



AIRPORTS COMPANY SOUTH AFRICA SOC LIMITED

PROJECT NAME AND NUMBER: KSIA6908/2022/RFP

TITLE OF PROJECT: Borehole Drilling and water extraction

NEC 3: ENGINEERING AND CONSTRUCTION CONTRACT (ECC)

Between AIRPORTS COMPANY SOUTH AFRICA SOC LIMITED

Applicable at King Shaka International Airport

(Registration Number: 1993/004149/30)

and **[DRAFTING NOTE: INSERT CONTRACTOR NAME]**

(Registration Number: _____)

FOR THE SERVICE PROVIDER TO PROVIDE THE SOLUTION TO EXTRACT WATER FROM THE NEARBY STREAM, TREAT, DISTRIBUTE, AND THE DRILLING OF BOREHOLES WITHIN THE VICINITY OF THE AIRPORT AT KSIA.

Contents:	No of pages
Part C1 Agreements & Contract Data	[•]
Part C2 Pricing Data	[•]
Part C3 Scope of Works	[•]
Part C4 Site Information	[•]

Part C1: Agreements and Contract Data**C1.1: Form of Offer and Acceptance****OFFER**

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the solution to extract water from the nearby stream, treat, distribute, and the drilling of boreholes within the vicinity of the airport at KSIA- This is for the provision of a turn-key solution from investigation to a level of providing a high-level feasibility study and costing from the end-to-end process and project execution.

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

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

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VAT IS:

(in words)
..... Rands;

(in figures) R.....

THE OFFERED PRICES ARE AS STATED IN THE PRICING SCHEDULE

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.

Signature(s)

Name(s)

Capacity

**For the
Bidder:**Name &
signature of
witness*(Insert name and address of
organisation)*

Date

ACCEPTANCE

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the tenderer's Offer. In consideration thereof, the Employer shall pay the **Contractor** the amount due in accordance with the conditions of contract identified in the Contract Data. Acceptance of the 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 Form of Offer and Acceptance)
Part C2	Pricing Data
Part C3	Scope of Work: Works Information
Part C4	Site Information

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

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

The tenderer shall within two weeks of 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 securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the Contract Data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

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

Signature(s)

Name(s)

Capacity

for the
Employer

Airport Company South Africa (ACSA), SOC Limited

Applicable at King Shaka International Airport
King Shaka Drive
La Mercy
4407

Name &
signature of
witness

/

Date

Schedule of Deviations

1 Subject .....	.....
Details .....	.....
.....
.....
.....
2 Subject .....	.....
Details .....	.....
.....
.....
.....
3 Subject .....	.....
Details .....	.....
.....
.....
.....

By the duly authorised representatives signing this agreement, the Employer and the Tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the returnable schedules, as well as any confirmation, clarification or 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 Employer**For the Bidder**

Signature (s)	.....	.....
Name (s)	Langa Ndebele	.....
Capacity	Senior Site Manager ME	.....
Name and Address	Airports Company South Africa SOC Limited	
	The Maples Riverwoods Office Park, 24 Johnson Road, Bedfordview, Johannesburg	
Name & Signature of witness	.....	<i>(Insert name and address of organisation)</i>
Date	.....	.....

Part C1.2a Contract Data**Part one – Data provided by the *Employer***

The Conditions of the contract are selected from the NEC3 Engineering and Construction Contract, April 2013.

Each item of data given below is cross-referenced to the NEC3 Engineering Construction Contract which requires it.

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for Main Option	
	Main Option	B: Priced contract with Bill of Quantities
	Dispute resolution Option	W1: Dispute resolution procedure
	Secondary Options (incorporating amendments)	X2: Changes in the law X7: Delay damages X13: Performance Bond X16: Retention X18: Limitation of liability Z: Additional conditions of contract of the NEC3 Engineering and Construction Contract, April 2013
10.1	The <i>Employer</i> is (Name)	Airports Company South Africa SOC Limited, Applicable to King Shaka International Airport.
	Address	Airports Company South Africa SOC Limited The Maples Riverwoods Office Park, 24 Johnson Road, Bedfordview, Johannesburg
	Telephone	Applicable to King Shaka International Airport. King Shaka Drive La Mercy 4407 032 436 6000
	Fax	NA
10.1	The <i>Project Manager</i> is Sihle Zuma	

Address King Shaka Drive
La Mercy
4407
032 436 6000

Telephone
032 436 6548

E-mail address:
Sihle.zuma@airports.co.za

10.1	The <i>Supervisor</i> is	Sihle Zuma
	Address	King Shaka Drive La Mercy 4407
	Telephone	032 436 6000
	Fax	NA
	Email	032 436 6548 sihle.zuma@airports.co.za
11.2	The <i>works</i> is	Borehole Drilling and water extraction at KSIA
11.2	The following matters will be included in the Risk Register	<ul style="list-style-type: none"> • Site Drawings • Access to Site • Site Constraints and Constructability
11.2	The <i>Works Information</i> is in	Part C3 'Scope of Works' section of this contract
11.2	The <i>Site Information</i> is in	Part C4 'Works Information' section of this contract
11.2	The <i>boundary of the site</i> is	King Shaka International Airport, Airside- Aprons
12.2	The <i>law of the contract</i> is the law of	the Republic of South Africa
13.1	The <i>language of this contract</i> is	English
13.3	The <i>period of reply</i> is	Seven (7) days
3	Time	
31.2	The <i>starting date</i> is	XX

11.2	The <i>completion date</i> is	XX																												
30.1	The <i>access date</i> is	XX																												
31.1	The <i>Contractor</i> submits a first (preliminary) programme with the tender by the tender closing date	XX																												
32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	Four (4) weeks																												
35.1	The <i>Employer</i> is not willing to take over the works before the <i>completion date</i>	The <i>Employer</i> and Others will have access to the <i>works</i> during construction or prior to completion. Such access by the Employer and Others shall not relieve the <i>Contractor</i> from liability for the completion of the <i>works</i> in accordance with the Works Information and in terms of this contract.																												
4	Testing and Defects																													
42.2	The <i>defects date</i> is	Twelve (12) months after completion of the whole of the <i>works</i>																												
43.2	The <i>defects correction period</i> is	Two (2) weeks																												
5	Payment																													
50.1	The <i>assessment interval</i> is	4 (Four) weeks																												
50.1	The <i>currency of this contract</i> is the	South African Rand																												
51.2	The period within which payment is made is	Four (4) weeks																												
51.4	The <i>interest rate</i> is	The prime lending rate of the Nedbank Bank. as determined from time to time																												
6	Compensation events																													
60.1	The <i>weather measurements</i> to be recorded for each calendar month are	the cumulative rainfall (mm) the number of days with rainfall of more than 10 mm the number of days with minimum air temperature less than 0 degrees Celsius																												
60.1	The place where weather is to be recorded (on the Site) is	At the Construction Site Office and the records to be kept on site in a file clearly marked for this purpose																												
60.1	Assumed values for the ten-year return <i>weather data</i> for each <i>weather measurement</i> for each calendar month are	<table><tr><td>Month</td><td>Days</td><td>Month</td><td>Days</td></tr><tr><td>January</td><td>1</td><td>July</td><td>4</td></tr><tr><td>February</td><td>1</td><td>August</td><td>3</td></tr><tr><td>March</td><td>2</td><td>September</td><td>2</td></tr><tr><td>April</td><td>2</td><td>October</td><td>2</td></tr><tr><td>May</td><td>3</td><td>November</td><td>2</td></tr><tr><td>June</td><td>3</td><td>December</td><td>1</td></tr></table>	Month	Days	Month	Days	January	1	July	4	February	1	August	3	March	2	September	2	April	2	October	2	May	3	November	2	June	3	December	1
Month	Days	Month	Days																											
January	1	July	4																											
February	1	August	3																											
March	2	September	2																											
April	2	October	2																											
May	3	November	2																											
June	3	December	1																											
7	Title	No data required for this section of the <i>conditions of contract</i>																												

8	Risks and Insurance	
84.1	The <i>Employer</i> provides these insurances	Refer to the Insurance Clauses which is attached at the end of the Contract Data
84.2	The <i>Contractor</i> provides the insurance stated in	The Insurance Clauses which are attached at the end of the Contract Data. The insurances are in the joint names of the Parties and provide cover for events which are at the Contractor's risk from the starting date until the Defects Certificate or a termination certificate has been issued.
	The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the Contractor arising out of and in the course of their employment in connection with this contract for any one event is:	As prescribed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993
9	Termination	No data required for this section of the <i>conditions of contract</i>
10	Data for Main Options	
B	Priced contract with Bill of Quantities	[include if applicable]
11	Data for Option W1	
W1.1	The <i>Adjudicator</i> is	The person appointed jointly by the parties from the list of adjudicators contained below
W1.2	The <i>Adjudicator nominating body</i> is	The current Chairman of Johannesburg Advocate's Bar Council
W1.4	The <i>tribunal</i> is	Arbitration
W1.4	If the <i>tribunal</i> is arbitration, the arbitration procedure is	The <i>arbitration procedure</i> is set out in The Rules for the Conduct of Arbitrations 2013 Edition, 7th Edition, published by The Association of Arbitrators, (Southern Africa)
W1.4	The place where arbitration is to be held is	Johannesburg, South Africa.
W1.4	The person or organisation who will choose an arbitrator	The Arbitrator is the person selected by the Parties as and when a dispute arises in terms of the relevant Z Clause, from the Panel of Arbitrators provided under the relevant Z clause if the arbitration procedure does not state who selects an arbitrator. The Arbitrator nominating body is the Chairman of the Johannesburg Advocates Bar Council.
12	Data for Secondary Option Clauses	
X7	Delay Damages	

Delay damages of the *works* are The amount per day is 0.05%, to the maximum of 10% of the Contract value

X13	Performance bond	
X13.1	The amount of the performance bond is	10% of the contract value. Pro-forma draft of a performance bond to be used is attached to this contract.
X16	Retention	
X16.1	The <i>retention percentage</i> is	5% of the Contract value.
X18	Limitation of Liability	
X18.1	The <i>Contractor's</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to	Nil - Neither Party is liable to the other for any consequential or indirect loss, including but not limited to loss of profit, loss of income or loss of revenue
X18.2	For any one event, the <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to	The total of the Prices
X18.3	The <i>Contractor's</i> total liability to the <i>Employer</i> for defects due to his design which are not listed on the Defects Certificate is limited to	The total of the Prices
X18.4	The <i>Contractor's</i> total liability to the <i>Employer</i> for all matters arising under or in connection with this contract, other than excluded matters, is limited to	The Contractor's total direct liability to the Employer for all matters arising under or in connection with this contract, other than the excluded matters, is limited to the total of the Prices and applies in contract, tort, or delict and otherwise to the extent allowed under the law of the contract.
		<p>The e excluded matters are amounts payable by the Contractor as stated in this contract for</p> <ul style="list-style-type: none"> - Loss of or damage to the Employer's property, - Delay damages, - Defects liability, - Insurance liability to the extent of the Contractor's risks - loss of or damage to property (other than the <i>works</i>, Plant and Materials), - death of or injury to a person. - damage to third party property; and - infringement of an intellectual property right
Z	The Additional conditions of contract are	Z1 – Z20

Amendments to the Core Clauses	
Z1	Interpretation of the law
Z1.1	<p>Add to core clause 12.3:</p> <p>Any extension, concession, waiver, or relaxation of any action stated in this contract by the Parties, the <i>Project Manager</i>, the <i>Supervisor</i>, or the <i>Adjudicator</i> does not constitute a waiver of rights and does not give rise to an estoppel unless the Parties agree otherwise and confirm such agreement in writing.</p>
Z2	Providing the Works:
Z2.1	<p>Delete core clause 20.1 and replace with the following:</p> <p>The <i>Contractor</i> provides the works in accordance with the Works Information and warrants that the results of the Works, when complete, shall be fit for their intended purpose</p>
Z3	Other responsibilities:
	Add the following at the end of core clause 27:
Z3.1	The <i>Contractor</i> shall have satisfied himself, prior to the Contract Date, as to the completeness, sufficiency and accuracy of all information and drawings provided to him as at the Contract Date
Z3.2	The <i>Contractor</i> shall be responsible for the correct setting out of the <i>Works</i> in accordance with the original points, lines and levels stated in the <i>Works</i> Information or notified by the <i>Project Manager</i> , <i>Supervisor</i> , or the <i>Employer</i> . Any errors in the positioning of the <i>Works</i> shall be rectified by the <i>Contractor</i> at the <i>Contractor's</i> own costs.
Z4	Extending the defects date:
	Add the following as a new core clause 46:
Z4.1	If the <i>Employer</i> cannot use the <i>works</i> due to a Defect, which arises after Completion and before the <i>defects date</i> , the <i>defects date</i> is delayed by a period equal to that during which the <i>Employer</i> , due to a Defect, is unable to use the <i>works</i>
Z4.2	If part of the <i>works</i> is replaced due to a Defect arising after Completion and before the <i>defects date</i> , the <i>defects date</i> for the part of the <i>works</i> which is replaced is delayed by a period equal to that between Completion and the date by when the part has been replaced
Z4.3	The <i>Project Manager</i> notifies the <i>Contractor</i> of the change to a <i>defect date</i> when the delay occurs. The period between Completion and an extended <i>defects date</i> does not exceed twice the period between Completion and the <i>defects date</i> stated in the Contract Data
Z5	Termination
Z5.1	Add the following to core clause 91.1, at the second main bullet, fifth sub-bullet point, after the words “assets or”: “business rescue proceedings are initiated, or steps are taken to initiate business rescue proceedings.”
Amendment to the Secondary Option Clauses	
Z6	Performance Bond
Z6.1	<p>Amend the first sentence of clause X13.1 to read as follows:</p> <p>The <i>Contractor</i> gives the <i>Employer</i> an unconditional, on-demand performance bond, provided by a bank which the <i>Project Manager</i> and the <i>Employer</i> have accepted, for the amount stated in the Contract Data and in the form set out in Annexure C.ii of this Contract Data.</p>

Z6.2	Add the following new clause as Option X13.2: The <i>Contractor</i> ensures that the performance bond is valid and enforceable until the end of the <i>contract period</i> . If the terms of the performance bond specify its expiry date and the end of the <i>contract period</i> does not coincide with such expiry date, four weeks prior to the said expiry date, the <i>Contractor</i> extends the validity of the performance bond until the end of the <i>contract period</i> . If the <i>Contractor</i> fails to so extend the validity of the performance bond, the <i>Employer</i> may claim the full amount of the performance bond and retain the proceeds as cash security
Z7	Limitation of liability:
	Insert the following new clause as Option X18.6:
Z7.1	The <i>Employer's</i> liability to the <i>Contractor</i> for the <i>Contractor's</i> indirect or consequential loss is limited to R0.00
Z7.2	Notwithstanding any other clause in this contract, any proceeds received from any insurances or any proceeds which would have been received from any insurances but for the conduct of the <i>Contractor</i> shall be excluded from the calculation of the limitations of liability listed in the contract
	Additional Z Clauses
Z8	Cession, delegation, and assignment
Z8.1	The <i>Contractor</i> shall not cede, delegate, or assign any of its rights or obligations to any person without the written consent of the <i>Employer</i> , which consent shall not be unreasonably withheld. This clause shall be binding on the liquidator/business rescue practitioner /trustee (whether provisional or not) of the <i>Contractor</i>
Z8.2	The <i>Employer</i> may cede and delegate its rights and obligations under this contract to any person or entity
Z9	Joint and several liability
Z9.1	If the <i>Contractor</i> constitutes a joint venture, consortium, or other unincorporated grouping of two or more persons, these persons are deemed to be jointly and severally liable to the <i>Employer</i> for the performance of the Contract.
Z9.2	The <i>Contractor</i> shall, within 1 week of the Contract Date, notify the <i>Project Manager</i> and the <i>Employer</i> of the key person who has the authority to bind the <i>Contractor</i> on their behalf.
Z9.3	The <i>Contractor</i> does not materially alter the composition of the joint venture, consortium, or other unincorporated grouping of two or more persons without prior written consent of the <i>Employer</i> .
Z10	Ethics
Z10.1	The <i>Contractor</i> undertakes:
Z10.1.1	not to give any offer, payment, consideration, or benefit of any kind, which constitutes or could be construed as an illegal or corrupt practice, either directly or indirectly, as an inducement or reward for the award or in execution of this contract;
Z10.1.2	to comply with all laws, regulations or policies relating to the prevention and combating of bribery, corruption, and money laundering to which it or the <i>Employer</i> is subject, including but not limited to the Prevention and Combating of Corrupt Activities Act, 12 of 2004.

- Z10.2** The *Contractor's* breach of this clause constitutes grounds for terminating the *Contractor's* obligation to Provide the Works or taking any other action as appropriate against the *Contractor* (including civil or criminal action). However, lawful inducements and rewards shall not constitute grounds for termination.
- Z10.3** If the *Contractor* is found guilty by a competent court, administrative or regulatory body of participating in illegal or corrupt practices, including but not limited to the making of offers (directly or indirectly), payments, gifts, gratuity, commission or benefits of any kind, which are in any way whatsoever in connection with the contract with the *Employer*, the *Employer* shall be entitled to terminate the contract in accordance with the procedures stated in core clause 92.2. the amount due on termination is A1.

Z11 Confidentiality

- Z11.1** All information obtained in terms of this contract or arising from the implementation of this contract shall be treated as confidential by the *Contractor* and shall not be used or divulged or published to any person not being a party to this contract, without the prior written consent of the *Project Manager* or the *Employer*, which consent shall not be unreasonably withheld.
- Z11.2** If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until otherwise notified by the *Project Manager*.
- Z11.3** This undertaking shall not apply to –
- Z11.3.1** Information disclosed to the employees of the *Contractor* for the purposes of the implementation of this agreement. The *Contractor* undertakes to procure that its employees are aware of the confidential nature of the information so disclosed and that they comply with the provisions of this clause;
- Z11.3.2** Information which the *Contractor* is required by law to disclose, provided that the *Contractor* notifies the *Employer* prior to disclosure so as to enable the *Employer* to take the appropriate action to protect such information. The *Contractor* may disclose such information only to the extent required by law and shall use reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed;
- Z11.3.3** Information which at the time of disclosure or thereafter, without default on the part of the *Contractor*, enters the public domain or to information which was already in the possession of the *Contractor* at the time of disclosure (evidenced by written records in existence at that time);
- Z11.4** The taking of images (whether photographs, video footage or otherwise) of the *works* or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the *Project Manager*. All rights in and to all such images vests exclusively in the *Employer*
- Z11.5** The *Contractor* ensures that all his Subcontractors abide by the undertakings in this clause.

Z12 Employer's Step-in rights

- Z12.1** If the *Contractor* defaults by failing to comply with his obligations and fails to remedy such default within 2 weeks of the notification of the default by the *Project Manager*, the *Employer*, without prejudice to his other rights, powers and remedies under the contract, may remedy the default either himself or procure a third party (including any subcontractor or supplier of the *Contractor*) to do so on his behalf. The reasonable costs of such remedial works shall be borne by the *Contractor*

- Z12.2** The *Contractor* co-operates with the *Employer* and facilitates and permits the use of all required information, materials and other matter (including but not limited to documents and all other drawings, CAD materials, data, software, models, plans, designs, programs, diagrams, evaluations, materials, specifications, schedules, reports, calculations, manuals or other documents or recorded information (electronic or otherwise) which have been or are at any time prepared by or on behalf of the *Contractor* under the contract or otherwise for and/or in connection with the *works*) and generally does all things required by the *Project Manager* to achieve this end.

Z13 Liens and Encumbrances

- Z13.1** The *Contractor* keeps the Equipment used to Provide the Services free of all liens and other encumbrances at all times. The *Contractor*, vis-a-vis the *Employer*, waives all and any liens which he may from time to time have, or become entitled to over such Equipment and any part thereof and procures that his Subcontractors similarly, vis-a-vis the *Employer*, waive all liens they may have or become entitled to over such Equipment from time to time

Z14 Intellectual Property

- Z14.1** Intellectual Property ("IP") rights means all rights in and to any patent, design, copyright, trademark, trade name, trade secret or other intellectual or industrial property right relating to the Works.
- Z14.2** IP rights remain vested in the originator and shall not be used for any reason whatsoever other than carrying out the *works*.
- Z14.3** The *Contractor* gives the *Employer* an irrevocable, transferrable, non-exclusive, royalty free licence to use and copy all IP related to the *works* for the purposes of constructing, repairing, demolishing, operating, and maintaining the works
- Z14.4** The written approval of the *Contractor* is to be obtained before the *Contractor's* IP made available to any third party which approval will not be unreasonably withheld or delayed. Prior to making any *Contractor's* IP available to any third party the *Employer* shall obtain a written confidentiality undertaking from any such third party on terms no less onerous than the terms the *Employer* would use to protect its IP
- Z14.5** The *Contractor* shall indemnify and hold the *Employer* harmless against and from any claim alleging an infringement of IP rights ("**the claim**"), which arises out of or in relation to:
- Z14.5.1** the *Contractor's* design, manufacture, construction, or execution of the Works
- Z14.5.2** the use of the *Contractor's* Equipment, or
- Z14.5.3** the proper use of the Works.
- Z14.6** The *Employer* shall, at the request and cost of the *Contractor*, assist in contesting the claim and the *Contractor* may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it.

Z16 Dispute resolution:

- Z16.1 Appointment of the Adjudicator**

An *Adjudicator* is appointed when a dispute arises, from the Panel of Adjudicators below. The referring party nominates an Adjudicator, which nomination is either accepted or rejected by the other party. In the instance of a rejection of the nominated *Adjudicator*, the referring Party refers the appointment deadlock to the Chairman of the Johannesburg Bar Council, who appoints an *Adjudicator* listed in the Panel of Adjudicators below

The Parties appoint the *Adjudicator* under the NEC3 Adjudicator's Contract, April 2013

Panel of Adjudicators

Name	Location	Contact details (phone & e mail)
Adv. Ghandi Badela	Gauteng	+27 11 282 3700 ghandi@badela.co.za
Mr. Errol Tate Pr. Eng.	Durban	+27 11 262 4001 Errol.tate@mweb.co.za
Adv. Saleem Ebrahim	Gauteng	+27 11 535-1800 salimebrahim@mweb.co.za
Mr. Sebe Msutwana Pr. Eng.	Gauteng	+27 11 442 8555 sebe@civilprojects.co.za
Mr. Sam Amod	Gauteng	sam@samamod.com
Adv. Sias Ryneke SC	Gauteng	083 653 2281 reyneke@duma.nokwe.co.za
Mr. Emeka Ogbugo (Quantity Surveyor)	Pretoria	+27 12 349 2027 emeka@gosiame.co.za

Z16.2 Appointment of the Arbitrator

An *Arbitrator* is appointed when a dispute arises from the Panel of Arbitrators below. The referring party nominates an Arbitrator, which nomination is either accepted or rejected by the other party. In the instance of a rejection of the nominated *Arbitrator*, the referring Party refers the appointment deadlock to the Chairman of the Johannesburg Bar Council, who appoints an *Arbitrator* listed in the Panel of *Arbitrators* below

Panel of Arbitrators

Name	Location	Contact details (phone & e mail)
Adv. Ghandi Badela	Gauteng	+27 11 282 3700 ghandi@badela.co.za
Mr. Errol Tate Pr. Eng.	Durban	+27 11 262 4001 Errol.tate@mweb.co.za
Adv. Saleem Ebrahim	Gauteng	+27 11 535-1800 salimebrahim@mweb.co.za
Mr. Sebe Msutwana Pr. Eng.	Gauteng	+27 11 442 8555 sebe@civilprojects.co.za
Mr. Sam Amod	Gauteng	sam@samamod.com
Adv. Sias Ryneke SC	Gauteng	083 653 2281 reyneke@duma.nokwe.co.za
Mr. Emeka Ogbugo (Quantity Surveyor)	Pretoria	+27 12 349 2027 emeka@gosiame.co.za

Z17 Notification of a compensation event

- Z17.1** Delete "eight weeks" in clause 61.3 and replace with "four weeks." Delete the words "unless the event arises from the Project Manager or the Supervisor giving an instruction, issuing a certificate, changing an earlier decision, or correcting an assumption."

Z18 BBEE Certificate

Z18.1 The *Contractor* shall be expected to annually present a compliant BEE Certificate. Failure to adhere to these requirements shall be considered a material breach of the conditions of this Contract, the sanction for which may be a cancellation of this Contract.

Z19 Communication

Z19.1 **Add a new Core Clause** 14.5 and 14.6 to read as follows:

The *Project Manager* requires the written consent of the Employer if an action will result in a change to the design, scope, and Works information that is 5% or more

Z19.2 The *Project Manager* requires the written consent of the Employer if an action will result in the Completion Date being extended by more than 30 days.

Z20 Delegation

As stipulated by Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993 as amended the *Contractor* agrees to the following:

Z20.1 As part of this contract the *Contractor* acknowledge that it (mandatory) is an employer in its own right with duties as prescribed in the Occupational Health and Safety Act No 85 of 1993 as amended and agree to ensure that all work being performed, or Equipment, Plant and Materials being used, are in accordance with the provisions of the said Act, and in particular with regard to the Construction Regulations

PART C1.2b CONTRACT DATA**PART TWO – DATA PROVIDED BY THE CONTRACTOR**

Clause	Statement	Data
10.1	The Contractor is (Name): Address: Telephone No. Fax No.	
11.2	The <i>working areas</i> are	Only the Site Area. See C4 'Site Information'
24.1	The <i>Contractor's Key people</i> are:	CV's to be appended to Tender Schedule
	Name:	
	Job:	
	Responsibility:	
	Qualifications:	
	Experience:	
	Name:	
	Job:	
	Responsibility:	
	Qualifications:	
	Experience:	
	Name:	
	Job:	
	Responsibility:	
	Qualifications:	
	Experience:	

Name:

Job:

Responsibility:

Qualifications:

Experience:

11.2	The <i>completion date</i> is	XX
11.2	The following matters will be included in the Risk Register	<ul style="list-style-type: none"> Existing Services Access to Site Delay in supply of material and/or equipment Progress of the works against the program Travelling public and ACSA stakeholders
11.2	The <i>Works Information</i> is in	Part C3 'Scope of Works' section of this contract
31.1	The programme identified in the	XX

Part C1: Agreements and Contract Data

C1.3: Form of Guarantee

PRO FORMA FOR PERFORMANCE BOND

PERFORMANCE BOND

[TO BE REPLICATED ON BANK'S LETTERHEAD]

Brief description of contract.....

Name and address of Beneficiary.....

..... (whom the contract defines as the Contractor).

We, the undersigned and..... in our capacities as Guarantor's..... of (**Registration Number:**) (hereinafter called "the Bank") have been informed that hereinafter called the 'Principal') is your Contractor under such contract, which requires him to obtain an irrevocable, unconditional performance security.

At the request of the Principal, we(name of bank) hereby irrevocably undertake to pay you, the Employer, any sum or sums not exceeding in total the amount of(the "Guaranteed Amount") upon receipt by us of your first written demand stating that such an amount (or lesser amount) as may be claimed is due and payable to the Employer.

This guarantee constitutes an irrevocable, unconditional, non-negotiable, and non-transferable undertaking to pay in accordance with the above, subject to the proviso that this Letter will not be interpreted as extending the Bank's liability to anything more than the Guaranteed Amount.

Notwithstanding anything to the contrary herein contained, the Bank's obligation shall be construed as principal and not as accessory to the contract and shall not be delayed or discharged by the fact that a dispute exists between the Employer and the Contractor.

We undertake to pay you such Guaranteed Amount upon receipt by us, within such period of 14 days of your first written demand stating that such an amount (or lesser amount) as may be claimed is due and payable to the Employer.

The guarantee shall be governed by and construed in accordance with the laws of the Republic of South Africa

Signed at _____ on _____ 20....

For:

Registration Number:

Name & Position

As witnesses:

1. _____

2. _____

PART C1: AGREEMENTS AND CONTRACT DATA

C1.4: OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH & SAFETY ACT (ACT 85 OF 1993) & CONSTRUCTION REGULATION 5.1(k)

OBJECTIVES

To assist Airport Company South Africa (ACSA) in order to comply with the requirements of:

1. The Occupational Health & Safety (Act 85 of 1993) and its regulations and
2. The Compensation for Occupational Injuries & Diseases Act (Act 130 of 1993) also known as the (COID Act).

To this end an Agreement must be concluded before any contractor/ subcontracted work may commence

The parties to this Agreement are:

Name of Organisation: AIRPORTS COMPANY SOUTH AFRICA Applicable to King Shaka International Airport
Physical Address: Airport Company South Africa Applicable to King Shaka International Airport King Shaka Drive La Mercy 4407 Tel:032 436 6000

Hereinafter referred to as “Client”

Name of organisation:
Physical Address

Hereinafter referred to as “the Mandatary/ Principal Contractor”

MANDATORY'S MAIN SCOPE OF WORK

GENERAL INFORMATION FORMING PART OF THIS AGREEMENT

1. The Occupational Health & Safety Act comprises of SECTION 1-50 and all unrepealed REGULATIONS promulgated in terms of the former Machinery and Occupational Safety Act No.6 of 1983 as amended as well as other REGULATIONS which may be promulgated in terms of the Act and other relevant Acts pertaining to the job in hand.
2. "Mandatory" is defined as including as agent, a principal contractor, or a contractor for work, but WITHOUT DEROGATING FROM HIS/HER STATUS IN HIS/HER RIGHT AS AN EMPLOYER or user of the plant
3. Section 37 of the Occupational Health & Safety Act potentially punishes Employers (PRINCIPAL CONTRACTOR) for unlawful acts or omissions of Mandatories (CONTRACTORS) save where a Written Agreement between the parties has been concluded containing arrangements and procedures to ensure compliance with the said Act BY THE MANDATARY.
4. All documents attached or refer to in the above Agreement form an integral part of the Agreement.
5. To perform in terms of this agreement Mandatories must be familiar and conversant with the relevant provisions of the Occupational Health & Safety Act 85 of 1993 (OHS Act) and applicable Regulations.
6. Mandatories who utilise the services of their own Mandatories (contractors) must conclude a similar Written Agreement with them.
7. Be advised that this Agreement places the onus on the Mandatory to contact the CLIENT in the event of inability to perform as per this Agreement.
8. This Agreement shall be binding for all work the Mandatory undertakes for the client.
9. All documentation according to the Safety checklist including a copy of the written Construction Manager appointment in terms of construction regulation 8, must be submitted 7 days before work commences.

THE UNDERTAKING

The Mandatory undertakes to comply with:

INSURANCE

1. The Mandatory warrants that all their employees and/or their contractor's employees if any are covered in terms of the COID Act, which shall remain in force whilst any such employees are present on the Client's premises. A letter is required prior commencing any work on site confirming that the Principal contractor or contractor is in good standing with the Compensation Fund or Licensed Insurer.
2. The Mandatory warrants that they are in possession of the following insurance cover, which cover shall remain in force whilst they and /or their employees are present on the Client's premises, or which shall remain in force for that duration of their contractual relationship with the Client, whichever period is the longest.
 - a. Public Liability Insurance Cover as required by the Subcontract Agreement.
 - b. Any other Insurance cover that will adequately makes provision for any possible losses and/or claims arising from their and /or their Subcontractors and/or their respective employee's acts and/or omissions on the Client's premises.

COMPLIANCE WITH THE OCCUPATIONAL HEALTH & SAFETY ACT 85 OF 1993

The Mandatory undertakes to ensure that they and/or their subcontractors if any and/or their respective employees will at all times comply with the following conditions:

1. All work performed by the Mandatory on the Client's premises must be performed under the close supervision of the Mandatory's employees who are to be trained to understand the

- hazards associated with any work that the Mandatary performs on the Client's premises.
2. The Mandatary shall be assigned the responsibility in terms of Section 16(1) of the OHSAct 85 of 1993, if the Mandatary assigns any duty in terms of Section 16(2), a copy of such written assignment shall immediately be forwarded to the Client.
 3. The Mandatary shall ensure that he/she familiarise himself/herself with the requirements of the OHSAct 85 of 1993 and that s/he and his/her employees and any of his subcontractors comply with the requirements.
 4. The Mandatary shall ensure that a baseline risk assessment is performed by a competent person before commencement of any work in the Client's premises. A baseline risk assessment document will include identification of hazards and risk, analysis and evaluation of the risks and hazards identified, a documented plan and safe work procedures to mitigate, reduce or control the risks identified, and a monitoring and review plan of the risks and hazards.
 5. The Mandatary shall appoint competent persons who shall be trained on any Occupational Health & Safety aspect pertaining to them or to the work that is to be performed.
 6. The Mandatary shall ensure that discipline regarding Occupational Health & Safety shall be strictly enforced.
 7. Any personal protective equipment required shall be issued by the Mandatary to his/her employees and shall be worn at all times.
 8. Written safe working practices/procedures and precautionary measures shall be made available and enforced and all employees shall be made conversant with the contents of these practises.
 9. No unsafe equipment/machinery and/or articles shall be used by the Mandatary or contractor on the Client's premises.
 10. All incidents/accidents referred to in OHSAct shall be reported by the Mandatary to the Provincial Director: Department of Labour as well as to the Client.
 11. No user shall be made by the Mandatary and/or their employees and or their subcontractors of any of the Client's machinery/article/substance/plant/personal protective equipment without prior written approval.
 12. The Mandatary shall ensure that work for which the issuing of permit is required shall not be performed prior to the obtaining of a duty completed approved permit.
 13. The Mandatary shall ensure that no alcohol or any other intoxicating substance shall be allowed on the Client's premises. Anyone suspected to be under the influence of alcohol, or any other intoxicating substance shall not be allowed on the premises. Anyone found on the premises suspected to be under the influence of alcohol or any other intoxicating substance shall be escorted off the said premises immediately.
 14. Full participation by the Mandatary shall be given to the employees of the Client if and when they inquire into Occupational Health & Safety.

FURTHER UNDERTAKING

1. Only a duly authorised representative appointed in terms of Section 16.2 of the OHS Act is eligible to sign this agreement on behalf of the Mandatary. The signing power of this representative must be designated in writing by the Chief Executive Officer of the Mandatary. A copy of this letter must be made available to the Client.
2. The Mandatary confirms that he has been informed that he must report to the Client's management, in writing anything he/she deems to be unhealthy and /or unsafe. He has versed his employees in this regard.
3. The Mandatary warrants that he/she shall not endanger the health & safety of the Client's employees and other persons in any way whilst performing work on the Client's premises.
4. The Mandatary understands that no work may commence on the Client's premises until this procedure is duly completed, signed, and received by the Client.
5. Non-compliance with any of the above clauses may lead to an immediate cancellation of the contract.

ACCEPTANCE BY MANDATARY

In terms of section 37(2) of the Occupational Health & Safety Act 85 of 1993 and section 5.1(k) of the Construction Regulations 2014,

Ia duly authorised 16.2 Appointee acting for and on behalf of(company name) undertake to ensure that the requirements and the provision of the OHSAct 85 of 1993 and its regulations are complied with.

Mandatory – WCA/ Federated Employers Mutual No.....

Expiry date

SIGNATURE ON BEHALF OF MANDATARY
(Warrant his authority to sign)

DATE

SIGNATURE ON BEHALF OF THE CLIENT
AIRPORT COMPANY SOUTH AFRICA

DATE

PART C1: AGREEMENTS AND CONTRACT DATA

C1.5: ACSA INSURANCE CLAUSES

INSURANCE CLAUSES FOR CAPEX PROJECTS

The insurance clauses in this document should be extracted and attached to tender documents and to contracts.

SECTION A: DEFINITIONS

Landside refers to:

- Areas of the airport before the security points, and
- The restricted area beyond the security points but, within the perimeter of gatehouses, passenger terminals and cargo buildings

Airside refers to:

- The Apron / manoeuvring areas
- Area within the airside boundary/perimeter fence, excluding the internal areas of the passenger terminals, perimeter gatehouses, and cargo building.

SECTION B: INSURANCE CLAUSES

1. Insurance requirements for contracts below R50 million on the AIRSIDE

1.1. Contract Works

- With regards to contract works claims, the contractor / consultant is responsible for a deductible (excess) of R250 000.
- Contractors/consultants may re-insure the deductible

1.2 Public Liability

- In the event of a claim brought against the contractor / consultant for 3rd party property damage the contractor / consultant will be responsible for a deductible (excess) of R525 000
- In the event of a claim brought against the contractor / consultant for removal of lateral support, the contractor / consultant will be responsible for a deductible (excess) of R750 000
- In the event of a claim brought against the contractor / consultant for damage to aircraft, the contractor / consultant will be responsible for a deductible (excess) of R750 000
- Contractors / consultants may re-insure the deductibles

1.3 Professional Indemnity

- All consultants are responsible for Professional Indemnity cover of R5 million
- Contractors who have a material design element, excluding typical P & G related work, as part of their scope, are responsible for a Professional Indemnity cover of R5million.
- In the event of a claim above R5million, the ACSA PI cover will kick in for the amount in excess of R5million.
- Proof of cover in the form of a certificate of insurance should be provided to ACSA before a contract is signed between ACSA and the contractor and/or consultant.

3.1 Contract Works

With regards to contract works claims, the contractor / consultant is responsible for the following deductibles:

- All Civil Work and Earthworks – R300 000 deductible (excess)
- All other claims – R300 000 deductible (excess)
- Other property insured – R700 000 deductible (excess)
- Contractors / consultants may re-insure the deductibles

3.2 Public Liability

- In the event of a claim brought against the contractor / consultant for 3rd party property damage the contractor / consultant will be responsible for a deductible (excess) of R275 000
- In the event of a claim brought against the contractor / consultant for removal of lateral support, the contractor / consultant will be responsible for a deductible (excess) of R500 000
- Contractors / consultants may re-insure the deductibles

3.3 Professional Indemnity

- All consultants are responsible for Professional Indemnity cover of R10million
- Contractors who have a material design element, excluding typical P & G related work, as part of their scope, are responsible for a Professional Indemnity cover of R10 million
- In the event of a claim above R10 million, the ACSA PI cover will kick in for the amount in excess of R10m
- Proof of cover in the form of a certificate of insurance should be provided to ACSA before a contract is signed between ACSA and the contractor and/or consultant.

PART C2: PRICING DATA**Pricing Schedule****Pricing Schedule A. Preliminaries**

Item	Cost
Personnel Permits (Provisional amount to be claimed on proven cost)	R 10 000
The cost associated with vehicle compliance measures for site activities. (e.g. amber light, reflective stripes, and signages)	R 20 000
Training and induction	R 10 000.

1. Extraction of raw water from the river to the treatment plant – B					
Unit	Activity	Unit	Rate	QTY	Price
1.1.	Pre-feasibilities	Sum			R -
1.2.	Design	Sum			R -
1.3.	Construction	Sum			R
1.4.	Post-construction treatment including pumps and existing facility tie-inns.	Sum			R
1.5.	Commissioning and reporting including all licences and authorisation for water use.	Sum			R
Existing borehole verification and commissioning – C					
ITEM	DESCRIPTION	UNIT	RATE	QTY	TOTAL
1	Pump Testing to meet service borehole requirements @ 72 hrs	Sum			R -
2	Water Quality Analysis (Chemical Analysis, Organics, Micro)- Full SANS	Sum			R -
3	Borehole Pump equipment	Sum			R -
4	System commissioning, reporting and authorizations.	Sum			R -
	Sub Total – C				R -
New borehole drilling – D					
ITEM	DESCRIPTION	UNIT	RATE	QTY	TOTAL
1	Pre-feasibilities and site establishment	Sum			R -
2	Testing and design	Sum			R -
3	Construction	Sum			R -
3	Post construction treatment and existing facility tie-inns	Sum			R -
4	Commissioning and reporting including all licences and authorisation for water use.	Sum			R -
	Sub Total – E				R -
Water Quality Monitoring- D					
16	Daily Compliance Lab Micro-analysis (Ecoli) x 4 points @ R 250/point	Day			R -
17	Daily Chemistry Analysis x 4 points @ R 250/point)	Weekly			R -
18	Once off feasibility Full SANS analysis (filter outlet, Tet overflow, Buffer Dam Outlet)	Weekly			R -
19					
	Sub Total – E				R -

Pricing Schedule F

(This section to be used by the bidder to price additional work that is not covered on Section B)

Item	Rate	Quantity	Cost

Summary of Price

Pricing Schedule A (Provisional sum)	R 40 000
Pricing Schedule B- Extraction of raw water from the river to the treatment plant – B	R
Pricing Schedule C- Existing borehole verification and commissioning – C	R
Pricing Schedule D- New borehole drilling – D	R
Pricing Schedule E- Water Quality Monitoring- D	R
Pricing Schedule F- Additional work by the Bidder	R
Total price excluding VAT	R
Vat	R
Total price all-inclusive	R

PART 3: SCOPE OF WORK

Document reference	Title; Replacement of software and GPU's ant KSIA	No of pages
	This cover page	1
C3.1	<i>Employer's Works Information</i>	
C3.2	<i>Contractor's Works Information</i> ¹	
	Total number of pages	

.	
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¹ Insert at award stage or delete if not applicable. Delete this note once a selection is made.

C3.1: EMPLOYER'S WORKS INFORMATION

DRILLING OF BOREHOLES AND WATER EXTRACTION FOR USE

C3.2. Description of the works

GLOSSARY OF TERMS

Aquifer: a geological formation, which has structures or textures that hold water or permit appreciable water movement through them [from National Water Act (Act No. 36 of 1998)].

Borehole: includes a well, excavation, or any other artificially constructed or improved groundwater cavity which can be used to intercept, collect, or store water from an aquifer; observe or collect data and information on water in an aquifer, or recharging an aquifer [from National Water Act (Act No. 36 of 1998)].

Fractured aquifer: Fissured and fractured bedrock resulting from decompression and/or tectonic action. Groundwater occurs predominantly within fissures and fractures.

Groundwater: water found in the subsurface in the saturated zone below the water table or piezometric surface i.e., the water table marks the upper surface of groundwater systems.

Hydraulic conductivity: a measure of the ease with which water will pass through earth material; defined as the rate of flow through a cross-section of one square metre under a unit hydraulic gradient at right angles to the direction of flow (in m/d)

Intergranular Aquifer: Generally unconsolidated but occasionally semi-consolidated aquifers. Groundwater occurs within intergranular interstices in a porous medium. Typically occur as alluvial deposits along river terraces.

Transmissivity: the rate at which a volume of water is transmitted through a unit width of the aquifer under a unit hydraulic head (m²/d); the product of the thickness and average hydraulic conductivity of an aquifer.

ABBREVIATIONS & UNITS

ADF Ash disposal facility

Bh- Borehole

CGS Council for Geoscience

EC electrical conductivity

K Hydraulic Conductivity

Km kilometre

L/s Litres per second

M meters

M3 cubic meter

mg/l milligrams per litre

mm millimetres

mS/m milli Siemens per metre

S Storability

Sy Specific yield

WL Water level

KSIA- King Shaka International Airport

ACSA- Airport Company South Africa

ATNS- Air Traffic Navigation System

TET- Treated Effluent Tank

WWTP- Waste Water Treatment Plant

Scope of works:

The scope is aimed at sourcing a suitable service provider to provide a turn-key solution from investigation to a level of providing a high-level feasibility study and costing from the end-to-end process. The service provider is also to propose a resource structure to meet this need. The service provider to manage the project on behalf of ACSA.

The work in this scope is packaged in a turnkey project solution to cover the following deliverables:

- The service provider to conduct necessary tests on existing boreholes that were dug for underground water monitoring purposes, to establish if they cannot be used for general purposes, treat, and ensure that the treated water shall comply with the SANS 241:2015 drinking water standards.
- The service provider provides the solution by extracting water from the nearby stream, treat, and distribute it to the main water reservoir through the piping system and pumps.
- The service provider to provide a solution to augment the water supply through the drilling of boreholes within the vicinity of the airport, preferably close to the main reservoir.

Extent of the works

Phase 1 Scope- Existing borehole testing and Water extraction:

The service provider to conduct necessary tests on existing boreholes that were dug for underground water monitoring purposes, to establish if they cannot be used for general purposes, treat, and ensure that the treated water shall comply with the SANS 241:2015 drinking water standards. The service provider to conduct tests on existing boreholes that were dug for testing. These borehole were drilled for underground water testing.

- Water yielding test
- Pump sizing, installation
- Water Quality Testing
- Borehole pump & piping to Tet/Buffer Dam
- Water use licence is required.
- Development of water re-treatment plan.

Solution to extract water from the existing testing boreholes to be done in the following activities and stages:

- Pre-feasibility
- Design
- Construction
- Commission and operations and maintenance of the proposed solution

1. Existing borehole testing and drilling.

1.1. Pre-feasibility:

The service provider to conduct the necessary yield test on the existing boreholes that were initially drilled within KSIA operations facilities for monitoring purposes, to establish the suitability for the intended application.

1.2. Design and Construction

- The service provider to design scope according to assessment result to propose the suitable pump size, piping, filtration system and treatment mechanisms.
- The service provider shall drill and equip a suitable borehole to suit the intended application.

1.3. Commissioning:

The service providers to develop and make available commissioning reports and all relevant drawings and designs at the end of the contract.

Phase 2- Extraction of water from the nearby Stream:

Stages:

- Conduct water quality test
- Purposes the size of a submersible pump to be used
- Installation of a pump sump and filtration system.
- Piping (To be measured on-site, from the stream to the TET)

- Coupling and connection to the TET
- Reserve determination required from DWS
- Application for water use License Required from DWS.

Phase 3- New borehole site establishment nearby the Main Reservoir

Complete borehole drilling Main Reservoir. The following stages are highlighted for clarity of activities to be covered in the scope, the bidder to add, and the price accordingly to ensure that a turnkey solution is provided.

- Geohydrological supervision of borehole surveying
- Borehole siting
- Yield testing
- Borehole Drilling,
- Pumps sizing and output confirmation
- Pump testing and Pump installation,
- Water quality testing
- Water treatment plant and equipment establishment
- Storage tanks installation
- Water use license application by Water reticulation and for water use authorization as per DWS requirements in KwaZulu Natal.

3.1. Borehole Siting

This activity entails the scientific search for and location of a drilling target that is assessed to have the greatest chance for success. The responsibility for this task must fall to a team of qualified and experienced personnel in the service of the Executive Agency. This team must be capable of successfully integrating the earth sciences of geophysics, geology, and Geo-hydrology.

The undertaking of geophysical survey using the electrical method and/or magnetic method. A geophysical survey to be carried out by a Geo-hydrologist within the main reservoir boundaries to determine the drilling exact locations of the production borehole:

- A survey layout to set (direction, length, and station spacing).
- Magnetic or electrical resistivity readings are to be recorded along each selected traverse. Geophysical results to be processed to obtain 2D dimensional pseudo-sections.

Pseudo-sections to be interpreted to understand the local lithostratigraphy setting and groundwater potential, From the interpretation, a more suitable drilling position might be determined.

3.2. Borehole Drilling.

This activity entails the drilling of a water supply borehole and its proper construction and development. It must be accomplished by a suitably experienced drilling contractor functioning under the direct supervision of the Executive Agency team responsible for the siting of the borehole.

Drilling supervision and quality control to be undertaken by a Geo-hydrologist during drilling by a drilling contractor.

The following tasks are being used as a guideline but not limiting activities that the bidder recommends as applicable:

- Drilling of 206mm up 20mbgl and 165 mm borehole up to a maximum depth of 120mbgl (depending on the water strikes yields encountered) using rotary air percussion method or mud rotary method depending on the local geological setting.
- Solid casing installation, borehole development, borehole disinfection and blow yield estimation as per the

client specification; and

- Preparing a borehole completion certificate which includes lithology log, water level, water strikes, and borehole construction details as required by ACSA.

3.3. Borehole Pump Testing.

This activity provides data for an evaluation of the yield potential of the borehole and the groundwater resource from which it draws its water. The testing must be accomplished by a suitably experienced testing contractor again functioning under the direct supervision of the principal appointed entity/ team responsible for the siting of the borehole and the supervision of its drilling and construction.

The following yield tests are to be undertaken under the supervision of a Geo-hydrologist to determine the sustainable yield of the boreholes and to determine the size of submersible pumps. The following points are mostly applied to production boreholes:

- 3 to 4 times step drawdown tests of 90 minutes each.
- 24hours constant rate pumping test.
- Recovery test (>95%).
- Groundwater samples to be collected in the appropriate bottle provided by a SANAS accredited laboratory. An EC/pH probe is to be used on-site to measure field parameters, and Groundwater samples are to be submitted to a SANAS accredited laboratory for Physio-chemical and bacteriological analysis according to SANS 241:2015 water quality guideline.

A water sample should be collected from the end of the discharge pipeline no sooner than 15 minutes before the scheduled end of a pumping test whether this is of a calibration, stepped discharge, or constant discharge nature. This is to ensure that a water sample is collected in case testing does not proceed to include either one or both latter two types of tests. The standard amount of sample normally collected is in a clean, sterilised plastic bottle of capacity 240 ml or greater and equipped with a watertight screw-on cap. This is the standard-issue sample bottle provided by the DWAF. Depending on the analysing laboratory's requirements, however, a sample of up to two litres in volume may have to be collected. The Geo-hydrological Consultant to advise on this matter in instances where the contractor is required to collect samples, in which case the consultant to provide ampoules containing preservative chemicals if required. All other materials such as sample bottles, tie-on labels, and sample custody forms are to be provided by the contractor.

Table 4-11. The period after which a constant discharge test may be considered completed.

CONSTANT DISCHARGE TEST DURATION	ALLOWABLE TIME ELAPSED TO BREAKDOWN
24 hours	20 hours (equivalent to 80% of total time)
36 hours	30 hours (equivalent to 83% of total time)
48 hours	38 hours (equivalent to 79% of total time)
72 hours	60 hours (equivalent to 77% of total time)

3.4. Borehole utilization recommendations:

This must be based primarily, but not exclusively, on analysis and evaluation of the borehole testing data and a quality assessment of the groundwater. The responsibility for this activity must fall to the same principal bidding entity involved with the borehole siting, drilling, and testing activities.

3.5. Electrical Submersible Pump and tank Installation

- Making sure that the pumping installation is undertaken according to DWS minimum standards and guidelines as required by the client.

- Design and quality control of equipment, making sure that the right pump size is installed.

According to aquifer testing results, a suitable electrical submersible pump is to be selected. The selected electrical pump is to be installed and connected to the tank to be supplied by the bidder.

Water Use Authorisation

- The Geo-hydrologist to follow the water use authorization process as prescribed by DWS:
- Pre-application consultation or needs determination.
- Application and information gathering for water use license.
- Legal and technical assessment, evaluation, and input, and
- DWS assessment review, recommendation, and decision.
- Local authorities to approve the use of water for the purpose.

Reporting:

Technical reports to be submitted including siting report, drilling report, pump testing report, pump installation report, water quality report, engineering design, and WULA report. Management measures and other appropriate recommendations to be included.

Progress Reporting

It is required of the Geo-hydrological Consultant to provide the Implementing Authority with a weekly progress report. This report should be emailed through on the Monday following the week for which progress is being reported on. It should address the following aspects of the work: (1) activities (referenced to localities) completed in the reporting week, (2) the dates on which the completed actions were undertaken, and (3) a summary of estimated expenditure associated with each of the completed actions, (4) activities (referenced to localities) to be undertaken in the forthcoming week and (5) a summary of estimated expenditure associated with each of the forthcoming actions to be undertaken.

The format of a weekly progress report must subscribe to the accuracy, brevity, and clarity of data and information reporting.

Technical Report

This report must bring together in a single coherent document all relevant project activities and results due to the efforts of the Geo-hydrological Consultant. The technical report must contain All the information on which the Geo-hydrological Consultant's interpretation(s) and final decision(s), conclusion(s), and recommendation(s) are based. This document serves as the primary source of project information for purposes of future reference. It should be completed, and three copies thereof submitted to the Implementing Authority within 45 days of completion of the project. The format of the technical report must again subscribe to the key issues of accuracy, brevity, and clarity.

A conceptual structure and content for such reports are provided hereunder.

(a) An **Introduction** containing a brief discussion of (1) the locality of the study area, (2) the terms of reference, and (3) the scope of work performed.

(b) A section on **Desk Study** activities mentioning: (1) sources of information and (2) the volume, type, and nature of information sourced, and material consulted.

A section on **Borehole Siting** activities provides a brief description of: (1) the methods employed, (2) the efficacy of the individual methods for drilling results (success or failure rate achieved) as well as (3) a summary of the scope of this work, as relevant, in terms of the total number and length (line-kilometres) of traverses, the range of station interval between measurements and the total number of resistivity soundings undertaken.

- (d) A section on **Borehole Drilling** activities providing a tabulated summary of salient data and information.
- (e) A section on **Test Pumping** activities providing a tabulated summary of salient data and information.
- (f) A section on the **Geology** and **Geo-hydrology** of the study area in which previously known and available information is collated with "new" project data.
- (g) A section on **Groundwater Quality** provides a tabulated summary of hydro-chemical data and addresses any specific concerns in this regard.
- (h) A section on **Borehole Utilisation** provides a tabulated summary of recommendations in this regard.
- (i) An **Appendix** comprising, for each borehole, a set of (1) graphed geophysical data presented as profiles, (2) a borehole construction and Geo-hydrological log, (3) a set of test pumping data sheets, (4) a set of test pumping graphs and (5) a borehole utilization recommendation report.

Equipment Installation Details

The Geo-hydrological Consultant must furnish recommendations in respect of (1) the type of pumping equipment suitable for the augment of a successful borehole and (2) the depth to which pumping equipment must be installed. The type of pumping equipment is to be dictated by the borehole yield as determined from test pumping data or other reliable yield information. The two basic types of equipment are (1) hand-operated pumps and (2) motorized pumps. A general guideline is to regard only an assessed production yield of more than 0.5 l/s as suitable for a motorized pump installation. It is not in the interests of the project for the Geo-hydrological Consultant to be overly conservative when making assessments and recommendations regarding the utilization of a borehole.

SOURCE MANAGEMENT

The Geo-hydrological Consultant responsible for the siting and evaluation of the water source should assess the sustainable yield of the groundwater resource which has been developed for the community. This assessment should incorporate consideration of the variability of recharge from rainfall in determining the annual volume of groundwater available to the community in the long term.

Further, it is considered that subjecting a production borehole to continuous pumping (24 hours per day) provides the most effective way to exploit a groundwater resource. This is more readily achieved in instances where the borehole can be fitted with an electrically powered motorized installation rather than a diesel-engine driven installation. Nevertheless, combining this consideration with the annual volume of groundwater available in the long term indicates the daily production rate, expressed as m³/day, at which the borehole can safely be operated. Conversion of this unit to the standard borehole yield unit of litres per second (l/s) facilitates the selection of pumping equipment. The principal advantages of continuous borehole operation are: (1) a smaller pump design and energy input requirements leading to capital savings, and (2) the elimination of fluctuating groundwater levels, thereby minimizing the potentially detrimental effect on borehole yield due to incrustation from iron or manganese hydroxides as a result of the growth of iron bacteria enhanced through excessive aeration of the aquifer and (3) curbing the urge to increase the production yield and/or extend the pumping schedule to which a borehole is subjected.

It is therefore required of the Geo-hydrological Consultant responsible for groundwater development to provide a 24-hour extraction rate for each production borehole capable of supporting a motorized installation. Such instances necessarily require the establishment of additional storage capacity from which to meet peak demands not able to be met by a lower yield.

Groundwater Quality

This must be established based on the proposed guidelines for the health-related assessment of water quality for domestic use recently published jointly by the Departments of Water Affairs and Forestry and of Health.

For this scope, information on the use of water for drinking by humans has been drawn from the referenced

publication. This by no means ignores the other possible domestic uses of water such as for bathing and personal hygiene, laundry, and watering of edible crops. Information regarding the suitability criteria for these uses must be sought in the referenced publication. The water quality substances which are recognized as being of concern to domestic users are identified in Table 4-12 together with the concentration limits of each per water class defined above. It is therefore required that samples of groundwater that are collected for quality assessment purposes must be analysed for these substances.

Table 4-12. Water quality substances and criteria of concern for drinking purposes.

SUBSTANCE	UNIT OF MEASURE	UNIT OF MEASURE RANGE PER CLASS OF WATER			
CLASS 0		CLASS I	CLASS II	CLASS III	
Fecal coliforms	counts/100 ml	0	0 to 1	1 to 10	> 10
Total dissolved solids	mg/l	0 to 450	450 to 1000	1000 to 2450	> 2450
Electrical conductivity	mS/m	0 to 70	70 to 150	150 to 370	> 370
pH	pH units	6.0 to 9.0	5.0 to 6.0 9.0 to 9.5	4.0 to 5.0 9.5 to 10.0	< 4.0 > 10.0
Turbidity	NTU	0 to 1	1 to 5	5 to 10	> 10
Arsenic	mg/l As	0 to 0.010	0.010 to 0.05	0.05 to 0.2	> 0.2
Cadmium	mg/l Cd	0 to 0.005	0.005 to 0.010	0.010 to 0.020	> 0.020
Calcium	mg/l CaCO ₃	0 to 32	32	32 to 80	> 80
Chloride	mg/l Cl	0 to 100	100 to 200	200 to 600	> 600
Fluoride	mg/l F	0 to 1.0	1.0 to 1.5	1.5 to 3.5	> 3.5
Iron	mg/l Fe	0 to 0.1	0.1 to 0.2	0.2 to 2.0	> 2.0
Magnesium	mg/l Mg	0 to 30	30 to 70	70 to 100	> 100
Manganese	mg/l Mn	0 to 0.05	0.05 to 0.1	0.1 to 1.0	> 1.0
Nitrate	mg/l N	0 to 6	6 to 10	10 to 20	> 20
Potassium	mg/l K	0 to 50	50 to 100	100 to 400	> 400
Sodium	mg/l Na	0 to 100	100 to 200	200 to 400	> 400
Sulphate	mg/l SO ₄	0 to 200	200 to 400	400 to 600	> 600
Total Alkalinity	mg/l CaCO ₃	not reported	not reported	not reported	not reported
Zinc	mg/l Zn	0 to 3	3 to 5	5 to 10	>10

NOTES: Underlined "substances" denote macro-element determinants.

Class 0 denotes water of ideal quality, Class I a good quality water, Class II water that is safe for short-term use only, and Class III is an unacceptable quality of water.

Commissioning deliverables:

On Completion, the service provider is to ensure compliance with all relevant **SANS standards. Environmental by-laws and water use permissions.**

The following are required schedules of conformance, but not limited to SANS that are to be provided by the Service provider.

Summarized schedule for borehole drilling:

- Site location
- Borehole coordinates

- The name of the project.
- The reference number and the issue number of each drawing and each document, together with its title and date of issue.
- The type(s) of installation and the nominal diameter(s) of the installation pump control valve(s);
- Pump diameters and output level of each pump and pump curves.
- In the event of there being any deviation(s) from this standard, details of the deviation(s), including reasons for the deviation(s); and
- The location and type of pump installation and control valve(s), alarm motor(s), and gong(s).
- The location and details of alarm switches (such as water, air, pressure, and electric alarm switches). If any
- The location and size of any tail-end air valve(s), subsidiary stop valve(s), and drain valve(s). if any
- In the case of alternate installations, the drainage slopes, and directions of the pipework.
- A key to any symbols used that have not been explained in the drawings

1. Contract Management

Management meetings.

The Contractor will be expected to attend meetings relating to the project, maintenance, operation's, contract management and other issues that may arise from time to time. As far as is practicable, the Contractor will make all required persons available for these meetings. The Contractor shall not submit claims for payment for staff attending any of these meetings. Either party will nominate a person to take minutes of the meeting. The Minutes to be distributed prior to date of the next meeting. The Meeting to take place every Friday of the week at 14H00 unless pre-arranged by either party

Health and safety risk management (i) The Project Manager shall be entitled to fine the Contractor low service damages for each non-conformance to Health and Safety matters. This shall not transfer any of the Contractor's responsibilities in this regard to the Employer by any means.

(ii) The Contractor shall be fully responsible for compliance to the Occupational Health and Safety Act for all persons, equipment and installations relating to this Contract. The Contractor is expected to sign the undertaking in this regard as attached in the annexes.

(iii) It shall be the Contractor's responsibility to ensure that all relevant labour and safety legislation is adhered to in rostering staff.

- (iv) All persons on company premises shall obey all health and safety rules, procedures, and practices. NO SMOKING signs and the prohibition of the carrying of smoking materials in designated areas shall always be obeyed. A copy of the Safety Rules booklet is available on request from the ACSA Safety Department.
- (v) All the applicable requirements of the Occupational Health and Safety Act (1993) and Regulations and any amendments thereto, shall be met. Where the OHS, Act prescribes certification of competency of persons performing certain tasks, proof of such certification shall be provided to the Project Manager.
- (vi) The Contractor's Workmen's Compensation fees must be up to date. A copy of the Contractor's WCA registration shall be produced on request. The following areas in the company are declared as "HOT WORKS PERMIT" areas: All airside areas
 - All basement areas
 - All areas accessible to the public
 - All enclosed areas
 - The terminal building
- (vii) Any process in the above-mentioned areas involving open flames, sparks, or heat shall be authorised by the issue of a permit to work - obtainable from the ACSA Safety department. Any work done under the protection of a permit to work shall be in strict compliance with every prescription regarding the permit.
- (viii) Safety equipment shall be used where applicable (e.g., safety, goggles, boots, harness, etc.) The Contractor, at his/her own expense shall provide such equipment, for his/her employees. The Contractor shall apply the necessary discipline and control to ensure compliance by his workers.
- (ix) All Contractors must ensure that his/her employees are familiar with the existing emergency procedures and must co-operate in any drills or exercises, which might be held. Emergency / fire equipment and extinguishers shall not be obstructed at any time.
- (x) No person shall perform an unsafe / unhygienic act or operation whilst on Company premises.
- (xi) No unsafe/dangerous equipment or tools may be brought onto or used on Company premises. The Company reserves the right to inspect all equipment/tools at any time and to prevent/prohibit their use, without any penalty to the Company and without affecting the terms of the Contract in any way.

- (xii) The Company reserves the right to act in any way to ensure the safety/security of any persons, equipment or goods on its premises and will not be liable for any costs or loss evoked by the action. This includes the right to search all vehicles and persons entering, leaving or on the premises and to inspect any parcel, package, handbag, and pockets. Persons who are not willing to permit such searches may not bring any such items or vehicles onto the premises.
- (xiii) The Contractor shall maintain good housekeeping standards in the area where he is working for the duration of the contract.
- (xiv) At no time, must the Contractor interfere with, or put at risk, the functionality of any Sprinklers and/or fire prevention system. In cases where the project is for the replacement or refurbishment of the Sprinkler System, care must be taken to prevent fire hazards.
- (xv) The Contractor is required to issue all staff with standard uniforms. This shall as a minimum include steel-tipped safety shoes/boots, overalls (clearly marked with Contractor's company logo) and numbered reflective jackets (also clearly marked with Contractor's company logo, the team members unique personnel number in a font size to be instructed by the Project Manager). All costs relating to uniforms shall be for the Contractor's account.

Environmental constraints and management The Contractor will keep noise and dust levels to a minimum. At no time, shall his/her work result in nuisance, interference, or danger to the public or any other person working at the Airport.

At no time, shall the Contractor:

- allow any pollutive or toxic substance to be released into the air or storm water systems
- interfere with, or put at risk, the functionality of any system or service
- cause a fire or safety hazard

Quality assurance requirements

All work must be executed in accordance with prevailing industry norms and standards relating to quality. In this regard, the Contractor will be expected to draft quality plans for the Project Manager from time to time. Emphasis must be on improving system reliability and on ensuring that rostered maintenance work is indeed performed as and when required

Within the period stated in the Contact Data, the *Contractor* submits his complete quality control and assurance system (with all quality control and assurance procedures and manuals) for review and acceptance by the *Employer*. The

manual includes pro-forma checklists for all requirements of the *Contractor's* quality control and assurance program and those called for in the Scope.

Acceptance by the *Employer* of the *Contractor's* quality assurance programme, quality plans and/or inspection and/or test plans, or of those of his Subcontractors will not relieve the *Contractor* of his obligation to provide services which meet the requirements of the Contract.

Programming

The Contractor shall provide the project schedule to the Project Manager, detailing all key dates to the projects, i.e., forecast start, forecast finish etc. The contractor to take note that the airport is an international airport and remains open 24 hours for any schedule's flights and flight diversions.

The *Contractor's* Personnel

The contractor to attach organogram of the company as well as the organogram for personnel for this project.

Insurance provided by the *Employer*

Provision of bonds and guarantees

Without limitation to the Employer's rights under the Contract, the *Employer* may withhold payment of amounts due to the *Contractor* until the bond or guarantee required in terms of this contract has been received and accepted by the person notified to the *Contractor* by the *Project Manager* to receive and accept such bond or guarantee. Such withholding of payment due to the *Contractor* does not affect the *Employer's* right to termination stated in this contract.

Records of Defined Cost, payments & assessments of compensation events to be kept by the *Contractor*

Invoices shall be supplied on email as electronic copies to the Project manager. Payments to be made upon proven costs and work completed as per the bill of quantities. The contractor to keep register for all employees on site on daily basis. All project related incidents and instruction must be kept by the contractor at the site office to be provided by the employer. All records to be handed over to the employer at the completion of the project. All drawings and sketches provided by the employer to be returned at the end of the contract. Training workshops and technology transfer

The contractor to train the system user(s) on the new system operations and to train the maintenance contractor on system access, password, and adjustments. The contractor to ensure that the technology transfer training is a success with handing-over of training material to the employer.

2. **ENGINEERING AND DESIGN OF THE *WORKS***

Employer's design

Parts of the works which the Contractor is to design³

As design schematic drawings of the new software System on the Charlie and alpha Bridges.

Procedure for submission and acceptance of Contractor's design

As built drawings will be submitted with the handover documentation and approved by the Project Manager prior to acceptance.

Use of Contractor's design

The As Built drawings will be handed over to ACSA. The Contractor gives the Employer an irrevocable, transferrable, non-exclusive, royalty free licence to use and copy all IP related to the works for the purposes of constructing, repairing, demolishing, operating, and maintaining the works. Refer to Z14.

Equipment required to be included in the works

Contractor to supply own equipment (tools and scaffolding/cherry picker) required to execute the works. Parts of the *works* which the *Contractor* is to design²

As part of the design and layout of the Procedure for submission and acceptance of *Contractor's* design

Use of *Contractor's* design

The contractors design will then become the property of the employer.

Equipment required to be included in the *works*

The contractor to provide all tools and equipment for this service and the cost of such to be included in the bill of quantities.

² The information in this section is required by the contract. Do not delete.

As-built drawings, operating manuals, and maintenance schedules

The contractor to supply as part of this contract the as built drawings, maintenance manual, and operating manual in both hard copies and soft copies in the disc or USB format.

3. PROCUREMENT

The contractor to obtain pre-approval for third party procurement to the employer for goods or service sourcing. All goods sourced on behalf of the employer are to be done as per contract and on agreed mark-up rates.

The Contractor will respect OEM warranties to the Employer when procuring spare parts, products, or 3rd party services. It will be the Contractor's sole responsibility to ensure that OEM warranty requirements are adhered to always.

Where the Contractor uses or quotes on spare parts of a lower quality than recommended by the OEM, or parts not recommended by the OEM, this shall be clearly indicated to the Project Manager on the quotation.

This also implies that the Contractor must build relationships with the various key OEM's.

The Contractor must adhere to all airport requirements regarding fire, health and safety when procuring replacement of sprinkler system and/or other equipment or spares.

No casual labour (i.e., "off the street" labour) may be employed by the Contractor unless pre-arranged with the Employer. Whenever this is required, the Contractor shall come to a suitable arrangement with the Employer regarding the sourcing and screening of such individuals.

4. PERSONNEL:

Minimum requirements of people employed on the Site

The contractor to list of resources that are to be on site for this contract. A schedule of key personnel to this Contract (as per the Schedules) will be provided to the Project Manager at commencement of this Contract. This will, as a minimum, include all persons from technician level to management level. For the full duration of this Contract, none of these persons will be replaced by a person of lesser ability or qualification. All on-site staff leaves shall be reported and agreed with the Project Manager.

Subcontracting

Preferred subcontractors

No part of this Contract may be subcontracted unless with written approval from the Employer. the Employer shall be under no obligation to grant such approval. Should any part of this Contract be subcontracted, the Contractor will be responsible for all Works (or failure to affect the Works) as if it were done so by the Contractor.

Limitations on subcontracting

The Contractor may not subcontract more than 20% of the Works.

Plant and Materials

Plant & Materials provided “free issue” by the Employer

The contractor to ensure that all plant and material meets minimum safety standard and are fit for purpose. All the costs related to collection, delivery, storage, inspection, care, and control of plant and Materials must be for the contractor. “all other Plant and Materials are to be provided by the Contractor”

Contractor’s procurement of Plant and Materials

All plants and material purchased by the contractor will be the retained by the contractors at the end of the contract, unless paid for by the employer. All hired equipment will be at cost plus mark up.

Tests and inspections before delivery

The contractor to ensure that all parts, spares, and equipment are tested prior to delivery and installation. No cost will be transferred to the employer should it be found that wrong parts were delivered.

Marking Plant and Materials outside the Working Areas

The Contractor is to “mark” Plant and Materials which is outside the Working Areas if they are to be paid for before delivery to the Working Areas, as required by core clauses 70.1 and 71.1]

Construction

The Contractor must accept and respect the fact that the Airport is continuously undergoing construction and improvement and that a variety of stakeholders are involved in the Employer’s business. Therefore, within reason and with prior arrangement with the Contractor, the Employer might require the following from time to time:

- Assisting with airport operations Re-scheduling of work to accommodate other contractors
- Allowing access and aiding OEM suppliers to correct defects on equipment and/or systems
- Communicating with current service provider in order to reduce risk to passenger loading bridges
- Providing access to other contractors
- Removing scrap from site
- Recommending improvements on maintenance procedures
- Safe / legal disposal of used and irreparable spares.

The Project Manager may instruct operational and works procedures to the Contractor as might be required from time to time. The Contractor will instruct his/her staff accordingly and implement measures to ensure that these procedures are strictly adhered to.

Temporary works, Site services & construction constraints

Employer's Site entry and security control, permits, and Site regulations

Employer's Site entry and security control, permits, and Site regulations

The Contractor shall not be compensated for costs relating to the Employer's required permits, or for labour/time spent in obtaining it. An allowance must be made in the Activity Schedule in this regard.

The Contractor must ensure that he/she is, always, familiar with the Employer's safety and security requirements relating to permits for no work to be delayed as a result thereof. This will include the permit application process.

Note that (within reason) the Contractor will have no claim against the Employer if a permit request is refused.

The following table is not all inclusive, but is provided for illustration purposes:

Permit	Required by/for	Department
AVOP – Airside Vehicle Operator permit	All drivers of vehicles on airside	ACSA Safety
Airside Vehicle Permit	All vehicles that enter airside	ACSA Safety

Basement Parking permit	All vehicles allowed to enter the delivery basement	ACSA Parking
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Proof of having attended the airside induction training course is required for all personal permit applications. Persons applying for an AVOP must provide proof of having attended an AVOP course. Fees are levied for these courses. Fees are further levied for all permit renewals and refresher courses - where applicable

Restrictions to access on Site, roads, walkways, and barricades

The contractor to take full responsibility of access to their area of work and ensure that OHS act is adhered to, in terms of access records and barricades.

People restrictions on Site; hours of work, conduct and records

The contractor to make sure that records of people entering the construction site is well managed in terms of the safety and GMR standard.

Title to materials from demolition and excavation

core clause 73.2 states that the Contractor has title to materials from excavation and demolition only as stated in the Works Information.

Contractor's Equipment

The contractor to keep records of all equipment, its record of service and purchase date on site.

Equipment provided by the Employer

The employer will provide temporary storage of material.

Site services and facilities provided by the Employer

Employer will provide power, water, waste disposal, ablutions, fire protection, lighting etc, as required by core clause 25.2

Facilities provided by the Contractor

All measuring tools material and other material specified in the bill of quantities, consumables, tools, and equipment required to execute the project. *The facilities the Contractor is to provide their own accommodation, storage, vehicles, and office equipment. all facilities provided by the contractor at their own cost should the property of the contractor unless paid for by the employer. setting out of the works*

The contractor to make provision in the pricing for site establishment and setting up.

Site conditions and requirements

The Contractor will keep noise and dust levels to a minimum. At no time, shall his/her work result in nuisance, interference, or danger to the public or any other person working at the Airport. At no time, shall the Contractor:

- allow any pollutive or toxic substance to be released into the air or storm water systems
- interfere with, or put at risk, the functionality of any system or service
- cause a fire or safety hazard
- cause traffic with airport users

The Contractor will be required to do housekeeping and will be required to clear site and dispose of old material.

Construction requirements

Installation and decommissioning procedure to be provided by the Contractor and approved by the Employer (Project Manager). The program to clearly show sequence of activities, timelines, and resource allocations.

Completion, testing, commissioning, and correction of Defects

Work to be done by the Completion Date

All work is to be done by the Contractor shall be completed by the Completion Date.

The *Project Manager* cannot certify Completion until all the work has been completed and is also free of Defects which would have, in his opinion, prevented the *Employer* from using the *works* and Others from doing their work.

Use of the *works* before Completion has been certified

Core clause 35.2 provides that the Employer may use any part of the works before Completion has been certified but if he does so he takes over the part of the works except if the use is for a reason stated in the Works Information. The contractor to allow for part acceptance of work to ensure continuation of service without jeopardising the works warranties.

Materials facilities and samples for tests and inspections

All samples taken for this purpose remain the property of the owner.

Commissioning

To be conducted after installation and successful testing of the system, no work will be accepted without proper commissioning. The contractor to provide the commissioning procedure.

Start-up procedures required to put the works into operation

Isolation and start-up to be performed by the contractor as part of the project.

Take over procedures

Final handover from the Contractor to the Project Manager to be done once all the works have been completed and agreed upon.

Access given by the Employer for correction of Defects

core clause 43.4 requires that the Project Manager arranges for the Employer to allow the Contractor access to and use of a part of the works which has been taken over if needed to correct a Defect. After the works have been put into operation, the Employer will require the Contractor to ensure that all isolation, barricades, and signs are removed and all the equipment is ready to be safely used.

Performance tests after Completion

The contractor to provide the testing methods and procedures to ensure that products are delivered at a good state and fit for purpose.

Operational maintenance after Completion

The contractor not to include cost of maintenance as part of this contract but to allow for warranties and defects free period and latent defects.

5. Plant and Materials standards and workmanship

Barricading controls shall be implemented by the Contractor and authorised as part of the safe work system to protect persons from hazards such as:

- being struck by falling objects.
- fall from height, including falling into open excavations, penetrations, and falls from unprotected edges such as removed flooring, walkways, stairs and / or hand railings.
- unauthorised entry into a confined space or work area; and
- any potentially hazardous work processes, for example, hot works, scaffolding, radiation work and work involving asbestos.
- Barricading controls shall also be implemented and authorised as part of the incident management and emergency response procedures.
- It shall be ensured that safety signs are erected by the Contractor to warn workers of specific hazards and to communicate necessary precautionary measures and emergency actions.

The investigation, survey, and Site clearance

The contractor as part of the works to conduct site surveys, investigation and clearance prior to work execution.

Building works

All building works as part of the contract to be done in adherence to building regulations as standard. No work of sub standards will be approved.

Civil engineering and structural works

All civil related works to be done by qualified personnel and in line with applicable standards.

Electrical & mechanical engineering works

The contractor to make sure that all electrical appliances are treated as live unless verified for isolation. All isolation is to be done in conjunction with the Electrical department. All system provided to be in line with SABS with regards to electrical supplies and protections. Contractor to take note of unstable power supply and make provision for surge protection and uninterrupted power supply.

Process control and IT works

The contractor to make sure that all systems and controls are compatible with existing systems and on site are trained on the operation of the newly installed system. The system should conform to minimum standard related to electronics and software, and be able to accommodate load shedding, stop and start protection and lightning strikes.

6. List of drawings

1.1. Drawings issued by the *Employer*

This is the list of drawings issued by the Employer at or before the Contract Date and which apply to this contract.

Drawing number	Revision	Title
	01	WWTP Plant layout
	01	Site Coordinates for existing boreholes
	01	Google Earth position of the site
	01	Coordinates for earmarked areas for boreholes
	01	Airport layout
	01	Main Reservoir information

C3.2 CONTRACTOR'S WORKS INFORMATION

KSIA operating facilities have recently become vulnerable to the current water shortages and nonavailability, caused by the damage to municipal water infrastructure during recent floods that had hit the KZN province.

As a result, it has become prudent that alternative water supply sources are explored to meet daily potable water demands during this untimely crisis period and for future planned interruptions that may emanate/arise.

1.1 The following are locations where the work will be performed. Zone no.	1.2 General Location	1.3 Specific Location
1.4 1	1.5 King Shaka International airport land side	1.6 Waste Water Treatment plant site at southern area of the airport.
1.7 2	1.8 King Shaka land side	1.9 The western side of the airport near the 3M main water reservoir

The mission of Airports Company South Africa SOC Ltd (ACSA) is to develop and manage world-class airports for the benefit of all stakeholders.

The Company's strategy is built on collaborative and coherent engagements with its stakeholders. The Company focuses on strengthening its internal business processes and making the most of its bespoke information technology. ACSA directs its efforts towards improving its employees' skills and understanding as part of its effort to build human capital.

About King Shaka International Airport:

King Shaka International Airport ([IATA: DUR](#), [ICAO: FALE](#)), abbreviated **KSIA**, is the primary [international airport](#) serving [Durban](#), South Africa. Located in [La Mercy](#), [KwaZulu-Natal](#), approximately 35 km (22 minutes) north of the city centre of [Durban](#).

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PART C4: SITE INFORMATION



Airport type Public

Owner- Airports Company South Africa

Serves Durban, South Africa

Location La Mercy, KwaZulu-Natal, South Africa

Focus Durban City

Elevation AMSL 93 m / 304 ft

Coordinates 29°37.0'S 031°6.5'E Coordinates: 29°37.0'S 031°6.5'E

Website airports.co.za

Document reference	Title: Borehole Drilling and water extraction for use at KSIA KSIA6908/2022/RFP	No of pages
	This cover page	1
C4	Site Information	
	Total number of pages	52