

#### AGRICULTURAL RESEARCH COUNCIL

#### **INVITATION TO BID:**

**TENDER NO: ARC/03/15/23** 

## THE APPOINTMENT OF A SERVICE PROVIDER FOR REHABILITATION OF SINKHOLES: IRENE RESEARCH CAMPUS

**Technical Enquiries:** 

Name: François Swanepoel

Office Telephone No. : 012 842-4066 E-Mail: <u>SwanepoelF@arc.agric.za</u>

COMPANY NAME	SUPPLIER REGISTRATION NUMBER	UNIQUE REGISTRATION NUMBER	
			Main Contractor
			sub- contracted
			/ joint venture 1
			sub-contractor / joint venture

#### **COMPULSORY BRIEFING SESSION**

Venue: Agricultural Research Council, Irene, Centurion. ARC IRENE CAMPUS

**Date: 23 March 2023** 

Time: 10H00

CLOSING DATE: 31 MARCH 2023 TIME: 11:00 AM

THE DETAILS AND CONTENTS OF THIS DOCUMENT ARE CONFIDENTIAL AND FOR CONSIDERATION AND RESPONSE BY THE RECORDED RECIPIENTS ONLY











## PART A INVITATION TO BID

YOU ARE HEREBY INV	ITED TO BID FOR	REQUIREMENTS OF THE	<b>E</b> (NAME OF DE				
	03/15/23	CLOSING DATE:		31 MARCH 2023		OSING TIME:	11:00 AM
DESCRIPTION THE APPOINTMENT OF A SERVICE PROVIDER FOR REHABILITATION OF SINKHOLES: IRENE RESEARCH CAMPUS.							
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)							
ARC MAIN BUILDING (A	ANIMAL PRODUCT	ION)					
OLD OLIFANSFONTEIN	I ROAD , IRENE, P	RETORIA, 0062					
BIDDING PROCEDURE	ENQUIRIES MAY	BE DIRECTED TO	TECHNICAL E	NQUIRIES MAY B	E DIRE	CTED TO:	
CONTACT PERSON	Nkateko Khosa		CONTACT PE	RSON		Francois Sw	/anepoel
TELEPHONE NUMBER	012 672 9371		TELEPHONE I	TELEPHONE NUMBER		012 842-4066	
FACSIMILE NUMBER			FACSIMILE N	JMBER			
E-MAIL ADDRESS	khosan@arc.ag	<u> įric.za</u>	E-MAIL ADDR	ESS		SwanepoelF	@arc.agric.za
SUPPLIER INFORMATI	ON						
NAME OF BIDDER							
POSTAL ADDRESS							
STREET ADDRESS							
TELEPHONE NUMBER	CODE			NUMBER			
CELLPHONE NUMBER							
FACSIMILE NUMBER	CODE			NUMBER			
E-MAIL ADDRESS							
VAT REGISTRATION NUMBER							
SUPPLIER	TAX			CENTRAL			
COMPLIANCE STATUS	COMPLIANCE SYSTEM PIN:		OR	SUPPLIER DATABASE			
	OTOTEWIT IIV.			No:	MAAA		
B-BBEE STATUS	TICK AP	PLICABLE BOX]		US LEVEL SWOR	1	[TICK APPL	ICABLE BOX]
LEVEL VERIFICATION CERTIFICATE			AFFIDAVIT				
CERTIFICATE	☐ Yes	☐ No				☐ Yes	☐ No
		ATION CERTIFICATE/ S NCE POINTS FOR B-BI		DAVIT (FOR EME	S & Q	SEs) MUST BE	SUBMITTED IN
ARE YOU THE							
ACCREDITED REPRESENTATIVE IN				OREIGN BASED		∏Yes	□No
SOUTH AFRICA FOR	□Yes	□No		R THE GOODS /ORKS OFFERED	,	103	
THE GOODS			/SERVICES /W	OKKS OFFERED	ſ	[IF YES, ANSW	
/SERVICES /WORKS OFFERED?	[IF YES ENCLOS	SE PROOF]				QUESTIONNAI	RE BELOW J
QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS							
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?							
DOES THE ENTITY HAVE A BRANCH IN THE RSA?							
DOES THE ENTITY HAV	/E A PERMANENT	ESTABLISHMENT IN TH	E RSA?			☐ YE	S NO
DOES THE ENTITY HAV	/E ANY SOURCE C	OF INCOME IN THE RSA?	?			☐ YE	S NO
		ANY FORM OF TAXATION					S NO
		IE ABOVE, THEN IT IS N FRICAN REVENUE SER\					
5.5.2.m. m. 0002 1 N			(0/ 1.10) /11		,.		•

## PART B TERMS AND CONDITIONS FOR BIDDING

#### 1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED—(NOT TO BE RE-TYPED) OR IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.
- 1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
- 1.4. THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).

#### 2. TAX COMPLIANCE REQUIREMENTS

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS.
- 2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.
- 2.4 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
- 2.5 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
- 2.6 WHERE NO TCS PIN IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
- 2.7 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE."

NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PA	RIICULARS MAT RENDER THE BID INVALID.
SIGNATURE OF BIDDER:	
CAPACITY UNDER WHICH THIS BID IS SIGNED: (Proof of authority must be submitted e.g. company resolution)	
DATE:	

AND THE LIBE TO DROVIDE AND COMPLY MITH ANY OF THE AROUS PARTICLE AROUS DAY PENDER THE RIP INVALID

## PRICING SCHEDULE (Professional Services)

NAME OF BIDDER:		DID NO ARG/03/13/23			
CLOSING TIME 11:00			CLOSING DATE31 MARCH 2023.		
OFFER T	O BE VA	LID FOR120DAYS FROM THE CLOSING DATE OF BID.			
ITEM NO		DESCRIPTION	BID PR	RICE IN RSA CUR CABLE TAXES	-
	1.	The accompanying information must be used for the formulation of proposals.			
	2.	Bidders are required to indicate a ceiling price based on the total estimated time for completion of all phases and including all expenses inclusive of all applicable taxes for the project.	R		
	3.	PERSONS WHO WILL BE INVOLVED IN THE PROJECT AND RATES APPLICABLE (CERTIFIED INVOICES MUST BE RENDERED IN TERMS HEREOF)			
	4.	PERSON AND POSITION	HOURLY RATE	DAIL	Y RATE
			R		
			R		
			R		
			R		
	5.	PHASES ACCORDING TO WHICH THE PROJECT WILL BE COMPLETED, COST PER PHASE AND MAN-DAYS TO BE SPENT			
			R		da
			R		da
			R		da
			R		da
	5.1	Travel expenses (specify, for example rate/km and total km, class of airtravel, etc). Only actual costs are recoverable. Proof of the expenses incurred must accompany certified invoices.			
		DESCRIPTION OF EXPENSE TO BE INCURRED	RATE	QUANTITY	AMOUNT
					R
					R
					R

TOTAL: R.....

<sup>\*\* &</sup>quot;all applicable taxes" includes value- added tax, pay as you earn, income tax, unemployment insurance contributions and skills development levies.

Bid No.:

5.2	Other expenses, for example accommodation (specify, eg. Three star hotel, bed and breakfast, telephone cost, reproduction cost, etc.). On basis of these particulars, certified invoices will be checked for correctness. Proof of the expenses must accompany invoices.	d		
	DESCRIPTION OF EXPENSE TO BE INCURRED	RATE	QUANTITY	AMOUN
				R
				R
				R
				R
		TOTAL: R		
6.	Period required for commencement with project after acceptance of bid			
7.	Estimated man-days for completion of project			
8.	Are the rates quoted firm for the full period of contract?			*YES/N
9.	If not firm for the full period, provide details of the basis on which adjustments will be applied for, for example consumer price index.			

Any enquiries regarding bidding procedures may be directed to the -

(AGRICULTURAL RESEARCH COUNCIL)

ARC MAIN BUILDING (ANIMAL PRODUCTION)
OLD OLIFANSFONTEIN ROAD, IRENE, PRETORIA, 0062

**SCM** information

(Mr. Nkatekp Khosa) Tel: 012 672 9371

Email: khosan@arc.agric.za

Technical information -

(Francois Swanepoel)

Tel: 012 842-4066

Email: SwanepoelF@arc.agric.za

#### **BIDDER'S DISCLOSURE**

#### 1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

#### 2. Bidder's declaration

- 2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest1 in the enterprise, employed by the state?

  YES/NO
- 2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of State	te

2.2 Do you, or any person connected with the bidder, have a relationship

<sup>1</sup> the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

with any person who is employed by the procuring institution? YES/NO

2.2.1	If so, furnish particulars:		
2.3	Does the bidder or any of its of members / partners or any person enterprise have any interest in an not they are bidding for this contra	on having a controlling in ny other related enterpris	terest in the
2.3.1	If so, furnish particulars:		
3	DECLARATION		
	I, the (name)submitting the accompanying be statements that I certify to be true	 pid, do hereby make tl	ne following
3.1 3.2	I have read and I understand the I understand that the accompandisclosure is found not to be true	nying bid will be disqua	alified if this
3.3	The bidder has arrived at the acco- without consultation, communica- any competitor. However, commu- venture or consortium2 will not be	mpanying bid independer tion, agreement or arran unication between partne	ntly from, and gement with ers in a joint
3.4	In addition, there have been agreements or arrangements with quantity, specifications, prices, in used to calculate prices, market a submit or not to submit the bid, bi bid and conditions or delivery par which this bid invitation relates.	no consultations, come any competitor regardin- cluding methods, factors allocation, the intention of dding with the intention r	munications, g the quality, s or formulas or decision to not to win the
3.4	The terms of the accompanying disclosed by the bidder, directly o the date and time of the official becontract.	r indirectly, to any compe	etitor, prior to
3.5	There have been no consultationarrangements made by the bidden		

<sup>2</sup> Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

SBD4

institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.

3.6 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1. 2 and 3 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

Signature	Date
Position	Name of bidder

## PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

#### 1. GENERAL CONDITIONS

- 1.1 The following preference point systems are applicable to invitations to tender:
  - the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
  - the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

#### 1.2 To be completed by the organ of state

(delete whichever is not applicable for this tender).

- a) The applicable preference point system for this tender is the 80/20 preference point system.
- b) Either the 80/20 preference point system will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.
- 1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:
  - (a) Price; and
  - (b) Specific Goals.

#### 1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
HDIs (people who had no franchise on national elections prior to 1994)	8
Women	4
Youth	4

People with disabilities	2
Implementation of RDP goals (The promotion of SMMEs)	2
TOTAL	20
Total points for Price and SPECIFIC GOALS	100

- 1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.
- 1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

#### 2. **DEFINITIONS**

- (a) "tender" means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) "price" means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) "rand value" means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) "tender for income-generating contracts" means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) "the Act" means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

#### 3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

#### 3.1. POINTS AWARDED FOR PRICE

#### 3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

$$Ps = 80\left(1-rac{Pt-P\,min}{P\,min}
ight)$$
 or  $Ps = 90\left(1-rac{Pt-P\,min}{P\,min}
ight)$ 

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration
Pmin = Price of lowest acceptable tender

## 3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

#### 3.2.1. POINTS AWARDED FOR PRICE

A maximum of 80 or 90 points is allocated for price on the following basis:

$$80/20$$
 or  $90/10$   $Ps = 80\left(1+rac{Pt-Pmax}{Pmax}
ight)$  or  $Ps = 90\left(1+rac{Pt-Pmax}{Pmax}
ight)$ 

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

#### 4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—
  - (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
  - (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.

Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

#### **DECLARATION WITH REGARD TO COMPANY/FIRM**

4.3.	Name of company/firm		
4.4.	Company registration number:		
4.5.	TYPE OF COMPANY/ FIRM		
	<ul> <li>□ Partnership/Joint Venture / Consortium</li> <li>□ One-person business/sole propriety</li> <li>□ Close corporation</li> <li>□ Public Company</li> <li>□ Personal Liability Company</li> <li>□ (Pty) Limited</li> <li>□ Non-Profit Company</li> <li>□ State Owned Company</li> <li>[TICK APPLICABLE BOX]</li> </ul>		

- 4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:
  - i) The information furnished is true and correct:
  - ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
  - iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
  - iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have
    - (a) disqualify the person from the tendering process;
    - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
    - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
    - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a

fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and

(e) forward the matter for criminal prosecution, if deemed necessary.

	SIGNATURE(S) OF TENDERER(S)
SURNAME AND NAME:	
DATE:	
ADDRESS:	



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## TERMS OF REFERENCE FOR THE REHABILITATION OF THE SINKHOLES FOR IRENE RESEARCH CAMPUS

#### 1. INTRODUCTION AND BACKGROUND

The Agricultural Research Council (ARC) is a research science institution that conducts research, develop human capital, foster innovation and transfer technology to develop the agricultural sector.

#### 2. OBJECTIVE

The objective is to appoint a competent service provider for Rehabilitation of Sinkhole/s for Irene Research Council

#### 3. SCOPE OF WORK EXTENT OF WORK

The ARC would like to appoint a competent and experienced service provider that will rehabilitate the sinkholes that was formed in 2019. See attach Engineering geologist report # K9588-01 and K9588-02 by Mr SP Kock.

Service supplier will be responsible for:

- Rehabilitate of sinkholes (use estimates of the Engineering Geologist report)
- ECSA register Civil Engineer signing of the Rehabilitation of the sink holes and thus assume responsibility.
- Engineering services to design and signing of the concrete road over the repair sinkhole.
- Construction of concrete road per engineering design and specification
- · Material and equipment as per your Engineering design
- ECSA registered Civil Engineer signing off the restored road surface
- Repair all services (including but not limited to damaged water or sewage pipes) that was damage by the forming of the sinkholes

#### 3.1 GPS information

Site /sink hole no	GPS coordinate of site
1	-25.900849° 28.211285°
2	-25.904739° 28.215257°

#### 3.2 Rehabilitate Sinkhole

- Ensure existing services are not leaking (water). The sewer and storm water pipes will have to be diverted.
- Remove / divert all services required (e.g. water, electrical and telecom cables, street lights).
- Do crack inspection on nearby structures (photo record required) and provide a report.
- Excavate loose material around the sinkhole and stockpile to a depth of approximately 5m.
- Do Dynamic Compaction in sinkhole and around the subsided area.
- Dump large rock boulders (<1m min diameter) and Dynamic Compact.</li>
- Repeat above until a level of approx. 2,5m from surface has been reached.
- Backfill with G6 / G7 to surface. Compact to 93% Mod AASHTO density at ±2% of OMC in 150mm layers.
- Do in situ density testing (Troxler).
- Reinstate road layers (earth works to engineer's specification).
- Reinstate all services (e.g. water, sewer).
- · Reinstate road surface and clear site.

#### 3.3 Price breakdown

The tenderer must give a price breakdown as shown in Table 1. The ARC has the right to choose only certain projects depending on the quotations receive and budget available,

- Project 1 Rehabilitate of sinkhole #1,
- Project 2 Rehabilitate of sinkhole #2,
- Project 3 Reinstate Road surface at sinkhole 1.

Table 1

	ltem	Unit	Rate	Sin	khole 1	Sinkhole 2	
	item	Offic	Kale	Quantity	Price	Quantity	Price
1	Establishment (on and off site)	Sum		1	R		R
2	Ensure existing services are not leaking (water). The sewer and storm water pipes are on the other side of John Vorster Road.	Sum		1	R		R
3	Remove, divert and repair all services required (water, electrical and telecom cables, street lights).	Sum		1	R		R
4	Do crack inspection on nearby structures (photo record required).	Sum		1	R		R
5	Excavate loose material around the sinkhole and stockpile.	m³		1900	R	150	R

	·						
6	Do DC in sinkhole and around the subsided area.	m³		760	R	90	R
7	Dump large rock boulders (<1min diameter) and DC.	m³		760	R	30	R
8	Backfill with G6 / G7 to surface. Compact to 93% Mod AASHTO density at ±2% of OMC in 150mm layers.	m³		1140	R	60	R
9	Do in situ density testing (Troxler).	Test		16	R	8	R
10	Reinstate road layers and construct concrete road surface to your Engineering design.	m³		68	R	20	R
11	Reinstate all services.	Sum		1	R	1	R
12	Reinstate concrete road surface.	m²		150	R	0	R
13	Clear site.	Sum		1	R	1	R
14	Engineering certificate for rehabilitation of sink holes			1	R	1	R
14	Engineering certificate for concrete road			1	R	0	R
	Contingency		R3	00 000	F	R100 000	

Total (Ex VAT)		
Plus VAT @ 15%		
Total (including VAT)		

#### 4. EXPECTED DELIVERABLES

- 1. The bidder will be expected to rehabilitate the sinkhole/s for ARC Animal production, Irene research campus
- 2. The bidder is expected to reinstate the road surface upon completion of sinkholes rehabilitation.

#### 5. Project Plan/Schedule

Contractor shall provide a detailed level 5 tier project schedule prepared in Microsoft Project of all construction activities (refer to the specifications and BOQ and the scope of works for details) through to handover. Schedule shall include:

- All activities / work breakdown structure above
- timelines
- resources to be used
- logical sequence of activities
- Schedule must include critical path

#### 6. DURATION OF THE PROJECT

The project must be completed within **nine (9)** months after the signing of the SLA by both parties. Regular performance appraisals to monitor the identified Key Performance Indicators shall form part of the SLA.

#### 7. COMPULSORY BRIEFING SESSION

A Compulsory briefing session will be held at Name of institution: ARC – AP, Irene Campus

Date: 23 March 2023

Time: 10h00

#### 8. Sites conditions

The contractor will be responsible to provide but not limited to:

- All steel
- Bolts and nuts
- All building material, i.e. Boulders, cement, 19mm, bricks, stone and sand, G5 etc.
- Electricity need by contractor
- · Water need by the contractor

#### 9. Ownership

The contractor will be responsible for safekeeping of all building materials and tools until the official completion of site handover.

#### Standards & dimensions

- All potential air leaks must be sealed off in the whole glasshouse structure.
- All equipment and fittings supplied must be protected against corrosion. The greenhouse interior environment will be at a relative humidity of between 60% and 80%, therefore good protection against corrosion is of utmost importance.
- All work must comply with the National Building Regulations & Building Standards Act SANS 0400 1990 (or latest). Local council requirements & all relevant specifications and codes must be adhered to.
- Indicated dimensions to be taken in preference to scaling. Overall dimensions (external) to take precedence.
- All dimensions, levels and heights must be checked on site and any discrepancies to be reported to the Engineers before any work takes place.
- All dimensions on drawings and documents must be checked before commencing of any work and/or compiling of tenders.
- Within 7 days of being issued with an order, the contractor must indicate what information, drawings or specification are still outstanding
  or needs clarification. After 7 days, it is assumed that the contractor knows exactly what must be done and no delays will result in this
  respect.

#### 10. Site survey

- The contractor will determine the conditions before providing the ARC with a quotation.
- The contractor will determine, prior to commencing work, the location of all underground services such as water, electricity and communication pipes or lines by engaging an authorized service locator, the cost of which is to be borne by the contractor.
- The contractor will replace or fix any services, surfaces and finishing damaged during course of construction.

#### 11. Site cleaning & safety

- The site must be clean at all times.
- The Contractor is liable for the safety of his workers and work conditions according to the OHS act.
- The Contractor is responsible to keep all equipment safe.
- The Contractor to remove all building rubble and clean site after completion of work before final payment can be considered.

#### 12. Contingency

- An amount of R500 000 will be approved for variations and contingency
- No variations or contingency will be valid, unless approved by API Facility Manager in writing.
- The ARC has the right not to spend this contingency or only part of it.
- The R500 000 must be clearly stated in the quotation as Contingency.

#### 13. EVALUATION CRITERIA

#### The evaluation for this bid will be carried out in the following THREE (3) phases

- > Phase 1: Pre-Compliance
- > Phase 2: Mandatory requirements
- Phase 3: Functionality Criteria
- Phase 4: Price and Specific goals

#### 13.1 PHASE 1:PRE-COMPLIANCE

During this phase bid documents will be reviewed to determine the compliance with SCM Returnable documents, tax matters and whether proof of registration on Central Supplier Database (CSD) has been submitted with the bid documents at the closing date and time of The bid. Bids which do not satisfy the compliance criteria will not be evaluated further.

The bid proposal will be screened for compliance with administrative requirements as Indicated below

ITEM NO.	ADMINISTRATIVE REQUIREMENTS	CHECK/COMPLIANCE
1	Master Bid Document	Provided and bound
2	SCM - SBD 1 - Invitation to Bid	Completed and signed
3	SBD 3.3 and Annexure A Pricing Schedule	Fully Completed
4	SCM - SBD 4 - Bidders Disclosure	Completed and signed
5	Completed and signed	Attached CSD registration number/ Proof of CSD registration and/or SARS Tax Pin
6	Tax Compliance and CSD Registration	Attached CSD registration number/ Proof of CSD registration and/or SARS Tax Pin
7	SCM - SBD 6.1 - Preference Points Claim Form in terms of the Preferential Procurement Regulations 2022	Completed and signed
8	In case of bids where Consortia / Joint Ventures, Consortia/Joint Venture agreement signed by both parties must be submitted with bid proposal	JV agreement completed and signed, if applicable

#### **13.2 MANDATORY REQUIREMENTS**

	MANDATORY REQUIREMENT	ATTACH PROOF
1	CIDB grading of 4 CE	
2	ECSA certificate/ registration number	

NB: Bidders who fail to comply with Mandatory requirements will not be evaluated further and will be disqualified.

#### 13.3 PHASE 3: FUNCTIONALITY CRITERIA

#### **FUNCTIONALITY CRITERIA**

The bidder must score a minimum of **70%**, during phase 3 (functionality/technical) of the evaluation to qualify for Phase 4 of the evaluation where only points for price and Specific goals will be considered

The following values/ indicators will be applicable when evaluating functionality:

0 = Non-compliance; 1 = Poor; 2 = Fair; 3 = Average; 4 = Good; 5 = Excellent

Bidder's must have executed renovation relevant experience for the assignment: ( <b>The bidder must attach duly signed recommendation letter(s)</b> to qualify for the indicated points) (see: ANNEXURE A: RECOMMENDATION LETTER)		WEIGHT
Bidder with at least 1 RECOMMENDATION LETTERS FOR REHABILITATION OF SINKHOLE over R1 000 000 each	1	
Bidder with at least 2 RECOMMENDATION LETTERS FOR REHABILITATION OF SINKHOLE over R1 000 000 each	2	20%
Bidder with at least 3 RECOMMENDATION LETTERS FOR REHABILITATION OF SINKHOLE over R1 000 000 each	3	

Bidder with at least 4 RECOMMENDATION LETTERS FOR REHABILITATION OF SINKHOLE over R1 000 000 each	4	
Bidder with at least 5 RECOMMENDATION LETTERS FOR REHABILITATION OF SINKHOLE	5	
over R1 000 000 each		

Company Experience/past performance - Use Annexure B to populate		WEIGHT
1 points will be allocated to a tenderer who has done project/s in <b>REHABILITATION OF SINKHOLE</b> with a <b>combined</b> value of less than R2 <b>000 000</b> in the last 7 years.	1	
2 points will be allocated to a tenderer who has done project/s in <b>REHABILITATION OF SINKHOLE</b> with a <b>combined</b> value between <b>R2 000 000 and R3 000 000</b> in the last 7 years.	2	40%
3 points will be allocated to a tenderer who has done project/s in <b>REHABILITATION OF SINKHOLE</b> with a <b>combined</b> value between <b>R3 000 000 and R4 000 000</b> in the last 7 years.	3	
4 points will be allocated to a tenderer who has done project/s in <b>REHABILITATION OF SINKHOLE</b> with a <b>combined</b> value between <b>R4 000 000 and R5 000 000</b> in the last 7 years.	4	
5 points will be allocated to a tenderer who has done project/s in <b>REHABILITATION OF SINKHOLE</b> with a <b>combined</b> value above <b>R5 000 000</b> in the last 7 years.	5	

General experience, level of education and training Civil Engineer must be registered with ECSA with at 5 year proof of Rehabilitation of sinkholes, Building excavations & lateral earth support relevant experi Site Manager must have at least a National Diploma in Civil Engineering (NQF level 6) recognized by SAfrican Qualifications Authority (SAQA) with 3 years relevant Experience. The Foreman must have at least certificate (NQF Level 5) in Building or Civil Engineering recognized by SAQA with 3 years relevantee, The Safety Officer must have a Health and Safety qualification and be registered with SAfrican Council for the Project and Construction Management Professions (SACPCMP) with 3 years relevanteeprience, Administrative Officer must have at least a matric certificate with 3 years relevant experience.	ence. South east a evant South evant	WEIGHT
1 Point = No information provided		
	1	
2 Points = Civil Engineer the 1 mention Key staff personnel with the relevant experience as listed above	2	40%
3 Points = Civil Engineer + the 2 mention Key staff personnel with the relevant experience as listed above	3	
4 Points = Civil Engineer + the 3 mention Key staff personnel with the relevant experience as listed above	4	
5 Points = Civil Engineer + the 4 mention Key staff personnel with the relevant experience as listed above	5	

**NB**: Bidders that do not obtain a **minimum score of 70%** for functionality will be disqualified and will not be evaluated further on price as per the formula from National Treasury.

#### 13.4 PHASE 4 PRICE AND SPECIFIC GOALS

Preference point system applicable for this bid is 80/20 for procurement of goods and service below and equal to R50 million rands

#### SPECIFIC GOALS

In line with the Preferential Procurement Regulations 2022, a preference point system must be followed, where: For contracts with a prescribed Rand value, a maximum of 20 points will be allocated for specific goals in this bid as follows

The Preferential Procurement Regulations 2022 includes the implementation of RDP goals as one of the specific goals, therefore over and above the awarding of preference points in favour of HDIs, the activities listed as contributors towards achieving the goals of the RDP (published in Government Gazette No. 16085 dated 23 November 1994) will also be applied

	SPECIFIC GOALS	POINTS
1	Who had no franchise on national elections before the 1983 and	8
	1993 constitution	
2	Who are women	4
3	Who is a youth	4
4	Who has a disability	2
5	Implementation of RDP goals	2
	TOTAL FOR SPECIFIC GOALS	20

#### PRICE

Bid will be awarded to a bidder with the highest points on price and specific goals on condition that they have met all phases of the evaluation criteria and complied with the tender requirements set out in the tender document. The bidder will be allocated 80 of the price and 20 for SPECIFIC GOALS

The points scored by a tenderer in respect of SPECIFIC GOALS contemplated in section 5, read with section 2(1)(b)(i) and (ii) and 2(1)(c), of the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000), and with effect from 16 January 2023. Made the regulations set out in the Preferential Procurement Regulations 2022 Schedule

section 2(1)(e) of the Act an organ of state must, in the invitation to submit tenders, clearly specify the specific goals for which a point may be awarded, must be added to the points scored for price

#### 14. BID SUBMISSION REQUIREMENTS

Bidders should ensure that the following submission requirements, which will be needed for evaluation purposes are included in their bid proposal and are as follows:

- 1. The service provider must draft a table of contents which will indicate where each document is located in the proposal.
- 2. The proposal shall consist of one master original document, and must clearly indicate the Prices on SBD 3.1
- 3. The information in the CV of the proposed Team/ Project Leader should include relevant Experience in the chosen area of expertise.
- 4. Project reference specifying the role played by the service provider in the listed projects or Assignments, project value and the duration of the project (start and end date).
- 5. A detailed Project Plan with clear indication of who will be responsible for the management of the assignment as well as its execution. The allocation of team members on the assignments should be based on the experience in delivering the scope of work as listed.
- 6. Standard bidding documents (SBD1, 3.1, 4, 6.1).
- 7. Copy of Central Supplier Database (CSD) report/ SARS Tax Status Pin.

#### 15. LEGISLATIVE FRAMEWORK OF THE BID

#### Tax Legislation

- 1. Bidder must at all times attempt to be compliant when submitting proposal to ARC and remain Compliant for the entire contract term with all applicable tax legislation, including but not limited to the Income Tax Act, 1962 (Act No. 58 of 1962) and Value Added Tax Act, 1991 (Act No. 89 of 1991).
- 2. Bidders who make taxable supplies in excess of R1 million in any 12-month consecutive period are liable for compulsory VAT registration, but a person may also choose to register voluntarily provided that the minimum threshold of R500 000 has been exceeded in the past 12-month period. Bidders who meet the above requirement must register as VAT vendors, if successful, within one month of award of the bid.
- 3. SARS Tax Status Pin requirements/ or Central Supplier Database (CSD) number or report must be provided.

#### 16. PROCUREMENT LEGISLATION

- 1. Bidders should be cognisant of the legislation and/or standards specifically applicable to the services.
- 2. If the application is made by a joint Venture or Partnership, the accreditation credentials in the name of the joined entities should be submitted. Members in the joint venture must meet the requirement of the proposal.

**PRIVACY AND PROTECTION OF PERSONAL INFORMATION ACT 4 OF 2013** protecting personal information is important to the Department of Forestry, Fisheries, and the environment. To do so, DFFE follows general principles in accordance with applicable privacy Laws and the Protection of Personal Information Act 4 of 2013 (POPIA).

- 1. ARC'S role as the responsible party is, amongst others to process personal information for the intended purpose for which it was obtained and in line with legal agreements with its respective/ prospective services providers and third parties
- 2. ARC will process personal information only with the knowledge and authorisation of the Bidder/respondent and will test personal information which comes to its knowledge as Confidential and will not disclose it, unless so required by law or subject to the exception Contained in the POPIA.
- 3. ARC reserves all the rights afforded to it by the POPIA in the processing of any of its Information as contained in this bid and the bidder/respondent is required to comply with all Prescripts as detailed in the POPIA relating to all information concerning ARC.
- 4. In responding to this bid, , ARC acknowledges that it will obtain and have access to personal information of the bidder/respondent.ARC agrees that it shall only process the information disclosed by the bidder/respondent in their response to this bid for the purpose of evaluation and subsequent award of the tender and in accordance with any applicable law

#### 17. SPECIAL CONDICTIONS OF CONTRACT.

- 1. The bidder will be required to provide a weekly report of work done and mile stones achieved
- 2. WARRANTY Equipment should have a 1-year (12 months) guarantee on the mechanical components, electrical components and cover repair and replacement parts.
- 3. The contractor shall provide a progress report on a weekly basis and where progress is not satisfactory Procurement Policy and Guidelines will guide the outcomes.
- 4. All the conditions specified in the General Conditions of Contract (GCC) will apply and where Conditions in the special conditions of contract contracts the conditions in the general conditions of contract the special conditions of contract will prevail.
- 5. Letter of Authority to sign documents on behalf of the company.
- 6. The proposals should be submitted with all required information containing technical information.
- 7. Bidders failing to meet pre-compliance, mandatory requirements, and functionality Minimum score will automatically be disqualified.
- 8. Service providers are requested to submit a Central supplier registration report to claim for specific goals
- 9. SBD 6.1 must also be duly completed, signed, and submitted alongside the bid to claim preference points. Failure to do so will result in B-BBEE preference points being forfeited.
- 10. If the application is made by a Joint Venture or Partnership, the accreditation credentials in name of joined entities should be submitted. Members in the joint venture must meet the requirement of the proposal.
- 11. Poor or non-performance by the bidder will result in cancellation of works orders.

#### 18. SUB-CONTRACTING CONDITIONS/ REQUIREMENTS

- 1. In a case a tenderer is intending to sub-contract portion of work, such tenderer awarded a contract may only enter into sub-contracting arrangements with the approval of the department In relation to a designated sector, a contractor will not be allowed to subcontract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 2. The contractor is not allowed to sub-contract more than 25% of the contract value after award to another enterprise that does not have equal or higher B-BBEE status level, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract.

#### 19. PAYMENT TERMS

1. ARC undertakes to pay out in full or as per deliverables within thirty (30) days all valid claims for work done to its satisfaction upon presentation of a substantiated claim and the required reports stipulated in special conditions. No payment will be made where there is outstanding information/ work not submitted by the Service Provider/s until that outstanding information is submitted.

#### 20. Technical Enquiries

Name: Mr. Francois Swanepoel Email: <a href="mailto:SwanepoelF@arc.agric.za">SwanepoelF@arc.agric.za</a>

**SCM Enquiries** 

Name: Mr Nkateko Khosa Email: khosan@arc.agric.za

#### **ANNEXURE A: RECOMMENDATION LETTER**

RECOMMENDATION LETTER FORMAT				
Bidder's Letterhead				
We are submitting a bid for the contract described below. We appreciate your assistance and effort in completing, on your letterhead, the reference as set out below on your experience with us.				
Reference Letterhead	Reference Legal Name			
The name of the company you are giving a reference for				
Describe the Contract / Project work and/or Se	rvice the above bidder provided to your organization:			
Project period (start date)				
Project period (end date)				
Project cost that the bidder was responsible for (Vat Inc)				

Please rate the above bidder according to the following criteria by ticking the relevant column and providing comments / details in the space provided below if relevant:							
Criteria	Doesn't meet requirements	Meets requirements	Exceeds requirements				
Project was completed within <b>budget</b>							
Project was completed within the required time frame							
The bidder understood and delivered successfully on the scope of work							
Professionalism							
Quality of workmanship							
Quality of materials used / adherence to given specifications							
Availability of company resources							
Overall Impression / Satisfaction with bidder							

Further details on any of the points above, or any other comments	
Number of times used in the past years	
Would you use the provider again	Yes / No
Completed by:	
Designation:	
Signature:	
Company Name:	
Contact Telephone Number:	
Date:	

## **ANNEXURE B: Company past 7 years performance**

	Company	Description of work done for which your company was responsible for w.r.t.  REHABILITATE OF THE SINKHOLES	Name and Contact details of customer	Date of contract 2016 ->	Value of the work done for which your company was responsible for w.r.t. REHABILITATE OF THE SINKHOLES			
1								
2								
3								
4								
	Add rows as needed							
	Total							

## THE NATIONAL TREASURY

## **Republic of South Africa**



# GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT

**July 2010** 

#### **GOVERNMENT PROCUREMENT**

### GENERAL CONDITIONS OF CONTRACT July 2010

#### **NOTES**

The purpose of this document is to:

- (i) Draw special attention to certain general conditions applicable to government bids, contracts and orders; and
- (ii) To ensure that clients be familiar with regard to the rights and obligations of all parties involved in doing business with government.

In this document words in the singular also mean in the plural and vice versa and words in the masculine also mean in the feminine and neuter.

- The General Conditions of Contract will form part of all bid documents and may not be amended.
- Special Conditions of Contract (SCC) relevant to a specific bid, should be compiled separately for every bid (if (applicable) and will supplement the General Conditions of Contract. Whenever there is a conflict, the provisions in the SCC shall prevail.

# TABLE OF CLAUSES

1.	Definitions
2.	Application
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6.	Patent rights
7.	Performance security
8.	Inspections, tests and analysis
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10.	Delivery and documents
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13.	Incidental services
14.	Spare parts
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18.	Contract amendments
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30.	Applicable law
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33.	National Industrial Participation Programme (NIPP)
34.	Prohibition of restrictive practices

#### **General Conditions of Contract**

#### 1. Definitions

- 1. The following terms shall be interpreted as indicated:
- 1.1 "Closing time" means the date and hour specified in the bidding documents for the receipt of bids.
- 1.2 "Contract" means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- 1.3 "Contract price" means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.
- 1.4 "Corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.
- 1.5 "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.
- 1.6 "Country of origin" means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
- 1.7 "Day" means calendar day.
- 1.8 "Delivery" means delivery in compliance of the conditions of the contract or order.
- 1.9 "Delivery ex stock" means immediate delivery directly from stock actually on hand.
- 1.10 "Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.
- 1.11 "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the

#### RSA.

- 1.12 "Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- 1.13 "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.
- 1.14 "GCC" means the General Conditions of Contract.
- 1.15 "Goods" means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
- 1.16 "Imported content" means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the supplies covered by the bid will be manufactured.
- 1.17 "Local content" means that portion of the bidding price which is not included in the imported content provided that local manufacture does take place.
- 1.18 "Manufacture" means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.
- 1.19 "Order" means an official written order issued for the supply of goods or works or the rendering of a service.
- 1.20 "Project site," where applicable, means the place indicated in bidding documents.
- 1.21 "Purchaser" means the organization purchasing the goods.
- 1.22 "Republic" means the Republic of South Africa.
- 1.23 "SCC" means the Special Conditions of Contract.
- 1.24 "Services" means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such

obligations of the supplier covered under the contract.

1.25 "Written" or "in writing" means handwritten in ink or any form of electronic or mechanical writing.

#### 2. Application

- 2.1 These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services, sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.
- 2.2 Where applicable, special conditions of contract are also laid down to cover specific supplies, services or works.
- 2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

#### 3. General

- 3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.
- 3.2 With certain exceptions, invitations to bid are only published in the Government Tender Bulletin. The Government Tender Bulletin may be obtained directly from the Government Printer, Private Bag X85, Pretoria 0001, or accessed electronically from <a href="https://www.treasury.gov.za">www.treasury.gov.za</a>

#### 4. Standards

4.1 The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

# 5. Use of contract documents and information; inspection.

- 5.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.
- 5.2 The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.
- 5.3 Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.
- 5.4 The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

#### 6. Patent rights

6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.

# 7. Performance security

- 7.1 Within thirty (30) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.
- 7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.
- 7.3 The performance security shall be denominated in the currency of the contract, or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:
  - (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
  - (b) a cashier's or certified cheque
- 7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified in SCC.

# 8. Inspections, tests and analyses

- 8.1 All pre-bidding testing will be for the account of the bidder.
- 8.2 If it is a bid condition that supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or contractor shall be open, at all reasonable hours, for inspection by a representative of the Department or an organization acting on behalf of the Department.
- 8.3 If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.
- 8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the supplies to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.
- 8.5 Where the supplies or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such supplies or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.
- 8.6 Supplies and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.
- 8.7 Any contract supplies may on or after delivery be inspected, tested or

analyzed and may be rejected if found not to comply with the requirements of the contract. Such rejected supplies shall be held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with supplies which do comply with the requirements of the contract. Failing such removal the rejected supplies shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute supplies forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected supplies, purchase such supplies as may be necessary at the expense of the supplier.

8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 23 of GCC.

#### 9. Packing

- 9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the purchaser.

# 10. Delivery and documents

- 10.1 Delivery of the goods shall be made by the supplier in accordance with the terms specified in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified in SCC.
- 10.2 Documents to be submitted by the supplier are specified in SCC.

#### 11. Insurance

11.1 The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the SCC.

#### 12. Transportation

12.1 Should a price other than an all-inclusive delivered price be required, this shall be specified in the SCC.

# 13. Incidental services

- 13.1 The supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:
  - (a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;
  - (b) furnishing of tools required for assembly and/or maintenance of the supplied goods;
  - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;

- (d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and
- (e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.
- 13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

#### 14. Spare parts

- 14.1 As specified in SCC, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:
  - (a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and
  - (b) in the event of termination of production of the spare parts:
    - (i) Advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and
    - (ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

#### 15. Warranty

- 15.1 The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.
- 15.2 This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.
- 15.3 The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.
- 15.4 Upon receipt of such notice, the supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.
- 15.5 If the supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the purchaser may proceed to take

such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

#### 16. Payment

- 16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified in SCC.
- 16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfillment of other obligations stipulated in the contract.
- 16.3 Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.
- 16.4 Payment will be made in Rand unless otherwise stipulated in SCC.

#### 17. Prices

17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized in SCC or in the purchaser's request for bid validity extension, as the case may be.

# 18. Contract amendments

18.1 No variation in or modification of the terms of the contract shall be made except by written amendment signed by the parties concerned.

#### 19. Assignment

19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.

#### 20. Subcontracts

20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contracts if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.

# 21. Delays in the supplier's performance

- 21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.
- 21.2 If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.
- 21.3 No provision in a contract shall be deemed to prohibit the obtaining of supplies or services from a national department, provincial department, or a local authority.
- 21.4 The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the

supplier's point of supply is not situated at or near the place where the supplies are required, or the supplier's services are not readily available.

- 21.5 Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 21.2 without the application of penalties.
- 21.6 Upon any delay beyond the delivery period in the case of a supplies contract, the purchaser shall, without canceling the contract, be entitled to purchase supplies of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

#### 22. Penalties

22.1 Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

# 23. Termination for default

- 23.1 The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:
  - (a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2:
  - (b) if the Supplier fails to perform any other obligation(s) under the contract; or
  - (c) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.
- 23.2 In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.
- 23.3 Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.
- 23.4 If a purchaser intends imposing a restriction on a supplier or any

person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the intended penalty as not objected against and may impose it on the supplier.

- 23.5 Any restriction imposed on any person by the Accounting Officer / Authority will, at the discretion of the Accounting Officer / Authority, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the Accounting Officer / Authority actively associated.
- 23.6 If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information:
  - (i) the name and address of the supplier and / or person restricted by the purchaser;
  - (ii) the date of commencement of the restriction
  - (iii) the period of restriction; and
  - (iv) the reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

- 23.7 If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website.
- 24. Anti-dumping and countervailing duties and rights
- 24.1 When, after the date of bid, provisional payments are required, or antidumping or countervailing duties are imposed, or the amount of a
  provisional payment or anti-dumping or countervailing right is
  increased in respect of any dumped or subsidized import, the State is
  not liable for any amount so required or imposed, or for the amount of
  any such increase. When, after the said date, such a provisional
  payment is no longer required or any such anti-dumping or
  countervailing right is abolished, or where the amount of such
  provisional payment or any such right is reduced, any such favourable
  difference shall on demand be paid forthwith by the contractor to the
  State or the State may deduct such amounts from moneys (if any)
  which may otherwise be due to the contractor in regard to supplies or
  services which he delivered or rendered, or is to deliver or render in
  terms of the contract or any other contract or any other amount which

may be due to him

# 25. Force Majeure

- 25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.
- 25.2 If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

# **26.** Termination for insolvency

26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

# 27. Settlement of Disputes

- 27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.
- 27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.
- 27.4 Mediation proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.
- 27.5 Notwithstanding any reference to mediation and/or court proceedings herein,
  - (a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and
  - (b) the purchaser shall pay the supplier any monies due the supplier.

# 28. Limitation of liability

- 28.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6;
  - (a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and

(b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

# 29. Governing language

29.1 The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.

### 30. Applicable law

30.1 The contract shall be interpreted in accordance with South African laws, unless otherwise specified in SCC.

#### 31. Notices

- 31.1 Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice
- 31.2 The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.

# 32. Taxes and duties

- 32.1 A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.
- 32.2 A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.
- 32.3 No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid the Department must be in possession of a tax clearance certificate, submitted by the bidder. This certificate must be an original issued by the South African Revenue Services.

# 33. National 33.1 Industrial Participation (NIP) Programme

The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.

# 34 Prohibition of Restrictive practices

- 34.1 In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder (s) is / are or a contractor(s) was / were involved in collusive bidding (or bid rigging).
- 34.2 If a bidder(s) or contractor(s), based on reasonable grounds or evidence obtained by the purchaser, has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in the Competition Act No. 89 of 1998.

34.3 If a bidder(s) or contractor(s), has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.

Js General Conditions of Contract (revised July 2010)

Investigation into the cause and proposed rehabilitation of a sinkhole on the Bull Testing Road, Argricultural Research Council, Irene

(Tshwane Metropolitan Municipality)

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> Report no: K9588-02 Project no: 9588-GB

> > October 2020

Title: Investigation into the cause and proposed

rehabilitation of a sinkhole on the Bull

Testing Road, Argricultural Research Council,

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Project no: 9588-GB

**Report no:** K9588-02

Project Team: S P Kok

JK Drilling Contractor

Date: October 2020

Approved for GeO Buro Geotechnical Surveys

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#### **APPENDICES**

Appendix A: Percussion borehole profiles

Appendix B: Precautionary measures

Appendix C: Drawings and photographs

#### 1. Introduction

This firm was appointed by Ms Joline Dreyer of Crawford Loss Adjusters on behalf of Bryte Insurance Company and Co-Insurers to investigate the cause and to assist in the rehabilitation of a sinkhole which formed on the Bull testing Road of the Agricultural Research Council, Irene (City of Tshwane). A sinkhole developed probably due to a leaking water pipe. The aim of the report is to describe the conditions encountered on site and to make recommendations into the repair of the sinkhole. The investigation was carried out by S P Kok Pr Sci Nat (Engineering Geologist).

#### 2. Site location and description

The sinkhole(s) developed on the Bull Testing road of the Agricultural Research Council. It formed due to a galvanised steel water pipe leaking. Two small sinkholes developed and are linked with and underground tunnel. The sinkholes are each about 1,5m in diameter and approximately 1m deep. The total area affected is approximately 7m by 9msee also photographs in Appendix C.

A coordinate in the centre of the sinkhole is at approximately -25.904700° S and 28.215271° E. The locality of the site is indicated on *drawing number 9588-1-01: Locality map.* 

The area slopes very slightly to the east.

#### 3. General geology

The available geology map and the results of this investigation shows that the sinkhole has developed in an area underlain by chert rich dolomite of the Monte Christo Formation of the Malmani Subgroup of the Chuniespoort Group, Transvaal Supergroup. Some very thick chert is also indicated on the available geology map.

The general geology of the area is indicated on drawing number 9588-02: Geology map. Generally deep dolomite bedrock was expected and this was confirmed by most boreholes.

#### 4. Groundwater conditions

Groundwater was not encountered in any of the boreholes drilled in this area. However, the boreholes were drilled to a maximum depth of 30m. Available information indicates that the groundwater level is approximately 35m to 40m below ground level.

The site is probably located in the Centurion Groundwater Compartment. This groundwater compartment is not dewatered. The groundwater level is in the bedrock and lowering of the groundwater table will not impact on the dolomite stability of this area.

#### 5. Available information

Maps

• The published geology map 2528 CC Lyttelton (Government Printer) at a scale of 1:50 000.

Reports and data

Centurion Geotechnical databank.

Numerous sinkholes and subsidences have occurred at the ARC over the last 30 years, mainly due to older wet services and poor storm water management.

• DWA groundwater information.

#### 6. Cause of the sinkhole

Two small sinkholes developed due to a leaking water pipe (see photograph in Appendix C). The holes are probably linked. The pipe is a galvanised steel pipe, but seems to be corroded, which probably leaked and caused the sinkholes.

#### 7. Site evaluation

The area was evaluated by drilling boreholes around the sinkhole and subsided area. Two boreholes have been drilled to a maximum depth of 20m. The percussion borehole profiles are attached in Appendix A.

Please note that weathered dolomite refers to the dolomite encountered above the hard rock dolomite. Leached dolomite refers to weathered zones within the dolomite bedrock

profile. Low density zones refer to generally wad-rich zones where rapid drilling penetration (less than 12 seconds per metre) is recorded and is often associated with sample and air losses.

After a site inspection it was decided to drill two percussion boreholes (i.e. boreholes S10 and S11) around this sinkhole where access could be obtained and at least a safe distance away from the sinkhole and outside the subsided area. All of the borehole positions are indicated on drawing number 9588-2-03 and the borehole profiles are attached in Appendix A.

The boreholes around the sinkholes often show poor subsurface conditions. However; both the two boreholes drilled in close proximity of this subsided area, showed fairly good dolomite stability conditions. Borehole S10 encountered weathered dolomite at 2,6m and hard rock dolomite at 4,3m. Borehole S11 encountered weathered rock at 4m and hard rock dolomite at 15,6m. In both boreholes the near surface materials consists of chert rich dolomite residuum. No air or sample losses and no rapid penetration rates were recorded.

This area is generally a shallow dolomite rock area and the Inherent Hazard Class for this area will probably be 3/5 (apart from the fact that sinkholes developed due to a leaking pipe).

In general it can be concluded that this is an area with a fairly irregular dolomite bedrock profile; and the dolomite rock is irregular i.e. pinnacled in this area.

#### 8. Rehabilitation of the sinkhole

The repair / rehabilitation of the sinkhole and affected area encountered at the Bull testing Road is described below.

#### Repair sinkhole / subsidence

Usually sinkholes are rehabilitated by removing all loose materials around the site and then start backfilling with large rock boulders that is dynamically compacted up to approximately1,5m to 2m below ground level. The remainder of the hole is then backfilled by compacting G6 or G7 quality material to 95% Mod AASHTO density up to surface level.

In place of dynamic compaction, an alternative method is proposed which is to backfill the void with dump rock and to add self-compacting concrete to stabilize the dump-rock layer. The proposed rehabilitation process is shown on drawing number 9588-2-03.

#### Repair sinkhole (self-compacting concrete)

The methodology is as follows:

- Excavate to a depth of approximately 2,5m using an excavator or TLB the entire subsided area by over excavating approximately 1,5m and creating an inverted conical shaped excavation.
- Start backfilling by dumping dump rock (300mm to 600mm in diameter) and add self-compacting concrete to stabilize the dump-rock layer.
- Insert a Bidim layer.
- The remainder of the hole is then backfilled by compacting G6 or G7 quality material to 95% Mod AASHTO density up to surface level in 200mm layers.
- Do Troxler / in situ density tests to ensure that the compaction was done adequately. Two tests per layer.
- Reinstate services to comply with SANS1936 (2012) i.e. sewer and storm water pipes.
- Ensure that drainage in the area is such that effective storm water run-off occurs.
- 2.1 Ensure existing services are not leaking (water pipe transects the sinkhole). The sewer and storm water pipes located on the western part of the sinkhole also leaked into the sinkhole. Do pipe camera inspection if necessary.
- 2.2 Remove / divert all services required (water, electrical and telecom cables, street lights).
- 2.3 Excavate loose material around the sinkhole and stockpile.
- 2.4 Dump large rock boulders (<600mm in diameter).
- 2.5 Repeat above until a level of approx. 1,5m from surface has been reached.
- 2.6 Place low slump, low strength self-compacting concrete to stabilise the boulders
- 2.7 Backfill with G6 / G7 to surface. Compact to 95% Mod AASHTO density at  $\pm 2\%$  of OMC in 200mm layers.
- 2.8 Do in situ density testing (Troxler).
- 2.9 Reinstate road layers (earth works to engineer's specification).
- 2.10 Reinstate all services.
- 2.11 Reinstate road surface.
- 2.12 Clear site.

The proposed rehabilitation process is shown on drawing number 9588-2-03.

It is proposed to rehabilitate the subsided area using the best practical options available. It will be important to improve the existing services to lower the risk for leaks. Any water / sewer or storm water leaks in this area are likely to result in a subsidence and /or sinkhole.

#### 9. Preliminary Bill of Quantities

A preliminary Bill of Quantities is given below for the rehabilitation of the sinkhole. This is based on the conditions encountered during this investigation. Depending on when the rehabilitation starts, there may be some additional items required and the quantities may also have to be adapted.

#### Preliminary Bill of Quantities

	Repair sinkhole (self- compacting concrete)	Unit	QTY	Rate	Cost
2.1	Establishment (on and off site)	Sum	1		
2.2	Ensure existing services are not leaking (water).	Sum	1		
2.3	Remove / divert all services required (water, electrical and telecom cables, street lights).	Sum	1		
2.4	Excavate loose material around the sinkhole and stockpile.	m3	150		
2.5	Dump large rock boulders (<1min diameter)	m3	90		
2.6	Inject self-compacting concrete	m3	30		
2.7	Backfill with G6 / G7 to surface. Compact to 93% Mod AASHTO density at ±2% of OMC in 150mm layers.	m3	60		
2.8	Do in situ density testing (Troxler).	Test	8		
2.9	Reinstate road layers (earth works to engineer's specification).	m3	20		
2.10	Reinstate all services.	Sum	1		
2.11	Reinstate road surface.	m2	60		
2.12	Clear site.	Sum	1		

Total (Ex VAT)

Plus VAT @ 15%

Total (including VAT)

#### 10. Conclusions and recommendations

- Available information shows that the site is underlain by chert-rich dolomite of the Monte Christo Formation. This was confirmed by the drilling of two percussion boreholes in the area.
- The dolomite stability conditions around the sinkhole (cavity) are fairly poor; however, the drilling conditions show fairly shallow rock and generally good stability conditions.
- Poor conditions probably extend beyond the sinkhole area and it is very likely that such poor conditions are present on adjacent areas.
- Water ingress can cause further development of sinkholes and or subsidences.
- The rehabilitation of the sinkhole will concentrate in the immediate area of the sinkhole / cavity.
- The proposed methodology is described in paragraph 8. In summary, it is proposed to over excavate the affected areas to a depth of around 2,5m and then to backfill by dump rock which is stabilised by pumping a high slump concrete into the cavity, followed by G6 or G7 material compacted to 95 % Mod AASHTO density. The services are then reinstated and paving and fences re-built and the area used as before. All new services must be done according to SANS 1936. The road surface must then also be reinstated.
- It is important to prevent further water ingress. It may be sensible to inspect all water bearing services in this area and to replace if necessary. The standard NHBRC and SANS 1936 precautionary measures (see Appendix B) must be implemented as far as is practically possible.

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Investigation into the cause and proposed rehabilitation of a sinkhole on the Main Access Road, Argricultural Research Council, Irene

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#### **APPENDICES**

Appendix A: Percussion borehole profiles

Appendix B: Precautionary measures

Appendix C: Drawings and photographs

#### 1. Introduction

This firm was appointed by Ms Joline Dreyer of Crawford Loss Adjusters on behalf of Bryte Insurance Company and Co-Insurers to investigate the cause and to assist in the rehabilitation of a sinkhole which formed on the Main Access Road of the Agricultural Research Council, Irene (City of Tshwane). A sinkhole developed probably due to a leaking main water pipe. Subsequently a sewer as well as a storm water pipe probably contributed to the formation of the sinkhole. The aim of the report is to describe the conditions encountered on site and to make recommendations into the repair of the sinkhole. The investigation was carried out by S P Kok Pr Sci Nat (Engineering Geologist).

#### 2. Site location and description

The sinkhole developed on the main access road of the Argicultural Research Council to the Irene Weather Station. It formed due to a main (100mm diameter) PVC water pipe that leaked. Two other pipes ( clay sewer pipe and concrete storm water pipe and manhole), probably also leaked further into the area causing the sinkhole.

The area that subsided is approximately 20m (eastwest) and 17m (north-south) - see also photographs in Appendix C. However, drilling has shown that a larger area is affected i.e. the area that will have to be rehabilitated is approximately 25m by 20m. The subsided area show significant cracking at surface and ground movement of around 5,5m occurred. The southern part of the sinkhole showed poorer conditions and this area will also subside with further water ingress.

A coordinate in the centre of the sinkhole is at approximately -25.900840°S and 28.211308°E. The locality of the site is indicated on *drawing number* 9588-1-01: Locality map.

The area slopes towards the north.

#### 3. General geology

The available geology map and the results of this investigation shows that the sinkhole has developed in an area underlain by chert rich dolomite of the Monte Christo Formation of the Malmani Subgroup of the Chuniespoort Group, Transvaal Supergroup. Some very thick chert is also indicated on the available geology map.

The general geology of the area is indicated on drawing number 9588-02: Geology map. Generally deep dolomite bedrock was expected and this was confirmed by most boreholes.

#### 4. Groundwater conditions

Groundwater was not encountered in any of the boreholes drilled in this area. However, the boreholes were drilled to a maximum depth of 30m. Available information indicates that the groundwater level is approximately 35m to 40m below ground level.

The site is probably located in the Centurion Groundwater Compartment. This groundwater compartment is not dewatered. The groundwater level is in the bedrock and lowering of the groundwater table will not impact on the dolomite stability of this area.

#### 5. Available information

Maps

 The published geology map 2528 CC Lyttelton (Government Printer) at a scale of 1: 50 000.

Reports and data

• Centurion Geotechnical databank.

Numerous sinkholes and subsidences have occurred at the ARC over the last 30 years, mainly due to older wet services and poor storm water management.

• DWA groundwater information.

#### 6. Cause of the sinkhole

This sinkhole developed due to a leaking main water pipe (see photograph in Appendix C). The incident occurred on 10 July 2018. Some contributing factors that may have caused the main water pipe to start leaking are:

- Construction work done in the area just prior to the sinkhole forming and
- the area is highly irrigated which may cause some ground movement and the lead to pipes leaking.

#### 7. Site evaluation

The area was evaluated by drilling boreholes around the sinkhole and subsided area. In total nine boreholes have been drilled to a maximum depth of 30m. The percussion borehole profiles are attached in Appendix A.

Please note that weathered dolomite refers to the dolomite encountered above the hard rock dolomite. Leached dolomite refers to weathered zones within the dolomite bedrock profile. Low density zones refer to generally wad-rich zones where rapid drilling penetration (less than 12seconds per metre) is recorded and is often associated with sample and air losses.

After a site inspection it was decided to drill nine percussion boreholes (i.e. boreholes S1 to S9) around this sinkhole where access could be obtained and at least a safe distance away from the sinkhole and outside the subsided area. All of the borehole positions are indicated on drawing number 9588-03 and the borehole profiles are attached in Appendix A.

The boreholes around the sinkhole often showed poor subsurface conditions. The drilling results showed that some of the boreholes show very poor conditions i.e. boreholes S1, S3 and S9. Poor conditions have also been encountered in some of the other holes e.g. S4 and S5. One of the nine boreholes drilled around this sinkhole can be classified as Inherent Hazard Class (IHC) 7 or even 8. Another 4 holes will probably classify as IHC 6. Some of the holes can be considered IHC 3/54 i.e. boreholes S2, S6, S7 and S8.

Weathered dolomite was encountered in all boreholes at depths ranging from 4m to 28,8m (average depth 14,4m). The weathered dolomite was encountered at various depths and indicates the heterogeneous conditions present on the site. Hard rock dolomite was encountered in boreholes S1, S2, S5, S6, S7,S 8 and S9. The presence of hard rock dolomite is also generally deep i.e. from 14m to 29,5m (average depth 19,4m). The following table summarises the shallowest depth and the total thickness of the low density (probably wad rich) zones in each borehole.

Table 1: Summary of conditions

BH No	Shallowest depth of RP zones	Total Thickness of RP zones	Weath. Rock Depth	Hard rock	IHC	Comments			
						Substantial			
S1	10	9,3	6 <b>,</b> 5-10	19,3	7/6	poor			
						conditions			
S2	>20	0	6,5-	14,5	3	Good			
02	, 20	Ŭ	14,5	11/0	)	conditions			
			28,8-			Poor			
S3	14	6	30	>30	6	conditions			
						at depth			
	17		25,2-			Poor			
S4		5	5	5	30	•	·	>30	6
						at depth			
	_	_	14- 19,4	14-			Shallow		
S5	7	5		1 1 9 /	6	poor			
			,		·			conditions	
S6	>25	0	4-19,4	19,4	5/3	Good			
			·			conditions			
s7	>26	0	6-20	20	3	Good			
						conditions			
S8	>20	0	3-14	14	5/3	Good			
						conditions			
S 9	6	6	18,4-	29,5	6	Shallow			
59	O	O	29,5	29 <b>,</b> 3	О	poor conditions			
						CONGILLIONS			

In general it can be concluded that this is an area with a fairly irregular dolomite bedrock profile; however, the dolomite rock is very irregular i.e. pinnacled in this area.

Poor zones of variable thicknesses have been encountered in five of the nine boreholes. The depth below ground surface and the total thickness of the

poor zones determine to a large extent the conditions e.g. if poor conditions are present, but covered by a thick competent blanketing layer, then the area will not require rehabilitation. However; poor conditions closer to surface will require rehabilitation.

It is evident that the poor conditions probably extend beyond the area investigated. There are also significant low density zones and this entire area must be considered to be sensitive if water ingress occurs.

#### 8. Rehabilitation of the sinkhole

The repair / rehabilitation of the sinkhole and affected area encountered at the main Access Road is described below.

#### Repair sinkhole / subsidence

Usually sinkholes are rehabilitated by removing all loose materials around the site and then start backfilling with large rock boulders that is dynamically compacted up to approximately1,5m to 2m below ground level. The remainder of the hole is then backfilled by compacting G6 or G7 quality material to 95% Mod AASHTO density up to surface level.

In place of dynamic compaction, an alternative method is proposed which is to backfill the void with dump rock and to add self-compacting concrete to stabilize the dump-rock layer. This is usually an expensive exercise and very difficult to determine the final cost. The proposed rehabilitation process is shown on drawing number 9588-1-03.

#### Alternative 1: Repair sinkhole (dynamic compaction)

- 1.1 Ensure existing services are not leaking (water).

  The sewer and storm water pipes will have to be diverted. Pipe camera inspection if necessary.
- 1.2 Remove / divert all services required (water, electrical and telecom cables, street lights).
- 1.3 Do crack inspection on nearby structures (photo record required).
- 1.4 Excavate loose material around the sinkhole and stockpile to a depth of approximately 5m.
- 1.5 Do DC in sinkhole and around the subsided area.
- 1.6 Dump large rock boulders (<1min diameter) and DC.

- 1.7 Repeat above until a level of approx. 2,5m from surface has been reached.
- 1.8 Backfill with G6 / G7 to surface. Compact to 93% Mod AASHTO density at  $\pm 2\%$  of OMC in 150mm layers.
- 1.9 Do in situ density testing (Troxler).
- 1.10 Reinstate road layers (earth works to engineer's specification).
- 1.11 Reinstate all services.
- 1.12 Reinstate road surface.
- 1.13 Clear site.

# Alternative 2: Repair sinkhole (self-compacting concrete)

The methodology is as follows:

- Excavate to a depth of approximately 5m using an excavator the entire subsided area by over excavating approximately 1,5m and creating an inverted conical shaped excavation.
- Start backfilling by dumping dump rock (300mm to 600mm in diameter) and add self-compacting concrete to stabilize the dump-rock layer.
- Insert a Bidim layer.
- The remainder of the hole is then backfilled by compacting G6 or G7 quality material to 95% Mod AASHTO density up to surface level in 200mm layers.
- Do Troxler / in situ density tests to ensure that the compaction was done adequately. Two tests per layer.
- Reinstate services to comply with SANS1936 (2012) i.e. sewer and storm water pipes.
- Ensure that drainage in the area is such that effective storm water run-off occurs.
- 2.1 Ensure existing services are not leaking (water pipe transects the sinkhole). The sewer and storm water pipes located on the western part of the sinkhole also leaked into the sinkhole. Do pipe camera inspection if necessary.
- 2.2 Remove / divert all services required (water, electrical and telecom cables, street lights).
- 2.3 Excavate loose material around the sinkhole and stockpile.
- 2.4 Dump large rock boulders (<1min diameter).
- 2.5 Repeat above until a level of approx. 2,5m from surface has been reached.
- 2.6 Place low slump, low strength self-compacting concrete to stabilise the boulders

- 2.7 Backfill with G6 / G7 to surface. Compact to 93% Mod AASHTO density at  $\pm 2\%$  of OMC in 150mm layers.
- 2.8 Do in situ density testing (Troxler).
- 2.9 Reinstate road layers (earth works to engineer's specification).
- 2.10 Reinstate all services.
- 2.11 Reinstate road surface.
- 2.12 Clear site.

The proposed rehabilitation process is shown on drawing number 9588-1-03.

From the drilling results it is evident that there are very poor conditions present to depth in many of the boreholes. There are also numerous leached zones i.e. low density wad-rich zones. The only way to improve these very poor zones at depth is by means of grouting. This will be extremely expensive and probably unpractical as it seems that these poor zones are fairly extensive. It is therefore proposed to rehabilitate the subsided area using the best practical options available. It will be important to improve the existing services to lower the risk for leaks. Any water / sewer or storm water leaks in this area are likely to result in a subsidence and /or sinkhole.

#### 9. Preliminary Bill of Quantities

A preliminary Bill of Quantities is given below for the rehabilitation of the sinkhole. This is based on the conditions encountered during this investigation. Depending on when the rehabilitation starts, there may be some additional items required and the quantities may also have to be adapted.

### Preliminary Bill of Quantities

	Alternative 1: Repair sinkhole (dynamic	Unit	QTY	Rate	Cost
	compaction)				
1.1	Establishment (on and off site)	Sum	1		
1.2	Ensure existing services are not leaking (water). The sewer and storm water pipes are on the other side of John Vorster Road. Pipe camera inspection if necessary.	Sum	1		
1.3	Remove / divert all services required (water, electrical and telecom cables, street lights).	Sum	1		
1.4	Do crack inspection on nearby structures (photo record required).	Sum	1		
1.5	Excavate loose material around the sinkhole and stockpile.	m3	1900		
1.6	Do DC in sinkhole and around the subsided area.	m3	760		
1.7	Dump large rock boulders (<1min diameter) and DC.	m3	760		
1.8	Backfill with G6 / G7 to surface. Compact to 93% Mod AASHTO density at ±2% of OMC in 150mm layers.	m3	1140		
1.9	Do in situ density testing (Troxler).	Test	16		
1.11	Reinstate road layers (earth works to engineer's specification).	m3	68		
1.11	Reinstate all services.	Sum	1		
1.12	Reinstate road surface.	m2	150		
1.13	Clear site.	Sum	1		

	Total (Ex VAT)	
	Plus VAT @ 15%	
Total	(including VAT)	

Alternativ	ve 2: Repair	TTm:+	ОШУ	Rate	Coat
sinkhole	(self- compacting	UIIIC	Δīī	Rate	Cost

#### concrete)

2.1	Establishment (on and off site)	Sum	1	
2.2	Ensure existing services are not leaking (water). The sewer and storm water pipes are on the other side of John Vorster Road. Pipe camera inspection if necessary.	Sum	1	
2.3	Remove / divert all services required (water, electrical and telecom cables, street lights).	Sum	1	
2.4	Excavate loose material around the sinkhole and stockpile.	m3	1900	
2.5	Dump large rock boulders (<1min diameter)	m3	760	
2.6	Inject self-compacting concrete	m3	550	
2.7	Backfill with G6 / G7 to surface. Compact to 93% Mod AASHTO density at ±2% of OMC in 150mm layers.	m3	1140	
2.8	Do in situ density testing (Troxler).	Test	16	
2.9	Reinstate road layers (earth works to engineer's specification).	m3	68	
2.10	Reinstate all services.	Sum	1	
2.11	Reinstate road surface.	m2	150	
2.12	Clear site.	Sum	1	

Total (Ex VAT)
Plus VAT @ 15%
Total (including VAT)

#### 10. Conclusions and recommendations

 Available information shows that the site is underlain by chert-rich dolomite of the Monte Christo Formation. This was confirmed by the drilling of nine percussion boreholes in the area.

- The dolomite stability conditions around the sinkhole (cavity) are fairly poor with localised very poor conditions. Thick low density and /or cavernous conditions are present in this area.
- The very poor conditions extend beyond the sinkhole area and it is very likely that such poor conditions are present on adjacent areas.
- Water ingress can cause further development of sinkholes and or subsidences.
- The rehabilitation of the sinkhole will concentrate in the immediate area of the sinkhole / cavity. Due to the presence of very deep zones of very soft, low density materials, it will be extremely expensive and probably be impractical to rehabilitate the area by means of grouting.
- The proposed methodology is described in paragraph 8. In summary, it is proposed to over excavate the affected areas to a depth of around 5m and then to backfill by dump rock which is dynamically compacted, followed by G6 or G7 material compacted to 95 % Mod AASHTO density. The services are then reinstated and paving and fences re-built and the area used as before. All new services must be done according to SANS 1936. The road surface must then also be reinstated.
- It is important to prevent further water ingress. It may be sensible to inspect all water bearing services in this area and to replace if necessary. The standard NHBRC and SANS 1936 precautionary measures (see Appendix B) must be implemented as far as is practically possible.

#### 11. References

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#### **SUPPLIER MAINTENANCE:**

Head Office Only									
Captured By: Date Captured: Authorised By: Date Authorised: Supplier code:									
Enquiries. : Tel. No.:									

I/We hereby request and authorise you to pay any amounts, which may accrue to me/us to the credit of my/our account with the mentioned bank.

I/we understand that the credit transfers hereby authorised will be processed by computer through a system known as "ACB - Electronic Fund Transfer Service", and I/we understand that not additional advice of payment will be provided by my/our bank, but that the details of each payment will be printed on my/our bank statement or any accompanying voucher. (This does not apply where it is not customary for banks to furnish bank statements).

I/we understand that the Department will supply a payment advice in the normal way, and that it will indicate the date on which the funds will be made available on my/our account.

This authority may be cancelled by me/us by giving thirty days notice by prepaid registered post. Please ensure information is validate as per required bank screens.

I/We understand that bank details provided should be exactly as per the records held by the bank.

I/We understand that the Department will not assume responsibility for any delayed payments, as a result of incorrect information supplied.

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