KUNENE REGIONAL COUNCIL

Tel: +264-65-273950
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M. Muharukua Street
OPUWO, NAMIBIA

Private Bag 502
OPUWO, NAMIBIA

REQUEST FOR QUOTATIONS FOR WORKS

Issued: 2022/10/18

Title: TENDER REFERENCE NO.: W/RFQ/KRC- 03/2022

Supply, *Delivery, Installation and Commissioning – Community Water Supply – PV Solar Pumping installation, Storage and Water Point- Ohamaremba, Kunene Region.*

Name of bidder: .....

Contact Number of Bidder: .....

Email Address of Bidder: .....

Authorized Representative of Bidder: .....

Signature of Bidder: .....

Total Amount: N$: .....

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Letter of Invitation

Supply, Delivery, Installation and Commissioning – Community Water Supply – PV Solar Pumping installation, Storage and Water Point- Ohamaremba, Kunene Region

Dear Sir/Madam,

The **Kunene Regional Council (KuRC)** invites you to submit your best quote for the works described in detail hereunder.

Any resulting contract shall be subjected to the terms and conditions referred to in the document.

Queries, if any, should be addressed to [Mr. I Namwoonde – Directorate of Planning and Development Services, KRC at ihnamwoonde@gmail.com].

Please prepare and submit your quotation in accordance with the instructions given or inform the undersigned if you will not be submitting a quotation.

Yours faithfully,

.....

G.P. Kamseb
Chief Regional Officer

KUNENE REGIONAL COUNCIL
PRIVATE BAG 502, OPUWO
2022 -10- 17
TEL: 065-273950
FAX: 065-273077
CHIEF REGIONAL OFFICER

Contents

1 Section I: Instructions to bidders

1.1 Rights of the Kunene Regional Council (KuRC)

The Kunene Regional Council (KuRC) reserves the right:

(a) to split the contract as per the lowest evaluated cost per lot;
(b) to accept or reject any quotation or to cancel the quotation process and reject all quotations at any time prior to contract award; and
(c) Allocate Sections and Lots as deemed suitable to allocate work in a distributive manner.

1.2 Preparation of Quotations

You are requested to quote for the works mentioned in Section III, by completing, signing and returning:

(a) the Quotation Letter in Section II with its annex for Bid Securing Declaration, where applicable;

(b) the Schedules and the Bill of Quantities in Section V;

(c) the Specifications and Compliance Sheet, i.e. Tables in Section IV; and

(d) any other attachment as deemed appropriate.

You are advised to carefully read the complete Request for Quotations document, including the Special Conditions of Contract in Section VII, before preparing your Quotation. The standard forms in this document may be retyped for completion but the Bidder is responsible for their accurate reproduction.

1.3 Validity of Quotations

The quotation validity period shall be **60 days** from the date of bid submission deadline.

1.3.1 Eligibility Criteria

To be eligible to participate in this Quotation exercise, you should (enclose):

(a) have a valid certified copy (by NAMPOL) of the company Registration Certificate ISSUED by the Ministry of Trade and Industry or BIPA (e.g. CC2);

(b) have a certified valid copy of good Standing Tax Certificate from Ministry of Finance / NAMRA;

(c) have a certified valid copy of good Standing Social Security Certificate;

(d) have a certified valid copy of Affirmative Action Compliance Certificate, proof from Employment Equity Commissioner that bidder is not a relevant employer, or exemption issued in terms of Section 42 of the Affirmative Action Act, 1998;

(e) have a valid certified copy of certificate indicating SME Status (for Bids reserved for SMEs);

(f) Submit signed Bid-securing Declaration.

(g) An undertaking on the part of the Bidder that the salaries and wages payable to its personnel in respect of this proposal are compliant to the relevant laws, Remuneration Order, and Award, where applicable and that it will abide to sub-clause 4.6 of the General conditions of Contract if it is awarded the contract or part thereof; and;

(h) Attach proof of confirmation of account from a Namibian Banking Institution

(i) Preference shall be given to bidders operating within Kunene Region where the goods are required. Therefore, attach a confirmation letter from the Councillor's Office (not older than two months). Furthermore, women and youth are encouraged to bid.

j) Attach certified copy of your Identification Document (ID).

(h) Bid Securing Declaration ; Bidders are required to subscribe to a Bid Securing Declaration for this procurement process.

1.4 Works Completion Period

The completion period for works shall be **[90] days** after acceptance and issue of the Purchase Order. **Note:** The Intended Completion Date for the whole of the Works shall be **90 days** after the Start Date. Deviation in completion period shall be considered if such deviation is reasonable as per Clause GCC 26.

1.5 Sealing and Marking of Quotations

Quotations should be sealed in a single envelope, clearly marked with the Procurement Reference Number, addressed to the Kunene Regional Council (KRC) with the Bidder's name and the tender name and reference clearly indicated at the back of the envelope.

1.6 Submission of Quotations

Quotations should be deposited in the Quotation/Bid Box located at Kunene Regional Council, Mumbijazo Muharukua Street, P/Bag 502, Opuwo, not later than **01 November 2022 at 11h00.** Late quotations will be rejected. Quotations received by e-mail will not be considered.

1.7 Opening of Quotations

Quotations will be opened by the Kunene Regional Council (KRC) immediately after the closing time referred to above.

1.8 Evaluation of Quotations

The Kunene Regional Council (KRC) shall have the right to request for clarifications in writing during evaluation. Offers that are substantially responsive shall be compared based on evaluated cost, subject to Margin of Preference where applicable, to determine the lowest evaluated quotation.

1.9 Technical Compliance

The Specifications and Compliance Sheet details the minimum specifications of the works to be carried out. The specifications must be met, but no credit will be given for exceeding the specifications.

1.10 Prices and Currency of Payment

Prices for the execution of works shall be fixed in Namibian Dollars as quoted. Quotations shall cover all costs of labour, materials, equipment, overheads, profits and all associated costs for performing the works, and shall include all duties. The whole cost of performing the works shall be included in the items stated, and the cost of any incidental works shall be deemed to be included in the prices quoted.

1.11 Margin of Preference

A margin of preference shall not apply.

1.12 Award of Contract

The Bidder having submitted the lowest evaluated responsive quotation and qualified to perform the works shall be selected for award of contract. Award of contract shall be by issue of a Purchase Order/Letter of Acceptance in accordance with terms and conditions contained in Section VI: Contract Agreement and General Conditions of Contract.

1.13 Performance Security

The successful bidder shall upon acceptance of its offer submit a Performance Security as per the format contained in Section VIII for an amount of **10%** of the contract price.

1.14 Notification of Award and Debriefing

The Kunene Regional Council (KRC) shall after award of contract promptly inform all unsuccessful bidders in writing of the name and address of the successful bidder and the contract amount and post a notice of award on its website within 7 days. Furthermore, the Kunene Regional Council (KRC) shall attend to all requests for debriefing made in writing within 7 days of the unsuccessful bidders being informed of the award.

2 Section II: Quotation Letter

(to be completed by Bidders)

2.1 Quotation Letter

[Complete this form with all the requested details and submit it as the first page of your quotation with the Priced Bill of Quantities and documents requested above. A signature and authorisation on this form will confirm that the terms and conditions of the RFQ prevail over any attachments. ***If your quotation is not authorised, it will be rejected***

Quotation addressed to: *[name of Public Entity]*	
Procurement Reference Number:	
Subject matter of Procurement:	

We offer to execute the Works detailed in the Statement of Requirements, in accordance with the terms and conditions stated in your Request for Sealed Quotations referenced above.

We confirm that we are eligible to participate in this Quotation exercise and meet the eligibility criteria specified in Section 1: Instructions to Bidders

We undertake to abide by the Conduct of Bidders and Suppliers as provided under the Public Procurement Act during the procurement process and the execution of any resulting contract.

We have read and understood the content of the Bid Securing Declaration (BSD) attached hereto and subscribe fully to the terms and conditions contained therein. We further understand that this subscription could lead [*forfeiture of the security amount / disqualification on the grounds mentioned in the BDS]*

The validity period of our Quotation is _____ days *[insert number of days]* from the date of the bid submission deadline.

We confirm that the prices quoted in the Bill of Quantities are fixed and firm and will not be subject to revision or variation, if we are awarded the contract **prior to the expiry** date of the quotation validity.

Works will commence within _____ *[insert number]* days from date of issue of Purchase Order/ Letter of Acceptance.

Works will be completed within _____ *[insert number]* days from date of issue of Purchase Order/ Letter of acceptance.

Quotation Authorised by:

Name of Bidder		Company's Address and seal	
Contact Person			
Name of Person Authorising the Quotation:		Position:	Signature:
Date		Phone No./E-mail	

BID SECURING DECLARATION

(Section 45 of Act)

(Regulation 37(1) (b) and 37(5))

Date: *[Day | month | year]*

Procurement Ref No.: .....

To: .....*[insert complete name of Public Entity and address]*

I/We* understand that in terms of section 45 of the Act a public entity must include in the bidding document the requirement for a declaration as an alternative form of bid security.

I/We* accept that under section 45 of the Act, I/we* may be suspended or disqualified in the event of

(a) a modification or withdrawal of a bid after the deadline for submission of bids during the period of validity;

(b) refusal by a bidder to accept a correction of an error appearing on the face of a bid;

(c) failure to sign a procurement contract in accordance with the terms and conditions set forth in the bidding document, should I/We* be successful bidder; or

(d) failure to provide security for the performance of the procurement contract if required to do so by the bidding document.

I/We* understand this bid securing declaration ceases to be valid if I am/We are* not the successful Bidder

Signed: .....
[*insert signature of person whose name and capacity are shown*]

Capacity of:
[indicate legal capacity of person(s) signing the Bid Securing Declaration]

Name: .....
[insert complete name of person signing the Bid Securing Declaration]

Duly authorized to sign the bid for and on behalf of: [insert complete name of Bidder]

Dated on _____ day of _____
[*insert date of signing]*

Corporate Seal (where appropriate)
[Note*: In case of a joint venture, the bid securing declaration must be in the name of all partners to the joint venture that submits the bid.]

delete if not applicable / appropriate

Republic of Namibia

Ministry of Labour, Industrial Relations and Employment Creation

Witten undertaking in terms of section 138 of the Labour Act, 2015 and section 50(2)(D) of the Public Procurement Act, 2015

1. Employment Details

Company Trade Name: .....

Registration Number: .....

Vat Number: .....

Industry/Sector: .....

Place of Business: .....

Physical Address: .....

Tell No.: .....

Fax No.: .....

Email Address: .....

Postal Address: .....

Full name of Owner/Accounting Officer: .....

.....

Email Address: .....

2. Procurement Details

Procurement Reference No.: ……..

Procurement Description: ……..

……

……

Anticipated Contract Duration: ……

Location where work will be done, good/services will be delivered: ……..

……

3. Undertakings

I ……*[insert full name]*, owner/representative

of ……*[insert full name of company]*

hereby undertake in writing that my company will at all relevant times comply fully with the relevant provisions of the Labour Act and the Terms and Conditions of Collective Agreements as applicable.

I am fully aware that failure to abide to such shall lead to the action as stipulated in section 138 of the labour Act, 2007, which include but not limited to the cancellation of the contract/licence/grant/permit or concession.

Signature: ……..

Date: ……..

Seal: ……

Please take note:

1. *A labour inspector may conduct unannounced inspections to assess the level of compliance*
2. *This undertaking must be displayed at the workplace where it will be readily accessible and visible by the employees rendering service(s) in relations to the goods and services being procured under this contract.*

3 Section III: Statement of Requirements

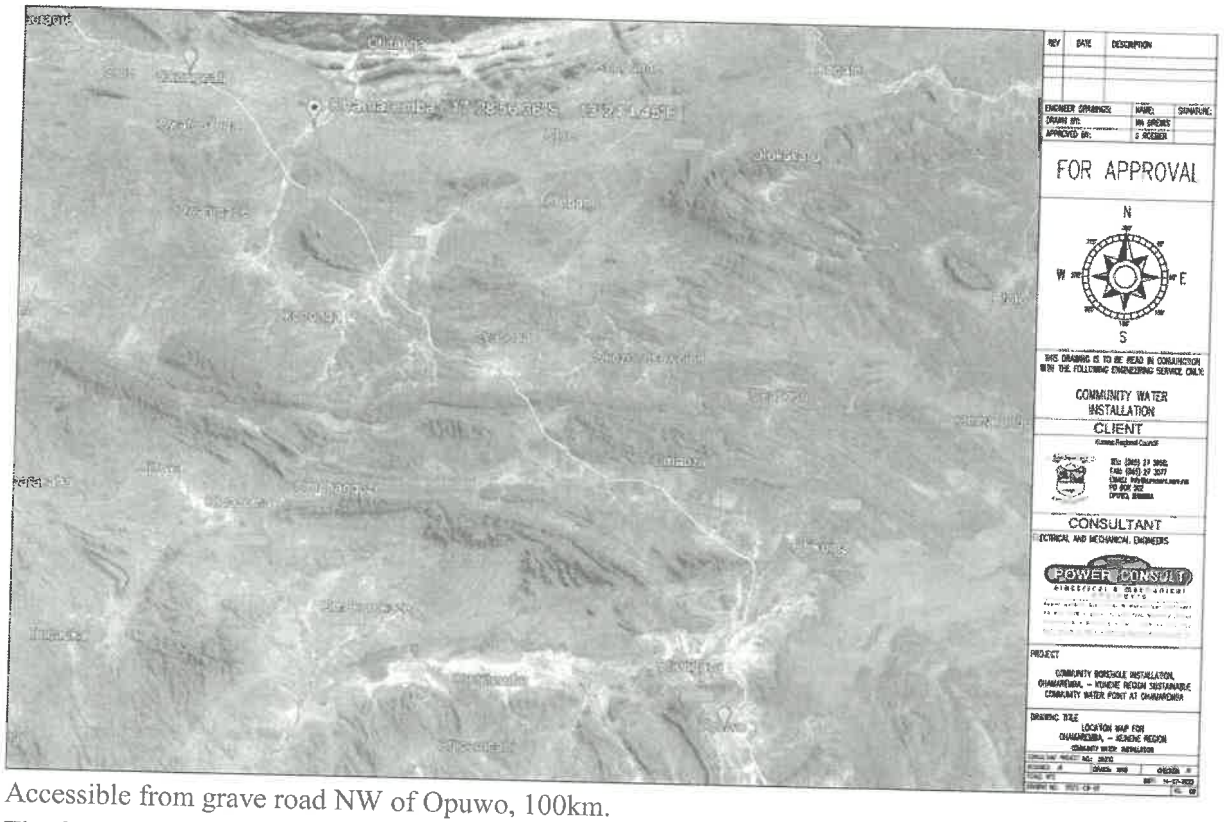
3.1 Scope of Works, Specifications and Performance Requirements

A. PROJECT SPECIFICATIONS

SCOPE

The Kunene Regional Council undertook to support the Ohamaremba Community with a sustainable water supply from the Ohamareba Aquifer and surroundings.

Locality:



Accessible from grave road NW of Opuwo, 100km.

The following three supply points are envisaged:

1. One main supply to the community water point;
2. One supply point for the livestock watering point; and
3. One supply to the local garden project

These Project Specifications are set out in three separate portions:

PV Panel Installation;

PV Solar Pump Installation, pipework, cable and control;

Water storage tank and tank stand;

Animal feeding water troughs;

Water irrigation take off points; and

Related pipework and connection

3.2 Works Description - Scope of work

Project Subject: Supply, Delivery, Installation and Commissioning – Community Water Supply – PV Solar Pumping installation, Storage and Water Point- Ohamaremba, Kunene Region

Title: BID REFERENCE NO.: W/RFQ/KRC – 03/2022

The project entails the following components –
The Kunene Regional Council (KuRC) plans to provide potable water from a borehole at the aquifer to the community of Ohamaremba.

The major elements comprising this Contract are as follows:

3.2.1 Community Pump / Water supply point:

Installation of a PV Solar Power Pumping installation in an existing borehole, as described comprising an universal AC/DC pump to deliver for the current and future demand, PV Solar panel;

A suitable 10 m^3 water storage facility, to provide water to the local community.

A 1 000 meter pipeline to feed the centre of the community (dwellings) to provide a communal water point there as well as provision for offtake points, should residents wish to provide their own connection.

3.2.2 Livestock water point

Installation of a PV Solar Power Pumping installation in an existing borehole, as described comprising an universal AC/DC pump to deliver for the current and future demand, PV Solar panels;

A suitable 10 m^3 water storage facility, to provide water to the livestock;

A community water tap – for local water collection; and

Specified cattle trough - equal manufactured to specification.

3.2.3 Garden Water Point

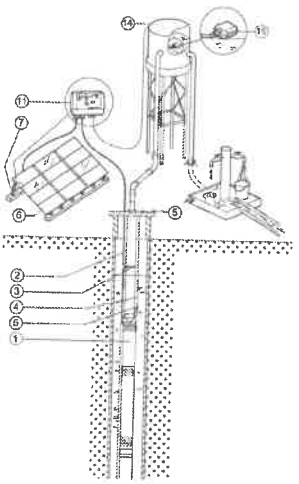
Installation of a PV Solar Power Pumping installation in an existing borehole, as described comprising an universal AC/DC pump to deliver for the current and future demand, PV Solar panels;

A suitable 10 m^3 water storage facility, to provide water to the community garden / local and tap off points; and

A community water tap – for local water collection

3.3 Schematic arrangement

The system will be implemented- pending the available budget on hand at stage of tender.

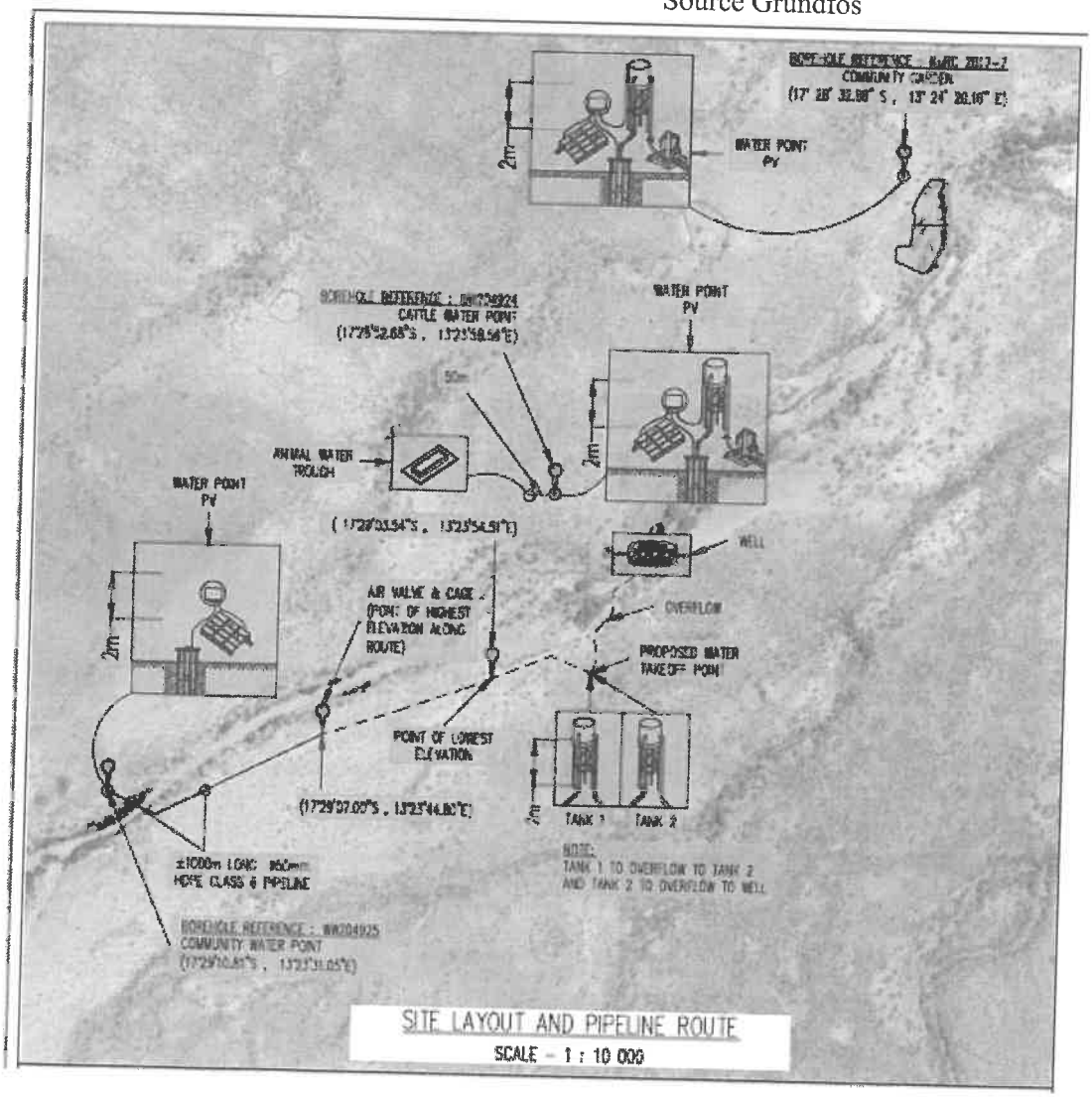


1 SQF pump
2 Submersible drop cable
3 Cable clips
4 Straining wire
5 Wire clamp
6 Solar panels
7 Support structure
11 CU 200 SQFlex control unit
14 Water reservoir
15 Level switch

Note: For the number of solar modules required, please consult the sizing tool in Grundfos WinCAPS.

Fig. 7 SQFlex Solar with CU 200 and level switch

Source Grundfos



3.4 Compliance and verification

It is required as per enclosed schedule, that the contractors will indicate the pumping curves and

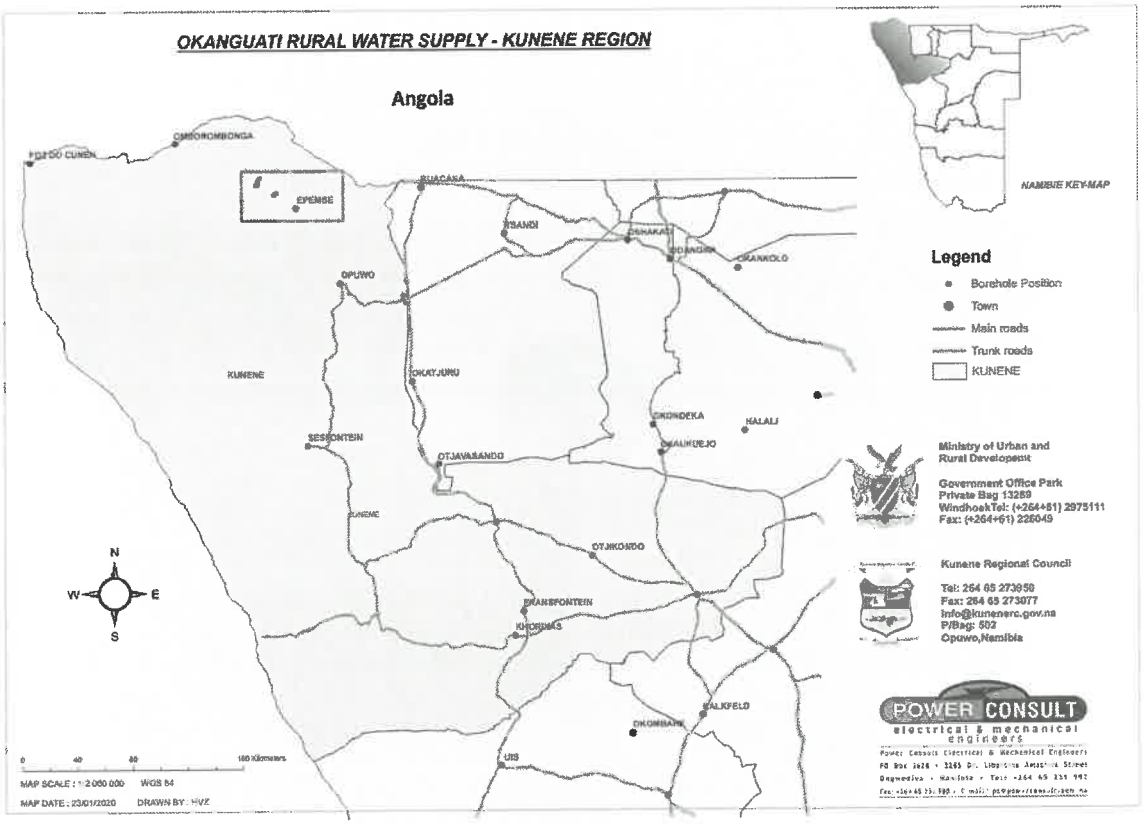
estimate water delivery, based on information provided in the document.

3.5 Drawings

All image references made in this section are contained in Section- containing all drawings relevant to this Contract.

3.5.1 Site – locality

Figure 1: Kunene Regional Council (KuRC) – Ohamaremba



3.5.2 Site

Access are indicated to point. –
Access to site is via Opuwo's gravel road to Okanguati, 3 km off the gravel road, all accessible.

3.5.3 Boreholes reference

Livestock Water Point

- **WW204924**:
  - For future community installation
  - S 17.48171° E013.39879°
  - Blow yield 2 m^3/h.
  - Drill depth 82 m.
  - Drill diameter 165 mm, no installation of 140 mm OD uPVC casing

Borehole Number: **WW204924**	Borehole Number: **WW204925**
Topo & well number	Topo & well number
Latitude (dec. °) **17.48171 °**	Latitude (dec. °) **17.48646 °**
Longitude (dec. °) **013.39879 °**	Longitude (dec. °) **013.39147 °**
mamsl Total depth: **82** m	mamsl Total depth: **45** m
Diameters drilled:	**Diameters drilled:**
208 mm from **0** m to **5.5** m	**208** mm from **0** m to **5.5** m
165 mm from **5.5** m to **82** m	**165** mm from **5.5** m to **45** m
mm from m to m	mm from m to m
mm from m to m	mm from m to m
Groundwater details*	**Groundwater details***
First water strike **22 m** yield **0.10** m³/h	First water strike **6 m** yield **10** m³/h
Second water strike **30 m** yield **.05** m³/h	Second water strike **14 m** yield **20** m³/h
Third water strike: **36 m** yield **2.0** m³/h	Third water strike: yield m³/h
Blow test ☐ Pumped yield ☒ Airlift (double-tube) ☐	Blow test ☒ Pumped yield ☐ Airlift (double-tube) ☐
Duration of test: 0 hrs **Final yield:** 2 m³/h	Duration of test: **24** hrs **Final yield:** 12 m³/h
Apparent quality of water: **fresh** RWL (mbsu)	Apparent quality of water: **fresh** RWL (mbsu)
E.C. when drilled: mS/cm **5.1**	E.C. when drilled: mS/cm **4.3**
	CASING INSTALLED
	Dia. (mm) / from (m) / to (m) / Total (m)
	steel **177** / 0.5 / -5.5 / 6
	uPVC / 0.5 / -22.2 / 22.7
	uPVCscreen / -22.2 / -45 / 22.8
	sump / alternate / /
MAX SUSTAINABLE YIELD : 2m3/hr Installation – 50m	MAX SUSTAINABLE YIELD : 10m3/hr Installation – 30m

COMMUNITY WATER POINT- transfer to Ohamaremba village community point

- **WW204925:**
  - **Monitoring**
  - **Tested borehole, see §4.1**
  - S 17.48646° E013.39197°
  - Blow yield in excess of 20 m³/h.
  - Drill depth 45 m.
  - Drill diameter 165 mm with installation of 140 mm OD uPVC casing.

COMMUNITY/GARDEN/LIVESTOCK point

- **KuRC 2017-7**
  - For future community installation
  - S 17.475541° E013.406015°
  - Blow yield 2.8 m³/h.
  - Drill depth 73 m.
  - Drill diameter 208 mm, no uPVC casing installed.

Borehole Number: **KuRC 2017-7**			
Topo & well number			
Latitude (dec. °) **17.475541 °**			
Longitude (dec. °) **013.406015 °**			
mamsl	Total depth: **73** m		
Diameters drilled:			
254 mm from **0** m to **11.5** m			
204 mm from **11.5** m to **73** m			
mm from m to m			
mm from m to m			
Groundwater details*			
First water strike **7 m**	yield	**10** m³/h	
Second water strike **28 m**	yield	**20** m³/h	
Third water strike:	yield	m³/h	
Blow test ☒ Pumped yield ☐ Airlift (double-tube) ☐			
Duration of test: hrs	**Final yield:**	2.8 m³/h	
Apparent quality of water: **fresh**		RWL (mbsu)	
E.C. when drilled: mS/cm			
CASING INSTALLED			
Dia. (mm)	from (m)	to (m)	Total (m)
steel **219**	0.5	-11.5	12
uPVC			
uPVCscreen			
sump			

MAX SUSTAINABLE YIELD : 2.8m3/hr
Installation – 50m

3.6 General

3.6.1 Commissioning

SAT (Site Acceptance Test) – see below

The contractor shall prove full functionality of the system on completion.

All water- take off flow-rates and pressures will be recorded.

3.7 Changes to the scope of work

The Client / Employer reserves the right to delete at any time before or during construction, and in his exclusive discretion, any section of any separate portion of the works (as specified in the Specifications and the Bill of Quantities from the scope of this tender or any subsequent contract entered into between the parties. Likewise, the Employer shall have the right to add an additional section or sections to any of the separate portions as specified.

3.8 Responsibility of the contractor

Until the Contract Works have been completed or deemed to have been completed, the Contractor shall be responsible (subject to the Memorandum of Agreement and the Conditions of Contract), for the Contract Works, where under manufacture, installation, construction, during tests, or in use by the Employer.

The Contractor shall nominate a full-time contract manager, with an appropriate electrical artisan's qualification, properly introduced and approved by the Engineer to manage this contract for the full duration of the contract. The Contractor shall be entirely responsible for all quality assurance during manufacturing deliverables including FAT's and SAT's. The Contractor shall also be required to design and implement the required substation protection and automation schemes required.

During the period of maintenance, the Contractor shall make such arrangements as to ensure the attendance on Site within twenty-four hours of his being called upon to do so, of a competent representative for the purpose of carrying out any work or maintenance for which the Contractor shall be liable, and during such part of parts of the said period as the Engineer may deem it necessary, the said representative shall be continuously available on the Site. Work on the site shall be carried out at such times and during such hours as the Engineer may require.

3.9 Work co-ordination

The work in its entirety must be completed within the contract period as prescribed by the Special Conditions of Contract.

3.10 Site hand-over

Prior to the commencement of the work, the sites will be handed over to the successful Tenderer for the respective area. The hand-over includes a site visit to the area included in the Contract.

At the site hand-over the location of the Contractor's site office and camp will be discussed and determined if applicable.

3.11 Supervision

All work shall be executed under the supervision of the Engineer and in accordance with site instructions that will be issued to the Contractor by the Engineer.

3.11.1 Site instructions

A triplicate site instruction book will be provided by the Contractor at site hand-over. Specific instructions as to how work shall be executed will be entered into this book by the Engineer once the exact details of each portion of the work to be done have been determined. All site instructions will be discussed with the Contractor.

The site instruction book must at all times be available at the Contractor's site office, so that the

Engineer may write instructions even when the Contractor is not present. Site Instructions can also be issued via Fax or email communications, in the form of a scope change register.

3.11.2 Site meetings

Regular site meetings, at dates and times to be determined by the Engineer, will be held to evaluate progress and discuss matters pertaining to the Contract. It is not the purpose of such meetings to discuss matters concerning the day-to-day running of the Contract.

The Contractor or his authorised representative shall attend all site meetings, to which the Employer will also be invited. If not agreed to otherwise, these site meetings shall be held at the Contractor's site office.

3.11.3 Inspections

Site inspections will be conducted prior to the site meetings so that specific problems that are identified at the inspections may be discussed. Whenever any section of the works is complete, the contractor must inform the Engineer of this in writing so that a site visit to inspect, measure, test or commission the completed section of the works may be arranged.

3.12 Factory Acceptance Tests

n/a

3.13 Site Acceptance Tests

The *Contractor* will be responsible for SAT on the, the rectification of any defects (and the associated cost) during SAT will remain the responsibility of the *Contractor*.

The *Contractor* will allow providing assistance during the hot commissioning phase. Commissioning assistance will be provided by either one of the following:

- The design engineer primarily responsible for the design to date, or;
- Competent suitable qualified commissioning technician that will be approved by the *Employer*; and
- Sub-*Contractor*s will be allowed to provide commissioning assistance where applicable.

3.14 Pre – Commissioning Tests

Commissioning checks and a test programme (as determined by the manufacturer) shall be carried out.

3.15 Commissioning

The Contractor shall be responsible for commissioning all sections of the works and shall perform the tasks set out below:

- Prior notice of and proper arrangements for the commissioning shall be made with the Employer as the Engineer, Kunene Regional Council (KuRC), Supply Authority, and all contractors and suppliers of equipment which will be affected by the commissioning operation.

- Plant and equipment which has been supplied by others has to be commissioned, the supplier's specific permission thereto, together with any specific requirements relating to commissioning shall be obtained prior to commissioning.
- All sections of the works shall be carefully inspected by a responsible representative of the Contractor to ensure that all construction and installation work has been properly completed.

During commissioning the following shall be checked and the results entered into a written report, which shall be handed to the Engineer within 7 days from completion of commissioning of any section of the works:

- Equipment nameplate details including serial numbers, kVA rating, voltage rating, current rating, frequency, full load current and number of phases. During design stage, the Contractor shall agree with the Engineer and Employer the format and content of the commissioning report prior to commissioning.

The Contractor shall carry out the tests specified in the Manufacturer's Works, on the site or elsewhere in accordance with the conditions thereof and such additional tests as in the opinion of the Engineer necessary to determine that the Contract Works comply with the conditions of this Specification, where under test or ordinary working conditions.

All materials used shall also be subjected to and shall withstand satisfactorily such routine tests as are customary in the manufacture of the types of plant or material included in the Contract Works, Where, at the direction of the Engineer, tests and/or analyses are effected elsewhere than at the Works of the Contractor or a Sub-Contractor, or on the Site the costs incurred will be borne by the employer should such tests prove satisfactory, but the Contractor will be called upon to pay all expenses incurred by the Employer in respect of any work or materials found to be defective, or of inferior quality, adulterated or otherwise unacceptable.

The Engineer shall be given at least 7 days written notice of commissioning tests.
All tests shall be carried out in the present of, and to the satisfaction of the Engineer and at such times as they may require. The Contractor shall supply suitable test pieces of all materials as required by the Engineer. All labour, materials, fuel, stores, apparatus, instruments and connections required for the above tests shall be provided by the Contractor. All apparatus and materials supplied under the Contract are subject to inspection by the Engineer, who shall be notified 14 days in advance when the material is ready for inspection.

Tests to be carried out on site: -

Such other tests as are required by the Engineer or Employer to prove compliance with the Specification independently of any test, which may already have been carried out at the Manufacturer's Works, or elsewhere.

Any other test not included in SAT, Pre-commissioning or commission tests.

3.16 Training Requirements

The *Contractor* will be required to provide equipment specific and commissioning training on equipment as called for below.

i. Various training requirements as specified in this specification might be required to be combined to provide a proper overview off all equipment supplied.

ii. *EMPLOYER* will provide a training venue and the *Contractor* will provide for all training equipment required.
iii. *EMPLOYER* will provide at least 3 weeks' notice prior to commencement of training courses.
iv. The *Contractor* will provide each trainee with a certificate indicating that the trainee has been introduced and can operate, maintain, setup and test the relevant equipment trained for.

3.17 General Design Documentation

3.17.1 Designs

All designs shall be done by a competent, suitably qualified engineer. All designs will be internally reviewed and approved by a professionally registered engineer before designs are submitted for review.

3.17.2 Documentation

The following documentation requirements form part of the Scope of Works and deliverables:

i. Functional design specification;
ii. Approved for constructions drawings;
iii. FAT file containing all FAT reports, marked up drawings, punch lists before equipment can be shipped.

3.18 Standards

All materials and apparatus shall be new and of the best quality complying with the relevant current IEC and SANS Standards. In addition, BSI standards are also stated in this tender. The work done shall also comply with the local standards and regulations and has to be to the satisfaction of the Engineer and the Employer:

3.19 Site Particulars - Site Conditions

Map co-ordinates (WGS 84):	Kunene – Okangwati (Ohamaremba)
Ambient temperatures:	
Maximum	60 °C
Minimum	-5 °C
Maximum wet bulb and coincident dry bulb	27 °C
Maximum temperature for rated power guarantee	40 °C
Average temperature for design life	30 °C
Range of relative humidity*	40 to 95 %
Wind speeds*	40 m/s
Altitude:	1000m
Rainfall:	
Annual (mm/pa)	500
Maximum in 1 hour (mm)	50
Maximum in 24 hr period*	100
Lightning Levels*	medium
Climatic conditions*	Savannah
Incidence of air pollution	Low

The Contractor shall verify the ground conditions. All equipment positioned above ground is exposed to intensive direct radiation from the sun and temperature of 70°C may be reached in enclosures if there are not ventilated sufficiently. The tenderer shall satisfy himself that all equipment offered is suitable for satisfactory operation under the specified site conditions.

3.20 Site familiarization

Tenderers will be briefed on the scope of the work and the site conditions at a briefing as per Conditions of Tender. Tenderers are advised to acquaint themselves with the nature of the terrain where, and the circumstances where under, the work is to be executed. No claims from tenderers which may arise from the insufficient knowledge of site location and access, types and layout of sites, establishment, transport and loading/off-loading facilities, power and water supply, etc. will be considered after the tender has closed.

3.21 Contractor's site

As applicable – For the duration of the contract / erection the Contractor shall have a site office

and camp at a convenient location within his contract area. The minimum size of the site office shall be 4m x 4m x 2.5m, and the office shall be suitably furnished such that site meetings may be held there. The Contractor shall provide telephone and facsimile facilities at his site office that may be used by the Engineer. No site facilities for the Engineer and his staff are required.

The Contractor shall make his own arrangements, at his own expense, for the site office and camp, and for the provision of power, water, accommodation and transport of employees and ablution facilities. Toilets shall be provided at the rate of one for every ten persons, and the Contractor shall make his own arrangements and pay all charges for the removal of sewerage. The sanitary facilities shall be maintained in a clean, orderly and sanitary condition to the satisfaction of the Engineer and the health authorities.

The site must be kept clean and tidy, and on completion of the works the Contractor shall remove all temporary offices, sheds, etc. and shall reinstate the camp site to the Engineer's satisfaction.

The Contractor shall at all times store materials and equipment for which he is responsible in an orderly manner, and keep the premises free from debris and obstruction. It is the responsibility of the Contractor to ensure the safety of all materials on site: no claims for theft of nor damage to materials on site shall be considered.

3.22 Safety

The Contractor shall observe proper and adequate safety measures and precautions on the site at all times in accordance with Machinery, Building, Demolition and Excavation Work Regulations (framed under the Factories, Machinery and Building Work Ordinance of 1952 as amended) Chapter III Part 3 and Chapter IV Clause D16, and the Labour Act of 1992 (Act 6 of 1992) Part XI. These documents shall at all times be available at the Contractor's site office.

Where adequate safety measures and precautions are not observed, the Engineer may order the Contractor to comply with minimum safety requirements at the Contractor's expense, and compliance with such an order will not absolve the Contractor from any of his responsibilities and obligations under the Contract.

The Contractor shall provide a properly equipped first aid box which shall be accessible at all times. Symbolic safety signs shall comply with the applicable requirements of SABS 1186.

4 Section IV - System Specification

4.1 Technical Specification

REFER TO THE ATTACHED SPECIFICATIONS DETAILING PROJECT AND WORKS REQUIREMENTS FOR THE PART OF THE PROJECT.

4.2 Detailed Project and Materials Specification General

All materials will have a certificate of origin and related SANS / (as well as IEC specifications and type tests of approval. No materials will be ordered without the written approval from the engineer and / or client of the project. Only reputable manufacturers' equipment will be used. Source / test certificates to be provided during tender Stage.

NOTES:

Tenderers must tender for materials and equipment to be supplied and installed exactly according to specification. In the Schedules, Specifications and Drawings, reference is made to materials and equipment which shall be preferred. This is for technical and standardisation reasons. Similar alternatives may be offered where called for in the Schedules or detailed by the tenderer in a covering letter. For the purpose of standardisation, the Engineer's decision, in consultation with the Client, as to which equipment shall be supplied shall be final.

4.3 General Requirement-

4.4 System Components

4.4.1 Photovoltaic modules

The shadow-free area required for installation of rooftop solar PV system is about 12 m^2 per kW. This number includes the provision for clearances between solar PV array rows. The Solar panels may be installed on the roof of the building with north facing tilt angle that varies in different parts of the country, 25 in the north, 30 in central region and 35° in the southern part of Namibia. This depends on the latitude of the location. Sufficient area shall be available for servicing the system. The minimum clearance required for cleaning and servicing the panels is 0.6m from the parapet wall and between rows of panels. In between the row of the Solar panel sufficient gap needs to be provided to avoid the shading of the row by an adjacent row.

The PV module to be used Polycrystalline, is recommended. The PV modules used must qualify to the latest edition of IEC / SANS PV module qualification test or equivalent standards crystalline silicon Solar Cell module IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 part-1-requirements for construction and part 2-requirements for testing, for safety qualification.

a) The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum **400-500 Wp** and above wattage. Module capacity less than a minimum of **400 watts** shall not be accepted. The installation shall conform with SANS 10142 standard criteria.

b) Protective devices against surge at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.
c) PV module shall be tested and approved by one of the IEC authorized test centre.
d) The module frame shall be made of corrosion resistant materials, preferably having anodized aluminium.
e) The bidder shall carefully design and accommodate requisite numbers of the modules to achieve the rated power in his the bid.
f) PV modules used must be warranted for the designed output, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.
g) Other general requirement for the PV modules and subsystems shall be the following:
   (i) The rated output power of any supplied module shall have tolerance of POSITIVE + 5%.
   (ii) The peak-power point voltage and the peak-power point current of any supplied module and / or any module string (series connected modules) shall not vary by more than 2% from the respective arithmetic means for all module and / or for all module strings, as the case may be.
   (iii) The module shall be provided with the junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with capacitive screws and cable gland entry points or may be of sealed type and IP-65 rated.
   (iv) The I-V curve at Standard Test Condition (STC) should be provided by the bidder.
   (v) The modules should be pasted with or accompanied by the datasheet on the back, stating the name of the manufacturer of PV module /solar cells, date of manufacture, country of origin, Unique serial No and model No of the module, name of the test lab issuing IEC certificate and other relevant traceability of solar cell and module as per ISO 9001 and 14001.
   (vi) The Solar module efficiency shall be ≥ 14.5 %

Specifications Electrical Data |
Nominal Max. Power (Pmax): 455 W.

- Opt. Operating Voltage (Vmp): 41.3 V.
- Opt. Operating Current (Imp): 11.02 A.
- Open Circuit Voltage (Voc): 49.3 V.
- Short Circuit Current (Isc): 11.66 A.
- Module Efficiency: 20.6%.
- Operating Temperature ;-40°C ~ +85°C.
- Max. System Voltage: 1500V (IEC/UL) or 1000V (IEC/UL).
- Module Fire Performance: TYPE 1 (UL 61730 1500V) or TYPE 2 (UL 61730 1000V) or CLASS C (IEC 61730).
- Max. Series Fuse Rating: 20 A.
- Application Classification: Class A Power Tolerance.

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m2, spectrum AM 1.5 and cell temperature of 25°C.

Mechanical Data
Cell Type: Mono-crystalline.

- Cell Arrangement: 120 [2 x (10 x 6)].
- Dimensions: 2108 mm x 1048 mm x 35 mm.
- Weight 24.3 kg.
- Front Cover: 3.2 mm tempered glass.
- Frame: Anodized aluminium alloy.
- J-Box: IP68, 3 bypass diodes.
- Cable: 4.0 mm^2 (IEC), 12 AWG (UL).

4.4.2 PV Module minimum specification

PV System	Ratings	Option1 kWp	Option2 kWp
Model: CS3W-455MS.			
Power (Pmax)	≥ W		
Dimension: (LxWxH)	≤ ()mm		
Weight	≤ kg		
Thermal characteristics:			
Nominal operating cell (NOCT)	≥ 46 °C		
Environmental operating temperature	-40-85 °C		
Cell type	Polycrystalline		
Efficiency	≥14.5%		
Connector	MC4		
Density	≥ 800W/m^2		
Power tolerance	-0wp /+5wp		
J-Box	IP 65		
Frame design	Anodized Aluminium		
Degrading	Less than 0.7%/Year		

4.5 Plant Delivery Schedule –

- refer to schedules

4.5.1 Array structure

Mounted pole structure
As per BoQ specification – suitable to approved engineer's drawing.

4.5.2 Cables and Conductors

Cables of appropriate size to be used in the system shall have the following characteristics:

- Water, heat, cold, UV radiation, oil and abrasion resistant

- Shall meet IEC 60227 / IEC 60502 Standards
- Temp. Range: -10°C to +80°C
- Voltage rating 600 / 1000V
- Flexible
- Size of cables between array interconnections, array to junction boxes, junction boxes to inverter. Shall be selected to keep the voltage drop (power loss) of the entire solar system to the minimum. The cable (as per International Standard (IS)) should be insulated with special grade PVC compound formulated for outdoor use.
- Cable Routing: All cable / wires are to be routed in a trunking / cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified.
- The cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25 years.
- The size of each type of DC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2%
- The size of each type of AC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2%.
- For AC cabling, PVC or XLPE insulated PVC sheathed single or multi-core flexible copper cables shall be used. Outdoor AC cables shall have a UV-stabilised outer sheath.
- Cable and wire used for interconnection of PV modules shall be provided with solar PV connectors (MC4) and couplers.
- DC string connectors should be IP 67 and capable of withstanding the weather exposure as per site reference
- All cables and conduit pipes shall be clamped to the rooftop/ tied to the profile under the modules. The minimum DC cable size shall be 4.0 mm2 copper/ Aluminium. The minimum AC cable size shall be 4.00mm2 copper. In three phase systems, the size of the neutral wire shall be equal to the size of a phase wires. The following colour coding shall be used for cable wires:
    a) DC positive: red / marked with a sticker +ve
    b) DC negative: black / marked with a sticker -ve
    c) AC single phase: red; neutral: black (or marked with equivalent colour coding)
    d) AC three phase: phases: Red; White/ Yellow, Blue; neutral: black
    e) earth wires: green
- Earth wire at the mounting structure should be 10mm2 BCEW.

PANEL WIRE:

- Sustainable 4mm² **Red or black** Double Insulated Halogen Free Solar Cable
- Technical Specification

- Voltage Rating: 1800 Vdc.
- Temperature Range: -40°C to +90°C.
- Flexibility Class: 4 & 5.
- Conductor Type: Flexible tin plated / Copper class – 5CEI EN 60228.
- Insulation Material: XL Halogen Free FR.
- Sheath Material: XL Halogen Free FR.
- Sheath Colour Black, Red.

- Bending Radius 4 x Diameter of cable.
- Nominal Size mm^2: 4.0.
- Insulation Thickness mm: 0.7.
- Sheath Thickness mm: 0.8.
- Outer Diameter mm: 5.5.
- Max. Conductor Resistance at 20°C Ω/km: 5.09.
- Cable Weight kg / km: 62.

PANEL CONNECTIONS:

- Multi Contact MC4 Cable Coupler Pack
- Features
- Snap-in lock.
- Locking by safety lock clip PV-SSH4 in accordance with NEC 2011, can be released only with tool.

4.5.3 Earthing protection

a) Each array structure of the PV yard should be grounded / earthed properly as per SANS 101042-1 / IS:3043-1987 standards. In addition, the lighting arrester / masts should also be earthed.
b) Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

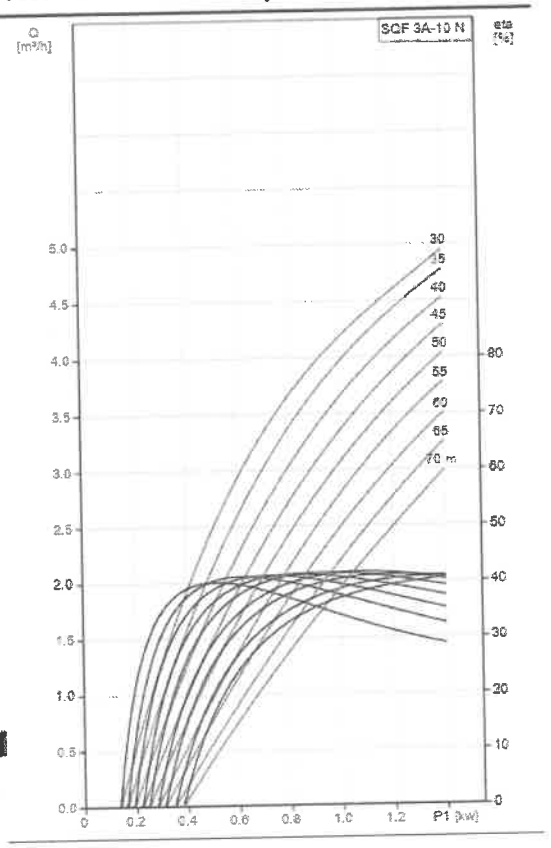
4.5.4 Pipes/Fittings

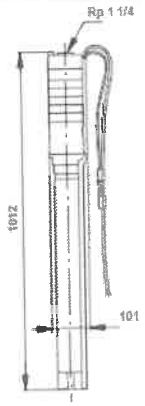
SABS ISO 4427
50MM CL.6 HDPE POLY TABLE 5 – Supplied by NPC Okahandja

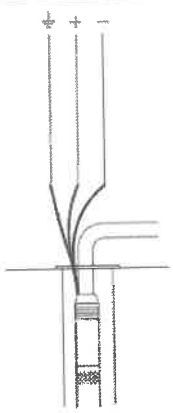
4.5.5 Pumps

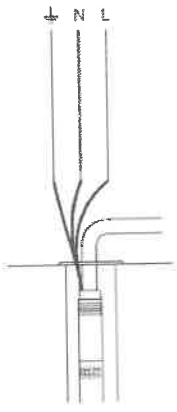
Preferred and specified – alternative can be offered at RATE only

Description	Value
General information:	
Product name:	SQF 3A-10 N
Product No:	On request
EAN number:	On request
Technical:	
Stages:	10
Approvals on motor nameplate:	CE,RCM,EAC
Approvals on pump nameplate:	CE,EAC
Pump No:	95027385
Valve:	pump with built-in non-return valve
Materials:	
Pump:	Stainless steel DIN W.-Nr. 1.4401 AISI 316
Impeller:	Stainless steel DIN W.-Nr. 1.4401 AISI 316
Rotor:	DIN W.-Nr. 1.4401 AISI 316
Stator:	DIN W.-Nr. 1.4401 AISI 316
Installation:	
Maximum ambient pressure:	15 bar
Pump outlet:	Rp 1 1/2
Minimum borehole diameter:	102 mm
Liquid:	
Pumped liquid:	Water
Maximum liquid temperature:	40 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m³
Electrical data:	
Motor type:	MSF3N
Power input - P1:	1.4 kW
Rated voltage ac:	1 x 90-240 V
Rated voltage dc:	30-300 V
Rated current:	8.4 A
Power factor:	1.0
Rated speed:	500-3600 rpm
Start. method:	direct-on-line
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	F
Motor protec:	Y
Thermal protec:	internal
Length of cable:	2 m
Motor No:	96275337
Udc:	300 V 30 V
Others:	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	11.1 kg
Gross weight:	12.6 kg
Shipping volume:	0.028 m³
Sales region:	Europe/South America/Japan

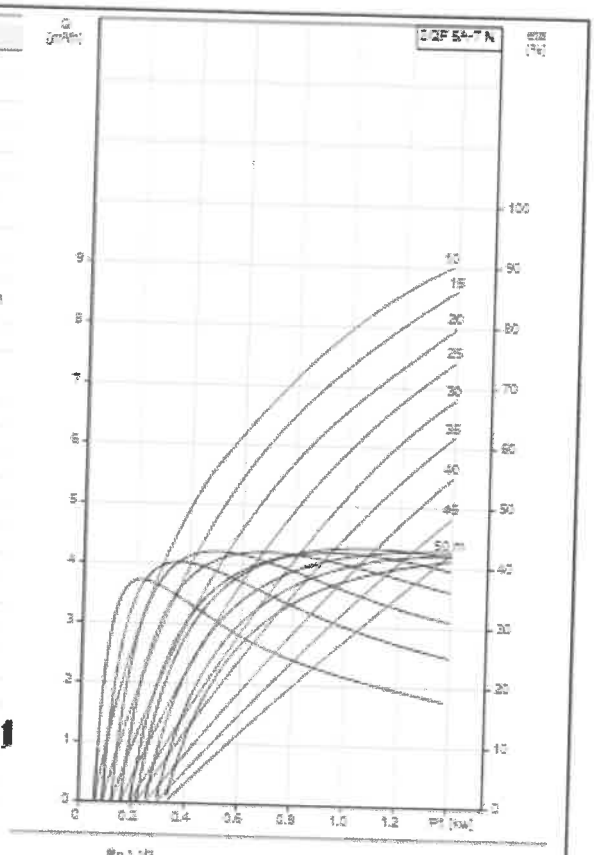


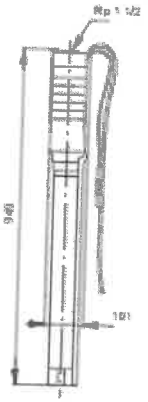


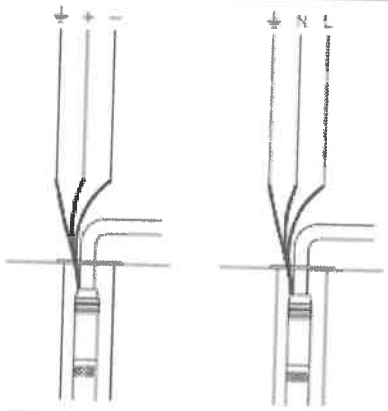




Description	Value
General information:	
Product name:	SQF 5A-7 N
Product No:	On request
EAN number:	On request
Technical:	
Stages:	7
Approvals on motor nameplate:	CE,RCM,EAC
Approvals on pump nameplate:	CE,EAC
Pump No:	95027394
Valve:	pump with built-in non-return valve
Materials:	
Pump:	Stainless steel DIN W.-Nr. 1.4401 AISI 316
Impeller:	Stainless steel DIN W.-Nr. 1.4401 AISI 316
Rotor:	DIN W.-Nr. 1.4401 AISI 316
Stator:	DIN W.-Nr. 1.4401 AISI 316
Installation:	
Maximum ambient pressure:	15 bar
Pump outlet:	Rp 1 1/2
Minimum borehole diameter:	102 mm
Liquid:	
Pumped liquid:	Water
Maximum liquid temperature:	40 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m³
Electrical data:	
Motor type:	MSF3N
Power input - P1:	1.4 kW
Rated voltage ac:	1 x 90-240 V
Rated voltage dc:	30-300 V
Rated current:	8.4 A
Power factor:	1.0
Rated speed:	500-3600 rpm
Start. method:	direct-on-line
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	F
Motor protec:	Y
Thermal protec:	internal
Length of cable:	2 m
Motor No:	96275337
Udc:	300 V 30 V
Others:	
Minimum efficiency index, MEI ≥:	0.56
Net weight:	10.5 kg
Gross weight:	12 kg
Shipping volume:	0.026 m³
Sales region:	Europe/South America/Japan







Liquid:
Pumped liquid: Water
Maximum liquid temperature: 40 °C
Liquid temperature during operation: 20 °C
Density: 998.2 kg/m³
Technical:
Approvals on motor nameplate: CE,RCM,EAC
Approvals on pump nameplate: CE,EAC
Materials:
Pump: Stainless steel
DIN W.-Nr. 1.4401
AISI 316
Impeller: Stainless steel
DIN W.-Nr. 1.4401
AISI 316
Installation:
Maximum ambient pressure: 15 bar
Pump outlet: Rp 1 1/2
Minimum borehole diameter: 102 mm
Electrical data:
Motor type: MSF3N
Power input - P1: 1.4 kW
Rated voltage ac: 1 x 90-240 V
Rated voltage dc: 30-300 V
Rated current: 8.4 A
Power factor: 1.0
Rated speed: 500-3600 rpm
Start. method: direct-on-line
Enclosure class (IEC 34-5): IP68
Insulation class (IEC 85): F
Length of cable: 2 m
Udc: 300 V
30 V

4.6 DRAWINGS

The Drawings listed hereunder and provided, are for bidding purposes only and the work shall be carried out in accordance with these drawings or such additional, amended or revised drawings as issued from time to time by the Engineer.

The price quoted shall be based on the detail drawing submitted – as per description in the bill

Drawing No.	Drawing Title
Area Layout	
Figure 1	
PV EG conceptual approach	
Kunene Regional Council	5521C-CW-00 14 Jul 2022 - Keymap_all
Kunene Regional Council	5521C-CW-01-V02-13 Jul 2022 - all Sites
Kunene Regional Council	5521C-CW-02-V00-13 Jul 2022 - BH WW204925
Kunene Regional Council	5521C-CW-03-V00-13 Jul 2022 - BH WW204924
Kunene Regional Council	5521C-CW-04-V00-13 Jul 2022 - BH KURC 2017-7
Kunene Regional Council	5521C-CW-05-V00-13 Jul 2022 - Trench Detail
Kunene Regional Council	5521C-CW-06-V00-13 Jul 2022 - LIVESTOCK Water Trough
DWA - MAWRD	43 R2 Tap Stand-Layout1
DWA - MAWRD	65 R8 Tank stand 1.5m, steelwork-Layout1
DWA - MAWRD	66 R9 Tankstand 1.5m Pipework-Layout1
DWA - MAWRD	73 R9 Base plate for discharge head-Layout1

4.7 SUPPLEMENTARY INFORMATION

The following documentation is herewith attached:

1. Report- Kunene Regional Council (KRC) Water Report - pdf

(To be downloaded from Dropbox on request)

Request DOCUMENTS from

roeber@gsfa.com.na / in cc the KRC Procurement office.

5 Section IV: Bill of Quantities

Procurement Reference Number: _____

5.1 BoQ (Bill of Quantities)

	Tender: Project Subject : Supply, Delivery, Installation and Commissioning – Community Water Supply – PV Solar Pumping installation, Storage and Water Point- Ohamaremba, Kunene Region **Title: TENDER REFERENCE NO.: W/RFQ/KRC -03/2022**	
Section	**Description**	**TOTAL CARRIED FRWARD**
SECTION 1	PRELIMINARY AND GENERAL	
SECTION 2	COMMUNITY WATER SUPPLY_PUMP INSTALLTION - PV PANELS - CONTROL Supply, Delivery, Installation of - PV Pump, Solar Generator, Stand, Block, Pipeline, Cable, Control, Reservoir, Community Water Point, T-off for irrigation, Overflow - REFER TO OVERVIEW DRAWING: 5521C-CW-01	
SECTION 3	CATTLE WATER SUPPLY_PUMP INSTALLTION - PV PANELS - CONTROL Supply, Delivery, Installation of - PV Pump, Solar Generator, Stand, Block, Pipeline, Cable, Control, Reservoir, Community Water Point, T-off for irrigation, Overflow - REFER TO OVERVIEW DRAWING: 5521C-CW-01	
SECTION 4	GARDEN / IRRIGATION WATER SUPPLY_PUMP INSTALLTION - PV PANELS - CONTROL Supply, Delivery, Installation of - PV Pump, Solar Generator, Stand, Block, Pipeline, Cable, Control, Reservoir, Community Water Point, T-off for irrigation, Overflow - REFER TO OVERVIEW DRAWING: 5521C-CW-01	
SECTION 5	CONTINGENCIES	
	SUBTOTAL	
	Add 15% VAT	
	TOTAL	

Total Amount including VAT in Words:

Priced Schedules and Bill of Quantities Authorised By:

Name:		Signature:	
Position:		Date:	
Authorised for and on behalf of:	Company		

PREAMBLE TO THE BILL OF QUANTITIES

5.2 GENERAL

The Instructions to Bidders, the General and Special Conditions of Contract, the Specifications and the Drawings are to be read in conjunction with the Bill of Quantities. The general requirements and description of the Works and materials given in the Specifications are not repeated in the Bill of Quantities and the Bidder shall refer to the other part of the Documents for this information.

The cost of complying with all conditions, obligations and liabilities specified in the Instructions to Bidders, the General and Special Conditions of Contract, the Specifications () and the Bill of Quantities, including all overhead charges and profit and the cost of carrying out the work as shown on the Drawings, shall be deemed to be included in the rates and sums tendered in the Bill of Quantities.

5.2.1 DESCRIPTION OF ITEMS IN THE BILL

The Bill comprises items covering the Contractor's profit and costs of general liabilities and of the construction of temporary and permanent Works. Descriptions in the Bill of Quantities are abbreviated and the short descriptions of the items in the Bill of Quantities are for identification purposes only.

5.2.2 PRICING OF THE BILL

The prices and rates to be inserted on the Bill of Quantities are to be the full inclusive prices to the Employer for the work described under the several items. Such rates and prices shall cover all costs and expenses that may be required in and for the construction of the work described, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Bid is based. The Bidder is at liability to insert a rate of his own choosing for each item in the Bill of Quantities and his attention is drawn to the fact that the Contractor has the right, under various circumstances, to payment for additional Works carried out and that the Engineer is obliged to base his assessment of the rates to be paid for such additional work on the rates inserted in the Bill of Quantities by the Contractor. Each item shall be priced and extended to the "Amount" column by the Bidder, with the exception of the items for which only rates are required, or which already have Provisional Sums affixed thereto. If the Bidder omits to price any items in the Bill of Quantities, then these items will be considered to have a nil rate or price. All items for which terminology such as "inclusive" or "not applicable" have been added by the Bidder will be regarded as having a nil rate. The Bidder shall fill in rates for all items where the words "rate only" appears in the "Amount" column. The intention is that although no work is foreseen under such an item, and no quantities are accordingly given in the "Quantity" column, the tendered rate shall apply in the event of work under this item being actually required.

All prices, rates and amounts submitted by the Bidder in his priced Bill of Quantities must be nett and exclusive of Value Added Tax (VAT). Only Import Duties, where applicable should be included. Bidders may be required to submit a schedule identifying the Import Duty component of each item in the Bill of Quantities.

SECTION V: SPECIFICATIONS AND COMPLIANCE SHEET

Procurement Reference Number: _____

In Table 1 below, Bidders shall complete columns C and D with the specifications and performance of the Works offered. The Bidders shall also state "comply" or "not comply" and give details of any non-compliance/deviation to the specifications required. Detailed technical literature shall be attached if required.

Table Compliance with Specifications and Performance Offered

BoQ Item No.	Specifications and Performance Required	Compliance of Specifications and Performance Offered	Details of Non-Compliance/ Deviation (if applicable)
A	B	C	D
	PV Panels	Manufacturer: Supplier:	
	PV Support and Mounting structure – access between Panels.	Manufacturer: Supplier:	
	Pumps/ Control 1. 2.	Manufacturer: Supplier:	
	Tanks / Storage Tank	Manufacturer: Supplier:	

BoQ Item No.	Specifications and Performance Required	Compliance of Specifications and Performance Offered	Details of Non-Compliance/ Deviation (if applicable)
A	B	C	D
	Water troughs / fittings 36cm x 3.7m 260 liter / GOLZ	Manufacturer: Supplier:	

The information to be filled in by the **Bidders** in Tables 2, 3 and 4 shall be incorporated in the Contract. The Bidder shall attach additional pages as necessary.

Table **Qualifications and experience of key personnel proposed for administration and execution of the Contract**. The Bidder shall state in the table below the number of each category of personnel to be provided on site for the execution of the work and in the case of professional and technical staff the number of years of suitable experience after qualification.

Professional and Technical Staff			
Position	Name	Years of experience (general)	Years of experience in proposed position
(a) Contract Manager:			
(b) Assistant Contract Manager:			
(c) Site Supervisor / Manager ():			
Non-Technical Staff			**Number of**
(g) Clerical Staff			
(h) Artisans			
(i) Semi-skilled Labour			
(j) Unskilled Labour			

Table **RELATED PROJECTS and experience** The Bidder shall state in the table below.

A Minimum Requirement is that the contractor has completed at least TWO SIMILAR Project.

A Reference Letter from the client is required.

Project	Description STATE if BESS was included	CAPEX	CLIENT

Table **PROJECT PROGRAM.**

Project	Timeline		

Include High-Level Project timeline/program/workflow – for the complete project, all 3 sites.

Table **Proposed subcontracts and firms involved.** Refer to Clause 7.1 of the General Conditions of Contract.

Sections of the Works	Value of subcontract	Subcontractor (name and address)	Experience in similar work
(a)			
(b)			
(c)			

Specifications and Compliance Sheet, i.e. Tables, Authorised By:

Name:		Signature:	
Position:		Date:	
Authorised for and on behalf of:	Company		

6 Section VI: General Conditions of Contract and Contract Agreement

Any resulting contract shall be placed by means of a Purchase Order/Letter of Acceptance and shall be subject to the General Conditions of Contract (GCC) for the Procurement of Works (Ref. **W/RFQ-GCC**) available in the **Dropbox** on the website of the Public Entity *https://mof.gov.na/procurement-policy-unit* or http://www.namqa.org/files/files/Works.pdf except where modified by the Special Conditions below.

7 Section VII: SPECIAL Conditions of Contract

Procurement Reference Number: _____

The clause numbers given in the first column correspond to the relevant clause number of the General Conditions of Contract.

GCC Clause Reference	Special Conditions
Employer **GCC 1.1(r)**	The Employer is the Kunene Regional Council (KuRC) , Namibia and the authorized representative is the Designated Project Manager Mr. I Namwoonde- Planning, email: ihnamwoonde@gmail.com
Intended Completion Date **GCC 1.1(v)**	The Intended Completion Date for the whole of the Works shall be **90 days** after the Start Date.
Project Manager **GCC 1.1(y)**	The Project Manager is also referred to as the **Engineer** in this Contract and is Mr Jochen Roeber; roeber@gsfa.com.na / Kelvine Amukwaya; kelvine@gsfa.com.na – PCE PowerConsult Engineers, P.O. Box 2142, 32 Simeon Kambo Shixungileni Street, Windhoek, Namibia.
Site **GCC 1.1(aa)**	The Site is located – Ohamaremba (near Okanguati) - Kunene, Namibia
Start Date **GCC 1.1(dd)**	The Start Date shall be **seven (7) days** after the handing over of site, i.e. Possession of the Site GCC 20.1.
The Works **GCC 1.1(hh)**	The Works consist Title: BID REFERENCE NO.: W/RFQ/KRC – 03/2022.
Interpretation **GCC 2.2**	Sectional Completions are not foreseen.
Interpretation **GCC2.3(i)**	The following documents also form part of the Contract: Related report on the Roof structure
Language and Law **GCC 3.1**	The language of the contract is English The law that applies to the Contract is the law of Namibia.

GCC Clause Reference	Special Conditions
Project Manager's Decisions **GCC 4.1**	The Project Manager shall obtain specific approval from the Employer before carrying out any of his duties under the Contract which in the Project Manager's opinion will cause the amount finally due under the Contract to exceed the Contract Price or will give entitlement to extension of time. This requirement shall be waived in an emergency affecting safety of personnel or the Works or adjacent property.
Delegation **GCC 5.1**	The Project Manager may delegate any of his duties and responsibilities.
Notices **GCC 6.1**	Any notice shall be sent to the following addresses: For the **Employer**, the address shall be as given on the page 2 of this Bidding Document and the contact name shall be the Accounting Officer. For the **Contractor**, the address shall be as given on the first page of the Purchase Order/Letter of Acceptance and the contact name shall be _____
Other Contractors **GCC 8.1**	Schedule of other contractors: Other Contractors are not foreseen other than approved for works described accordingly.
Insurance **GCC 13.1**	Except for the cover mentioned in (d)(i) hereunder, the other insurance covers shall be in the joint names of the Contractor and the Employer and the minimum insurance amounts shall be: (a) for the Works, Plant and Materials: **The Accepted Contract Amount plus ten (10) per cent of the Accepted Contract Amount.** (b) for loss or damage to Equipment: **For the replacement value of the equipment that the contractor intends to use on site until the taking over by the Employer.** (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract **for the amount of NAD 100 000.00**. (d) for personal injury or death: (i) of the Contractor's employees: **The Contractor shall take an adequate insurance cover for its employees for any claim arising in the execution of the works.**

GCC Clause Reference	Special Conditions
	(ii) of other people: **NAD 1 000 000.00 in any one incident with unlimited number of incidents in any one year.** (e) for loss or damage to materials on-site and for which payment have been included in the Interim Payment Certificate, where applicable. The Contractor shall choose to take the insurance covers indicated above as separate covers or a combination of the Contractor's All Risks coupled with the Employer's liability and First Loss Burglary, after approval of the Employer. All insurance covers shall be of nil or the minimum possible deductibles at sole expense of the contractor. This shall be submitted within 21 days from the date of appointment / PO issued. GCC 13.2
Site Data **GCC 14.1**	Site Data are: 1. All Drawings attached to this Bid Documentation. 2. All Supplementary Information attached to this Bid Documentation.
Possession of the Site **GCC 20.1**	The Site Possession Date(s) shall be: The Site will be handed over to the Contractor within **7 days** of the Employer receiving in good order from the Contractor the Performance Security, the Insurance Covers and the Program.
Appointment of the Adjudicator **GCC 23.1 & 23.2**	Appointing Authority for the Adjudicator: **No Adjudicator shall be appointed for this Contract.**
Procedure for Disputes **GCC 24**	No Adjudicator shall be appointed under the contract and arbitration shall not apply. If any dispute arises between the Employer and the Contractor in connection with or arising out of the Contract, the parties shall seek to resolve any such dispute by amicable agreement. If the parties fail to resolve such dispute by amicable agreement, within 14 days after one party has notified the other in writing of the dispute, then the dispute shall be referred to court by either party.
Program **GCC 25.1**	The Contractor shall submit for approval a Program for the Works within **21 days** from the date of the Letter of Acceptance or issue of Purchase Order Agreement.
Program **GCC 25.3**	The period between Program updates is **28** days.

GCC Clause Reference	Special Conditions
	The amount to be withheld for late submission of an updated Program is **NAD 10 000.00**.
Defects Liability Period **GCC 33.1**	The Defects Liability Period is: **365** days.
Payment Certificates **GCC 39.7**	Payment shall be made as per progress of works with payment for materials on site to 100% of the value of the relevant supplier`s invoice.
Payments **GCC 40**	The amount certified by the Project Manager shall be paid in full within 30 days of receipt by the Employer of an invoice, supported by: (a) the payment certificate; and (b) a certificate of Completion of the Works.
Adverse weather Conditions **GCC 41.1 (l)**	For the definition of adverse weather conditions
Price Adjustment **GCC 44.**	The Contract is not subject to price adjustment.
Retention **GCC 45.**	10% of the amount shall be retained from any payment. Half of the retention money will be released after formal taking over of the Works and the remaining shall be released after the Defect Liability Period subject to the Contractor making good all defects.
Liquidated Damages **GCC 46.1**	The liquidated damages for the whole of the Works are **one percent (1 %)** per week or pro rata thereof. The maximum amount of liquidated damages for the whole of the Works is **five percent (5 %)** of the contract price.
Bonus **GCC 47.1**	n/a
Operating and Maintenance Manuals **GCC 56.1**	The dates by which the "Construction Monthly Inspection- and Compliance Reports" - will be scheduled ahead - Bi-weekly The date by which "as built" drawings are required is on the **Date of Completion**.
Operating and Maintenance Manuals **GCC 56.2**	The amount to be withheld for failing to produce the "as built" drawings, the "Construction Monthly Inspection- and Compliance Reports", the "Daily Construction Diary" and/or the operating and maintenance manuals by the date required in GCC 56.1 is **NAD 30 000.00** for any one instance.

GCC Clause Reference	Special Conditions
Termination **GCC 57.2 (g)**	The maximum number of days is: **Thirty-five (35)**.
Payment upon Termination **GCC 59.1**	The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is **ten percent (10 %)**.

8 Section VIII- Contract Forms and Schedules

8.1 SCHEDULE 1: Performance Security (Bank Guarantee)

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

Date: *[insert date (as day, month, and year) of Bid Submission]*

Procurement Reference No. and title: *[insert no. and title of bidding process]*

Bank's Branch or Office: *[insert complete name of Guarantor]*

Beneficiary: *[insert complete name of Purchaser]*

PERFORMANCE GUARANTEE No.: *[insert Performance Guarantee number]*

We have been informed that *[insert complete name of Supplier]* (hereinafter called "the Supplier") has entered into Contract No. *[insert number]* dated *[insert day and month], [insert year]* with you, for the supply of *[description of goods and related services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a Performance Guarantee is required.

At the request of the Supplier, we hereby irrevocably undertake to pay you any sum(s) not exceeding *[insert amount(s[1]) in figures and words]* upon receipt by us of your first demand in writing declaring the Supplier to be in default under the Contract, without cavil or argument, or your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This Guarantee shall expire no later than the *[insert number]* day of *[insert month] [insert year]*,[2] and any demand for payment under it must be received by us at this office on or before that date.

.....***Bank's seal and authorized signature(s)***.....

---

[1] *The Bank shall insert the amount(s) specified in the SCC and denominated, as specified in the SCC, in the currency of the Contract.*

[2] *Dates established in accordance with Clause 18.4 of the General Conditions of Contract ("GCC"), taking into account any warranty obligations of the Supplier under Clause 16.2 of the GCC intended to be secured by a partial Performance Guarantee. The Purchaser should note that in the event of an extension of the time to perform the Contract, the Purchaser would need to request an extension of this Guarantee from the Bank. Such request must be in writing and must be made prior to the expiration date established in the Guarantee. In preparing this Guarantee, the Purchaser might consider adding the following text to the Form, at the end of the penultimate paragraph: "We agree to a one-time extension of this Guarantee for a period not to exceed [six months] [one year], in response to the Purchaser's written request for such extension, such request to be presented to us before the expiry of the Guarantee."*

8.2 Schedule 2: Bank Guarantee for Advance Payment

*The **Bank/successful bidder** providing the Guarantee shall fill in this form in accordance with the instructions indicated in brackets, if an Advance Payment is to be provided under the Contract*

[insert Bank's name, and address of issuing branch or office]

Beneficiary: *[insert name and address of Public Entity]*

Date: *[insert date]*

Advance Payment Guarantee No.: *[insert number]*

We have been informed that *[insert name of Contractor]* (hereinafter called "the Contractor") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with you, for the execution of *[insert name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment is to be made against an advance payment guarantee in the sum or sums indicated below.

At the request of the Contractor, we *[insert name of Bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[insert amount in words and in figures]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor used the Advance Payment for purposes other than the costs of mobilization in respect of the Works.

It is a condition for any claim and payment under this Guarantee to be made that the Advance Payment referred to above must have been received by the Contractor on its account number *[insert account number]* at *[insert name and address of Bank]*.

The maximum amount of this Guarantee shall be progressively reduced by the amount of the Advance Payment repaid by the Contractor as indicated in copies of interim statements or payment certificates which shall be presented to us. This Guarantee shall expire, at the latest, upon our receipt of a copy of the Interim Payment Certificate indicating that eighty (80) percent of the Contract Price has been certified for payment, or on the *[insert number]* day of *[insert month], [insert year]*, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

_____

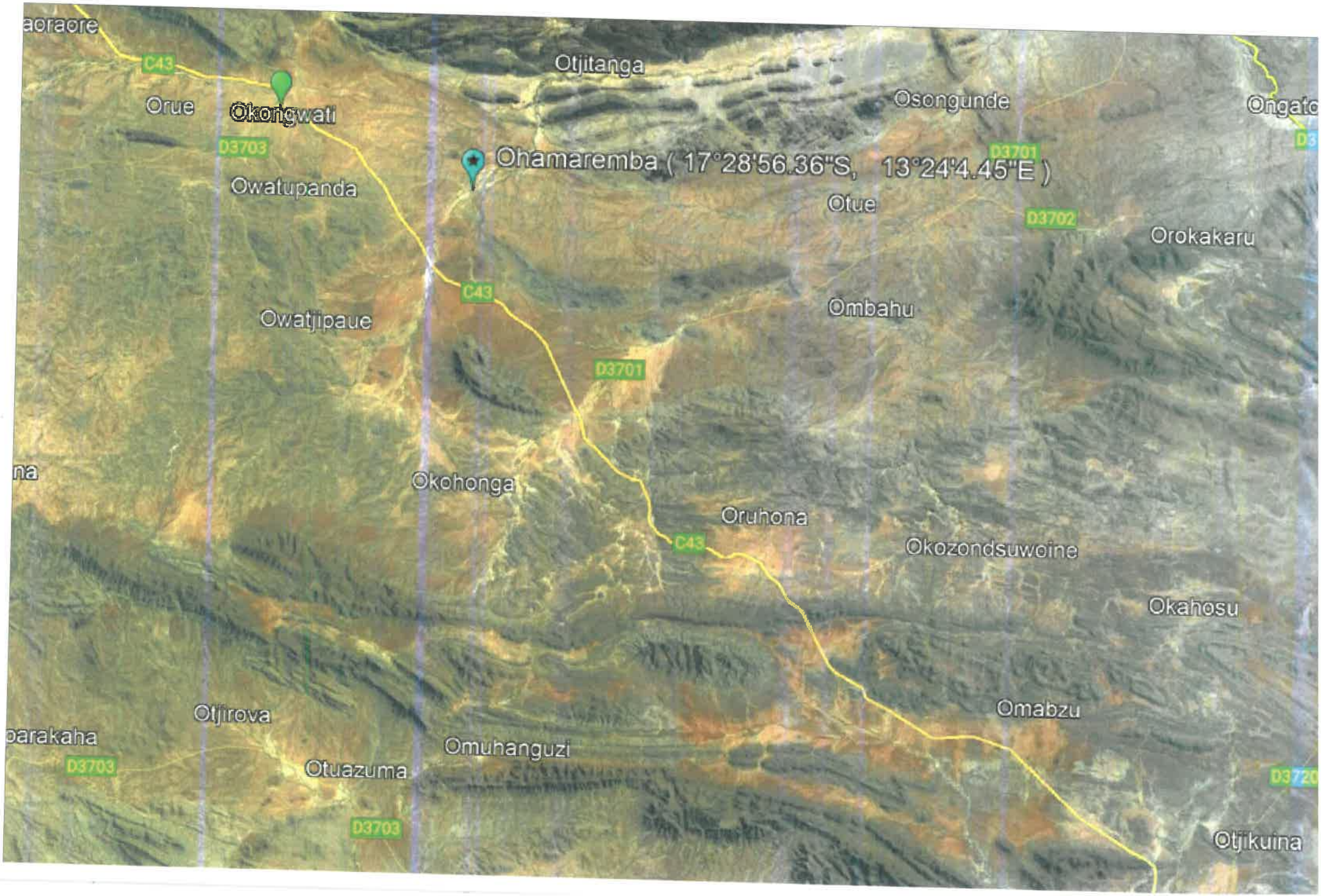
[insert signature(s) of authorized representative(s) of Bank]

8.3 Schedule 3: Quotation Checklist Schedule

Procurement Reference Number: _____

Description	Attached	Not Attached
Quotation Letter		
Eligibility Criteria Documentation		
Priced Schedules and Bill of Quantities		
Specification and Compliance Sheet, i.e. Tables, including all required substantiating documentation and curriculum vitae		

Disclaimer: *The list defined above is meant to assist the Bidder in submitting the relevant documents and shall not be a ground for the bidder to justify its non-submission of major documents for its quotation to be responsive. The onus remains on the Bidder to ascertain that it has submitted all the documents that have been requested and are needed for its submission to be complete and responsive.*


aoraore
C43
Orue
Okongwati
D3703
Otjitanga
Osongunde
Ongato
D3
Ohamaremba (17°28'56.36"S, 13°24'4.45"E)
D3701
Owatupanda
Otue
D3702
Orokakaru
C43
Owatjipaue
Ombahu
D3701
na
Okohonga
Oruhona
C43
Okozondsuwoine
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parakaha
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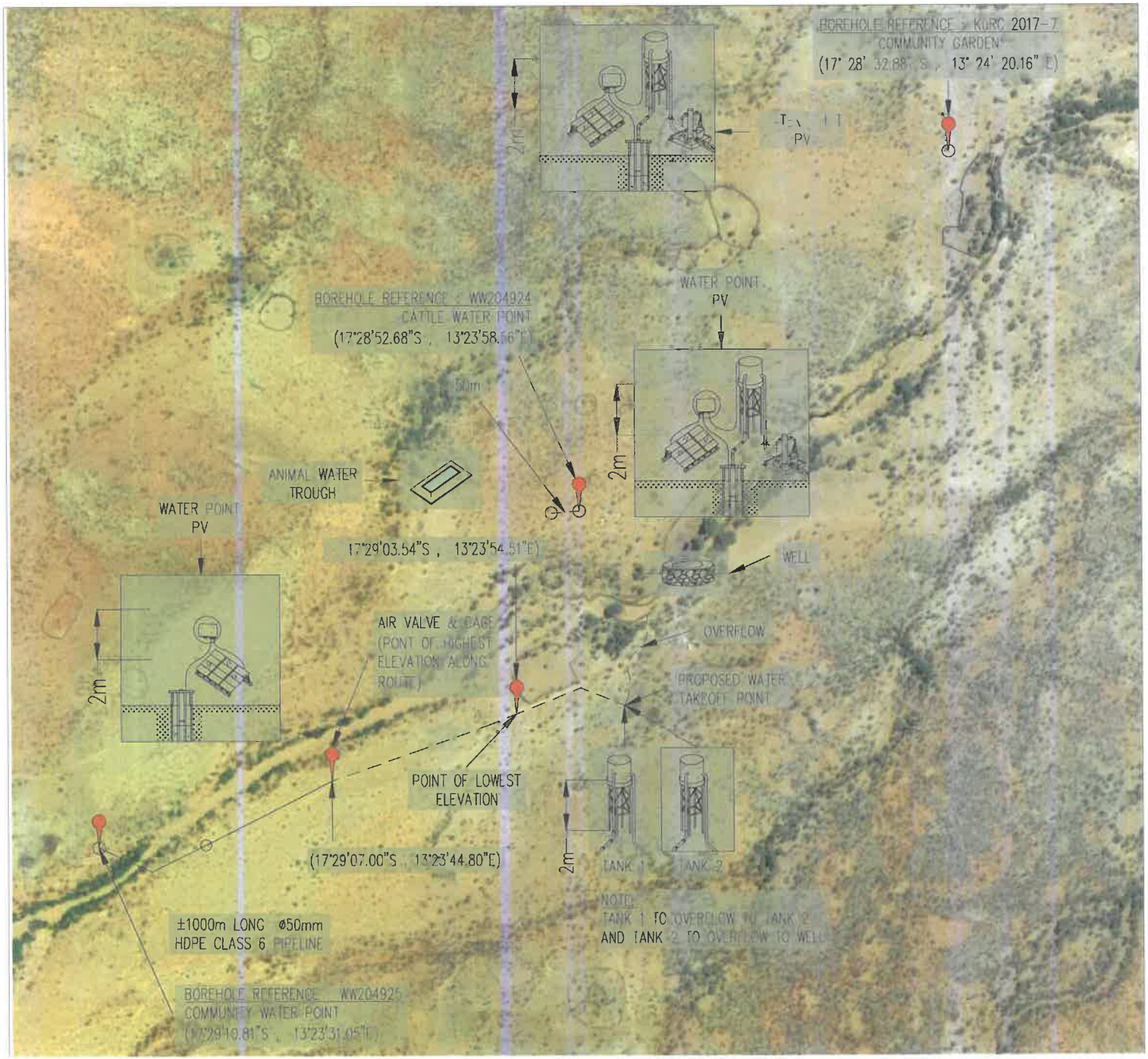
Otuazuma
D3720
D3703
Otjikuina



BOREHOLE NUMBER:		WW204925
	DEGREES	DECIMAL
LATITUDE:	17° 29' 11.26" S	17.48646° S
LONGITUDE:	13° 23' 29.29" E	13.39147° E
TOTAL DEPTH DRILLED:		45m

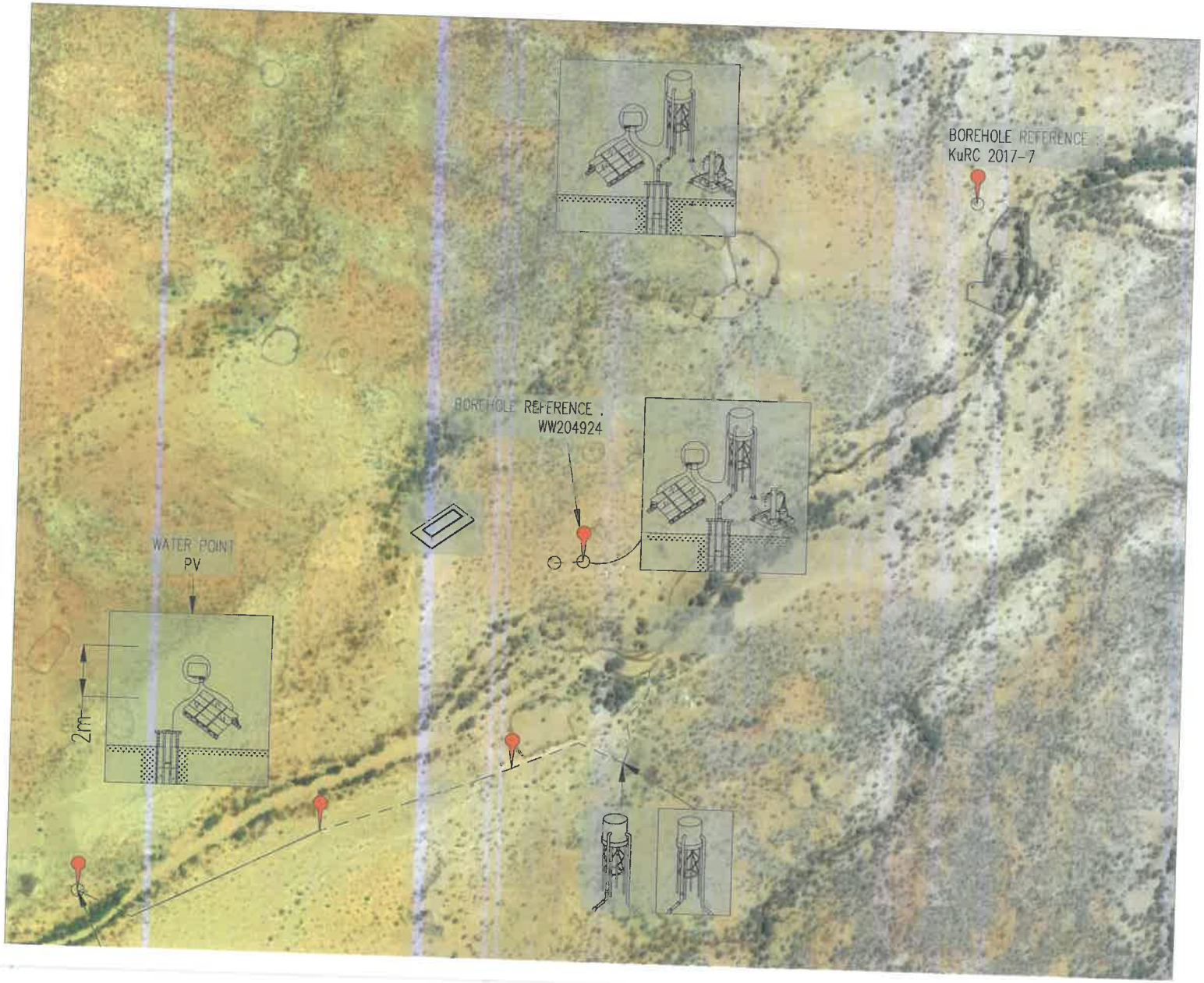
DIAMETER DRILLED	DEPTH DRILLED
ø208mm:	0 – 5.5m
ø165mm:	5.5 – 45m

GROUND WATER DETAILS			
FIRST WATER STRIKE:	6m	YIELD:	10.0 m^3/h
SECOND WATER STRIKE:	14m	YIELD:	20.0 m^3/h
METHOD:	BLOW TEST		
DURATION OF TEST:	24 hrs	FINAL YIELD:	12.0 m^3/h
APPARENT WATER QUALITY:	FRESH		
RWL (MBSU):	4.3		
INSTALLATION DEPTH:	40m		

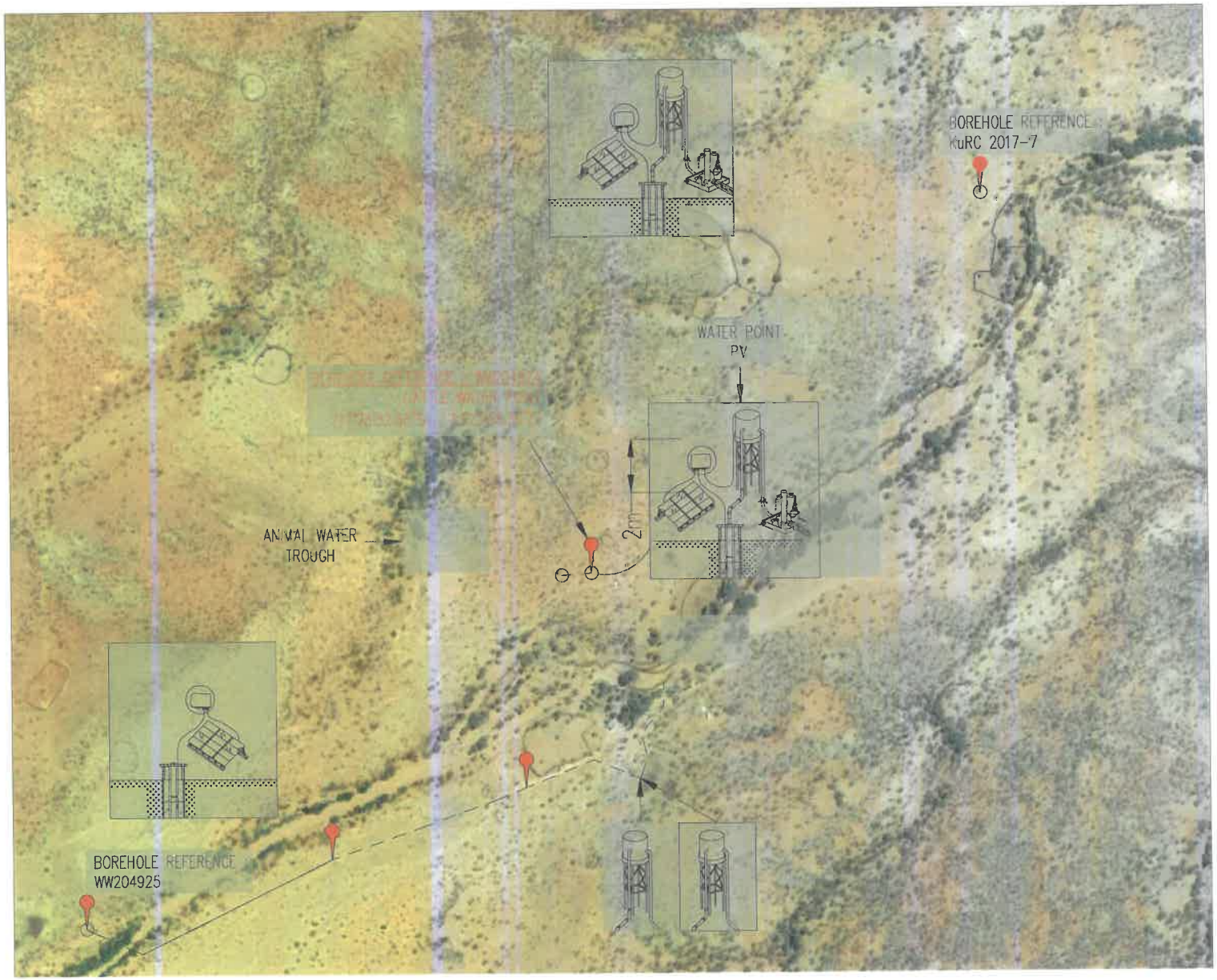
CASING INSTALLED

TYPE	FROM (m)	TO (m)	TOTAL (m)
STEEL (ø177mm)	0.5	-5.5	6.0
uPVC	0.5	-22.2	22.7
uPVC SCREEN	-22.2	-45.0	22.8
SUMP	ALTERNATE		

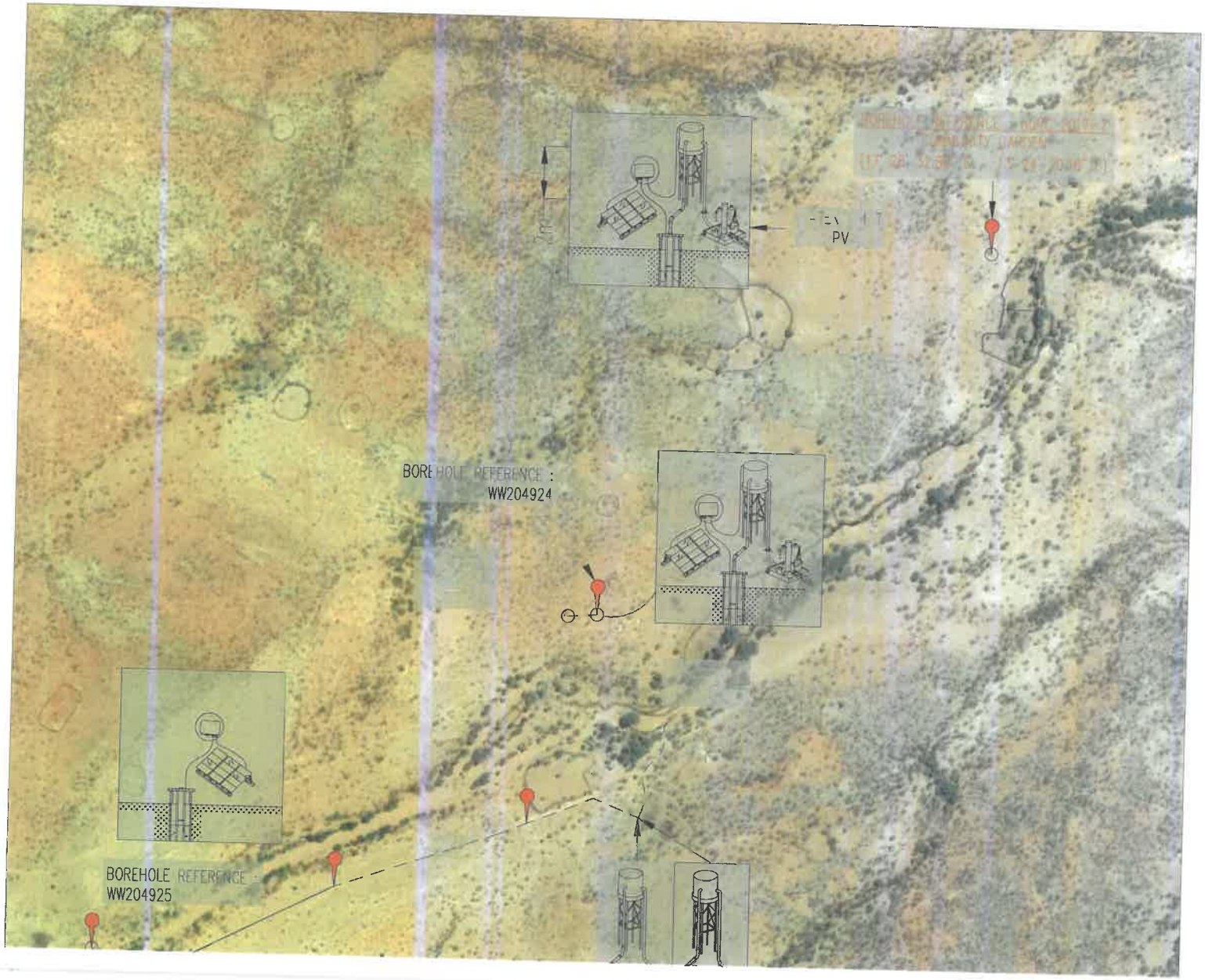
BOREHOLE
LATITUDE:
LONGITUDE:
TOTAL DEP
DIAME
ø254mm:
ø204mm:
FIRST WATI
SECOND W



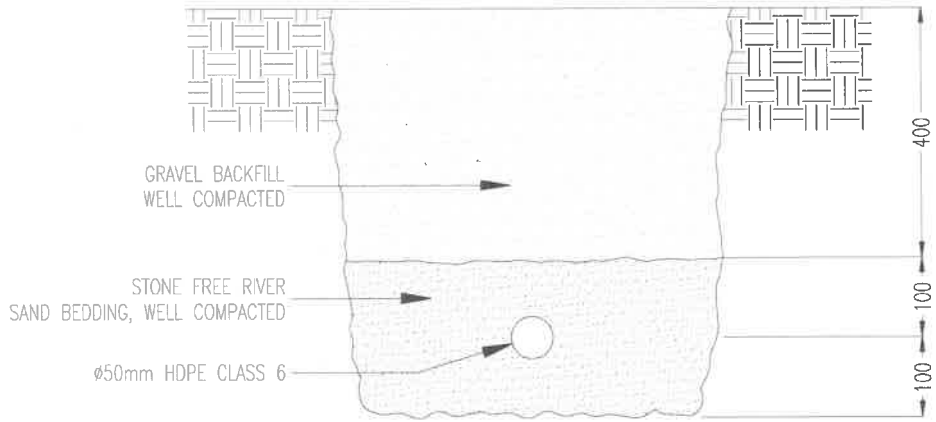
BOREHOLE NUMBER:	
[redacted]	DEG
LATITUDE:	
LONGITUDE:	13
TOTAL DEPTH DRILLED:	
DIAMETER DRILLED	
ø208mm:	
ø165mm:	
GROUND W	
FIRST WATER STRIKE:	
SECOND WATER STRIKE:	
METHOD:	
DURATION OF TEST:	24 hrs FIN
APPARENT WATER QUALITY:	
RWL (MBSU):	
INSTALLATION DEPTH:	
CASING IN	
TYPE	FRC
STEEL (ø177mm)	



BOREHOLE NUMBER:		
	DEGREES	
LATITUDE:	17° 28' 54.16	
LONGITUDE:	13° 23' 55.64	
TOTAL DEPTH DRILLED:		
DIAMETER DRILLED		
ø208mm:		
ø165mm:		
GROUND WATER DE		
FIRST WATER STRIKE:	22m	
SECOND WATER STRIKE:	30m	
THIRD WATER STRIKE:	36m	
METHOD:		
DURATION OF TEST:	N/A	FINAL
APPARENT WATER QUALITY:		
RWL (MBSU):		
INSTALLATION DEPTH:		

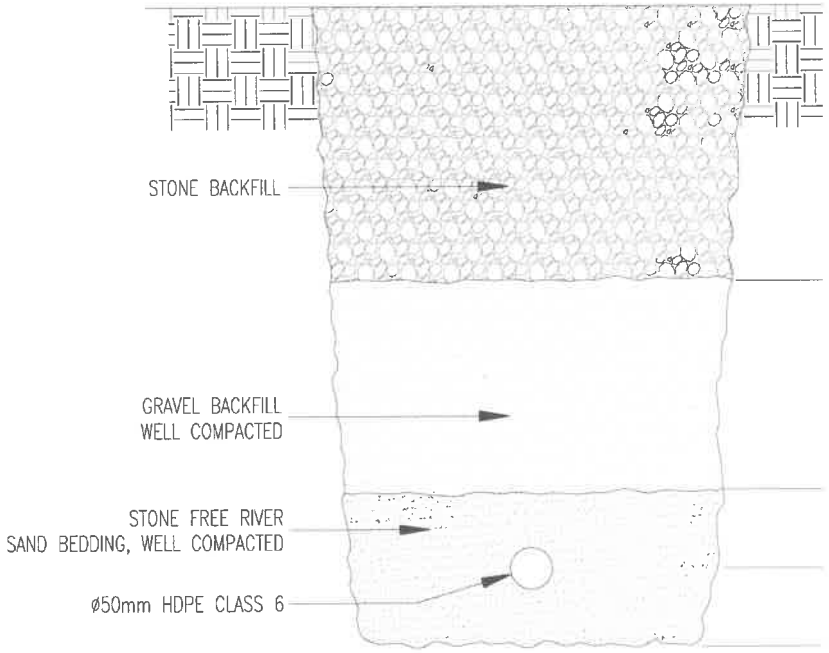


BOREHOLE NUMBER:	
[redacted]	DEGREES
LATITUDE:	17° 2
LONGITUDE:	13° 2
TOTAL DEPTH DRILLED:	
DIAMETER DRILLED	
ø254mm:	
ø204mm:	
GROUND WATER I	
FIRST WATER STRIKE:	7n
SECOND WATER STRIKE:	28n
METHOD:	
DURATION OF TEST:	N/A FINA
APPARENT WATER QUALITY:	
RWL (MBSU):	
CASING INSTALL	
TYPE	FROM (m)
STEEL (ø219mm)	
RWL (MBSU):	

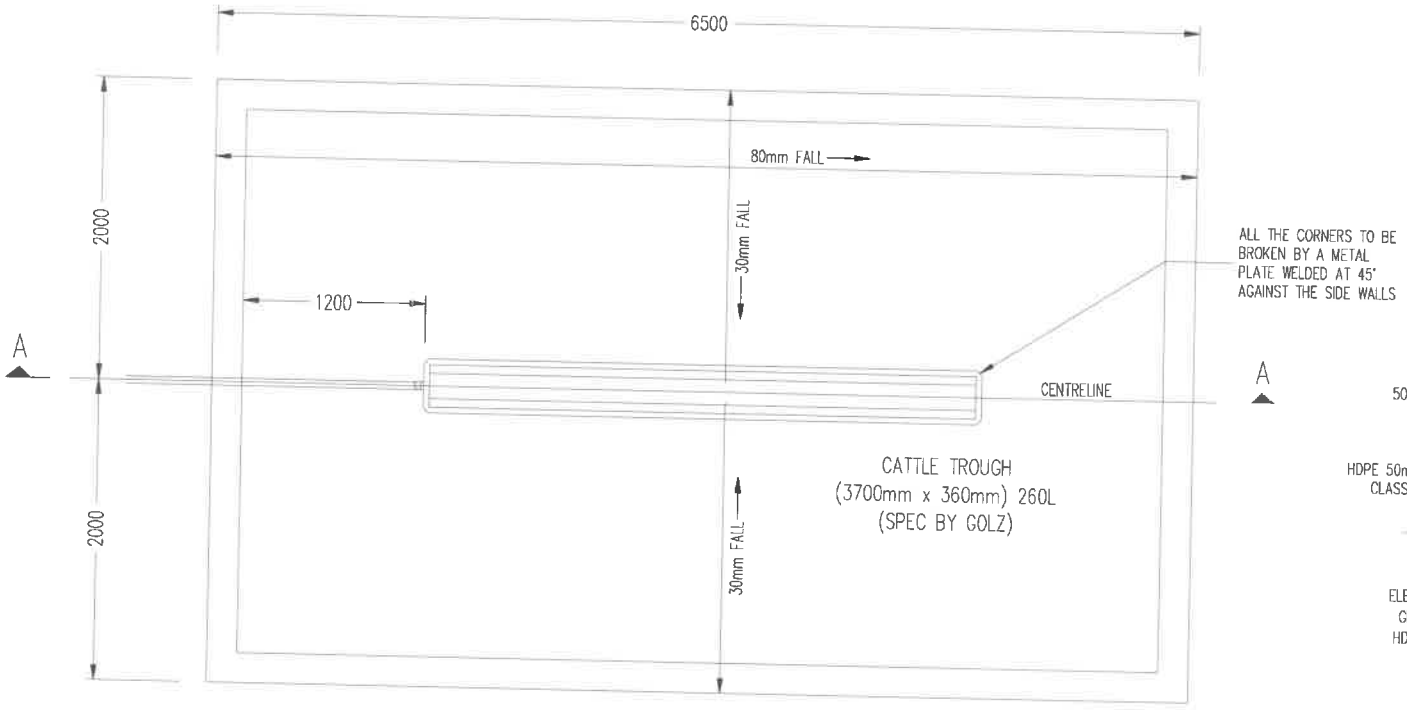


STANDARD WATER PIPE
TRENCH DETAIL

NOT TO SCALE

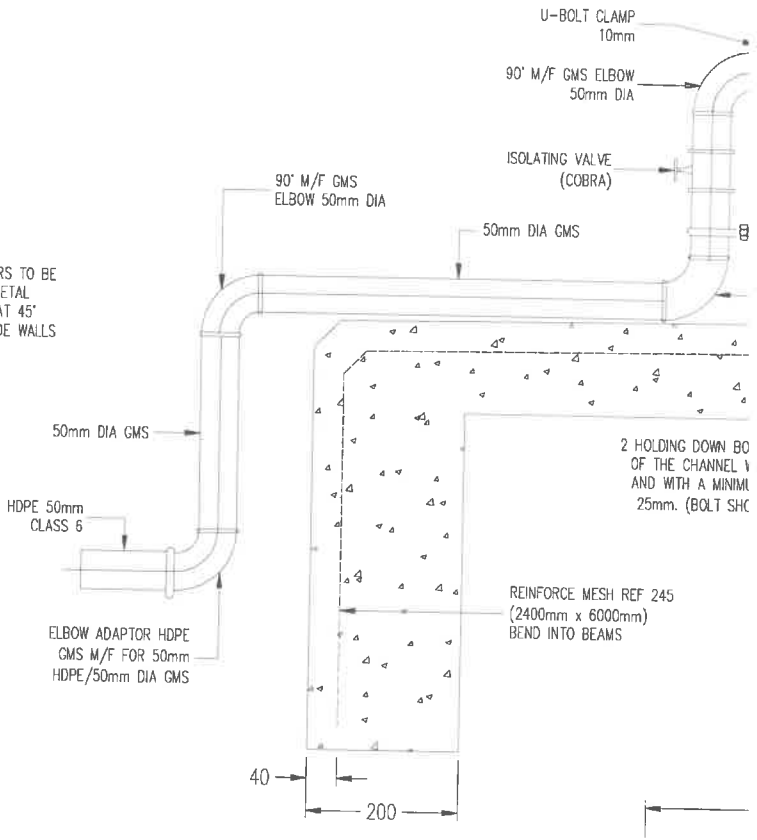


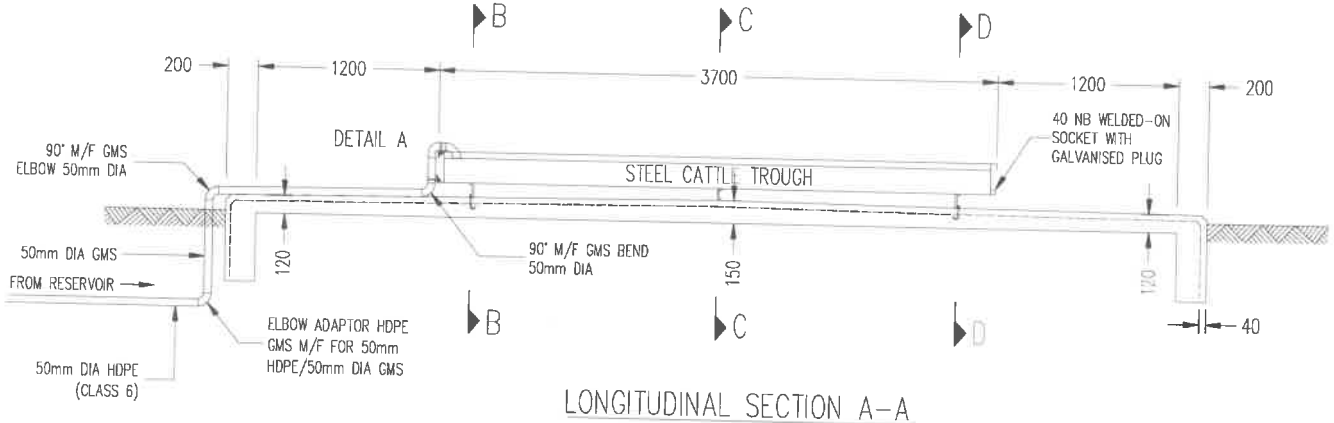
RIVER CROSSING WATER
PIPE TRENCH DETAIL



LAYOUT PLAN

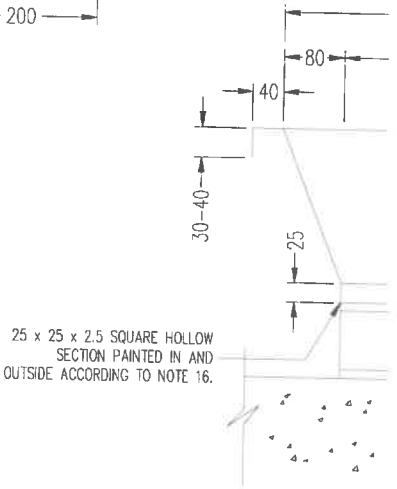
SCALE 1 : 25





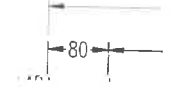
LONGITUDINAL SECTION A–A

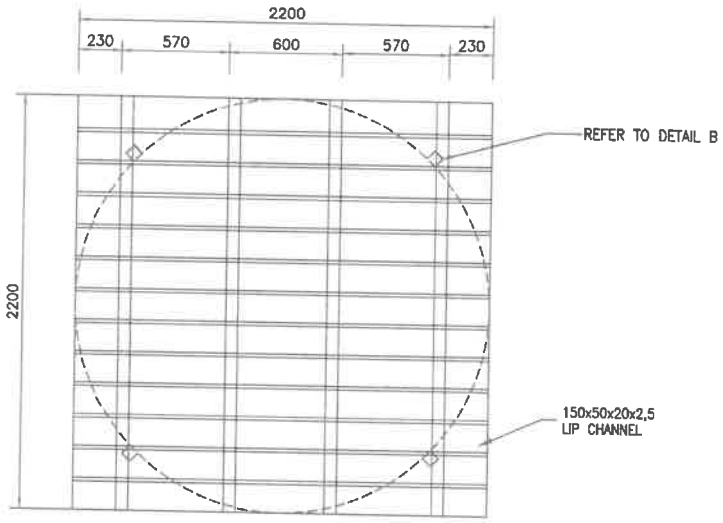
SCALE 1 : 25



CROSS-S

SC.





PLAN

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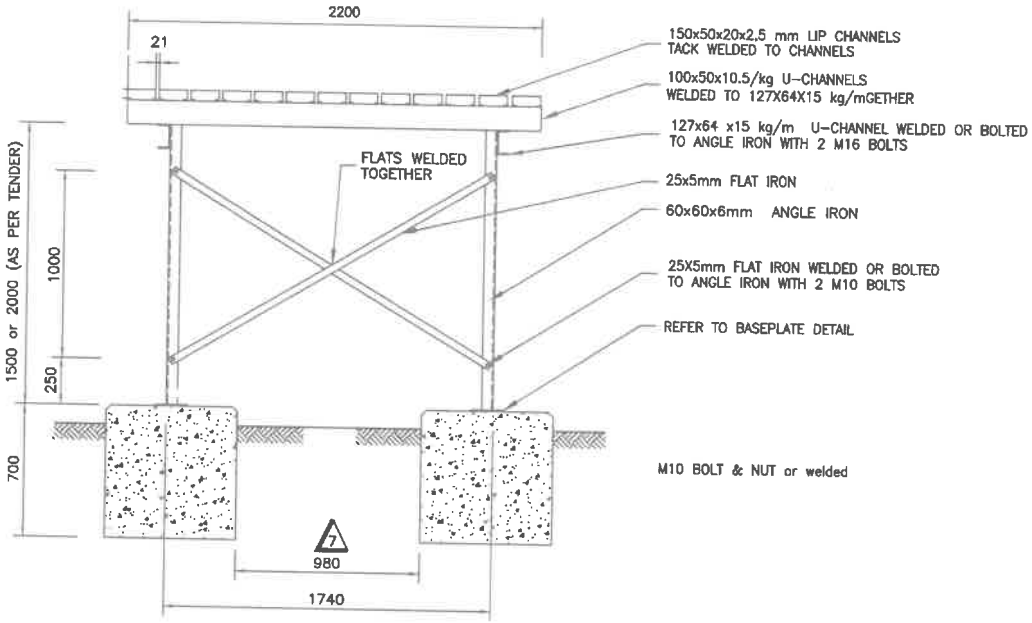
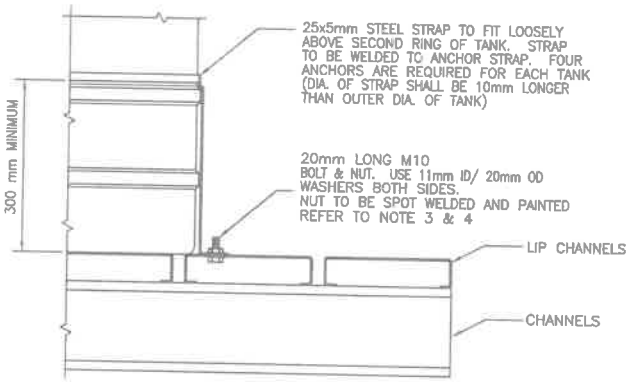


SIDE ELEVATION

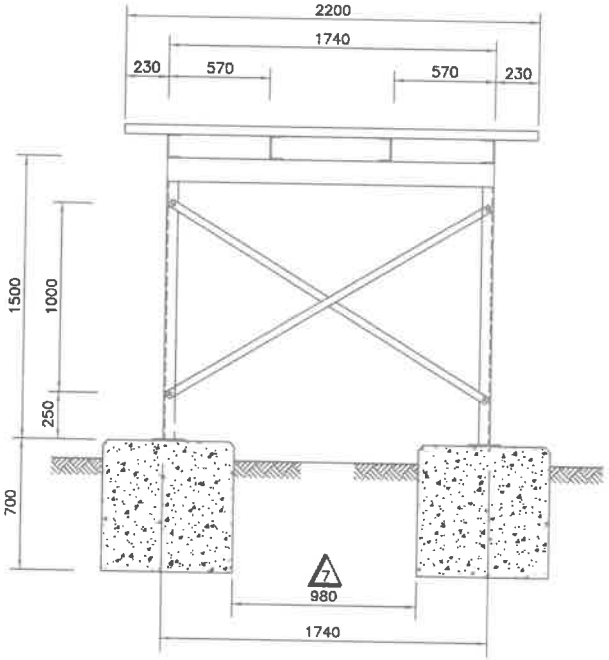
SCALE 1: 20



DETAIL B: HOLD DOWN BRACKET AROUND TANK

(REFER DRW NO. 21/1- 4/36)

NOT TO SCALE



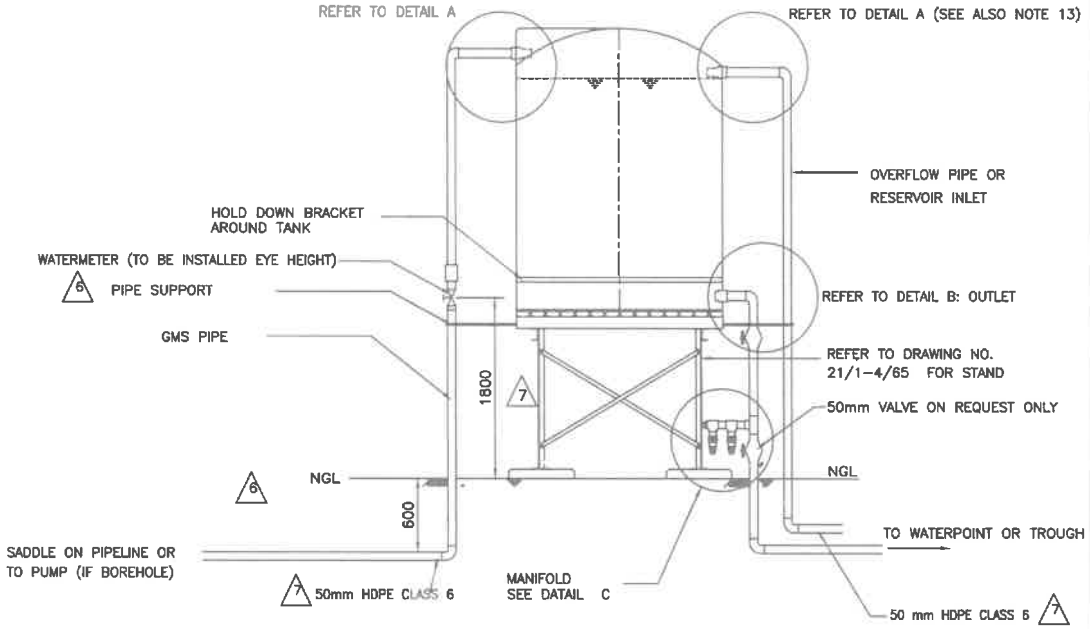
FRONT ELEVATION

SCALE 1: 20

M16 NUT: REFER NO

WELD 8mm THICK M
WITH 4 EQUALLY SP
17mm DIA. HOLES T

FOUR 10mm DIA. U-SHAPED
ROUND BAR WELDED TO 16mm



BASIC CONFIGURATION

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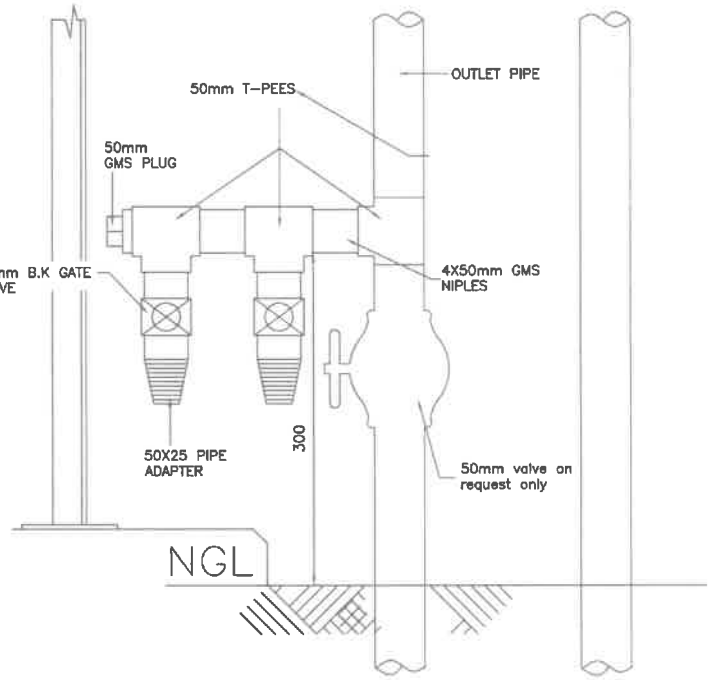
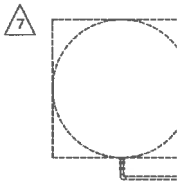
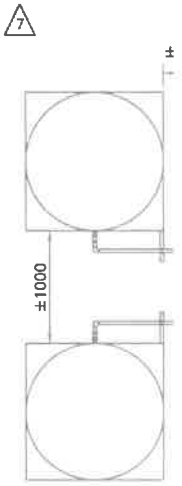
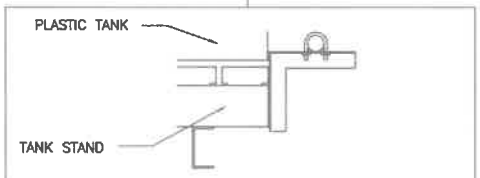




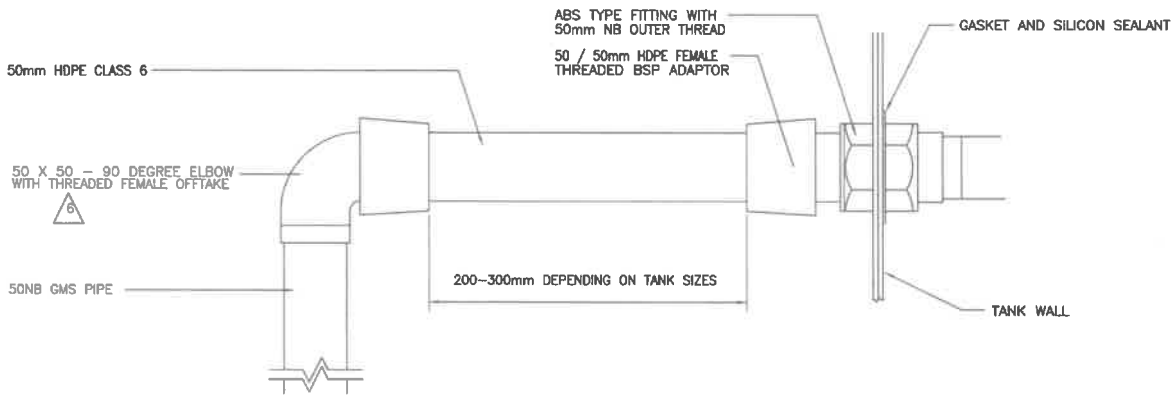


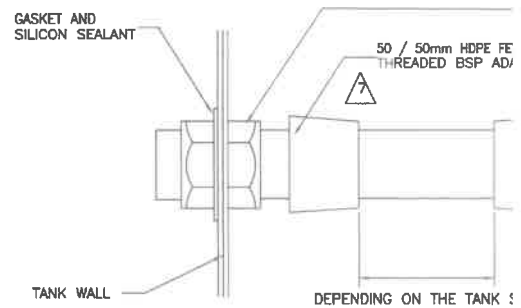


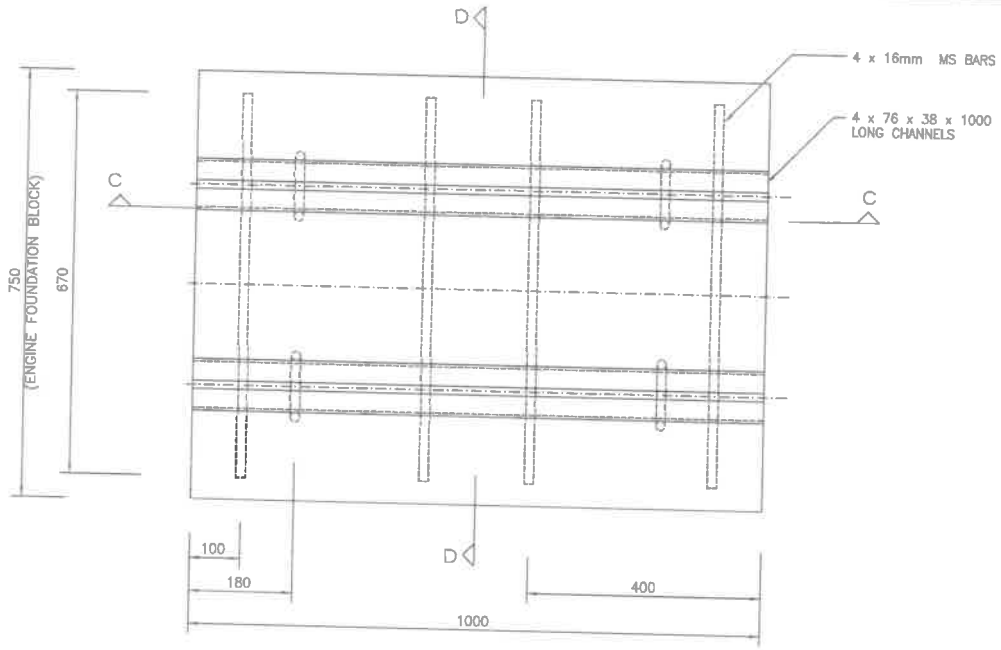
DETAIL D 7

PIPE SUPPORT BRACKET ACCORDING
TO SITE SITUATION

DETAIL C 7

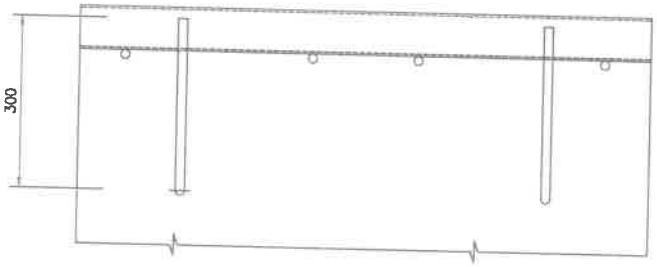






ENGINE FOUNDATION GRID

SCALE 1 : 7.5



SECTION C – C

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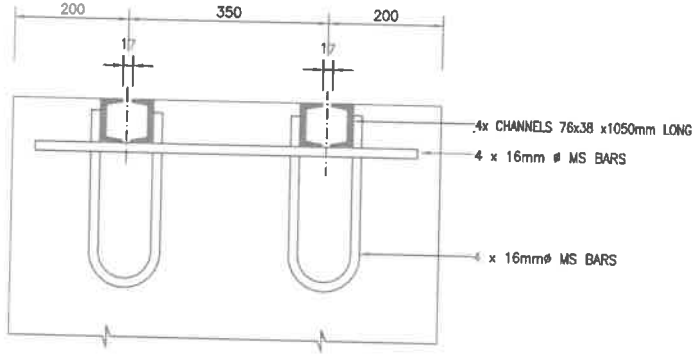
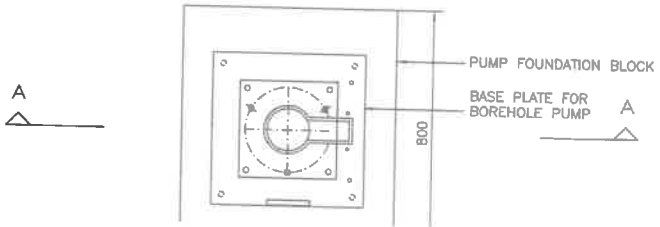
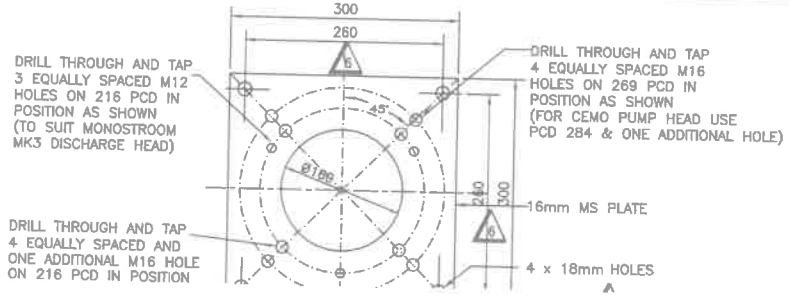
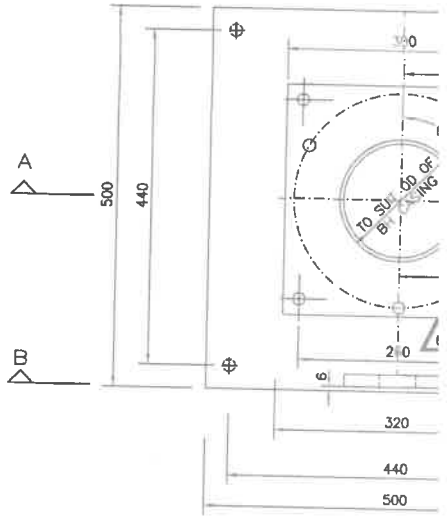


SECTION D – D

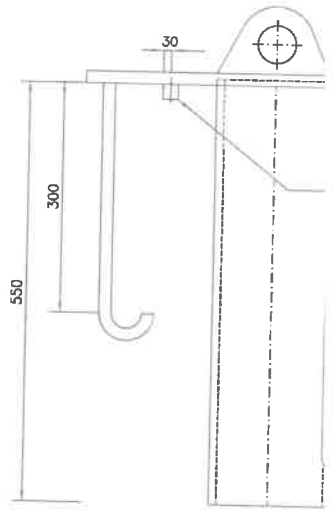




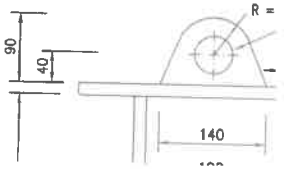


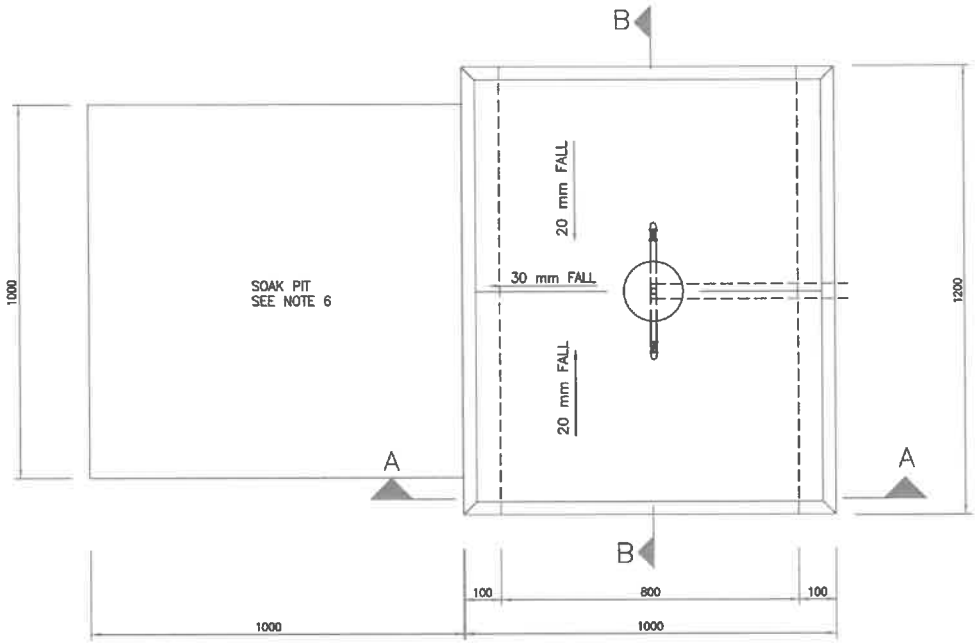
BASE PLATE AS

SCALE 1 : 5



SECTION A





LAYOUT OF WATER POINT

SCALE 1 : 10