. Consider the rejection of a tender offer if the Tenderer does not accept the correction of the arithmetical errors in the manner described above.”
F.3.11 Evaluation of Bid Offers	The preference procedure for evaluation of responsive bid offers shall be the 80/20 -point preference system, in full compliance with Form 2.3.3. Technical and general criteria will be evaluated in terms of paragraph 2.3.3.10

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Clause number	Data		
F.3.11.9 Scoring quality / Functionality	Replace the contents of clause F.3.11.9 with the following: "Only those tenders who score a minimum of 70 points in respect of the following criteria will be considered eligible for evaluation in the next phase dealing with price determination and B-BBEE compliance:		
	The quality criteria and maximum score in respect of each of the criteria are as follows:		
	QUALITY CRITERIA	SUB CRITERIA	MAXIMUM NUMBER OF POINTS
	A comprehensive work plan which responds to the scope of work and outlines a proposed approach / methodology as well as an appropriate technical basis for the projects		30
	Organization and staffing		5
	Relevant experience of key staff (assigned personnel) in relation to the scope of services	General experience and qualifications	15
		Adequacy for the assignment	15
		Knowledge of local issues pertinent to the projects	15
	Tenderer's experience with respect to specific aspects of the project / comparable projects		20
	Maximum possible score for quality (Ms)		100
	Quality shall be scored independently by not less than three evaluators in accordance with the following schedules • Evaluation Schedule: Approach Paper Evaluation • Evaluation Schedule: Proposed Organization and Staffing • Evaluation Schedule: Experience of Key Staff • Evaluation Schedule: Tenderer's Experience Scores of 40, 70, 90 or 100 will be allocated to each of the criteria and sub criteria based on the indicators contained in these schedules. The scores of each of the evaluators will then be averaged, weighted, and totalled to obtain the final score for quality.		
F.3.14.1 Successful Tenderers	Successful Tenderers will be notified Telephonically and in writing, subject to a signing of a service level agreement with the Employer.		
F.13.14.2 Unsuccessful Tenderers	If Bidders did not hear from the Municipality within twenty-one (21) working days upon closing date of the Tender, they should consider their Tender unsuccessful.		
F.3.18 Provide Copies of the Contracts	The number of paper copies of the signed contract to be provided by the Employer is one .		

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Clause number	Data
Additional Conditions Applicable to this Bid	The additional conditions of bid are: 1. The Employer may also request that the bidder provide written evidence that his financial, labour and other resources are adequate for carrying out the contract. 2. The Employer reserves the right to appoint a firm of chartered accountants and auditors and/or execute any other financial investigations on the financial resources of any bidder. The bidder shall provide all reasonable assistance in such investigations. 3. The bidder shall be required to complete the Form of Offer and Acceptance (C1.1) and Bills of Quantity for all the region or regions for which they intend to bid for 4. The bid document shall be submitted as a whole and shall not be taken apart. 5. List of returnable documents (PART T2) must be completed in full. (A bidder's company profile will not be used by the Local Municipality to complete PART T2 on behalf of the bidder) NB: If PART T2 is not completed in full by the bidder, this offer will be rejected.

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F1 GENERAL**F1.1 Actions**

The Employer and each Tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly, and transparently.

F1.2 Tender Documents

The documents issued by the Employer for the purpose of a tender offer are listed in the tender data.

F1.3 Interpretation

F1.3.1 The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

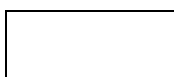
F1.3.2 These conditions of tender, the tender data and tender schedules which are only required for tender evaluation purposes, shall not form part of any contract arising from the invitation to tender.

F1.3.3 For the purposes of these conditions for the calling for expressions of interest, the following definitions apply:

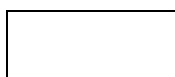
- a) Comparative offer means the Tenderers financial offer after the factors of non-firm prices, all unconditional discounts and any other tendered parameters that will affect the value of the financial offer have been taken into consideration.
- b) Corrupt practice means the offering, giving, receiving, or soliciting of anything of value to influence the action of the Employer or his staff or agents in the tender process; and
- c) Fraudulent practice means the misrepresentation of the facts to influence the tender process or the award of a contract arising from a tender offer to the detriment of the Employer, including collusive practices intended to establish prices at artificial levels quality (functionality) means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs

F1.4 Communication and Employer's Agent

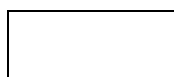
- i. Each communication between the Employer and a Tenderer shall be to or from the Employer's Agent only, and in a form that can be read, copied, and recorded.
- ii. Writing shall be in the English language.
- iii. The Employer shall not take any responsibility for non-receipt of communications from or by a Tenderer. The name and contact details of the Employer's Agent are stated in the tender data.



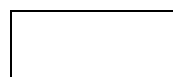
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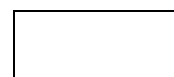
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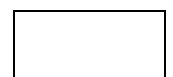
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Employer



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Witness 2

F1.5 Employer's right to accept or reject any tender offer

- F1.5.1 The Employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The Employer shall not accept or incur any liability to a Tenderer for such cancellation and rejection but will give written reasons for such action upon written request to do so.
- F1.5.2 The Employer may not be after the cancellation or abandonment of a tender process, or the rejection of all responsive tender offers re-issue a tender covering substantially the same scope of work within a period of six months unless only one tender was received, and such tender was returned unopened to the Tenderer.

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

F2 TENDERERS OBLIGATIONS**F2.1 Eligibility**

Submit a tender offer only if the Tenderer satisfies the criteria stated in the tender data and the Tenderer, or any of his principals, is not under any restriction to do business with the Employer.

F2.2 Cost of tendering

Accept that the Employer will not compensate the Tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer satisfy requirements.

F2.3 Check documents

Check the tender documents on receipt for completeness and notify the Employer of any discrepancy or omission.

F2.4 Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the Employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

F2.5 Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

F2.6 Acknowledge addenda

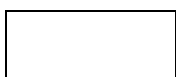
Acknowledge receipt of addenda to the tender documents, which the Employer may issue, and if necessary, apply for an extension to the closing time stated in the tender data, to take the addenda into account.

F2.7 Clarification meeting

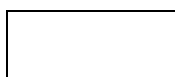
Attend, where required, a clarification meeting at which meeting the Tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting are stated in the tender data.

F2.8 Seek clarification

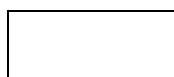
Request clarification of the tender documents, if necessary, by notifying the Employer at least five working days before the closing time stated in the tender data.



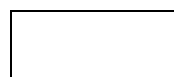
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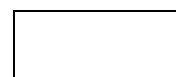
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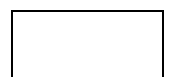
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Employer



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F2.9 Insurance

Be aware that the extent of insurance to be provided by the Employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The Tenderer is advised to seek qualified advice regarding insurance.

F2.10 Pricing of the tender offer

F2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes (except Value Added Tax (VAT), and other levies payable by the successful Tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the tender data.

F2.10.2 Show VAT payable by the Employer separately as an addition to the tendered total of the prices.

F2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data

F2.10.4 State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

F2.11 Alterations to documents

Not make any alterations or additions to the tender documents, except to comply with instructions issued by the Employer, or necessary to correct errors made by the Tenderer. All signatories to the tender offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.

F2.12 Alternative tender offers

F2.12.1 Submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted. The alternative tender offer is to be submitted with the main tender offer together with a schedule that compares the requirements of the tender documents with the alternative requirements the Tenderer proposes.

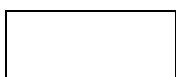
F2.12.2 Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the Employer.

F2.13 Submit a tender offer

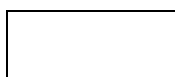
F2.13.1 Submit a tender offer to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

F2.13.2 Return all returnable documents to the Employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing in Black ink.

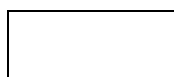
F2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language



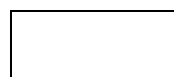
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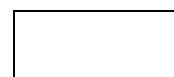
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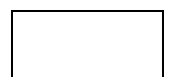
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Employer



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other than English, and the parts communicated electronically in the same format as they were issued by the Employer.

F2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the Tenderer. Signatories for Tenderers proposing to contract as joint ventures shall state which one of the signatories is the lead partner whom the Employer shall hold liable for the purpose of the tender offer.

F2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the Employer's address and identification details stated in the tender data, as well as the Tenderers name and contact address.

F2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "*financial proposal*" and place the remaining returnable documents in an envelope marked "*technical proposal*". Each envelope shall state on the outside the Employer's address and identification details stated in the tender data, as well as the Tenderers name and contact address.

F2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the Employer's address and identification details as stated in the tender data.

F2.13.8 Accept that the Employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

F2.14 Information and data to be completed in all respects

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

F2.15 Closing time

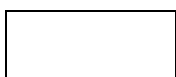
F2.15.1 Ensure that the Employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Proof of posting shall not be accepted as proof of delivery. The Employer shall not accept tender offers submitted by telegraph, telex, facsimile, or e-mail, unless stated otherwise in the tender data.

F2.15.2 Accept that, if the Employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

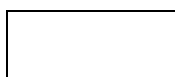
F2.16 Tender offer validity

F2.16.1 Hold the tender offer(s) valid for acceptance by the Employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.

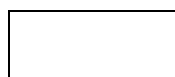
F2.16.2 If requested by the Employer, consider extending the validity period stated in the tender data for an agreed additional period.



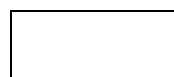
Contractor



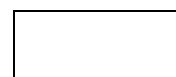
Witness 1



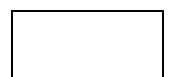
Witness 2



Employer



Witness 1



Witness 2

F2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the Employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (Or both). No change in the competitive position of Tenderers or substance of the tender offer is sought, offered, or permitted.

Note: Sub-clause F.2.17 does not preclude the negotiation of the final terms of the contract with a preferred Tenderer following a competitive selection process, should the Employer elect to do so.

F2.18 Provide other material

F2.18.1 Provide, on request by the Employer, any other material that has a bearing on the tender offer, the Tenderers commercial position (including notarized joint venture agreements), Preferencing arrangements, or samples of materials, considered necessary by the Employer for the purpose of a full and fair risk assessment. Should the Tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the Employer's request, the Employer may regard the tender offer as non-responsive.

F2.18.2 Dispose of samples of materials provided for evaluation by the Employer, where required.

F2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.

F2.20 Submit securities, bonds, policies, etc.

If requested, submit for the Employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies, and certificates of insurance required in terms of the conditions of contract identified in the contract data.

F2.21 Check final draft

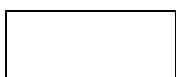
Check the final draft of the contract provided by the Employer within the time available for the employer to issue the contract.

F2.22 Return of other tender documents

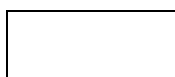
If so, instructed by the Employer, return all retained tender documents within 28 days after the expiry of the validity period stated in the tender data

F2.23 Certificates

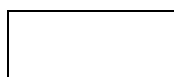
Include in the tender submission or provide the Employer with any certificates as stated in the tender data.



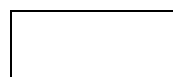
Contractor



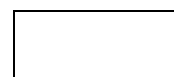
Witness 1



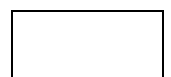
Witness 2



Employer



Witness 1



Witness 2

F3 THE EMPLOYERS' UNDERTAKINGS**F3.1 Respond to clarification**

Respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all Tenderers who drew procurement documents.

F3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each Tenderer during the period from the date that tender documents are available until seven days before the tender closing time stated in the Tender Data. If, as a result a Tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all Tenderers who drew documents.

F3.3 Return late tender offers

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the Tenderer concerned.

F3.4 Opening of tender submissions

F3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of Tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

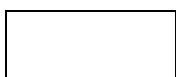
F3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each Tenderer whose tender offer is opened, the total of his prices, preferences claimed and time for completion, if any, for the main tender offer only.

F3.4.3 Make available the record outlined in F.3.4.2 to all interested persons upon request.

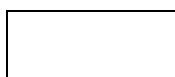
F3.5 Two-envelope system

F3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open Only the technical proposal of valid tenders in the presence of Tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each Tenderer whose technical proposal is opened.

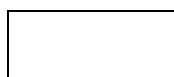
F3.5.2 Evaluate the quality of the technical proposals offered by Tenderers, then advice Tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of Tenderers, who score in the quality evaluation more than the minimum number of points for quality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any preferences



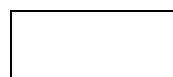
Contractor



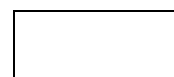
Witness 1



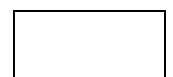
Witness 2



Employer



Witness 1



Witness 2

claimed. Return unopened financial proposals to Tenderers whose technical proposals failed to achieve the minimum number of points for quality.

F3.6 Non-disclosure

Not disclose to Tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price, and recommendations for the award of a contract, until after the award of the contract to the successful Tenderer.

F3.7 Grounds for rejection and disqualification

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

F3.8 Test for responsiveness

F3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

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

F3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

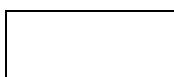
- a) Detrimentially affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) Change the Employer's or the Tenderers risks and responsibilities under the contract, or
- c) Affect the competitive position of other Tenderers presenting responsive tenders if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

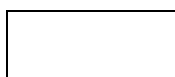
F3.9 Arithmetical errors

F3.9.1 Check responsive tender offers for arithmetical errors, correcting them in the following manner:

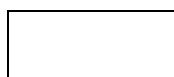
- a) Where there is a discrepancy between the amounts in figures and in words, the amount in figures shall govern.
- b) If bills of quantities (or schedule of quantities or schedule of rates) apply and there is an error in the line-item total resulting from the product of the unit rate and the quantity, the line-item total shall govern and the rate shall be corrected. Where there is an obviously



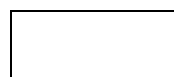
Contractor



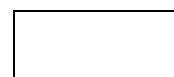
Witness 1



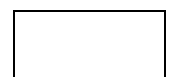
Witness 2



Employer



Witness 1



Witness 2

gross misplacement of the decimal point in the unit rate, the line-item total as quoted shall govern, and the unit rate shall be corrected.

- c) Where there is an error in the total of the prices either because of other corrections required by this checking process or in the Tenderers addition of prices, the total of the prices shall govern, and the Tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

F3.9.2 Consider the rejection of a tender offer if the Tenderer does not correct or accept the correction of his arithmetical errors in the manner described in F.3.9.1.

F3.10 Clarification of a tender offer

Obtain clarification from a Tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

F3.11 Evaluation of tender offers

F3.11.1 General
(To be in line with our evaluation methodology- inclusive of some of this)

F3.12 Insurance provided by the Employer

If requested by the proposed successful Tenderer, submit for the Tenderers information the policies and / or certificates of insurance which the conditions of contract identified in the contract data, require the Employer to provide.

F3.13 Acceptance of tender offer

F3.13.1 Accept tender offer only if the Tenderer complies with the legal requirements stated in the Tender Data.

F3.13.2 Notify the successful Tenderer of the Employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data or agreed additional period. Providing the form of offer and acceptance does not contain any qualifying statements, it will constitute the formation of a contract between the Employer and the successful Tenderer as described in the form of offer and acceptance.

F3.14 Notice to unsuccessful Tenderers

After the successful Tenderer has acknowledged the Employer's notice of acceptance, notify other Tenderers that their tender offers have not been accepted.

F3.15. Prepare contract documents

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- a) Addenda issued during the tender period,
- b) Inclusion of some of the returnable documents,
- c) Other revisions agreed between the Employer and the successful Tenderer, and
- d) The schedule of deviations attached to the form of offer and acceptance, if any.

F3.16 Issue final contract

Prepare and issue the final draft of contract documents to the successful Tenderer for acceptance as soon as possible after the date of the Employer's signing of the form of Offer and acceptance (including the schedule of deviations, if any). Only those documents that the conditions of tender require the Tenderer to submit, after acceptance by the Employer, shall be included.

F3.17 Complete adjudicator's contract

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

F3.18 Provide copies of the contracts

Provide to the successful Tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PART T2 LIST OF RETURNABLE DOCUMENTS

(The bidder must complete the following returnable documents).

- T2.1 RETURNABLE SCHEDULES REQUIRED FOR BID EVALUATION PURPOSES
- T2.2 OTHER DOCUMENTS REQUIRED FOR BID EVALUATION PURPOSES
- T2.3 RETURNABLE SCHEDULES THAT WILL BE INCORPORATED IN THE CONTRACT
- T2.4 OTHER DOCUMENTS THAT WILL BE INCLUDED IN THE CONTRACT

NOTE:

Although the documents under Part T2 is headed “Returnable Documents” in line with the CIDB model, these are not the only documents to be returned together with the bid. **All** the documents indicated on Part T1, must be completed, and signed where applicable and submitted as a **complete set of documents**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

T 2.1 RETURNABLE SCHEDULES REQUIRED FOR BID EVALUATION PURPOSES

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.1 **SCHEDULE OF EQUIPMENT REQUIRED FOR THE CONTRACT**

The Bidder shall state below what equipment will be available for executing the work should he be awarded the Contract.

[illegible]

FORM 2.1.2 SIZE OF ENTERPRISE AND CURRENT WORKLOAD

What was your turnover in the previous financial year? R _____

What is the estimated turnover for your current financial year? R _____

Physical facilities:

Provide information on offices, factories, yards, and warehouses occupied by your enterprise (attach details if the space provided is not enough)

Description	Address	Area (m ²)

List your current contracts and obligations:

Description	Value (R)	Start date	Duration	Expected completed date

Do you have the capacity to supply the goods and services described in this bid, should the contract be awarded to you?	Yes	No
---	-----	----

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.3 STAFFING PROFILE

Provide information on the staff that you have available to execute this contract.
(Attach a separate list if the space provided is insufficient)

[illegible]

Contractor

Contractor

Witness 1

Witness 1

Witness 2

Witness 2

Employer

Employer

Witness 1

Witness 1

Witness 2

Witness 2

FORM 2.1.4 PROPOSED KEY PERSONNEL

The Bidder shall list below the key personnel (including first nominee and the second-choice alternate), whom he proposes to employ on the project should his Bid be accepted, both at his headquarters and on the Site, to direct and for the execution of the work, together with their qualifications, experience, positions held and their nationalities.

Designation	Name of		Nationality	Summary of		HDI Status Yes/No	NQF 7 Certified Yes/No
	(i) Nominee	(ii) Alternate		Qualifications	Experience and present occupation		
Headquarters Partner/Director							
Project Manager							
Other key staff (give designation)							
PROJECT MONITORING Site(s) Supervisors							
Other key staff (give designation)							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.5 SCHEDULE OF PREVIOUS WORK CARRIED OUT BY BIDDER

Provide the following information on **relevant previous experience**. Indicate comparable projects of similar or larger size. This information is material to the award of the Contract. **No points will be awarded if reference cannot be reached or if it refuses to supply information. Give at least two (2) names and telephone numbers and e-mail address per reference.**

[illegible]

Contractor

Contractor

Witness 1

Witness 1

Witness 2

Witness 2

Employer

Employer

Witness 1

Witness 1

Witness 2

Witness 2

FORM 2.1.6 FINANCIAL ABILITY TO EXECUTE THE PROJECT

Provide details on the surety you will provide if the bid is awarded to you:

.....

AMOUNT - Which of the following institutions will provide surety? R

.....

Bank registered in terms of the Bank Act 1990 (Act 94 of 1990)	
Insurance Company registered in terms of the Short-Term Insurance Act 1998 (Act 53 of 1998)	
Cash	

Provide the estimated cash flow on the project in terms of submissions of payment certificates or payment schedules to the Employer

Month No	Amount (VAT included)			Cumulative cash flow
	(a) Received	(b) Payments made	(a – b) Net cash flow	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Maximum negative cash flow: Take the largest negative number in the last column and write it in here → → → → → →				

From what sources will you fund the above amount?

.....

(e.g. Funds internally available, bank overdraft, loan, etc)

- Notes:**
- (i) Value added tax to be included in all amounts
 - (ii) Assume payment of certificates within 30 days of approval of certificate

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.7 (A) AUTHORITY FOR SIGNATORY (-A-)

All signatories, including sole proprietors, shall confirm their authority by attaching to the last page of this bid a duly signed and dated original or certified copy of the relevant resolution of their members or their board of directors, as the case may be.

EXAMPLE ONLY

Attach Original

for: "COMPANIES / PARTNERSHIPS / CLOSE CORPORATIONS"

are shown below:

"By resolution of the board of directors passed on (date)

.....

(name)

has been duly authorised to sign all documents in connection with the Bid for

.....

and any Contract, which may arise there from on behalf of the Bidding Entity,

namely,

Signed on behalf of the bidding entity:

In his capacity as:on this date:

AUTHORISED PERSON'S SIGNATURE:

AS WITNESS: 1

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.7 (B) AUTHORITY FOR SIGNATORY (-B-)

EXAMPLE ONLY
Attach Original

for: "JOINT VENTURES" is shown below:

We, the undersigned are submitting this bid offer in Joint Venture and hereby authorize (name)

..... , authorised signatory of the company

.....

acting in the capacity of lead partner, to sign all documents in connection with the bid for

.....

and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORIZED SIGNATORY
		Signature:..... Name:..... Designation:.....
		Signature:..... Name:..... Designation:.....
		Signature:..... Name:..... Designation:.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.7 (C) AUTHORITY FOR SIGNATORY (-C-)

EXAMPLE ONLY
Attach Original

for: "SOLE PROPRIETOR" is shown below:

"I hereby certify that I'm the sole proprietor of the Bidding Entity, namely,

.....

and therefore duly authorised to sign the bidding documents"

SIGNATURE OF SOLE PROPRIETOR:

IN HIS CAPACITY AS:

DATE:

AUTHORISED PERSON'S SIGNATURE:

AS WITNESS:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.8 SCHEDULE OF PROPOSED SUBCONTRACTORS

Provide details on all sub-contractors you intend utilising on this contract

Type of work to be used for	(a) % of contract	Name of sub-contractor	(b) % HDI ownership	(c = a x b) Total contribution to HDI ownership
Total % of contract sub-contracted		Total contribution of HDI ownership:		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.9 FINANCIAL REFERENCES**FINANCIAL STATEMENTS**

I/We agree, if required, to furnish an audited copy of the latest set of financial statements together with my/our Directors' and Auditors' report.

BANK DETAILS OF BIDDING ENTITY

If the bidder is a Joint Venture or partnership, the information requested below is required for each member / partner.

I/We hereby authorise the Employer/Engineer to approach all or any of the following banks for the purposes of obtaining a financial reference:

DESCRIPTION OF BANK DETAIL	BANK DETAILS APPLICABLE TO BIDDER
Name of bank	
Contact person	
Branch name	
Branch code	
Street address	
Postal address	
Telephone number	()
Fax number	()
Account number	
Type of account, (i.e. cheque account)	

BIDDER'S TAX DETAILS

Bidder's VAT vendor registration number:

Bidder's SARS tax reference number:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.10 DETAILS OF ALTERNATIVE BIDS SUBMITTED

See condition of bid.

[illegible]

FORM 2.1.11 AMENDMENTS AND QUALIFICATIONS BY BIDDER

See condition of bid

PAGE	DESCRIPTION

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.12 LABOUR-ENHANCED METHODS:**PROPOSED PLANNED ACTIONS OF BIDDER RESULTING IN DEVIATIONS FROM SPECIFIED WORK**

ACTIVITY OR PAY ITEM	DESCRIPTION OF PLANNED ACTION RESULTING IN DEVIATION FROM SPECIFIED WORK

Compliance with Employment Equity Act 55 of 1998

Attach a valid certificate from the Department of Labour, or a declaration (refer to “Form 2.3.5 – Specific goals”) by the **designated employer**, that the employer complies with the relevant chapters of the Employment Equity Act.

Definitions in terms of the last-mentioned Act.

“Designated employer” means-

- an employer who employs 50 or more employees.
- an employer who employs fewer than 50 employees but has a total annual turnover that is equal to or above the applicable annual turnover of a small business in terms of Schedule 4 to this Act.”

“Schedule 4”**TURNOVER THRESHOLD APPLICABLE TO DESIGNATED EMPLOYERS**

Sector or sub sector in accordance with the Standard Industrial Classification	Total annual turnover
Agriculture	R 2,00 m
Mining and Quarrying	R 7,50 m
Manufacturing	R 10,00 m
Electricity, Gas and Water	R 10,00 m
Construction	R 5,00 m
Retail and Motor Trade and Repair Services	R 15,00 m
Wholesale Trade, Commercial Agents and Allied Services	R 25,00 m
Catering, Accommodation and other Trade	R 5,00 m
Transport, Storage and Communications	R 10,00 m
Finance and Business Services	R 10,00 m
Community, Social and Personal Services	R 5,00 m

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.13 EVALUATION SCHEDULE: APPROACH PAPER

The approach paper must respond to the proposed scope of work/project design an outline the proposed approach/methodology and work plan complete with time frames, and where relevant and appropriate, propose the scope of work and/or modifications to the scope of work. The approach paper should articulate what the tenderer is offering to provide for the price tendered in the pricing data.

The tenderer must as such explain his/her understanding of the objectives of the assignment and the Employer's stated and implied requirements, highlight the issues of importance, and explain the technical approach they would adopt to address them. The approach paper should explain the methodologies which are to be adopted, demonstrate the compatibility of those methodologies with the proposed approach (for instance, the methods of interpreting available data carrying out investigations, analyses, and studies; and comparing alternative solutions) and address any modifications to or fully develop the scope of work, proposed by the Employer. The approach should also include a quality plan which outlines processes, procedures and associated resources, applied by whom and when, to meet the requirements.

The technical approach and methodology portion of the approach paper, read in conjunction with the work plan, should form the basis of the scope of work incorporated in the contract with the successful tenderer. Accordingly, this portion of the approach paper should clearly articulate the project deliverables

The tenderer must attach his/her approach paper to this page. The scoring of the approach paper (Work Plan) will be as follows:

	Technical approach and methodology	Work plan
POOR (SCORE 40)	The technical approach and/or methodology are poor/are unlikely to satisfy project objectives or requirements. The tenderer has misunderstood certain aspects of the scope of work and does not deal with the critical aspects of the project.	The activity schedule omits important tasks or the timing of the activities and correlation among them are inconsistent with the approach paper. There is lack of clarity and logic in the sequencing.
SATISFACTORY (SCORE 70)	The approach is generic and not tailored to address the specific project objectives and requirements. The approach does not adequately deal with the critical characteristics of the project. The quality plan is too generic.	All key activities are included in the activity schedule but are not detailed. There are minor inconsistencies between timing, project deliverables and the proposed approach.
GOOD (SCORE 90)	The approach is specifically tailored to address the specific project objectives and requirements and is sufficiently flexible to accommodate changes that may occur during execution. The quality plan is specifically tailored to the critical characteristics of the project.	The work plan fits the approach paper well. all-important activities are indicated in the activity schedule and their timing and sequencing is appropriate and consistent with project objectives and requirements. There is a fair degree of detail that facilitates understanding of the proposed work plan.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

VERY GOOD (SCORE 100)	Besides meeting the “good” rating, the important issues are approached in an innovative and efficient way, indicating that the tenderer has outstanding knowledge of state-of-the-art approaches. The approach paper details ways to improve the project outcomes and the quality of the outputs.	Besides meeting the “good” rating, decision points and the sequencing and timing of activities are very well defined, indicating that the tenderer has optimized the use of resources. The work plan permits flexibility to accommodate contingencies.
----------------------------------	---	--

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person Authorized to sign Tender:

Full Name (Block Letters)

Signature:

Date:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.14 EVALUATION SCHEDULE: PROPOSED ORGANISATION AND STAFFING

The tenderer should propose the structure and composition of their team i.e. the main disciplines involved, the key staff member/expert responsible for each discipline, and the proposed technical and support staff. The roles and responsibilities of each key staff member / expert should be set out as job descriptions. In the case of an association/joint venture / consortium, it should, indicate how the duties and responsibilities are to be shared. The tenderer must attach his / her organization and staffing proposals to this page.

The scoring of the proposed organization and staffing will be as follows

POOR (SCORE 40)	The organization chart is sketchy, the staffing plan is weak in important areas, or the staffing schedule is inconsistent with the timing of the most important deliverables. There is no clarity in allocation of tasks and responsibilities.
SATISFACTORY (SCORE 70)	The organizational chart is complete and detailed, the technical level of composition of the staffing arrangements is adequate and staffing is consistent with both timing and deliverables.
GOOD (SCORE 90)	Besides meeting the "satisfactory" rating, staff are well balanced i.e. they show good co-ordination, complimentary skills, clear and defined duties and responsibilities, and limited number of short term experts. Some members of the project team have worked together before on limited occasions.
VERY GOOD (SCORE 100)	Besides meeting the "good" rating, the proposed team is well integrated and several members have worked together extensively in the past.

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person Authorized to sign Tender:

Full Name (Block Letters)

Signature:

Date:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.15 EVALUATION SCHEDULE: EXPERIENCE OF KEY STAFF

Experience of the key staff (assigned personnel) in relation to the scope of work will be evaluated from three different points of view:

- 1) General experience (total duration of professional activity), level of education and training and positions held of each key staff member / expert member.
- 2) The education, training, and experience of the key staff member / experts, in the specific sector, field, subject, etc. which is directly linked to the scope of work.
- 3) The key staff members' / experts' knowledge of issues which the tenderer considers pertinent to the project e.g., local conditions, affected communities, legislation, techniques etc.

A CV of each key staff member of not more than 2 pages should be attached to this schedule. The CV should be structured under the following headings:

1. Personal particulars - Name, - date and place of birth - place (s) of tertiary education and dates associated therewith - professional awards
2. Qualifications (degrees, diplomas, grades of membership of professional societies and professional registrations)
3. Name of current employer and position in enterprise
4. Overview of postgraduate / diploma experience (year, organization, and position)
5. Outline of recent assignments / experience that has a bearing on the scope of work

The scoring of the experience of key staff will be as follows:

	General qualifications (Greater weighting will be given to the team leader)	Adequacy of the assignment (Greater weighting will be given to the team leader)	Knowledge of issues pertinent to the project (Greater weighting will be given to the team leader)
POOR (SCORE 40)	Key staff have limited levels of general experience	Key staff have limited levels of project specific education, training and experience	Key staff have limited experience of issues pertinent to the project
SATISFACTORY (SCORE 70)	Key staff have reasonable levels of general experience	Key staff have reasonable levels of project specific education, training and experience	Key staff have reasonable experience of issues pertinent to the project
GOOD (SCORE 90)	Key staff have extensive levels of general experience	Key staff have extensive levels of project specific education, training and experience	Key staff have extensive experience of issues pertinent to the project
VERY GOOD (SCORE 100)	Key staff have outstanding levels of general experience	Key staff have outstanding levels of project specific education, training and experience	Key staff have outstanding experience of issues pertinent to the project

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person Authorized to sign Tender: Full Name (Block Letters)

Signature: Date:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.1.16 EVALUATION SCHEDULE: TENDERER'S EXPERIENCE

The experience of the tenderer as opposed to the key staff members / experts in similar projects or similar areas and conditions in relation to the scope of work will be evaluated.

Tenderers should very briefly describe his or her experience in this regard and attach this to this schedule. The description should be put in tabular form with the following headings:

Employer, contact person and telephone number, where available	Description of work (service)	Value of work (i.e. the service provided) inclusive of VAT (Rand)	Date completed

The scoring of the Tenderer's experience will be as follows:

POOR (SCORE 40)	Tenderer has limited experience
SATISFACTORY (SCORE 70)	Tenderer has relevant experience but has not dealt with the critical issues specific to the assignment.
GOOD (SCORE 90)	Tenderer has extensive experience in relation to the project and has worked previously under similar conditions and circumstances.
VERY GOOD (SCORE 100)	Tenderer has outstanding experience in projects of a similar nature

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person Authorized to sign Tender:

Full Name (Block Letters)

Signature: Date:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

T2.2**OTHER DOCUMENTS REQUIRED FOR BID EVALUATION PURPOSES**

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*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

FORM 2.2.1 COMPULSORY SITE BRIEFING / CLARIFICATION MEETING

Where Compulsory Site Inspections and Compulsory Information, Briefing or Clarification Meetings are to be held, it shall be subject to the following conditions:

1. Necessity for Compulsory Site Inspection and Compulsory Information / Briefing / Clarification Meetings

Compulsory Inspections / Meetings must only be held where the nature of the contract is such that it requires either an inspection of a site or a briefing session. The Bid Specification Committee should indicate to the Bid Office that such a compulsory inspection or briefing is regarded as a necessity.

2. Attendance Register

An attendance registers of potential bidders and the firms they represent shall be kept and signed by attendees. A copy of such Attendance Register shall be sent immediately after the inspection/briefing to the Bid Office.

3. Confirmation Notes of Inspection/Briefing Sessions

Confirmation Notes of the Compulsory Inspection or Briefing Session shall be held by or on behalf of the contact person of the Department for whom the Bid is being advertised. A copy of the notes shall be sent to each firm that was represented at the inspection/meeting as soon as possible after the inspection or meeting and before the closing date of the bid. A copy of the notes shall also be sent to the Bid Office. The relevant Department will ensure that the notes are submitted to the Bid Evaluation Committee and to the Bid Adjudication Committee.

4. Bid Documents

The bid documentation shall clearly state that where the inspection of a site or the attendance of a briefing session is compulsory, non-attendance thereof will lead to the disqualification of the bidder in question. The bid documentation shall further clearly state that if bid documents are obtained **after** the compulsory briefing session or site inspection, it will only be made available to firms that were represented at the meeting. The mere fact that a firm that was not represented at a compulsory site inspection/meeting, but nevertheless submitted to the municipality a set of bidding documents, should not be construed as creating any expectations that a bid will be considered by the Municipality.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.2.1 CERTIFICATE OF BIDDER'S ATTENDANCE AT THE COMPULSORY**SITE/CLARIFICATION MEETING**This is to certify that I, **(NAME IN PRINT)**,

representative of (Bidder)

of (address)

.....

.....

.....

Telephone number

Fax number

visited and inspected the Site / Attended Clarification Meeting

on (date)

in the company of

(Engineer/Engineer's Representative)

Name and Surname

Signature

SIGNATURE OF BIDDER'S REPRESENTATIVE:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.2.2 TAX CLEARANCE CERTIFICATE

The bidder is to affix to this page:

AN ORIGINAL TAX CLEARANCE CERTIFICATE AS OBTAINED FROM SARS TO BE SUBMITTED WITH AND ATTACHED TO THIS PAGE OF THE BID DOCUMENT.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.2.3 PROOF OF REGISTRATION WITH CONSTRUCTION INDUSTRY DEVELOPMENT BOARD

The bidder is to affix to this page either:

- Written proof of his registration with the CIDB as a Category as stipulated or one category lower.
or
- Written proof of his application to the CIDB for registration as a contractor in the category listed above.

Note:

1. Failure to affix such documentation as prescribed to this page shall result in this bid not being further considered for the award of the contract.
2. Should this bid be considered for award of the contract, based on proof of submission of application for registration in the appropriate category with the CIDB, and should proof of such subsequent registration not be forthcoming to the Employer before the end of business, at the last working day, prior to evaluation by the Tender Evaluation Committee of the contract, then this bid will no longer be considered for the award of the contract.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.2.4 DECLARATION:

I/We, the undersigned:

- (a) bid to supply and deliver to the CHIEF ALBERT LUTHULI MUNICIPALITY [hereafter "CALM"] all or any of the supplies and to render all or any of the articles, goods, materials, services, or the like described both in this and the other Schedules to this Contract*
- (b) agree that we will be bound by the specifications, prices, terms, and conditions stipulated in those Schedules attached to this bid document, regarding delivery and execution*
- (c) further agree to be bound by those conditions, set out in, "PARTS T1; T2; C1; C2; C3 and C4", attached hereto, should this bid be accepted in whole or in part*
- (d) confirm that this bid may only be accepted by the Local Municipality by way of a duly authorised Letter of Acceptance.*
- (e) declare that we are fully acquainted with the Bid document and Schedules, and the contents thereof and that we have signed the Bill of Quantities and completed the Returnable Schedules and declarations, attached hereto.*
- (f) declare that all amendments to the bid document have been initialled by the relevant authorised person and that the document constitutes a proper contract between the Local Municipality and the undersigned.*
- (g) certify that the item/s mentioned in the bid document, qualifies/qualify for the preference(s) shown.;*
- (h) acknowledge that the information furnished is true and correct*
- (i) accept that in the event of the contract being awarded because of preference claimed in this bid document, I may be required to furnish documentary proof to the satisfaction of the Local Municipality that the claims are correct. If the claims are found to be inflated, the Local Municipality may, in addition to any other remedy it may have, recover from me all cost, losses or damages incurred or sustained by the Local Municipality as a result of the award of the contract and/or cancel the contract and claim any damages which the Local Municipality may suffer by having to make less favourable arrangements after such cancellation.*
- (j) declare that no municipal rates and taxes or municipal service charges owed by the bidder or any of its directors to the Municipality, or to any other Municipality or Municipal entity, are in arrears for more than three (3) months; and*
- (k) declare that I have not failed to perform satisfactorily during the last five (5) years on a previous contract with the Municipality, Municipal entity, or any other organ of state, after written notice was given to me that my performance was unsatisfactory.*

Signed at.....this.....day of..... 20.....

Authorised Signature:

Name of Bidding Entity:

Date:

As witness 1:.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.2.5 DECLARATION OF INTEREST**DECLARATION OF INTEREST**

1. No bid will be accepted from persons in the service of the state¹.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
3. To give effect to the above, the following questionnaire must be completed and submitted with the bid.

3.1	Full Name of bidder or his or her representative:		
3.2	Identity Number:		
3.3	Position occupied in the Company (director, trustee, shareholder ²):		
3.4	Company Registration Number:		
3.5	Tax Reference Number:		
3.6	VAT Registration Number:		
3.7	The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.		
3.8	Are you presently in the service of the state?	YES	NO
3.8.1	If yes, furnish particulars:		

¹MSCM Regulations: "in the service of the state" means to be –

- a) a member of –
 - (i) any municipal council
 - (ii) any provincial legislature; or
 - (iii) the national Assembly or the national Council of provinces
- (b) a member of the board of directors of any municipal entity
- (c) an official of any municipality or municipal entity

 Contractor

 Witness 1

 Witness 2

 Employer

 Witness 1

 Witness 2

- (d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999)
- (e) a member of the accounting authority of any national or provincial public entity; or
- (f) an employee of Parliament or a provincial legislature.

² Shareholder” means a person who owns shares in the company and is actively involved in the management of the company or business and exercises control over the company.

3.9	Have you been in the service of the state for the past twelve months?	YES	NO
3.9.1	If yes, furnish particulars:		
3.10	Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid?	YES	NO
3.10.1	If yes, furnish particulars:		
3.11	Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid?	YES	NO
3.11.1	If yes, furnish particulars:		
3.12	Are any of the company's directors, trustees, managers, principal shareholders, or stakeholders in service of the state?	YES	NO
3.12.1	If yes, furnish particulars:		
3.13	Are any spouse, child or parent of the company's director's trustees, managers, principal shareholders, or stakeholders in service of the state?	YES	NO
3.13.1	If yes, furnish particulars:		
3.14	Do you or any of the directors, trustees, managers, principal shareholders, or stakeholders of this company have any interest in any other related companies or business whether they are bidding for this contract?	YES	NO
3.14.1	If yes, furnish particulars:		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

4. Full details of directors / trustees / members / shareholders.

FULL NAME	IDENTITY NUMBER	STATE EMPLOYEE NUMBER

DECLARATION

I, the undersigned (name): certify that the information furnished is correct. I accept that the state may act against me in terms of paragraph 23 of the General Conditions of Contract should this declaration prove to be false.

.....
Signature

.....
Date

.....
Capacity

.....
Name of Bidder

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.2.6 DECLARATION FOR PROCUREMENT ABOVE R10 MILLION**DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (VAT INCL.)**

For all procurements that is expected to exceed R10 million (VAT included), bidders must complete the following questionnaire:

		YES / NO
1	Are you by law required to prepare annual financial Statements for auditing?	
1.1	If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.	
2	Do you have any outstanding undisputed commitments for Municipal services towards a Municipality or any other service provider in respect of which payment is overdue for more than 30 days?	
2.1	If no, this serves to certify that the bidder has no undisputed commitments for Municipal services towards a Municipality or other service provider in respect of which payment is overdue for more than 30 days.	
2.2	If yes, provide particulars	
3	Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract?	
3.1	If yes, provide particulars	
4	Will any portion of goods or services be sourced from outside the Republic of SA and if so, what portion and whether any portion of payment from the Municipality / Municipal entity is expected to be transferred out of the Republic?	
4.1	If yes, provide particulars	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CERTIFICATION

I, the undersigned (Name)

hereby certify that the information furnished on this declaration form is correct.

I accept that the state may act against me should this declaration prove to be false.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

FORM 2.2.7 DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- 1 This Standard Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 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.
- 4 To give effect to the above, the following questionnaire must be completed and submitted with the bid.

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied). The Database of Restricted Suppliers now resides on the National Treasury's website(www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
4.3.1	If so, furnish particulars:		
4.4	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?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		

 Contractor

 Witness 1

 Witness 2

 Employer

 Witness 1

 Witness 2

SBD 8

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS TRUE AND CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME
SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.2.8 DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This Standard Bidding Document (SBD) must form part of all bids invited. It contains general information and serves as a declaration form for local content (local production and local content are used interchangeably).

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2011, the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

1. General Conditions

- 1.1. Preferential Procurement Regulations, 2011 (Regulation 9) makes provision for the promotion of local production and content.
- 1.2. Regulation 9.(1) prescribes that in the case of designated sectors, where in the award of bids local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3. Where necessary, for bids referred to in paragraph 1.2 above, a two-stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100 \quad \text{Where}$$

x is the imported content in Rand
y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as indicated in paragraph 4.1 below.

The SABS approved technical specification number SATS 1286:2011 is accessible on [http://www.thedti.gov.za/industrial development/ip.jsp](http://www.thedti.gov.za/industrial%20development/ip.jsp) at no cost.

- 1.6 A bid may be disqualified if –

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (a) this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation; and
- (b) the bidder fails to declare that the Local Content Declaration Templates (Annex C, D and E) have been audited and certified as correct.

2. Definitions

- 2.1. **“bid”** includes written price quotations, advertised competitive bids or proposals
- 2.2. **“bid price”** price offered by the bidder, excluding value added tax (VAT);
- 2.3. **“contract”** means the agreement that results from the acceptance of a bid by an organ of state
- 2.4. **“Designated sector”** means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;
- 2.5. **“duly sign”** means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility (close corporation, partnership or individual).
- 2.6. **“imported content”** means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad (this includes labour or intellectual property costs), plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;
- 2.7. **“local content”** means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;
- 2.8. **“stipulated minimum threshold”** means that portion of local production and content as determined by the Department of Trade and Industry; and
- 2.9. **“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.

3. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
_____	_____ %
_____	_____ %

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

_____ %

4. Does any portion of the services, works or goods offered have any imported content?
(**Tick applicable box**)

YES		NO	
-----	--	----	--

- 4.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by SARB for the specific currency at 12:00 on the date of advertisement of the bid.

The relevant rates of exchange information is accessible on www.reservebank.co.za.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Bidders must submit proof of the SARB rate (s) of exchange used.

5. Were the Local Content Declaration Templates (Annex C, D and E) audited and certified as correct?
(**Tick applicable box**)

YES		NO	
-----	--	----	--

- 5.1. If yes, provide the following particulars:

- (a) Full name of auditor:
- (b) Practice number:
- (c) Telephone and cell number:
- (d) Email address:

(Documentary proof regarding the declaration will, when required, be submitted to the satisfaction of the Accounting Officer / Accounting Authority)

6. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dti must be informed accordingly for the dti to verify and in consultation with the AO/AA provide directives in this regard.

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

LOCAL CONTENT DECLARATION
(REFER TO ANNEX B OF SATS 1286:2011)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO.

ISSUED BY: (Procurement Authority / Name of Institution):

NB

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on http://www.thdti.gov.za/industrial_development/ip.jsp. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, (full names),

do hereby declare, in my capacity as

of
 (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
 - (ii) the declaration templates have been audited and certified to be correct.
- (c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Bid price, excluding VAT (y)	R
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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 3 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above.

The local content percentages for each product have been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

(d) I accept that the Procurement Authority / Institution has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.

(e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Institution imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____

DATE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM 2.2.9 CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Institution)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: _____ that:
(Name of Bidder)

1. I have read and I understand the contents of this Certificate
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder
5. For the purposes of this Certificate and the accompanying bid, I understand that the word “competitor” shall include any individual or organization, other than the bidder, whether affiliated with the bidder, who:
 - (a) has been requested to submit a bid in response to this bid invitation
 - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities, or experience; and
 - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement, or arrangement with any competitor. However, communication between partners in a joint venture or consortium³ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - (a) prices
 - (b) geographical area where product or service will be rendered (market allocation)
 - (c) methods, factors or formulas used to calculate prices
 - (d) the intention or decision to submit or not to submit, a bid

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (e) the submission of a bid which does not meet the specifications and conditions of the bid; or bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act 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.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

T 2.3 RETURNABLE SCHEDULES THAT WILL BE INCORPORATED INTO THE CONTRACT

<u>FORM</u>	<u>CONTENTS</u>	<u>PAGE</u>
2.3.1	RECORD OF ADDENDA TO BID DOCUMENTS	64
2.3.2	CONDITIONS PERTAINING TO TARGETED PROCUREMENT	65
2.3.3	BID DOCUMENT	69

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

FORM 2.3.1 RECORD OF ADDENDA TO BID DOCUMENTS

We confirm that the following communications received from the Procuring Department before the submission of this bid offer, amending the bid documents, have been considered in this bid offer:

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

Attach additional pages if more space is required.

.....
Signature of Authorized person:

.....
Date:

.....
Name:

.....
Position

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

FORM 2.3.2 CONDITIONS PERTAINING TO TARGETED PROCUREMENT**PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017**

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 MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

1. GENERAL CONDITIONS

1.1 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
 - a) The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable or
 - b) The 80/20 preference point system will be applicable to this tender.

1.2 Points for this bid shall be awarded for:

- (a) Price; and
- (b) B-BBEE Status Level of Contributor.

1.3 The maximum points for this bid are allocated as follows:

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

1.4 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

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

2. DEFINITIONS

- (a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (b) **“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
- (c) **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals
- (d) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003)
- (e) **“EME”** means an Exempted Micro Enterprise 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
- (f) **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) **“prices”** includes all applicable taxes less all unconditional discounts
- (h) **“proof of B-BBEE status level of contributor”** means:
- 1) B-BBEE Status level certificate issued by an authorized body or person
 - 2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice
 - 3) Any other requirement prescribed in terms of the B-BBEE Act
- (i) **“QSE”** means a qualifying small business enterprise 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
- (j) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes

3. POINTS AWARDED FOR PRICE

3.1 THE 80/20 PREFERENCE POINT SYSTEMS

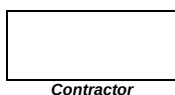
A maximum of 80 points is allocated for price on the following basis:

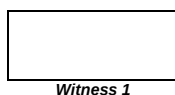
$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

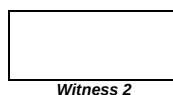
Where

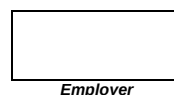
P_s = Points scored for price of bid under consideration
 P_t = Price of bid under consideration
 $P_{\min}$ = Price of lowest acceptable bid

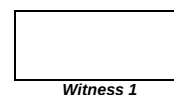
4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTOR

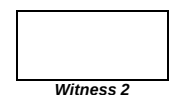

Contractor


Witness 1


Witness 2


Employer


Witness 1


Witness 2

- 4.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, 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

5. BID DECLARATION

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

6. B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 4.1

- 6.1 B-BBEE Status Level of Contributor = (maximum of 10 or 20 points)
(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.)

7. SUB-CONTRACTING

- 7.1 Sub-contracting will be done in line with our municipal Supply Chain Management Policy.

8. DECLARATION WITH REGARD TO COMPANY/FIRM

- 8.1 Name of company/firm:

- 8.2 VAT registration number:.....

- 8.3 Company registration number:

8.4 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
☐ One-person business/sole propriety
☐ Close corporation
☐ Company
☐ (Pty) Limited

[TICK APPLICABLE BOX]

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

8.6 COMPANY CLASSIFICATION

- ☐ Manufacturer
☐ Supplier
☐ Professional service provider
☐ Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

8.7 MUNICIPAL INFORMATION

Municipality where business is situated:

Registered Account Number:

Stand Number:

8.8

8.9 Total number of years the company/firm has been in business:

8.10 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 contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- i) The information furnished is true and correct
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct.
- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
 - (a) disqualify the person from the bidding process
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct.
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation.
 - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury 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

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

applied; and

(e) forward the matter for criminal prosecution.

WITNESS

(1)

.....

SIGNATURE(S) OF BIDDER(S)

(2)

..... Date:

Address:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

BID DOCUMENT

THE CONTRACT

- PART C1 AGREEMENT AND CONTRACT DATA
- PART C2 PRICING DATA
- PART C3 SCOPE OF WORKS
- PART C4 SITE INFORMATION

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PART C1 AGREEMENT AND CONTRACT DATA

C1.1	FORM OF OFFER AND ACCEPTANCE	71
C1.2	CONTRACT DATA	76
C1.3	FORM OF GUARANTEE	92
C1.4	AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)	

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

C1.1 FORM OF OFFER AND ACCEPTANCE**OFFER (AGREEMENT)**

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

.....

The Bidder, identified in the Offer signature block below, has examined the documents listed in the Bid Data and addenda thereto as listed in the Bid Schedules, and by submitting this Offer has accepted the Conditions of Bid.

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

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS

..... rand (in words);

R (in figures),

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Bidder before the end of the period of validity stated in the Bid Data, whereupon the Bidder becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

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

FOR THE BIDDER:

Signature(s)

Name(s)

Capacity

.....
(Name and address of organisation)

Name and signature of Witness Date

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

ACCEPTANCE

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

The terms of the contract, are contained in

- Part C1 Agreements and Contract Data, (which includes this Agreement)
 Part C2 Pricing Data
 Part C3 Scope of Work
 Part C4 Site Information and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 above.

Deviations from and amendments to the documents listed in the Bid Data and any addenda thereto listed in the Bid Schedules as well as any changes to the terms of the Offer agreed by the Bidder and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representative(s) of both parties.

The Bidder shall within two weeks after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

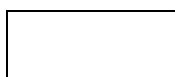
Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Bidder receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Bidder (now Contractor) within five working days of the date of such receipt notifies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

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

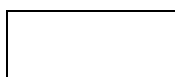
FOR THE CLIENT: Signature(s)
 Name(s)
 Capacity

CHIEF ALBERT LUTHULI MUNICIPALITY

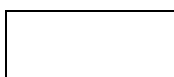
(Name and address of organisation)



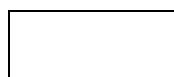
Contractor



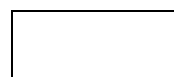
Witness 1



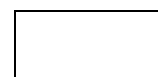
Witness 2



Employer



Witness 1



Witness 2

Witness 1

Witness 2

Name

Name

Signature

Signature

Date

Date

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SCHEDULE OF DEVIATIONS**Notes:**

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

1 Subject

Details

2 Subject

Details

3 Subject

Details

4 Subject

Details

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Bidder agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Bid Data and addenda thereto as listed in the Bid Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Bidder and the Employer during this process of offer and acceptance.

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



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

FOR THE BIDDER:

Signature(s)

Name(s)

Capacity

.....
(Name and address of organisation)**Witness 1****Witness 2**

Name:

Signature

Date

FOR THE EMPLOYER:

Signature(s)

Name(s)

Capacity

.....
(Name and address of organisation)**Witness 1****Witness 2**

Name:

Signature

Date



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

C1.2 CONTRACT DATA**CONDITIONS OF CONTRACT**

The **General Conditions of Contract for Construction Works 2015 3rd Edition**, published by the South African Institution of Civil Engineering, is applicable to this Contract and is incorporated herein by reference.

Copies of these Conditions of Contract may be obtained from the South African Institution of Civil Engineering, Tel. No. +27 11 805-5947 or www.saice.org.za.

The General Conditions of Contract for Construction Works make several references to the Contract Data for specific data, which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the general conditions of contract.

The Contract Data and General Conditions of Contract shall have precedence over the Drawings, Scope of Work and Standardised Specifications in the interpretation of any ambiguity or inconsistency.

The following contract specific data are applicable to this Contract:

PART 1: CONTRACT SPECIFIC DATA

Clause	Data
1.1.1.13	The Defects Liability Period is: Twelve (12) calendar months measured from the date of the Certificate of Completion.
1.1.1.14	The time for achieving Practical Completion is: 9 months
1.1.1.15	The name of the Employer is: Chief Albert Luthuli Municipality
1.1.1.16	The name of the Employer's Agent is: Ceenex (Pty) Ltd. The Employer's Agent means any Director, Associate or Professional Engineer appointed generally or specifically by the Management of Ceenex (Pty) Ltd. to fulfil the functions of the Employer's Agent in terms of the Conditions of Contract. Wherever the name " Engineer " appears in the document, it shall be read to mean the " Employer's Agent ".
1.1.1.26	The Pricing Strategy is Re-measurement Contract

Contractor

Witness 1

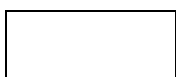
Witness 2

Employer

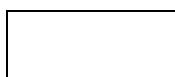
Witness 1

Witness 2

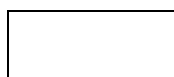
1.1.1.35	The following additional definition applies: - “Drawings” : Means all drawings, calculations and technical information forming part of the Contract Documents and any modifications thereof or additions thereto from time to time approved in writing by the Employer’s Agent or delivered to the Contractor by the Employer’s Agent.						
1.1.1.36	The following additional definition applies: - Letter of Notification : Means the letters of formal notification, signed by the Employer, of the decision of the Supply Chain Management Bid Adjudication Committee sent to all tenderers.						
1.2.1.2	Delivery of Notices The following two additional sub-clauses, covering alternative methods of communication, apply: -						
1.2.1.2.1	Sent by facsimile or any like communication irrespective of it being during office hours or otherwise.						
1.2.1.2.2	Posted to the addressee for certified delivery by the postal Authorities						
1.2.1.2	The address of the Employer for receipt of communications is: <table> <tr> <td><u>Physical address:</u></td><td><u>Postal address :</u></td></tr> <tr> <td>Chief Albert Luthuli Municipality 28 Church Street Carolina Mpumalanga</td><td>Chief Albert Luthuli Municipality P.O Box 24 Carolina 1185</td></tr> <tr> <td>Tel : (017) 843 4000</td><td>Email :</td></tr> </table>	<u>Physical address:</u>	<u>Postal address :</u>	Chief Albert Luthuli Municipality 28 Church Street Carolina Mpumalanga	Chief Albert Luthuli Municipality P.O Box 24 Carolina 1185	Tel : (017) 843 4000	Email :
<u>Physical address:</u>	<u>Postal address :</u>						
Chief Albert Luthuli Municipality 28 Church Street Carolina Mpumalanga	Chief Albert Luthuli Municipality P.O Box 24 Carolina 1185						
Tel : (017) 843 4000	Email :						
1.2.1.2	The address of the Employer’s Agent for receipt of communications is: <table> <tr> <td><u>Physical address:</u></td><td><u>Postal address :</u></td></tr> <tr> <td>291 Sprite Road Faerie Glen Pretoria 0181</td><td>P.O. Box 65151 Erasmusrand 0165</td></tr> <tr> <td>Tel : +27 12 361 4373</td><td>Email : steyn@ceenex.com</td></tr> </table>	<u>Physical address:</u>	<u>Postal address :</u>	291 Sprite Road Faerie Glen Pretoria 0181	P.O. Box 65151 Erasmusrand 0165	Tel : +27 12 361 4373	Email : steyn@ceenex.com
<u>Physical address:</u>	<u>Postal address :</u>						
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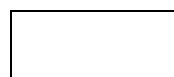
Contractor



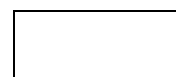
Witness 1



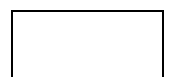
Witness 2



Employer



Witness 1



Witness 2

2.1.4	The following additional clause applies: - "Without limiting the generality of the afore going, the Schedule of Rates and Prices shall include: The provision and use of all labour, plant, tools instruments, templates, materials, transport, and all other appliances that may be required for satisfactorily protecting and efficiently carrying out the works without interruption or delay. The provision and housing of adequate staff and labour force and the provision of false work of every kind and description necessary for the due and proper performance of the Contract. The execution of the Works in orderly and progressive manner until it has been completed. Time being of the essence of the Contract the progressive development of the Works shall be arranged so that the time from the start to the finish of the construction of the said Works shall not exceed the time laid down in the Tender. The inclusion in the tendered rates for all and any of the general liabilities such as Establishment Charges, legal contingencies, regulations, risks or damage, Royalties, and all other overhead charges. The submission of a tender shall be considered prima facie evidence that the Contractor has complied with the requirements of this clause and has satisfied himself as to all circumstances and local conditions which may influence or affect his Tender."
2.4.3	The following additional clause applies: - In the event of any discrepancy or conflict between any parts of the Contract Documents, the order of precedence shall be as follows: 1. Project Specifications 2. Special Conditions of Contract 3. General Conditions of Contract 4. Conditions of Tender 5. Standardised/Particular Specifications 6. Contract Drawings 7. Schedule of Quantities

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2.5.1	The following additional clause applies: - The Employer may make direct payments to suppliers on behalf of the Contractor subject to the receipt of a specific request from the Contractor and subject to the following conditions: An original of the invoice together with a signed Cession Form is submitted together with a certificate approved by the Employer's Agent. The Contractor cedes, transfers, and assigns all the rights, title and interest in and to the materials and goods to the total value of the invoice. The cession shall become effective as soon as payment is made by the Employer or on behalf of the Employer. The Contractor indemnifies the Employer against any loss or damage whatsoever to the said material and goods whilst they are in the Contractor's possession and in transit to the site and until such time as they are safely and properly stored on the site, and the Contractor undertakes to effect adequate insurance against these risks. Such insurance shall be for the full value of the materials and goods and goods certified for payment and the insurance policy ceded in full to the Employer.
3.2.3	The Employer's Agent shall obtain the specific approval of the Employer before executing any of his functions or duties according to the following Clauses of the General Conditions of Contract: Clause 3.3.1 Nomination of Employer's Agent's Representative Clause 3.3.4 Employer's Agent's authority to delegate Clause 5.8.1 Non-working times Clause 5.11.1 Suspension of the Works Clause 5.12.4 Acceleration instead of extension of time
3.2.5	The following additional clause applies: - The onus rests with the Contractor to raise any item about which the Contractor may be uncertain, with the Employer's Agent's Representative. Any advice given to the Contractor by the Employer's Agent's Representative in response to matters so raised shall not be construed as instructions and shall be held to have been given without prejudice.
3.3.6	The following additional clause applies: - The Employer or the Employer's Agent under delegated authority, reserves the right to obtain the services of consultants on any matter pertaining to this contract; the employment of such consultants forms no part of this contract; a consultant's advice and/or documentation is to be followed only if the Employer's Agent or the Employer's Agent's Representative so instructs.

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4.1	All references to “design” are deemed to be deleted and the Contractor shall bear no liability in respect of the Projects design, other than the temporary works and items clearly indicated to design on drawings.
4.3.3	The following additional clause applies: - The Employer and the Contractor shall enter into an agreement to complete the work required for the construction of the works in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act (Act 85 of 1993) and the Construction Regulations promulgated thereunder. An agreement is included in the Contract Document (C1.1 of Contract Data) and shall be completed and submitted to the Employer together with a letter of good standing from the Compensation Commissioner (if not insured with a Licenced Compensation Insurer) within fourteen (14) days after the Commencement Date. The Contractor shall ensure that any letter of good standing shall be timeously renewed in order that it remains in full force for the duration of the Contract.
4.4.1	With reference to the Sub Construction (LED) Component Policy by CALM, the total value of work executed by subcontractors should be 10 % (TEN percent) of the contract price.
5.3.1	The documentation required before commencing with the Works execution are: • Health and Safety Plan (Refer to Clause 4.3) • Initial programme (Refer to Clause 5.6) • Security (Refer to Clause 6.2) • Insurance (Refer to Clause 8.6.1.3) • Letter of Good Standing from the Compensation Commissioner (if not insured with a Licensed Compensation Insurer)
5.3.2	The time to submit the documentation required before commencement of the Works is: 14 calendar days
5.4.2	Access and possession of site shall not be exclusive to the Contractor but will be shared by the Employers management / maintenance and operational staff on site.
5.4.3	The Contractor shall bear all costs and charges for special and temporary rights of way required by him in connection with access to the Site.
5.1.1 & 5.8.1	The non-working days are Saturdays and Sundays. The special non-working days are: (1) All gazetted public holidays falling outside the year end break. (2) All applicable public holidays including the December 2022-2023 “builders’ holiday” period.

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5.8.3	The following additional clause shall apply: Should the Employer’s Agent permit work outside of normal Employer working hours (viz Mondays to Fridays inclusive sunrise to sunset) and on Saturdays, Sundays or on any of the non-working days stated in the Appendix and if he deems the presence of the Employer’s Agent’s Representative or other duly authorised representative to be necessary, the Contractor will be liable for the cost of such supervision (calculated at a daily rate of 1/130 of the annual salary of such representative). Where the Employer’s Agent has ordered such work, the salary of the representative will be to the account of the Employer. A minimum of 24 hours notification of intent to work outside normal working hours shall be regarded as sufficient notice as set out in 5.8.1"															
5.13.1	The penalty for failing to complete the Works is: 0.1% of the contract value per calendar day															
5.14.1	The requirements for achieving Practical Completion shall mean: The commissioning and full operation as listed in the scope of works.															
5.14.7	Different dates to achieve Practical Completion will not be permitted															
5.16.3	The latent defect period is: Ten (10) years.															
6.2.1	The liability of the Security shall be in accordance with paragraph 21 (1)(f) of the CALM Supply Chain Management Policy, which reads as follows: (f) Where surety is required, it shall be in the form of cash, a certified cheque, or a bank guarantee from a banking institution registered in terms of the Banks Act, 1990 (Act No. 94 of 1990) or from an insurer registered in terms of the Insurance Act, 1943 (Act No. 27 of 1943). (g) Where bidders in Category A cannot raise the required surety of 2,5%, and it is feasible to deduct the amount from the first payment certificate, such concessions may be granted. Guarantees will be required as follows: <table><tr><th>Category</th><th>Project Value</th><th>Guarantee</th></tr><tr><td>A</td><td>< R500 000</td><td>2,5%</td></tr><tr><td>B</td><td>R500 001 – R1 000 000</td><td>5%</td></tr><tr><td>C</td><td>R1 000 001 – R2 000 000</td><td>7,5%</td></tr><tr><td>D</td><td>>R2 000 000</td><td>10%</td></tr></table>	Category	Project Value	Guarantee	A	< R500 000	2,5%	B	R500 001 – R1 000 000	5%	C	R1 000 001 – R2 000 000	7,5%	D	>R2 000 000	10%
Category	Project Value	Guarantee														
A	< R500 000	2,5%														
B	R500 001 – R1 000 000	5%														
C	R1 000 001 – R2 000 000	7,5%														
D	>R2 000 000	10%														
	The Form of Security is to be delivered within: 14 (Fourteen) days after the Commencement Date															
6.5.1.2.3:	The percentage allowances to cover overhead charges for day work are as follows: 15% of the gross remuneration of workmen and foremen engaged in the day work 15% on the net cost of materials used No allowance will be made for work done, or for materials and equipment for which day work rates have been quoted at tender stage.															

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6.6.1	The provisional sums stated in the Schedule of Quantities are net amounts covering the actual expenditure which the Employer may incur.															
6.7.6	The following additional clause shall apply: The Works are measured in accordance with the current SANS 1200 and the standard system of measurement of Civil Engineering quantities for South Africa, published by the South African Institution of Civil Engineers. No claims arising from the method of measurement will be entertained.															
6.8.2	Contract Price Adjustment: Is not applicable Note: Contract rates to be fixed for the 1st twelve months, there after CPA will apply The value of certificates after 12 months issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values: <table><tr><td>The value of</td><td>x</td><td>= 0.15</td></tr><tr><td>The value of coefficients is:</td><td>a</td><td>= 0.30</td></tr><tr><td></td><td>b</td><td>= 0.30</td></tr><tr><td></td><td>c</td><td>= 0.35</td></tr><tr><td></td><td>d</td><td>= 0.05</td></tr></table> The province wherein the larger part of the Site is located is the Mpumalanga The applicable industry for the Producer Price Index for materials is Civil Engineering. The area for the Producer Price Index for fuel is Inland The base month is April 2022.	The value of	x	= 0.15	The value of coefficients is:	a	= 0.30		b	= 0.30		c	= 0.35		d	= 0.05
The value of	x	= 0.15														
The value of coefficients is:	a	= 0.30														
	b	= 0.30														
	c	= 0.35														
	d	= 0.05														
6.8.3	Price adjustment for variations in the cost of special materials are: Not allowed															
6.10.1.5:	The percentage advance on materials not yet built into the Permanent Works is: 80% The percentage advance on Plant not yet supplied to Site is: Not required															
6.10.3:	The limit of retention money on amounts due to the contractor is 10% and the limit on retention is 10% of the contract sum .															
8.6.1.1.2:	The value of Plant and materials supplied by the Employer to be included in the insurance sum is: Nil .															
8.6.1.1.3:	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is 20% of the Contract Sum .															
8.6.1.3:	The limit of indemnity for liability insurance is: In accordance with CALM policy as follows: Project < R5m, limit R2m Project > R5m, limit R5m															
10.5.3	The number of Adjudication Board Members to be appointed is: One .															
10.7.1:	Disputes are to be settled in terms of paragraph 106 of the SCM Policy, which reads as follows: (1) The accounting officer must appoint an independent and impartial person, not directly involved in the supply chain management processes:															

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	(a) to assist in the resolution of disputes between the Municipality and other persons regarding: (i) any decisions or actions taken in the implementation of the supply chain management system; or (ii) any matter arising from a contract awarded in the course of the supply chain management system; or (b) To deal with objections, complaints or queries regarding any such decisions or actions or any matters arising from such contract. (2) The accounting officer, or another official designated by the accounting officer, is responsible for assisting the appointed person to perform his or her functions effectively. (3) The person appointed must: (a) strive to resolve promptly all disputes, objections, complaints or queries received; and (b) Submit monthly reports to the accounting officer on all disputes, objections, complaints or queries received, attended to or resolved. (4) A dispute, objection, complaint or query may be referred to the provincial treasury if: (a) the dispute, objection, complaint or query is not resolved within 60 days; or (b) No response is forthcoming within 60 days. (5) If the provincial treasury does not or cannot resolve the matter, the dispute, objection, complaint or query may be referred to the National Treasury for resolution. (6) This section must not be read as affecting a person's rights to approach a court at any time.
Clauses applicable to EPWP Contracts	
4.1	Variations to the Conditions of Contract are: <i>Add the following at the end of sub clause 4.1.2:</i>
4.1.3	The Employer and the Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Amendment Act, 1993 (Act 85 of 1993), hereinafter referred to as 'the Act', that the following arrangements and procedures shall apply between them to ensure compliance by the Contractor with the provisions of the Act: (i) The Contractor undertakes to acquaint the appropriate officials and employees of the Contractor with all relevant provisions of the Act and the Regulations promulgated in terms of the Act. (ii) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations on the Contractor will be fully complied with. (iii) The Contractor accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and Regulations and expressly absolves the Employer from himself being obliged to comply with any of the aforesaid duties, obligations, and prohibitions, with the exception of such duties, obligations and prohibitions expressly assigned to the Employer in terms of the Act and its associated Regulations. (iv) The Contractor agrees that any duly authorised officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to monitor that the Contractor has conformed to his undertakings as described in paragraphs (i) and (ii) above, which steps may include, but will not be limited to, the right to inspect any

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	appropriate site or premises occupied by the Contractor, or any appropriate records or safety plans held by the Contractor. (v) The Contractor shall be obliged to report forthwith to the Employer and Employer's Agent any investigation, complaint or criminal charge which may arise because of the provisions of the Act and Regulations, pursuant to work performed in terms of this Contract, and shall, on written demand, provide full details in writing, to the Employer and Employer's Agent, of such investigation, complaint or criminal charge
4.1.4	The Contractor shall furthermore, in compliance with Constructional Regulations 2003 to the Act: (i) Acquaint himself with the requirements of the Employer's health and safety specification as laid down in regulation 4(1)(a) of the Construction Regulation 2003 and prepare a suitably and sufficiently documented health and safety plan as contemplated in regulation 5(1) of the Construction Regulation 2003 for approval by the Employer or his assigned agent. The Contractor's health and safety plan and risk assessment shall be submitted to the Employer for approval within fourteen (14) days after receiving a completed copy of the Agreement and shall be implemented and maintained from the Commencement of the Works
	(ii) The Employer, or his assigned agent, reserves the right to conduct periodic audits, as contemplated in the Construction Regulations 2003, to ensure that the Contractor is compliant in respect of his obligations. Failure by the Contractor to comply with the requirements of these Regulations shall entitle the Employer's Agent, at the request of the Employer or his agent, to suspend all or any part of the Works, with no recourse whatsoever by the Contractor for any damages incurred as a result of such suspension, until such time that the Employer or his agents are satisfied that the issues in which the Contractor has been in default have been rectified.
6.7.6	<i>Add new subclause 6.7.6:</i> "Payment for the labour-intensive component of the works Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations in contract.
The additional Conditions of Contract are:	
4.13	Add new sub clause 4.13: Applicable labour laws The Ministerial Determination, Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No R63 of 25 January 2002, as reproduced below, shall apply to works described in the scope of work as being labour-intensive and which are undertaken by unskilled or semi-skilled workers. 1 Introduction 1.1 This document contains the standard terms and conditions for workers employed in elementary occupations on a Special Public Works Programme (SPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of a SPWP. 1.2 In this document – (a) "department" means any department of the State, implementing agent or contractor; (b) "employer" means any department, implementing agency or contractor that hires workers to work in elementary occupations on a SPWP;

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- (c) “worker” means any person working in an elementary occupation on a SPWP;
- (d) “elementary occupation” means any occupation involving unskilled or semi-skilled work;
- (e) “management” means any person employed by a department or implementing agency to administer or execute an SPWP;
- (f) “task” means a fixed quantity of work;
- (g) “task-based work” means work in which a worker is paid a fixed rate for performing a task;
- (h) “task-rated worker” means a worker paid on the basis of the number of tasks completed;
- (i) “time-rated worker” means a worker paid on the basis of the length of time worked.

2 Terms of work

- 2.1 Workers on a Special Public Works Programme (SPWP) are employed on a temporary basis.
- 2.2 A worker may NOT be employed for longer than 24 months in any five-year cycle on a SPWP.
- 2.3 Employment on a SPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.

3 Normal hours of work

- 3.1 An employer may not set tasks or hours of work that require a worker to work–
 - (a) more than forty hours in any week;
 - (b) on more than five days in any week; and
 - (c) For more than eight hours on any day.
- 3.2 An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.
- 3.3 A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

4 Meal breaks

- 4.1 A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.
- 4.2 An employer and worker may agree on longer meal breaks.
- 4.3 A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.
- 4.4 A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

5 Special conditions for security guards

- 5.1 A security guard may work up to 55 hours per week and up to eleven hours per day.
- 5.2 A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

6 Daily rest periods

Every worker is entitled to a daily rest period of at least eight consecutive hours.

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The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

7 Weekly rest periods

Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work ("emergency work").

8 Work on Sundays and public holidays

8.1 A worker may only work on a Sunday or public holiday to perform emergency or security work.

8.2 Work on Sundays is paid at the ordinary rate of pay.

8.3 A task-rated worker who works on a public holiday must be paid –

(a) the worker's daily task rate, if the worker works for less than four hours;

(b) Double the worker's daily task rate, if the worker works for more than four hours.

8.4 A time-rated worker who works on a public holiday must be paid –

(a) the worker's daily rate of pay, if the worker works for less than four hours on the public holiday;

(b) Double the worker's daily rate of pay, if the worker works for more than four hours on the public holiday.

9 Sick leave

9.1 Only workers who work four or more days per week have the right to claim sick-pay in terms of this clause.

9.2 A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.

9.3 A worker may accumulate a maximum of twelve days sick leave in a year.

9.4 Accumulated sick leave may not be transferred from one contract to another contract.

9.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.

9.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.

9.7 An employer must pay a worker sick pay on the worker's usual pay day.

9.8 Before paying sick pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –

(a) absent from work for more than two consecutive days; or

(b) absent from work on more than two occasions in any eight-week period.

9.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.

9.10 A worker is not entitled to be paid sick leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

10 Maternity leave

10.1 A worker may take up to four consecutive month's unpaid maternity leave.

10.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.

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- 10.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- 10.4 A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- 10.5 A worker may begin maternity leave –
- (a) four weeks before the expected date of birth; or
 - (b) on an earlier date –
 - (i) if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
 - (ii) if agreed to between employer and worker; or
 - (c) On a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
- 10.6 A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.
- 10.7 A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the SPWP on which she was employed has ended.

11 Family responsibility leave

- 11.1 Workers who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances:
- (a) when the employee's child is born;
 - (b) when the employee's child is sick;
 - (c) in the event of a death of
 - (i) the employee's spouse or life partner;
 - (ii) The employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

12 Statement of conditions

- 12.1 An employer must give a worker a statement containing the following details at the start of employment:
- (a) the employer's name and address and the name of the SPWP;
 - (b) the tasks or job that the worker is to perform; and
 - (c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
 - (d) the worker's rate of pay and how this is to be calculated;
 - (e) The training that the worker will receive during the SPWP.
- 12.2 An employer must supply each worker with a copy of these conditions of employment.

13 Keeping records

- 13.1 Every employer must keep a written record of at least the following:
- (a) the worker's name and position;
 - (b) in the case of a task-rated worker, the number of tasks completed by the worker;
 - (c) in the case of a time-rated worker, the time worked by the worker;

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(d) Payments made to each worker.

13.2 The employer must keep this record for a period of at least three years after the completion of the SPWP.

14 Payment

14.1 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.

14.2 A task-rated worker will only be paid for tasks that have been completed.

14.3 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.

14.4 A time-rated worker will be paid at the end of each month.

14.5 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.

14.6 Payment in cash or by cheque must take place –

- (a) at the workplace or at a place agreed to by the worker;
- (b) during the worker's working hours or within fifteen minutes of the start or finish of work;
- (c) In a sealed envelope which becomes the property of the worker.

14.7 An employer must give a worker the following information in writing:

- (a) the period for which payment is made;
- (b) the numbers of tasks completed, or hours worked;
- (c) the worker's earnings;
- (d) any money deducted from the payment;
- (e) The actual amount paid to the worker.

14.8 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.

14.9 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

15 Deductions

15.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.

15.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.

15.3 An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.

15.4 An employer may not require or allow a worker to –

- (a) repay any payment except an overpayment previously made by the employer by mistake;
- (b) state that the worker received a greater amount of money than the employer actually paid to the worker; or
- (c) Pay the employer or any other person for having been employed.

16 Health and safety

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

16.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.

(e) Report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

16.2 A worker must –

(a) work in a way that does not endanger his/her health and safety or that of any other person;

(b) obey any health and safety instruction;

(c) obey all health and safety rules of the SPWP;

(d) use any personal protective equipment or clothing issued by the employer;

17 Compensation for injuries and diseases

17.1 It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a SPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.

17.2 A worker must report any work-related injury or occupational disease to their employer or manager.

17.3 The employer must report the accident or disease to the Compensation Commissioner.

17.4 An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

18 Termination

18.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.

18.2 A worker will not receive severance pay on termination.

18.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.

18.4 A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

18.5 A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

19 Certificate of service

19.1 On termination of employment, a worker is entitled to a certificate stating –

(a) the worker's full name;

(b) the name and address of the employer;

(c) the SPWP on which the worker worked;

(d) the work performed by the worker;

(e) any training received by the worker as part of the SPWP;

(f) the period for which the worker worked on the SPWP;

(g) Any other information agreed on by the employer and worker."

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PART 2: PARTICULAR SPECIFICATIONS

Clause	Description
8.6.8	<i>ADDITIONAL CLAUSE</i> "In the event of any claim arising under the policy or policies held, the Contractor shall without delay take all the necessary steps to lodge his claim on the joint behalf of himself and the Municipality, and the claim submitted shall cover all costs to repair and make good in terms of Sub-clause 8.6.1. The Contractor shall submit copies of all claims and related documents to the Engineer. Settlement of claims will be paid to the Municipality who will pay such amounts to the Contractor on certification by the Engineer in terms of Clause 2.2 as the rectification proceeds. All claims shall be submitted in accordance with the requirements of the policy."
8.6.9	<i>ADDITIONAL CLAUSE</i> "The ENGINEER will verify the Contractors All Risks insurance cover and issue a letter of confirmation that adequate cover is in place or not."
8.6.10	<i>ADDITIONAL CLAUSE</i> "The contractor to subcontract at least of 10% of the value of the construction work to designated local sub-contractors, suppliers and/ or SMME's identified by the engineer on behalf of and/ or in liaison with the employer, which will be selected from a local database. The contractual relationship between the contractor and such local sub-contractors, suppliers and/ or SMME's will be as defined in clause 4.4.3".

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PART 3: DATA PROVIDED BY THE CONTRACTOR

Clause		
1(1)(h)	The Contractor is:	
1(2)	The Contractor's address for receipt of communications is: Physical address: Postal address: Telephone: (.....) Fax: (.....) E-mail:	
37(2)(b)	The percentage allowances to cover all charges for the Contractor's and subcontractor's profits, timekeeping, clerical work, insurance, establishment, superintendence, and the use of hand tools is:	NOT APPLICABLE
46(3)	The rate for special materials, exclusive of value-added tax (VAT) is:	NOT APPLICABLE

Contractor

Contractor

Witness 1

Witness 1

Witness 2

Witness 2

Employer

Employer

Witness 1

Witness 1

Witness 2

Witness 2

C1.3 FORM OF GUARANTEE**PRO FORMA****CONTRACT NO. ALMT 20/2021**

WHEREAS the Chief Albert Luthuli Municipality (hereinafter referred to as "the Employer") entered into, a Contract with
(hereinafter called "the Contractor")

on the day of 22.... for the construction of

.....
at

AND WHEREAS it is provided by such Contract that the Contractor shall provide the Employer with security by way of a guarantee for the due and faithful fulfilment of such Contract by the Contractor;

AND WHEREAS

has/have at the request of the Contractor, agreed to give such guarantee;

NOW THEREFORE WE

do hereby guarantee and bind ourselves jointly and severally as Guarantor and Co-principal Debtors to the Employer under renunciation of the benefits of division and excursions for the due and faithful performance by the Contractor of all the terms and conditions of the said Contract, subject to the following conditions:

1. The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorized and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the Completion Date of the Works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alterations of the Completion Date which the Employer may make, give, concede or agree to under the said Contract.
2. This guarantee shall be limited to the payment of a sum of money
3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor.
4. This guarantee shall remain in full force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.
5. Our total liability hereunder shall not exceed the sum of

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

.....

..... (R)

The Guarantor reserves the right to withdraw from this guarantee by depositing the Guaranteed Sum with the beneficiary, whereupon the Guarantor's liability hereunder shall cease.

We hereby choose our address for the serving of all notices for all purposes arising here from as

.....

IN WITNESS WHEREOF this guarantee has been executed by us at

on this day of 20

As witnesses:

1. Signature

Signature

Duly authorized to sign on behalf of

Address



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

C1.4 AGREEMENT IN TERMS OF THE OCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)

THIS AGREEMENT made at

on this the day of in the year 20

between

CHIEF ALBERT LUTHULI MIUNICIPALITY
(hereinafter called "**the Employer**") of the one part,

herein represented by

in his capacity as

and

.....
(hereinafter called "**the Mandatory**") of the other part,

herein represented by

in his capacity as

WHEREAS the Employer is desirous that certain works be constructed, viz

.....
and has accepted a Bid by the Mandatory for the construction, completion and maintenance of such Works and whereas the Employer and the Mandatory have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Mandatory with the provisions of the Occupational Health and Safety Act, 1993 (Act 85 of 1993);

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

- 1 The Mandatory shall execute the work in accordance with the Contract Documents pertaining to this Contract.
- 2 This Agreement shall hold good from its Commencement Date, which shall be the date of a written notice from the Employer or Engineer requiring him to commence the execution of the Works, to either
 - (a) the date of the Final Approval Certificate issued in terms of Clause 52.1 of the General Conditions of Contract (hereinafter referred to as "the GCC"),

Contractor

Witness 1

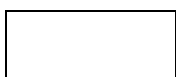
Witness 2

Employer

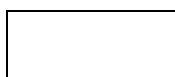
Witness 1

Witness 2

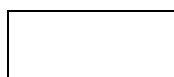
- (b) the date of termination of the Contract in terms of Clauses 54, 55 or 56 of the GCC.
- 3 The Mandatory declares himself to be conversant with the following:
- (a) All the requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), hereinafter referred to as "The Act", together with its amendments and with special reference to the following Sections of The Act:
- (i) Section 8 : General duties of employers to their employees
- (ii) Section 9 : General duties of employers and self-employed persons to persons other than employees
- (iii) Section 37 : Acts or omissions by employees or mandatories, and
- (iv) Subsection 37(2) relating to the purpose and meaning of this Agreement.
- (b) The procedures and safety rules of the Employer as pertaining to the Mandatory and to all his subcontractors.
- 4 In addition to the requirements of Clause 33 of the GCC and all relevant requirements of the above-mentioned Volume 3, the Mandatory agrees to execute all the Works forming part of this Contract and to operate and utilise all machinery, plant and equipment in accordance with the Act.
- 5 The Mandatory is responsible for the compliance with the Act by all his subcontractors, whether or not selected and/or approved by the Employer.
- 6 *The Mandatory warrants that all his and his subcontractors' workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 which cover shall remain in force whilst any such workmen are present on site. A letter of good standing from the Compensation Commissioner to this effect must be produced to the Employer upon signature of the agreement.*
- 7 The Mandatory undertakes to ensure that he and/or subcontractors and/or their respective employers will at all times comply with the following conditions:
- (a) The Mandatory shall assume the responsibility in terms of Section 16.1 of the Occupational Health and Safety Act. The Mandatory shall not delegate any duty in terms of Section 16.2 of this Act without the prior written approval of the Employer. If the Mandatory obtains such approval and delegates any duty in terms of section 16.2 a copy of such written delegation shall immediately be forwarded to the Employer.
- (b) All incidents referred to in the Occupational Health and Safety Act shall be reported by the Mandatory to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.
- (c) The Employer hereby obtains an interest in the issue of any formal inquiry conducted in terms of section 32 of the Occupational Health and Safety Act into any incident involving the Mandatory and/or his employees and/or his subcontractors.



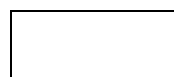
Contractor



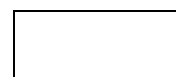
Witness 1



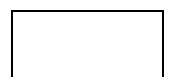
Witness 2



Employer



Witness 1



Witness 2

In witness thereof the parties hereto have set their signatures hereon in the presence of the subscribing witnesses:

SIGNED FOR AND ON BEHALF OF THE EMPLOYER:

SIGNATURE: NAME (In capitals)

WITNESS 1 NAME (In capitals)

SIGNED FOR AND ON BEHALF OF THE MANDATORY:

SIGNATURE: NAME (In capitals)

WITNESS 1 NAME (In capitals)



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

CERTIFICATE OF AUTHORITY FOR SIGNATORY TO AGREEMENT IN TERMS OF OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)

The signatory for the company that is the Contractor in terms of the above-mentioned Contract and the Mandatory in terms of the above-mentioned Act shall confirm his or her authority thereto by attaching to this page a duly signed and dated copy of the relevant resolution of the Board of Directors.

An example is given below:

"By resolution of the Board of Directors passed at a meeting held on20,

Mr/Ms

Whose Signature appears below, has been duly authorised to sign the AGREEMENT in terms of THE OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT 85 of 1993)

on behalf of

SIGNED ON BEHALF OF THE COMPANY:

SIGNATURE: NAME (In capitals)

In his/her capacity as:

WITNESS 1 NAME (In capitals)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PART C2	<u>PRICING DATA</u>	PAGE
C2.1	PRICING INSTRUCTIONS	100
C2.2	BILL OF QUANTITY	103
C2.3	SUMMARY OF THE BILL OF QUANTITIES	141

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C2.1 PRICING INSTRUCTIONS

- 1 The General Conditions of Contract, the Contract Data, the Specifications (including the Project Specifications) and the Drawings shall be read in conjunction with the Bill of Quantities.
- 2 The Bill comprises items covering the Contractor's profit and costs of general liabilities and of the construction of Temporary and Permanent Works.

Although the Bidder is at liberty to insert a rate of his own choosing for each item in the Bill, he should note the fact that the Contractor is entitled, under various circumstances, to payment for additional work carried out and that the Engineer is obliged to base his assessment of the rates to be paid for such additional work on the rates the Contractor inserted in the Bill.

Clause 8 of each Standardized Specification, and the measurement and payment clause of each Particular Specification, read together with the relevant clauses of the Project Specifications, all set out which ancillary or associated activities are included in the rates for the specified operations.

- 3 Descriptions in the Bill of Quantities are abbreviated and may differ from those in the Standardized and Project Specifications. No consideration will be given to any claim by the Contractor submitted on such a basis. The Bill has been drawn up generally in accordance with the latest issue of Civil Engineering Quantities. Should any requirement of the measurement and payment clause of the appropriate Standardized or Project Specification(s) be contrary to the terms of the Bill or, when relevant, to the Civil Engineering Quantities, the requirement of the appropriate Standardized, Project, or Particular Specification as the case may be, shall prevail.
- 4 Unless stated to the contrary, items are measured net in accordance with the Drawings without any allowance having been made for waste.
- 5 The amounts and rates to be inserted in the Bill of Quantities shall be the full inclusive amounts to the Employer for the work described under the several items. Such amounts shall cover all the costs and expenses that may be required in and for the construction of the work described, and shall cover the costs of all general risks, profits, taxes (but excluding value-added tax), liabilities and obligations set forth or implied in the documents on which the Bid is based.
- 6 The quantities set out in the schedule of quantities are only approximate quantities. The quantities of work finally accepted and certified for payment, and not the quantities given in the schedule of quantities, will be used to determine payments to the contractor.
- 7 An amount or rate shall be entered against each item in the Bill of Quantities, whether quantities are stated. An item against which no amount or rate is entered will be covered by the other amounts or rates in the Bill.

The Bidder shall also fill in a rate against the items where the words "rate only" appears in the amount column. Although no work is foreseen under these items and no quantities are consequently given in the quantity column, the bided rates shall apply should work under these items be required.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Should the Bidder group several items together and bid one sum for such group of items, the single bided sum shall apply to that group of items and not to each individual item, or should he indicate against any item that full compensation for such item has been included in another item, the rate for the item included in another item shall be deemed to be nil.

The bided rates, prices and sums shall, subject only to the provisions of the Conditions of Contract, remain valid irrespective of any change in the quantities during the execution of the Contract.

- 8 The quantities of work as measured and accepted and certified for payment in accordance with the Conditions of Contract, and not the quantities stated in the Bill of Quantities, will be used to determine payments to the Contractor. The validity of the Contract shall in no way be affected by differences between the quantities in the Bill of Quantities and the quantities certified for payment.

Ordering of materials is not to be based on the Bill of Quantities, but only on information issued for construction purposes.

- 9 For the purposes of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:

Unit	:	The unit of measurement for each item of work as defined in the Standardized, Project or Particular Specifications
Quantity	:	The number of units of work for each item
Rate	:	The payment per unit of work at which the Bidder bids to do the work
Amount	:	The quantity of an item multiplied by the bided rate of the (same) item
Sum	:	An amount bided for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere, but of which the quantity of work is not measured in units

- 10 The units of measurement indicated in the Bill of Quantities are metric units. The following abbreviations may appear in the Bill of Quantities:

mm	=	millimetre	m	=	metre
km	=	kilometre	km-pass	=	kilometre-pass
m ²	=	square metre	m ² -pass	=	square metre-pass
ha	=	hectare	m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre	kW	=	kilowatt
kN	=	kilonewton	kg	=	kilogram
t	=	ton (1 000 kg)	%	=	per cent
MN	=	meganewton	MN-m	=	meganewton-metre
PC Sum	=	Prime Cost Sum	Prov Sum	=	Provisional Sum

NB: PLEASE STATE THE FOLLOWING:

- ARE/IS BID PRICE/S FIRM:
- IF THE BID PRICE(S) ARE NOT FIRM, SUPPLY THE INFORMATION REGARDING ESCALATION APPLICABLE TO THIS BID:

YES	NO
-----	----

.....

.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C2.2 BILL OF QUANTITIES**CONTENTS**

SABS 1200 A	:	GENERAL
SABS 1200 AB	:	ENGINEERS OFFICE
SABS 1200 C	:	SITE CLEARANCE
SABS 1200 D	:	EARTHWORKS
SABS 1200 DA	:	EARTHWORKS (PIPE TRENCHES)
SABS 1200 GA	:	CONCRETE (SMALL WORKS)
SABS 1200 G	:	CONCRETE (STRUCTURAL)
SABS 1200 L	:	MEDIUM PRESSURE PIPELINES
SABS 1200 LB	:	BEDDING (PIPES)

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	SABS 1200A	SECTION 1: PRELIMINARY AND GENERAL				
1.1	8.3 PSA 4.1	FIXED-CHARGE ITEMS				
1.1.1	8.3.1	Contractual Requirements	Sum	1		
	8.3.2	<u>Establish facilities on site for Contractor</u>				
1.1.2	8.4.2.2(e)	Offices, storage sheds, ablution, tools, and equipment	Sum	1		
1.1.3	PS 5	Water supplies, electric power, and communications	Sum	1		
1.1.4		Insurance cover (up to value of R 10 000 000.00)	Sum	1		
1.1.5	8.3.4	Remove Contractor's Site establishment on completion of the contract	Sum	1		
1.2	PSA 4.2	TIME-RELATED ITEMS				
1.2.1	8.4.1	Contractual Requirements	Month	9		
	8.4.2	<u>Operate and maintain facilities on Site:</u>				
	8.4.2.4	<u>Facilities for Contractor for duration of construction</u>				
1.2.2		Offices, storage sheds and ablution facilities	Month	9		
1.2.4		Tools and equipment	Month	9		
1.2.5		Water supplies, electric power, and communications	Month	9		
1.2.6	8.4.3	Supervision	Month	9		
1.3	8.8.4	EXISTING SERVICES				
		Excavate by hand in soft material to expose existing services				
1.3.1		Electrical cables	m	80		
1.3.2		Water pipes	m	60		
Subtotal Carried to Next Page						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

	Brought Forward from Previous Page					
1.4		OCCUPATIONAL HEALTH AND SAFETY ACT <i>Compliance with the Occupational Health and Safety Act (Act 85 of 1993) and all relevant and applicable Regulations, especially the Construction Regulations, 2003 as promulgated on 18 July 2003 under section 43 of the Occupational Health and Safety Act (Act 85 of 1993), including all amendments as amended from time to time, for the duration of the contract in providing the following.</i> An OH & S Plan/File in terms of Clause 5 of the Schedule, prior to the commencement of work inclusive of a record of all drawing's designs, copies of statutory appointments, material used and other similar information concerning the completed contract including a Risk Assessment in terms of Clause 7 of the Schedule of this contract				
1.4.1			Sum	1		
1.4.2		Registration with Compensation Fund or approved / licensed compensation insurer	Sum	1		
1.4.4		Implementation, uphold and maintain QHS Plan	month	9		
1.4.5		Supply, maintain and issue of PPC	month	9		
1.4.6		Implementation, uphold and maintain QCP files	month	9		
Subtotal for Section 1 carried to summary page						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
2	SANS	SECTION 2: OPERATIONAL BUILDING				
2.1	1200 DM	CLEARING				
2.1.1		Chip existing plastered walls and spoil to on-site dumpsite	m ²	120		
2.1.2		Prepare concrete floor surface areas to receive finishings	m ²	130		
2.1.3		Demolish existing 110mm brick wall	m ²	45		
2.1.4		Demolish existing 220mm brick wall	m ²	10		
2.1.5		Break open wall area and make good	m ²	6		
2.2		EARTHWORKS				
2.2.1	8.3.2	Excavate in all materials and dispose of within free haul distance or stockpile for later use for:				
2.2.1.1		Excavation for strip footing - face brick skin	m ³	32		
2.2.1.2		Excavation for apron slab	m ³	9		
2.3		TREATMENT OF IN SITU				
2.3.1	8.3.3(a)	In situ preparation and compaction of material to minimum of 90% of Mod AASHTO density	m ²	50		
2.3.2		Compacted backfill around structure in 150mm layers	m ³	9		
2.4		CONCRETE				
2.4.1		<u>Strength concrete 25MPa/19mm</u>				
2.4.1.1		Entrance 2	m ³	2		
2.4.1.2		Stairs	m ³	5		
2.4.1.3		First Floor Slab	m ³	40		
2.4.1.4		Apron slab and walkway	m ³	5		
2.4.1.5		Strip footings	m ³	9		
2.4.2		<u>Prescribed mix concrete -1:2:4</u>				
2.4.2.1		Screed ratio: 1 part cement to 3,5 parts sand.	m ³	10		
2.5		FORMWORK				
2.5.1		<u>Rough walls below ground</u>				
2.5.1.1		Vertical plane	m ²	20		
Subtotal Carried to Next Page						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

		Brought Forward from Previous Page				
2.5.2		<u>Smooth plane to:</u>				
2.5.2.1		Upstands	m ²	2		
2.5.3		<u>Horizontal plane smooth to:</u>				
2.5.3.1		Soffits of slabs and beams	m ²	140		
2.5.3.2		Angular formwork to soffits of stairs	m ²	8		
2.5.3.3		Chamfers exceeding 20mm x 20mm	m	80		
2.5.4		<u>Box out holes / form voids</u>				
		Small, circular up to 0.35m diameter for depths				
2.5.4.1		Over 0m and up to 0.5m	No	4		
2.6		REINFORCEMENT				
2.6.1		<u>Mild steel bars</u>				
2.6.1.1		a) 8mm - 16mm diameter	t	0.5		
2.6.2		<u>High tensile steel bars</u>				
2.6.2.1		a) 8mm - 16mm diameter	t	4.6		
2.6.3		<u>High tensile welded mesh reinforcement</u>				
2.6.3.1		Type reference 395 in standard sheets	m ²	50		
2.7		JOINTS				
2.7.1		Type 1 - Construction joint	m	120		
2.7.2		Type 2 - Expansion joint 15mm wide not exceeding 300mm in width	m	120		
2.8		UNFORMED SURFACE FINISHES				
2.8.1		<u>Wood-floated finish (PSG 5.9.2)</u>				
2.8.1.1		Ground Floor	m ²	140		
2.8.1.2		First Floor	m ²	140		
2.9		BALUSTRADES				
	SANS 0400M	Balustrade assemblies complete with end stops and install for				
		a) Balcony, Walkways and Stairs				
2.9.1		1) Horizontal	m	6		
		Subtotal Carried to Next Page				

 Contractor

 Witness 1

 Witness 2

 Employer

 Witness 1

 Witness 2

	Brought Forward from Previous Page				
2.9.2		2) At angle	m	6	
2.10		WATERPROOFING			
2.10.1		Gunplas Brick grip" 375-micron dampproof in walls"	m	140	
2.10.2		Gunplas USB green "275-micron dampproof under surface beds"	m ²	60	
2.10.3		Buetel rubber torch on waterproofing to balcony floor	m ²	10	
2.11		STOCK BRICK WORK			
		Supply, cut, fit and build brickwork in 7 MPa clay stock bricks in 9,5 MPa cement mortar in plastered walls			
2.11.1					
2.11.1.1		Half brick wall (110mm)	m ²	185	
2.11.1.2		One brick wall (220mm)	m ²	175	
2.11.1.3		Columns	m ²	45	
2.12		FACE BRICK WORK			
		Federal Stene (Middelburg Factory Mpumalanga) Fynbos Travertine FBS, square rake jointed. Provide sample panel for architect approval. All brickwork to comply with SANS 10400.			
2.12.1		Face brick skin	m ²	68	
2.13		TERMITE PROTECTION			
2.13.1		SABS approved oil-based termite poison under floor	m ²	140	
2.14		BRICKWORK REINFORCING			
2.15.1		Supply and install brick force in 75mm wide strips	m	700	
2.15.2		Supply and install brick force in 150mm wide strips	m	700	
2.15		FABRICATED LINTOLS			
2.17.1		Prestressed precast concrete lintol 91,6mm wide not exceeding 3000mm long	m	80	
	Subtotal Carried to Next Page				

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2.16		WINDOWSILLS			
2.18.1		Brick on edge and painted window cill	m	50	
2.17		ROOF <i>The Contractor's prices for the following items must take account of and include for all the obligations, requirements and specifications previously given in the Specifications to this Bill.</i>			
2.17.1		<u>Roof Trusses</u>			
2.17.1.1		Roof trusses with a mono pitch not exceeding 20 degrees complete with wall plates and purlins	m ²	150	
2.17.1.2		Galvanised hoop irons 1.2m @ 1m c/c	No	46	
2.17.2		<u>Profile metal sheeting</u>			
2.17.2.1		0,58mm Chromadek (Dark Dolphin) concealed fix SAF-Lock 700 Steel sheets including ridges, flashings as per Architects specification	m ²	150	
2.17.3		<u>Insulation</u>			
2.17.3.1		4mm double foil sided Alu cushion FR (Code 1983) installed onto roof trusses	m ²	150	
2.17.4		<u>Facias and Rainwater</u>			
2.17.4.1		10 x 150mm fibre cement Facia	m	46	
2.17.4.2		75mm Chromadek gutter	m	46	
2.17.4.3		75mm x 50mm Chromadek downpipe	m	60	
2.18		DOORS & DOOR FRAME <i>All in accordance with Architects specifications (Dwg 10783-4B-400-007)</i>			
2.18.1		D1T	No	7	
2.18.2		D1S	No	3	
2.18.3		D2S	No	6	
2.18.4		D3S	No	2	
2.18.5		D4S	No	2	
2.18.6		D5	No	2	
	Subtotal Carried to Next Page				

Contractor

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2.18.7	Shower door	No	2		
2.19	WINDOWS <i>All in accordance with Architects specifications (Dwg 10783-4B-400-007)</i>				
2.19.1	W1	No	17		
2.19.2	W2	No	2		
2.19.3	W3	No	3		
2.19.4	W4	No	12		
2.19.5	W5	No	1		
2.20	CEILINGS & CORNICES <i>All in accordance with Architects specifications</i>				
2.20.1	Ref C1 - Suspended ceiling	m ²	78		
2.20.2	Ref C2 - Board ceiling	m ²	116		
2.20.3	Ref C3 - Concrete soffits	m ²	31		
2.20.4	Ref C01 - Shadow line	m	91		
2.20.5	Ref C02 - 50x50 coved polystyrene	m	126		
2.20.6	Ref C03 - Thumb joint	m	45		
2.21	IRONMONGERY Allow a provisional amount for the supply, store and fix of approved ironmongery to softwood, hardwood or pressed frames:	P/Sum	1	42 000.00	42 000.00
2.21.1	Contractors' mark-up on item above	%	42 000		
2.21.2	Supply and cast into floor finish: 3mm x 40mm Hot dipped galvanised mild steel water bar set in concrete floor	m	12		
2.22	PLASTER <i>The Contractor's prices for the following items must take account of and include for all of the obligations, requirements and specifications previously given in the Specifications to this Bill.</i>				
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		Brought Forward from Previous Page				
2.22.1		Vertical brick surfaces	m ²	1285		
2.22.2		Narrow widths not exceeding 300mm wide	m ²	120		
2.23		TILING				
2.23.1		<u>Tiled Floors</u> <i>Supply and fix the following tiles as per architects' details with 3mm joints. Grout = TAL "Dove Grey". Provide tile movement joints to all room perimeters (to walls) and as shown on tile layout drawings.</i>				
2.23.1.1		Floor Tile 1 (Indoor) 600x600 porcelain tile, matt finish, (PC amount of R220/m ²)	m ²	221		
2.23.1.2		Floor Tile 2 (Outdoor) 600x600 porcelain tile, anti-slip finish, (PC amount of R220/m ²)	m ²	16		
2.23.1.3		Floor Tile 3 (Shower Mosaic) 300x300 sheets porcelain mosaic tile, A-grade, joints between sheets to match joints on sheet (PC amount of R600/m ²)	m ²	4		
2.23.1.4		Tile movement joints to be 3mm PU joints.	m	80		
2.23.1.5		Provide waterproofing behind the shower floor and walls, include membrane to all internal corners of walls & floor.	m ²	24		
2.23.2		<u>Tiled Floor Skirtings</u> <i>All in accordance with Architects specifications (Dwg 10783-4B-400-006)</i>				
2.23.2.1		100 mm high (total height to top of edge trim – refer to drawings for individual heights) cut floor tile skirting (to match floor tile of room) with aluminium straight edge trim to top and external corners. 3mm joints. Note: no aluminium trim where wall tiles are used above skirting.	m	162		
2.23.2.2		150mm high (total height to top of edge trim – refer to drawings for individual heights) cut floor tile skirting (to match floor tile of room) with aluminium straight edge trim to top and external corners. 3mm joints. Note: no aluminium trim where wall tiles are used above skirting.	m	12		
2.23.3		<u>Wall Tile 1 (General)</u>				
2.23.3.1		Ceramic wall tile, TAL light grey grout, 3mm joints, (PC amount of R200/m ²)	m ²	86		
		Subtotal Carried to Next Page				

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2.23.3.2		Provide soft joints to all internal corners: grey PU joint.	m	20	
2.24	SANS 0137 NBR Part N	GLAZING			
2.24.1		4mm Thick glass to areas not exceeding 1,5m2	m ²	20	
2.24.2		6mm Thick glass to areas exceeding 1,5m2	m ²	48	
2.24.3		Safety glass to all areas 0,5 m above FFL	m ²	16	
2.25		PAINTING <i>All paint work (incl. surface preparation, primers, etc) to be completed as per paint manufacturer specifications to provide full paint guarantee. Provide sample paint-outs for client approval for all paint types & colours</i>			
2.25.1		<u>W1A (Interior - Main Wall Colour)</u> Two Coats Plascon Professional Superior Low Sheen PEM 1000/TLS tint range. Colour to be confirmed.	m ²	820	
2.25.1.1					
2.25.2		<u>W1B (Interior - Accent Wall Colours)</u> 2 Coats Plascon Professional Superior Low Sheen PEM 1000/TLS tint range. Colour to be confirmed.	m ²	80	
2.25.2.1					
2.25.3		<u>W1C (Outdoor - Main Wall Colour)</u> 2 Coats Plascon Professional Superior Low Sheen PEM 1000/TLS tint range. Colour to be confirmed.	m ²	194	
2.25.3.1					
2.25.4		<u>W1D (Outdoor - Accent Wall Colours)</u> 2 Coats Plascon Professional Superior Low Sheen PEM 1000/TLS tint range. Colour to be confirmed.	m ²	86	
2.25.4.1					
2.25.5		CORNICES CO1 (For Grid Ceilings) Pre-painted OWA white Shadow line Cornice to match ceiling grid.	m ²	91	
2.25.5.1					
2.25.5.2		CO2 (Lambda board Ceilings) 50x50 coved polystyrene cornice, painted.	m ²	126	
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2.25.6		<u>CEILINGS</u>			
2.25.6.1		C1 (Grid Ceilings) Pre-painted OWA System S3 white suspended ceiling grid with 600x1200 "OWA Constellation" acoustic	m ²	102	
		C2 (Lambda board Ceilings) 80 Lambda board ceiling fixed to suitable timber or metal battens at 900¢ max, drywall tape joints, plaster key & plaster skimmed over entire surface (white mineral side), painted with 2 coats Plascon Super Acrylic Polvin Interior / Exterior, colour white, on suitable primer.	m ²	115	
2.25.7		<u>STEEL DOOR FRAMES (internal & external)</u>			
2.25.7.1		2x coats Plascon Water-Based Velva Glo, Silky Sheen finish, on suitable primer, tinted range, colour to be confirmed.	m ²	24	
2.25.8		<u>EXTERNAL GENERAL STEELWORK (if applicable)</u>			
2.25.8.1		2x coats Plascon NuRoof on suitable primer, colour "Atmosphere Grey" TRP 200	m ²	60	
2.25.9		<u>POWDERCOATED ALUMINIUM WINDOWS & DOORS</u>			
2.25.9.1		Interpon LL259P "Matt Dark Umber Grey"	m ²	60	
2.25.10		<u>INTERNAL FLUSH PANEL DOORS</u>			
2.25.10.1		2x coats Plascon Water-Based Velva Glo, Silky Sheen finish, on suitable primer, colour to be confirmed.	m ²	48	
2.25.11		<u>STEEL ROOF, GUTTERS & RWP</u>			
2.25.11.1		All 0,58 Chromadek, colour, Dark Dolphin.	m ²	150	
2.26		<u>SUN LOUVRES</u>			
2.26.1		Hunter Douglas 110HC horizontal panel system, natural anodised finish, complete system with 162mm spacer blocks. 4x Louvre fins from front to back spaced at 162mm. Standard fascia profile "channel" (35x115) to front and sides. Steel wall brackets with support arms. See drawings for panel sizes. Provide specialist shop drawings for architect approval prior to manufacture.	No	5	
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2.27		STEEL STAIRS All in accordance with Architects specifications (Dwg 10783-4B-400-006) Complete steel staircase, 1m high 7 horizontal round bar & top handrail steel balustrade. <u>Posts</u> : 38Ø hollow steel with top end cap and steel pin to handrail. Posts spaced equal at 1000 centres max. Posts welded to steel stringer or epoxy fixed 150 deep into concrete where shown. <u>S/steel</u> round capping over tiles. <u>Horizontals</u> : 16Ø hollow steel spaced equal. <u>Handrail</u> : 50Ø hollow Brushed stainless steel					
2.27.1			Sum	1			
2.28		INTERNAL FINISHES (All below finishes strictly to Architects specifications)					
2.28.1		<u>Granite tops</u>					
2.28.1.1		30mm Polished Rustenburg with 20mm thick matching splashbacks	m	16			
2.28.2		<u>Formica tops</u>					
2.28.2.1		Formica life seal 30mm HPL to post formed bullnose edge	m	8			
2.28.2.2		Adjustable steel legs	No	12			
2.28.2.3		Corner protectors as per Architects specification	m	18			
2.28.3		<u>Joinery</u>					
2.28.3.1		Allow a provisional amount for kitchen cupboards including handles and drawer rails	P/Sum	1	35 000.00	35 000.00	
2.28.3.2		Contractors' mark-up on above item	%	35 000			
2.29		SANITARY SPECIFICATION (All below to Architects specifications)					
2.29.1		Toilet complete	No	4			
2.29.2		Paraplegic Toilet complete	No	1			
2.29.3		Urinal complete	No	2			
2.29.4		Hand wash Basin with half pedestal complete with popup, waste piping and rubber P-Trap complete	No	3			
2.29.5		Basin taps for HWB 1	No	2			
2.29.6		Basin taps for HWB 2	No	2			
		Subtotal Carried to Next Page					

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2.29.7	Disabled Hand wash Basin complete	No	1		
2.29.8	Basin taps for disabled WHB	No	1		
2.29.9	Kitchen Sink complete	No	1		
2.29.10	Mixer taps for kitchen sink	No	1		
2.29.11	Shower stop taps	No	6		
2.29.12	Shower heads	No	2		
2.29.13	Shower outlets	No	2		
2.29.14	Stop valves and angle valves	No	18		
2.29.15	Wash trough	No	1		
2.29.16	Bib taps for wash trough	No	2		
2.29.17	Drip sink	No	1		
2.29.18	Wall mounted soap dispensers - manual	No	4		
2.29.19	Grab rails for disabled toilet	No	1		
2.29.20	Shower door	No	2		
2.29.21	Lockers	No	8		
2.29.22	Electric hand dryer	No	4		
2.29.23	Toilet roll holder	No	4		
2.29.24	Allow a provisional amount for plumbing	P/Sum	1	85 000.00	85 000.00
2.29.25	Contractors' markup and profit on above	%	85 000		
Subtotal for Section 2 carried to summary page					

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Witness 2

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ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3	SABS	SECTION 3: SEDIMENTATION TANK & FLOCCULATION CHANNELS				
3.1		SITE CLEARANCE				
3.1.1		Clear vegetation and rubble from existing structure	Sum	1		
3.1.2		Remove concrete cap and chip area to receive new concrete	m ²	18		
3.1.3		Chip and make good of existing reinforced concrete wall 250mm thick	m	6		
3.2		CONCRETE				
3.2.1		<u>Strength concrete 30MPa/19mm</u>				
3.2.1.1		Mass fill to hoppers	m ³	68		
3.2.1.2		Walls	m ³	18		
3.2.1.3		Slabs	m ³	16		
3.2.1.4		Columns and column footings	m ³	4		
3.2.1.5		Pipe plinth	m ³	2		
3.3		FORMWORK				
3.3.1		<u>Rough walls</u>				
3.3.1.1		Vertical plane	m ²	5		
3.3.2		<u>Smooth plane to:</u>				
3.3.2.1		Walls	m ²	72		
3.3.2.2		Columns	m ²	15		
3.3.2.3		Pipe plinth	m ²	6		
3.3.3		<u>Horizontal plane smooth to:</u>				
3.3.3.1		Soffits of slabs including Scaffold up to 3.5m height	m ²	84		
3.3.3.2		Chamfers exceeding 20mm x 20mm	m	70		
3.3.4		<u>Box out holes / form voids</u>				
3.3.4.1		Small, circular up to 0.35m diameter for depths Over 0m and up to 0.5m	No	12		
Subtotal Carried to Next Page						

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Witness 1

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Witness 1

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3.4		REINFORCEMENT			
3.4.1		<u>Mild steel bars</u>			
3.4.1.1		a) 8mm - 20mm diameter	t	0.5	
3.4.2		<u>High tensile steel bars</u>			
3.4.2.1		a) 8mm - 20mm diameter	t	4.2	
3.4.2.2		Y16 Dowels 700mm long complete drilled and epoxy fixed	No	70	
3.5		JOINTS			
3.5.1		Type 1 - Construction joint	m	14	
3.5.2		Type 2 - Expansion joint	m	22	
3.6		UNFORMED SURFACE FINISHES			
3.6.1		<u>Wood-floated finish (PSG 5.9.2)</u>			
3.6.1.1		Top of walls	m ²	2	
3.6.1.2		Floors	m ²	2	
3.6.2		<u>Steel floated finish (see PSG 5.9.3)</u>			
3.6.2.1		Mass fill Floors	m ²	145	
3.6.2.2		Top of walls	m ²	18	
3.6.2.3		Grouting in / Building in of pipe items supplied elsewhere 90mm diameter - 400mm diameter	No	11	
3.7	SANS 0400M	Walkway, Rails and Gratings Balustrade assemblies complete with end stops and install for			
3.7.1		<u>a) Walkways and Stairs</u>			
3.7.1.1		1) Horizontal	m	54	
3.7.1.2		2) At angle	m	2	
3.7.2		Galvanised Rectagrid 60 x 5.5	m ²	40	
3.7.3		Ref BM 001 - Galvanised Steel profile IPE-AA 200	m	49	
3.7.4		Ref BM 002 PC230 x 90 with End plate	m	16	
		Subtotal Carried to Next Page			

 Contractor

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3.8		Flow Dividers			
3.8.1		20mm thick fibre cement channel dividers, 2500 x 1200mm including frame and fasteners. Tender to provide details	No	60	
3.9		Weir			
3.9.1		Supply and install complete stainless steel overflow weir as per drawing	Sum	1	
3.10		Pipework, Valves and Sluice gates			
3.10.1		Inlet pipe - Supply and install DN 300mm Class 16 PVC pipe piece	m	3.8	
3.10.2		Inlet pipe - Supply and install DN 300mm Class 16 PVC bend 90 degree	No	2	
3.10.3		Outlet chamber - 150mm Diameter Isolation valve with 3m extended spindle	No	6	
3.10.4		Supply and install stainless steel sluice gate with frame 0.8 x 0.8m	No	2	
Subtotal for Section 3 carried to summary page					

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
4	SABS	SECTION 4: INLET WORKS				
4.1	1200 DM	EXCAVATION				
4.1.1		Excavate for strip footings 600mm wide	m³	3		
4.2		FILLING				
4.2.1		Earth filling obtained from excavations or other areas on site compacted in layers not exceeding 150mm to 93% Mod AASHTO Under floors	m³	12		
4.3		CONCRETE				
4.3.1		<u>Strength concrete 25MPa/19mm</u>				
4.3.1.1		Strip footing	m³	2		
4.3.1.2		Floor	m³	2		
4.3.1.3		Roof	m³	3		
4.4		REINFORCEMENT				
4.4.1		<u>Mild steel bars</u>				
4.4.1.1		a) 8mm - 20mm diameter	t	0.3		
4.4.2		<u>High tensile steel bars</u>				
4.4.2.1		a) 8mm - 20mm diameter	t	2.2		
4.4.3		<u>High tensile welded mesh reinforcement</u>				
4.4.3.1		Type reference 395 in standard sheets	m²	7		
4.5		FORMWORK				
4.5.1		<u>Horizontal plane smooth to:</u>				
4.5.1.1		Soffits of slabs including Scaffold up to 4m height	m²	10		
4.6		UNFORMED SURFACE FINISHES				
4.6.1		<u>Steel floated finish (see PSG 5.9.3)</u>				
4.6.1.1		Floors	m²	7		
4.6.1.2		Roof	m²	8		
Subtotal Carried to Next Page						

Contractor

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Witness 2

Employer

Witness 1

Witness 2

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4.7		FACE BRICK WORK Federal Stene (Middelburg Factory Mpumalanga) Fynbos Travertine FBS, square rake jointed. Provide sample panel for architect approval. All brickwork to comply with SANS 10400.				
4.7.1						
4.7.1.1		Face brick skin	m ²	60		
4.8		BRICKWORK REINFORCING				
4.8.1		Supply and install brick force in 150mm wide strips	m	220		
4.9		FABRICATED LINTOLS				
4.9.1		Prestressed precast concrete lintol 91,6mm wide not exceeding 3000mm long	m	3		
4.10		WINDOWS				
4.10.1		Supply and install Win block complete with aluminium frame and 4mm clear glass	No	8		
4.6		PAINTING				
		<i>NOTE: All paint to be manufactured by Dulux" or "Plascon" or similar approved"</i>				
4.6.1		Paint with 2 coats Plascon Super Acrylic Polvin Interior / Exterior, colour white, on suitable primer.	m ²	10		
4.11		STAIRS				
4.11.1		Allow a provisional amount for galvanised steel staircase with handrails	P/Sum	1	65 000.00	65 000.00
4.11.2		Contractors' mark-up on above item	%	65 000		
4.12		SUNDRIES				
4.12.1		Allow a provisional amount for refurbishment of lime hopper	P/Sum	1	85 000.00	85 000.00
4.12.2		Allow a provisional amount for pipework	P/Sum	1	12 500.00	12 500.00
4.12.3		Allow a provisional amount for new mixing bowl	P/Sum	1	16 500.00	16 500.00
4.12.4		Allow a provisional amount for electrical	P/Sum	1	42 500.00	42 500.00
4.12.5		Contractors' mark-up on above item	%	156 500		
Subtotal for Section 5 carried to summary page						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5	SABS	SECTION 5: SLUDGE LAGOONS				
5.1	1200 DM	SITE CLEARANCE				
5.1.1		Clear vegetation, rubble and trees up to 1m of girth:	m ²	150		
5.1.2	8.3.2 (a)	Remove topsoil to stockpile and maintain 150mm depth	m ²	22		
5.2		EARTHWORKS				
5.2.1	8.3.2	Excavate in all materials and dispose off within free haul distance or stockpile for later use for:				
5.2.1.1		Bulk excavation	m ³	30		
5.2.1.2		Foundations 800 mm width	m ³	2		
5.2.2	8.3.2(b)	Extra over item for excavation in:				
5.2.2.1		Intermediate material	m ³	10		
5.2.2.2		Hard rock material	m ³	2		
5.3		TREATMENT OF IN SITU				
5.3.1	8.3.3(a)	In situ preparation and compaction of material to minimum of 90% of Mod AASHTO density	m ²	150		
5.4		FILLING				
5.4.1		Earth filling obtained from excavations or other areas on site compacted in layers not exceeding 150mm to 93% Mod AASHTO				
5.4.1.1		Under floors	m ³	2		
5.4.1.2		Extra over for restricted fill items.	m ³	245		
5.5		CONCRETE				
5.5.1	PSG 8.2 8.4.2	<u>Blinding layer in 15 MPa / 19mm concrete</u>				
5.5.1.1		75mm minimum thickness	m ²	48		
5.5.2	8.4.3	<u>Strength concrete: 20MPa / 19mm</u>				
5.5.2.1		Surface beds and manholes	m ³	4		
5.5.3		<u>Strength concrete 30MPa/19mm</u>				
5.5.3.1		Floors	m ³	29		
5.5.3.2		Walls	m ³	45		
Subtotal Carried to Next Page						

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5.6		FORMWORK			
5.6.1		<u>Rough walls below ground</u>			
5.6.1.1		Vertical plane	m ²	64	
5.6.2		<u>Smooth plane to:</u>			
5.6.2.1		Walls	m ²	410	
5.6.2.2		Chamfers exceeding 20mm x 20mm	m	158	
5.6.3		<u>Box out holes / form voids</u>			
5.6.3.1		Small, circular up to 0.35m diameter for depths			
5.6.3.2		Over 0m and up to 0.5m	No	8	
5.7		REINFORCEMENT			
5.7.1		<u>Mild steel bars</u>			
5.7.1.1		a) 8mm - 16mm diameter	t	2.0	
5.7.2		<u>High tensile steel bars</u>			
5.7.2.1		a) 8mm - 16mm diameter	t	10	
5.7.3		<u>High tensile welded mesh reinforcement</u>			
5.7.3.1		Type reference 395 in standard sheets	m ²	86	
5.8		JOINTS			
5.8.1		Expansion joint 15mm wide not exceeding 300mm in width	m	30	
5.8.2		Type 1 - Construction joint	m	90	
5.8.3		Type 2 - Expansion joint	m	60	
5.9		UNFORMED SURFACE FINISHES			
5.9.1		<u>Wood-floated finish (PSG 5.9.2)</u>			
5.9.1.1		Top of walls	m ²	22	
5.9.1.2		Floors	m ²	445	
5.9.1.3		Grouting in / Building in of pipe items supplied elsewhere 90mm diameter - 400mm diameter	No	8	
		Subtotal Carried to Next Page			

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5.10		SUBSURFACE DRAIN				
		Supply and install 300x300mm subsoil drain, diameter 75mm subsurface sotted pipe drain, with 19mm stone, wrapped in U24 bidim as per dwg.	m	78		
5.10.1						
5.10.2		19mm No fines concrete	m ³	12		
5.10.3		500x260mm galvanised mesh strip raw bolted with 12mm bolts to concrete wall	No	8		
5.11		SUMP PUMPS				
5.11.1		Allow a provisional amount for Sludge sump submersible pump	P/Sum	1	185 000.00	185 000.00
5.11.2		Allow a provisional amount for Recycle sump submersible pump	P/Sum	1	145 000.00	145 000.00
5.11.2		Allow a provisional amount for pipework	P/Sum	1	65 000.00	65 000.00
5.11.3		Contractors' mark-up	%	395 000		
Subtotal for Section 5 carried to summary page						

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ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
6		SECTION 6 - GUARD HOUSE				
6.1	1200 DM	SITE CLEARANCE				
6.1.1		Clear vegetation, rubble and trees up to 1m of girth:	m ²	40		
6.1.2	8.3.2 (a)	Remove topsoil to stockpile and maintain 150mm depth	m ²	40		
6.2		EARTHWORKS				
6.2.1	8.3.2	Excavate in all materials and dispose of within free haul distance or stockpile for later use for:				
6.2.1.1		Bulk excavation to level area	m ³	5		
6.2.1.2		Foundations 600 mm width	m ³	10		
6.2.1.3		Apron slab	m ³	3		
6.2.2	8.3.2(b)	Extra over item for excavation in:				
6.2.2.1		Intermediate material	m ³	5		
6.3		TREATMENT OF IN SITU				
6.3.1	8.3.3(a)	In situ preparation and compaction of material to minimum of 90% of Mod AASHTO density	m ²	40		
6.4		FILLING				
6.4.1		Earth filling obtained from excavations or other areas on site compacted in layers not exceeding 150mm to 93% Mod AASHTO				
6.4.1.1		Under floors	m ³	2		
6.4.1.2		Extra over for restricted fill items.	m ³	245		
6.5		CONCRETE				
6.5.1		<u>Strength concrete 25MPa/19mm</u>				
6.5.1.1		Floors	m ³	29		
6.5.1.2		Apron slab	m ³	4		
6.6		REINFORCEMENT				
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6.6.1		<u>High tensile welded mesh reinforcement</u>			
6.6.1.1		Type reference 395 in standard sheets	m ²	86	
6.7		FACE BRICK WORK Federal Stene (Middelburg Factory Mpumalanga) Fynbos Travertine FBS, square rake jointed. Provide sample panel for architect approval. All brickwork to comply with SANS 10400.			
6.7.1					
6.7.1.1		Face brick skin	m ²	68	
6.8		BRICKWORK REINFORCING			
6.8.1		Supply and install brick force in 75mm wide strips	m	700	
6.8.2		Supply and install brick force in 150mm wide strips	m	700	
6.9		FABRICATED LINTOLS			
6.9.1		Prestressed precast concrete lintol 91,6mm wide not exceeding 3000mm long	m	80	
6.10		ROOF <i>The Contractor's prices for the following items must take account of and include for all of the obligations, requirements and specifications previously given in the Specifications to this Bill.</i>			
6.10.1		<u>Roof Trusses</u>			
6.10.1.1		Roof trusses with a mono pitch not exceeding 20 degrees complete with wall plates and purlins	m ²	32	
6.10.1.2		Galvanised hoop irons 1.2m @ 1m c/c	No	24	
6.10.2		<u>Profile metal sheeting</u>			
6.10.2.1		0,58mm Chromadek (Dark Dolphin) concealed fix SAF-Lock 700 Steel sheets including ridges, flashings as per Architects specification	m ²	32	
6.10.3		<u>Insulation</u>			
6.10.3.1		4mm double foil sided Alu cushion FR (Code 1983) installed onto roof trusses	m ²	32	
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6.10.4		<u>Facias and Rainwater</u>			
6.10.4.1		10 x 150mm fibre cement Facia	m	24	
6.10.4.2		75mm Chromadek gutter	m	16	
6.10.4.3		75mm x 50mm Chromadek downpipe	m	6	
6.11		DOORS & DOOR FRAME (As per finishing schedule)			
6.11.1		Type D1	No	2	
6.12		WINDOWS (As per finishing schedule)			
6.12.1		Type PT66	No	1	
6.12.2		Type PT1212	No	3	
6.13		WINDOWSILLS			
6.13.1		Brick on edge and painted window cill	m	6	
6.14		CEILINGS & CORNICES			
6.14.2		12mm Gypsum board ceiling	m ²	32	
6.14.3		75mm Cornish	m	24	
6.15		PAINTWORK			
6.15.1		<u>(Interior - Main Wall Colour)</u>			
6.15.1.1		Two Coats Plascon Professional Superior Low Sheen PEM 1000/TLS tint range. Colour to be confirmed.	m ²	96	
6.15.2		<u>Ceilings</u>			
6.15.2.1		80 Lambda board ceiling fixed to suitable timber battens at 900¢ max, drywall tape joints, plaster key & plaster skimmed over entire surface (white mineral side), painted with 2 coats Plascon Super Acrylic Polvin Interior / Exterior, colour white, on suitable primer.	m ²	32	
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6.15.3		<u>Steel Door Frames (internal & external)</u>			
6.15.3.1		2x coats Plascon Water-Based Velva Glo, Silky Sheen finish, on suitable primer, tinted range, colour to be confirmed.	No	3	
6.15.4		<u>Steel roof. Gutters & RWP</u>			
6.15.4.1		All 0,58 Chromadek, colour, Dark Dolphin.	m²	36	
6.16		GLAZING			
6.16.1		4mm Thick glass to areas not exceeding 1,5m2	m²	7	
6.17		INTERNAL FINISHES			
6.17.1		<u>Formica tops</u>			
6.17.1.1		Formica life seal 30mm HPL to, post formed bullnose edge	m	4	
6.17.1.2		Adjustable steel legs	No	3	
	Subtotal for Section 6 carried to summary page				

ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
7		SECTION 6 - ROADS				
7.1		ACCOMODATION OF TRAFFIC				
7.1.1		Accommodating traffic and maintaining temporary deviations	Sum	1		
7.2		MASS EARTHWORKS				
7.2.1		Remove topsoil 150mm layer to on-site dump area	m ²	1825		
7.2.2		Cut to fill	m ³	80		
7.2.3		Cut to spoil, including free-haul up to 2 km.	m ³	260		
7.3		OVERHAUL				
7.3.1		Overhaul on material hauled more than 2,0 km (ordinary overhaul)	m ³ /km	40		
7.4		IN-SITU LAYER				
7.4.1	8.3.3 (a)	Rip and compact in-situ material to 93% Mod AASHTO density to a depth of 150mm for road	m ²	1825		
7.5		SUBGRADE LAYER				
7.5.1		Construct gravel subbase with G5 material taken from stockpile or borrow within free haul up to 2.0km compacted to 95% Mod AASHTO density (150 mm thick)	m ³	275		
7.5.2		E/O for material obtained from commercial sources	m ³	60		
7.6		BASE LAYER				
7.6.1		Construct C4 Subbase layer with material imported from commercial sources and compacted to 97% Mod AASHTO density (150 mm thick)	m ³	275		
7.6.2		E/O for Portland cement stabilisation 2%	bags	218		
7.7	SABS 1200MK	STORMWATER PIPES				
7.7.1		<u>Excavation</u>				
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7.7.1.1	1200DB 8.3.2 (a) 8.2.2 8.2.1	Excavate, including intermediate selected materials, backfill and dispose of surplus material. Pipe diameter up to and including 600mm 0 to 1.5m depth	m	40	
7.7.2	1200LE 8.2.1	<u>Pipes</u> Supply, handle and lay concrete pipes OG type 450mm diameter Class 75 D	m	40	
7.7.2.1					
7.8		PAVING AND KERBING			
7.8.1	SABS 1200MJ	<u>Segmented Paving</u> Construct precast concrete segmented paving complete on 20mm bedding sand <u>with new</u> 80mm Precast interlocking block including cutting of edges to fit	m ²	1825	
7.8.1.1					
7.8.2	SABS 1200MK	<u>Precast Concrete Kerbing</u>			
7.8.2.1	PSMK 3.1	Straight-mountable in-situ kerb as per drawing	m	210	
7.8.2.2		Curved-mountable in-situ kerb as per drawing	m	60	
7.8.2.3		Grade 25MPa concrete edge beams where indicated. Shape 150mm wide x 150mm deep	m	310	
7.9	SABS 1200MM	OPEN DRAINS			
7.9.1	8.2.6.2	a) Trim excavations in soft and intermediate material	m ²	140	
7.9.2		Type 1 Channel - 95mm Amor flex grass block	m	260	
7.9.3		V-drain	m	11	
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ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
8	SABS 1200 LD	SECTION 7: WATER & SEWER RETICULATION				
8.1		EXCAVATION Excavate in all materials, backfill, compact and dispose of surplus/unsuitable material in 750mm wide trench for				
8.1.1						
8.1.1.1		0,0 to 1.5 m depth	m	160		
8.1.1.2		E/O for excavation in intermediate material	m³	60		
8.1.1.3		E/O for excavation in hard rock material	m³	10		
8.2		BEDDING				
8.2.1		Provision of bedding from trench excavation on site				
8.2.1.1		Selected granular material	m³	12		
8.2.1.2		Selected fill material	m³	48		
8.3		SEWER				
8.3.1		<u>Piping</u> Supply, Lay, joint, bed and test for uPVC sewer pipe class 400 for diameter				
8.3.1.1		Diameter 110 mm	m	45		
8.3.1.2		Diameter 160 mm	m	120		
8.3.2		<u>Cleaning Eyes</u> Supply and install of cleaning eyes as per drw. for depths				
8.3.2.1		0 to 1,5m	No	8		
8.4		WATER				
8.4.1		<u>Pressure Pipes</u> Supply, deliver, lay, joint, bed and test for HDPE pipe				
8.4.1.1		DN 50mm HDPE Class 12	m	120		
8.4.2		<u>Valves</u>				
8.4.2.1		DN 75mm diameter AVK non-rising spindle	No			
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ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
9		SECTION 8 - ELECTRICAL				
9.1		GENERAL REQUIREMENTS				
9.1.1		Test and commission the entire installation	Sum	1		
9.1.2		"As-built" drawings	Sum	1		
9.1.3		Certificate of Compliance	Sum	1		
9.2		LOW VOLTAGE CABLES: 600/1000V PVC/SWA/PVC Cu				
9.2.1		1.5mm ² 2-Core	m	25		
9.2.2		2.5mm ² 3-Core	m	40		
9.2.3		2.5mm ² 4-Core	m	5		
9.2.4		4mm ² 4-Core	m	120		
9.2.5		6mm ² 4-Core	m	2		
9.2.6		10mm ² 4-Core	m	2		
9.2.7		16mm ² 4-Core	m	60		
9.2.8		25mm ² 4-Core	m	60		
9.2.9		35mm ² 4-Core	m	10		
9.3		L/VOLTAGE CABLE: 600/1000V TRAILING Cu				
9.3.1		4mm ² 4-Core	m	5		
9.4		LV CABLE TERMINATIONS				
9.4.1		1.5mm ² 2-Core	ea	4		
9.4.2		2.5mm ² 3-Core	ea	4		
9.4.3		2.5mm ² 4-Core	ea	1		
9.4.4		4mm ² 4-Core	ea	4		
9.4.5		6mm ² 4-Core	ea	1		
9.4.6		10mm ² 4-Core	ea	1		
9.4.7		16mm ² 4-Core	ea	2		
9.4.8		25mm ² 4-Core	ea	2		
9.4.9		35mm ² 4-Core	ea	1		
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9.5		BARE COPPER EARTH WIRE			
9.5.1		2.5mm ²	m	5	
9.5.2		4mm ²	m	10	
9.5.3		10mm ²	m	30	
9.5.4		16mm ²	m	30	
9.6		TERMINATIONS OF EARTHWIRE			
9.6.1		2.5mm ²	ea	2	
9.6.2		4mm ²	ea	2	
9.6.3		10mm ²	ea	2	
9.6.4		16mm ²	ea	2	
9.7		HEAVY DUTY CABLE LADDER INCLUDING ALL REQUIRED ACCESSORIES			
9.7.1		100mm wide cable ladder	m	10	
9.8		CABLE JOINTS (PVC/SWA/PVC Cu)			
9.8.1		1.5mm ² 2-Core	ea	2	
9.8.2		2.5mm ² 3-Core	ea	2	
9.8.3		2.5mm ² 4-Core	ea	2	
9.8.4		4mm ² 4-Core	ea	2	
9.8.5		6mm ² 4-Core	ea	2	
9.8.6		10mm ² 4-Core	ea	2	
9.8.7		16mm ² 4-Core	ea	2	
9.8.8		25mm ² 4-Core	ea	2	
9.8.9		35mm ² 4-Core	ea	2	
9.9		EXCAVATIONS			
		Excavate cable trenches, 800mm deep, 450mm wide.			
9.9.1		Pickable soil	m ³	8	
9.9.2		Soft Rock	m ³	2	
9.9.3		Hard Rock	m ³	1	
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9.10		CIRCUIT BREAKERS				
9.10.1		Install new 400V, 100A, 20kA 3-Pole Standard Curve Fixed Setting Circuit Breaker in Miniature Substation for supply to the new building.	Ea	1		
9.10.2		Install new 400V, 25A, 20kA 3-Pole Standard Curve Fixed Setting Circuit Breaker in generator panel for stand-by supply to the new building.	Ea	1		
9.11		INSTRUMENTATION AND CONTROL				
9.11.1		TELEMETRY				
9.11.1.1		Upgrade the existing SSE Telemetry system according to the following items / activities: (Provide rates for the different activities)	P/Sum	1	680 000.	680 000.00
9.11.1.2		Contractors' markup and profit on above item	%	680 000		
		<u>Above telemetry to make provision for the following items</u>				
	a	Relocate Base Station from old dosing room to laboratory in new building.				Included
	b	Install new data cable between Raw/Clear Water pump station RTU and Base Station in new laboratory.				Included
	c	Supply, Install and program (Including all graphics) a new Adroit SCADA package with 750 Scanpoints.				Included
	d	Supply and install a new computer for the SCADA system above including a large wall mounted LCD Screen, including all hardware, Software etc.				Included
	e	Install a new GPRS Router at Carolina WTW, connected to the Base Station including antenna, cabling, all hardware etc. for communication to Badplaas WTW.				Included
	f	Install a new GPRS Router at Badplaas WTW, connected to the Base Station including antenna, cabling, all hardware etc. for communication to Carolina WTW.				Included
	g	Configuration of Telemetry at Badplaas WTW to relay data to Carolina WTW.				Included
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	h	Additional Analogue Input module at Base Station to accommodate 4 Analogue Inputs to the RTU.			Included
	i	Additional Digital Input module at Base Station to accommodate 8 Digital Inputs to the RTU.			Included
	j	Addition of Chlorine Pumps and Recycle pump to Pump Station RTU.			Included
	k	Telemetry Preliminary & General			Included
9.12		SLEEVES - PVC RIBBED UNPERFORATED BLACK PIPE			
9.12.1		110mm diameter PVC sleeves	m	30	
		OPERATIONAL BUILDING - ELECTRICAL WORK			
9.13		LIGHTING INSTALLATION			
9.13.1		Light fittings complete with lamps and fixing accessories	No	10	
9.13.2		Type A luminaire - 3x28W fluorescent luminaire with double parabolic louvers			
9.13.2.1		(a) Supply	No	9	
9.13.2.2		(b) Install	No	9	
9.13.3		Type B luminaire - 3x28W dimmable fluorescent luminaire with double parabolic louvers			
9.13.3.1		(a) Supply	No	2	
9.13.3.2		(b) Install	No	2	
9.13.4		Type B1 luminaire - 3x28W dimmable emergency fluorescent luminaire with double parabolic louvers			
9.13.4.1		(a) Supply	No	1	
9.13.4.2		(b) Install	No	1	
9.13.5		Type C luminaire - 2x28W IP65 fluorescent luminaire with clear prismatic diffuser			
9.13.5.1		(a) Supply	No	4	
9.13.5.2		(b) Install	No	4	
9.13.6		Type C1 luminaire - 2x28W IP65 emergency fluorescent luminaire with clear prismatic diffuser			
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9.13.6.1	(a) Supply	No	1			
9.13.6.2	(b) Install	No	1			
9.13.7	Type D luminaire - 2PL9W downlight luminaire					
9.13.7.1	(a) Supply	No	24			
9.13.7.2	(b) Install	No	24			
9.13.8	Type D1 luminaire - 2PL9W downlight luminaire with glass cover					
9.13.8.1	(a) Supply	No	2			
9.13.8.2	(b) Install	No	2			
9.13.9	Type E luminaire - 2PL9W IP65 square decorative bulkhead luminaire with opaque diffuser					
9.13.9.1	(a) Supply	No	6			
9.13.9.2	(b) Install	No	6			
9.13.10	Type F luminaire - 2PL18W IP65 round bulkhead luminaire with black trim					
9.13.10.1	(a) Supply	No	7			
9.13.10.2	(b) Install	No	7			
9.14	LIGHT SWITCHES					
9.14.1	16A 1-lever, 1-way light switch					
9.14.1.1	(a) Supply	No	1			
9.14.1.2	(b) Install	No	1			
9.14.2	16A 2-lever, 1-way light switch					
9.14.2.1	(a) Supply	No	1			
9.14.2.2	(b) Install	No	1			
9.14.3	16A 1-lever, 2-way light switch					
9.14.3.1	(a) Supply	No	2			
9.14.3.2	(b) Install	No	2			
9.14.4	16A 1-lever, intermediate light switch					
9.14.4.1	(a) Supply	No	1			
9.14.4.2	(b) Install	No	1			
9.14.5	360° occupancy sensor					
9.14.5.1	(a) Supply	No	15			
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9.14.5.2	(b) Install	No	15		
9.14.6	Photocell in IP65 enclosure				
9.14.6.1	(a) Supply	No	1		
9.14.6.2	(b) Install	No	1		
9.15	SMALL POWER INSTALLATION				
9.15.1	2-lid, 3 compartment power skirting complete with cover, elbows, tees, endcaps and splices				
9.15.1.1	(a) Supply	m	36		
9.15.1.2	(b) Install	m	36		
9.15.2	Power skirting mounted 16A dedicated single switched socket outlet complete with cover plate				
9.15.2.1	(a) Supply	No	8		
9.15.2.2	(b) Install	No	8		
9.15.3	Power skirting mounted 16A normal single switched socket outlet complete with cover plate				
9.15.3.1	(a) Supply	No	18		
9.15.3.2	(b) Install	No	18		
9.15.4	16A normal flush-mounted single switched socket outlet complete with 100 x 100 outlet box and cover plate				
9.15.4.1	(a) Supply	No	1		
9.15.4.2	(b) Install in wall	No	1		
9.15.5	16A normal flush-mounted double switched socket outlet complete with 100 x 100 outlet box and cover plate				
9.15.5.1	(a) Supply	No	12		
9.15.5.2	(b) Install in wall	No	12		
9.15.6	16A dedicated flush-mounted double switched socket outlet complete with 100 x 100 outlet box and cover plate				
9.15.6.1	(a) Supply	No	1		
9.15.6.2	(b) Install in wall	No	1		
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9.15.7	6A normal unswitched single switched socket outlet complete with outlet box and cover plate				
9.15.7.1	(a) Supply	No	43		
9.15.7.2	(b) Install in ceiling void	No	43		
9.15.8	20A surface-mounted double pole isolator for fan / aircon unit /hand drier / geyser complete with outlet box and cover plate				
9.15.8.1	(a) Supply	No	8		
9.15.8.2	(b) Install in wall	No	8		
9.15.9	20A surface-mounted triple pole isolator for fan / aircon unit complete with outlet box and cover plate				
9.15.9.1	(a) Supply	No	1		
9.15.9.2	(b) Install in wall	No	1		
9.15.10	20A surface-mounted double pole weatherproof isolator for fan / aircon unit complete with outlet box and cover plate				
9.15.10.1	(a) Supply	No	6		
9.15.10.2	(b) Install in wall	No	6		
9.16	WIRING AND WIREWAYS				
	20mm Ø PVC conduit installed in ceiling void or built into new masonry complete with all fixing accessories, couplings, bushes, locknuts, end boxes (50 x 100mm or 100 x 100mm as the case may be), terminations and adapters				
9.16.1					
9.16.1.1	(a) Supply and deliver	m	600		
9.16.1.2	(b) Install	m	600		
9.16.2	Supply and deliver PVC insulated stranded copper conductors				
9.16.2.1	(a) 2,5 mm ²	m	1560		
9.16.2.2	(b) 4,0 mm ²	m	1200		
9.16.3	Install PVC insulated stranded copper conductors				
9.16.3.1	(a) 2,5 mm ²	m	1560		
9.16.3.2	(b) 4,0 mm ²	m	1200		
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9.16.4		Supply and deliver copper earth conductors				
9.16.4.1		(a) 2,5 mm ² green insulated	m	510		
9.16.4.2		(a) 2,5 mm ² BCEW	m	600		
9.16.5		Install copper earth conductors				
9.16.5.1		(a) 2,5 mm ² green insulated	m	510		
9.16.5.2		(a) 2,5 mm ² BCEW	m	600		
9.16.6		Connection to fixed appliance (20 mm PVC Sprague, complete with bushes and terminations from supply to load side)	No	14		
9.16.7		25mmØ galvanised steel Sprague				
9.16.7.1		(a) Supply and deliver	m	6		
9.16.7.2		(b) Install	m	6		
9.16.8		127 x 76mm wiring duct complete with cover and all fixing accessories for a complete installation				
9.16.8.1		(a) Supply and deliver	m	10		
9.16.8.2		(b) Install	m	10		
9.17		DISTRIBUTION BOARDS				
		2-Compartment flush mounted purpose-made DB (DB-A) with Normal Power section as well as Stand-by Power section (From generator).				
9.17.1						
9.17.1.1		(a) Design, manufacture, and delivery	No	1		
9.17.1.2		(b) Install	No	1		
9.18		UNINTERRUPTABLE POWER SUPPLIES				
		Supply and Install 1kVA single phase uninterruptable power supplies for the control room and laboratory.				
9.18.1			ea	2		
9.19		EARTHING AND LIGHTNING PROTECTION				
		Earthing and bonding of the complete installation including metal water and sanitary pipes, basins, gutters, steel sheeting, metal cable supports, fixed medical equipment, etc as specified in the detail specification				
9.19.1			Sum	1		
9.19.2		Provisional amount for soil resistivity tests by earthing specialist	P/Sum	1	6 000.00	6 000.00
	Subtotal Carried to Next Page					

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

		Brought Forward from Previous Page			
9.19.3	Provisional sum for supply and installation of a lightning protection system based on soil resistivity test results by a Specialist Sub-Contractor	P/Sum	1	18 000	18 000.00
9.19.4	Contractors' markup and profit on above items	%	24 000		
9.20	HEATING AND COOLING OF BUILDING				
	VRF system to be installed will be of the size of 12kW cooling load, and will include all pipework, connections, refnet joints, outdoor joints, mode change units, electrical wiring, installations, decorations panels, refrigerant piping, refrigerant used during testing and commissioning, indoor units and the outdoor unit. A provisional cost is allowed which includes the items below.	P/Sum	1	60 000	60 000.00
9.20.1					
9.20.2	Contractors' markup and profit on above items	%	60 000		
	<u>Above provisional amount includes for:</u>				
	VRF Outdoor unit, 12kW Cooling Capacity	Ea	1		No Rate
	Indoor units - midfall units of 2.5kW Cooling Capacity	Ea	3		No Rate
	Indoor unit - Cassette unit of 5kW Cooling Capacity	Ea	1		No Rate
	Refnet joints	Ea	1		No Rate
	Mode Change Units	Ea	2		No Rate
	Refrigerant Piping will be copper piping of the following sizes and lengths				
	Diameter 25.4mm	m	42		No Rate
	Diameter 19.05mm	m	60		No Rate
	Diameter 15.88mm	m	40		No Rate
	Diameter 12.7mm	m	25		No Rate
SUBTOTAL CARRIED TO SUMMARY PAGE					

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
10		SECTION 10 - FENCING				
10.1	1200 DM	SITE CLEARANCE				
10.1.1		Clear vegetation, rubble, and trees up to 3m width	m	385		
10.2		EARTHWORKS				
10.2.1	8.3.2	Excavate in all materials and dispose of within free haul distance or stockpile for later use for:				
10.2.1.1		Footings 0.5 x 0.5 x 0.5m	m³	16		
10.2.2	8.3.2(b)	Extra over item for excavation in:				
10.2.2.1		Intermediate material	m³	10		
10.3		CONCRETE				
10.3.1		<u>Strength concrete 25MPa/19mm</u>				
10.3.1.1		Floors	m³	29		
10.4		FENCING				
		<i>All work to be done strictly to manufacturers specifications</i>				
10.4.1		Supply and install complete 2.1m high concrete palisade fence	m	385		
10.4.2		Supply and install complete 5.0m steel swing gate as per drawing	No	1		
10.4.3		Supply and install complete 1.2m steel pedestrian gate as per drawing	No	2		
SUBTOTAL CARRIED TO SUMMARY PAGE						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ITEM	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
11		SECTION 11 - ADDITIONAL MAINTENANCE REPAIRS				
11.1	1200 DM	SITE CLEARANCE				
11.1.1		Clear vegetation, rubble, and trees up to 1m width	m2	50		
11.2		RAW WATER PIPEWORK REPAIRS				
11.2.1		Allow a provisional amount for refix and repairs to existing DN 315mm steel pipe	P/Sum	1	185 000.00	185 000.00
11.2.2		Contractors' markup and profit on above items	%	185 000		
11.2.3		Cast 30 Mpa concrete as pipe support	m3	14		
11.2.4		Compacted backfill of abstraction sump with imported fill material to 95 % Mod AASHTO	m3	120		
11.3	1200 DM	MAINTENANCE REPAIR WORK				
11.3.1		Supply, deliver and install complete 7.5 Hp Air compressor	No	1		
11.3.2		Allow a provisional amount for new blower with motor	P/sum	1	215 000.00	215 000.00
11.3.3		Allow a provisional amount for MCC refurbishment	P/sum	1	85 000.00	85 000.00
11.3.4		Allow a provisional amount for modifications to flocculant dosing system and new dosing pumps	P/sum	1	60 000.00	60 000.00
11.3.5		Allow a provisional amount for new submersible sludge pumps	P/sum	1	168 000.00	168 000.00
11.3.6		Allow a provisional amount for new submersible recycle pump	P/sum	1	142 000.00	142 000.00
11.3.7		Allow a provisional amount for refurbish of steel clarifiers	P/sum	1	54 000.00	54 000.00
11.3.8		Allow a provisional amount for refurbish of 12 pressure filters	P/sum	1	120 000.00	120 000.00
11.3.9		Allow a provisional amount for chlorine dosing - revert back to 1-ton cylinders	P/sum	1	42 000.00	42 000.00
11.3.10		Allow a provisional amount for calibration of existing mag flow meters	P/sum	1	68 000.00	68 000.00
11.3.11		Allow a provisional amount for new mag flow meters	P/sum	1	86 000.00	86 000.00
11.3.12		Contractors' markup and profit on above items	%	86 000	1 040 000	
SUBTOTAL CARRIED TO SUMMARY PAGE						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SUMMARY OF THE BILL OF QUANTITIES

SECTION	DESCRIPTION	AMOUNT
1	PRELIMINARY & GENERAL ITEMS	
2	OPERATIONAL BUILDING	
3	FLOCCULATION CHANNEL & SEDIMENTATION TANK	
4	INLET WORKS	
5	SLUDGE LAGOON	
6	GUARD HOUSE	
7	ROADS & STORMWATER	
8	WATER & SEWER RETICULATION	
9	ELECTRICAL	
10	FENCING	
11	ADDITIONAL MAINTENANCE REPAIRS	
A	SUB TOTAL 1	
B	ADD 10% CONTIGENCIES (A x 0,1)	
C	SUB TOTAL 2 (A + B)	
D	ADD 14% VALUE ADDED TAX (C x 0,14)	
E	TOTAL (C + D)	

NAME OF TENDERER (FIRM) : _____

POSTAL ADDRESS : _____

CONTACT PERSON : _____

TELEPHONE NUMBER : _____

FAX NUMBER : _____



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

PART C3 **SCOPE OF WORKS****CONTENTS****C3.1** **DESCRIPTION OF WORKS**

- C3.1.1 Employer's objectives
- C3.1.2 Overview of the Works
- C3.1.3 Extent of Works
- C3.1.4 Location of the Works
- C3.1.5 Temporary Works

C3.2 **ENGINEERING**

- C3.2.1 Design
- C3.2.2 Employer's Design
- C3.2.3 Contractor's Design
- C3.2.4 Tender Drawings
- C3.2.5 Design procedure

C3.3 **SUBCONTRACTING****C3.4** **CONSTRUCTION**

- C3.4.1 Works specifications
- C3.4.2 Site establishment
- C3.4.3 Plant & Materials
- C3.4.4 Construction equipment
- C3.4.5 Existing Services
- C3.4.6 Variations and additions to SABS 1200 Standardized specifications and particular specifications

C3.5 **MANAGEMENT OF THE WORKS**

- C3.5.1 Generic Specification

C3.6 **HEALTH AND SAFETY**

- C3.6.1 Health and Safety requirements and procedures
- C3.6.2 Protection of the Public
- C3.6.3 Barricades and lighting
- C3.6.4 Traffic control on roads

STATUS

In the event of any discrepancy between the Scope of Works and a part or parts of the SABS 1200 Standardized Specifications, the Bill of Quantities or the Drawings, the Project Specifications shall take precedence and prevail in the Contract.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C3 **SCOPE OF WORK****C3.1** **DESCRIPTION OF THE WORKS****C3.1.1** **Employer's objectives**

The Employers objective is to upgrade the Carolina WTW to a maximum capacity of 6 ML/d.

C3.1.2 **Overview of the works**

The project entails road layer works, paving and stormwater, fencing, in-situ concrete work and completion of the operational building as well as maintenance items and repairs to the existing abstraction weir. The Contractor will be responsible for the supply and installation of all materials for the complete installation and commissioning as to ensure a working project.

C3.1.3 **Extent of the works**

The scope of the Works is further summarised as follows:

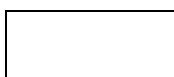
- Contractor's site establishment, maintenance thereof and removal after completion.
- Bulk earthworks for roads, paving and stormwater control.
- Modifications to inlet works.
- Conversion of the old sludge facility into a clarifier.
- Construction of a new fence.
- Completion of the new operational building.
- Relocation of the existing Telemetry Base Station to the new laboratory including all related cable work.
- Supply and install of recycle pump including control box.
- Install all electrical work in the new building, including all new luminaires, socket outlets and earthing.
- Modifications to existing pipe work.
- Repairs to existing raw water pipework
- Refurbishment of existing equipment
- Rehabilitate and finish-off site and surrounds and clean off all excess materials.
- Dealing with a nominated CLO and local Project Steering Committee regarding social aspects and local labour recruitment.

C3.1.4 **Location of the works**

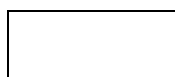
- The Carolina WTW is located just outside Carolina, under jurisdiction of the Chief Albert Luthuli Municipality.

C3.1.5 **Temporary works**

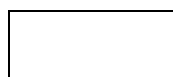
The following items shall generally form the majority of temporary works required under this Contract, however, shall not be limited to such, and might be expanded or changed by the Engineer should circumstances on site validate such decisions.



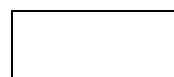
Contractor



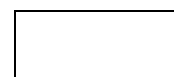
Witness 1



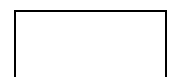
Witness 2



Employer



Witness 1



Witness 2

These works will be as follows:

- Clearing site and surroundings to create accessible working areas as required
- Provide temporary fencing around Contractor's camp site and Contractor's site office
- Provide Contractor's Camp site and Contractor's site office
- Provide site and administrative personnel, including security staff etc as required
- Setting out of the works by the contractor
- Monitor and report levels as construction progresses
- Manage all site staff, CLO and local labourers, plant, equipment, and materials etc
- Manage all required quality control procedures as specified and as instructed by Engineer
- Provide all personnel, equipment, clothing, accessories etc. to adhere to the OHS Act
- Attend official Site Meetings scheduled and chaired by the Engineer and managed sufficient additional meetings on site with all personnel and CLO to ensure compliance with the OHS Act and to ensure progress on site according to the accepted Construction programme.

C3.2 **ENGINEERING**

C3.2.1 **DESIGN**

- (a) The Employer is responsible for the design of the Permanent Works as reflected in the Contract Documents unless otherwise stated.
- (b) The Contractor is responsible for the design of the Temporary Works and their compatibility with the permanent Works.
- (c) The Contractor shall supply all details necessary to assist the Engineer in the compilation of the as-built drawings.

C3.2.2 **EMPLOYER'S DESIGN**

The Employer is responsible for the design of the entire upgrade, including all peripheral repair and site works.

C3.2.3 **CONTRACTOR'S DESIGN**

Where contractor is to supply the design of designated parts of the permanent Works or temporary Works, he shall supply full working drawings supported by a professional engineer's design certificate.

C3.2.4 **DRAWINGS**

The Contractor shall use only the dimensions stated in figures on the Drawings in setting out the Works, and dimensions shall not be scaled from the Drawings, unless required by the Engineer. The Engineer will, on the request of the Contractor in accordance with the provisions of the Conditions of Contract, provide such dimensions as may have been omitted from the Drawings.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The Contractor shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the contract. The position of pipe bends, junction boxes, duct ends, and all other underground infrastructure shall be given by either co-ordinates or stake value and offset. Where necessary, levels shall also be given. A marked-up set of drawings shall also be kept and updated by the Contractor. This information shall be supplied to the Engineer's Representative on a regular basis.

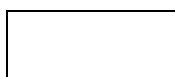
All information in possession of the Contractor, required by the Engineer and/or the Engineer's Representative to complete the as built/record drawings, must be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

The Drawings prepared by the Employed for the permanent Works are listed and bound at the back of this volume. The Employer reserves the right to issue amended and/or additional drawings during the Contract.

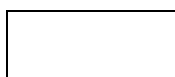
TENDER DRAWINGS:

The following drawings/documents are bound in Section C4 and shall form part of the tender documentation.

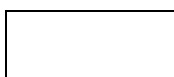
<u>Document no.</u>		<u>Title</u>
10783-4B-004-001	Sheet 1/1	Site development layout
10783-4B-200-001	Sheet 1/2	Roads and Stormwater Layout
10783-4B-254-001	Sheet 2/2	Roads and Stormwater Details
10783-4B-400-001	Sheet 1/2	New Flocculation Channel and Clarifier Sections, detail
10783-4B-400-001	Sheet 2/2	New Flocculation Channel and Clarifier Sections, detail
10783-4B-400-002	Sheet 1/1	Inlet works – Plan and Elevations
10783-4B-400-003	Sheet 1/1	Sludge Lagoon – Layout, Sections and Details
10783-4B-400-004	Sheet 1/1	Guard House – Layout, Sections and Details
10783-4B-400-005	Sheet 1	New Operational Building – Floor Plans
10783-4B-400-006	Sheet 1	New Operational Building – Elevations & Sections
10783-4B-400-007	Sheet 1	New Operational Building – Window & Door Schedules
10783-4B-350-001	Sheet 1/3	Concrete Palisade Fencing – Elevation & Sections
10783-4B-350-001	Sheet 2/3	Concrete Palisade Fencing - Double Swing Gate Details
10783-4B-350-001	Sheet 2/3	Concrete Palisade Fencing - Pedestrian Gate Details
10783-4B-500-001	Sheet 1/2	Sludge Lagoon – Reinforcement Details
10783-4B-500-001	Sheet 2/2	Sludge Lagoon – Bending Schedule
10783-4B-500-005	Sheet 1/2	New Flocculation Channel – Reinforcement Details



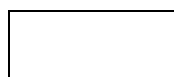
Contractor



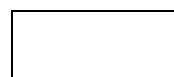
Witness 1



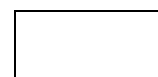
Witness 2



Employer



Witness 1



Witness 2

10783-4B-500-005 Sheet 2/2 New Flocculation Channel – Bending Schedule

C3.2.5 DESIGN PROCEDURES

New and existing infrastructure will be considered under this contract.

C3.3 SUBCONTRACTING

All subcontractors to be approved by the Engineer.

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

C3.4 **CONSTRUCTION****C3.4.1** **VARIATIONS AND ADDITIONS TO SABS 1200 STANDARDIZED SPECIFICATIONS AND PARTICULAR SPECIFICATIONS**

Although not bound in nor issued with this document, the following standard specifications shall form part of the contract and notwithstanding the provision of sub-clause 2.2 of SABS, the editions specified below shall apply:

SABS 1200 A	:	General
SABS 1200	:	Engineers Office
SABS 1200 C	:	Site clearance
SABS 1200 D	:	Earthworks
SABS 1200 DB	:	Earthworks (Pipe Trenches)
SABS 1200 GA	:	Concrete (small works)
SABS 1200 G	:	Concrete (Structural)
SABS 1200 L	:	Medium Pressure Pipelines
SABS 1200 LB	:	Bedding (Pipes)

In addition, the following particular specification that is bound into this document shall apply.

Specification PS L	:	Medium pressure pipelines
Specification PS PB	:	Building work
Specification PS SL	:	Steel pipes
Specification PS G	:	Concrete (Structural)

The following variations and additions to the SABS 1200 Standardized Specifications referred to above apply to this Contract. The prefix PS indicates an amendment to SABS 1200. The letters and numbers following these prefixes respectively indicate the relevant Standardized Specification and clause numbers in SABS 1200 to which the variation or addition thereto applies.

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

PS PROJECT SPECIFICATION: CIVIL AND STRUCTURAL**PSL SABS 1200 L: MEDIUM PRESSURE PIPELINE****PSL 1 SCOPE**

All water pipelines in this contract shall be deemed to be medium pressure pipelines.

PSL 2 MATERIALS (Sub-clause 3.1)**PSL 2.1 APPLICABLE STANDARDS**

The latest revisions of the following standard specifications shall apply:

- SABS 144 - Single Door Reflux Valves
- SABS 191 - Cast Steel Gate Valves
- SABS 192 - Cast Steel Single Door Reflux Valves
- SABS 664 - Cast Iron valves for waterworks and Heavy Industrial applications.
- SABS 5155 - Cast Iron and Carbon Steel Butterfly Valves
- SABS 1123 - Steel flanges for pipes (Back of flanges spot faced)

PSL 2.2.2 MATERIALS

Cast Iron and Resilient Gate Valves shall be manufactured from iron or cast steel depending on the specific working pressure.

Spindles shall be manufactured of high-grade stainless steel.

PSL 2.2.3 MARKING OF VALVES

The design pressure in Mega Pascal (MPa) shall be engraved on the side of the valve where it is legible. Valves shall be marked with the item number of the schedules when delivered to site.

PSL 2.2.4 HANDWHEELS AND CLOSURE

Where hand wheels are specified, edges shall be machined to a smooth surface. Wording "OPEN" and "CLOSE" will be casted into hand wheels. Valves will close clockwise except where it is otherwise specified. Spindles will be of the non-rising type.

PSL 2.2.5 PROTECTION OF VALVES

Valves shall be painted externally with a zinc chromate primer according to SABS 679 Type 1. (Dry film thickness of 50 mnc) After installation damaged primer shall be made good with compatible primer in accordance with valve supplier's specifications.

Subsequently to making good of the primer the valve shall be painted with two layers of alkyd-based enamel according to SABS 630 Grade 1 (dry film thickness of 250 micro meter per layer) to match the colour of adjoining pipe work.



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

PSL 2.2.6 HANDLING, DELIVERY, AND INSTALLATION

All valves and related items shall be handled with the necessary care throughout all processes of manufacture, testing, delivery, and installation. Valves shall be handled solely with slings that will cause no damage. The inlet and escape orifices of air valves and special valves shall be effectively sealed after manufacture until completion of installation and this sealing shall be examined regularly to ensure that it is still effective.

Valves shall be effectively supported, packed, or fastened down for transporting and care taken to avoid valves knocking together during transport. Valves shall be stored in a safe place above ground and shall be protected against the ingress of foreign matter.

PSL 2.3 Fittings

In general, all fittings are to be manufactured in uPVC or cast iron as applicable. Fittings shall be compatible in respect of working and test pressure to those of the pipelines. All necessary fittings and adaptors to suit the water mains must be provided and fitted.

PSL 3 CONSTRUCTION**PSL 3.1 Test pressure (Sub-clause 7.3.1)**

All pipes must have a minimum working pressure of 900 kPa. Test pressure for field testing shall be 1,25 times the working pressure. All pressure testing shall be performed in accordance with SABS 1200, Claus 7.3 "Standard Hydraulic pipe test".

PSL 3.2 Laying of continuous flexible pipes

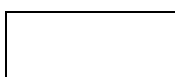
HDPE continuous flexible piping of external diameter less than or equal to 50 mm, in soil trenches less than 1,5 m deep, shall be laid down in whole lengths, jointed only at fittings or specials. These pipes shall be laid in the centre of the trench, bedded and backfilling shall then be done with selected granular material and selected fill material to the height and standard specified for flexible pipe beddings. In case of pipes laid in trenches in rock, the pipe shall be laid on a layer of 75 mm thick selected granular material; backfilling shall then proceed as described above.

The minimum base width shall be 300 mm.

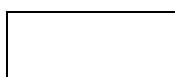
The depth of excavation for HDPE pipes from existing ground level shall in general be not less than 400 mm, except at connections at the water mains.

PSL 3.3 Anchor / thrust blocks and pedestals (Sub-clause 5.5)

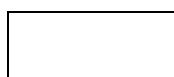
Dimensions at all anchor / thrust blocks shall be supplied by the Engineer as and when required. The Contractor shall request such information not less than 7 (seven) calendar days in advance.



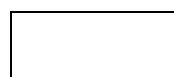
Contractor



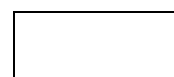
Witness 1



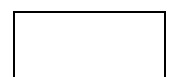
Witness 2



Employer



Witness 1



Witness 2

PSL 4 MEASUREMENT AND PAYMENT**PSL 4.1 Supply, lay and bedding of pipelines complete with couplings (sub-clauses 8.2.1, 8.2.2 and 8.2.3)**

Notwithstanding the provision of sub-clause 8.2.4, 8.2.6 and 8.2.7, separate items will not be scheduled for the cutting of the pipe. The supply and fixing of the extra couplings, supply and installing joints with machined collars and special couplings, and the encasing of joints will therefore be deemed to be included in the rates tendered for the relevant items.

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

SPB PARTICULAR SPECIFICATION PB: BUILDING WORK**PS PB1 SCOPE**

This section covers the various construction activities associated with the erection of buildings which form part of certain civil projects.

Building work shall be carried out in accordance with the National Building Regulations and the information contained in this section.

Work appurtenant to the erection of buildings such as earthworks, concrete work, structural steelwork, etc. shall be carried out as specified in the appropriate sections of these specifications and will be measured and paid for under those sections.

PS PB3 MATERIALS**PS PB3.1 BRICKWORK AND PLASTER WORK****(a) Bricks**

Bricks shall comply with SABS 227 and shall be classified according to their intended use as defined below.

Engineering bricks in both the face and stock categories shall be durable and selected for their uniformity of dimension, with a minimum average strength of 49 MPa. These bricks shall be of clay and shall be pressed or wire cut and free from cracks, chips or defects.

Face bricks shall not require any further decorative treatment and shall be selected for their uniformity of dimension, colour, and texture, with a minimum average compressive strength of 28 MPa. These bricks shall be of clay and shall be pressed or wire cut and free from chips, cracks, stones or other defects. Water absorption shall not exceed 2%. Special care shall be taken in the loading, stacking, and handling of face bricks, as no damaged bricks may be used. Stock bricks shall be suitable for general building work and shall have a minimum compressive strength of 7 MPa. Special stock bricks shall have a minimum compressive strength of 17 MPa.

The water absorption of stock bricks shall not exceed 10%.

Satisfactory proof of the load-bearing capacity of the bricks offered shall be submitted before deliveries are made to the Site.

Air bricks shall be well-burnt terracotta and shall be free from cracks and blemishes and lined with copper mosquito gauze.

Three samples of each type of brick shall be submitted to the Engineer for approval. All subsequent deliveries shall be of a standard equal to or better than that of the approved samples.

(b) Cement

Cement shall comply with the requirements of SABS 471 and shall be stored under cover. The use of Portland blast-furnace cement (PBFC) which complies with the requirements of SABS 626 will only be allowed if so, specified in the Project Specifications.

(c) Aggregate

Fine aggregate shall be naturally occurring sand or shall consist of crushed rock or gravel, and shall be hard, clean, and free from adherent coatings or other deleterious matter. Sand for plaster and mortar shall comply with the requirements of SABS 1090, whereas the aggregates for normal and granolithic floor screeds shall comply with the requirements of BS 1199 and BS 1201 respectively.

(d) Water

Water shall be clean and free from clay, silt, oil, acid, alkali, organic or other matter which would impair the required strength and durability of the mortar, plaster, or floor screed.

(e) Wall ties

Wall ties shall be of the galvanized, crimped, single-wire type with a 3,5 diameter, and shall comply with the requirements of SABS 28.

(f) Damp-proof sheeting

Damp-proof sheeting shall comply with SABS 248, type FV for fibre felt, or SABS 952, type B for embossed polyethylene sheeting.

PS PB3.2

IRONMONGERY

(a) Door locks and handles

All door locks shall comply with the requirements of SANS 4 and shall be of approved manufacture and pattern. All locks shall be supplied with two keys. Keys shall be distinctly numbered with consecutive numbers and each key shall be stamped with the same number as that of the lock which it controls. No two locks in anyone building may have the same key. External doors shall be fitted with four-lever heavy-duty mortice locks, which shall be master-keyed.

All locks shall be properly installed, and, after completion, striker plates shall be adjusted, and the locks serviced.

Door handles shall be of cast zinc of approved manufacture and pattern.

(b) Miscellaneous fittings

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All retaining devices for doors and windows as well as fittings such as coat hooks, retaining hooks, etc. shall be of solid brass. All fittings shall be secured by screws or set screws of the same material and finish as the fitting.

Fittings to be fixed to plastered walls, masonry or floors shall be fixed direct by means of patent plastic or fibre plugs fitted into drilled holes.

Doorstops shall be provided at every door and shall be 40 mm diameter rubber stops.

PS PB3.3 GLAZING

(a) Glass

Glass shall comply with the requirements of CKS 55. The quality of all window glass shall be such that surface deterioration will not develop after glazing.

All glass shall be free from bubbles, waviness, scratches, stains, or other imperfections.

Unless otherwise specified, sheet glass for glazing shall be flat-drawn clear glass of ordinary glazing quality and of the thicknesses indicated below.

For panes not exceeding 0.75 m in area 3 mm

For panes exceeding 0.75 m but not exceeding 1,5 m in area 4 mm

(b) Putty

All putty shall comply with the requirements of SABS 680.

Putty shall not be too hard or soft or caked when used and shall dry evenly without crazing or cracking.

Defective putty shall be cut out and replaced by the Contractor at his own expense, and any broken glass shall also be so replaced and putty so repainted.

PS PB3.5 ROOF SHEETING AND ACCESSORIES

(a) Roof sheeting

(i) Galvanized-steel sheeting

Galvanized-steel sheeting shall have a minimum un-galvanized thickness of 0,5 mm and shall be of the profile as scheduled or shown on the Drawings. The sheeting shall comply with the requirements of an approved manufacturer's specification. The galvanizing shall comply with the relevant requirements of SABS 934 for class Z 600 coating and shall have been passivated.

(b) Fasteners



Fasteners and washers shall comply with the requirements of SABS 1273, shall be durable, and shall be protected against corrosion to a standard at least equal to the standard of corrosion protection of the sheeting material with which they are to be used. Fasteners to be used with fibre-cement sheeting shall be hot-dip galvanized fasteners.

Bolts and rivets used with galvanized sheeting shall be at least 4 mm in diameter, and those used with fibre cement sheeting, at least 6 mm in diameter.

Self-tapping screws and blind rivets may be used for side-stitching and as fasteners for ridging, flashings, etc.

(d) Sealants

Sealants shall comply with the requirements of SABS 110, SABS 1254 or SABS 1305 as applicable or with the sheeting manufacturer's recommendations as approved by the Engineer.

PS PB3.8 PAINT

To be in accordance with the detail specification requirements.

PS PB5 CONSTRUCTION

PS PB5.1 BRICKWORK AND PLASTER WORK

PS PB5.1.1 CONSTRUCTION OF BRICKWORK

(a) Cement mortar

Cement mortar unless otherwise specified, will consist of 1 part of Portland cement to 4 parts of sand by volume for normal brickwork and 1 part of Portland cement to 3 parts of sand by volume for reinforced brickwork. The ingredients for cement mortar shall be measured in proper gauge boxes on a boarded platform and thoroughly mixed. Alternatively, mixing may be by means of an approved mechanical batch mixer. Only when the dry ingredients have been thoroughly mixed, and a mixture of uniform colour has been obtained may the water be added in sufficient quantity to obtain mortar with the required consistency.

Cement mortar shall be used within two hours of adding water to the mix and shall not be used after two hours or if it has begun to set. Mortar shall be turned over frequently until it is used to prevent it from setting.

(b) Brickwork

Dimensions of all the brickwork shall be set out and built as shown on the Drawings. Bricks shall be kept wet before laying and the top of brickwork shall be wetted before any further bricks are laid. Bricks shall be well buttered with mortar before being laid and all joints shall

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be thoroughly flushed up as the work proceeds. All joints to faced brickwork shall be neatly made and key drawn with a 6 mm key.

Brickwork shall be carried up in a uniform manner with no portion being raised more than 1 m above an adjacent portion. All perpends, quoins, etc. shall be kept strictly true and square and the whole properly bonded together.

Brickwork shall be built in stretcher bond or English bond as shown on the Drawings and bats shall not be used except where required for the bond. All joints shall be 10 mm wide, and four courses shall measure 340 mm.

Brickwork for cavity walls and solid walls built in stretcher bond shall be tied with wall ties placed not more than one metre apart in every third course and shall be staggered vertically or as otherwise specified in the Project Specifications. At openings, the ties shall be positioned not more than 300 mm apart along the periphery of the opening and 150 mm from the opening.

Face brickwork shall be kept perfectly clean and rubbing down of the brickworks shall not be allowed. Scaffold boards shall be turned back during heavy rain to avoid splashing. Soiled brickwork shall be cleaned at the Contractor's expense, and the cleaning method shall be approved by the Engineer.

(c) Reinforced brickwork

Brickwork over door and window openings shall be reinforced with steel rods, welded, or expanded mesh, etc. Reinforcement shall be placed in each course of brickwork for a minimum of 4 courses or as shown on the Drawings. Reinforced brickwork shall continue at least 300 mm on each side of the openings.

Brick lintels shall be built upon rigid temporary supports left in position for not less than 7 days after brick-laying. Pre-stressed concrete lintels may be used where approved by the Engineer.

(d) Key for plaster

Joints of all brickwork receiving plaster shall be raked out, or the brick surfaces shall otherwise be prepared with acrylic slurry or any other approved bonding agent.

(e) Damp-proofing

A damp-proof course shall be laid over the full width of all the walls at a minimum height of 150 mm above the final ground level or wherever else it may be required, and it shall be lapped for at least 150 mm at angles and joints. A damp-proof course shall also be laid and stepped up under all external sills.

(f) General

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Rough and fair cutting shall be performed as required, and the brickwork shall be fitted around any steel work. Face brickwork shall be carefully cut and fitted to suit fittings.

Chases shall be left or formed for edges of concrete floors, staircases, etc. Chases shall also be provided wherever they may be required for pipes, conduits, switch boxes, distribution boards, and the like. Joints shall be raked out for flashings.

PS PB5.1.2 PLASTER WORK

(a) A plastered finish may consist of a combination of one or more of the following:

- (i) A single coat or first coat, comprising of one application ratio of 1:6 cement: sand mixture with a wood or steel-float finish.
If a first coat, the plaster shall be wood-floated and then scratched, raked, or otherwise roughened to provide a mechanical key for the second coat, which shall be applied within 24 hours. Should it be impossible to apply the second coat within 24 hours, the first coat shall be kept moist until the second coat is applied.
- (ii) A second coat comprising one application of a 1:6 cement-sand mixture with a wood-float finish.
- (iii) A finishing coat comprising a 1:1½ gypsum: sand mixture with a steel-float finish.

(b) Thickness

The total thickness of the plaster finish shall be 10 mm minimum and 20 mm maximum.

(c) Workmanship

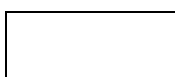
All plaster work shall be finished smooth and ready to receive paint. Plaster shall be flush with the faces of all switches and plug boxes, the interiors of which shall be kept free from plaster. Plastered surfaces shall be plumb and jambs and reveals shall be formed square. The plasterer shall cut out and make good all cracks, blisters and other defects and leave the plaster work, on completion, in a state which is acceptable to the Engineer.

PS PB5.2 INSTALLATION OF DOORS AND WINDOWS

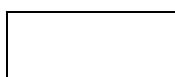
All built-in door and window frames shall be set straight, plumb, and level, and shall operate to the satisfaction of the Engineer after fixing has been completed. Fittings shall be either removed, or wrapped and protected from damage, until all rough trades have been completed.

PS PB5.3 GLAZING

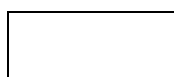
Glass shall be cut in panes to suit all glazed openings with sufficient clearance all round to prevent cracking by expansion, contraction, or vibration.



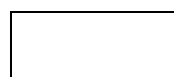
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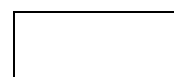
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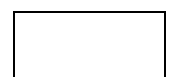
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In all cases the glass shall be well bedded and back-puttied and installed as specified in SANS Code of Practice 0137.

All putty shall be carefully trimmed, cleaned off and neatly finished off straight with smooth surfaces and sharp mitres. A paint primer shall be applied as soon as the putty has dried out sufficiently to prevent shrinkage cracks from forming.

The entire glazing operation shall be cleaned before the premises are handed over for occupation.

PS PB5.4.2 JOINERY WORK

(a) Scope of work

Joinery work shall consist of the manufacture, delivery to the Site, and fixing in the buildings, of all joinery shown on the Drawings. Except where a special finish is specified, the Contractor shall have all stairs, landings, doors, shelves, and other joinery work cleaned and scrubbed down and shall leave all his work in a good order to the satisfaction of the Engineer.

(b) Dimensions

All "wrought" timber shall be sawn, planed, drilled, or otherwise machined or worked to the correct sizes and shapes shown on the Drawings.

Reasonable tolerance shall be provided at all connections between joinery works and the building structure to compensate adequately for any irregularities, settlements, or any other movements.

(c) Fabrication

The joiner shall perform all the necessary mortising, tenoning, grooving, matching, tonguing, housing, rebating and all the other works necessary for correct jointing. He shall also provide all metal plates, screws, nails and other fixings that may be necessary for doing the specified joinery work properly.

(d) Joints

Where joints are not specifically indicated, they shall be the recognised forms of joints for each position. The joints shall be so made as to comply with part 2 of BS 1186.

(e) Doors and frames

Door frames, linings, panel doors, framed, ledged and braced doors, flush doors, sliding doors, etc. shall be supplied or made by the joiner and shall be installed, fitted or hung as detailed on the Drawings.

All timber shall be "wrought" and prepared for oiling, staining, varnishing, or painting.

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(f) Skirting's, cornices, etc.

Skirting's, cornices, etc. shall not be installed until after the wall coverings have been applied, the flooring laid and ceilings installed, unless otherwise specified.

(g) In situ joinery

In situ joinery work shall not be executed until after all floor, wall and ceiling surfaces have been formed or constructed, unless otherwise instructed.

(h) Ceilings

Ceilings shall consist of plaster board or fibre-cement panels as shown on the Drawings and shall be nailed to the branderling or suspended from the roof structure. The panels shall be separated by exposed tees and insulated with a 50 mm thick fibreglass wool blanket as shown on the Drawings.

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PSSL PARTICULAR SPECIFICATION SL: STEEL PIPES**PS SL STEEL PIPES, SPECIALS AND FITTINGS****PS SL 1 SCOPE**

This specification covers the manufacture, corrosion protection, delivery, erection, installation, making good of corrosion protection as well as over-coating as may be required, site-testing and commissioning of steel pipes, specials, and fittings mostly for the conveyance of water, but also for air, at normal ambient temperatures between 5°C and +70°C.

Standards referred to in the Specification are listed in the Annexure to this Specification.

PS SL 1.1 Manufacture of steel pipes

Steel pipes with normal bore up to 150mm diameter shall be manufactured to conform to all the requirements of SABS 62 whereas steel piping of larger diameter shall be manufactured to conform to all the requirements of SABS 719, all as may be amplified or amended below.

The requirements regarding pipe sizes and grades, wall thickness, pipe lengths and pipe and requirements are specified in the Pipe Schedule and / or stated in the Schedule of Quantities.

The following minimum wall thickness shall apply:

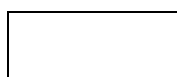
External Diameter (mm)	Minimum wall thickness (mm)
168 – 406	4,5mm
419 – 508	5,9mm
570 – 864	6,0mm

Regarding Sub-clause 4.2.2.1 in SABS 719 the Contractor shall, before commencing with pipe manufacture, satisfy the Engineer that the welding methods to be used in the pipe manufacture are adequate by:

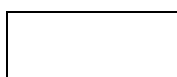
- a. The preparation of a weld sample employing precisely the same welding process, equipment, and artisans by which the pipe shall be manufactured.
- b. The preparation and destructive testing of the sample in (a) above, as laid down in Clause 7.2 of SABS 719.

The results of the tests on the test pieces shall comply with the requirements of Clause 7.2 of SABS 719 in all aspects.

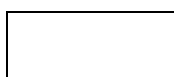
Such destructive testing shall be carried out for each grade of steel and for each thickness of steel in that grade.



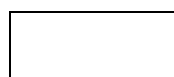
Contractor



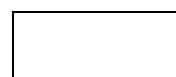
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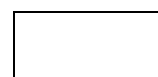
Witness 2



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Regarding sub-clause 4.2.2.2 and 4.2.2.3 in SABS 719 the height of the inner weld reinforcement shall not exceed 1mm.

PS SL 1.2 Manufacture of pipe specials

Only pipe conforming to the requirements of Clause PSL 1.3.1 above may be used for the manufacture of pipe specials.

For pipes of nominal bore, up to 150mm diameter T-pieces shall be heavy class pipe only, with the same wall thickness for both main and branch pipes. The manufacturing process and quality requirements are as specified in the relevant section of BS 806 (Section 3).

Dimensions and joint types for pipe specials are specified in the Pipe Schedule and / or stated in the Schedule of Quantities.

Welding shall be done by a welder holding a valid competence certificate (Grade 1) in terms of SABS 044 – Part V. Butt-welded joints shall conform to the requirements for welding for pipes under Clause PSL 1.3.1 above, and the Contractor shall prove all butt and fillet welded joints to be crack-free by carrying out dye penetrate tests, following the procedure laid down in BS 4416.

If at all practicable, pipe specials shall be subjected to hydraulic pressure tests as specified for pipe under Clause 1.3.1 above. Where this is not feasible, butt-welds must be subjected to radiographic inspection over their full length, with inspection procedure and acceptability limits for defects as specified in API 1104, keeping a record of all weld inspection and repair.

Where working pressures allow the use of malleable cast iron fittings for nominal bore up to 150mm diameter, these shall conform to the requirements of SABS 509.

PS SL 1.3 Pipe flanges, bolts and jointing

PSSL 1.3.1 Material and dimensions for flanges

The requirements for the materials and dimensions for flanges are in all respects as specified in SABS 1123.

A raised joint face shall be provided on all flanges of pressure rating higher than 2,5 MPa unless otherwise agreed to by the Engineer or as stated in the Schedule of Quantities, and the backs of cast or forged flanges shall be machined.

The machined surfaces of flanges shall be covered immediately after machining by a temporary rust preventative film of a suitable type as specified in BS 1133 (Section 6).

All flanges shall be drilled to SABS 1123 (Table 1600/3) or to the class as stated in the Schedule of Quantities.

PSSL 1.3.2 Welding on of flanges



The procedure for the welding-on of flanges, shall comply with the requirements of BS 806 (Section 3).

The proficiency of the welder and the quality requirements for the weld are the same as those specified in Clause PSL 1.3.2 above.

As a rule, the bolt holes in flanges for pipe specials shall not be on the vertical centre line.

When so specified in the Schedule of Quantities, flanged pipes shall be hydraulically tested after the welding-on of the flanges to a test pressure of 1,5 times the pressure rating of the respective flange.

PSSL 1.3.3 Bolts

Materials and dimensional requirements of bolts and nuts are specified in SABS 135 or 136. The Contractor shall correspondingly prescribe these requirements when ordering.

The threaded length shall be adequate to allow two full threads to protrude beyond the nut after the latter is fully tightened.

Each bolt shall be fitted with a nut and steel washer and bolts, nuts and washers shall be cadmium plated in accordance with and to a thickness specified for Class A in BS 1706.

Unless otherwise indicated in the Pipe Schedule, the number of bolts to be supplied shall be determined on the basis that each flange is to be supplied with half the number of bolts required for that flange.

PSSL 1.3.4 Jointing

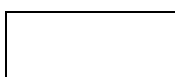
Insertion for flanges shall be of compressed asbestos fibre jointing and shall have a uniform thickness between 1,5mm and 3mm and the material shall comply with BS 2815 for the specific pressure rating.

PSSL 1.3.5 Pipe joints and coupling other than flanges

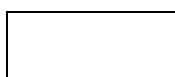
Pipe ends shall be prepared for the type of jointing and coupling as specified in the Pipe Schedule and/or stated in the Schedule of Quantities with the requirements for and preparations as specified in SABS 62 and 719 as applicable.

Standard couplings and flange adapters shall be of the VIKING JOHNSON type or equivalent and all loose bolts with nuts and washers shall be cadmium plated in accordance with and to a thickness specified for Class A in BS 1706 and shall be lined and coated as specified in Clause PSL 1.2.6 below.

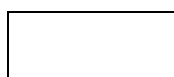
PSSL 1.3.5.1 Butt weld joints



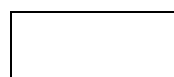
Contractor



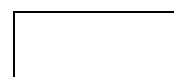
Witness 1



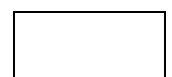
Witness 2



Employer



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Witness 2

At butt weld joints the internal protection shall be done in accordance with the following:

- Mix a styrene-butadiene copolymer latex (SBR) (Nitro bond or Duratex or similar) with water (1:1 ratio) and add Ordinary Portland Cement to form a slurry. Apply a coat of slurry to the steel and wet cement-mortar surface.
- Mix a SBR with water (1:3 ratio) and add to a cement/sand mix (1:1,5 ratio) to form a cement-mortar and apply while the slurry is still wet.

PSSL 1.3.5.2 Spigot and socket joints

At spigot and socket pipe ends the internal protection shall be done in accordance with the following:

- Prior to the joining of the pipes the edges of the cement-mortar lining and the steel surface shall be coated with slurry. Mix a bonding agent (Surfacrete from Samson or similar) with water (2:1 ratio) to form a slurry.
The surface of the cement-mortar must be wet when it is coated with slurry.
- Mix the slurry with an expansive cementitious grout (Standard Bedding grout from Samson or similar). While the slurry is still wet the grout shall be troweled to the edge of the cement-mortar lining in the socket.
- Push the spigot into the socket and tack weld. The excess grout that has been squeezed out of the joint shall then be removed from the pipe and the joint shall be smoothed with a scraper. Complete the welding before any movement at the joint is allowed and while the grout is still wet.
- The joint shall be welded at low amps and with thin rods to reduce the temperature of the steel at the grout.
The Contractor shall do tests to determine the optimum jointing procedure.

PSSL 1.3.6 Lining and coating of steel pipes, specials and fittings

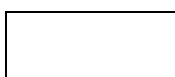
Corrosion protection onto the inside of pipework

Pipework with diameters up to 150mm (Type A)

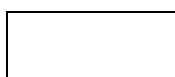
Hop dip galvanized in accordance with Sub-clause 3.9.2.1

Pipework with diameters greater than 150mm (Type B)

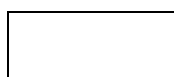
All pipes, specials and fittings, including couplings and flange adaptors, shall be fully lined and coated by COPON 2300 with a minimum of three coats to a minimum total dry film thickness of 250 micrometers on a steel surface that has been prepared by sandblasting to



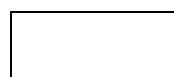
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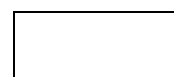
Witness 1



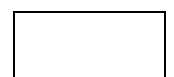
Witness 2



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Grade SA 2.5 as specified in SIS 055900, with a delay of not more than four hours between sandblasting and the application of the first paint coat.
Successive paint coats shall be of different colours, and the colour of the final coat shall be approved by the Engineer prior to painting. Over-coating time between the applications of successive coats shall not exceed 24 hours.

Corrosion protection onto the outside of pipework

Exposed pipework (Type C)

The surface should be prepared by sandblasting to Grade SA 2.5 as specified in SIS 055900, with a delay of not more than four hours between sandblasting and the application of the primer.

Primer: one coat zinc chromate plus one coat universal undercoat with dry film thickness of minimum 15 microns.

Thereafter two finishing coats of gloss enamel structural paint of approved manufacture of different colours to a total film thickness of 38 microns per coat.

The colour of the final coats shall be in accordance with SABS 1091.

Pipework with diameters greater than 150mm (Type D)

All pipes, specials, and fittings, including couplings and flange adaptors, shall be fully lined and coated by COPON 2300 with a minimum of three coats to a minimum total dry film thickness of 250 micrometers on a steel surface that has been prepared by sandblasting to Grade SA 2.5 as specified in SIS 055900, with a delay of not more than four hours between sandblasting and the application of the first paint coat.

Successive paint coats shall be of different colours, and the colour of the final coat shall be approved by the Engineer prior to painting. Over-coating time between the applications of successive coats shall not exceed 24 hours.

PS SL 1.3.6.1 Tape wrapping

External steel pipe coating and wrapping specification

A Denso Corroklad 750 tape or equivalent should be applied to the external surface of the 250mm diameter steel pipeline.

The tape consists essentially of a specially formulated polyethylene film laminated to a pressure sensitive, non-hardening thermoplastic adhesive. The adhesive layer is generally one and half times thicker than the polyethylene film.

The composite wrapping system provides a durable impact and cut resistant rock shield for normal and rugged service conditions.

Technical Data



The following information pertains to the Corroklad 750 tape:

- The base layer is made of polyethylene and is 0,3mm thick.
- The adhesive layer consists of rubber modified bitumen and is 0,45mm thick.
- The product thickness is 0,75mm.
- The tape has a minimum tensile strength of 15 MPa.
- The minimum elongation at failure is 300%.
- The adhesive and peel strength of the tape at 25°C is 2,2N/mm and 1,65N/mm respectively.
- The minimum electric strength of the tape is 25 kV.
- Cathodic disbondment by ASTM G8 Method B is 425mm².
- The service temperature of the tape is –10°C to 65°C.

Application Procedure

Corroklad tape can be successfully wrapped by hand (maximum tape width 100mm) and by machine. The general application is detailed below.

Surface Preparation

- All dirt, loose rust/mill scale and grease must be removed from the pipe surface.
- The minimum surface preparation acceptable for tape wrapping with Corroklad is ST2 (Swedish Standard SIS 055900-1967, Mechanical wire brushing).

Priming the Pipe Surface

- The primer to be used is Denso Primer D or equivalent Polymer Bitumen Solution and is to be applied by means of a medium pressure cop gun.
- The primer may be thinned for application with white spirits or toluene.
- The primer should nominally cover 9m² litre.
- The minimum drying period at 20°C is 20 minutes.
- The flash point occurs above 23°C.
- If the pipes are prepared and primed off site, it may be necessary to apply a second coat of primer on site to rejuvenate the first application. This is only required if the pipe is being wrapped on site.
- The primer should be dust free prior to the application of the tape wrap system. Should the primer be contaminated, the surface must be reprimed.
- The primer should be allowed to dry for approximately 30 minutes at 20°C to 25°C prior to the application of the tape system.

Tape Application

- The Corroklad tape or equivalent should be spirally wrapped onto the primed pipe, utilizing a 55% overlap.
55% Overlap will ensure a minimum of two layers of tape at any point.
- Ensure that a constant web tension of 10 to 15kg/100mm is maintained during wrapping.
- At no time is the shrinkage of the total width of tape to exceed 2%.

Contractor

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Pipe Handling

- Non-metallic slings are to be utilized when handling the wrapped pipe sections or pipe, to ensure that no mechanical damage occurs to the tape.

PSSL 1.3.6.2 Making good and over-coating of steel pipes, specials, and fittings

After erection, all damage to the COPON coatings shall be made good strictly in accordance with the paint supplier's detail specification. Prior to making good, a copy of these specifications shall be submitted to the Engineer.

After the repair of COPON painted areas, all exposed pipework, as listed in the Schedule of Quantities, shall be cleaned of dirt, oil and such substances. These exposed pipe surfaces shall then be over-coated with two coats of polyurethane paint compatible with the COPON coating and in accordance with the paint supplier's detail specification including abrasion as may be necessary.

A copy of this specification shall be submitted to the Engineer as referred to above. The colours of the final coats shall be in accordance with SABS 1091 as follows:

Air piping	:	F28 Arctic blue
Raw water pipes	:	B49 Golden yellow
Clear water pipes	:	B10 Brilliant green
Backwash piping	:	C63 Deep cream

PS SL 1.3.7 Handling, delivery and installation

All pipes, pipe specials and fittings shall be handled throughout the processes of manufacturing, corrosion protection, delivery and installation with all care necessary to prevent any damage.

After the corrosion protection of the outside of pipes and specials has been carried out, these items must be handled only by means of straps that will in no way damage the protection.

After completion of corrosion protection at the place of manufacture, all pipe ends shall be effectively closed off by at least a sheet of plastic held fast to the pipe and by binding wire.

This seal shall be checked specifically during delivery and after off-loading on site to confirm that it is still fully effective and shall immediately be repaired or replaced if damaged. Should there be the slightest danger of the ingress of foreign matter into the pipework during installation, the ends shall be kept sealed off all the time.

Pipes shall be supported during traveling on shaped and padded cradles while pipe specials shall be adequately supported and separated from each other to prevent any damage.

At the delivery points on site, pipes, pipe specials and fittings shall be supported by plastic sandbags of sufficient strength, such that the under sides of the pipes and pipe specials are

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at least 200mm off the ground. The number and positioning of supports under the pipes shall be such as to prevent any undue pipe deflection.

Bolts, nuts, washers, and jointing, shall be packed in strong metal or wooden containers with effective lids, with each different sizes of bolts grouped separately in hessian bags all clearly labelled as to their contents.

Pipe work shall be securely clamped in its final position by means of galvanized fittings.

PS SL 1.4 FLEXIBLE COUPLINGS AT STRUCTURES

Flexible couplings shall be provided at the point where pipelines enter all structures.

PS SL 2 CONSTRUCTION

PS SL 2.1 COVER OF PIPELINES (Sub-clause 5.1.4.2)

Water mains shall be laid to have a minimum cover of 1,0m outside the site of the works and 0,8m inside the site of the works.

PS SL 2.2 BREAK INTO MAIN

The Contractor shall break into and connect to the existing water pipeline after all the work on the water main has been completed and tested. The Contractor shall arrange in cooperation with the local authority for the emptying of pipes and canal, excavations, etc. complete as required for the connection.

PS SL 3 TESTING

PS SL 3.1 TEST PRESSURE (Sub-clause 7.3.1)

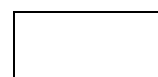
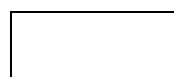
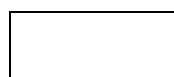
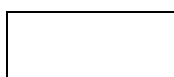
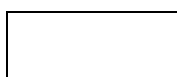
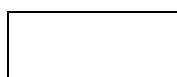
All pipes must have a working pressure as indicated on drawings. Test pressure for field-testing shall be for steel pipes 1,25 times working pressure and for FC pipes 1,5 times working pressure.

In general, the Contractor shall keep in mind that the existing water supply system shall remain in sure during the construction period. All new-old pipe connections, etc. shall only be allowed in off peak times.

PS SL 3.2 TESTING OF PIPELINES (Sub-clause 7.3.1.2)

The complete pipeline shall be tested in consecutive sections.
The Contractor shall be responsible for providing temporary valves, end caps, blank flanges or other isolating devices to complete the hydraulic testing.

For field test pressure see PSL 3.1.



The acceptance test shall be carried out as described in Sub-clause 7.3.

PS SL 4 MEASUREMENT AND PAYMENT

The unit of measurement for payment for the manufacture, corrosion protection and final over-coating as may be required, delivery, installation of pipes, site-testing and commissioning of pipes, pipe specials and fittings conforming with this Specification shall be either the lump sum or the unit of length or the number of items, all as stated in the Schedule of Quantities with differentiation between pipe sizes, classes and end preparation as stated in the Schedule of Quantities.

PS SL 4.1 VALVES AND SPECIALS

The rates tendered and paid for valves and fittings must include the cost of the provision of an approved coating and the cost of any additional couplings other than those listed in the Schedule of Quantities to connect to the water mains.

All adapters and distance pieces required for the extension to the specified level and length as shown on the drawings for air and scour valves must be included in the rates for the units.

PS SL 4.2 ANCHORS / THRUST BLOCKS (Sub-clause 8.2.11)

The cost of any formwork and excavation required shall be included in the rate for concrete.

PS SL 4.3 FLEXIBLE COUPLINGS AT STRUCTURES

The cost of providing couplings, cutting pieces, etc. shall be allowed for in the rate tendered for pipe work.

Where the Contractor decides to use additional short collar couplings for convenience, he shall allow for the cost of such couplings in the rates tendered for pipe work.

PS SL 4.4 VALVES

The unit of measurement for payment for the manufacture, delivery, installation, setting, site-testing and commissioning of valves and related items conforming with this Specification shall be either the lump sum or the number of items, all as stated in the Schedule of Quantities with differentiation between valve types, sized and classes as stated in the Schedule of Quantities.

PSG CONCRETE (STRUCTURAL) (SABS 1200 G)**PSG 3 MATERIAL****PSG 3.1.1 CEMENT (Sub-clause 3.2.1)**

The preferred type of cement to be used for concrete structures shall be CEMIIBV or CEMIIB-W, Water: Cementation ratio 0.5.

PSG 3.1.2 CEMENT STORAGE (Sub-clause 3.2.3)

Cement shall not be kept in storage for longer than eight weeks without the Engineer's permission.

Cement which has been damaged in any way or which has been stored on site for a period exceeding three months shall be condemned and removed from site.

PSG 3.1.3 CONCRETE WITH REACTIVE AGGREGATES (Sub-clause 3.2 and 3.4)

The Contractor shall supply a test certificate for the aggregate confirming that it is not reactive.

With each delivery of materials under this clause the Contractor shall supply acceptable written evidence that this clause is being complied with.

PS G 3.1.4 AGGREGATE

Only dolomite aggregates to be used or other calcareous aggregates, with no impurities of chert, clay or other acid-insoluble residues.

PSG 3.1.5 PLUMBS (Sub-clause 3.4.2)

The use of plumbs shall not be permitted.

PSG 3.1.6 ADMIXTURES (Sub-clause 3.5)

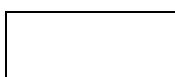
Admixtures may only be used with the prior approval of the Engineer. Super plasticizers of the sulphonated naphthalene formaldehyde condensates are preferred.

PSG 3.2 JOINT MATERIALS**PSG 3.2.1 PRIMER**

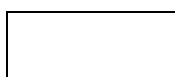
An approved primer, full compatible with and/or manufactured for the specified jointing and sealing material shall be applied to the surfaces.

PSG 3.2.2 FILLERS

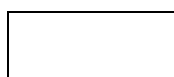
Fillers shall be closed cell expanded polyethylene.



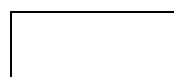
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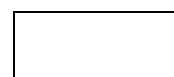
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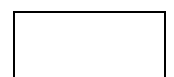
Witness 2



Employer



Witness 1



Witness 2

Fillers shall be pre-cut to suit the application with a tear-out strip for forming the specified recess for the bond breakers and sealant.

PSG 3.2.3 SEALANT AND BONDBREAKER

The elastomeric sealant shall be two-pack polyurethane type (gun grade for verbal joints) generally conforming with the physical properties specified in SABS 110 and used with primers as specified above.

The bond breaker placed immediately prior to application of the sealant shall be a self-adhesive vinyl type (or similar approved material) with a width the same as the joint recess into which it is to be applied.

PSG 3.3 CONSTRUCTION (Sub-clause 5)

PSG 3.3.1 COVER (Sub-clause 5.1.2)

The minimum cover to reinforcement shall be 50 mm unless otherwise specified on the Engineers drawings and bending schedules.

PSG 3.3.2 SPACERS REINFORCEMENT

Spacers of approved design include approved plastic or other proprietary spacers or purpose made precast mortar blocks.

Where mortar blocks are used, they shall be properly shaped so as not to slip out of position and shall be made of the same mix as the mortar of the concrete in which they are to be placed.

The mortar shall be well compacted by approved means into the moulds to result in blocks with a density of at least 2 300kg/m³; and which are free from honeycombing. They shall be cured in water for at least seven days. Mortar blocks which have not been manufactured and cured strictly in accordance with these requirements or which are in any other way considered unsatisfactory by the Engineer, will be rejected, and shall be removed from the Site.

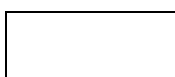
PSG 3.3.3 FORMWORK AND FINISHES (Sub-clause 5.2)

PSG 3.3.3.1 FORMWORK TIES

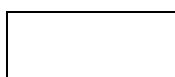
The use of sleeves through the concrete for formwork ties will not be permitted. Ties, when cast in, shall have some form of positive shear key to prevent any rotation when loosening formwork.

The formwork ties and bolt holes shall be placed with regularity and precision.

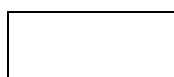
The finish of exposed concrete surfaces of concrete structures shall be “smooth” as detailed in (b) of sub-clause 5.2.1.



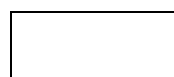
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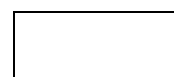
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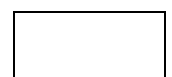
Witness 2



Employer



Witness 1



Witness 2

PSG 3.3.4 FILLETS AND CHAMFERS

All internal and external angels in concrete works (exposed corners) shall have 20mm X 20mm fillets and chamfers unless shown otherwise on the drawings.

The units rate tendered for formwork shall cover the cost of forming these chamfers and fillets.

PSG 3.3.5 STRENGTH CONCRETE (Sub-clause 5.5.1.7)

Except for mixes weaker than 15Mpa, all concrete for the Works shall be considered to be strength concrete in terms of Sub-clause 5.5.1.7.

No concrete shall be cast until the mix designs have been approved by the Engineer. The Engineer may call for revised mix designs at any stage during the contract.

The Contractor must supply and test 6 No. cube test results for approval prior to commencement of the works.

Unless otherwise specified on the drawings or in the Schedule all structural concrete shall have strength of 30 Mpa.

The concrete to be used on this contract shall be as follows:

For water retaining structures, 30/19 MPa with a minimum cement content of 360kg/m³ and a maximum of 400kg/m³.

For structures not in contact with water, 30/19 MPa concrete with a maximum cement content of 400kg/m³.

For anchor blocks, benching and mass concrete, 15/19 MPa concrete.

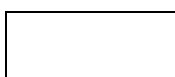
For no-fines concrete 15/19 Mpa concrete.

The successful Tenderer will be required to submit samples of the fine coarse aggregate which he proposes using, to the Portland Cement institute (or equivalent approved laboratory) for tests regarding the suitability of such aggregates. The institutes shall prepare trial mixes of the two stronger grades of concrete required for the contract to establish acceptable design mixes.

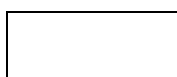
These mixes shall be designed for vibration. All data reports prepared by the Institute shall be submitted to the Engineer for information and approval.

PSG 3.3.6 DESIGN OF CONCRETE MIX

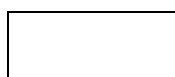
The concrete mix design shall be prepared by an approved independent laboratory and submitted to the Engineer for approval.



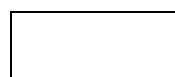
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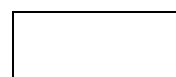
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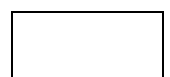
Witness 2



Employer



Witness 1



Witness 2

PSG 3.3.7 JOINTS**PSG 3.3.7.1 GENERAL**

Notwithstanding Sub-clause 2.4.3 “designated joints” shall only be joints shown on the drawings and in the Schedule. Further joints required by the Contractor because of construction limitations or any other reason, shall be deemed to be “undesigned joints”

The position and pattern of all joints (designated or undesigned) shall be to the Engineer’s approval.

All joints (designated or undesigned) except expansion and contraction joints shall be treated in accordance with Sub-clause 5.5.7.3.

Joints between tank bottoms, floors or wall bases and the walls and columns standing on them, shall not be made flush with the supporting surface, but shall be made in the wall or the column a distance of 140mm above the base. The 140mm high “riser” shall be cast as an integral part of the bottom, floor or base, i.e. the concrete in the riser shall be deposited at the same time as the concrete in the bottom, floor or base adjacent to it.

In cases where there is a fillet at the bottom of the wall or column, the construction joint shall be made 140mm above the fillet.

The Contractor should note that the details of the undesigned joints shall be identical to the designated joints shown on the drawings where the joint is in a similar situation and performs the same duty.

The Contractor shall further note that the position and the type (where no identical designated joints exist) of undesigned joints shall be subject to the Engineer’s approval.

PSG 3.3.7.2 CONSTRUCTION JOINTS (Sub-clause 2.4.3 and 5.5.7)

All joints other than expansion, contraction, or other movement joints, shall be treated as follows

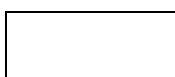
As soon as practical, but not before 15 hours after placing, the joint surface shall be prepared to receive fresh concrete.

This preparation, as specified in Sub-clause 5.5.7.3 (a) to (d) shall be such as to remove all laitance or inert and strengthless material which may have formed, and the specified shipping and sand blasting shall be such as to produce a roughened surface all over.

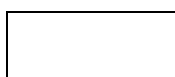
Concrete surfaces, where concreting is interrupted, shall be protected from the sun as specified in Sub-clause 5.5.8 (d).

PSG 3.3.7.3 CONSTRUCTION JOINTS/WATERSTOPS (Sub-clause 5.5.7.3)

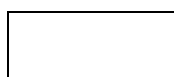
No vertical construction joints other than those shown on the Drawings may be formed. Horizontal construction joints shall also be as per the Drawings.



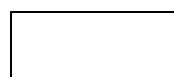
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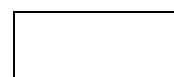
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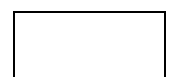
Witness 2



Employer



Witness 1



Witness 2

All construction joints shall be as indicated on the Detail Drawings and be treated with a wet-to-dry epoxy resin concrete adhesive as approved by the Engineer.

PVC water stops to be used in the works shall be 140mm wide “Expandite PVC Hydrofoil” water stops or an approved equivalent.

During construction, all water stops are to be properly cleaned before casting into concrete. Shuttering to be so manufactured to keep and support water stops in their correct and final positions.

No nails are to be utilized and no holes are to be made through water stops in supporting them. When concrete is placed adjacent to water stops, care must be taken not to disturb the position of the water stops.

Water stops are to be provided in as long lengths as possible to minimize joints. All laps to be strictly to the manufacturer’s requirements.

PSG 3.3.7.4 EXPANSION AND CONTRACTION JOINTS

Expansion and contraction joints shall be made in the positions and to the details shown on the drawings.

The specified filler strips shall be attached to the complete side of the straight or grooved concrete joint by means of an approved adhesive.

PSG 3.3.7.5 JOINT SEALANT

All joints to be formed to the specified dimensions, properly prepared, primed and sealed with Flexothane two component polyurethane sealant obtained from African Bitumen Emulsions or similar approved and used strictly in accordance with the manufacturer’s instruction.

PSG 3.3.8 ITEMS TO BE CAST IN OR GROUTED INTO CONCRETE

PSG 3.3.8.1 FIXING FOR EQUIPMENT SUPPLIED UNDER SEPARATE CONTRACT

The Contractor will be responsible for the forming of pockets and grouting in of holding down bolts for equipment supplied under a separate contract. Holding down bolts will be supplied and positioned in the pockets by a Mechanical Contractor, unless otherwise specified by the Engineer.

Upon completion of the positioning and alignment of equipment, the Contractor shall, in collaboration with the other Contractor, grout up pockets and base plates (subject to (c) below) necessary for the permanent installation of the equipment.

Only after the Engineer is satisfied with the alignment and the level of each item of plant, shall the Contractor grout up the base plate with an approved non-shrink grout.

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

PSG 3.3.8.2 FIXINGS FOR ITEMS SUPPLIED UNDER THIS CONTRACT

Holding down bolts or other fixings required for the installation of handstops, crane beams, ladders, handrails and other items supplied under the Contract, shall be provided by the Contractor. These fixings shall be cast in or grouted into pockets or installed by other means as approved by the Engineer.

Where anchor bolts are used which are installed into holes drilled into concrete or masonry, these shall be of a type approved by the Engineer.

Anchor Bolts – hot dipped galvanized (mild steel). No electro plating will be allowed.

PSG 3.3.8.3 PIPES AND CONDUITS EMBEDDED IN CONCRETE

Except with the written approval of the Engineer, no pipes other than those shown on the drawings shall be embedded in concrete and the approval of the Engineer for the position of all services to be embedded shall be obtained before concreting commences. The clear space between pipes of any kind embedded in reinforcement concrete and the clear space between such pipes and reinforcement shall not at any point be less than: 40mm, or 5mm plus the maximum size of coarse aggregate, whichever is the greater.

PSG 3.3.8.4 CASTING IN OF PIPES AND SPECIALS

Pipes and specials to be set in concrete as shown on the drawings and listed in the Schedule of Quantities shall have all surfaces in contact with the concrete freed from all coatings and thoroughly scraped and cleaned. The pipes shall be set firmly in position on line and level and have formwork fixed around them.

Where the pipe or special is supplied by others, the Contractor shall provide a box-out in the wall and cast the unit in at a later stage. When constructing such as box-outs, reinforcement shall not be cut, but shall run through the opening. Reinforcement shall be cut and/or bent out at a later stage to suite the items being cast in. After installation of the item the remaining reinforcement shall be bent back in position.

Where entry holes for pipes/specials have been provided in the walls, the Contractor shall be responsible for the concreting in of such pipes/specials regardless of whether these have been supplied by him.

Before commencing with the positioning in holes of any pipes/specials, the Civil Contractor shall: Remove all formwork and boxing remaining in the holes;

Make any alterations required to the position and shape of the holes and cut reinforcement to suit the item, as directed by the Engineer; and

Thoroughly scabble and cement slush the sides of the holes to obtain a satisfactory bond surface for the new concrete and treat the surface as specified in Sub-clause 5.5.7.

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Immediately prior to concreting being carried out by the placing of mortar and concrete around the pipes, the surface of the existing concrete shall be saturated with water. All surplus water shall be removed, and the surface covered with a layer, approximately 12mm thick, of mortar made of the same mix as the concrete in which the pipe/specials are to be placed.

The concrete ingredients shall be mixed and placed as dry as possible to obtain a dense, waterproof concrete. The concrete shall be carefully worked around the puddle flange, if any, and the pipe barrel or body of the special, and shall be vibrated in layers to obviate a falling away from pipe/special surfaces of the concrete already placed.

The whole shall, when set, form a dense, homogeneous, and waterproof mass.

PSG 3.3.9 CURING AND PROTECTION (Sub-clause 5.5.8)

Level or gently sloping surfaces shall be cured by one of the methods described in Sub-clause 5.5.8 (a) of (b) and vertical surfaces by the methods described in Sub-clause 5.5.8 of (e), for a period of five days after casting, for an ambient temperature of 5°C or above and for eight days for an ambient temperature of below 5°C.

PSG 3.3.10 CONCRETE SURFACES

PSG3. 3.10.1 SCREED FINISH (Sub-clause 5.5.10.1)

After placing and compacting, the concrete on a top (unformed) surface shall be struck off with a template to the designated grades and tamped with a tamping board to compact the surface thoroughly and to bring mortar to the surface, leaving the surface slightly ridged but generally at the required elevation. No mortar shall be added, and noticeable surface irregularities caused by the displacement of coarse aggregate shall be made good by re-screeding after the interfering aggregate has been removed or tamped.

PSG 3.3.10.2 WOOD-FLOATED FINISH

Where wood floating is ordered or scheduled, the surface shall first be given a finish as specified in PSG 3.10.1 and, after the concrete has hardened sufficiently, it shall be wood-floated, either by hand or machine, only sufficiently to produce a uniform surface, free from screed marks.

PSG 3.3.10.3 STEEL-FLOATED FINISH

The surface of tank bottoms, floors and roof slabs, etc. shall be given a steel float finish in accordance with Sub-clause 5.5.10, to Degree 1 accuracy.

PSG 3.3.10.4 POWER FLOATED FINISH

Where power floating is required, the surface shall be treated as specified in PSG 3.10.3 to a degree necessary.

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PSG 3.3.11 SCREEDS**PSG 3.3.11.1 GRANOLITHIC SCREED**

Granolithic screed shall consist of: Cement – 1 part; Sand – 1.25 part; Coarse aggregate – 2 parts.

The coarse aggregate shall consist of granite or other approved chips which shall pass a 10mm sieve and be retained on a 5mm sieve.

The cement/water ration of the mix shall be at least 2,0 masses.

PSG 3.3.12 REPAIR OF DEFECTS

All defects to the concrete shall be attended to, in full, as soon as possible after the formwork is removed. Further concreting of the element concerned may be prohibited by the Engineer until he is satisfied that this remedial work has been satisfactorily attended to.

PSG 3.3.13 GROUTING OF MACHINE AND STRUCTURAL BASE PLATES**PSG 3.3.13.1 FORMWORK**

Formwork for grouting shall comply with the applicable requirements of Sub-clause 5.2. Forms shall be caulked where necessary.

Adequate clearance between forms and bedplates shall be provided to enable the grout to be worked into place.

PSG 3.3.13.2 MIXING (all free-flowing grouts except epoxy grouts)

The grout shall be mixed to a homogenous uniform mixture and delivered ready for placing at a temperature between 15 °C and 25 °C.

The materials and water shall be mixed in a mortar mixer for at least three minutes or, in the case of small jobs only, shall be thoroughly mixed by hand, the entire mass being turned over enough times to ensure even distribution of its components.

The mixing shall be done as close as possible to the place(s) where the grout is placed. No more grouts shall be mixed at any one time that can be placed in a period of 20 minutes. After the grout has been mixed, it shall not be re-tempered by the addition of water.

PSG 3.3.13.3 GROUTING (all free-flowing grouts except epoxy grouts)

The grout shall be placed quickly and continuously to avoid the undesirable effects of over-working. (These effects are segregation, bleeding and breaking down of initial set.) The method of placement shall be subject to approval. The means of placing the grout shall be such that the

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grout will completely fill the space to be grouted, will be thoroughly compacted, will be free of air pockets and will be evenly distributed under the item to be supported.

Wherever practicable, grout shall be placed from one side only and where this is not practicable, care shall be taken to ensure that any trapped air is released.

After the grout has taken its initial set,

The forms shall be removed

Excess grout shall be so cut away as to leave a smooth and neatly finished job

Except where the grout is intended to provide resistance to side thrust, all edges shall be trimmed at 45° to the vertical, from the bottom edge of the bedplate; and

All access grout on or about the bedplates shall be removed.

Damage to paintwork, if any, shall be repaired within 24 hours.

Packing plates, shims and other levelling devices, shall remain in position.

PSG 3.3.13.4 DRY-PACKED GROUT (standard dry sand and cement grout)

Dry-packed grout shall have a minimum compressive strength at 28 days of 20MPa. The quantity of water added after placing shall be kept to a minimum consistent with placing conditions, and the cement, sand and, where applicable, pea gravel proportions by mass shall be as follows :

Where the clearance between bedplate and foundation is 25 mm or less : 1 part of Portland cement and 2 parts of sand; and

Where the clearance exceeds 25 mm : 1 part of Portland cement, 1 part of sand and 1 part of pea gravel.

Dry-packed grout shall be rammed by means of tamping rods against formwork placed along three sides of the bedplate.

PSG 3.3.13.5 NON-SHRINK GROUT WITH METALLIC AGGREGATE

The manufacturer's instructions shall be observed when non-shrink grout with metallic aggregate is used.

Where the clearance between the bedplate and the foundation is less than 50mm, a sand-based mix shall be used. Where the clearance exceeds 50mm, the Engineer may order a mix with a base of sand, plus pea gravel to be used.

PSG 3.3.13.6 EXPANDING GROUT WITH POWDERED ALUMINIUM ADDITIVE

The manufacturer's instructions shall be observed when an expanding grout with powdered aluminium additive is used.

Where the clearance between the bedplate and the foundation is less than 25mm, a sand-based mix shall be used.

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

Where the clearance exceeds 25mm, the Engineer may order a mix with a base of sand plus pea gravel to be used.

Each batch shall be mixed for at least 6 minutes after the powdered aluminium has been added. Where a ready-mixed grout is used, the powdered aluminium shall be added at the placing site and the batch mixed as specified in PSG 3.13.2. Grout shall be placed within 45 minutes after the addition of the powdered aluminium.

The Contractor shall not use powdered aluminium additive when the ambient temperature is below 5°C.

PSG 3.3.13.7 EPOXY GROUT (epoxy mortar type only)

The manufacturer's instructions shall be observed when and epoxy grout is used.

PSG 7 TESTING (Sub-clause 7)

PSG 7.1 GROUTING

The Contractor shall, where so ordered, carry out a site test for each grouting procedure and each grouting gang to be used. The tests shall be carried out on a dummy bedplate similar in configuration to that which is to be grouted, but not exceeding 1m² in area unless otherwise ordered.

When the dummy bedplate is dismantled, the underside shall show a minimum grout contact area of 80% with reasonably even distribution of the grout over the surface grouted except that, in the case of expanding grout, the minimum grout contact area shall be 95%. The test shall show evidence of good workmanship and materials and the results shall be to the satisfaction of the Engineer.

The Contractor shall, when so ordered, make standard test cubes from various grout mixtures and also subject them to compression tests to determine whether the specified strength has been achieved.

Test procedures shall comply with the relevant requirements of Sub-clause 7.2.1 to 7.2.3.

PSG 7.2 WATER TIGHTNESS TESTING (Sub-clause 5.5.11)

The following structures shall be defined as water retaining structures and shall be subject to water tightness testing:

- **Flocculation Channels**
- **Clarifier**
- **Sludge lagoon**

Water for testing shall be taken from the Employer's water connection and pipes of a suitable size shall be provided by the Contractor to allow filling of the structures within a period of four days. The cost of water for the testing of water tightness will be for the Contractor's account.

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Prior to the filling of structures, the Contractor shall seal all pipes and openings below the top water level.

The structure to be tested shall be filled with water and shall remain full for a period of seven days, sufficient water being added. The water level shall then be recorded, and the structure allowed standing for a further seven days without the addition of water. At the end of this period, the level shall again be recorded. If the difference in level, less the drop in level due to evaporation, is less than 10mm during the second period of seven days, the structure shall be considered watertight.

The evaporation shall be measured by recording the mean drop in level due to evaporation of water in three flat dishes floating in the water.

In the event of appreciable leakage being evident at any stage of the filling or testing, or in the event of the Engineer considering the final degree of water tightness to be unsatisfactory, the Contractor when ordered by the Engineer, shall discontinue such filling or testing and shall, at his own expense, take steps immediately to rectify the leakage, and to make the work thoroughly sound to the complete satisfaction of the Engineer and all such work of rectification shall be continued assiduously until a satisfactory test is obtained, which shall prove to the Engineer that a sufficient degree of water tightness has been obtained.

No structure will be considered complete until it has been proved watertight in terms of the requirements of this clause.

Throughout the test and afterwards, whilst emptying the tank, the water level in the under-drainage sump shall be kept below the level of the tank floor.

When emptying the structure, the rate of flow shall be controlled such that the water level in the structure does not drop faster than 100mm per hour.

PSG 7.3 TOLERANCES

PSG 7.3.1 PERMISSIBLE DEVIATIONS (Sub-clause 6.2)

The degrees of accuracy of construction shall be as follows:

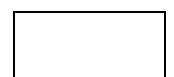
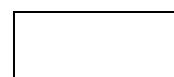
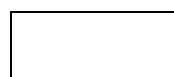
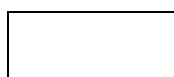
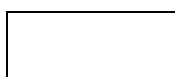
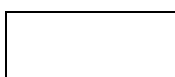
All water retaining structures – Degree II accuracy.

All other non-visible elements (excluding those for water retaining structures) – Degree III accuracy.

PSG 8 MEASUREMENT AND PAYMENT

PSG 8.1 FORMWORK

PSG 8.1.1 FORMWORK IN NARROW WIDTHS (Sub-clause 8.1.1.2 and 8.2.5)



All formwork irrespective of width shall be measured in square metres and payment shall be per square metre.

PSG 8.2 BLINDING LAYER

The area of blinding layer shall be measured in square metres to the nett outline of the structure. Payment for blinding shall include for any formwork required to the edge of blinding.

PSG 8.3 JOINTS

The designated joint types shown on the drawings and scheduled will be measured separately by the length of joint installed.

The unit rate shall cover the cost of all materials, plant and labour for the construction of each joint type as specified or shown on the drawings including the cost of formwork, treatment, water stop, sealant, joint, filler, etc. and treatment of the joint in accordance with Sub-clause 5.5.7.3 provision of the V-feature as specified where concrete is exposed, testing and making good.

PSG 8.4 REINFORCEMENT (Sub-clause 8.1.2)

No differentiation shall be made between size or diameter of the reinforcement. The rate for steel bars shall cover the cost of the supply, cutting, bending and fixing.

PSG 8.5 CASTING ITEMS INTO CONCRETE

Measurement shall be by length or number as scheduled. The unit rates shall cover the cost of fixing in position all work associated with restraining the items during concreting and of modifying the formwork

PSG 8.5.1 PIPES THROUGH WALLS

The tendered rates for boxing out holes and grouting in pipes and specials, shall cover the cost of boxing out the hole, preparation and concreting in as specified.

PSG 8.5.2 HOLDING DOWN BOLTS AND BASE PLATES

The holes boxed out for holding down bolts and base plates will be measured and paid in accordance with Sub-clause 8.2.6.

Grouting in of holding down bolts and base plates positioned by Others, will be measured in volume of non-shrink grout.

The tendered rate shall cover the cost of supplying, mixing and placing of the grout and preparing the hole as specified.

PSG 8.6 GRANOLITHIC SCREED

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

Measurement will be in square meters of surface area covered and the unit rate shall cover the cost of all materials, labour and equipment required to provide the screed as specified.

PSG 8.7 WATER TIGHTNESS TESTING

Payment for water tightness testing will be made under the specified items for each structure in the Schedule of Quantities. The sum tendered shall include for the cost of filling and emptying the structure, for sealing pipes and openings and for taking all measurements.

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

PS EL PROJECT SPECIFICATION: ELECTRICAL AND ELECTRONIC**PSEL1. INTRODUCTION**

- 1.1 The Project Specifications provides an indication of the specific project requirements for the electrical engineering services associated with the expanding of the Carolina Water Treatment Works – Phase 3.
- 1.2 The Project Specification shall be read in conjunction with all technical specifications, schedules and bills of quantities as referred to and/or bound in this document.

PSEL2. SCOPE OF WORK

- 2.1 The works covers the supply, delivery to site, storage onsite when required and installation and maintenance of all material and equipment required for the electrical installation of the water treatment plant. The installation consists of the following:
- (a) Relocation of the existing Telemetry Base Station to the new laboratory including all related cable work.
 - (b) Install all electrical work in the new building, including all new luminaires, socket outlets etc.
 - (c) Install an HVAC system in the building.
 - (d) Install earthing on the new building.

PSEL 3. QUALITY

Adequate and effective quality control standards will be adhered to. The engineer will have the right to inspect equipment at any time.

PSEL 4. COMMISSIONING AND ACCEPTANCE

The commissioning of specialized equipment must be performed by an approved or accredited person or by the supplier itself.

All procedures as specified by the suppliers will be always adhered to. The safety protection procedures must be fully commissioned and approved before any standard tests and commissioning of running equipment is performed.

A competent appointed person will be allocated by the contractor to accompany the Engineer / Client during all inspections / commissioning / tests. The time and dates of such functions will be agreed to by all parties well in advance.

4.1 Acceptance

The “Handing Over Certificate” will only be issued by the Engineer upon acceptance of test results. The “Defects Liability Period” commences on the date of the issuing of the “Handing over Certificate”.

4.2 Test Equipment

All equipment used shall have valid calibrated test certificates.

PSEL5. AS BUILT DRAWINGS

On completion of the works the Contractor shall provide the Engineer / Client with a complete set of “as built” drawings in the format the Engineer specified. The drawings will indicate all cable positions and exact installation of equipment.

PSEL6. OPERATIONS AND MAINTENANCE

The contractor shall provide manuals to the Engineer / Client. The documentation shall provide and include details on items such as:

- Technical details of the equipment
- Operating instructions
- Fault finding procedures
- Maintenance procedures
- Safety procedures

PSEL7. BUILDING ELECTRICAL WORK

All electrical work shall comply with SANS 0142-1:2009 (South African National Standard – The wiring of premises.)

PSEL8. DISTRIBUTION BOARDS

The new distribution board in the building will make provision for a normal power section as well as a stand-by power section. The normal power will be fed from the minisub. A new circuit breaker will be installed in the minisub to supply the building.

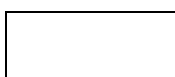
Similarly, a new circuit breaker will also be installed in the generator panel which will feed the stand-by section of the distribution board.

Only the control room, dedicated socket outlets in the laboratory and emergency lights will be powered from the stand-by board.

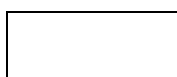
PSEL9. WIRING OF CIRCUITS

A neutral conductor equal in size as the phase conductors shall be used. The earth wire one size smaller than the phase conductor wire must be installed and shall be insulated, unless otherwise indicated.

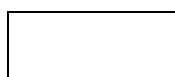
Cable lugs shall be used at all cable terminations. The lugs shall be crimped.



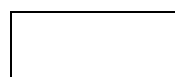
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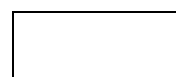
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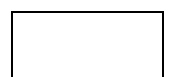
Witness 2



Employer



Witness 1



Witness 2

PSEL10. CABLES

The contractor shall supply and install all necessary cables with insulated earth wire as specified in the Cable Schedule. All cables will be SABS approved. The contractor is responsible for the making off and connecting of all cables. All cable routes will be indicated on the “As built” drawings. Concrete cable route marker shall be used as specified. Cable trays, ladders and galvanized conduit shall be used for installing cables inside the new building.

PSEL11. LIGHTING AND SMALL POWER

The contractor shall supply and install the luminaires with all fittings and lamps required in the new building. A photocell with a bypass switch and contactor circuit shall be used. Switched socket outlets will also be installed. Dedicated luminaires and socket outlets will be fed from the stand-by board. This will particularly apply to the laboratory and the control room.

PSEL12. EXCAVATIONS

The LV cables must be installed at a depth of 800mm. There are existing services in the area and the contractor must take care when cable trenches are being excavated. It is the contractor's responsibility to trace existing cable routes (by means of electronic detection) and indicate the routes on the marked-up drawings. Any damage to the existing services will be for the contractor's accounts.

PSEL13. CONDUIT

In the case where conduits will be used at the pump stations it must be surface mounted galvanised, including all accessories. All conduit used in the building shall be installed in walls, floors and ceilings.

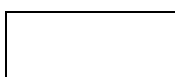
PSEL14. MOTOR CONTROL CENTRES**14.1.1.1 NEW RECYCLE PUMP MCC**

The recycle pump MCC (control box) shall be suitable for outdoor use and shall be mounted on two galvanised steel poles near the recycle pump. The pump size is 5kW, 3-Phase 400V and will be controlled by a DOL starter and two float switches in the sump.

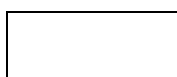
14.1.1.2 GENERAL MCC SPECIFICATIONS

The project requirements for the work on the Main Pump MCC are:

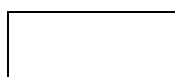
- The chlorine pump drives shall be commissioned.
- The raw water pumps shall be automated. A new pump sequence relay shall be installed in the MCC and 3 float switches shall be provided. Only 2 will be on duty with the third one on stand-by.



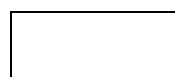
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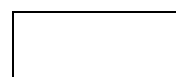
Witness 1



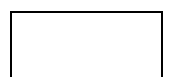
Witness 2



Employer



Witness 1



Witness 2

- The amended drawing of the MCC layout and schematic diagrams shall be submitted to the Engineer for approval prior to procurement and installation.

PSEL15. TELEMETRY

The existing SSE telemetry system shall be upgraded. A new Adroit SCADA system with 750 Scan points will be installed in the new control room. A large LCD screen will be installed against the wall.

The Base station currently located in the old dosing room will be relocated to the laboratory.

The existing Siemens MAG5000 flow transmitters which are currently installed in the old dosing room also needs to be replaced.

Additional I/O shall be provided for in the Base Station for the addition of analogue and digital instruments.

PSEL16. CABLE LADDER AND TRAYS

Cable ladder and cable tray must be of heavy-duty type and must be installed in the positions indicated on the design drawings. All cable ladders and trays must be constructed from mild steel and must be hot dipped galvanise to SANS 121.

*Contractor**Witness 1**Witness 2**Employer**Witness 1**Witness 2*

PSAR PROJECT SPECIFICATIONS: ARCHITECTS FINISHES**PSAR1 SANITARY SPECIFICATION**

TOILET (4X TOTAL) GROHE BAU WALL-HUNG WC GRO-39427000 COMPLETE WITH SOFT CLOSE SEAT GRO-39493000 GROHE GRO-37153000 FLUSH VALVE FOR WC WITH GROHE SKATE SINGLE FIT WALLPLATE GRO-38445SD0, STAINLESS STEEL. NOTE: CHECK WATER PRESSURE ON SITE BEFORE ORDER TO ENSURE COMPATIBILITY WITH FLUSH VALVE. PARAPLEGIC TOILET AS ABOVE, BUT INSTALLATION HEIGHT OF PAN AND WALL PLATE TO SANS 10400S REQUIREMENT FOR DISABLED.	
URINAL (1ST FLOOR MALE, GROUND FLOOR MALE, 2X TOTAL) GROHE BAU URINAL, CONCEALED INLET GRO-39438000, WITH GROHE URINAL TRAP WITH HORIZONTAL OUTLET GRO-39732000 AND INLET CONNECTING SET GRO-37044000 GROHE RAPIDO U ROUGH-IN GRO- FLUSH VALVE FOR URINAL WITH GROHE STAINLESS STEEL NOVA COSMOPOLITAN WALLPLATE GRO-38804000SDO NOTE: CHECK WATER PRESSURE ON SITE BEFORE ORDER TO ENSURE COMPATIBILITY WITH FLUSH VALVE.	
HAND WASH BASIN 1 (1ST FLOOR MALE & FEMALE, GROUND FLOOR MALE) COBRA SHELTER COBCSHBAWH2-6DT01 WALL MOUNTED BASIN, WHITE, WITH OVERFLOW, COBRA SLOTTED POP-UP WASTE COB-FWACBS01-0GT01 WALL MOUNT WITH HALF PEDESTAL, RUBBER P- TRAP	



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

HALF PEDESTAL FOR HAND WASH BASIN 1 (1ST FLOOR MALE & FEMALE, GROUND FLOOR MALE) COBRA WELCOME ROUND SEMI-PEDESTAL COBCWLPERD2-6DT01 TO SUIT COBRA SHELTER BASIN, WHITE.	
BASIN TAP FOR HAND WASH BASIN 1 (1ST FLOOR MALE & FEMALE, 2 OFF TOTAL) COBRA CARINA MIXER COB-FBN2D1CK-0GT01 INCLUDE ANGLE VALVES & FLEXI PIPES	
BASIN TAP FOR HAND WASH BASIN 1 (GROUND FLOOR MALE) COBRA CARINA PILLAR TAP 214-CA15 COLD WATER ONLY INCLUDE ANGLE VALVE & FLEXI PIPE	
DISABLED HAND WASH BASIN (GROUND FLOOR FEMALE / DISABLED) COBRA WALL MOUNT SHELTER BASIN WITH OVERFLOW, COBRA SLOTTED POP-UP WASTE INCLUDE CHROME BOTTLE TRAP (BRASS BODY) WITH CHROME TAIL PIPE	 
BASIN TAP FOR DISABLED HAND WASH BASIN (GROUND FLOOR FEMALE / DISABLED) COBRA COB-FEAPILEA-4FT01 MEDICAL ELBOW- ACTION PILLAR TAP COLD WATER ONLY INCLUDE ANGLE VALVE & FLEXI PIPE	



Contractor



Witness 1



Witness 2



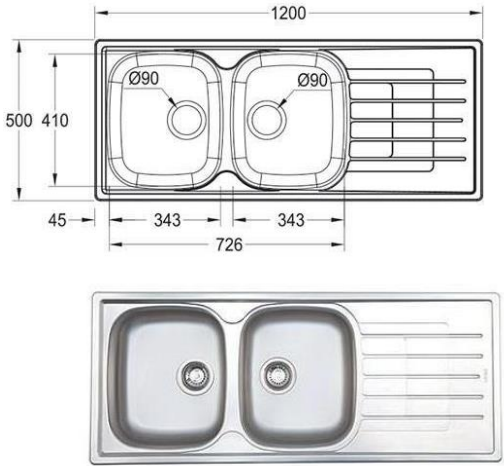
Employer



Witness 1



Witness 2

KITCHEN SINK (TEA KITCHEN) FRANKE CASCADE S/STEEL DROP-IN SINK IN GRANITE TOP SIZE: 1200 X 500MM PRODUCT CODE: CDX 621-120 90MM BASKET STRAINER WASTES SPAZIO 2 PLUMBING KIT OR SIMILAR.	
MIXER TAP FOR KITCHEN SINK (TEA KITCHEN) COBRA STELLA SINK MIXER COB-FSK2W2ST-0GT01 WALL-TYPE	
SHOWER STOP TAPS COBRA CARINA UNDERTILE STOP TAPS OB-FSTAF2CK-0GT01 4X FOR SHOWERS (HOT & COLD) 2X FOR CLEANERS ROOM (HOT & COLD)	
SHOWER HEAD (2 OFF TOTAL) COBRA VANDALPROOF SHOWER HEAD COB-KP2-6	



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

SHOWER OUTLET (2 OFF TOTAL) COBRA SHOWER OUTLET & BRASS TRAP COB-FSWTR140-7FT01	
STOP VALVES & ANGLE VALVES PROVIDE COBRA COB-832-10 ANGLE VALVES WITH FLEXI PIPES FOR ALL DECK MOUNT / PILLAR TAPS, FOR EASE OF MAINTENANCE PROVIDE STOP VALVES FOR EACH BANK OF FITTINGS AND FOR SUPPLY TO EACH SECTION OF BUILDING	
WASHTROUGH (CLEANERS ROOM) KWIKOT LAUNDRY SERIES DROP IN WASHTROUGH – SINGLE TROUGH W/RIB 90MM BASKET STRAINER WASTE, RUBBER P-TRAP HOT AND COLD WATER	
WASHTROUGH & DRIP SINK BIB TAPS CLEANERS ROOM (X2) AND CLEANING CUPBOARD (X1) COBRA STELLA BIB TAP COB-FBBAE1ST-0GT01	
DRIP SINK (CLEANING CUPBOARD) FRANKE LDS DRIP SINK / CLEANER SINK INCL. S/STEEL HINGED BUCKET GRID, S/STEEL EAGLE BRACKETS RUBBER P-TRAP, COBRA UNSLOTTED REGULAR WASTE COB-FWARSK16-0GT01 COLD WATER ONLY	
WALL MOUNTED SOAP DISPENSERS – MANUAL (4X IN TOTAL)	



Contractor



Witness 1



Witness 2



Employer



Witness 1



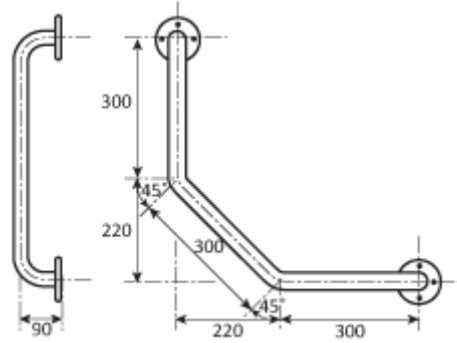
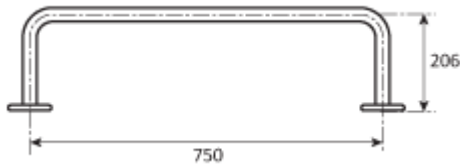
Witness 2

SOAP TYPE LIQUID GEL
FILL VOLUME 1.25 LITER
DIMENSIONS 140 X 235 X 140 MM
FINISH: GRADE 430 STAINLESS STEEL, GAUGE 1MM



DISABLED TOILET GRAB RAILS

REAR GRAB RAIL = SR2
SIDE GRAB RAIL = DL2
ALL FROM 304 S/STEEL, 32 DIA.
FROM CHAIRMAN INDUSTRIES

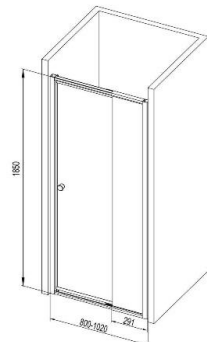


SHOWER DOOR

(FIRST FLOOR MALE & FEMALE 1X EACH)

CTM CRYSTALTECH NATURAL OBSCURE ADJUSTABLE
ALUMINIUM PIVOT SHOWER DOOR - CTE802N - 800-1020
X 1850MM

CHECK MINIMUM OPENING WIDTH REQUIREMENTS,
ENSURE SUFFICIENT SPACE AFTER TILING.



LOCKERS

(FIRST FLOOR MALE & FEMALE 4X EACH)

SINGLE DOOR HEAVY DUTY STEEL LOCKER
1800X300X450. TOP SHELF OPENING, HANGRAIL
BELOW, STAPLE FOR PADLOCK. 16KG. COLOUR =
HAMMERTONE GREY.
FROM PREMIUMSTEEL.CO.ZA

BOLTED TO WALL 150 ABOVE FINISHED FLOOR LEVEL



Contractor



Witness 1



Witness 2



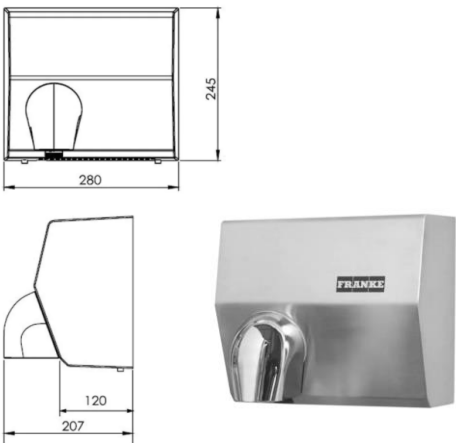
Employer



Witness 1



Witness 2

ELECTRIC HAND DRIER (FIRST FLOOR MALE & FEMALE, GROUND FLOOR MALE & FEMALE / DISABLED. 4X TOTAL) FRANKE SENSOR OPERATED HAND DRYER, HF2400HD SUPPLY ISOLATOR SWITCH AT 2,1M DIRECTLY ABOVE DRIER UNDERSIDE OF AIR NOZZLE AT 1,2 AFFL	
TOILET ROLL HOLDER (FIRST FLOOR MALE & FEMALE, GROUND FLOOR MALE & FEMALE / DISABLED. 4X TOTAL) VOLKEM TICRA 3-ROLL TOILET ROLL HOLDER. STAINLESS STEEL. CODE PHTIC08	

GENERAL SANITARY & PLUMBING NOTES:

1. PROVIDE INLINE STRAINERS TO ALL WATER LINES SERVING GEYSERS, TAPS, FLUSH VALVES, ETC. (ONE STRAINER PER BUILDING). PROVIDE INLINE STRAINER FOR SITE WATER SUPPLY. PROVIDE SHUT OFF VALVES EITHER SIDE OF ALL STRAINERS FOR MAINTAINANCE/CLEANING PURPOSES.
2. ALL WATER SUPPLY LINES TO BE FLUSHED CLEAN OF CONSTRUCTION DEBRIS PRIOR TO FITTING INSTALLATION AND AFTER.
3. HOT & COLD-WATER SUPPLY TO MIXER FITTINGS TO BE BALANCED.
4. WATER & SEWER INSTALLATIONS TO COMPLY WITH SANS 10400 PART P, SANS 10252-1, SANS 10252-2 & SANS 10254.
4. ALL FITTINGS / MATERIALS TO BE INSTALLED STRICTLY TO MANUFACTURER'S SPECIFICATIONS TO ENSURE FULL PRODUCT GUARANTEES.



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

INTERNAL FINISHES**SCREEDS - NEW SCREED**

- Clean concrete base surface, chip if necessary and remove all dust.
- Prepare concrete base surface with suitable bonding agent to manufacturer instructions.
- Lay screed in panels in as large as possible in one operation.
- Surface texture & preparation to suit final floor covering (tiles / carpet / flowcrete).
- Screed ratio: 1 part cement to 3,5 parts sand.

F1: TILED FLOORSFLOOR TILE 1 (INDOOR)

600x600 porcelain tile, matt finish, PC amount of R300/m²

FLOOR TILE 2 (OUTDOOR)

600x600 porcelain tile, anti-slip finish, PC amount of R300/m²

FLOOR TILE 3 (SHOWER MOSAIC)

300x300 sheets porcelain mosaic tile, A-grade, joints between sheets to match joints on sheet PC amount of R900/m²

FLOOR TILE NOTES

3mm joints. Grout = TAL "Dove Grey".

Provide tile movement joints to all room perimeters (to walls) and as shown on tile layout drawings.

Tile movement joints to be 3mm PU joints.

Provide waterproofing behind to shower floor and walls, include membrane to all internal corners of walls & floor.

TILED FLOOR SKIRTINGS**S1**

100 or 150 high (total height to top of edge trim – refer to drawings for individual heights) cut floor tile skirting (to match floor tile of room) with aluminium straight edge trim to top and external corners. 3mm joints. Note: no aluminium trim where wall tiles are used above skirting.

W1: PAINTED WALLS**W1A (INTERIOR - MAIN WALL COLOUR)**

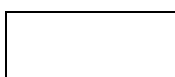
2 Coats Plascon Professional Superior Low Sheen PEM 1000/TLS tint range. Colour to be confirmed.

W1B (INTERIOR - ACCENT WALL COLOUR)

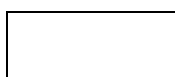
2 Coats Plascon Professional Superior Low Sheen PEM 1000/TLS tint range. Colour to be confirmed.

W1C (OUTDOOR – MAIN WALL COLOUR)

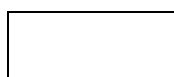
Two Coats Plascon Professional Superior Low Sheen PEM 1000/TLS tint range. Colour to be confirmed.



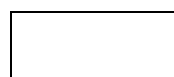
Contractor



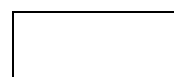
Witness 1



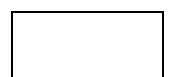
Witness 2



Employer



Witness 1



Witness 2

W1D (OUTDOOR – ACCENT WALL COLOUR)

Two Coats Plascon Professional Superior Low Sheen PEM 1000/TLS tint range. Colour to be confirmed.

PAINT NOTES

All paint work (incl. surface preparation, plaster primer, etc.) to be completed as per paint manufacturer specifications to provide full paint guarantee.

Provide sample paint-outs for client approval for all paint types & colours

W2: TILED WALLS**WALL TILE 1 (General)**

Ceramic wall tile, TAL light grey grout, 3mm joints, PC amount of R200/m²

WALL TILE NOTES

Complete surface preparation & installation as per tile manufacturer's specification.

Provide soft joints to all internal corners: grey PU joint.

See detail room layouts for height of wall tiling.

CORNICES**CO1 (FOR GRID CEILINGS)**

Pre-painted OWA white Shadow line Cornice to match ceiling grid.

Use where grid ceiling stops to vertical surface e.g. wall / bulkhead.

CO2 (LAMBDABOARD CEILINGS)

50x50 coved polystyrene cornice, painted.

**CEILINGS****C1 (GRID CEILING)**

Pre-painted OWA System S3 white suspended ceiling grid with 600x1200 "OWA Constellation" acoustic ceiling panels, square edge. All installed to OWA specification.

C2 (LAMBDABOARD CEILING)

80 Lambda board ceiling fixed to suitable timber or metal battens at 900¢ max, drywall tape joints, plaster key & plaster skimmed over entire surface (white mineral side), painted with 2 coats Plascon Super Acrylic Polvin Interior / Exterior, colour white, on suitable primer.

Consult with Rigi foam for full installation specification.

Contact Lyle Jeffery lyle@rigifoam.co.za 071 688 2681.

PAINT SPECIFICATION & COLOURS (EXCL. WALLS)**STEEL DOOR FRAMES (internal & external)**

2x coats Plascon Water-Based Velve Glo, Silky Sheen finish, on suitable primer, tinted range, colour to be confirmed.

EXTERNAL GENERAL STEELWORK (if applicable)



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

2x coats Plascon NuRoof on suitable primer, colour “Atmosphere Grey” TRP 200



POWDERCOATED ALUMINIUM WINDOWS & DOORS

Interpon LL259P “Matt Dark Umber Grey”



INTERNAL FLUSH PANEL DOORS

2x coats Plascon Water-Based Velvagio, Silky Sheen finish, on suitable primer, colour to be confirmed.

STEEL ROOF, GUTTERS & RWP

All 0,58 Chromadek, colour, Dark Dolphin.



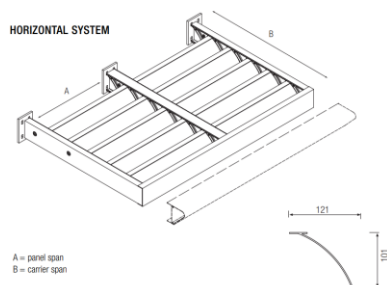
NOTES

All paint work (incl. surface preparation, primers, etc) to be completed as per paint manufacturer specifications to provide full paint guarantee.

Provide sample paint-outs for client approval for all paint types & colours

SUN LOUVRES

Hunter Douglas 110HC horizontal panel system, natural anodised finish, complete system with 162mm spacer blocks. **4x Louvre fins** from front to back spaced at 162mm. Standard fascia profile “channel” (35x115) to front and sides. Steel wall brackets with support arms. See drawings for panel sizes. Provide specialist shop drawings for architect approval prior to manufacture. **Typical drawings** below:

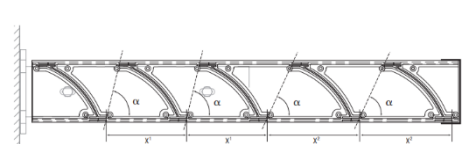


CARRIER SYSTEMS

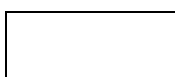
The 110HC Panel System has its own specific carrier construction. There is a choice between 2 different size spacer blocks:
- 142 mm
- 162 mm

Each solution has its own shading angle.

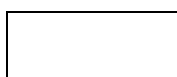
SHADING ANGLES - Horizontal



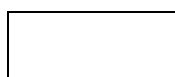
FACE BRICK



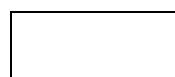
Contractor



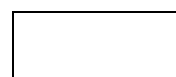
Witness 1



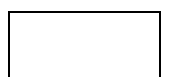
Witness 2



Employer



Witness 1



Witness 2

FACE BRICK 1

Federale Stene (Middelburg Factory Mpumalanga) Fynbos Travertine FBS, square rake jointed. Provide sample panel for architect approval. All brickwork to comply with SANS 10400.

**STAIR**

1m high 7 horizontal round bar & top handrail steel balustrade.

Painted steel:

All prepared with red-oxide primer and painted Plascon NuRoof colour "Atmosphere Grey"

Posts:

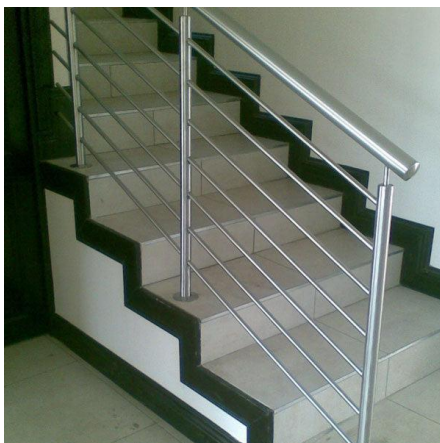
38Ø hollow steel with top end cap and steel pin to handrail. Posts spaced equal at 1000 centres max. Posts welded to steel stringer or epoxy fixed 150 deep into concrete where shown. S/steel round capping over tiles.

Horizontals: 16Ø hollow steel spaced equal.

Brushed stainless steel:

Handrail: 50Ø hollow s/steel

Balustrade type example (note painted finishes where specified)



Contractor

Witness 1

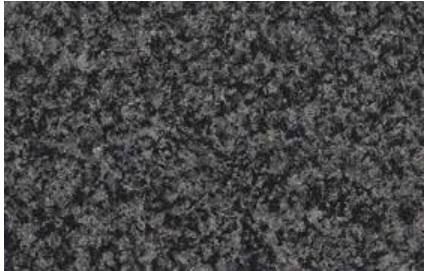
Witness 2

Employer

Witness 1

Witness 2

INTERNAL FINISHES SPECIFICATION

GRANITE TOPS (BREAK ROOM KITCHENETTE AND CLEANERS ROOM) 30MM POLISHED RUSTENBURG, 20MM THICK MATCHING SPLASHBACKS 4MM CHAMFERED EDGES TO ALL CORNERS.	
JOINERY (BREAK ROOM KITCHENETTE) ALL VISIBLE FACES (DRAWERS, CUPBOARDS, OPEN SHELVES & SIDES): 16MM MELAWOOD, 2MM PVC EDGING TO MATCH, COLOUR = "COIMBRA" OR SIMILAR TO CLIENT APPROVAL CARCASSES & INTERNAL SHELVES: 16MM PG BISON WHITE MELAMINE, 2MM MATCHING EDGING. CARCASSES ON 100 HIGH ADJUSTABLE LEGS. SKIRTINGS: 100M HIGH BRUSHED ALUMINIUM TO CLIP-ON SYSTEM	
JOINERY HANDLES (BREAK ROOM KITCHENETTE) FOR CUPBOARDS & DRAWERS: 96MM STAINLESS STEEL BARREL HANDLE HINGES & DRAWER RAILS (BREAK ROOM) BLUM HINGES & BLUM BALL BEARING DRAWER RUNNERS	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORMICA TOPS (CONTROL ROOM) FORMICA LIFESEAL 30MM HPL TOP, POST FORMED BULLNOSE EDGE COLOUR = BLACK SLATE (TEXTURED RANGE) INSTALLED ON 40X40 PAINTED BLACK STEEL ANGLE (FIXED TO WALL) TO BACK AND SIDE WALLS AND ON ADJUSTABLE STEEL LEGS TO FRONT STANDARD FORMICA METAL JOINER PIECES WHERE REQUIRED, COLOUR TO MATCH TOP	
ADJUSTABLE STEEL LEGS (CONTROL ROOM AND CLEANERS ROOM) 80Ø ADJUSTABLE BRUSHED S/STEEL SUPPORT LEG HEIGHT TO SUIT INDIVIDUAL TOP HEIGHT AS SHOWN ON DRAWINGS	
CORNER PROTECTORS (WHERE SHOWN ON DRAWINGS) 50x50 STAINLESS STEEL MILL CORNER PROTECTOR, FROM KIRK, GLUED WITH SUITABLE GLUE WITH BOTTOM TO FLOOR, CODE SKU: SCPO500.N	



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

C3.5 MANAGEMENT OF THE WORKS**C3.5.1 GENERIC SPECIFICATIONS**

The SABS 1200 Standardized Specifications listed in 4.1.1 are applicable.

The provisions of these Specifications take precedence over the provisions of any part of SABS 2001 that is applicable to the contract. The variations and additions to these specifications are described in the section Applicable SABS 1200 Standardized Specifications (Section C3.4: Construction)

C3.6 HEALTH AND SAFETY

The following particular and generic specifications are applicable to this contract.

- (1) Occupational Health & Safety

C3.6.1 HEALTH AND SAFETY REQUIREMENTS AND PROCEDURES**C3.6.1.1 Framework for an occupational health and safety plan****C3.6.1.1.1 Introduction**

The Principal Contractor must demonstrate to the Employer that it has a suitable and sufficiently documented Occupational Health and Safety plan as well as the necessary competencies, experience, and resources to perform the construction work safely. The Principle Contractor could be required to submit the following documentation for perusal and verification by the Employer:

- Management structure.
- Quality plan.
- Human resources plan.
- Registered workplace skills plan.
- “Letter of good standing” from the Compensation Commissioner or licensed compensation insurer.
- Proof of Induction and other training of employees.
- Example copy minutes of previous Occupational Health and Safety Committee meetings and copies of Incident Investigation reports.

The following specifications are supplied as a guide only. The Employer’s Health and Safety Agent may amend and/or expand on the specifications by means of an addendum to Tender or after the award of the Contract.

C3.6.1.1.2 OH&S plan at tender stage

Tenderers shall submit an OH&S plan with their tender document. This shall be a preliminary plan that may be expanded on and finalised after the award of the contract. The OH&S Plan should be based on the following principles:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- A proper risk assessment of the construction work.
- Pro-active identification of potential hazards and unsafe working conditions.
- Informing and/or training of employees in hazards and risk areas.
- Provision of a safe-working environment and safety equipment.
- Ensuring the safety of sub-contractors through their safety plans.
- Monitoring the health and safety on the construction works on a regular basis.
- Using competent safety officers.

C3.6.2 Contents of an occupational health and safety plan

C3.6.2.1 Occupational Health and Safety Management Programme

- Management of Occupational Health and Safety risks.
- Occupational Health and Safety structures and appointments.
- Programme of Occupational Health and Safety inspections.
- Occupational Health and Safety Representatives.
- Occupational Health and Safety committee.

C3.6.2.1.1 Communication and management of the work

- Management structure and responsibilities.
- Details of the construction supervision and his appointed assistants.
- Details of the Construction Safety Officer.
- Occupational Health and Safety goals for the project and arrangements for monitoring and review of Occupational Health and Safety performance.
- Arrangements for:
 - Regular liaison between parties on site.
 - Consultation with the workforce.
 - The exchange of design information between the Employer, designers, supervisors and contractors on site.
 - Handling design changes during the project.
 - Selection and control of contractors.
 - The exchange of Occupational Health and Safety information between all contractors.
 - Security.
 - Site induction and onsite training.
 - Facilities and first-aid.
 - The reporting and investigation of accidents and incidents.
 - The production and approval of risk assessments and method statements.
 - Site OH&S rules.
 - Fire and emergency procedures.
 - Reporting to the Employer i.e., results of Occupational Health and Safety inspections, incident and incident investigations and committee meetings.
 - Reporting of incidents to the Department of Labour and Compensation insurer where appropriate.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C6.2.1.2 Arrangements for controlling significant site risks

The following are some examples of the arrangements for controlling the most significant site risks:

C3.6.2.1.3 Safety risks

- Services, including temporary electrical installations.
- Preventing employees from falling into excavations, from trucks etc.
- Work with, on or near fragile materials.
- Control of lifting operations.
- The maintenance of plant and equipment.
- Traffic routes and segregation of vehicles and pedestrians.
- Traffic control during pipeline crossing of existing roads.
- Handling and storage of hazardous materials.
- Dealing with existing unstable structures/land.
- Working in confined spaces.
- Working at elevated heights (> 3,0 m).
- Other significant safety risks as and when identified.
- Working in excavations to a depth of 7,0 metres.

C3.6.2.1.4 Health risks

- Working environment.
- Handling, storage and use of hazardous chemical substances.
- Dust containing cement, silica and other hazardous substances.
- Dealing with contaminated land or material.
- Manual handling.
- Reducing noise and vibration.
- Provision of adequate lighting.
- Ventilation considerations.
- Extreme heat and cold temperature considerations.
- Dealing with HIV/Aids and other illnesses.
- Provision of and maintaining ablution and eating facilities.
- Other significant health risks as and when identified.

C3.6.2.1.5 Special risks

Contractors are to take note of the special risks that may be encountered during the project and to include these special risks in the OH&S plan.

C3.6.2.1.6 Working environment

- Rotating machinery (and pumps if required).
- Electrical infrastructure not indicated on “As Built” drawings.
- Electrical storms during summer months.

Contractor

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Witness 2

- Traffic control during pipeline crossings of existing roads.

C3.6.2.1.7 Installation work

- Use of electricity may be hazardous in wet conditions.
- Working space may be limited.
- Lifting and placing of heavy equipment, pipes and manhole rings and covers.

C3.6.2.1.8 Preparation of an occupational health and safety operational reference file/manual

The Principal Contractor shall open and maintain an OH&S file for the duration of the contract. On completion of the contract the Principal Contractor shall hand the OH&S file to the Employer.

C3.6.2.1.9 Following is some of the requirements to be addressed

- Layout, format, and content requirements.
- Arrangement for the collection and gathering of information.
- Storage and archiving of all the information.
- Copy to the Client at completion of project.
- Appointment of a health and safety officer in writing.

C3.6.2.1.10 Contents of an OH&S file/manual

- OH&S Policy.
- Notice of new project.
- Site start-up.
- Security measures.
- Written designations and appointments.
- Arrangements with contractors / mandatory's
- OH&S rules and procedures.
- Induction.
- OH&S training.
- OH&S promotion.
- OH&S representatives.
- OH&S committees.
- Workplace facilities e.g. ablutions, sheltered eating areas etc.
- Protective equipment.
- Workplace inspections and audits.
- Investigation and reporting of incidents/accidents.
- Mechanical safeguarding.
- Electrical safeguarding.
- Safeguarding against trench excavations with depths ranging between 2 to 7 metres.
- Safeguarding against hazardous substances.
- Lifting machinery and equipment.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- Construction vehicles and mobile plant.
- Welding, heating, and flame cutting.
- Protection of the environment affected by construction activities.
- Keeping of records in terms of the OH&S Act (85 of 1993).
- General details of construction methods and materials used.
- Details of equipment and maintenance facilities within the structures.
- Maintenance requirements and procedures for structures / equipment / plant.
- Manuals produced by suppliers and specialist contractors, including operating and maintenance procedures and schedules for plant and equipment.
- Details of the location and nature of utilities and services, including emergency and fire-fighting systems.

(a) Construction Regulations, 2003

The Contractor shall be required to comply with the Occupational Health and Safety Act, 1993: Construction Regulations, 2003 (the regulations) as promulgated in Government Gazette No 25207 and Regulation Gazette No 7721 of 18 July 2003. (Not included in this Volume). Non-compliance with these regulations, in any way whatsoever, will be adequate reason for suspending the Works.

The proposed type of work, materials to be used and potential hazards likely to be encountered on this Contract are detailed in the Project Specifications, Schedule of Quantity and Drawings, as well as in the Employers' health and safety specifications (regulation 4(1)) of the Construction Regulations 2003, which are bound in the Contract document

The Contractor shall in terms of regulation 5(1) provide a comprehensive health and safety plan detailing his proposed compliance with the regulations, for approval by the Employer.

The Contractor shall always be responsible for full compliance with the approved plan as well as the Construction Regulations and no extension of time will be considered for delays due to non-compliance with the abovementioned plan or regulations.

Payment items are included in the Schedule of Quantities to cover the Contractor's cost for compliance with the OHS Act and the abovementioned regulations.

C3.6.2 PROTECTION OF THE PUBLIC

The contractor shall always ensure that his operations do not endanger any member of the public.

C3.6.3 BARRICADES AND LIGHTING

All excavation must be marked with drum, reflecting tape and warning signs to satisfaction of the engineer and OHS appointed official.

PART C4 SITE INFORMATION

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

1 NATURE OF GROUND AND SUBSOIL CONDITIONS***Subsoil Investigation***

- (a) A Geotechnical Investigation was conducted and will be made available at construction stage,
- (b) The site has some trees to be cut off,
- (c) It is the contractor's responsibility to supply and deliver all material that comply with the minimum standard as well as for the building and maintaining of access roads to the works on site, haul areas or dumping site. No additional payment will be applicable to the above mentioned other than the relevant items in the schedule of quantities.
- (e) There are existing services present underground such as sewer, water line and electrical cable that need to be taken care off. It is the Contractors responsibility to ensure that those services are not damaged.

Should the services be damaged, it will be fixed at the contractor's expense.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

TENDER DRAWINGS

10783-4B-004-001	Sheet 1/1	Site development layout
10783-4B-200-001	Sheet 1/2	Roads and Stormwater Layout
10783-4B-254-001	Sheet 2/2	Roads and Stormwater Details
10783-4B-400-001	Sheet 1/2	New Flocculation Channel and Clarifier Sections, detail
10783-4B-400-001	Sheet 2/2	New Flocculation Channel and Clarifier Sections, detail
10783-4B-400-002	Sheet 1/1	Inlet works – Plan and Elevations
10783-4B-400-003	Sheet 1/1	Sludge Lagoon – Layout, Sections and Details
10783-4B-400-004	Sheet 1/1	Guard House – Layout, Sections and Details
10783-4B-400-005	Sheet 1	New Operational Building – Floor Plans
10783-4B-400-006	Sheet 1	New Operational Building – Elevations & Sections
10783-4B-400-007	Sheet 1	New Operational Building – Window & Door Schedules
10783-4B-400-008	Sheet 1	New Operational Building – Internal Elevations
10783-4B-350-001	Sheet 1/3	Concrete Palisade Fencing – Elevation & Sections
10783-4B-350-001	Sheet 2/3	Concrete Palisade Fencing - Double Swing Gate Details
10783-4B-350-001	Sheet 2/3	Concrete Palisade Fencing - Pedestrian Gate Details
10783-4B-500-001	Sheet 1/2	Sludge Lagoon – Reinforcement Details
10783-4B-500-001	Sheet 2/2	Sludge Lagoon – Bending Schedule
10783-4B-500-005	Sheet 1/2	New Flocculation Channel – Reinforcement Details
10783-4B-500-005	Sheet 2/2	New Flocculation Channel – Bending Schedule



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2