

**MUNISIPALITEIT
VAN
PRINS ALBERT**



**MUNICIPALITY
OF
PRINCE ALBERT**

Rig alle korrespondensie aan:
DIE MUNISIPALE BESTUURDER
Privaatsak X53, Prins Albert, 6930
E-Pos / E-Mail: scm@pamun.gov.za

Address all correspondence to:
THE MUNICIPAL MANAGER
Private Bag X53, Prince Albert, 6930
Tel: 023-541 1036, Fax: 023-541 1035

TENDER DOCUMENT

TENDER NUMBER:

54/2021

TENDER DESCRIPTION:

LEEU GAMKA: MAINTENANCE OF THE REVERSE OSMOSIS AND ULTRA FILTRATION WATER TREATMENT PLANT

CLOSING TIME:

13h30

CLOSING DATE:

24 MAY 2021

Tender Box at:

**ADMINISTRATION BUILDING
PRINCE ALBERT LOCAL MUNICIPALITY
33 CHURCH STREET
PRINCE ALBERT
6930**

NB

1. All bids must be submitted on the official forms – (not to be re-typed)
2. Bids must be completed in black ink in writing
3. No bids will be considered from persons in the service of the state.
4. In the event of any conflict between the data provided in this summary and that given in the Tender, the latter shall apply.

Name of Bidder:

Tender Amount:

B-BBEE Status Level of Contributor:

Preference Points Claimed:

CSD Supplier Number

CSD Unique Reference Number

B-BBEE certificates submitted with the bid document MUST be VALID ORIGINAL BBBEE CERTIFICATES or VALID ORIGINAL CERTIFIED COPIES OF THE B-BBEE CERTIFICATES

**Signature of PRINCE ALBERT LOCAL MUNICIPALITY
Officials at Tender Opening**

1.

2.

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| C4 | Site Information |
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Part T1: Tendering Procedures

MBD1 – NOTICE AND INVITATION TO BID

PRINCE ALBERT LOCAL MUNICIPALITY			
DETAILS OF TENDERER			
NAME OF BIDDER:			
TRADING AS (if different from above):			
STREET ADDRESS:	City/Town		Code
POSTAL ADDRESS:	City/Town		Code
CONTACT PERSON:			
CSD REGISTRATION #:			
ENTERPRISE REGISTRATION #:			
CIDB CRS NUMBER:			
VAT REGISTRATION #:			
SARS TAX CLEARANCE PIN:			
E-MAIL ADDRESS:			
TELEPHONE #:		CELL #:	
HAVE YOU DECLARED ANY RELATIONSHIPS WITH PERSONS IN THE SERVICE OF THE STATE? (MBD 4)			YES
			NO
HAS AN ORIGINAL OR CERTIFIED COPY OF A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE BEEN SUBMITTED? (MBD 6.1)			YES
			NO
HAS THE DECLARATION BEEN COMPLETED AND CURRENT, ORIGINAL OR CERTIFIED MUNICIPAL ACCOUNTS BEEN ATTACHED? (MBD 15)			YES
			NO
DECLARATION			
I am duly authorised to represent the tenderer for the purpose of this tender and hereby tender to supply all or any of the goods and/or render all or any of the services described in the attached document to the PRINCE ALBERT Local MUNICIPALITY on the terms and conditions stipulated in this tender document and in accordance with the specification stipulated in the tender document.			
NAME (PRINT)		SIGNATURE	
CAPACITY		DATE	

PRINCE ALBERT MUNICIPALITY

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LEEU GAMKA: MAINTENANCE OF THE REVERSE OSMOSIS AND ULTRA FILTRATION WATER TREATMENT PLANT

MBD 1

	PRINCE ALBERT LOCAL MUNICIPALITY		
	TENDER NOTICE AND INVITATION TO TENDER		
	NOTICE NO:	54/2021	DEPARTMENT:	INFRASTRUCTURE SERVICES
ADVERTISED ON:	MUNICIPAL NOTICE BOARD; MUNICIPAL WEBSITE; SUID-KAAP BURGER;		
BID NO.:	54/2021	PUBLISHED DATE:	08 MAY 2021
Tenders are hereby invited for:	LEEU GAMKA: MAINTENANCE OF THE REVERSE OSMOSIS AND ULTRA FILTRATION WATER TREATMENT PLANT		
CLOSING DATE:	24 MAY 2021		
CLOSING TIME:	No later than 13H30 Tenders will be opened immediately thereafter, in public at the Prince Albert Local Municipality, Council Chambers (Administration Building, 33 Church Street, Prince Albert, 6930)		
AVAILABILITY OF TENDER DOCUMENTS:			
Tender Documents will be available electronically. Tender documents must be reserved no less than 48 hours before collection with the Employer - refer to contact details below.			
Printed copies of the Tender Documents will be available as from 08h30 and thereafter on weekdays from 08h30 until 15h30, at Prince Albert Local Municipality: Supply Chain Management Unit, Finance Building, 23 Church Street, Prince Albert, at a non-refundable fee, payable to a cashier at PRINCE ALBERT Local MUNICIPALITY, 23 Church Street, Prince Albert, 6930		The fee may also be transferred via EFT (PRINCE ALBERT Local MUNICIPALITY, Current Account – 2640560064, Absa, Prince Albert, Branch Code - 632005). Proof of payment will be required upon collection of the tender documents. Bid Number to be used as payment reference with name of payee. Tender Document reference number:	
Date Available:	11 MAY 2021	Non-refundable Documentation Fee:	R300
Tenders shall be evaluated in terms of the PRINCE ALBERT LOCAL MUNICIPALITY Supply Chain Management Policy incorporating the Preferential Procurement Regulations		Bidders may claim preference points in terms of their B-BBEE status level of contribution	
Applicable Preferential Procurement Points System		80/20	
Local Content Requirement and Designated Sector		VALVES AND ACTUATORS = 70%	
CIDB Registration Required		NOT APPLICABLE	
EPWP Requirements (Labour Intensive Construction)		NOT APPLICABLE	
Validity Period:		90 Days	
Pre-tender Clarification Meeting	NOT APPLICABLE. Refer all queries to the contacts provided below.		
ANY ENQUIRIES REGARDING TECHNICAL INFORMATION MAY BE DIRECTED TO:		ANY ENQUIRIES REGARDING THE BIDDING PROCEDURE MAY BE DIRECTED TO:	
Section:	Infrastructure Services	Section:	Supply Chain Management
Contact Person:	Ashley America	Contact Person:	Christa Baadjies
Tel:	023 541 1036	Tel:	023 541 1036
E-mail:	ashley@pamun.gov.za	E-mail:	cgb@pamun.gov.za
Authorized by:	A. VORSTER	Capacity:	MUNICIPAL MANAGER

T1.2 Tender Data

The conditions of tender are those contained in the latest edition of SANS 10845-3, *Construction Procurement – Part 3: Standard conditions of tender*.

SANS 10845-3 makes several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the provisions of SANS 10845-3.

Each item of data given below is cross-referenced to the clause in SANS 10845-3 to which it mainly applies.

Clause number	Tender Data
3.1	The Employer is PRINCE ALBERT Municipality .
3.2	<p>The Tender Documents issued by the Employer comprise the following documents:</p> <p>THE TENDER</p> <p>Part T1: Tendering procedures</p> <p>T1.1 - Tender notice and invitation to tender T1.2 - Tender data</p> <p>Part T2: Returnable documents</p> <p>T2.1 - List of returnable documents T2.2 - Returnable schedules</p> <p>THE CONTRACT</p> <p>Part C1: Agreements and Contract data</p> <p>C1.1 - Form of offer and acceptance C1.2 - Contract data C1.3 - Performance Bond C1.4 - Advanced Payment Guarantee C1.5 - Occupational Health and Safety Agreement</p> <p>Part C2: Pricing data</p> <p>C2.1 - Pricing Instructions C2.2 - Pricing Schedule</p> <p>Part C3: Scope of work</p> <p>C3.1 - Description of Works C3.2 - Engineering C3.3 - Procurement C3.4 - Construction C3.5 - Management C3.6 - Annexures</p> <p>Part C4: Site Information</p> <p>C4 ..- Site information</p>
3.4	<p>The Employer's Agent is:</p> <p>Mr Ashley America PRINCE ALBERT Municipality Private Bag X24 PRINCE ALBERT 6930</p> <p>Telephone: 023 541 1036 Cellphone: 079 869 1342 Email: ashley@pamun.gov.za</p>
3.4	The language for communications is English

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Clause number	Tender Data
4.7	<p>The arrangements for a compulsory clarification meeting are as stated in the Tender Notice and Invitation to Tender.</p> <p>Tenderers must sign the attendance list in the name of the tendering entity. Addenda will be issued to and tenders will be received only from those tendering entities appearing on the attendance list.</p> <p>Tenders should be represented at the site visit/clarification meeting by a person who is suitably qualified and experienced to comprehend the implications of the work involved.</p>
4.12	No alternative tenders are permitted.
4.13.1	Parts of each tender offer communicated on paper shall be submitted as an original, plus NIL copies.
4.13.5 4.15	<p>The employer's details and address for delivery of tender offers and identification details that are to be shown on each tender offer package are:</p> <p>Location of tender box: ADMINISTRATION BUILDING Employer's address: 33 CHURCH STREET, PRINCE ALBERT, 6930 Identification details: 54/2021: LEEU GAMKA: MAINTENANCE OF THE REVERSE OSMOSIS AND ULTRA FILTRATION WATER TREATMENT PLANT</p>
4.13.4	<p>The tenderer is required to submit with his tender:</p> <ol style="list-style-type: none"> 1) A Tax compliance status PIN issued by SARS for the Municipality or their Agent to verify the Tenderer's Tax matters. 2) An original current account in terms of water & electricity or rates & taxes obtainable from any Local Municipality or a Municipal Accounts Clearance Certificate 3) An original valid B-BBEE status level verification certificate or an ORIGINAL CERTIFIED copy in terms of the Construction Sector Charter on Black Economic Empowerment, in terms of the Preferential Procurement Regulations, 2017 4) Confirmation of financial standing (bank rating) from the tenderer financial institution. 5) ORIGINAL CERTIFIED copies of Identity Documents (IDs) of all shareholders/ owner(s) / partners of bidding companies must submitted with the bid document. 6) Joint venture agreement where applicable.
4.13.6	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.
4.15	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
4.16	The tender offer validity period is 90 days .
5.1	The Employer will respond to requests for clarification received up to 3 working days before the tender closing time.
5.2	The employer shall issue addenda until 2 working days before tender closing time.
5.4	Tenders will be opened immediately after the closing time for receipt of tenders as stated in the Tender Notice and Invitation to Tender.
5.11.4	<p>The procedure for the evaluation of responsive tenders is Method 3 (Financial offer and preference).</p> <p>The financial offer is scored using the formula in MBD 6.1.</p> <p>Up to 20 tender evaluation points will be awarded to tenderers who complete the preferencing schedule and who are found to be eligible for the preference claimed.</p>
5.13	<p>Tender offers will only be accepted if:</p> <ol style="list-style-type: none"> a) the tenderer is registered on the Central Supplier Database (CSD) for the South African government (see https://secure.csd.gov.za/) unless it is a foreign supplier with no local registered entity b) the tenderer is in good standing with SARS according to the Central Supplier Database; c) the financial offer is market related (see Regulations 6(9) and 7(9) of the 8(9) of the Preferential Procurement Regulations 2017):

Tender

Part T1: Tender Procedures

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Clause number	Tender Data
	<ul style="list-style-type: none"> d) the tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; e) the tenderer has not: <ul style="list-style-type: none"> i) abused the Employer's Supply Chain Management System; or ii) failed to perform on any previous contract and has been given a written notice to this effect; f) the tenderer has completed the Compulsory Declaration and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process; g) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer;
5.17	The number of paper copies of the signed contract to be provided by the employer is ONE .
Additional Conditions of Tender	
6.1	<p>Tenderers will be considered non-responsive if, inter alia,:</p> <ul style="list-style-type: none"> 1) The Tenderer failed to submit one Offer per tendering entity; 2) The Tenderer failed to submit additional information by the due date; 3) The Tender failed to complete or sign the Form of Offer bound into this tender document; 4) The tender is not completed in non-erasable ink; 5) The tender contained material qualifications or deviations that affected the scope, quality or performance of the works; significantly changed the parties' risks and responsibilities or affected the competitive position of other Tenderers if they were to be rectified.
6.2	<ul style="list-style-type: none"> 1) Bids will be evaluated according to PRINCE ALBERT Municipality's Infrastructure Procurement & Delivery Management (IPDM) and Preferential Procurement Policies. 2) The lowest, the highest or any tender will not necessarily be accepted and the Council reserves the right to accept any tender wholly or partially or to withdraw the tender. 3) All copies of certificates submitted with the tender must be certified originals by a commissioner of Oaths. 4) Tenders which are late, incomplete, unsigned, completed in pencil, submitted by facsimile or electronically, will not be accepted; 5) Bidders with any municipal account outstanding for more than 90 days will be rejected. 6) All businesses and suppliers wishing to conduct business with the PRINCE ALBERT Municipality must register on the Central Supplier Database (CSD) before any orders may be processed.

Part T2: Returnable Documents

T2.1 List of returnable documents

The tenderer must complete the following returnable schedules in **black ink**

1. Documentation to demonstrate eligibility to have tenders evaluated

- None required

2. Returnable Schedules required for tender evaluation purposes

- Compulsory Enterprise Questionnaire
- Certificate of Authority for Signatory
- Certificate of Authority for Joint Ventures
- Proposed Amendments and Qualifications
- Record of Addenda to Tender Documents
- Schedule of Tenderer's Past Experience
- Schedule of Key Staff Experience

3. Other documents required for tender evaluation purposes

- B-BBEE Verification Certificates issued by a verification agency accredited by the South African National Accreditation System (SANAS) in accordance with Section 7 of Statement 005, Gazette Number 34612 or, in the case of an Exempted Micro Enterprise or a Qualifying Small Enterprise, a sworn affidavit (general) on the relevant form obtained from the DTI website.
- Letter of Good Standing from the Compensation Commissioner or a licensed insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act 1993 (Act No. 130 of 1993).
- Current Municipal Accounts or Clearance Certificates for the municipal services of the bidder, all owners, directors, members and managers of the enterprise. Alternatively, proof of a lease agreement for bidders with no municipal accounts will be accepted.
- ORIGINAL CERTIFIED copies of Identity Documents (IDs) of all shareholders/ owner(s) / partners of bidding companies must be submitted with the bid document.
- Confirmation of financial standing (bank rating) from the tenderer's financial institution.
- Joint venture agreement where applicable.

4. Returnable Schedules that will be used for tender evaluation purposes and be incorporated into the contract

- MBD 2 Tax Clearance / PIN
- MBD 4 Declaration of Interest
- MBD 6.1 Preference points claim form in terms of the Preferential Procurement Regulations 2017
- MBD 6.2 Declaration Certificate For Local Production and Content For Designated Sectors
- MBD 8 Declaration of bidder's past supply chain management practices
- MBD 9 Certificate of Independent Tender Determination
- MBD 15 Certificate for Payment of Municipal Services

5. C1.1 Offer portion of Form of Offer and Acceptance

6. C1.2 Contract Data (Part 2)

7. C2.2 Pricing Schedule

T2.2 Returnable Schedules

MBD 2

**PRINCE ALBERT LOCAL MUNICIPALITY
TAX CLEARANCE CERTIFICATE REQUIREMENTS**

It is a condition of tender that the taxes of the successful bidder must be in order, or that satisfactory arrangements have been made with South African Revenue Service (SARS) to meet the bidder's tax obligations, before an award may be considered.

1.	In order to meet this requirement bidders are required to complete in full the form TCC 001 " <i>Application for a Tax Clearance Certificate</i> " and submit it to any SARS branch office nationally. The Tax Clearance Certificate Requirements are also applicable to foreign bidders / individuals who wish to submit bids.
2.	Copies of the TCC 001 "Application for a Tax Clearance Certificate" form are available from any SARS branch office nationally or on the website www.sars.gov.za .
3.	SARS will then furnish the bidder with a Tax Clearance Certificate that will be valid for a period of 1 (one) year from the date of approval.
4.	The original Tax Clearance Certificate must be submitted together with the bid. Failure to submit the original and valid Tax Clearance Certificate will result in the invalidation of the bid. Certified copies of the Tax Clearance Certificate will not be acceptable.
5.	In bids where Consortia / Joint ventures / Sub-contractors are involved, each party must submit a separate Tax Clearance Certificate.
6.	Applications for Tax Clearance Certificates may also be made via e-Filing. In order to use this provision, taxpayers will need to register with SARS as e-Fileers through the website www.sars.gov.za .

MBD 4

PRINCE ALBERT LOCAL MUNICIPALITY DECLARATION OF INTEREST	
1.	No bid will be accepted from persons in the service of the state*.
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 the 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.	In order 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 / 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 (where applicable) 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.
3.9.	Have you been in the service of the state for the past twelve months? YES / NO
3.9.1.	If so, 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 so, state particulars.
3.11.	Are you aware of any relationship (family, friend, other) between the bidder and any person 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 so, state particulars.
3.12.	Are any of the company's directors, managers, principal shareholders or stakeholders in service of the state? YES / NO
3.12.1.	If so, state particulars.
3.13.	Is any spouse, child or parent of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state? YES / NO
3.13.1.	If so, furnish particulars.

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3.14.	Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract?	YES / NO	
3.14.1.	If so, furnish particulars.		
4.	Full details of directors / trustees / members / shareholders:		
COMPLETION OF THE FOLLOWING INFORMATION IS COMPULSORY:			
Full Name	Identity Number	Individual Tax Number for each Director	State Employee Number
CERTIFICATION			
I 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.			
NAME OF ENTERPRISE			
CAPACITY		DATE	
NAME (PRINT)		SIGNATURE	
*MSCM Regulations: "in the service of the state" means to be -			
a)	a member of – (i) any municipal council; (ii) any provincial legislature; or (iii) the National Assembly or the National Council of Provinces;		
b)	a member of the board of directors of any municipal entity;		
c)	an official or any Municipality or municipal entity;		
d)	an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);		
e)	a member of the accounting authority of any national or provincial 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 exercise control over the company.			

Attach to this page

- Central Supplier Database (CSD) registration**

Attach to this page (original certified copies only, not copies of certified copies)

- Identity Documents (IDs) of:**
 - Directors**
 - Trustees**
 - Members**
 - Shareholders**
 - Owners**
 - Partners**

MBD 6.1

PRINCE ALBERT LOCAL MUNICIPALITY									
PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017									
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: <ul style="list-style-type: none"> the 80/20 system for requirements with a Rand value of equal to or above R30,000 up to R50,000,000 (all applicable taxes included); and the 90/10 system for requirements with a Rand value above R50,000,000 (all applicable taxes included). 								
1.2.	The value of this bid is estimated between R 30,000 up to R50,000,000 (all applicable taxes included) and therefore the 80/20 system shall be applicable.								
1.3.	Preference points for this bid shall be awarded for: <ul style="list-style-type: none"> Price; and B-BBEE Status Level of Contribution. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th style="text-align: left;">1.3.1 The maximum points for this bid are allocated as follows:</th> <th style="text-align: center;">POINTS</th> </tr> </thead> <tbody> <tr> <td>PRICE</td> <td style="text-align: center;">80</td> </tr> <tr> <td>B-BBEE STATUS LEVEL OF CONTRIBUTION</td> <td style="text-align: center;">20</td> </tr> <tr> <td>Total points for Price and B-BBEE must not exceed</td> <td style="text-align: center;">100</td> </tr> </tbody> </table>	1.3.1 The maximum points for this bid are allocated as follows:	POINTS	PRICE	80	B-BBEE STATUS LEVEL OF CONTRIBUTION	20	Total points for Price and B-BBEE must not exceed	100
1.3.1 The maximum points for this bid are allocated as follows:	POINTS								
PRICE	80								
B-BBEE STATUS LEVEL OF CONTRIBUTION	20								
Total points for Price and B-BBEE must not exceed	100								
1.4.	Failure on the part of a bidder to fill in and/or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a Registered Auditor approved by the Independent Regulatory Board of Auditors (IRBA) or an Accounting Officer as contemplated in the Close Corporation Act (CCA) 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 municipality reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the municipality.								
2.	DEFINITIONS								
2.1.	“all applicable taxes” includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;								
2.2.	“B-BBEE” means broad-based black economic empowerment as defined in section 1 of the Broad -Based Black Economic Empowerment Act;								
2.3.	“B-BBEE status level of contributor” means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;								
2.4.	“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 services, works or goods, through price quotations, advertised competitive bidding processes or proposals;								
2.5.	“Broad-Based Black Economic Empowerment Act” means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);								
2.6.	“comparative price” means the price after the factors of a non-firm price and all unconditional discounts that can be utilized have been taken into consideration;								
2.7.	“consortium or joint venture” means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract;								
2.8.	“contract” means the agreement that results from the acceptance of a bid by an organ of state;								
2.9.	“EME” means any enterprise with annual total revenue of R5 million or less;								
2.10.	“Firm price” means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and								

		demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;
2.11.	“Functionality”	means the measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating, taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder;
2.12.	“non-firm prices”	means all prices other than “firm” prices;
2.13.	“person”	includes a juristic person;
2.14.	“rand value”	means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties;
2.15.	“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 <i>contract</i> ;
2.16.	“total revenue”	bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the <i>Government Gazette</i> on 9 February 2007;
2.17.	“trust”	means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person; and
2.18.	“trustee”	means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.
3.	ADJUDICATION USING A POINT SYSTEM	
3.1.	The bidder obtaining the highest number of total points will be awarded the contract.	
3.2.	Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts;.	
3.3.	Points scored must be rounded off to the nearest 2 decimal places.	
3.4.	In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for B-BBEE.	
3.5.	However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for B-BBEE, the successful bid must be the one scoring the highest score for functionality.	
3.6.	Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.	
4.	POINTS AWARDED FOR PRICE	
4.1.	<p>THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS</p> <p>A maximum of 80 or 90 points is allocated for price on the following basis:</p> $P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right) \quad \text{or} \quad P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$ <p>Where</p> <p>Ps = Points scored for comparative price of bid under consideration</p> <p>Pt = Comparative price of bid under consideration</p> <p>Pmin = Comparative price of lowest acceptable bid</p>	

5.	Points awarded for B-BBEE Status Level of Contribution		
5.1.	In terms of Regulation 5 (2) and 6 (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:		
5.2.	B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
	1	10	20
	2	9	18
	3	6	14
	4	5	12
	5	4	8
	6	3	6
	7	2	4
	8	1	2
	Non-compliant contributor	0	0
5.3.	Bidders who qualify as EME's in terms of the B-BBEE Act must submit a certificate issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Auditor. Registered auditors do not need to meet the prerequisite for IRBA's approval for the purpose of conducting verification and issuing EME's with B-BBEE Status Level Certificates.		
5.4.	Bidders other than EME's must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.		
5.5.	A trust, consortium or joint venture, will qualify for points for their B-BBEE status level as a legal entity, provided that the entity submits their B-BBEE status level certificate.		
5.6.	A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate bid.		
5.7.	Tertiary institutions and public entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.		
5.8.	A person will not be awarded points for B-BBEE status level if it is indicated in the bid documents that such a bidder intends sub-contracting more than 25% of the value of the contract to any other enterprise that does not qualify for at least the points that such a bidder qualifies for, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract.		
5.9.	A person awarded a contract may not sub-contract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an EME that has the capability and ability to execute the sub-contract.		
6.	BID DECLARATION		
6.1.	Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:		
7.	B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.3.1.2 AND 5.1		
7.1.	B-BBEE Status Level of Contribution:	Points Claimed (maximum of 10 or 20 points)	
7.2.	Points claimed in respect of paragraph 6.1 must be in accordance with the table reflected in paragraph 5.1 and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or a Registered Auditor approved by IRBA or an Accounting Officer as contemplated in the CCA.		
8.	SUB-CONTRACTING		
8.1.	Will any portion of the contract be sub-contracted? Indicate YES / NO		
8.2.	If yes, indicate:		
	(i)	What percentage of the contract will be subcontracted?	%
	(ii)	The name of the sub-contractor?	
	(iii)	The B-BBEE status level of the sub-contractor?	

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	(iv)	Whether the sub-contractor is an EME? Indicate YES / NO		
9.	Designated Group: An EME or QSE which is at last 51% owned by:		EME ✓	QSE ✓
		Black people		
		Black people who are youth		
		Black people who are women		
		Black people with disabilities		
		Black people living in rural or underdeveloped areas or		
		townships		
		Cooperative owned by black people		
		Black people who are military veterans		
		OR		
		Any EME		
		Any QSE		
10.	DECLARATION WITH REGARD TO COMPANY/FIRM			
10.1.	Name of firm			
10.2.	VAT registration number			
10.3.	Company registration number:			
10.4.	Type Of Company/ Firm [TICK APPLICABLE BOX]	Partnership/Joint Venture / Consortium		
		One person business/sole propriety		
		Close corporation		
		Ltd Company		
		(Pty) Limited		
10.5.	Describe Principal Business Activities			
10.6.	Company Classification [TICK APPLICABLE BOX]	Manufacturer		
		Supplier		
		Professional service provider		
		Other service providers, e.g. transporter, etc.		
10.7.	Municipal Information			
	Municipality where business is situated :			
	Registered Account Number:			
	Stand Number:			
10.8.	Total number of years the enterprise has been in business?			

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11.	DECLARATION		
I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBEE status level of contribution indicated in paragraph 7 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 paragraph 7, 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 contribution 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 – <ul style="list-style-type: none"> 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) restrict the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, from obtaining business from any organ of state for a period not exceeding 10 years, after the audi alteram partem (hear the other side) rule has been applied; and forward the matter for criminal prosecution 		
NAME OF ENTERPRISE			
NAME (PRINT)		DATE	
CAPACITY		SIGNATURE	
WITNESS 1		WITNESS 2	

Attach to this page (original certified copies only, not copies of certified copies)

- B-BBEE Verification Certificate, or**
- Sworn Affidavit**

MBD 6.2**PRINCE ALBERT LOCAL MUNICIPALITY****DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS**

This Municipal Bidding Document (MBD) 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, 2017 and the South African Bureau of Standards (SANS) 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, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2. Regulation 8.(2) 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 SANS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$
 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 the South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as required in paragraph 4.1 below.

The SANS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedti.gov.za/industrial-development/ip.jsp> at no cost.
- 1.6. A bid may be disqualified if –
 - this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation; and
 - 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 and intellectual property costs), plus freight and other direct

PRINCE ALBERT LOCAL MUNICIPALITY			
DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS			
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:			
#	Description of services, works or goods	Stipulated minimum threshold- %	
1	Valves and Actuators	70%	
2			
3			
4			
4. Does any portion of the services, works or goods offered have any imported content?			
<i>Tick applicable box</i>		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 the 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			
Yuan			
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?			
<i>Tick applicable box</i>		YES	NO
5.1. If yes, provide the following particulars:			
Full name of auditor:			
Practice number:			
Telephone #:		Cell number:	
E-mail address:			
6. <u>Documentary proof</u> regarding the declaration will, when required, be submitted to the satisfaction of the <u>Accounting Officer</u> .			
7. 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 in order for the DTI to verify and in consultation with the Accounting Officer provide directives in this regard.			

PRINCE ALBERT LOCAL MUNICIPALITY											
DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS											
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 TENDER NO.:											
TENDER DESCRIPTION:											
DECLARATION											
<p>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.</p> <p>2. Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on http://www.thedti.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.</p> <p>3. I, the undersigned, do hereby declare, the following:</p>											
<p>A. The facts contained herein are within my own personal knowledge.</p>											
<p>B. I have satisfied myself that</p> <p>(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</p> <p>(ii) the declaration templates have been audited and certified to be correct.</p>											
<p>C. The local content percentages (%) 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;</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">Bid price, excluding VAT (y)</td> <td style="width: 30%;">R</td> </tr> <tr> <td>Imported content (x), as calculated in terms of SATS 1286:2011</td> <td>R</td> </tr> <tr> <td>Stipulated minimum threshold for local content (paragraph 3 above)</td> <td></td> </tr> <tr> <td>Local content %, as calculated in terms of SATS 1286:2011</td> <td></td> </tr> </table> <p>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 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.</p>				Bid price, excluding VAT (y)	R	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	
Bid price, excluding VAT (y)	R										
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											
<p>D. I accept that the Municipality has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.</p>											
<p>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 / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPFA), 2000 (Act No. 5 of 2000).</p>											
NAME OF ENTERPRISE											
NAME (PRINT)		DATE									
CAPACITY		WITNESS 1									
SIGNATURE		WITNESS 2									

Annex C

Local Content Declaration - Summary Schedule

(C1) Tender No.
 (C2) Tender description:
 (C3) Designated product(s)
 (C4) Tender Authority:
 (C5) Tendering Entity name:
 (C6) Tender Exchange Rate:
 (C7) Specified local content %

Note: VAT to be excluded from all calculations

Pula EU GBP

Calculation of local content							
Tender item no's	List of items	Tender price - each (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)

Tender summary			
Tender Qty	Total tender value	Total exempted imported content	Total Imported content
(C16)	(C17)	(C18)	(C19)

Signature of tenderer from Annex B

Date: _____

(C20) Total tender value	R 0
(C21) Total Exempt imported content	R 0
(C22) Total Tender value net of exempt imported content	R 0
(C23) Total Imported content	R 0
(C24) Total local content	R 0
(C25) Average local content % of tender	

MBD 8

PRINCE ALBERT LOCAL MUNICIPALITY			
DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES			
1.	This Municipal Bidding Document serves as a declaration to be used by municipalities and municipal entities 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.		
2.	The bid of any bidder may be rejected if that bidder, or any of its directors have:		
2.1.	abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;		
2.2.	been convicted for fraud or corruption during the past five years;		
2.3.	wilfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or		
2.4.	been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).		
3.	In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.		
3.1.	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).	Yes / No	
3.2.	If so, furnish particulars:		
3.3.	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)? The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.	Yes / No	
3.4.	If so, furnish particulars:		
3.5.	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes / No	
3.6.	If so, furnish particulars:		
3.7.	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes / No	
3.8.	If so, furnish particulars:		
3.9.	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes / No	
3.10.	If so, furnish particulars:		

MBD 8 (cont.)

PRINCE ALBERT MUNICIPALITY

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LEEU GAMKA: MAINTENANCE OF THE REVERSE OSMOSIS AND ULTRA FILTRATION WATER TREATMENT PLANT

4.	CERTIFICATION		
<p>I, CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM 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.</p>			
NAME OF ENTERPRISE			
CAPACITY		DATE	
NAME (PRINT)		SIGNATURE	
WITNESS 1		WITNESS 2	

MBD 9

PRINCE ALBERT LOCAL MUNICIPALITY	
CERTIFICATE OF INDEPENDENT BID DETERMINATION	
1.	Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging). ² Collusive bidding is a <i>per se</i> prohibition meaning that it cannot be justified under any grounds.
2.	Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to: <ol style="list-style-type: none"> a) take all reasonable steps to prevent such abuse; b) reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and c) cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
3.	This Municipal Bidding Document serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
4.	In order to give effect to the above, the following Certificate of Bid Determination must be completed and submitted with the bid:
CERTIFICATE OF INDEPENDENT BID DETERMINATION	
I, the undersigned, in submitting the accompanying bid:	
Bid Number:	54/2021
Description:	LEEU GAMKA: MAINTENANCE OF THE REVERSE OSMOSIS AND ULTRA FILTRATION WATER TREATMENT PLANT
in response to the invitation for the bid ISSUED by the PRINCE ALBERT LOCAL MUNICIPALITY , do hereby make the following statements that I certify to be true and complete in every respect:	
certify, on behalf of (Name of Bidder):	
That:	
<ol style="list-style-type: none"> 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 or not affiliated with the bidder, who: <ol style="list-style-type: none"> (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: <ol style="list-style-type: none"> a) prices; b) geographical area where product or service will be rendered (market allocation) c) methods, factors or formulas used to calculate prices; 	

PRINCE ALBERT MUNICIPALITY

Tender No.: 54/2021

LEEU GAMKA: MAINTENANCE OF THE REVERSE OSMOSIS AND ULTRA FILTRATION WATER TREATMENT PLANT

- d) the intention or decision to submit or not to submit, a bid;
- e) the submission of a bid which does not meet the specifications and conditions of the bid; or
- f) 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.
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.

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM 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.

NAME (PRINT)		SIGNATURE	
CAPACITY		DATE	

¹ Includes price quotations, advertised competitive bids, limited bids and proposals.

² Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

³Joint 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.

MBD 15

PRINCE ALBERT LOCAL MUNICIPALITY				
CERTIFICATE FOR PAYMENT OF MUNICIPAL SERVICES				
(To be signed in the presence of a Commissioner of Oaths)				
I, the undersigned, in submitting the accompanying bid, declare that I am duly authorised to act on behalf of:				
		(name of the enterprise)		
I hereby acknowledges that according to SCM Regulation 38(1)(d)(i), the Municipality may reject the tender of the tenderer if any municipal rates and taxes or municipal service charges owed by the Tenderer or any of its directors/members/partners to the PRINCE ALBERT LOCAL MUNICIPALITY, or to any other municipality or municipal entity, are in arrears for more than 3 (three) months.				
To the best of my personal knowledge, neither the firm nor any director/member/partner of said firm is in arrears on any of its municipal accounts with any municipality in the Republic of South Africa, for a period longer than 3 (three) months.				
If the value of the transaction is expected to exceed R10 million (VAT included) I certify that the bidder has no undisputed commitments for municipal services towards any Municipality in respect of which payment is overdue for more than 30 days;				
PHYSICAL BUSINESS ADDRESS(ES) OF THE TENDERER			MUNICIPAL ACCOUNT NUMBER	
FURTHER DETAILS OF THE BIDDER'S Director / Shareholder / Partners, etc.:				
Director / Shareholder / partner	Physical address of the Business	Municipal Account number(s)	Physical residential address of the Director / shareholder / partner	Municipal Account number(s)
NB: Please attach certified copy(ies) of ID document(s)				
NB: Please attach copy(ies) of Municipal Accounts				
Number of sheets appended by the tenderer to this schedule (If nil, enter NIL)				

Therefore hereby agrees and authorises the PRINCE ALBERT LOCAL MUNICIPALITY to deduct the full amount outstanding by the Tenderer or any of its directors/members/partners from any payment due to the tenderer; and			
I further hereby certify that the information set out in this schedule and/or attachment(s) hereto is true and correct. The Tenderer acknowledges that failure to properly and truthfully complete this schedule may result in the tender being disqualified, and/or in the event that the tenderer is successful, the cancellation of the contract.			
NAME (PRINT)		SIGNATURE	
CAPACITY		DATE	
NAME OF ENTERPRISE			

<p style="text-align: center;">COMMISSIONER OF OATHS</p> <p>Signed and sworn to before me at _____, on this _____ day of _____ 20__ by the Deponent, who has acknowledged that he/she knows and understands the contents of this Affidavit, it is true and correct to the best of his/her knowledge and that he/she has no objection to taking the prescribed oath, and that the prescribed oath will be binding on his/her conscience.</p> <p>COMMISSIONER OF OATHS:-</p> <p>Position: _____</p> <p>Address: _____</p> <p>Tel: _____</p>	<p>Apply official stamp of authority on this page:</p>
---	---

Version 3.0

Attach to this page (original certified copies only, not copies of certified copies)

Municipal services accounts of the bidder, all owners, directors, members and managers of the enterprise:

- Municipal Accounts**
- Municipal Accounts Clearance Certificates**
- Proof of a lease agreement for entities with no municipal accounts will be accepted**

COMPULSORY DECLARATION

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

Section 1: Enterprise Details

Name of enterprise:	
Contact person:	
Email:	
Telephone:	
Cell no	
Fax:	
Physical address	
Postal address	

Section 2: Particulars of companies and close corporations

Company / Close Corporation registration number	
--	--

Section 3: SARS Information

Tax reference number	
VAT registration number: <i>State Not Registered if not registered for VAT</i>	

Section 4: CIDB registration number

CIDB Registration number <i>(if applicable)</i>	
--	--

Section 5: National Treasury Central Supplier Database

CSD Master registration number <i>Attach CSD registration report</i>	
--	--

Section 6: Particulars of principals

principal: means a natural person who is a partner in a partnership, a sole proprietor, a director of a company established in terms of the Companies Act of 2008 (Act No. 71 of 2008) or a member of a close corporation registered in terms of the Close Corporation Act, 1984, (Act No. 69 of 1984).

Full name of principal	Identity number	Personal tax reference number

Attach separate page if necessary

Section 7: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any principal is currently or has been within the last 12 months in the service of any of the following:

- a member of any municipal council
- a member of any provincial legislature
- a member of the National Assembly or the National Council of Province
- a member of the board of directors of any municipal entity
- an official of any municipality or municipal entity
- an employee of any department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act of 1999 (Act No. 1 of 1999)
- a member of an accounting authority of any national or provincial public entity
- an employee of Parliament or a provincial legislature

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

Name of principal	Name of institution, public office, board or organ of state and position held	Status of service <i>(tick appropriate column)</i>	
		Current	Within last 12 months

*insert separate page if necessary

Section 8: Record of family member in the service of the state

family member: a person's spouse, whether in a marriage or in a customary union according to indigenous law, domestic partner in a civil union, or child, parent, brother, sister, whether such a relationship results from birth, marriage or adoption

Indicate by marking the relevant boxes with a cross, if any family member of a principal as defined in section 5 is currently or has been within the last 12 months been in the service of any of the following:

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

Name of family member	Name of institution, public office, board or organ of state and position held	Status of service <i>(tick appropriate column)</i>	
		Current	Within last 12 months

*insert separate page if necessary

Section 9: Record of termination of previous contracts with an organ of state

Was any contract between the tendering entity including any of its joint venture partners terminated during the past 5 years for reasons other than the employer no longer requiring such works or the employer failing to make payment in terms of the contract.

Yes No (Tick appropriate box)

If yes, provide particulars (insert separate page if necessary)

Section 10: Declaration

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the tendering entity confirms that the contents of this Declaration are within my personal knowledge, and save where stated otherwise in an attachment hereto, are to the best of my belief both true and correct, and:

- i) neither the name of the tendering entity or any of its principals appears on:
 - a) the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004 (Act No. 12 of 2004)
 - b) National Treasury’s Database of Restricted Suppliers (see www.treasury.gov.za)
- ii) neither the tendering entity or any of its principals has within the last five years been convicted of fraud or corruption by a court of law (including a court outside of the Republic of South Africa);
- iii) any principal who is presently employed by the state has the necessary permission to undertake remunerative work outside such employment (attach permission to this declaration);
- iv) the tendering entity is not associated, linked or involved with any other tendering entities submitting tender offers
- v) has not engaged in any prohibited restrictive horizontal practices including consultation, communication, agreement, or arrangement with any competing or potential tendering entity regarding prices, geographical areas in which goods and services will be rendered, approaches to determining prices or pricing parameters, intentions to submit a tender or not, the content of the submission (specification, timing, conditions of contract etc) or intention to not win a tender;
- vi) has no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;
- vii) neither the tenderer or any of its principals owes municipal rates and taxes or municipal service charges to any municipality or a municipal entity and are not in arrears for more than 3 months;
- viii) SARS may, on an on-going basis during the term of the contract, disclose the tenderer’s tax compliance status to the Employer and when called upon to do so, obtain the written consent of any subcontractors who are subcontracted to execute a portion of the contract that is entered into in excess of the threshold prescribed by the National Treasury, for SARS to do likewise.

Signed.....

Date.....

Name.....

Position.....

Enterprise Name.....

NOTE 1 The Standard Conditions of Tender contained in SANS 10845-3 prohibits anticompetitive practices (clause 3.1) and requires that tenderers avoid conflicts of interest, only submit a tender offer if the tenderer or any of his principals is not under any restriction to do business with employer (4.1.1) and submit only one tender either as a single tendering entity or as a member in a joint venture (clause 4.13.1). Clause 5.7 also empowers the Employer to disqualify any tenderer who engages in fraudulent and corrupt practice. Clause 3.1 also requires tenderers to comply with all legal obligations.

NOTE 2: Section 30(1) of the Public Service Act, 1994, prohibits an employee (person who is employed in posts on the establishment of departments) from performing or engaging remunerative work outside his or her employment in the relevant department, except with the written permission of the executive authority of the department. When in operation, Section 8(2) of the Public Administration Management Act, 2014, will prohibit an employee of the public administration (i.e. organs of state and all national departments, national government components listed in Part A of Schedule 3 to the Public Service Act, provincial departments including the office of the premier listed in Schedule 1 of the Public Service Act and provincial departments listed in schedule 2 of the Public Service Act, and provincial government components listed in Part B of schedule 3 of the Public Service Act) or persons contracted to executive authorities in accordance with the provisions of section 12A of the Public Service Act of 1994 or persons performing similar functions in organs of state from conducting business with the State or to be a director of a public or private company conducting business with the State. The offence for doing so is a fine or imprisonment for a period not exceeding 5 years or both. It is also a serious misconduct which may result in the termination of employment by the employer.

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NOTE 3: Regulation 44 of Supply Chain Management regulations issued in terms of the Municipal Finance Management Act of 2003 requires that organs of state and municipal entities not award a contract to a person who is the service of the state, a director, manager or principal shareholder in the service of the state or who has been in the service of the state in the previous twelve months.

NOTE: 4: Regulation 45 of Supply Chain Management regulations requires a municipality or municipal entity to disclose in the notes to the annual statements particulars of any award made to a close family member in the service of the state.

NOTE: 5 Corrupt activities which give rise to an offence in terms of the Prevention and Combating of Corrupt Activities Act of 2004) include improperly influencing in any way the procurement of any contract, the fixing of the price, consideration or other moneys stipulated or otherwise provided for in any contract and the manipulating by any means of the award of a tender.

NOTE: 6 Section 4 of the Competition Act of 1998 prohibits restrictive horizontal practice including agreements between parties in a horizontal relationship which have the effect of substantially preventing or lessening competition, directly or indirectly fixing prices or dividing markets or constitute collusive tendering. Section 5 also prohibits restrictive vertical practices. Any restrictive practices that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties.

CERTIFICATE OF AUTHORITY FOR SIGNATORY

Signatories of Companies must establish their authority by attaching a copy of the relevant Resolution of the Board of Directors, duly signed and dated, to this form. **An example is shown below.**

“By Resolution of the Board of Directors at a meeting on2019

Mr.has been duly authorised to sign all documents in connection with Bid No. 54/2021 on behalf of (Block Capital)

SIGNED ON BEHALF OF COMPANY

IN HIS CAPACITY AS.....”

Example

Attach to this page (original certified copies only, not copies of certified copies)

- Letter of Authority / Resolution by Board of Directors on company letterhead to sign tender documents**

CERTIFICATE OF AUTHORITY FOR JOINT VENTURES

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms , authorised signatory of the company , acting in the capacity of lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
Lead partner		Signature..... Name..... Designation.....
		Signature..... Name..... Designation.....
		Signature..... Name..... Designation.....
		Signature..... Name..... Designation.....

Attach to this page (original certified copies only, not copies of certified copies)

- Letter of Authority / Resolution by Board of Directors on company letterhead to sign tender documents on behalf of Joint Venture**

Attach to this page (original certified copies only, not copies of certified copies)

Joint venture agreement

PROPOSED AMENDMENTS AND QUALIFICATIONS

The Tenderer should record any deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule. Alternatively, a tenderer may state such deviations and qualifications in a covering letter to his tender and reference such letter in this schedule.

The Tenderer’s attention is drawn to clause 5.8 of SANS 10845-3 regarding the employer’s handling of material deviations and qualifications.

If no deviations or modifications are desired, the schedule hereunder is to be marked NIL and signed by the Tenderer.

Page	Clause or item	Proposal

Number of sheets appended by the tenderer to this Schedule (if nil, enter NIL)

Signed.....

Date.....

Name.....

Position.....

Tenderer

RECORD OF ADDENDA TO TENDER DOCUMENTS

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

No.	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Number of sheets appended by the tenderer to this Schedule (if nil, enter NIL).

Signed.....

Date.....

Name.....

Position.....

Tenderer

SCHEDULE OF TENDERER’S PAST EXPERIENCE

The following is a statement of projects successfully completed by our company over the past 10 years.

This schedule will be used to determine the Tenderer’s capability to undertake the services required in the Scope of Work and to conduct a risk assessment of the Tenderers capacity to undertake the project. All information must be completed in full, failing which the Tenderer’s quality scoring may be negatively impacted or the Tender may be considered non-responsive.

Please attach a schedule with the same information to this page.

Number of sheets appended by the tenderer to this Schedule (if nil, enter NIL)

Signed..... Date.....

Name..... Position.....

Tenderer.....

Tenderer's Past Experience: (please duplicate this page electronically, complete the information and attach with your tender)

Tender No.	Description	Scope of Work	Value of Work	Completion date	Employer name	Contact name	Contact number	E-mail address

SCHEDULE OF KEY STAFF EXPERIENCE

Key Staff experience will be evaluated on them having done contracts of similar scope and/or value in the key positions proposed.

An abbreviated CV of the Installation Engineer/Technician should be completed on the attached schedules and signed by the relevant key staff. **Do NOT submit separate CV.**

In the case of an association / joint venture / consortium, it should be indicated how the duties and responsibilities are to be shared.

Number of sheets appended by the tenderer to this Schedule (if nil, enter NIL)

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.

Signed..... Date.....

Name..... Position.....

Tenderer.....

INSTALLATION ENGINEER / TECHNICIAN

(Attach original certified copies of qualifications and professional registration, if any)

Full Name			
ID Number			
Current Work Address			
Contact Number			
E-mail address			
Highest Qualification			
Date Obtained (mm/yyyy)		Years Experience (post Qualification)	
Professional Registration (if any)			
Date Obtained (mm/yyyy)		Years Experience (post Registration)	
Relevant experience			
Employer (Client)	Project Description	Year completed	

<p>Certification: I certify that to the best of my knowledge and belief, the information reflected above correctly describes me, my qualifications and my experience.</p>	Signature _____
	Date _____

FINANCIAL STANDING

Attach to this page (original certified copies only, NOT copies of certified copies)

- Financial Standing (letter from bank/financial institution stating bank code/rating)**

LETTER OF GOOD STANDING

Attach to this page (original certified copies only, NOT copies of certified copies)

- Letter of Good Standing (from the Compensation Commissioner or a licensed insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act 1993 (Act No. 130 of 1993))**

Part C1: Agreements and Contract Data

C1.1 Forms of Offer and Acceptance

Offer

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

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

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

<p>THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VAT IS: (R)</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....(in words)</p> <p>R.....(in figures)</p>

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 including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the **Contractor** in the conditions of contract identified in the Contract Data.

For the Tenderer

Signature(s)

Name(s)

Capacity

Name and address of organisation):

.....

.....

Signature and name of witness

Date

.....

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Acceptance

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

The terms of the contract, are contained in:

- Part C1 Agreements and Contract Data, (which includes this Agreement)
- Part C2 Pricing Data
- Part C3 Scope of Work
- Part C4 Site Information

and drawings and documents (or parts thereof), which may be incorporated by reference into Parts 1 to 4 above.

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

The Tenderer 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 at, or just after, the date this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

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

For the Employer

Signature(s)

Name(s)

Capacity

Name and address of organisation): **PRINCE ALBERT LOCAL MUNICIPALITY
PRIVATE BAG X53
33 CHURCH STREET
PRINCE ALBERT
6930**

Signature and name of witness

Date

Schedule of Deviations

Notes:

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

1	Subject	
	Details	
	
	
	
2	Subject	
	Details	
	
	
	

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

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

For the Tenderer

.....

 Name and address of organisation

Signature

Name

Capacity

Witness signature

Witness name

Date

For the Employer

.....

 Name and address of organisation
PRINCE ALBERT LOCAL MUNICIPALITY
PRIVATE BAG X53
33 CHURCH STREET
PRINCE ALBERT
6930

Confirmation of Receipt

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

the(day) of(month) 20 (year)

at.....(place)

For the **Contractor**

.....
Signature

.....
Name

.....
Capacity

Signature and the name of witness

.....
Signature

.....
Name

C1.2 Contract Data

Part 1: Data provided by the Employer

The *General Conditions of Contract for Construction Works, Third Edition (2015)* published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685, is applicable to this Contract and is obtainable from www.saice.org.za.

CONTRACT SPECIFIC DATA

The following contract specific data, referring to the General Conditions of Contract for Construction Works, Third Edition (2015), are applicable to this Contract:

Clause	Data
1.1.1.13:	The Defects Liability Period is 6 months .
1.1.1.14:	The time for achieving Practical Completion is 6 (eight) weeks , inclusive of the period referred to in Clause 5.3.2 below, and inclusive of non-working days referred to in Clause 5.8.1 below, but exclusive of special non-working days (Clause 5.8.1).
1.1.1.15:	The name of the Employer is: PRINCE ALBERT MUNICIPALITY represented by the MUNICIPAL MANAGER and/or such other person or persons duly authorised thereto by the Employer in writing.
1.1.1.16:	The name of the Employer's Agent is: PRINCE ALBERT Municipality or their successors duly appointed by the Employer
1.1.1.20:	The acceptance of the "Form of Offer" from the recommended tenderer may be subject to an agreed reduction in work items to suit the Employers budget.
1.1.1.26:	The Pricing Strategy is a Bill of Quantities (re-measurable) .
1.2.1.2:	The address of the Employer is: Address (physical): Municipal Manager, 33 Church Street PRINCE ALBERT 6930 Address (postal): Private Bag X53 PRINCE ALBERT 6930 Telephone: 023 541 1320 e-mail: anneleen@pamun.gov.za
1.2.1.2:	The address of the Employer's Agent is: Address (physical): Municipal Manager, 33 Church Street PRINCE ALBERT 6930 Address (postal): Private Bag X53 PRINCE ALBERT 6930 Telephone: 023 541 1036 e-mail: ashley@pamun.gov.za
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: 1) Clause 5.11.2 - Suspension of the Works 2) Clause 5.12.4 - Acceleration instead of extension of time 3) Clause 6.3.2 - Orders for variations to be in writing 4) Clause 10.1.5 - Contractor's claim
5.3.1:	The documentation required before commencement with Works execution is: 1) Initial programme (Refer to Clause 5.6) including cash flow 2) Occupational Health and Safety Agreement (C1.4 of the Contract Document) 3) Letter of Good Standing from the Compensation Commissioner (if not insured with a Licensed Compensation Insurer)

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Clause	Data
5.3.2:	The time to submit the documentation required before commencement with Works execution is 14 days .
5.4.2:	The access and possession of the site shall not be exclusive to the Contractor but as set out in the Site Information.
5.8.1:	The non-working days are Sundays . The special non-working days are: (1) All gazetted public holidays falling outside the year end break. (2) The year end break as determined by the South African Federation of Civil Engineering Contractors.
5.12.2.2:	A delay caused by inclement weather conditions will be regarded as a delay only if, in the opinion of the Employer's Agent, all progress on an item or items of work on the critical path of the working programme of the contractor has been brought to a halt. Delays on working days only (based on a five-day working week) will be taken into account for the extension of time, but the Contractor shall make provision in his programme of work for an expected delay of "n" working days caused by normal rainy weather, for which he will not receive any extension of time, where "n" equals 2 days per month . Extension of time during working days will be granted to the degree to which actual delays, as defined above, exceed the number of "n" working days. It shall be further noted that where the critical path is not affected, no extension of time for <u>abnormal</u> climatic conditions or for any other reason will be entertained.
5.13.1:	The penalty for failing to complete the Works is R1 000 per calendar day.
5.14.1	The requirements for achieving Practical Completion are: 1) All membranes, valves and actuators to be installed and tested
5.16.3:	The latent defects period is 5 years
6.2.4	Advance Payment Guarantee: <i>Add the following as Clause 6.2.4:</i> "6.2.4 The Employer shall make an advance payment to the Contractor in an amount equal to 75% of the Contract Sum, as an interest free loan for mobilisation, provided that: 6.2.4.1 The Contractor shall submit a guarantee from a recognised financial institution, in accordance with the pro forma Advance Payment Guarantee, in an amount equal to the amount of the advance payment. 6.2.4.2 The financial institution shall be subject to the approval of the Employer's Agent. 6.2.4.3 The Contractor shall deliver to the Employer's Agent a statement for payment for the advance payment in terms of Clause 6.10.1.3. 6.2.4.4 The advance payment shall be repaid through 50% deductions in payment certificates (excluding the advance payment and deductions and repayments of retention moneys), commencing when the total of interim payment exceeds 10% of the Contract Sum, until such time that the advance payment has been repaid. The Contractor shall ensure that the Advance Payment Guarantee remains valid and enforceable until the advance payment has been repaid. If the advance payment has not been repaid by the date 28 days prior to the expiry date of the Advance Payment Guarantee, the Contractor shall extend the validity of the Advance Payment Guarantee until such time that the advance payment has been repaid "
6.5.1.2.3:	The percentage allowance to cover overhead charges is 10%
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 80% .
6.10.3:	There is no limit on retention. A guarantee in lieu of retention is permitted.
8.6.1.1.2:	The value of Plant and materials supplied by the Employer to be included in the insurance sum is NOT REQUIRED .
8.6.1.1.3:	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is NIL .
8.6.1.2:	A Coupon Policy for Special Risks Insurance issued by the South African Special Risks Insurance Association is NOT REQUIRED .

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Clause	Data
8.6.1.3:	The limit of indemnity for liability insurance is R20 000 000.00 for any single claim – the number of claims to be unlimited during the construction and defects liability periods.
10.3.2	Amicable settlement in terms of Clause 10.4 shall be contemplated for all disputes prior to referring any dispute to adjudication or arbitration.
10.7.1	The determination of disputes which are unresolved in terms of Clause 10.4.2 shall be by arbitration.

Part 2: Data provided by the Contractor

Clause	Data												
1.1.1.9:	The name of the Contractor is												
1.2.1.2:	The address of the Contractor is Address (physical) Address (postal) Telephone : email :												
6.2.1:	The security to be provided by the Contractor shall be one of the following: <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="width: 80%;">Type of security</th> <th style="width: 20%;">Contractor's choice. Indicate "Yes" or "No"</th> </tr> </thead> <tbody> <tr> <td>Performance guarantee of 10% of the Contract Sum (excluding VAT) plus retention of 5% of the value of the Works.</td> <td style="text-align: center;"> </td> </tr> <tr> <td>Performance guarantee of 5% of the Contract Sum (excluding VAT) plus Retention of 10% of the value of the Works</td> <td style="text-align: center;"> </td> </tr> </tbody> </table> The performance guarantee shall contain the exact wording of the document included in C1.3.	Type of security	Contractor's choice. Indicate "Yes" or "No"	Performance guarantee of 10% of the Contract Sum (excluding VAT) plus retention of 5% of the value of the Works.		Performance guarantee of 5% of the Contract Sum (excluding VAT) plus Retention of 10% of the value of the Works							
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Performance guarantee of 5% of the Contract Sum (excluding VAT) plus Retention of 10% of the value of the Works													
6.8.3:	The variations in cost of special materials is: <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="width: 60%;">Type of special material</th> <th style="width: 20%;">Unit</th> <th style="width: 20%;">Rate or price</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Type of special material	Unit	Rate or price									
Type of special material	Unit	Rate or price											

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

C1.3 Form of Guarantee

PERFORMANCE GUARANTEE

For use with the General Conditions of Contract for Construction Works, Third Edition (2015)

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

"Physical address:

"Employer" means: PRINCE ALBERT municipality.....

"Contractor" means:

"Employer's Agent" means:

"Works" means: **Contract No: 54/2021: LEEU GAMKA: MAINTENANCE OF THE REVERSE OSMOSIS AND ULTRA FILTRATION WATER TREATMENT PLANT**

"Site" means: The site as defined in Clause 1.1.1.29 of the General Conditions of Contract.....

"Contract" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

"Contract Sum" means: The accepted amount inclusive of tax of R

Amount in words:

"Guaranteed Sum" means: The maximum aggregate amount of R

Amount in words:

"Expiry Date" means: The date of issue by the Employer's Agent of the Certificate of Completion of the Works

CONTRACT DETAILS

Employer's Agent issues: Interim Payment Certificates, Final Payment Certificate and the Certificate of Completion of the Works as defined in the Contract.

PERFORMANCE GUARANTEE

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
2. The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Employer's Agent of the Certificate of Completion of the Works or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.
3. The Guarantor hereby acknowledges that:
 - 3.1 any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a surety ship;
 - 3.2 its obligation under this Performance Guarantee is restricted to the payment of money.
4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:
 - 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;

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- 4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;
- 4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.
5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
 - 5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or
 - 5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5; and
 - 5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
7. Where the Guarantor has made payment in terms of 5, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
8. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
9. Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.
10. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
11. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
12. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
13. This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
14. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

PRINCE ALBERT MUNICIPALITY

Tender No.: 54/2021

LEEU GAMKA: MAINTENANCE OF THE REVERSE OSMOSIS AND ULTRA FILTRATION WATER TREATMENT PLANT

Signed at

Date

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2)

Capacity

Witness signatory (1)

Witness signatory (2)

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C1.4 Advance Payment Guarantee

ADVANCE PAYMENT GUARANTEE

For use with the General Conditions of Contract for Construction Works, Third Edition (2015).

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

Physical address:

"Employer" means:

"Contractor" means:

"Employer's Agent" means:

"Works" means:

"Site" means:

"Contract" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

"Contract Sum" means: The accepted amount inclusive of tax of R Amount in words: "Guaranteed Advance

Payment Sum" means: The amount of R

Amount in words:

"Expiry Date" means (Give date) or any other later date set by the Contractor and/or Employer provided such instruction is received prior to the Expiry Date as indicated here.

CONTRACT DETAILS

Employer's Agent issues: Interim Payment Certificates.

ADVANCE PAYMENT GUARANTEE

1. The Guarantor's liability shall be limited to the outstanding diminishing amounts of the Guaranteed Advance Payment Sum as follows:
 - 1.1 The Guaranteed Advance Payment Sum on receipt thereof by the Contractor.
 - 1.2 The full outstanding balance after the deduction of each repayment made in terms of the interim payment certificate.
 - 1.3 After the deduction of the last repayment or settlement of the full outstanding balance, this Advance Payment Guarantee shall expire and be returned to the Guarantor.

CONDITIONS APPLICABLE TO ADVANCE PAYMENT GUARANTEE

2. The Guarantor hereby acknowledges that:

- 2.1 Any reference in this Advance Payment Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship.
- 2.2 Its obligation under this Advance Payment Guarantee is restricted to the payment of money.
3. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 3.1 to 3.3:
- 3.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 3.2;
- 3.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 3.1 and the sum certified has still not been paid;
- 3.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 3.
4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Advance Payment Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Advance Payment Guarantee, such demand stating that:
- 4.1 the Contract has been terminated due to the Contractor's default and that this Advance Payment Guarantee is called up in terms of 4; or
- 4.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Advance Payment Guarantee is called up in terms of 4; and
- 4.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
5. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 3 and 4 shall not exceed the Guarantor's maximum liability in terms of 1.
6. Payment by the Guarantor in terms of 3 or 4 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
7. Payment by the Guarantor in terms of 3 and 4 shall only be made against the return of the original Guarantee by the Employer.
8. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may consider fit and the Guarantor shall not have the right to claim his release from this Advance Payment Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.

PRINCE ALBERT MUNICIPALITY

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- 9. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
- 10. This Advance Payment Guarantee is neither negotiable nor transferable and shall expire in terms of 1.3, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
- 11. This Advance Payment Guarantee, with the required demand notices in terms of 7 or 8, shall be regarded as a liquid document for the purposes of obtaining a court order.

Signed at

Date

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2).....

Capacity.....

Witness signatory (1).....

Witness signatory (2).....

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C1.5 Occupational Health and Safety Agreement

AGREEMENT MADE AND ENTERED INTO BETWEEN THE PRINCE ALBERT MUNICIPALITY (HEREINAFTER CALLED THE "EMPLOYER") AND

..... ,
(Contractor/Mandatory/Company/CC Name)

IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, ACT No. 85 OF 1993 AS AMENDED.

I,, representing

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

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

COID ACT Registration Number:

OR Compensation Insurer: Policy No.:

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

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

I hereby declare that I have read and understand the appended Occupational Health and Safety Conditions and undertake to comply therewith at all times.

I hereby also undertake to comply with the Occupational Health and Safety Specification and Plan.

Signed at on the day of 20

Witness

Mandatory

Signed at on the day of 20

Witness

for and on behalf of
PRINCE ALBERT MUNICIPALITY

OCCUPATIONAL HEALTH AND SAFETY CONDITIONS

1. The Chief Executive Officer of the Contractor shall assume the responsibility in terms of Section 16(1) of the Occupational Health and Safety Act (as amended). Should the Contractor assign any duty in terms of Section 16(2), a copy of such assignment shall immediately be provided to the representative of the Employer as defined in the Contract.
2. All work performed on the Employer's premises shall be performed under the supervision of the construction supervisor who understand the hazards associated with any work that the Contractor performs on the site in terms of Construction Regulations.
3. The Contractor shall appoint a Competent Person who shall be trained on any occupational health and safety aspect pertaining to them or to the work that is to be performed.
4. The Contractor shall ensure that he familiarises himself with the requirements of the Occupational Health and Safety Act and that he, his employees, and any sub-contractors, comply with them.
5. Discipline in the interests of occupational health and safety shall be strictly enforced.
6. Personal protective equipment shall be issued by the Contractor as required and shall be worn at all times where necessary.
7. Written safe work procedures and appropriate precautionary measures shall be available and enforced, and all employees shall be made conversant with the contents of these practices.
8. No substandard equipment/machinery/articles or substances shall be used on the site.
9. All incidents referred to in terms of Section 24 of the Occupational Health and Safety Act shall be reported by the Contractor to the Department of Labour and the Employer.
10. 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 and into any incident involving a Contractor and/or his employees and/or his sub-contractor/s.
11. No use shall be made of any of the Employer's machinery/plant/equipment/substance/personal protective equipment or any other article without prior arrangement and written approval.
12. No alcohol or any other intoxicating substance shall be allowed on the site. Any person suspected of being under the influence of alcohol or any other intoxicating substance shall not be permitted access to, or allowed to remain on the site.
13. Prior to commencement of any work, verified copies of all documents mentioned in the agreement, must be presented to the Employer.

Part C2: Pricing Data

C2.1 Pricing Instructions

Pricing assumptions mean the criteria as set out below, read together with all parts of this contract document, which it will be assumed in the contract that the tenderer has taken into account when developing his prices.

1. The short descriptions of the items of payment given in the Bill of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
2. For the purpose of the 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 Standard Specifications.
Quantity:	The number of units of work for each item.
Rate:	The agreed payment per unit of measurement.
Amount:	The product of the quantity and the agreed rate for an item.
3. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
4. The prices and rates in the Bill of Quantities are to be fully inclusive prices for the work described under the several items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.
5. It will be assumed that prices included in the bills of quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.stanza.org.za or www.iso.org for information on standards).
6. Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered for such items.
7. **A price or rate shall be entered against each item in the Bill of Quantities.** Should the Tenderer not wish to make any charge in respect of an item, a rate of zero "R0.00" or "Nil" shall be entered. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bill of Quantities. Except where rates only are required, insert all amounts to be included in the total tendered price in the "Amount" column and show the corresponding total tendered price. The Tenderer may not group a number of items together and tender one lump sum for such group of items.
8. Reasonable compensation will be received where no pay item appears in the Bill of Quantities in respect of work required in terms of the Contract and which is not covered in any other pay item.
9. The quantities set out in the Bill of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bill of Quantities. The tendered rates shall be valid irrespective of any change in the quantities during the execution of the works under the contract.
10. No unauthorized amendment shall be made to the Bill of Quantities or any part of the Pricing Data. If such amendment is made or if the Bill of Quantities is not properly completed, the tender may be rejected.

C2.2 Pricing Schedule

ITEM	DESCRIPTION	Unit	Qty	Rate	AMOUNT
1	Supply and installation of RO membranes	Sum	12	.....	.....
2	Supply and installation of UF membranes	Sum	6	.....	.....
3	Supply and installation of replacement valves	Sum	1	.....	.....
4	Supply and installation of Actuators	Sum	1	.....	.....
5	Supply and installation of Instrumentation	Sum	1	.....	.....
6	Travel and accommodation for duration of contract	Sum	1	.....	.....
7	Transport of materials, plant and equipment	Sum	1	.....	.....
8	Project Name Board	Sum	1	.....	.....
9	TOTAL OF SCHEDULED WORK				.....
10	VAT: Add 15% of the above				.....
11	TENDER SUM CARRIED FORWARD TO C1.1 FORM OF OFFER				.....

DECLARATION

I/we, the undersigned, do hereby declare that these are the properly priced Bills of Quantities forming part C2.2 of this Contract Document upon which my/our tender for **TENDER NO. 54/2021: LEEU GAMKA: MAINTENANCE OF THE REVERSE OSMOSIS AND ULTRA FILTRATION WATER TREATMENT PLANT** has been based.

Signed

Date.....

Name

Position.....

Tenderer

Part C3: Scope of Work

C3 SCOPE OF WORKS

C3.1 Description of the Works

Clause	Topic	Details
C3.1.1	Employer's objectives	<p>The Employer's objectives include the following:</p> <ul style="list-style-type: none"> (i) To provide new and maintain existing engineering services infrastructure of an acceptable quality for the benefit of all its inhabitants in the most cost-effective and cost-efficient manner possible; (ii) To deliver public services infrastructure using labour intensive construction methods wherever technically feasible and economically viable; (iii) To alleviate poverty through the provision of employment opportunities to the unemployed; (iv) To assist with the socio-economic development of targeted groups; (v) To comply with the requirements of statutory, legislative and regulatory frameworks governing local government infrastructure provision; (vi) To comply with all funding conditions (own and grants).
C3.1.2	Overview of the works	<p>This contract covers the maintenance of the Reverse Osmosis and Ultra Filtration Plant located in Leeu Gamka. The towns' water supply emanates from 5 x production boreholes with varying degrees of reliability, the Prince Albert Municipality has recently equipped 2 of these to supplement supply. The raw water is pumped to a 200 kl Reservoir for storage thereafter it undergoes treatment through the Reverse Osmosis & Ultra-Filtration Plant and is deposited in a 1,5 Ml Circular Reservoir before entering the reticulation network. The town is completely reliant on groundwater as its primary source of water supply.</p>
C3.1.3	Extent of the works	<p>The works to be executed under this contract include the following main activities:</p> <ul style="list-style-type: none"> a) Replacing of RO and UF Membranes b) Assess and replace Valves and Actuators as required c) Perform extended CIP (clean-in-place) process
C3.1.4	Location of the works and access	<p>The site of the works is located in Leeu Gamka which falls under the Prince Albert Local Municipality in the Central Karoo District of the Western Cape Province. Leeu Gamka is a small town located 355 km north-east of Cape Town where the Leeu River enters the Gamka River and is situated on the N1 national road between Laingsburg and Beaufort West. The geographical co-ordinates for Leeu Gamka are: Latitude 32°46'25" S; Longitude 21° 58'49" E.</p> <p>A locality plan is included under C4: Site Information.</p>

C3.2 Engineering

Clause	Topic	Details	
C3.2.1	Design	Works designed by, per design stage:	
		Concept, feasibility and overall process	Employer
		Basic Engineering and layouts to tender stage	Employer
		Final design to be approved for construction/installation stage	Contractor
		Temporary works	Contractor
		Preparation of as built drawings (O&M manual)	Contractor
C3.2.2	Employer's design	The Employer's design is contained in the Tender Documentation and Drawings. Amendments to the design, if necessary, will be issued during the installation phase.	
C3.2.3	Design brief	Where the Contractor is to supply the design of designated parts of the permanent Works or Temporary Works he shall supply full working drawings / data sheets supported by a Professional Engineer's / Engineering Technologist's design certificate.	
C3.2.4	Drawings	<p>Reduced drawings form part of the tender documents and shall be used for tender purposes only.</p> <p>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 Employer's Agent. The Employer's Agent will, at the request of the Contractor and in accordance with the provisions of the Conditions of Contract, provide such dimensions as may have been omitted from the Drawings.</p> <p>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 Employer's Agent's Representative on a regular basis.</p> <p>All information in possession of the Contractor, required by the Employer's Agent to complete the as-built/record drawings, must be submitted to the Employer's Agent before a Certificate of Completion will be issued.</p> <p>The Employer reserves the right to issue amended and/or additional drawings during the Contract.</p> <p>The drawings applicable to this contract are indicated in the Annexures (section C3.6). The drawings issued with this tender document will form part of the contract documents.</p>	

C3.3 Procurement

Clause	Topic	Details
C3.3.1	Preferential procurement procedures	Refer to the Preferential Procurement Regulations (2017)

C3.4 Construction

Clause	Topic	Details
C3.4.1	Standardised Specifications	<p>Refer to Product Data Sheets attached under section C3.6.2</p> <p><u>RO Membranes:</u></p> <ul style="list-style-type: none"> • DuPont XLE-440i (stage 1) OR equal/similar approved • DuPont ECO Pro 440i (stage 2) OR equal/similar approved <p><u>UF membranes</u></p> <ul style="list-style-type: none"> • Suez Zeeweed ZW700B OR equal/similar approved <p><u>Valves and Actuators</u></p> <ul style="list-style-type: none"> • TTTV Fluval Butterfly Valves OR equal/similar approved • HQ Electrical Actuators OR equal/similar approved
C3.4.2	Particular Specifications	Not applicable.
C3.4.3	Variations and Additions to the Standard and the Particular Specifications	Variations and additions to the Standard Specifications are listed in the Annexures to the Scope of Works.
C3.4.4	Known services	<p>The town's current water storage infrastructure comprises of one 200 kl Circular Reservoir which receives the raw water being pumped from the production boreholes, this raw water in turn is fed through the Reverse Osmosis & Ultra-Filtration Plant where it is subjected to the treatment processes and deposited in the final water Reservoir with a capacity of 1,5 MI. The plant is designed to handle feedwater conforming to the analysis attached in the Site Information within 15% at 25°C. Any or all of the feedwater determinants may vary by up to 15%. Temperature may drop down to 15°C, which will result in higher operating pressure. Operating above 25°C is not recommended as this may result in over flux of the lead membranes and reduction in permeate quality. The RO Plant has a daily output of final treated water of 500 m³/day.</p> <p>The Contractor shall make himself acquainted with all existing services. Under no circumstances shall the Contractor alter or in any way interfere with the existing works or underground services unless authorised by the Employer's Agent.</p> <p>Where existing works are of such a nature that the Employer's Agent may require them to be moved by the Contractor, the cost of such work will be paid for at scheduled rates or on dayworks basis. The Contractor will be held responsible for damages to any existing works and any damages caused shall be made good at his own cost without delay.</p> <p>The Contractor is to exercise care when the proposed work is to cross an existing service, or work is to be performed close to an existing service. Prior to commencement of the relevant portion of the proposed works the Contractor with the Employer's Agent or his duly appointed representative shall also perform a visual inspection of the area in question.</p> <p>No other existing services are known to exist that may be affected by the works to be constructed under this contract. However the Contractor shall ensure before excavating that there are no visible services or obstructions that require safeguarding.</p>
C3.4.5	Damage to services	The Contractor shall be responsible for any damage to such existing services and works in the execution of this contract and shall reimburse the Employer, authority or the owner concerned for any repairs required and for damages. Damage that occurs to unknown services during construction will be paid for by the Employer.

Clause	Topic	Details
		However, all services that have been located and exposed, and are subsequently damaged by the Contractor or his subcontractor, shall be reinstated to the same state as it was before the damage occurred at the cost of the Contractor. Damaged services must be repaired on the same date of occurrence and not be delayed without the written approval of the relevant service authority.
C3.4.6	Reinstatement of services and structures damaged during construction	<p>The Contractor shall inform the Employer's Agent immediately when a service or structure is damaged. The extent of the damage and a proposal on how to reinstate the service or structure shall be submitted to the Employer's Agent on a sketch with dimensions and time frames.</p> <p>The Contractor shall not be allowed to reinstate any service or structure unless indicated so by the Employer's Agent. The Contractor shall render all reasonable assistance to the service or structure owner with the reinstatement of the service or the structure if required.</p> <p>The Contractor shall be liable to reinstate the service or structure to its original state.</p>
C3.4.7	Services and facilities provided by the employer	The services and facilities provided by the Employer is listed below.
C3.4.7.1	Water and Electricity Supply	<p>The Contractor shall make his own arrangements with the Municipality for the necessary connections and additional reticulation, the cost, if any, of which will be for the Contractors account. Water shall be used sparingly and if in the opinion of the Employer's Agent excessive consumption by the contractor occurs then the cost of such excessive consumption shall be borne by the Contractor.</p> <p>The Contractor shall make his own arrangements for the supply of electricity that he may require for the execution of the works and the costs of any connections, additional reticulation and the supply of electricity shall be borne by the Contractor.</p>
C3.4.8	Facilities provided by the Contractor	<p>The Contractor shall provide, maintain and remove his own facilities to the satisfaction of the Employer's Agent. The Contractor shall provide the area around his office, stores and sheds (i.e. the "Camp") with adequate security fences and security personnel to ensure that unauthorised persons do not enter the camp area.</p> <p>The tendered sums, whether grouped or individually, shall include all costs for the installation, maintenance and removal of the fencing as specified, in addition to all other facilities specified and as required by the Contractor for his own purposes.</p>
C3.4.8.1	Location of Contractors Camp Site	<p>The Contractor may locate his site offices at the Sports Facility or an alternative site selected by the Contractor subject to written approval of the Employer.</p> <p>The Contractor shall be responsible for obtaining the necessary permission/s from the relevant authorities and communities for the establishment of the offices, camp and depot and for all arrangements for the housing of the Contract workforce. No part of any National or Provincial road reserve may be used for either the Contractor's camp or for housing the Contractor's workforce.</p> <p>The Contractor shall provide sufficient latrine facilities for its workers as required by local regulations and these shall be located in close proximity to the individual work areas.</p> <p>The Contractor shall be responsible for providing and maintaining his own security arrangements for the duration of the Contract.</p> <p>On completion of the Works, or when ordered by the Employer's Agent, the Contractor shall remove all temporary buildings and latrines and restore the Site to a clean and sanitary condition to the satisfaction of the Employer's Agent and rehabilitate the area in accordance with the EMP.</p> <p>Access to the site will be in a controlled manner. People visiting the site will have to sign in and out on a daily basis.</p>

Clause	Topic	Details
C3.4.8.2	Housing	No housing is available nor shall be allowed on site for the Contractor's employees. It is the sole responsibility of the Contractor at his own cost to house his employees and transport them to and from the site.
C3.4.9	Facilities for the Employer's Agent	The facilities required by the Employer's Agent is listed below.
C3.4.9.1	Office accommodation	Not required.
C3.4.9.2	Site meeting venue	Not required.
C3.4.9.3	Contract name boards	The Contractor shall provide, erect and maintain the contract name board in such a position directed by the Employer's Agent, which name board shall comply with the MIG standard project board with regard to size, painting, decorating and detail. The Contractor shall keep the contract name board in good state of repair for the duration of the Contract and shall remove it on completion of the Contract.
C3.4.9.4	Electricity supply for the Employer's Agent	Not required.
C3.4.9.5	Site instruction book and Site diary	The Contractor shall keep an A4 triplicate book for site instructions on the Site at all times and provide a Site Diary for daily completion by the Contractor.
C3.4.10	Laboratory Facilities	The Contractor shall provide and allow for his own facilities, apparatus and procedures for the testing of materials and the process control testing of materials and workmanship in order to ensure compliance with the requirements of the Specifications. The Employer's Agent shall only carry out control tests.
C3.4.11	Other facilities and services	Other facilities and services required are listed below.
C3.4.11.1	Waste Disposal	The Contractor shall make his own arrangements for solid and liquid waste disposal. Disposal will take place at an approved Site.
C3.4.11.2	Telephone Facilities	The Contractor shall be responsible for arranging his own telephone facilities and shall be responsible for all costs relating thereto.
C3.4.11.3	Ablution Facilities	Ablution facilities are not available on site.
C3.4.12	Notice boards, signs and barricades	All notices, signs and barricades may be used only if approved by the Employer's Agent. The Contractor shall be responsible for their supply, erection, maintenance and ultimate removal and shall make provision for this in his tendered rates. The Employer's Agent shall have the right to instruct the Contractor to move any sign or notice to another position, or to remove it from the Site of the Works if in his opinion it is unsatisfactory, inconvenient or dangerous.
C3.4.13	Dealing with Water	Not required.
C3.4.14	Alterations, additions, extensions and modifications to existing works	The Contractor shall prior to commencement of construction works in any particular area satisfy himself that the dimensional accuracy, alignment, levels and setting out of existing structures or components thereof are compatible with the proposed works and shall notify the Employer's Agent of any areas of dissatisfaction.
C3.4.15	Wayleaves, Permissions and Permits	The Contractor shall be responsible for obtaining all of the necessary wayleaves, permissions or permits applicable to working near any existing services or other infrastructure on Site, and shall ensure that any wayleaves, permissions or permits obtained by the Employer's Agent prior to the award of the contract are transferred into the Contractor's name.

Clause	Topic	Details
		The Contractor shall abide by any conditions imposed by such wayleaves, permissions or permits. The Contractor shall ensure that all wayleaves, permissions and permits are kept on site and are available for inspection by the relevant service authorities on demand. The Contractor shall also ensure that any wayleaves in respect of electricity services are renewed timeously every three months.

C3.5 Management

Clause	Topic	Details
C3.5.1	Standardised management specifications for construction works	Not applicable.
C3.5.2	Particular specifications	The following particular specifications shall apply to this contract and are Annexures to the Scope of Works: PHS - Pre-construction Health and Safety Specification
C3.5.3	Construction Programme and Methods	The programme shall include the following activities as a minimum <ul style="list-style-type: none"> a) Contract Commencement, Works Commencement and Due Completion dates b) All special non-working days, shut down periods and breaks defined in the Contract Data. Minor revisions to the approved programme may be introduced from time to time by mutual agreement between the Contractor and the Employer's Agent.
C3.5.4	Sequence of the works	Not required.
C3.5.5	Methods and procedures	The Contractor will advise his methods and procedures that he proposes in performing the works. These methods and procedures shall not be deemed as terms of the Contract. The Contractor is also allowed to change his methods and procedures as he sees fit subject to the change being approved by the Employer's Agent. Methods and procedures will not vary the specification and cannot be used to provide qualifications to the proposed agreement. The intention of the method statement is to provide the Employer's Agent and the Employer with information as to how he proposes to perform the said works.
C3.5.6	Quality plans and control	The Contractor shall furnish the Employer's Agent with a Quality Assurance and Control plan that incorporates all of the requirements of this specification.
C3.5.7	Site usage	The Contractor's employees shall not be allowed to stay on site except for the duration of a working day. The only person to be allowed on site for the duration of a calendar day shall be the site guard(s). Access to the site will be in a controlled manner. People visiting the site will have to sign in and out on a daily basis.
C3.5.8	Testing, completion, commissioning and correction of defects	Workmanship, tolerances and frequency of testing are to be in accordance with relevant product specifications. The Contractor shall conduct his own testing as work proceeds to ensure that the necessary requirements and specifications are being complied with. Once the Contractor is satisfied as to the completion of any stage of his work, he shall arrange for acceptance testing with the Employer's Agent at least 24 hours in advance. Should the Contractor fail to request an inspection timeously and proceed with work without the Employer's Agent's approval, this will be at his own risk.
C3.5.9	Recording of weather	Not required.
C3.5.10	Format of communications	No press statements are allowed without the prior written approval of the Employer. Contractual communication will flow between the Contractor and Employer's Agent as normally required. Normal routine matters should as far as possible be resolved on site between the Contractor's Agent and Employer's Agent. All instructions to the Contractor will be in writing and shall be deemed to have been received if left

Clause	Topic	Details
		with the Contractor or his agent at the site of the works or emailed to the business email address of the Contractor.
C3.5.11	Key personnel	The Contractor is deemed to have, in making his offer, all key personnel available as declared on the <i>Schedule of Key Staff Experience</i> to perform the works entirely in the contracted time and cost.
3.5.12	Management meetings	To be arranged as the need arises.
C3.5.13	Forms for contract administration	The Contract will be managed by, but is not limited to, site instructions, letters, site correspondence, minutes of meetings and functionality forms signed by the Employer's Agent or his duly appointed representative. The Contractor shall prepare, and submit with each monthly statement for payment, the following updated returns, where applicable: <ul style="list-style-type: none"> • MIG 8 - Municipal Infrastructure Grant - Progress Report/Request for Payment (Construction) • EPWP report (including original certified copies of ID's of workers) • Updated progress report and cash flow
C3.5.14	Electronic payments	The Contractor shall provide his banking details to enable electronic payments to be made; such payments shall be at the direction of the PRINCE ALBERT municipality's procurement policy.
C3.5.15	Daily records	Not required.
C3.5.16	Reporting	The Contractor shall submit a progress report to the Employer's Agent after every site visit. The report may be in the form of an email and highlight the activities that were undertaken.
C3.5.17	Payment certificates	The monthly payment certificate to be submitted by the Contractor in terms of the General Conditions shall be prepared by the Contractor at his own cost, strictly in accordance with the standard payment certificate prescribed by the Employer's Agent, in digital electronic computer format.
C3.5.18	As Built Data	The Contractor will submit as-built drawings of the works upon completion.
C3.5.19	Finishing and Tidying	As the works proceed the work areas shall be progressively and systematically finished off and tidied.
C3.5.20	Accommodation of Traffic	Not required.
C3.5.21	Occupational Health and Safety Provisions	In terms of the provisions of Section 37(2) of the Occupational Health and Safety Act, Act No. 85 of 1993 (the Act) the Contractor as an employer in its own right and in its capacity as principal contractor for the execution of the works, shall have certain obligations as prescribed in the Act and relevant Regulations.
C3.5.22	Safety	The Contractor shall be responsible for the safety and security of his personnel, materials on site and the works in general at all times. The Contractor shall therefore acquaint himself with the current situation in the areas and shall provide all security measures, including the employment of accredited security services, as he deems necessary to comply with the requirements of this clause. The Contractor shall ensure that the general public is at all times protected from the works, and that all works areas are properly fenced off so that the general

Clause	Topic	Details
		public is prevented from gaining access to the works areas. Where the normal use by the public of, and access to roadways and all other public areas is not available due to the construction works, adequate notices and signage of such temporary closures and alternative routes shall be provided. Further safety requirements are specified in the project specifications.
C3.5.23	Environmental Care and Management	The Contractor shall at all times adhere strictly to the requirements below:
C3.5.23.1	General	The Contractor shall ensure that no damage whatsoever is caused as a result of his operations or otherwise by his workmen in the areas adjacent to the site. The movement of plant and workmen shall be restricted to the construction areas and essential access routes.
C3.5.23.2	Protected Areas	The Employer shall identify certain areas within the vicinity which are to be protected. Any instance of damage to these areas shall make the Contractor liable to a fine per protected area which will be deducted from the following payment certificate.
C3.5.23.3	Solid waste	Disposal of solid waste other than to the municipal facility will not be allowed.
C3.5.23.4	Liquid waste	No polluted effluent or other liquid of any nature shall be discharged or allowed to run into any watercourse. The handling and disposal of these liquids shall not allow these liquids to enter the ground water system. All such liquids are to be transported off site and disposed-off in a manner agreed with the Employer.
C3.5.23.5	Fire Hazards	No fires may be lit except if approved by the Employer and in properly prepared facilities approved by the Employer. Fires shall be kept small and appropriate to their function. The Contractor shall ensure that the fire risk on and near the site is reduced to a minimum and shall take immediate and effective steps to extinguish any fire that may break out. All costs relating to damage by fire caused by the contractor will be for the contractor's own cost.
C3.5.23.6	Contamination by cement	The Contractor shall take care when dealing with cement, especially near ground and surface watercourses. Any, even slight, contamination of watercourses by cementitious material is prohibited. The use of cement must be controlled with respect to the above and surplus concrete must be removed from site.
C3.5.23.7	Reinstatement of scarred areas	All scarred areas, borrow and spoil areas, cut and fill slopes, all temporary haul and access roads and tracks and any other areas where the vegetation has been removed and or damaged, shall be reinstated to restore the area as nearly as possible to its original state. Such reinstatement shall include the removal of refuse, debris, construction infrastructure and materials, the scarifying of all hardened surfaces, the replacement and spreading of unused material, the correction of drainage deficiencies to provide free drainage, the flattening of cut and fill slopes and the shaping and trimming of surfaces, all as necessary or as directed by the Employer.
C3.5.23.8	Environmental instructions to workmen	The Contractor shall ensure that his workmen are properly instructed and carry out the requirements of these environmental clauses. The Contractor will be held liable for all unauthorized damage caused by him or any of his workmen. The Contractor shall provide adequate training to his workmen with regards to the environmental conditions applicable to the works.
C3.5.23.9	Noise Pollution	The Contractor's attention is drawn to the fact that all construction activities will be undertaken within an existing community and noise levels are to be kept to the essential minimum, especially when working outside normal working hours.

Clause	Topic	Details
C3.5.23.10	Alien Vegetation	All alien plant species removed during the construction of the works to be done in a manner so as to avoid future proliferation.
C3.5.24	Employment of Local Labour	It is the intention that this contract should make the maximum possible use of the local labour force which is at present underemployed. To this end it will be expected of the contractor to limit the use of non-local employees to key personnel only and to employ and train (where applicable) local labour on this contract.
C3.5.25	Community Liaison and Community Relations	<p>In all dealings with the community and works employed from within the community, the contractor shall take due cognizance of the character, culture and circumstances of the community involved and shall at all time use his best endeavours to avoid the development of disputes and to foster a spirit of cooperation and harmony towards the project.</p> <p>The contractor shall at all times, keep the Employer's Agent fully informed on all matters affecting the contractor and the community, and shall attend all community meetings relating to the project as may be reasonably required by the Employer's Agent. All matters concerning the community shall be discussed and where possible, resolved at such meetings.</p> <p>Where any resolution of a community meeting shall be contrary to the terms and provisions of the Contract, the Contractor shall not give effect there-to without a prior written instruction from the Employer's Agent.</p>
C3.5.26	Community Liaison Officer	Where applicable, the Employer will identify a Liaison Officer (CLO) to facilitate communication between the Contractor and themselves. All decisions regarding local labour, local problems and any other matters of local importance related to the Contract will be made in consultation with the CLO.

C3.6 ANNEXURES

Section	Description																
C3.6.1	Works Specifications																
	<table border="1"> <thead> <tr> <th>Standard</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>RO Membrane (Stage 1)</td> <td>FilmTec™ Eco Pro-440i Element (or equal/similar approved)</td> </tr> <tr> <td>RO Membrane (Stage 2)</td> <td>FilmTec™ Eco Pro-440i Element (or equal/similar approved)</td> </tr> <tr> <td>UF Membrane</td> <td>Suez Zeeweed ZW700B (or equal/similar approved)</td> </tr> <tr> <td>Valves</td> <td>TTV/ Fluval Butterfly Valves (or equal/similar approved)</td> </tr> <tr> <td>Actuators</td> <td>HQ004 and HQ 006 (or equal/similar approved)</td> </tr> </tbody> </table>	Standard	Description	RO Membrane (Stage 1)	FilmTec™ Eco Pro-440i Element (or equal/similar approved)	RO Membrane (Stage 2)	FilmTec™ Eco Pro-440i Element (or equal/similar approved)	UF Membrane	Suez Zeeweed ZW700B (or equal/similar approved)	Valves	TTV/ Fluval Butterfly Valves (or equal/similar approved)	Actuators	HQ004 and HQ 006 (or equal/similar approved)				
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Figure 7	Project Nameboard																

C3.6.1 - WORKS SPECIFICATIONS

RO Membranes: Product Data Sheets



Product Data Sheet

FilmTec™ XLE-440i Element

Description

Ideal for: reverse osmosis plant managers and operators dealing with controlled-pre-treatment and seeking high-quality permeate water at low operating costs.

FilmTec™ XLE-440i, the lowest pressure FilmTec™ RO Element:

- Provides lower energy costs and more productivity, especially in cold waters
- Minimizes equipment CAPEX in designs with savings in elements and pumping due to the 440 ft² active area
- Delivers the most effective cleaning performance, robustness and durability due to its widest cleaning pH range (1-13) tolerance and the support of DuPont technical representatives
- Includes iLEC™ interlocking end caps, reducing system operating costs and the risk of o-ring leaks that can cause poor water quality



Product Type

Spiral-wound element with polyamide thin-film composite membrane

Typical Properties

FilmTec™ Element	Active Area		Feed Spacer Thickness (mil)	Permeate Flow Rate		Typical Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
	(ft ²)	(m ²)		(GPD)	(m ³ /d)		
XLE-440i	440	41	28	14,000	53	99.0%	97.0%

1. Permeate flow and salt (NaCl) rejection based on the following standard test conditions: 2,000 ppm NaCl, 125 psi (8.6 bar), 77°F (25°C), pH8, 15% recovery.
2. Flow rates for individual elements may vary but will be no more than +15%.
3. Stabilized salt rejection is generally achieved within 24-48 hours of continuous use; depending upon feedwater characteristics and operating conditions.
4. Sales specifications may vary as design revisions take place.
5. Active area guaranteed ±5%. Active area as stated by DuPont Water Solutions is not comparable to nominal membrane area often stated by some manufacturers.



Product Data Sheet

FilmTec™ Eco Pro-440i Element

Description

Ideal for: reverse osmosis plant managers and operators dealing with controlled pre-treatment waters and seeking advanced membrane treatment with high water purity and low energy consumption.

FilmTec™ Eco Pro-440i:

- Offers high salt-rejection at low pressure
- Delivers excellent silica, boron, nitrate, TOC and ammonium rejection
- Provides increased active area with the most effective cleaning performance, robustness and durability due to its widest cleaning pH range (1-13) and chemical tolerance and the support of DuPont technical representatives
- Includes iLEC™ interlocking end caps, reducing system operating costs and the risk of o-ring leaks that can cause poor water quality



Product Type

Spiral-wound element with polyamide thin-film composite membrane

Typical Properties

FilmTec™ Element	Active Area		Feed Spacer Thickness (mil)	Permeate Flow Rate		Typical Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
	(ft ²)	(m ²)		(GPD)	(m ³ /d)		
Eco Pro-440i	440	41	28	12,650	48	99.7	99.4

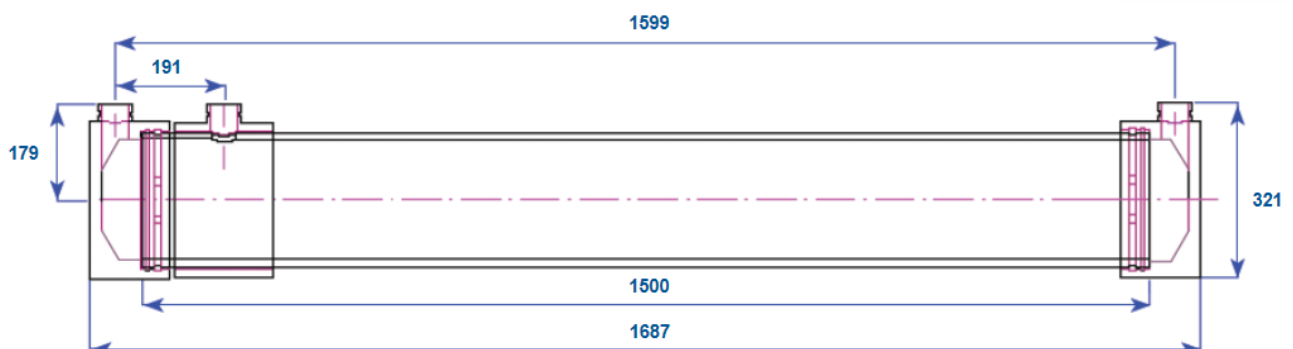
1. Permeate flow and salt (NaCl) rejection based on the following standard test conditions: 2,000 ppm NaCl, 150 psi (10.3 bar), 77°F (25°C), pH8, 15% recovery.
2. Flow rates for individual elements may vary but will be no more than ±15%.
3. Stabilized salt rejection is generally achieved within 24-48 hours of continuous use; depending upon feedwater characteristics and operating conditions.
4. Sales specifications may vary as design revisions take place.
5. Active area guaranteed ±3%. Active area as stated by DuPont Water Solutions is not comparable to nominal membrane area often stated by some manufacturers.

UF Membranes: Product Data Sheets

Product Specifications , Element Data

Material housing	PVC
Material endcap	GFR-Polyamide
Housing length	1500 +0/-4 mm (59.1 +0/- 0.16 inch)
Element length	1687 +/-1.5 mm (66.4 +/- 0.06 inch)
Distance feed connectors	1599 +/-1.5 mm (63 +/- 0.06 inch)
Distance feed element center	179 +/-1.0 mm (7.05 +/- 0.04 inch)
Distance head-permeate connector	191 +/-1.0 mm (7.52 +/- 0.04 inch)
Permeate connection OD	2" Victaulic (2" Victaulic)
Feed connection OD	2" Victaulic (2" Victaulic)
Housing OD	250 mm (10 inch)
Element OD at endcap	321 mm (13 inch)
Weight	31.5 kg (69 lbs.)

DIMENSIONS



typical process conditions

Description	Measurement
Maximum temperature	40°C (104°F)
Max pressure	5 bar (72.5 psi)
Typical Trans Membrane Pressure (TMP) operation	<1.0 bar (14.5 psi)
TMP maximum	2.5 bar (36 psi)
Backwash/forward flush maximum	250 l/m ² h (150 gfd)
pH range during operation	2 to 11

membrane type

Description	Measurement
Material	Modified PES
Type	SevenBore
Diameter bores ID	0.9 mm (0.04 inch)
Diameter fiber OD	4.0 mm (0.16 inch)
Area	60 m ² (646 ft ²)

cleaning

Description	Measurement
Cleaning pH range	1.0-13.0
Disinfecting Chemicals: Hypochlorite (NaOCl) Hydrogen peroxide	50 to 200 ppm 100 to 200 ppm

general properties

- UF membrane - for optimal removal of particulates, bacteria and viruses
- PES membrane fibers with 7 bores - provides high mechanical strength (>10x that of single fibers) and chemical resistance
- Inside-Out filtration – eliminates air scouring step and additional related equipment

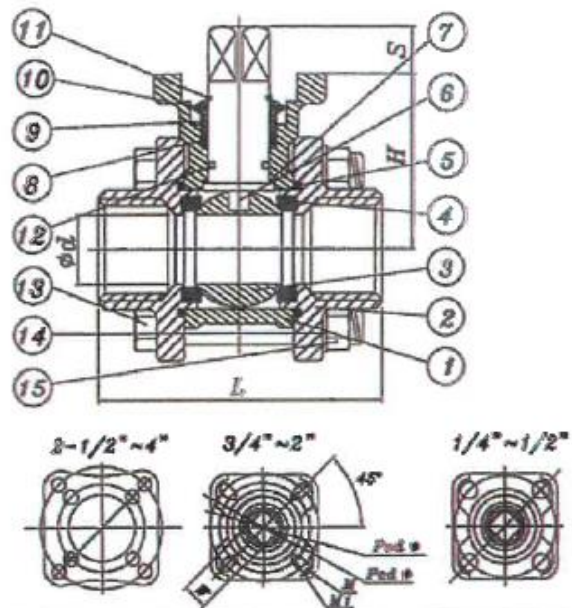
VALVES AND ACTUATORS DATA SHEETS

VB3B-DMBT

- FULL BORE
- BLOW OUT PROOF STEM
- ISO 5211 ACTUATOR MOUNTING FLANGE
- DIRECT MOUNT
- 1000 PSI (69 BAR) W.O.G.
- INVESTMENT CAST BODY & CAP
- TESTING TO API 598
- THREADED, SOCKET WELD & BUTT WELD ENDS
- SEAT/SEAL: 15% REINFORCED GLASSFIBER PTFE
- TEMP RANGE -20-200 DEG
- CTEMP RANGE -20-200 DEG C



NO	PART NAME	MATERIALS	
1	BODY	CF8M	WCB
2	CAP	CF8M	WCB
3	BALL	CF8M	CF8M
4	BALL SEAT	15% GLASS FILLED PTFE	
5	GASKET	15% GLASS FILLED PTFE	
6	STEM	AISI 316	
7	THRUST WASHER	15% GLASS FILLED PTFE	
8	PACKING	15% GLASS FILLED PTFE	
9	HIGH WASHER	S/S 304	
10	BELLEVILLE WASHER	S/S 304	
11	C-TYPERETAININGRINGC-TYPERETAININGRING	S/S304	
12	O-RINGO-RING	S/S 304	
13	BOLT	S/S 304	
14	SPRING WASHER	S/S 304	
15	HEX NUT	S/S 304	



DIMENSIONS:

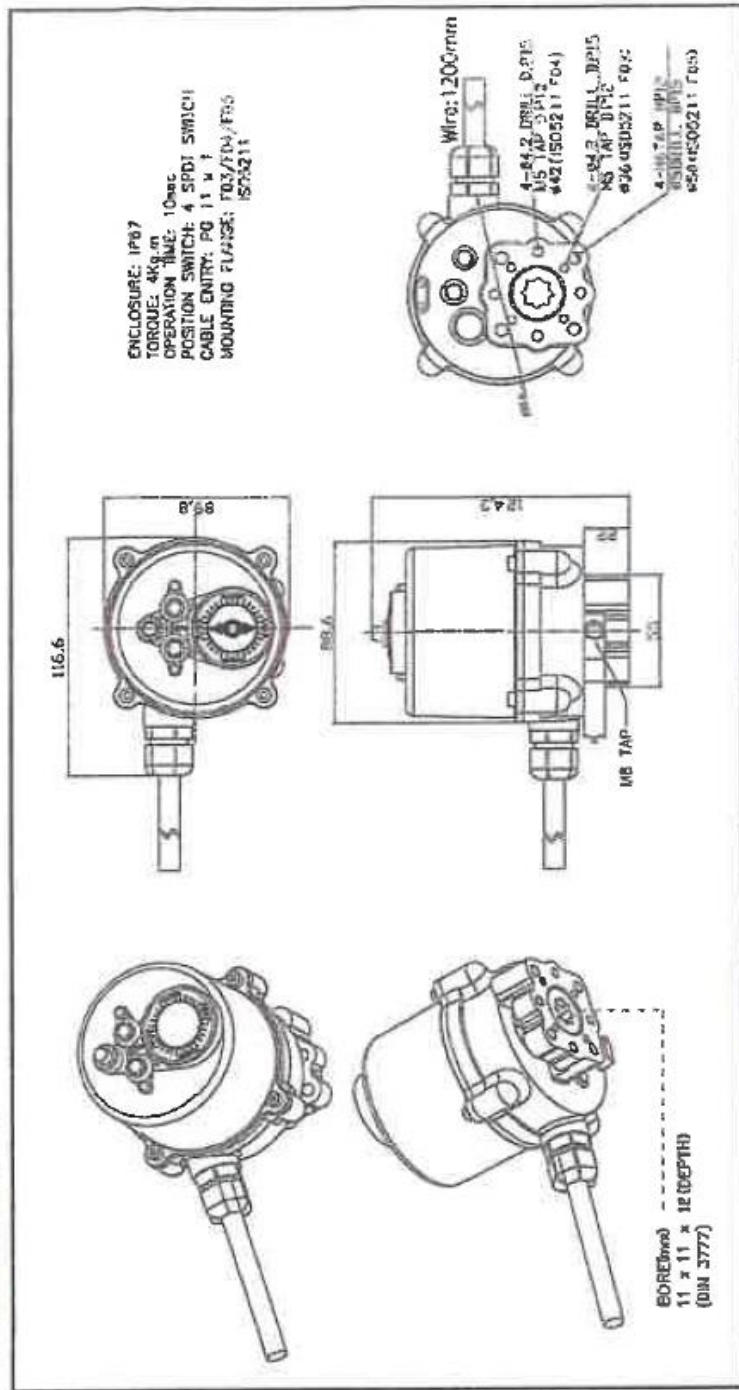
SIZE	d	L	H	S	ISO 5211					Cv FACTOR	TORQUE N-m *N-m *
					PCD	ø	W	M	M1		
1/4"	11.6	58	36	9.6	F03	ø36	9	ø6.0	-	6.6	5.5
3/8"	12.8	58	36	9.6	F03	ø36	9	ø6.0	-	7.9	5.5
1/2"	16	62	38	9.6	F03	ø36	9	ø6.0	-	11.2	6
3/4"	20	77	41.7	11.6	F03/F04 F04/F05	ø36/ø42 ø42/ø 50	9	ø7.0	ø6.0	21	9.5
1"	25	83	44.4	11.6	F04/F05	ø42/ø 50	14	ø7.0	ø6.0	34	13
1 1/4"	32	94	52.8	11.2	F05/F07	ø50/ø70	11	ø9.0	ø7.0	57	17
1 1/2"	38	107	58.5	11.2	F05/F07	ø 50/ø 70	14	ø9.0	ø7.0	80	30
2"	50	120	66	11.2	F05/F07	ø 50/ø 70	14	ø9.0	ø7.0	148	40
2 1/2"	65	156	101.5	18.5	F07/F10	ø70/ø102	17	ø11	ø9.0	265	70
3"	80	182	112.5	18.5	F07/F10	ø70/ø102	17	ø11	ø9.0	415	90
4"	100	213.6	127	18.5	F07/F10	ø70/ø102	17	ø11	ø9.0	780	130

*Torque figures are for break torque and do not include any safety factor. Figures calculated at atmospheric pressure and temperature.

Performance

TYPE (MODEL)	MAXIMUM OUTPUT TORQUE		OPERATING TIME @50Hz	MOUNTING SIZE	ELECTRIC MOTOR STOP	SUPPLYING POWER & RATED CURRENT(A)		DUTY CYCLE IEC34-1	MANUAL LEVER ANGLE	WEIGHT
	kg.m	N.m				AC110V	AC220V				DC24V
HQ-004	4	40	12 Sec	ISO6211	A	0.12A	0.08A	70	90°±5	1.2
HSA	2	25	6.5 Sec	F03,F04,F05	2A	0.065A	0.033A			

Dimension



PERFORMANCE

TYPE (MODEL)	MAXIMUM OUTPUT TORQUE Kg.m / N.m	OPERATING TIME 60/50Hz	MOUNTING SIZE	MOTOR CLASS FRAME SIZE	RATED CURRENT(A) 50Hz		DUTY CYCLE IEC 34-1	NUMBER OF HANDLE TURN	WEIGHT
					AC 1PH. 50Hz/50Hz	DC			
HQ-006	6 / 58	90	ISO5211	W F	110V	220V	S2(%)	N	Kg
		12/14	FO3/F05/F07	6 70	0.4 / 0.39	0.2 / 0.19	35	8	3

STANDARD SPECIFICATION

Enclosure
Power supply
Duty cycle(on-off duty)
Motor
Limit switches
Additional limit switches
Space heater
Manual override
Cable entries
Movement angle
Ambient temperature
External coating

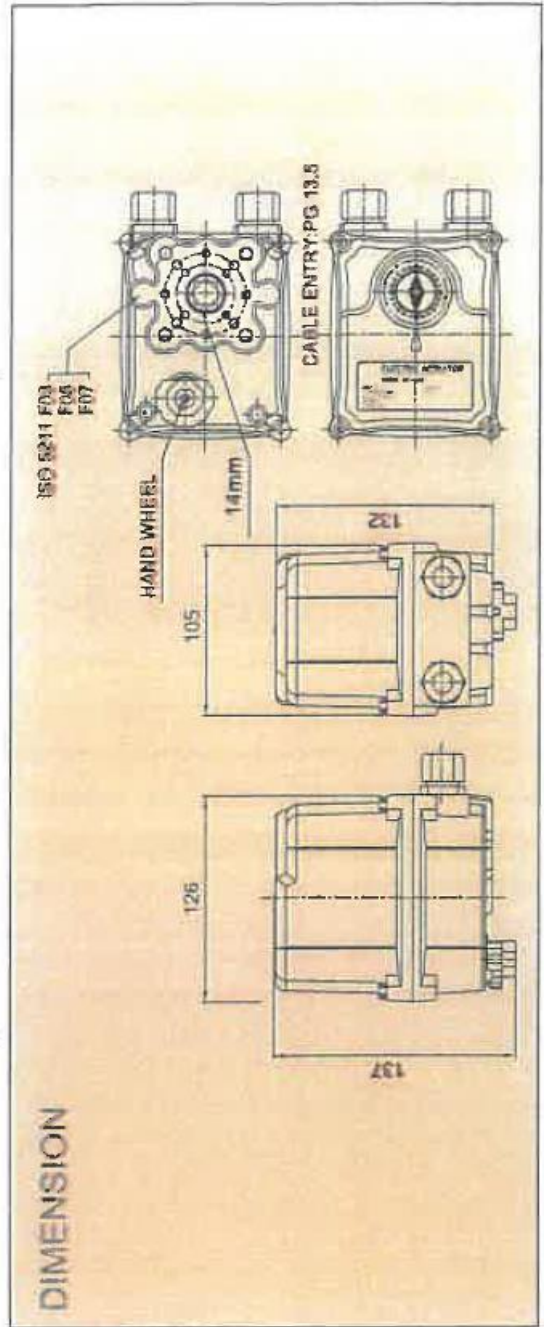
Weatherproof enclosure IP67
110/220V AC 1PH, 50/60Hz, ± 10%
S2 35%
Reversible motor
2 x open/close, SPDT, 250V AC 3A rating
2 x open/ close, SPDT, 250V AC 3A rating
2W (110/220V AC)Anti-condensation
Handwheel (hexagon design)
Two PG 13.5 Tap(Option : NPT1/2 , FT1/2 , PF 1/2)
320± 10 (0 ~330)
-20 ~70
Polyester powder coating

OPTION SPECIFICATION

PIU
PCU
CPT
DCM
LCU

Potentiometer unit(1K~10K)
Proportional control unit
(in/out:0~10V, 4~20mA)
Current position transmitter
(Output 4~20mA DC)
DC motor (24VDC)
Local control unit
-remote/focal
-open/stop/close

DIMENSION



C3.6.2 - PARTICULAR SPECIFICATIONS

PARTICULAR SPECIFICATION:**PHS – PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION****CONTENTS**

PHS 1.	INTRODUCTION
PHS 2.	GENERAL
PHS 3.	SCOPE OF THE WORK
PHS 4.	EXISTING SITE CONDITIONS
PHS 5.	DESIGN INFORMATION
PHS 6.	CONSTRUCTION MATERIALS
PHS 7.	SITE ACCESS & ENVIRONMENTAL CONDITIONS
PHS 8.	USE OF SITE BY THE EMPLOYER
PHS 9.	WAYLEAVES
PHS10.	REPORTING OF INCIDENTS
PHS 11.	MEASUREMENT AND PAYMENT
PHS 12.	HEALTH AND SAFETY PLAN
PHS 13.	SAFETY AUDITS BY EMPLOYER
PHS 14.	VARIATIONS
PHS 15.	ITEMS REQUIRING PARTICULAR ATTENTION
PHS 16.	THE PRINCIPAL CONTRACTOR'S SPECIFIC DUTIES WITH REGARD TO HAZARDOUS WORK OR ACTIVITIES
PHS 17.	RISK ASSESSMENTS

PHS 1. INTRODUCTION

The Occupational Health and Safety Act 1993 (Act No. 85 of 1993) together with its applicable Regulations (“the OH&S Act”) forms part of the Health and Safety Regulations. Any word or expression to which a meaning has been assigned in the OH&S Act, shall have the meaning so assigned to it unless otherwise indicated. The Principal Contractor must comply with all the relevant requirements of the OH&S Act which aims to minimise Health and Safety hazards on projects.

In terms of the Construction Regulation 4(1) (a) of the OH&S Act, the **PRINCE ALBERT MUNICIPALITY**, as the Client, is required to compile an Occupational Health & Safety Specification for all projects.

The purpose of this specification is to ensure that Principal Contractors entering into a Contract with the **PRINCE ALBERT MUNICIPALITY** maintains an acceptable level of OH&S performance. The OH&S Specification forms an integral part of the Contract and Principal Contractors shall ensure that their contractors and/or suppliers comply with this Specification.

Compliance with the OH&S specification does not absolve the Principal Contractor from adhering to the legal requirements with regards to health & safety of his employees and mandataries.

The Principal Contractor must give the required notice to the Provincial Department of Labour before commencement of any construction work.

This notice shall include the information as set out in Form A to this Specification and shall be signed by both Principal Contractor and Client.

PHS 2. GENERAL

This specification covers health and safety matters applicable during construction.

The Contractor shall comply with the Occupational Health and Safety Act (Act No. 85 of 1993) (OHS Act) and in particular with its Construction Regulations.

All the work included in this Contract shall, for the purpose of complying with the OHS Act and the Construction Regulations, be deemed to be “construction work”.

It should be noted that, with a few exceptions, the Standard Specifications and the Project Specifications are “end product specifications” and not “method specifications”. As the methods of construction to be used are generally determined by the Contractor detailed safety requirements applicable to all the operations to be carried out on Site are not provided in the project documentation. The Contractor shall apply all the relevant safety regulations and requirements to the work methods and materials used.

PHS 3. SCOPE OF THE WORK

The temporary and permanent Works required under this Contract are described in Part C3, Scope of Work of the contract document

The Contractor, in complying with the OHS Act and the Construction Regulations, shall consider all aspects of the Works described and take into account the construction methods and materials to be used.

Although particular attention must be given to the Employers identified risks or hazards, the Principal Contractor must provide for all other relevant items in his health and safety plans submitted.

The Principal Contractor must ensure current registration and good standing with the Compensation Commissioner. Evidence to this effect must be submitted to the Client.

The Principal Contractor must submit in writing the name and experience of the full-time competent employee it intends to employ to supervise construction work.

It is the responsibility of the Principal Contractor and his Contractors to provide for all expenditure related to the management of the OH&S Act.

PHS 4. EXISTING SITE CONDITIONS

The contractor shall take into account inter-alia, the following conditions in complying with the OH&S Act.

- a) Existing Services
- b) Traffic accommodation requirements
- c) Surrounding land-use
- d) Anticipated weather conditions

The existing conditions are described in Part C3, Scope of Work of the contract document.

PHS 5. DESIGN INFORMATION

Design information applicable to safety planning is provided in Part C3, Scope of Work of the contract document. Should the Contractor require any further design information in order to prepare the Safety Plan this information will be provided by the Employer's Agent upon receipt of written requests from the Contractor.

PHS 6. CONSTRUCTION MATERIALS

The following commonly used construction materials and substances potentially pose health and safety hazards:

- a) All materials contained in pressurised containers.
- b) Bitumen and tar products
- c) Cement
- d) Epoxies
- e) Lime and other stabilizing agents
- f) Paints
- g) Timber preservations

The materials to be used to construct the Works are described in Part C2, Bills of Quantities, and Part C3, Scope of Work of the contract document.

The Contractor shall take appropriate measures to manage the risks associated with the use of all the materials required to complete the Works, i.e. not only those listed above, and shall, inter alia, implement all the precautionary measures provided by manufacturers and suppliers for the storage, use and application of materials used.

PHS 7. SITE ACCESS & ENVIRONMENTAL CONDITIONS

The Contractor must take note of the requirements regarding the control of access for deliveries, vehicular and pedestrian routes to site. The Contractor must comply with all safety, environmental and other relevant conditions and requirements on the Project.

PHS 8. USE OF SITE BY THE EMPLOYER

The Contractor must comply with any continued use of the site by the Employer to maintain traffic flows, stormwater routes or to allow work to be done by other contractors or authorities.

PHS 9. WAYLEAVES

The Contractor shall be responsible for obtaining all wayleaves, permissions or permits applicable to working near any existing services or other infrastructure on Site and shall abide by the safety conditions imposed by such wayleaves, permissions or permits.

PHS10. REPORTING OF INCIDENTS

All incidents shall be reported strictly in accordance with the requirements of the OH&S Act and the General Conditions of Contract.

PHS 11. MEASUREMENT AND PAYMENT

A separate payment item for the requirements in terms of the OH&S Act is allowed for in the Bill of Quantities. The Contractor must allow for all necessary costs involved in complying with the OH&S Act (Act No. 85 of 1993) and in particular with its Construction Regulations under this item.

PHS 12. HEALTH AND SAFETY PLAN

In compliance with the Construction Regulations the Contractor shall, after performing a risk assessment, prepare a health and safety plan to be submitted for the approval to the Employer.

The Health and Safety Plan shall include, but not be limited to, the following:

- a) The safety management structure including the names of all designated persons such as the construction supervisor and any other competent persons;
- b) Safety method statement and procedures to be adopted to ensure compliance with the OH&S Act. Aspects to be dealt with shall include:
 - Public vehicular and pedestrian traffic accommodation measures;
 - Control of the movement of construction vehicles;
 - The storage and use of materials;
 - The use of tools, vehicles and plant;
 - Temporary support structures;
 - Dealing with working at height;
 - The use of batch plant;
 - Excavation work;
 - Demolition work;
 - Security, access control and the exclusion of unauthorised persons.
- c) The provision and use of temporary services.
- d) Compliance with wayleaves, permissions and permits.
- e) Safety equipment, devices and clothing to be employed.
- f) Emergency procedures;
- g) Provision of welfare facilities;
- h) Induction and training;
- i) Provision and maintenance of the health and safety file and or other documentation;
- j) Arrangements for monitoring and review to ensure compliance with the safety plan.

PHS 13. SAFETY AUDITS BY EMPLOYER

The Contractor shall permit the Employer to regularly audit, at an agreed interval, the implementation and maintenance of the approved Health and Safety Plan and shall co-operate and provide all the required documentation, as may be required, in this regard.

PHS 14. VARIATIONS

Should any variations be ordered or design amendments issued, the Employer's Agent shall inform the Contractor of all the associated potential hazards to ensure that the health and safety aspects of the work ordered are taken into account.

PHS 15. ITEMS REQUIRING PARTICULAR ATTENTION**PHS15.1 Traffic**

Safe, normal traffic movement must be accommodated on the road during construction. Access to properties must be maintained at all times.

PHS15.2 Pedestrian Safety

The contractor's machine operators must be made aware of the dangers the plant poses to pedestrians. Special care must be taken when reversing or manoeuvring in confined spaces. Where deemed necessary, flagmen may have to be deployed with plant.

PHS15.3 Demolition Work

Where the Employer's Agent instructs the Contractor to demolish existing structures, the demolition work shall be carried out under the supervision of a competent person. The structural integrity of the structure must be checked to prevent premature collapse.

PHS15.4 Dust

Construction work will take place within the vicinity of residential dwellings. The contractor must limit dust nuisance by covering or wetting loose material which can be blown around by wind.

PHS15.5 Formwork and support work

All formwork and support work operations are carried out under the supervision of a competent person who has been appointed in writing for that purpose.

PHS15.6 Covid-19 MeasuresScreening

The Principal Contractor must ensure that all employees and visitors are screened prior to entering the site. Screening must include,

- Hand Wash
- Infrared Thermometer Testing (< 38°C is acceptable)
- Self-Assessment (Questionnaire)

Personal Protective Equipment

Employers are obligated to provide their workers with PPE needed to keep them safe while performing their duties. The types of PPE required during a COVID-19 outbreak will be based on the risk of being infected with SARS-CoV-2 while working and job tasks that may lead to exposure.

The Principal Contractor must ensure that all employees and visitors have the required PPE to protect themselves and others against infectious diseases. Examples of PPE include gloves, goggles, face shields, face masks, gowns, aprons, coats, overalls, hair and shoe covers and respiratory protection, when appropriate. Employers should check the NICD website regularly for updates about recommended PPE.

Employee Welfare

The Principal Contractor and their contractors must ensure that hand wash/sanitizers are compulsory on site and that workers use hand wash facilities prior, during and after each activity irrespective of how long or short the activity is. Hand sanitizer must be one that has at least 70% alcohol content and is in accordance with the recommendations of the Department of Health.

Surfaces

The Principal Contractor must ensure that all work surfaces and equipment are disinfected before work begins, regularly during the working period and after work ends.

Ventilation

The Principal Contractor must keep the workplace well ventilated by natural or mechanical means to reduce the SARS-CoV-2 viral load.

Social Distancing

The Principal Contractor must arrange the workplace to ensure minimal contact between workers and as far as reasonably practicable ensure that there is a minimum of 1.5 metres between workers while they are working.

PHS 16. THE PRINCIPAL CONTRACTOR'S SPECIFIC DUTIES WITH REGARD TO HAZARDOUS WORK OR ACTIVITIES

The following hazardous work or activities are identified in terms of the Construction Regulation 2014 and it is the duty of the Principal Contractor to ensure that the said work and activities are carried out in terms of the relevant sub-regulations of this Regulation or other applicable regulations.

Hazardous Work or Activity	Applicable Sub-Regulations of the Construction Regulation 2014	Other Applicable Regulations
Excavation	11	Precautionary measures as stipulated for confined spaces under the general Safety

Hazardous Work or Activity	Applicable Sub-Regulations of the Construction Regulation 2014	Other Applicable Regulations
		Regulations published under Government Notice R1031 of 30 May 1986, as amended.
Construction vehicles	21	
Use and temporary storage of flammable liquids on construction sites	23	Applicable provisions as stipulated in the General Safety Regulations published under Government Notice R1031 of 30 May 1986, as amended.
Housekeeping on construction sites	25	Applicable provisions as stipulated in the General Safety Regulation published under Government Notice R1031 of 30 May 1986, as amended.
Stacking and storage on construction sites	26	Applicable provision as stipulated in the General Safety Regulation published under Government Notice R1031 of 30 May 1986, as amended.
Fire precaution on construction sites	27	Applicable provisions as stipulated in the Environmental Regulations for workplaces published under Government Notice R2281 of 16 October 1987, as amended.
(SARS-CoV-2) Severe Acute Respiratory Syndrome Coronavirus 2 (COVID-19)	8.1	National Institute for Communicable Diseases (NICD), Department of Health, Department Employment and Labour legislation; guidelines and Regulations for Hazardous Biological Agents; National Disaster Management Act and Regulations published by the Minister from time to time

PHS 17. RISK ASSESSMENTS

Risk assessments that are to be carried out for work to be executed under this contract may include but shall not be limited to the following:

- 1) Clearing & Grubbing of the Area/Site
- 2) Site Establishment including:
 - Office/s
 - Secure/safe storage for materials, plant & equipment
 - Ablutions
 - Sheltered eating area
 - Maintenance workshop
 - Vehicle access to site
- 3) Dealing with existing structures
- 4) Location of existing services
- 5) Installation and maintenance of temporary construction electrical supply, lighting and equipment
- 6) Adjacent land uses/surrounding property exposures
- 7) Boundary and access control/Public Liability Exposures (NB: The Employer is also responsible for the OH&S of non-employees affected by his/her work activities).
- 8) Health risks arising from neighbouring as well as own activities and from the environment e.g. threats by dogs, bees, snakes, lightning, etc.
- 9) Exposure to noise
- 10) Exposure to vibration
- 11) Protection against dehydration and heat exhaustion
- 12) Protection from wet and cold conditions
- 13) Dealing with HIV/Aids and other diseases
- 14) Use of Portable Electrical Equipment including
 - Angle grinder
 - Electrical drilling machine

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- Skill saw
- 15) Excavations including
 - Ground/soil conditions
 - Trenching
 - Shoring
 - Drainage of trench
- 16) Welding including
 - Arc Welding
 - Gas Welding
 - Flame cutting
 - Use of LP gas torches and appliances
- 17) Loading & offloading of trucks
- 18) Driving & operation of construction vehicles and mobile plant including
 - Trenching machine
 - Excavator
 - Roller
 - Plate compactor
 - Front end loader
 - Mobile cranes and the ancillary lifting tackle
 - Parking of vehicles & mobile plant
 - Towing of vehicles & mobile plant
- 19) Use and storage of flammable liquids and other hazardous substances
- 20) Layering and bedding
- 21) Installation of pipes in trenches
- 22) Pressure testing of pipelines
- 23) Backfilling of trenches
- 24) Protection against flooding
- 25) Protection from overhead power lines
- 26) As discovered by the Principal Contractor's hazard identification exercise
- 27) As discovered from any inspections and audits conducted by the Client or by the Principal Contractor or any other Contractor on site.
- 28) As discovered from any accident/incident investigation.
- 29) COVID-19 provisions and assessments

**OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION
FORM 1 –NOTIFICATION OF CONSTRUCTION WORK**

1.1 Details of Principal Contractor

Name:

Postal Address:.....
.....
.....

Tel No. Fax No:.....

Contractor's contact person

Compensation registration number:

1.2 Details of Employer

Name

Postal address

.....

Tel No. Fax No:.....

Client's contact person:.....

1.3 Details of Employer's Agent

Name

Postal address

.....

Tel No. Fax No:.....

Contact person:.....

1.4 Details of Project

Name and telephone number of the site contract person

Physical address of the construction site or site office.....

Nature of the construction work: Expected commencement date

Expected completion date

Estimated maximum number of persons on the construction site

Planned number of subcontractors on the construction site

Principal Contractor..... Client.....

Date:..... Date:.....

THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR PRIOR TO COMMENCEMENT OF WORK ON SITE

C4 Site Information

C4.1 DESCRIPTION OF THE SITE AND ACCESS

The site of the works is located in Leeu Gamka which falls under the Prince Albert Local Municipality in the Central Karoo District of the Western Cape Province. Leeu Gamka is a small town located 355 km north-east of Cape Town where the Leeu River enters the Gamka River and is situated on the N1 national road between Laingsburg and Beaufort West. The geographical co-ordinates for Leeu Gamka are: Latitude 32°46'25" S; Longitude 21° 58'49" E.

The site can be accessed using Gousblom Street, the main road off the R353, and then the unformed Gompou and Akkedis Street. The site is located in close proximity to the Leeu Gamka Primary School.



FIGURE 1: LOCALITY PLAN

Image courtesy of Google Maps

C4.2 HISTORICAL INFORMATION

The town of Leeu Gamka is a small rural community in the Prince Albert Municipal area. It has a population of about 2723 persons (Census 2011) with a total of approximately 606 households in the Bitterwater area as well as a Transnet Housing Scheme of 58 houses.

C4.3 NATURE OF GROUND AND SUBSOIL CONDITIONS

No information is currently available on the nature of ground and subsoil conditions.

C4.4 CLIMATE INFORMATION AND WORKING CONDITIONS

Prince Albert is 614m above sea level. The climate here is considered to be a local steppe climate. The average annual temperature is 17.4 °C and the annual rainfall is 297 mm. The average weather conditions for Prince Albert are reflected in the table below:

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C	22.9 °C	23 °C	21.2 °C	18.1 °C	15 °C	11.5 °C	11.2 °C	12.5 °C	15 °C	17.7 °C	19.3 °C	21.5 °C
(°F)	(73.2) °F	(73.3) °F	(70.1) °F	(64.6) °F	(58.9) °F	(52.6) °F	(52.2) °F	(54.6) °F	(59) °F	(63.8) °F	(66.8) °F	(70.7) °F
Min. Temperature °C	16 °C	16.4 °C	14.8 °C	12.2 °C	9.4 °C	6.1 °C	5.6 °C	6.5 °C	8.4 °C	10.7 °C	12.3 °C	14.7 °C
(°F)	(60.7) °F	(61.4) °F	(58.7) °F	(53.9) °F	(48.9) °F	(43) °F	(42.1) °F	(43.7) °F	(47.2) °F	(51.3) °F	(54.2) °F	(58.4) °F
Max. Temperature °C	31.3 °C	31.1 °C	28.6 °C	24.7 °C	21.1 °C	17.3 °C	17.4 °C	19.2 °C	22.3 °C	25.5 °C	27.4 °C	29.9 °C
(°F)	(88.3) °F	(87.9) °F	(83.5) °F	(76.5) °F	(69.9) °F	(63.2) °F	(63.4) °F	(66.5) °F	(72.1) °F	(77.9) °F	(81.3) °F	(85.8) °F
Precipitation / Rainfall	20	22	34	29	20	19	19	24	17	30	36	27
mm (in)	(0.8)	(0.9)	(1.3)	(1.1)	(0.8)	(0.7)	(0.7)	(0.9)	(0.7)	(1.2)	(1.4)	(1.1)
Humidity(%)	48%	50%	52%	52%	53%	55%	52%	48%	46%	46%	46%	47%
Rainy days (d)	3	3	4	4	3	3	3	4	3	3	3	3
avg. Sunhours (hours)	10.8	10.1	9.1	8.3	7.8	7.3	7.5	8.0	8.8	9.5	10.4	11.0

Table courtesy of Climate-data.org

C4.5 OTHER INFORMATION

The potable water for Leeu Gamka is supplied from 5 boreholes (See Figure 2) with a total combined daily yield volume of 775 kl/day available for abstraction. The service levels of residential consumer units for water for Leeu Gamka could be described as uncontrolled volume supply house connections for each of the households with the AADD estimated at 420 kl/day.

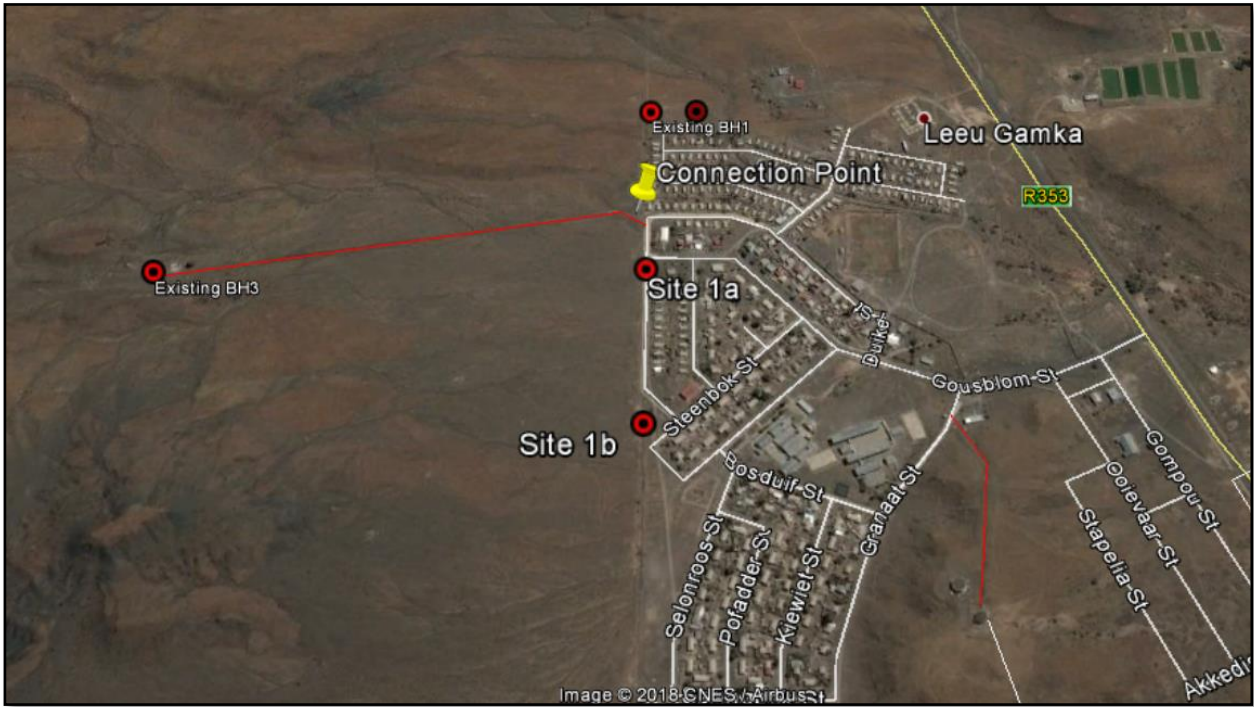


FIGURE 2: PRODUCTION BOREHOLE LOCATION

Currently the water being abstracted from these 5 production boreholes are of ever-changing degrees of quality and have to undergo extensive treatment by Reverse Osmosis as well as Ultra Filtration in order to ensure that the water being supplied is compliant with the SANS 241, Drinking Water Quality Standards. It is therefore essential that the Reverse Osmosis and Ultra-Filtration Plant is maintained and that any worn components are replaced timeously to prevent firstly extensive damage to the plant's components and to ensure that good quality potable water is supplied to the community in the combat against the spread of COVID-19.

The town's current water storage infrastructure comprises of one 200 kl Circular Reservoir (See Figure 3) which receives the raw water being pumped from the production boreholes. This raw water in turn is fed through the Reverse Osmosis & Ultra-Filtration Plant (Figure 4 below) where it is subjected to the treatment processes and deposited in the final water Reservoir (Figure 5) with a capacity of 1,5 Ml. The plant is designed to handle feedwater conforming to the analysis attached in Figure 6 within 15% at 25°C. Any or all of the feedwater determinants may vary by up to 15%. Temperature may drop down to 15°C, which will result in higher operating pressure. Operating above 25°C is not recommended as this may result in over flux of the lead membranes and reduction in permeate quality. The RO Plant has a daily output of final treated water of 500 m³/day.



FIGURE 3: 200 kl RESERVOIR



FIGURE 4: RO & UF PLANT



FIGURE 5- FINAL WATER RESERVOIR (1,5 MI)

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The RO membranes show signs of oxidation degradation. This conclusion is drawn from the fact that the salt rejection is lower than the initial start-up coupled with a lower transmembrane pressure. Although it is normal for rejection to lower over time, this is usually coupled with an increase in transmembrane pressure.

Frequent CIP (clean-in-place) requirement also points to irreversible fouling. Each CIP shortens membrane life, therefore once CIP becomes frequent membrane end of life should be expected to be near.

The rapid increase in TMP on the UF membranes with the inability to backwash to the initial state shows irreversible fouling. The reduction in useful membrane surface area results in the remaining area being over fluxed, leading to rapid irreversible fouling and frequent CIP. As with RO, each CIP makes a dent in useful life. It is for these reasons as stated that urgent maintenance and membrane rehabilitation is required on these critical components of the plant to ensure the constant supply of potable drinking water to the broader community of Leeu Gamka in the combat against the spread of COVID-19.



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Strand

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SERTIFIKAAT VAN ONTLEDING

Verslag No.: WT006958.DOC

Bings De Jager

Quality Filtration Systems
60 De Kock Straat
Strand
7140

Datum ontvang: 11-05-2017

Gemonster deur klient

Waterontledingsverslag

Drinkwater evaluering

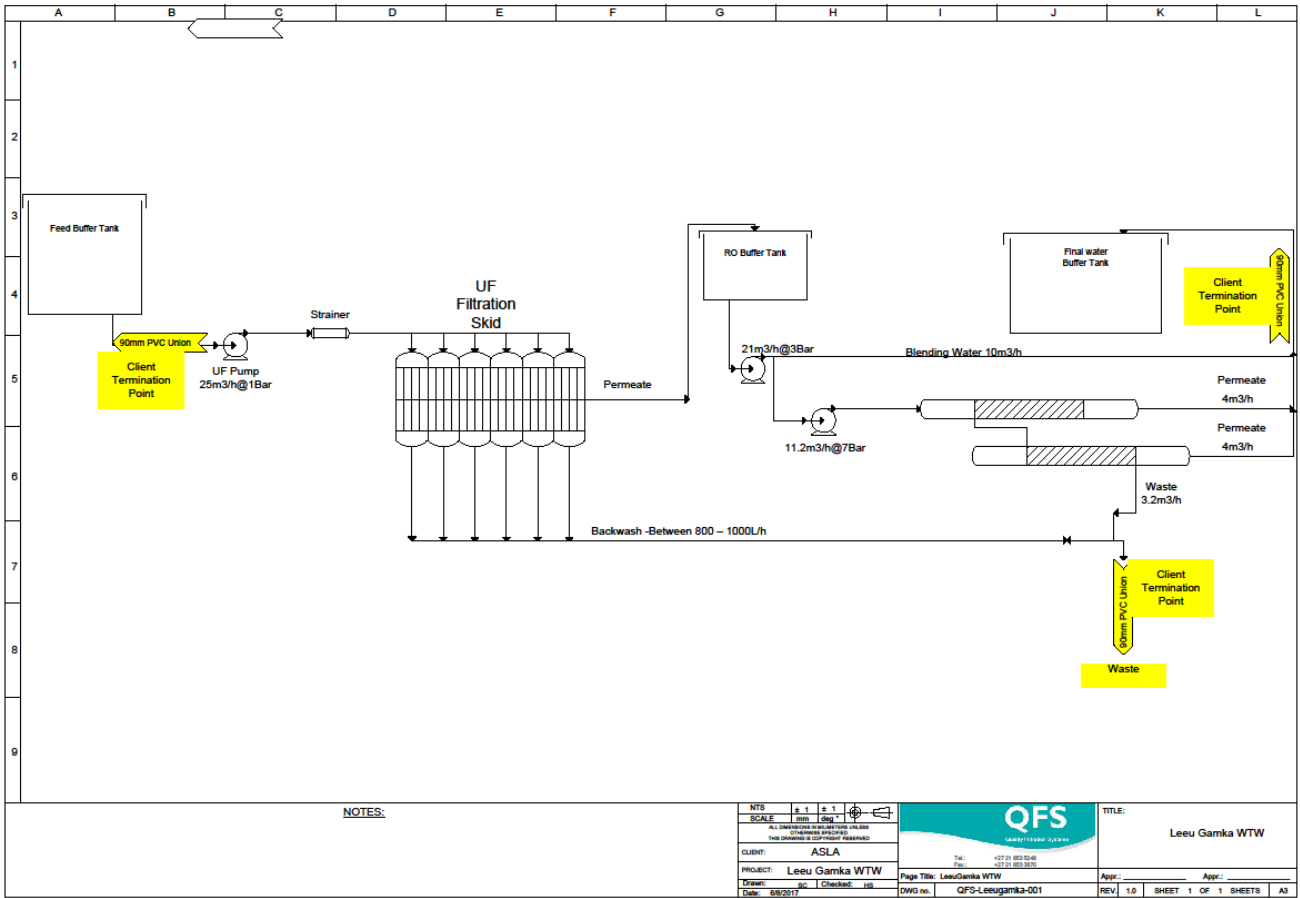
Oorsprong	Lab. No.	pH @ 25°C	EG @ 25°C mS/m	Na mg/l	K mg/l	Ca mg/l	Mg mg/l	Fe mg/l	Cl mg/l	CO ₃ ²⁻ mg/l	HCO ₃ ⁻ mg/l	SO ₄ mg/l	B mg/l	Mn mg/l	Cu mg/l	Zn mg/l	P mg/l	NH ₄ -N mg/l	NO ₃ -N mg/l	*F mg/l
Reservoir Drinkw.	6958	7.7	109.8	128.8	2.2	60.3	5.2	0.1	136.0		297.0	177	0.52	0.05	<0.02	<0.03	0.07	<0.28	<0.36	0.9
Transnet Boorgat	6959	7.8	211.3	343.5	4.6	76.3	0.9	<0.04	290.0		224.0	455	1.36	<0.03	<0.02	0.05	0.03	0.38	<0.36	0.9
Boorgat 3 Water	6960	7.4	108.6	130.2	2.2	61.0	5.2	0.1	126.0		289.0	181	0.57	0.08	<0.02	<0.03	0.02	<0.28	<0.36	0.9
Norm		≥5.0-≤9.7	≤170.0	≤200.0				≤2.0	≤300.0			≤500	≤2.40	≤0.40	≤2.00	≤5.00		≤1.50	≤11.00	≤1.5

Oorsprong	Lab. No.	*TDS mg/l	Datum ontleed	Datum gemonster	*Suspended solids (mg/l)	Temperatuur met aankoms (°C)
Reservoir Drinkw.	6958	703.0	15-05-2017	11/05/2017	2	20.0
Transnet Boorgat	6959	1352.0	15-05-2017	11/05/2017	1	19.9
Boorgat 3 Water	6960	695.0	15-05-2017	11/05/2017	0	20.1
Norm		≤1200.0				

* = Nie SANAS geakkrediteer

LEEU GAMKA
Norme volgens SANS 241-1:2015.

C4.6 LEEU GAMKA WATER TREATMENT PLANT DIAGRAM



C4.7 LEEU GAMKA WATER TREATMENT PLANT OPERATING MANUAL

**LEEU GAMKA
WATER TREATMENT PLANT
OPERATING MANUAL**

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Quality Filtration Systems: Operating Manual

Leeu Gamka Water Treatment Plant

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ABBREVIATIONS, TERMS AND DEFINITIONS

WTP:	Water Treatment Plant
QFS:	Quality Filtration Systems
pH:	Measure of the Acidity or Alkalinity of a solution
UF:	Ultra Filtration
P&ID:	Process and Instrumentation Diagram
PFD:	Process Flow Diagram
MV	Motorised Valve
CT	Conductivity Probe
ORP	Oxidation-Reduction Potential
HV:	Hand Valve
SV:	Solenoid Valve
VSD:	Variable Speed Drive
FS:	Flow Switch
Interlocks:	Condition or device used to prevent undesired outcomes
SCADA:	Supervisory Control and Data Acquisition
TDS:	Total dissolved solids – this is a measurement of the dissolved salts in the water. It is measured in mg/l.
Conductivity:	This is a measurement of the ability of the water to conduct an electrical current. Conductivity is related to the total dissolved solids, and is measured in $\mu\text{S}/\text{cm}$ or mS/m
Suspended Solids:	A measurement of the suspended matter in the water
Filtration:	The process of removing suspended matter from water by passing the water through a separation device with smaller pores than the material to be filtered.
RO:	Reverse Osmosis – this is a process of forcing water through a semi-permeable membrane by increasing the pressure above the osmotic pressure of the water
CIP:	Clean in place – this is a term for the cleaning of the membranes while on the system.
PLC:	Programmable Logic Controller
HMI:	Human Machine Interface
Permeate:	The term generally used to refer to the water after it passes through an RO membrane.
Pressure Vessel:	This is the vessel in which the RO membranes are located
RO membrane:	The membrane element that allows the separation of dissolved salts from the clean water.

1 Objectives of this Manual

This manual serves to provide those who are responsible for operating the **Leeu Gamka Water Treatment Plant (WTP)** with the necessary information to ensure the successful operation of the plant. Guidelines for inspection, maintenance and troubleshooting of the plant are also described.

The following categories are covered:

Plant overview; description and operation of the various main sections of the plant; routine inspections and maintenance.

The following Appendices appear at the end of the document:

- Appendix A: Trouble Shooting Chart

A separate *Technical Manual* contains the following sections and can be referred to for Component Data Sheets & Specifications, Supplier information and Product, Technical and Maintenance information:

- Planning Documents & Layouts
- Filtration Equipment
- Pumps & Motors
- Valves
- Instrumentation
- Electrical & PLC



Operating and Maintenance staff of the WTP must at all times adhere to the applicable Health and Safety procedures.



No untrained or unauthorized person is to maintain, operate or tamper with the WTP under any circumstances!



Make sure you adhere to the guidelines and instructions regarding Safety in section 2 of this manual and that Safety signage is clearly and appropriately displayed.

2 Safety

2.1 Safety precautions when operating the WWTP

The WWTP has been designed with care to ensure safe and reliable operation. Alarms and automatic controls are provided to avoid injury to equipment, components and operating personnel. However, use of the WTP involves corrosive and potentially dangerous chemicals and electrical equipment and requires care and caution to avoid accidents or personal injury.

The Operating Manual should be read carefully prior to operating the system, with particular attention to the recommended safety procedures. Cautions, warnings and safety recommendations have also been summarised in this section. When in doubt, use common sense and good engineering practice. If necessary, contact QFS Service personnel.

With proper care and attention to safe working practice, the WTP plant will provide long, reliable and effective service. These are three categories of Precautions:

- **DANGER:** violation can result in serious personal injury or death.
- **Warning:** violation can result in personal injury or equipment damage.
- **Caution:** violation can result in equipment malfunction.

Remember, violation of **DANGER** can result in serious personal injury or death. Post the attached summary of **DANGER** items adjacent to the system.

- If in doubt, stop and ask for help.
- Never add water to acid or mix strong acid with strong caustic. Violent reaction occurs.
- Never mix bleach with acid. Toxic chlorine gas is released.
- Never reach into energized electrical panel. Electrocutation may result.

2.1.1 Chemical Safety

Warning: Always wear safety goggles or full face shield, use rubber gloves and wear chemical resistant aprons and boots when handling chemicals, charging tanks, checking chemical feed connections, etc. Avoid splashing of chemicals on equipment or clothing.

Warning: Always be sure that pipe and tubing are depressurized before disassembly. When reassembling connection, ensure that all connections are tight and re-pressurized slowly to avoid spills and leakage. Be especially careful around the metering pump!!

DANGER: Never add water to concentrated acid or mix strong acid directly with concentrated caustic soda. A violent reaction will occur and release a great deal of heat. Such a reaction can cause severe injury and damage to equipment.

DANGER: Never allow bleach (sodium hypochlorite) to be mixed with acid, doing so will release toxic chlorine gas.

Warning: Always read and follow instructions on the labels or chemical containers. Never mix chemicals together without knowing what the results will be.

Warning: Do not add water to caustic, since excessive heat will be generated. Always add caustic to water, SLOWLY.

2.1.2 Electrical Safety

DANGER: Always be sure that electrical power has been disconnected before opening any electrical panel or junction boxes. Electrical troubleshooting or repair should be performed only by trained personnel.

2.1.3 Mechanical Safety

DANGER: Always keep hands, loose clothing, long hair away from rotating shafts or pumps and mixers. Ensure that protective shields and guards are securely installed before equipment is placed in operation.

Caution: Always be sure that pumps equipped with water-flushed mechanical seals have an adequate water supply when operating. Even a very brief interruption of the seal-flush water supply could cause damage.

Warning: Always open and close valves slowly to avoid water hammer, which may cause damage to connections or equipment.

Caution: Always be sure that settings of liquid level floats are sufficient to avoid cavitation of the pumps.

Warning: Never allow the system to operate at temperatures above 53°C to avoid damage to the plastic piping and connections. Normal operating temperatures should not exceed 37°C.

Caution: Always ensure that the oilers provided for the air operated pumps (and valves, if any) contain an adequate amount of oil and are properly set to provide lubricated air.

2.1.4 General Safety

- Establish a preventative maintenance schedule and be sure that it is adhered to.
- Always maintain a log sheet with all relevant data and information on the operation of the system, including chemical consumption and effluent quality.
- Routine cleaning and calibration of all probes should be done on a monthly basis and recorded on the log sheet.

Warning: Never allow alarms or safety interlocks to be bypassed or disabled.

3 Water Treatment Chemistry

3.1 What is pH?

Water, in its purest neutral form contains equal concentrations of hydrogen ions (H⁺) and hydroxide ions (OH⁻). In reality, these concentrations are rarely equal. When the hydrogen ion concentration is greater, the solution is **acidic**. When the hydroxide ion concentration is greater, the solution is **basic** or **alkaline**.

At a pH of 7, the concentration of hydrogen and hydroxide ions in a solution are equal, making the solution neutral, like pure water. For every pH unit above or below 7, the acidity or alkalinity of the solution increases 10 times. At pH 8, there are 10 times as many OH⁻ as there are at pH 7. At pH 9, there are 10 times as many OH⁻ as there are at pH 8, or 100 times as many as there are at pH 7. To carry this through, at pH 13 there are one million times as many OH⁻ as there are at pH 7. The theoretical maximum pH value is 14, where there would be no H⁺ ions present, just OH⁻.

Moving in the acidic direction is the same. At pH 1, there are one million times as many H⁺ as there are at pH 7. In order to adjust a pH level, you add either acid or base. This changes the ratio of OH⁻ and H⁺ ions, thereby changing the pH. The farther from 7 the initial pH, the more chemical you must add to change the pH. When pH is adjusted toward neutral (or pH 7), this is called **neutralization**.

4 Plant Overview

4.1 Purpose of the Plant

The purpose of the new Leeu Gamka Water Treatment Works (WTW) is to filter the incoming feed water to drinking water standards.

4.2 Describing the P&ID of the Plant.

The P&ID reflects the complete plant layout. The raw water firstly gets pumped to a Feed Reservoir. From there the water is pumped through Strainers and then through the UF

Membranes. The UF Plant has two identical racks with 3 membranes on each side (Refer to Technical Manual for Specs and Data). The UF Plant will filter water through the Membranes and into the RO Feed Tanks. There are also a side stream to blend with RO Permeate to get Final Permeate Conductivity in spec. From the RO Feed Tanks water is pumped through RO Membranes. There are two Pressure Vessels (Refer to Technical Manual for Specs and Data). The RO Membranes require consistent cross flow over them to prevent scaling. The waste flow is disposed of through a waste line. The clean water created through the membranes is called Permeate. The Permeate is pumped directly to the clean Final Reservoir. 500L CIP Tanks are used for the cleaning of the Filtration Plants.

There are dosing units in place for dosing the correct chemicals for each plant. Anti-Scalant is dosed before the RO System to prevent Scaling build-up. Should the plant be in standby for longer than six hours the RO Plant will do an automatic flush. The RO CIP tank is kept constantly full with RO Permeate. This is used to flush the plant every 4 hours. Sodium Hypochlorite is dosed in the final water that is fed to the Final Reservoir. Chlorine levels in the Final Reservoir needs to be checked by the Municipality regularly.

4.3 Filling the Feed Reservoir Automation.

Feed the Feed Reservoir are done by the Municipality. The UF plant works on a Flow Switch to control flow and work as pump protection.

4.3.1 RO Feed Tanks Automation

The RO Feeds has a pressure transmitter to display a constant level. The RO pump will start on set points set in the PLC.

4.3.2 Final Reservoir Automation

The Final Reservoir will have two Ball Levels installed. The two levels are to be used for starting and stopping of the plant.

5 Ultra-Filtration: Process Overview

Once the 'UF Activate' is initiated the process will start up systematically. Once the filtration process has started a backwash will take place after a pre-set amount of time, during a backwash the system will flush out all the suspended particles that has accumulated during the filtration process as this affects the Ultra Filters ability to perform as intended and can shorten the lifetime of the UF membranes.

5.1 UF Filtration Process

The filtration Process will start with the start-up sequence followed by fixed filtration, initialize filtration and then filtration. Once filtration has been initialised the backwash counter will start counting down so that the backwash can be initiated after the pre-set time (Based on a set-point).

UF Filtration Process Detail:

1. Step 1 (Wait) of the filtration process monitors the tank level to ensure that it is within the limits of the start-up set-point. If the level is satisfactory after a 20 second delay the process will progress to Step 2 if not the process will enter standby and wait for the correct level.
2. In Step 2 (Fill Shell) the start-up of the filtration process will be initialised. Valves will be opened and a feed request will be given so that the duty pump can be started at a fixed speed. The process will progress to Step 3 after 20 Seconds delay.
3. In Step 3 (Fill Lumens 1) the process will close and the pump speed will increase and continue to Step 4 once 15 seconds has elapsed.
4. In Step 4 (Fill Lumens 2) the valve and pump conditions will remain the same as step 3, the process will progress to step 5 once the level switch on the UF has been made and a 5 second timer has counted down.
5. In Step 5 (Fixed Filtration) in addition to the previous valves will be opened and closed after a delay of 30 seconds the process will continue to step 6.
6. In Step 6 (Initial Filtration) the pump speed will increase to filtration flow based on the predefined set-point. After a delay of 150 seconds the process will progress to step 7.
7. In Step 7 (Filtration) one the following two scenarios can occur:

As long as the process is in filtration the Backwash timer will count down and will progress to Step 8 once the timer has elapsed.

5.3 UF Backwash Process

The backwash is the process where the flow is reversed in order to flush any particles that has lodged in the membranes and also to remove the particles that has collected inside the vessel during the filtration process in order to maintain the optimal performance of the membranes and extend their lifetime. The Backwash will occur at the start and end of the CIP in order to flush and prepare the system or to flush the chemicals from the vessels and membranes respectively.

5.4 UF CIP Process

The CIP process will start when the UF is in Filtration and the Start CIP button has been pressed. By clicking on the UF CIP Tank a CIP can be selected. The process will then begin the CIP with a CIP Backwash to remove any debris that might be present in the vessels once this is complete it will flush the line out and then progress to filling the vessels and lumens with water once this has been completed the process will then continue to circulate the chemicals through the system for a pre-set amount after which it will soak the system. This will be repeated a pre-set amount of times and then progress to rinsing the chemicals out of the CIP tank through the system. The UF will then be drained and rinsed again.

Once the rinse has taken place the system will then call a CIP Backwash, this will repeat a pre-set amount of times and then the process will rinse the system a final time before completing the CIP completely and then returning the system to a stopped mode.

Personal Protective Equipment (PPE)

- At a minimum, safety glasses, lab coat, long pants, closed toe shoes, and gloves are required when working with particularly hazardous chemicals. Goggles may be required for processes in which a splash or spray hazard may exist.
- PPE must be sufficient to protect skin from contact with the hazardous agents.
- Contaminated PPE and clothing must be disposed of or decontaminated prior to removal from the designated work area. Lab coats must be decontaminated before they are removed for laundering.
- Refer to the specific chemical's MSDS and SOP for specific information on additional PPE and glove selection.

6 Reverse Osmosis: Process Overview

The RO automated process will start once the 'RO Activate' button has been pressed.

Before the RO Filtration can initialise, the RO Buffer Tank Level will first be checked by the program, if or once the level has reached the High level set point the program will start the automated filtration process. The filtration process will initially discharge the water through the permeate to waste line until the conductivity falls within the pre-set specification. If at any time during the filtration process the buffer tank were to fall below the low level set point the process will move to standby and wait for the tank level to reach the high level again. The permeate from the RO will be blended back with the UF process stream that has bypassed the RO to a manually pre-set ratio.

During filtration Anti-Scalant will be dosed into the system as long as the feed pump is running to avoid fouling and failure of the membranes.

After a pre-set time (based on a set-point) the RO will do what is called a forward flush to flush out any debris/particles that might have built up in the pressure vessel. When the system resumes from the forward flush it will first start filtering to waste before continuing to filter to the permeate outlet if the conductivity of the water should permit.

6.1 RO Standby Process

The RO standby as mentioned previously is the state that the RO will remain in if the low level set point has not been reached when filtration is initialised or if the level has fallen below the low level set point during filtration. All valves are closed and pump switched off in the final state of standby.

If the unit goes into standby from filtration it will start by shutting down the pump and then the valves in sequence from front to back to ensure that the unit is not under pressure whilst it is waiting for the buffer tank level to be reached.

The sequence will only initialise the next step if the previous one has been effectively executed, meaning the feedback received is what is expected.

6.2 RO Filtration Process

As mentioned previously in the overview the filtration process once initiated will filter to the waste outlet until the permeate conductivity has reached its set-point only then will it start filtering to permeate as well and after a pre-set amount of time close the filtrate to waste valve and only be filtering to the permeate outlet.

RO Filtration Process Detail:

1. Once the start command is given to the RO the first step (Step 1) will last for 10 seconds in which CV_09 will be opened to 100%.
2. Once the 10 seconds has elapsed the process will progress to Step 2 and the pump will be started and ramped to speed. This step will last 60 seconds after which the process will progress to Step 3. During the 60 seconds the control valve will remain open to do a 'forward flush' of sorts and also remove most of the biocide that would have still been in the system.
3. The Control Valve will now slowly start closing so that the system can produce the desired flows. The RO will continue to filter to waste during this period. Once the timer has run out the process will then progress to Step 4.
4. During this step the process will continue to filter to waste until the conductivity is within spec once it has reached the pre-set value the timer will start counting down and once it reaches zero the process will move to step 5.
5. When in step 5 the RO will be in actual filtration and continue to filtrate to the permeate outlet as long as the conductivity and tank level remain within the pre-set values. The permeate to waste valve will close again. If the conductivity on the permeate falls out of spec again the process will revert back to step 4. During both step 4 and 5 the forward flush counter will be counting down and a forward flush will be performed every 7200 seconds.

6.3 RO Forward Flush Process

The forward flush is the process where the bypass valve on the RO Brine/Waste line is opened so that a large amount of water is rushed over the membranes to flush out any suspended particles that might cause the RO membranes harm.

6.4 RO CIP Process

CIP is an acronym for clean in place, it describes the process of cleaning a machine without moving it to a different location or taking it apart to clean it. By clicking on the RO CIP Tank the CIP can be started. The RO has to be in stop mode. The process for cleaning the RO works in 3 stages first a recirculation of the chemicals followed by a soak of the chemicals in the membrane and then a rinse of the chemicals from the system. During circulation the chemicals will be washed over the membranes continuously for a while this will then be followed by the valves being locked with the chemicals still in the RO Pressure vessel, whilst the system is not under pressure, after a predefined time the chemicals will be rinsed out of the membrane and the CIP tank is flushed out through the pressure vessel. The process will then enter 'filtration' to produce permeate in the CIP tank and will then allow the RO pressure vessel to be flushed with permeate from the CIP

tank. This process will be completed twice and the RO process will then revert to stop mode.

Personal Protective Equipment (PPE)

- At a minimum, safety glasses, lab coat, long pants, closed toe shoes, and gloves are required when working with particularly hazardous chemicals. Goggles may be required for processes in which a splash or spray hazard may exist.
- PPE must be sufficient to protect skin from contact with the hazardous agents.
- Contaminated PPE and clothing must be disposed of or decontaminated prior to removal from the designated work area. Lab coats must be decontaminated before they are removed for laundering.
- Refer to the specific chemical's MSDS and SOP for specific information on additional PPE and glove selection.

7 Routine System Inspection & Maintenance

7.1 Continual

- Monitor the WTP system. If any alarms or errors are present ensure that they are resolved.

7.2 Daily

- Check to see that dosing pumps are running and dosing.
- Check to see that Anti-Scalant and Hypo are still full.
- Check to see that there are no leaks.
- Plant must be kept clean at all times.
- Take hourly readings on check sheet of measuring equipment in the field.
- Take stock of chemicals used.

7.3 Weekly

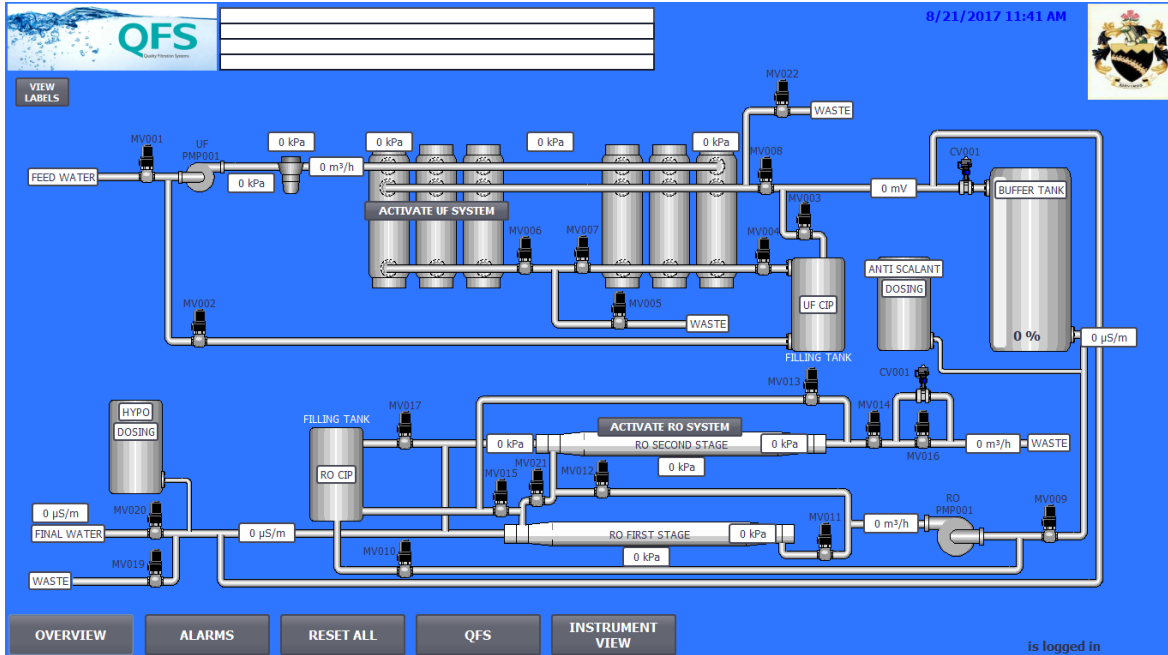
- Take stock of Chemicals
- Check to see that there are no leaks.
- Plant must be kept clean at all times.
- Check to see that dosing pumps are running and dosing.
- Ensure that the probes are cleaned. Take care not to damage the probes when removing, cleaning and replacing.

7.4 Monthly

- Take stock of Chemicals to see if more must be ordered.
- Check to see that there are no leaks.
- CIP's must be done.

8 HMI Section

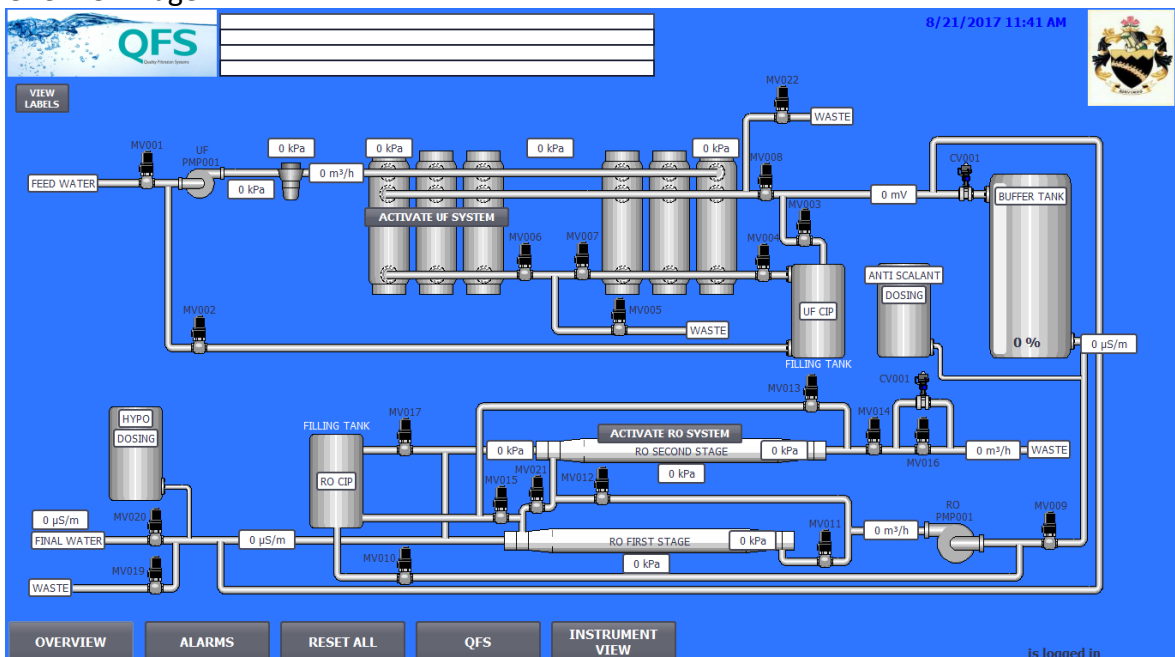
8.1 Overview



8.2 Navigation

HMI Pages

- Overview Page



Quality Filtration Systems: Operating Manual

Leeu Gamka Water Treatment Plant

- Alarm Page

QFS 8/21/2017 11:42 AM

No.	Time	Date	Status	Text	Acknowledge group
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OVERVIEW ALARMS RESET ALL QFS INSTRUMENT VIEW is logged in

- CIP Chemical Add

QFS 8/21/2017 12:02 PM

VIEW LABELS

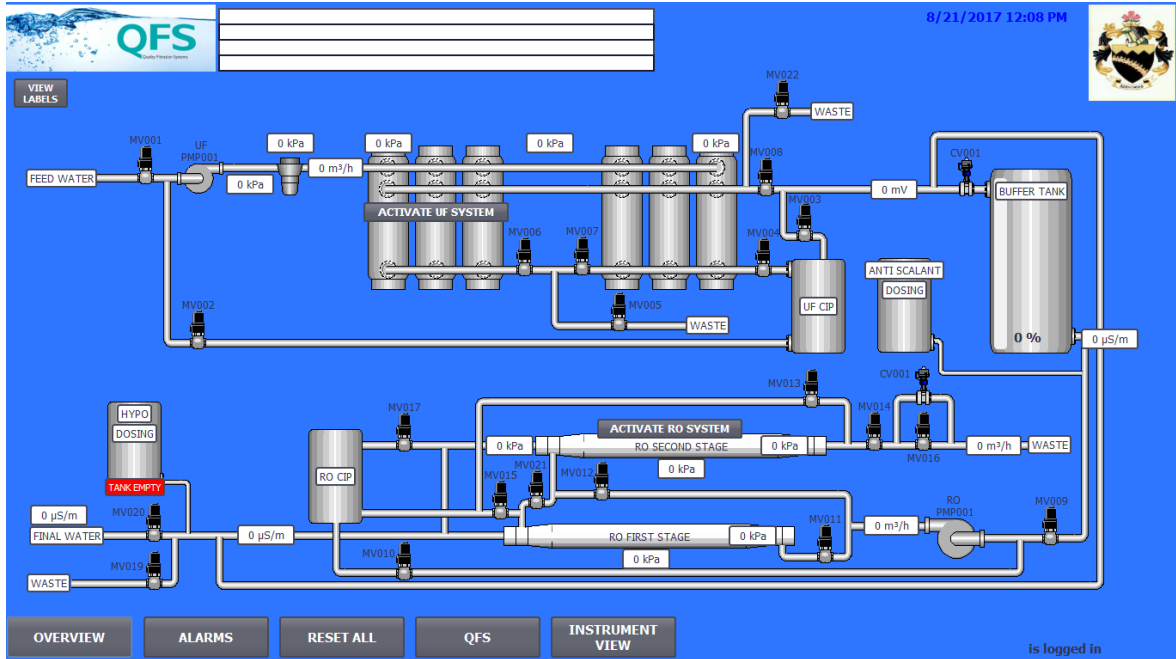
LEEU GAMKA CIP IN PROGRESS
ADD CIP CHEMICAL AND PRESS OK TO CONTINUE
OK

OVERVIEW ALARMS RESET ALL QFS INSTRUMENT VIEW is logged in

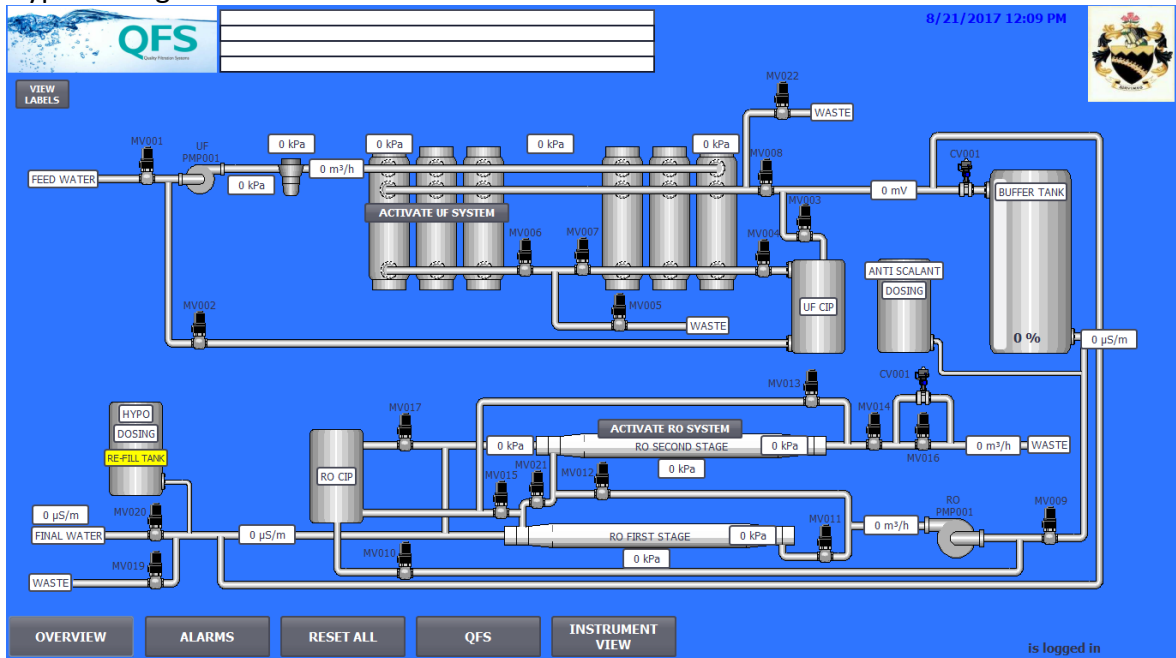
- Hypo Dosing Tank Empty

Quality Filtration Systems: Operating Manual

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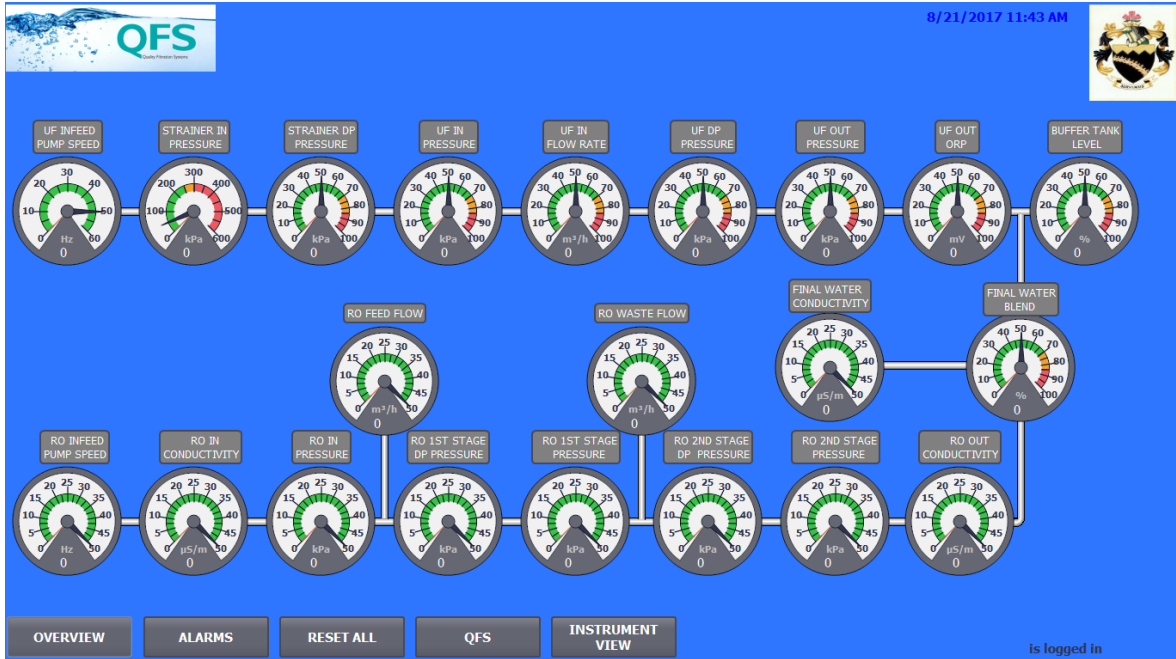
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- Hypo Dosing Re-fill Tank



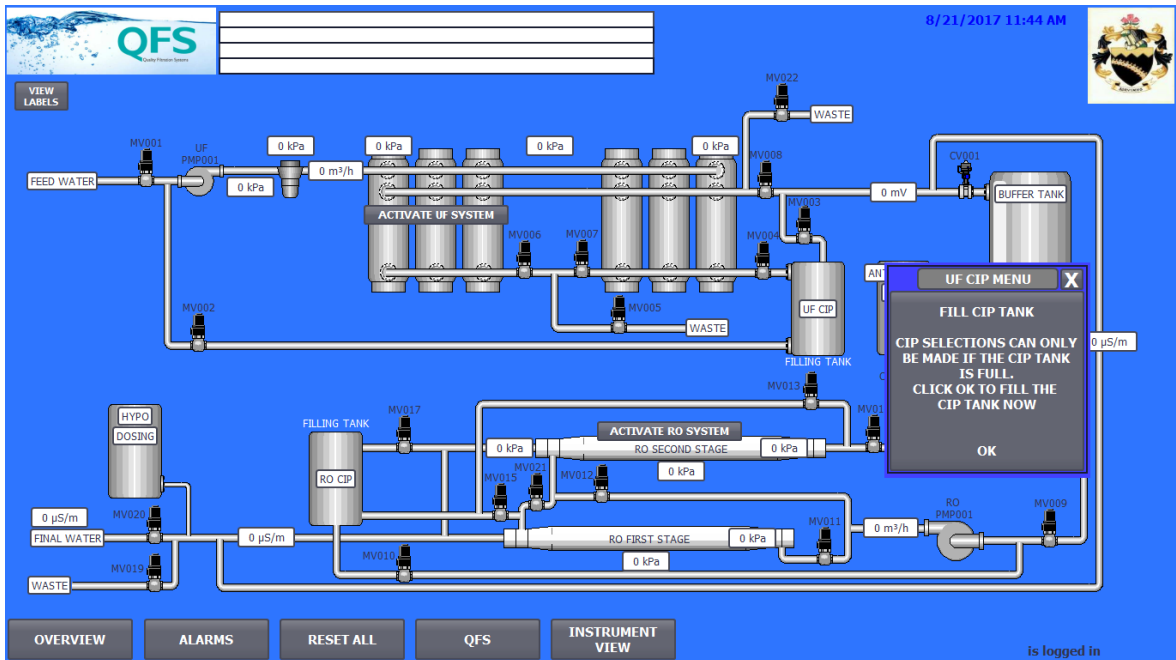
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- Instrument View Page

Quality Filtration Systems: Operating Manual

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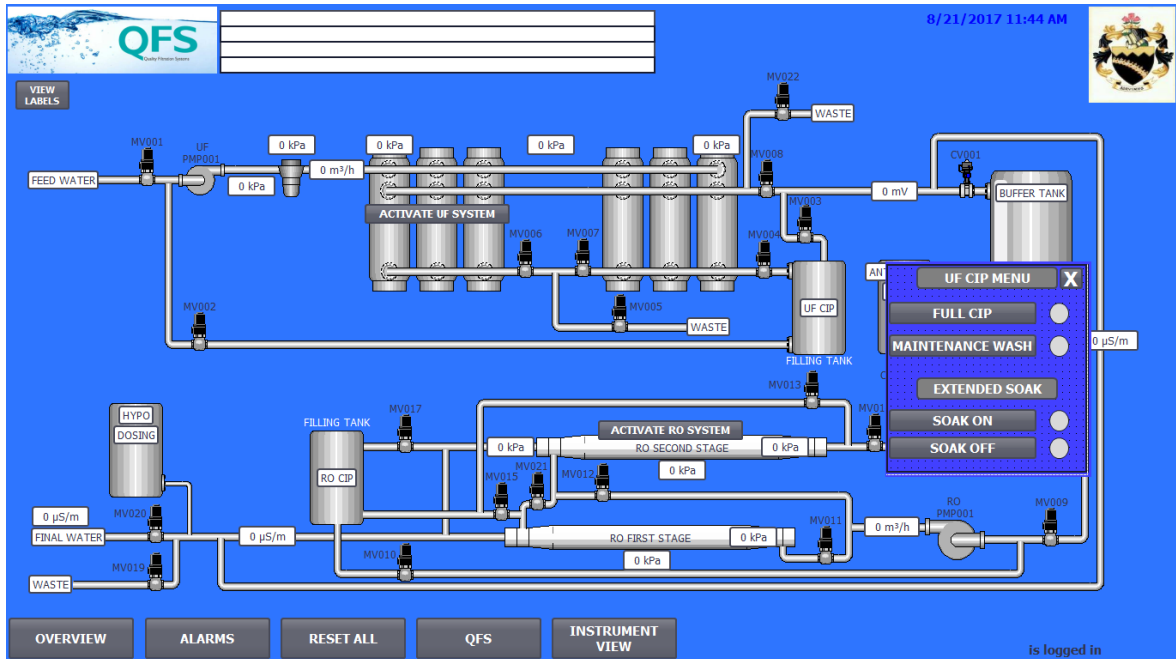
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- Fill UF CIP Tank



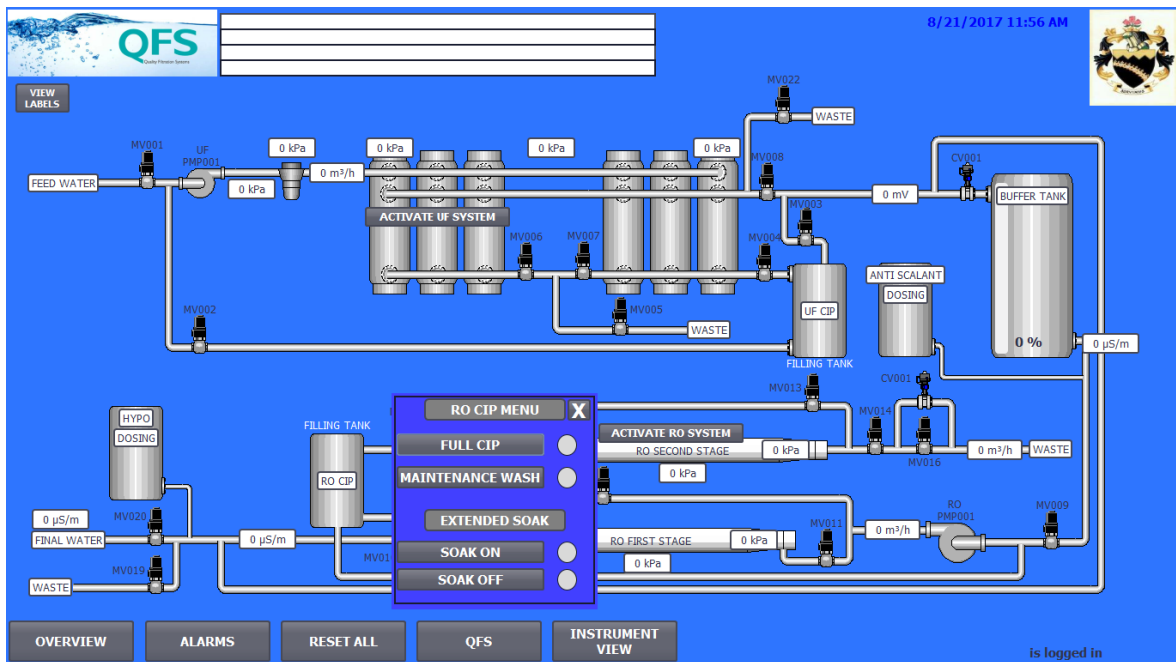
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- UF CIP Menu

Quality Filtration Systems: Operating Manual

Leeu Gamka Water Treatment Plant



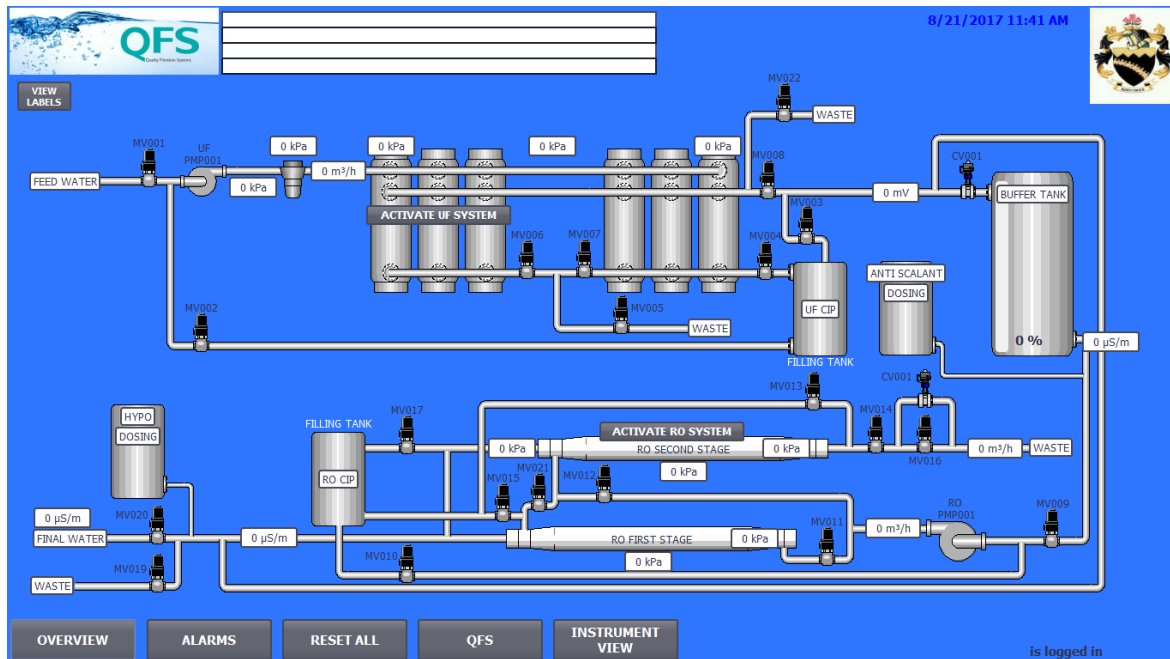
-
- RO CIP Menu



Selecting the pages will allow the user to perform different duties.

8.3 Activation Buttons

There are two Activation Buttons for controlling the UF and RO Plants. Pressing the Activation buttons will start the plants and vice versa stopping the plants if pressed again. Once the plants are activated they will be fully automatic. This means the UF and RO will stop and start on tank levels. No operator is required after activation of plants is activated.



APPENDIX B: Trouble Shooting Chart

Deviation/Alarm	Cause	Consequence	Safeguard	Actions
High ORP RO Tanks	Chlorine Levels High Wire break Influx of Hypo water	If not corrected could shutdown RO Plant	Visible alarm and warning to indicate something is wrong	Drain RO Buffer tanks Reset CB, if it keeps tripping pump might be damaged electrically Run UF until ORP Drops Call Electrician to check where the break and fix it.
UF TMP High	Backwashes not working	Plant will Shutdown	Visible alarm and warning to indicate something is wrong	Do CIP on UF Plant
UF Infeed Pressure High	Backwashes not working	Plant will Shutdown	Visible alarm and warning to indicate something is wrong	Do CIP on UF Plant Check Strainer

Deviation/Alarm	Cause	Consequence	Safeguard	Actions
No Flow to UF	UF Feed Pump not Running	Plant will Shutdown	Visible alarm and warning to indicate something is wrong	Do CIP on UF Plant Check Strainer Call Electrician to check where the break and fix it. Reset CB,if it keeps tripping pump might be damaged
UF Pumps tripped	No Power	Plant will shutdown	Visible alarm and warning to indicate something is wrong	Check to distribution board to see nothing tripped Check Main isolator is on

				<p>Check variable drive did not trip Check isolators at pumps are switched on. Call an electrician for assistance</p>
RO Pump Trip	No Power	Plant will shutdown	Visible alarm and warning to indicate something is wrong	<p>Check to distribution board to see nothing tripped Check Main isolator is on Check variable drive did not trip Check isolators at pumps are switched on. Call an electrician for assistance</p>

Deviation/Alarm	Cause	Consequence	Safeguard	Actions
Dosing Pumps Trip	No Power	Plant will Shutdown	Visible alarm and warning to indicate something is wrong	Check that isolators at the Pumps are switched on Correctly
Network Fault	No power	No Comms	No plant control	<p>Check the distribution board to see that there are not switches that has tripped. Check that all network switches inside PLC panels has power. Check network cables are plugged in and no damage is visual. Call IT department for testing.</p>

Deviation/Alarm	Cause	Consequence	Safeguard	Actions
Variable drives fault	No Power Pump over current No load Faze failure Lost comms	Plant will shutdown	Visible alarm and warning to indicate something is wrong	Check the distribution board to see that there are not switches that has tripped. Check that all network switches inside PLC panels has power. Check network cables are plugged in and no damage is visual. Check manual of the drives for fault list.

