



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA



INDEPENDENT DEVELOPMENT TRUST

Contract No.: DOEEC/02/2023/2024

A Tender for Category 3CE/GB or higher CIDB Registered Contractors

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS (CIBINI JS, FULINZIMA JP, KUYASA JS, LAPHUMIKWEZI SP, MBASHE SP AND NGOSWANA SP)

LOCATED AROUND MTHATHA, OR TAMBO DISTRICT, EASTERN PROVINCE

Name of Tenderer : _____

NAME OF DULY AUTHORIZED PERSON: _____

ADDRESS : _____

TEL. NUMBER : _____

CELL NUMBER : _____

FAX NUMBER : _____

E-MAIL : _____

CRS NUMBER : _____

CSD NUMBER : _____

ISSUED BY:

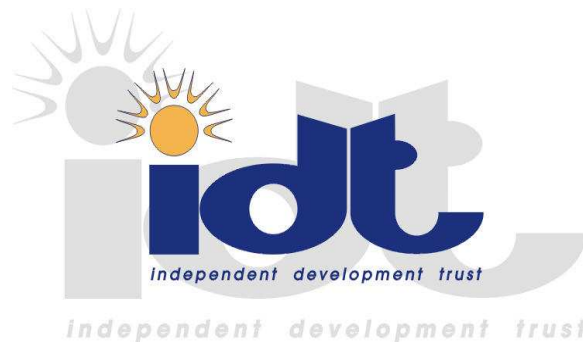
Independent Development Trust

Silverwood House, Bonza Bay Road
Beacon Bay
East London, 5200
Nomnikelo Dyasi
Tel: (043) 711 6024

PREPARED BY:

HSC Consulting

25 Schultz Road
Bonnie Doon
East London, 5241
Bandile Gxowa
Tel: (043) 743 9528



INDEPENDENT DEVELOPMENT TRUST

The Independent Development Trust on behalf of the National Department of Basic Education hereby invites prospective service providers for the completion of water supply construction projects (Rainwater tanks and stands, elevated water tanks, drinking fountains, boreholes, storm water system, etc.). The water programme is a sub-programme of Accelerated Schools Infrastructure Delivery Initiative (ASIDI) water and sanitation programme funded by the National Department of Basic Education.

AT

CLUSTER 2B SCHOOLS (CIBINI JS, FULINZIMA JP, KUYASA JS, LAPHUMIKWEZI SP, MBASHE SP AND NGOSWANA SP)

LOCATED AROUND MTHATHA, OR TAMBO DISTRICT, EASTERN PROVINCE

TENDER NO: DOEEC/02/2023/2024

CLOSING DATE: 27 JUNE 2023 @ 11H00

ISSUED

Independent Development Trust

Physical Address,
Silverwood House, Bona Bay Road
Beacon Bay
East London
5200
Contact:
Name: Nomnikelo Dyasi
Telephone: 043 711 6024

PREPARED

HSC Consulting

Physical Address,
25 Schultz Road
Bonnie Doon
East London
5241
Contact:
Name: Mr. Bandile Gxowa
Tel: 043 743 9528



INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Contents

Number	Heading
The Tender	
Part T1: Tendering procedures	
T1.1	Tender Notice and Invitation to Tender
T1.2	Tender Data
Part T2: Returnable documents	
T2.1	List of Returnable Documents
T2.2	Returnable Schedules
The Contract	
Part C1: Agreement and Contract Data	
C1.1	Form of Offer and Acceptance
C1.2	Contract Data
C1.3	Performance Guarantee
C1.4	Agreement in terms of Section 37(2) of Occupational health and Safety Act (Act No 85 of 1993)
C1.5	IDT Beneficiary Reconciliation Form (BRF)
Part C2: Pricing data	
C2.1	Pricing Instructions
C2.2	Bills of Quantities
Part C3: Scope of Work	
C3.1	Scope of Work
C3.2	Technical Specifications
C3.3	Amendments to standard specifications
C3.4	Health and Safety Specification
C3.5	HIV/AIDS Specification
Part C4: Site information	
C4	Site Information
Part C5: Annexures	
Annexure A	Proforma Agreement in terms of Occupational Health and Safety Act 1993
Annexure B	Notification of Construction Work
Annexure C	Environmental Management Plan
Annexure D	Drawings

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

T1.1 Tender Notice and Invitation to Tender

Completion of ASIDI water supply projects at Cluster 2B schools (Cibini JS, Fulinzima JP, Kuyasa JS, Laphumikwezi SP, Mbashe SP and Ngoswana SP).

It is estimated that tenderers should have a CIDB contractor grading of **3CE/GB or higher**

The physical address for **submission** of tender documents is:

INDEPENDENT DEVELOPMENT TRUST OFFICES
Silverwood House, Bona Bay Road
Beacon Bay
East London
5200

Bid Documents which must be completed and submitted are available for download on IDT website: www.idt.org.za/business-opportunities/current-tender-bulletin, iTender, tenders or National Treasury eTender on: www.treasury.gov.za from the **29th May 2023**. All documents must be downloaded and printed by the bidders from the abovementioned sites.

Queries relating to the issues of these documents may be addressed to:

Ms. Nomnikelo Dyasi

Tel No 043 711 6024

E- mail NomnikeloN@idt.org.za

Or

Mr. Bandile Gxowa

Tel No 043 743 9528

E- mail bandile@hsc.co.za

Tender documents to be submitted at the tender box of the IDT office:

INDEPENDENT DEVELOPMENT TRUST OFFICES
Silverwood House, Bonza Bay Road
Beacon Bay
East London
5200

Non-compulsory Clarification Briefing Meeting will take place Virtually via MSTeams on 07 June 2023 @10:00am. Kindly use the following link to join:

https://teams.microsoft.com/l/meetup-join/19%3ameeting_NTUxOWFiZiAtMTdNi00OGI0LWJiYjItN2MwZTVjMGM4NWU3%40thread.v2/0?context=%7b%22id%22%3a%224b1b908c-5582-4377-ba07-a36d65e34934%22%2c%22oid%22%3a%226a896ba3-653c-4f45-8604-02173f037f1a%22%7d

Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 376 142 125 578

Tender

Part T1: Tendering procedures
BID No: DOEEC/02/2023/2024

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Passcode: 2XbCEi

[Download Teams](#) | [Join on the web](#)

[Learn More](#) | [Meeting options](#)

The closing date and time for receipt of tenders is **27 June 2023 @ 11h00.**

Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.

PLEASE NOTE THE FOLLOWING IMPORTANT DATES

- Non-Compulsory Clarification Meeting: **07 June 2023 @ 10h00**
- Tender Closing Date: **27 June 2023 @ 11h00**

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024



INDEPENDENT DEVELOPMENT TRUST

BID NOTICE No: DOEEC/02/2023/2024: 26 May 2023

Note: BID closes on Tuesday, 27 June 2023 @ 11:00AM

The Independent Development Trust (IDT) on behalf of the Department of Education (DoE) hereby invites prospective service providers to submit bids for the Completion of water supply construction projects located within the Eastern Cape Province listed on the table below:

CIDB tender value range grading as reflected in the Register of Contractors will be used as indicated below:

Cluster	Name of Projects	Town	IDT Project Number	EMIS Number	CIDB Grading	Briefing Meeting	Principal Agent
2B	Cibini JSS 28,37669 -31,72753	Mthatha	DBE01ECAR092	200401330	3CE/GB or higher	A non-compulsory clarification meeting will be held virtually on MSTeams on 07 June 2023 @ 10H00AM	Bandile Gxowa HSC Consulting 043 743 9528
	Fulinzima JPS 28,44594 -31,71958	Mthatha	DBE01ECAR080	200400186			
	Kuyasa JSS 28,38022 -31,64156	Mthatha	DBE01ECAR085	200400337			
	Laphumikwezi JSS 28,4705 -31,6166	Mthatha	DBE01ECAR086	200400355			
	Mbashe SPS 28,3666 -31,7579	Mthatha	DBE01ECAR089	200400529			
	Ngoswana SPS 28,40204 -31,59833	Mthatha	DBE01ECAR094	200400751			

A non-compulsory clarification meeting will be held virtually on MSTeams on 07 June 2023 @ 10H00AM. Kindly use the following MSTeams Link to join:

https://teams.microsoft.com/l/meetup-join/19%3ameeting_NTUxOWFjZjAtMTdINi00OGi0LWJlYjltN2MwZTVjMGM4NWU3%40thread.v2/0?context=%7b%22Tid%22%3a%224b1b908c-5582-4377-ba07-a36d65e34934%22%2c%22Oid%22%3a%226a896ba3-653c-4f45-8604-02173f037f1a%22%7d

Bid Documents which must be completed and submitted are available for download on IDT website: www.idt.org.za/business-opportunities/current-tenders or National Treasury eTender on: www.treasury.gov.za from **Monday 29 May 2023**. No bid documents will be sold. All documents must be downloaded and printed by the bidders from the above-mentioned sites.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Bidders shall meet the following compulsory requirements before being evaluated further on functionality, price and B-BBEE:

Mandatory Requirements/Documents:

- Required CIDB Grading (**3CE/GB or higher**) equivalent for the works, CIDB grading to be valid & active. JV's to submit consolidated CIDB Grading.
- Valid Letter of Good Standing (Workman's Compensation, COIDA) or FEM Letter of Good Standing. If JV all partners must submit with Compensation for Occupational Injuries and Diseases Act (COIDA) Registration Certificate
- Bidders are requested to submit a detailed CIPC document with ALL the original certified ID's within a period of 3 months of all directors listed in CIPC
- SBD's to be duly completed and signed: - **SBD1, SBD4, SBD6.1, SBD6.2**, under Part 2 (T2.2). All blank spaces must be completed. Bidders to indicate items that are not applicable.
- SBD 6.2 (Fully & Duly Completed and Signed Local content form (SBD 6.2) including all the annexures C, D & E. Bidders must return Annexure C. All blank spaces must be completed. Bidders to indicate items that are not applicable.)
- Resolution for signatory.
- Signed joint venture agreement (if applicable).
- Fully completed and signed form of offer and acceptance
- Fully completed bill of quantities (**Must use BLACK INK only. No erasable inks allowed**).
- Acknowledgement of Record of Addenda

NB: Failure to comply with any of the above-mentioned requirements will result in automatic disqualification of the bid response.

- If any of the Directors are in the employment of the state, shall result in the disqualification of the bid.**
- If any of its Directors are listed on the register of defaulters, shall result in disqualification of the bid.**
- In case of a bidder, who during the last 10 years has been terminated on previous contracts with the IDT, shall result in disqualification of the bid.**

Non-Mandatory Returnable Documents:

- CSD documents/report (if JV submit both CSDs or for JV)
- Valid Tax Clearance or SARS PIN (if JV each partner to submit either SARS PIN or Valid Tax Clearance Certificates)
- Originally certified SANAS Accredited BBBEE Certificate or original sworn affidavit. Joint Ventures (JV) must submit an original certified copy of a consolidated B-BBEE status level, only Verification Agency accredited by SANAS in order to qualify for points for their B-BBEE status level as an unincorporated entity and Must Sign the JV agreement.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Local Production and Content (SBD 6.2)

1. Bidders are hereby notified that the minimum threshold for local production and content for construction materials is tabulated below. Bidders are to identify components relevant for the scope of work bidding for.

Description of Service (Construction Materials)	Stipulated Minimum Threshold
PVC Pipes	100%
Reinforcing bars	100%
Steelwork	100%
Fencing material (security fence, pedestrian gate)	100%
Gutters and Downpipes	100%
Water taps	100%
Fascia boards	100%
Polyethylene water tanks	100%
Water pump	100%
Accessories	100%
HDPE pipes	100%
Electrical cables	100%

2. Bidders are further notified that bids in respect of steel and components for construction must contain a specific bidding condition which states that:
 - 2.1 Only locally produced or locally manufactured steel products and components for construction with a stipulated minimum threshold for local production and content will be considered.
 - 2.2 If the quantity of steel products and components for construction required cannot be wholly sourced from South African (SA) based manufacturers and/or at the designated local content threshold stipulated in the above table at any time, bidders and the procuring entities should obtain a written exemption from the DTI. The DTI, in consultation with the procuring organ of state and the local industry, will consider the exemption applications on a case-by-case basis.
 - 2.3 Bidders must clearly indicate in their bids the quantities to be supplied and the level of local content for each product.
3. The exchange rate to be used for the calculation of local production and content must be the exchange rate published by the South African Reserve Bank (SARB) at 12:00 on the date of advertisement of bid; and only the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 must be used to calculate local content.
4. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the formula disclosed in SBD 6.2 inserted in the bid document.

Preferences are offered to Tenderers who have a proven track record in the building industry with special emphasis on similar facilities. Only Tenderers who are competent in the advertised work, will be evaluated on an 80/20 criteria based on the Treasury Regulations of 2022, where functionality will be evaluated as follows:

Criteria Points Allocation

Evaluation Criteria

STAGE 1 – Functionality -

Bidders are to obtain a minimum of 60 points of the total functionality points to be considered for the next stage.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

FUNCTIONALITY

FUNCTIONALITY AREA	Points
Previous Experience on similar projects	40
References for above listed similar projects	30
Qualifications & CVs (Competency of Key personnel to be deployed on the project)	20
Programme Schedule	10
Total	100 points

DESCRIPTION OF FUNCTIONALITY FOR ALLOCATION OF POINTS:

1. **Previous Experience on similar projects (40 points)**
2. **Client Reference (30 points)**
3. **Qualification & Competencies of Key Staff (20 points)**
 - A. Qualification of Key Staff to be deployed on the project (12 points)
 - C. Years of Experience (8 points)
4. **Programme Schedule (10 points)**

STAGE 2 – Price and Specific Goals -

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.

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.)

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
Women	3	6		
Youth	3	6		
People with Disabilities	2	4		
Black	2	4		

Source Documents to be submitted with the Bid or RFQ

- *CIPC Document (Company Registration Document will be required for verification (CIPC DOC))
- *Woman (Originally Certified ID Document)
- *Youth (Originally Certified ID Document)
- *People with Disability (Letter from the Dr. Confirming the Disability)
- *Black Ownership (Originally Certified ID Document)

(Failure to submit will render Bidder scoring Nil points in this regard)

INDEPENDENT DEVELOPMENT TRUST**COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS****TENDER NO. DOEEC/02/2023/2024****Specific Goals points are allocated as follows:**

Price	80 points
Specific Goals	20 points
TOTAL	100 points

Bidders that do not get a positive response from the IDT within a period of 90 days from the closing date, should understand that their Bids have not been successful.

For enquiries, please contact:

PROVINCE	CLUSTER	CONTACT PERSON FOR ENQUIRIES	CONTACT NUMBERS	EMAIL ADDRESSES
Eastern Cape	2B	Bandile Gxowa (Technical)	043 743 9528 HSC Consulting	bandile@hsc.co.za
		Nomnikelo Dyasi (SCM)	043 711 6024 IDT	NomnikeloN@idt.org.za

DEPOSIT/RETURN OF BID DOCUMENTS:

- Telegraphic, telephonic, telex, facsimile, electronic and/or late bids will not be accepted
- Requirements for sealing, addressing, delivery, opening and assessment of bids are stated in the Bid Data document
- All bids must be submitted on the official forms – (not to be re-typed)
- Bids will not be opened in public

BID DOCUMENTS MAY BE POSTED TO: N/A	OR	DEPOSITED IN THE BID BOX AT: INDEPENDENT DEVELOPMENT TRUST, PALM SQUARE BUSINESS PARK, SILVERWOOD HOUSE, BONZA BAY ROAD, BEACON BAY, EAST LONDON
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INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

T1.2 Tender Data

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement. (See www.cidb.org.za) which are reproduced without amendment or alteration for the convenience of tenderers as an Annex to this Tender Data.

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of tender. Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

The additional conditions of tender are:

Clause number Tender Data for BID NO: DOEEC/02/2023/2024

- F.1.1 The employer is the **Independent Development Trust, Eastern Cape**
- F.1.2 The tender documents issued by the employer comprises:
- T1.1 Tender notice and invitation to tender
 - T1.2 Tender data
 - T2.1 List of returnable documents
 - T2.2 Returnable schedules
- Part 1: Agreements and contract data**
- C1.1 Form of offer and acceptance
 - C1.2 Contract data
 - C1.3 Form of Guarantee
 - C1.4 Adjudicator's appointment
- Part 2: Pricing data**
- C2.1 Pricing instructions
 - C2.2 Bills of Quantities
- Part 3: Scope of work**
- C3.1 Scope of work
 - C3.2 Technical Specification
 - C3.3 Amendments to Standard Specifications
 - C3.4 Health and Safety Specification
 - C3.5 HIV/AIDS Specification
- Part 4 : Site information**
- C4 Site information
- Part 5 : Annexures**
- C5 Annexures
- F.1.4 The employer's agent is:
- Name: **HSC Consulting**
Address: 25 Schultz Road, Bonnie Doon, East London, 5241.
Tel: 043 743 9526
Fax: 043 743 5347
E-mail: bandile@hsc.co.za
- F.2.1 Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a **Grade 3CE/GB or higher class** of construction work, are eligible to submit tenders.
- Joint ventures are eligible to submit tenders provided that:
1. every member of the joint venture is registered with the CIDB;
 2. the lead partner has a contractor grading designation in the Grade **3CE/GB** or higher class of construction work; and
 3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a **(3CE/GB or higher) Civil Engineering** class of construction work.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

F.2.7 There shall be a **non-compulsory clarification meeting to be held Virtually on MSTeams on Wednesday the 07 June 2023 at 10H00AM.**

F.2.12 No alternative tender offers will be considered.

F.2.13.3 Parts of each tender offer communicated on paper shall be submitted as one original (i.e. no copies should be submitted).

F.2.13.5 The employer's address for delivery of tender offers and identification details to be shown on each tender
F2.15.1 offer package are:

Location of tender box: Physical address: -

INDEPENDENT DEVELOPMENT TRUST OFFICES

Silverwood House, Bonza Bay Road
Beacon Bay
East London
5200

Identification details:

Project no: BID No: DOEEC/02/2023/2024

Title: COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

F.2.15 The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.

Closing date: 27 June 2023

Closing time: 11h00

F.2.15 Telephonic, Telegraphic, Telex, Facsimile or E-mailed tender offers will not be accepted.

F.2.16 The tender offer validity period is **90 (Ninety) days.**

F.2.17 The contract duration is **4 Months** from date of Site Handover.

F.2.23 The tenderer is required to submit with his tender a Certificate of Contractor Registration issued by the Construction Industry Development Board; Compensation of Injury Diseases Act certificate (COIDA) and a valid Tax Clearance Certificate issued by the South African Revenue Services.
Where a tenderer tenders through joint venture formation, such tenderers should include a joint venture agreement duly signed by each partner and stamped by commissioner of oath.

F.3.4 Tenders will not be opened immediately after the closing time, they will be posted on the IDT Website within 7 days of closure.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

F.3.11 Tender offers will only be accepted if the following are submitted

No	Gate Keeper (Compulsory) Criteria	Gate Keeper Criteria Description
1	CIPC Document	Detailed CIPC document with ALL the original certified ID's within a period of 3 months of all directors listed in CIPC.
2	Proof of authority to sign the document must be submitted e.g. company resolution.	Proof of authority to sign the document must be submitted on Company Letterhead e.g. company resolution.
3	Letter of good standing/Copy of registration (COIDA/FEM) from the Department of Labour	Valid Letter of Good Standing (Workman's Compensation, COIDA) or FEM Letter of Good Standing. If JV all partners must submit
4	CIDB Grading Certificate.	Required valid and active CIDB Grading equivalent for the works. JV's to submit consolidated CIDB Grading.
5	Fully & Duly Completed Detailed Bill of Quantities (BOQ), Written In Black Ink	All items in the original Bill of Quantities must be priced (rates and amounts and totals), written in Ink. No Copies, no correctional fluids, erasable pen or a lead pencil must be used in the BOQ. Only black ink must be used to complete documents. Any mistakes must be neatly crossed out and countersigned by all relevant parties. All blanks spaces to be completed.
6	Consortium / Joint Venture Agreement	If Applicable , JV Agreement signed by all parties of the JV. and signed & stamped by the commissioner of oaths.
7	Duly Completed Form of Offer	Fully & Duly Completed and Signed form of offer and witnessed. All blanks spaces must be completed.
8	Duly completed and signed Invitation to BID, Part A and B (SBD 1)	Fully & Duly Completed and signed Invitation to BID, Part A and B (SBD 1). All blank spaces must be completed. Bidders to indicate items that are not applicable.
9	Bidder's Disclosure (SBD 4)	Fully & Duly Completed and Signed Declaration of Interest Form (SBD 4). All blank spaces must be completed. Bidders to indicate items that are not applicable.
10	Duly Completed and Signed Preference points claim form in terms of PPPFA, Procurement Regulations 2017 (SBD 6.1)	Fully & Duly Completed and Signed Preference points claim form in terms of PPPFA, Procurement Regulations 2017 (SBD 6.1). All blanks spaces must be completed. Bidders to indicate items that are not applicable.
11	Duly Completed and Signed Local content form (SBD 6.2)	Fully & Duly Completed and Signed Local content form (SBD 6.2) including all the annexures C, D & E. Bidders must return Annexure C. Annexure D & E to be kept by the bidder for verification/audit upon appointment. All blanks spaces must be completed. Bidders to indicate items that are not applicable. Only locally (South Africa) manufactured product that meet the stipulated minimum threshold for local content will be considered (Preferential Procurement Regulations 2017). A Bid that fails to meet the stipulated threshold for local production and content is unacceptable and will be disqualified
12	No Copies, no correctional fluids, erasable pen or a lead pencil will be used on any of the submitted forms. Only black ink must be used to complete documents. Any mistakes must be neatly crossed out and countersigned by all relevant parties.	No Copies, no correctional fluids, erasable pen or a lead pencil will be used on any of the submitted forms. Only black ink must be used to complete documents. Any mistakes must be neatly crossed out and countersigned by all relevant parties.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Instruction notes:

- All blanks spaces must be completed on all the SBD forms.
- Bidders to indicate items that are not applicable to them on all the forms.
- Bidders are advised to fill in the correct information on all the SBD forms.
- Bidders are encouraged to familiarize themselves with the project site in order to assist them in planning, pricing and executing the project.
- All Bidders are required to be registered on CSD (Central Supplier Database) with National Treasury.
- Please Provide CSD Registration report with supplier number with your Bid.

4.3.3 Functionality Criteria

Variables	Total Points	Criteria	Description Of Criteria	Points
<u>Functionality Points</u>	100			
Previous Experience on similar scale projects	40	3 or more similar projects and value	Points allocated for proven records of accomplishment based on the similar scale of previous projects executed by tenderer not older than 5 years. • Profile or track record of previous work done which must include relevant projects in nature and value, strictly in the template provided. • Bidders must submit appointment letters and completion certificates for completed projects listed on track record, failure to submit appointment letter and completion certificates will result in no points being awarded.	40
		2 similar projects and value		25
		1 similar project and value		15
		0 similar project and value		0
References for above listed similar projects	30	3 or more references	• <u>Projects listed under track record are the only ones to be referenced.</u> • Reference must contain Contactable details • Reference letter must be from client (employer) & must indicate the value of project as well as the time frame allocation in	30
		2 references		20
		1 reference		10
		0 reference		0

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Variables	Total Points	Criteria	Description Of Criteria	Points
			completing the project and must be signed and stamped and scored in order to get allocation of points. • Make use of the allocated IDT Reference pages in the tender document only to do referencing. <u>Failure to use IDT reference template will result in no points being awarded</u>	
Qualifications & competencies of key staff	20	Qualification of Key Staff to be deployed on the project	CVs and Original Certified Qualifications of relevant individuals to the project e.g. Project Manager/Contracts Manager, Site Manager/ Agent and Foreman. Criteria Listed in Detail Below	12
		Years of Experience		8
Programme schedule	10	Very good	Points allocated for turn-around projects delivery period within the construction period and showing detail scope of work by tenderer/bidder in consideration	10
		Unacceptable		0

Notes:

1. Bidders are required to score a minimum point of 60 (60%) for Functionality stated in tender data.
2. Bidders who fail to meet the required minimum number of points for functionality stated in the tender data will not be evaluated further.
3. Bidders who fail to submit information as per the returnable schedules will not be allocated points.

The functionality will be scored using the following values:

A maximum equal to 100 tender evaluation points will be awarded for quality, sub-divided according to the following:

- 100 points – Quality
 - 40 points – Experience on similar scale projects
 - 30 points – References for above listed similar projects
 - 20 points – Qualifications & CVs (Competency of Key personnel to be deployed on the project)
 - 10 points – Programme Schedule

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Experience on similar scale projects:

Value of work evaluation (No points will be allocated for value of works for Transport, Traffic Engineering and all Electrical & Mechanical Projects)

Value of work (3CE/GB)	Rating
3m and above	Very Good
1.1m – 3m	Good
501k – 1m	Satisfactory
251k – 500k	Poor
0 – 250k	Not Considered

Qualifications & Key Personnel

Education	Project Manager/ Construction Manager (List a minimum of 1 for each)		
	Holding a Degree related to the construction Environment		4
	Holding Diploma related to the construction Environment		3
	Holding a Certificate related to the construction Environment		1
	None submission of original certified qualifications		0
Competence	Over 6 Years of experience		2
	Less than 6 Years of experience		1
Site Agent (List a minimum of 1 for each)			
Education	Holding a Degree related to the construction Environment		4
	Holding Diploma related to the construction Environment		3
	Holding a Certificate related to the construction Environment		1
	None submission of original certified qualifications		0
Competence	Over 6 Years of experience		3
	Less than 6 Years of experience		2
Foreman (List a minimum of 1 for each)			
Education	Holding a Degree related to the construction Environment		4
	Holding Diploma related to the construction Environment		4
	Holding a Certificate related to the construction Environment		3
	None submission of original certified qualifications		0
Competence	Over 6 Years of experience		3
	Less than 6 Years of experience		2

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Client References

The Tenderer shall provide details of his performance on each of the **previous projects listed in the “Relevant Experience” returnable schedule**. “Client Reference Scorecards” will be completed, signed by each of the respective Clients and principal agents and stamped by both the client and the principal agent for the projects listed in the “Relevant Experience” returnable schedule. Make use of the allocated IDT Reference pages in the tender document only to do referencing. Failure to use IDT reference template will result in no points being awarded.

Contracting Document

The General Conditions of Contract for Construction Works, third edition (2015)

4.3.4. Preferential procurement system

80/20 preferential procurement system to be utilized as per PPPFA 2022. The project is below R50m.

Scoring:				
Variables	Total Points	Criteria	Description Of Criteria	Points
<u>Specific Goals</u>	<u>20</u>	Women	Bidders to submit the following documentation for applicable points relative to specific goals to be allocated: - CIPC Document (Company Registration Document will be required for verification (CIPC DOC)) - Woman (Originally Certified ID Document) - Youth (Originally Certified ID Document) - People with Disability (Letter from the Dr. Confirming the Disability) - Black Ownership (Originally Certified ID Document)	6
		Youth		6
		People with Disabilities		4
		Black		4
		Financial Offer / Price:		
Financial Offer/Price	80	Formula=2 Option 1,A=(1-{p-pm/pm}	Formula used to calculate financial offer/price points	
		Pm=The comparative Price offer of the mean/average quantifying tenderer		
		P=The comparative offer of the tender under consideration		
	100			

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

1. LIST OF RETURNABLE SCHEDULES

Returnable Schedules required only for tender evaluation purposes (certified copies not older than six months or originals of the following documents):

No	Non Statutory (Non Compulsory) Requirements	Non Statutory (Non Compulsory) Requirements Description
1	Checklist for Tender Submission	Checklist for Tender Submission
2	Details of Tender	Details of Tender
3	Letter of Intent to Provide Security / Guarantee	Letter of Intent to Provide Security/ Guarantee from accredited financial institution
4	Contractor's Health and Safety Declaration	Contractor's Health and Safety Declaration
5	Litigation History	Litigation History – bidder to disclose all the pending litigations against their company
6	Past Projects undertaken by the Tenderer in the last 5 years	Past Completed Projects undertaken by the Tenderer in the last 5 years
7	BBBEE certificate	Points allocated to entities who are contributing towards the empowerment of black people (an Original Sworn Affidavit B-BBEE or SANAS accredited B-BBEE Certificate MUST be submitted with the bid documents before any points can be allocated) Bidders to submit Original Sworn Affidavit B-BBEE or SANAS certified copies not older than 6 months). Joint Ventures / Consortia entities must submit a consolidated B-BBEE certificate from SANAS-Accredited verification agency in order to qualify for points for their B-BBEE status level as an incorporated entity. Sworn affidavits for joint ventures will not be considered.
8	Tenderer's Competence & Performance on Similar Projects	Tenderer's Competence & Performance on Similar Projects
9	Record of Addenda to Tender Documents	Record of Addenda to Tender Documents
10	Proposed amendments and Qualifications	Proposed amendments and Qualifications
11	Method Statement	Method Statement
12	Detailed Construction Programme	Detailed Construction Programme
13	Detailed Cash-Flow	Detailed Cash-Flow
14	Key Personnel	Curriculum Vitae of Key Personnel and Certified Qualifications that are not older than 6 months
15	Proposed Project Organogram	Proposed Project Organogram
16	Detailed Resourcing schedule	Detailed Resourcing schedule
17	Schedule of Plant and Equipment	Schedule of Plant and Equipment
18	Contractor's Safety Record	Contractor's Safety Record
19	Tax Clearance certificate	Submission of valid Tax compliance status form (PIN)

Notes:

1. Tenderers are required to score minimum points of 60 for Functionality stated in tender data.
2. Tenderers who fail to meet the required minimum number of points for functionality stated in the tender data will not be evaluated further.
3. Tenderers who fail to submit information as per the returnable schedules will not be allocated points.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

T2.2.1 EVALUATION SCHEDULE: CLIENT REFERENCES

The Tenderer shall provide details of his performance on each of the previous projects listed in the “Relevant Experience” returnable schedule. “Client Reference Scorecards” will be completed by each of the respective Clients for the projects listed in the “Relevant Experience” returnable schedule.

The following are to be **completed by the Client / Principal Agent** and is to be supported in each case by a letter of award and the works completion certificate. Either the Client or the Principal Agent must sign and stamp the documents, failure to obtain both signatures and stamps will result in no allocation of points

A. PROJECT NAME and SCOPE OF WORK:

Principal agent:

Client:

Contract Amount:

Contract Duration:

Actual Contract Duration:

Description / Performance	Very poor (1)	Poor (2)	Fair (3)	Good (4)	Excellent (5)
Quality of office administration					
Quality of site management					
Competence of foreman					
Co-operation during contract					
Quality of workmanship					
Quality of materials					
Project management					
Rectification of condemned work					
Tidiness of site					
Adequacy of equipment					
Adequacy of labour force					
Labour relations					

Any other remarks considered necessary to assist in evaluation of the contractor?

Principal Agent Firm:

Telephone:

PA Signature:

Date:

Stamp

Client Signature:

Date:

Stamp

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

T2.2.1 EVALUATION SCHEDULE: CLIENT REFERENCES

The Tenderer shall provide details of his performance on each of the previous projects listed in the “Relevant Experience” returnable schedule. “Client Reference Scorecards” will be completed by each of the respective Clients for the projects listed in the “Relevant Experience” returnable schedule.

The following are to be **completed by the Client / Principal Agent** and is to be supported in each case by a letter of award and the works completion certificate. Either the Client or the Principal Agent must sign and stamp the documents, failure to obtain both signatures and stamps will result in no allocation of points

B. PROJECT NAME and SCOPE OF WORK:

Principal agent:

Client:

Contract Amount:

Contract Duration:

Actual Contract Duration:

Description / Performance	Very poor (1)	Poor (2)	Fair (3)	Good (4)	Excellent (5)
Quality of office administration					
Quality of site management					
Competence of foreman					
Co-operation during contract					
Quality of workmanship					
Quality of materials					
Project management					
Rectification of condemned work					
Tidiness of site					
Adequacy of equipment					
Adequacy of labour force					
Labour relations					

Any other remarks considered necessary to assist in evaluation of the contractor?

Principal Agent Firm:

Telephone:

PA Signature:

Date:

Stamp

Client Signature:

Date:

Stamp

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

T2.2.1 EVALUATION SCHEDULE: CLIENT REFERENCES

The Tenderer shall provide details of his performance on each of the previous projects listed in the “Relevant Experience” returnable schedule. “Client Reference Scorecards” will be completed by each of the respective Clients for the projects listed in the “Relevant Experience” returnable schedule.

The following are to be **completed by the Client / Principal Agent** and is to be supported in each case by a letter of award and the works completion certificate. Either the Client or the Principal Agent must sign and stamp the documents, failure to obtain both signatures and stamps will result in no allocation of points

C. PROJECT NAME and SCOPE OF WORK:

Principal agent:

Client:

Contract Amount:

Contract Duration:

Actual Contract Duration:

Description / Performance	Very poor (1)	Poor (2)	Fair (3)	Good (4)	Excellent (5)
Quality of office administration					
Quality of site management					
Competence of foreman					
Co-operation during contract					
Quality of workmanship					
Quality of materials					
Project management					
Rectification of condemned work					
Tidiness of site					
Adequacy of equipment					
Adequacy of labour force					
Labour relations					

Any other remarks considered necessary to assist in evaluation of the contractor?

Principal Agent Firm:

Telephone:

PA Signature:

Date:

Stamp

Client Signature:

Date:

Stamp

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

T2.2.1 EVALUATION SCHEDULE: CLIENT REFERENCES

The Tenderer shall provide details of his performance on each of the previous projects listed in the “Relevant Experience” returnable schedule. “Client Reference Scorecards” will be completed by each of the respective Clients for the projects listed in the “Relevant Experience” returnable schedule.

The following are to be **completed by the Client / Principal Agent** and is to be supported in each case by a letter of award and the works completion certificate. Either the Client or the Principal Agent must sign and stamp the documents, failure to obtain both signatures and stamps will result in no allocation of points

D. PROJECT NAME and SCOPE OF WORK:

Principal agent:

Client:

Contract Amount:

Contract Duration:

Actual Contract Duration:

Description / Performance	Very poor (1)	Poor (2)	Fair (3)	Good (4)	Excellent (5)
Quality of office administration					
Quality of site management					
Competence of foreman					
Co-operation during contract					
Quality of workmanship					
Quality of materials					
Project management					
Rectification of condemned work					
Tidiness of site					
Adequacy of equipment					
Adequacy of labour force					
Labour relations					

Any other remarks considered necessary to assist in evaluation of the contractor?

Principal Agent Firm:

Telephone:

PA Signature:

Date:

Stamp

Client Signature:

Date:

Stamp

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

T2.2.1 EVALUATION SCHEDULE: CLIENT REFERENCES

The Tenderer shall provide details of his performance on each of the previous projects listed in the “Relevant Experience” returnable schedule. “Client Reference Scorecards” will be completed by each of the respective Clients for the projects listed in the “Relevant Experience” returnable schedule.

The following are to be **completed by the Client / Principal Agent** and is to be supported in each case by a letter of award and the works completion certificate. Either the Client or the Principal Agent must sign and stamp the documents, failure to obtain both signatures and stamps will result in no allocation of points

E. PROJECT NAME and SCOPE OF WORK:

Principal agent:

Client:

Contract Amount:

Contract Duration:

Actual Contract Duration:

Description / Performance	Very poor (1)	Poor (2)	Fair (3)	Good (4)	Excellent (5)
Quality of office administration					
Quality of site management					
Competence of foreman					
Co-operation during contract					
Quality of workmanship					
Quality of materials					
Project management					
Rectification of condemned work					
Tidiness of site					
Adequacy of equipment					
Adequacy of labour force					
Labour relations					

Any other remarks considered necessary to assist in evaluation of the contractor?

Principal Agent Firm:

Telephone:

PA Signature:

Date:

Stamp

Client Signature:

Date:

Stamp

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Relevant Experience (Returnable schedule)

The Tenderer shall provide details of his performance on each of the previous relevant projects. Failure to complete the table below will result in no points allocated. **No “see attached” will be accepted**

LIST THE FIVE LARGEST PROJECTS COMPLETED BY YOUR FIRM IN THE LAST FIVE YEARS			
<i>Name of Project Completed and Scope of work</i>	<i>Name of Project Manager & Telephone no.</i>	<i>Name of Client & Telephone no.</i>	<i>Value of Project</i>

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Record of Addenda to tender documents

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:		
	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Attach additional pages if more space is required.

Signed

Date

Name

Position

Identity
number

Tenderer

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

KEY PERSONNEL

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel which may have to be brought in from outside if not available locally.

The bidder to submit the following key person CV's and qualifications that will be allocated unto the project

- Project Manager/ Construction Manager
- Site Agent
- Foreman

If a company does not meet the above minimum requirements, it will be considered high risk.

Provide details of key personnel below

Name and Surname	Position	Qualification	CV attached	Certified certificate attached	No. of years of relevant experience
	Project Manager				
	Site Agent				
	Foreman				

INDEPENDENT DEVELOPMENT TRUST

reserves the right to request the Tender to provide the documentation within 24 hrs failing which it will result in the tenderer not passing the risk assessment.

Signed on behalf of the Tenderer		Date	
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INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

SBD 1

PART A
INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (INDEPENDENT DEVELOPMENT TRUST (IDT))					
BID NUMBER:	DOEEC/02/2023/2024	CLOSING DATE: 27 June 2023		CLOSING TIME:	11:00 AM
DESCRIPTION	COMPLETION OF WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS				
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)					
INDEPENDENT DEVELOPMENT TRUST					
PALM SQUARE BUSINESS PARK					
SILVERWOOD HOUSE, BONZA BAY ROAD					
BEACON BAY, EAST LONDON. 5200					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO			TECHNICAL ENQUIRIES MAY BE DIRECTED TO:		
CONTACT PERSON	Nomnikelo Dyasi		CONTACT PERSON	Bandile Gxowa	
TELEPHONE NUMBER	043 711 6024		TELEPHONE NUMBER	043 743 9528	
FACSIMILE NUMBER			FACSIMILE NUMBER	043 743 5347	
E-MAIL ADDRESS	NomnikeloN@idt.org.za		E-MAIL ADDRESS	bandile@hsc.co.za	
SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		OR	CENTRAL SUPPLIER DATABASE No:	MAAA
SBD 6.1 REQUIREMENT MUST BE COMPLIED TO CLAIM POINTS ON SPECIFIC GOALS					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES, ANSWER THE QUESTIONNAIRE BELOW]	
QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS					
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?				☐ YES ☐ NO	
DOES THE ENTITY HAVE A BRANCH IN THE RSA?				☐ YES ☐ NO	
DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?				☐ YES ☐ NO	
DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?				☐ YES ☐ NO	
IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?				☐ YES ☐ NO	
IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 BELOW.					

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, 2022, 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 PARTICULARS MAY 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:

.....

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 institution

- 2.2 Do you, or any person connected with the bidder, have a relationship 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 directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract?

YES/NO

- 2.3.1 If so, furnish particulars:

.....

3 DECLARATION

¹ 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.

TENDER NO. DOEEC/02/2023/2024

I, the undersigned, (name)..... in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

- 3.1 I have read and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium² will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring 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

³ 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.

**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) 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	90	80
SPECIFIC GOALS	10	20
TARGETED GROUP		
Women	3	6
Youth	3	6
People with Disabilities	2	4
Black	2	4
Total points for Price and SPECIFIC GOALS	100	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:

$$\begin{array}{ccc} \text{80/20} & \text{or} & \text{90/10} \\ P_s = 80 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right) & \text{or} & P_s = 90 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right) \end{array}$$

Where

P_s = Points scored for price of tender under consideration

P_t = Price of tender under consideration

P_{min} = 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:

$$\begin{array}{ccc} \text{80/20} & \text{or} & \text{90/10} \\ P_s = 80 \left(1 + \frac{P_t - P_{max}}{P_{max}} \right) & \text{or} & P_s = 90 \left(1 + \frac{P_t - P_{max}}{P_{max}} \right) \end{array}$$

Where

P_s = Points scored for price of tender under consideration

P_t = Price of tender under consideration

P_{max} = 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

TENDER NO. DOEEC/02/2023/2024

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.)

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
Women	3	6		
Youth	3	6		
People with Disabilities	2	4		
Black	2	4		

Source Documents to be submitted with the Bid or RFQ

- *CIPC Document (Company Registration Document will be required for verification (CIPC DOC))
- *Woman (Originally Certified ID Document)
- *Youth (Originally Certified ID Document)
- *People with Disability (Letter from the Dr. Confirming the Disability)
- *Black Ownership (Originally Certified ID Document)

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm.....

4.4. Company registration number:
.....

4.5. TYPE OF COMPANY/ FIRM

Partnership/Joint Venture / Consortium

One-person business/sole propriety

Close corporation

Public Company

Personal Liability Company

(Pty) Limited

Non-Profit Company

State Owned Company

[TICK APPLICABLE BOX]

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

TENDER NO. DOEEC/02/2023/2024

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

.....
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:
DATE:
ADDRESS:

DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

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

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017, the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

1. General Conditions

- 1.1. Preferential Procurement Regulations, 2017 (Regulation 8) make provision for the promotion of local production and content.
- 1.2. Regulation 8.(2) prescribes that in the case of designated sectors, organs of state must advertise such tenders with the specific bidding condition that only locally produced or manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3. Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price.
- 1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

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

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) on the date of advertisement of the bid as indicated in paragraph 3.1 below.

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

- 1.6 A bid may be disqualified if –

TENDER NO. DOEEC/02/2023/2024

(a) this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation; and

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

3.

Item	Description of Service	Stipulated Minimum Threshold
A	PVC Pipes	100%
B	Reinforcing bars	100%
C	Steelwork	100%
D	Fencing material (security fence, pedestrian gate)	100%
E	Gutters and Downpipes	100%
F	Water taps	100%
G	Fascia boards	100%
H	Polyethylene water tanks	100%
I	Water pump	100%
J	Accessories	100%
K	HDPE pipes	100%
L	Electrical cables	100%

3. Does any portion of the services, works or goods offered have any imported content?

(Tick applicable box)

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

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

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

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

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

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

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

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

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

IN RESPECT OF BID NO.

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

.....
 NB

1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.

2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thdti.gov.za/industrial-development/ip.jsp>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, ... (full names),

do hereby declare, in my capacity as

of(name of bidder entity), the following:

(a) The facts contained herein are within my own personal knowledge.

(b) I have satisfied myself that:

- (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
- (ii) the declaration templates have been audited and certified to be correct.

(c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

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

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

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

- (d) I accept that the Procurement Authority / Institution has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Institution imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____

DATE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

(C1)	Tender No.	IDTECRFQ02/DBECON/2022/2023		
(C2)	Tender description:	RFQ FOR THE COMPLETION OF WATER SUPPLY PROJECTS AT CLUSTER 2B.1 SCHOOLS (FULINZIMA JP & KUYASA JS)		
(C3)	Designated product(s)			
(C4)	Tender Authority:			
(C5)	Tendering Entity name:			
(C6)	Tender Exchange Rate:	Pula	0	EU 0
(C7)	Specified local content %			GBP 0

[illegible]

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Annex D											SATS 1286.2011	
Imported Content Declaration - Supporting Schedule to Annex C												
(D1) (D2) (D3) (D4) (D5) (D6)	Tender No. Tender description: Designated Products: Tender Authority: Tendering Entity name: Tender Exchange Rate:				Note: VAT to be excluded from all calculations							
				Pula		EU	R 9,00	GBP	R 12,00			
A. Exempted imported content				Calculation of imported content						Summary		
Tender item no's	Description of imported content	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Exchange Rate	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Exempted imported value	
(D7)	(D8)	(D9)	(D10)	(D11)	(D12)	(D13)	(D14)	(D15)	(D16)	(D17)	(D18)	
										0		
										0		
(D19) Total exempt imported value										R	-	
This total must correspond with Annex C - C 21												
B. Imported directly by the Tenderer				Calculation of imported content						Summary		
Tender item no's	Description of imported content	Unit of measure	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Total imported value	
(D20)	(D21)	(D22)	(D23)	(D24)	(D25)	(D26)	(D27)	(D28)	(D29)	(D30)	(D31)	
										0		
(D32) Total imported value by tenderer										R	-	
C. Imported by a 3rd party and supplied to the Tenderer				Calculation of imported content						Summary		
Description of imported content	Unit of measure	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Quantity imported	Total imported value	
(D33)	(D34)	(D35)	(D36)	(D37)	(D38)	(D39)	(D40)	(D41)	(D42)	(D43)	(D44)	
										0		
										0		
(D45) Total imported value by 3rd party										R	0	
D. Other foreign currency payments				Calculation of foreign currency payments					Summary of payments			
Type of payment	Local supplier making the payment	Overseas beneficiary	Foreign currency value paid	Tender Rate of Exchange						Local value of payments		
(D46)	(D47)	(D48)	(D49)	(D50)						(D51)		
(D52) Total of foreign currency payments declared by tenderer and/or 3rd party												
Signature of tenderer from Annex B												
(D53) Total of imported content & foreign currency payments - (D32), (D45) & (D52) above										R	0	
Date:										This total must correspond with Annex C - C 23		

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

SATS 1286.2011

Annex E

Local Content Declaration - Supporting Schedule to Annex C

(E1)	Tender No.		Note: VAT to be excluded from all calculations
(E2)	Tender description:		
(E3)	Designated products:		
(E4)	Tender Authority:		
(E5)	Tendering Entity name:		

Local Products (Goods, Services and Works)	Description of items purchased	Local suppliers	Value
	(E6)	(E7)	(E8)
(E9) Total local products (Goods, Services and Works)			R -

(E10)	Manpower costs	(Tenderer's manpower cost)	R -
(E11)	Factory overheads	(Rental, depreciation & amortisation, utility costs, consumables etc.)	R -
(E12)	Administration overheads and mark-up	(Marketing, insurance, financing, interest etc.)	R -
(E13) Total local content			R -
This total must correspond with Annex C - C24			

Signature of tenderer from Annex B

Date:

C1.1 Form of Offer and Acceptance

Offer

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of:

Completion of ASIDI water supply projects at Cluster 2B schools (Cibini JS, Fulinzima JP, Kuyasa JS, Laphumikwezi SP, Mbashe SP and Ngoswana SP).

The tenderer, identified in the offer signature block, has examined the documents listed in the tender data and addenda thereto as listed in the returnable schedules, and by submitting this offer has accepted the conditions of tender.

By the representative of the tenderer, deemed to be duly authorized, signing this part of this form of offer and acceptance, the tenderer offers to perform all of the obligations and liabilities of the contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the contract data.

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

COST PER SCHOOL:

School Name	Amount
CIBINI JS	
FULINZIMA JP	
KUYASA JS	
LAPHUMIKWEZI SP	
MBASHE SP	
NGOSWANA SP	
Total	

THE FINAL CONTRACT OFFER (COMBINED TOTAL) INCLUSIVE OF VALUE ADDED TAX IS:

.....
 Rand (in words);
 R (in figures)

This offer may be accepted by the employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the tender data, whereupon the tenderer becomes the party named as the contractor in the conditions of contract identified in the contract data.

for the tenderer

Signature Date

Name Identity number

Capacity

(Name and address of organization)

.....

Name and signature of witness

NOTE: Failure of a Bidder to complete and sign this part of the tender form (offer) in full including witnessing will invalidate the tender. Any blank spaces left will invalidate this offer.

SECURITY OFFERED:

- a) the Tenderer accepts that in respect of contracts up to R1 million, a payment reduction of 5% of the contact value (excluding VAT) will be applicable and will be deducted by the Employer in terms of the applicable conditions of contract
- b) in respect of contracts above R1 million, the Tenderer offers to provide security as indicated below:
- i. cash deposit of 10 % of the Contract Sum. Yes ☐ No ☐
 - ii. fixed performance guarantee of 10% of the contract sum . Yes ☐ No ☐
 - iii. cash deposit of 10% of the Contract Sum and a payment reduction of 5% of the value certified in the payment certificate. Yes ☐ No ☐
 - iv. fixed performance guarantee of 10% of the Contract Sum and a payment reduction of 5% of the value certified in the payment certificate. Yes ☐ No ☐
 - v. If the Contractor fails to select the security to be provided in this Contract, Clause 6.2.2 of General Conditions of Contract, 2015 shall apply. Also, the Employer reserves the right to select the type of security to be provided in this Contract.

NB. Guarantees submitted must be issued by either an insurance company duly registered in terms of the Short-Term Insurance Act, 1998 (Act 35 of 1998) or by a bank duly registered in terms of the Banks Act, 1990 (Act 94 of 1990) on the pro-forma referred to above. No alterations or amendments of the wording of the pro-forma will be accepted.

The Tenderer elects as its domicilium citandi et executandi in the Republic of South Africa, where any and all legal notices may be served, as (physical address):

.....

Other Contact Details of the Tenderer are:

Telephone No.: Cellular Phone No.:

Fax No.:

Postal address:.....

Banker :..... Branch :.....

Branch Code :..... Account number :.....

Registration No of Tenderer at Department of Labour :

CIDB Registration Number :

Acceptance

By signing this part of this form of offer and acceptance, the employer identified below accepts the tenderer's offer. In consideration thereof, the employer shall pay the contractor the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the tenderer's offer shall form an agreement between the employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

Part C1: Agreements and contract data, (which includes this agreement)
 Part C2: Pricing data
 Part C3: Scope of work.
 Part C4: Site information
 Annexures

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

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the tender schedules as well as any changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

The tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the employer's agent (whose details are given in the contract data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfill any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

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

Signature Date
 Name Identity number
 Capacity

for the Employer INDEPENDENT DEVELOPMENT TRUST
 Palm Square Business Park
 Silverwood House, Bonza Bay Road
 Beacon Bay, EAST LONDON
 5200

Name and signature of witness

Date

Schedule of Deviations

Notes:

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

1 Subject

Details

.....

.....

.....

2 Subject

Details

.....

.....

.....

3 Subject

Details

.....

.....

4 Subject

Details

.....

.....

5 Subject

Details

.....

By the duly authorized representatives signing this agreement, the employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the tender schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance.

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

For the Tenderer:

Signature:.....Date.....

Name:.....

Capacity:.....

Name and address of organization.....

.....

.....

As witnesses:*Witness 1*

Signature:.....Date.....

Name:.....

Witness 2

Signature:.....Date.....

Name:.....

For the Employer:

Signature:.....Date.....

Name:.....

Capacity:.....

Name of Employer: The Independent Development Trust (IDT)
 Palm Square Business Park
 Silverwood House
 Beacon Bay
 East London, 5241

As witnesses:*Witness 1*

Signature:.....Date.....

Name:.....

Witness 2

Signature:.....Date.....

Name:.....

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Confirmation of Receipt

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

the.....(day)

of(month)

20.....(year)

at(place)

For the Contractor:

.....
Signature

.....
Name

.....
Capacity

Signature and name of witness:

.....
Signature

.....
Name

C1.2 Contract Data

Part 1: Data provided by the Employer

Conditions of Contract

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

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

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

Contract Specific Data

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

Clause	Data
1.1.1.13	The Defects Liability Period is 6 months .
1.1.1.14	The time for achieving Practical Completion is 4 months , inclusive of the 14 day period referred to in Clause 5.3.2 below, and inclusive of non-working days referred to in Clause 5.8.1 below, but exclusive of special non-working days (Clause 5.8.1).
1.1.1.15	The name of the Employer is Independent Development Trust
1.1.1.16	The name of the Employer's Agent is HSC Consulting Engineers
1.1.1.35	"Drawings" means all drawings, calculations and technical information forming part of the Contract Documents and any modifications thereof or additions thereto from time to time approved in writing by the Employer's Agent or delivered to the Contractor by the Employer's Agent.
1.1.1.36	Letter of Notification" means the letters of formal notification, signed by the Employer, of the decision of the Supply Chain Management Bid Adjudication Committee sent to all tenderers. The notification of the decision does not form part of the Employer's Acceptance of the successful tenderer's Offer and no rights shall accrue.
1.2.1	DELIVERY OF NOTICES The following three additional sub-clauses, covering alternative methods of communication, apply:

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

1.2.1.3	Sent by facsimile or email during office hours or otherwise.										
1.2.1.4	Posted to the addressee for certified delivery by the postal Authorities.										
1.2.1.5	Delivered by a courier service and signed by addressee.										
1.2.1.2	The Employer's address for receipt of communications is: <table border="0"> <tr> <td>Physical address:</td><td>Postal address:</td></tr> <tr> <td>Palm Square Business Park</td><td>P O Box 2679</td></tr> <tr> <td>Silverwood House</td><td>Beacon Bay</td></tr> <tr> <td>Beacon Bay</td><td>East London</td></tr> <tr> <td>5241</td><td>5241</td></tr> </table> Telephone No: (043 711 6000) Fax No: (043) 748 5370 Email: NomnikeloN@idt.org.za	Physical address:	Postal address:	Palm Square Business Park	P O Box 2679	Silverwood House	Beacon Bay	Beacon Bay	East London	5241	5241
Physical address:	Postal address:										
Palm Square Business Park	P O Box 2679										
Silverwood House	Beacon Bay										
Beacon Bay	East London										
5241	5241										
1.2.1.2	The Employer's Agent's address for receipt of communications is: <table border="0"> <tr> <td>Physical address:</td><td>Postal address:</td></tr> <tr> <td>25 Schultz Road</td><td>PO Box 11166</td></tr> <tr> <td>Bonnie Doon</td><td>Southernwood</td></tr> <tr> <td>East London, 5241</td><td>5213</td></tr> </table> Telephone No: (043) 743 9528 Fax No: (043) 743 5347 Email: hsc@hsc.co.za	Physical address:	Postal address:	25 Schultz Road	PO Box 11166	Bonnie Doon	Southernwood	East London, 5241	5213		
Physical address:	Postal address:										
25 Schultz Road	PO Box 11166										
Bonnie Doon	Southernwood										
East London, 5241	5213										
2.1.4	The following additional clause applies:- "Without limiting the generality of the afore going, the Schedule of Rates and Prices shall include : (a) The provision and use of all labour, plant, tools instruments, templates, materials, transport and all other appliances that may be required for satisfactorily protecting and efficiently carrying out the works without interruption or delay. (b) The provision and housing of adequate staff and labour force and the provision of false work of every kind and description necessary for the due and proper performance of the Contract. (c) The execution of the Works in orderly and progressive manner until it has been completed. Time being of the essence of the Contract the progressive development of the Works shall be arranged so that the time from the start to the finish of the construction of the said Works shall not exceed the time laid down in the Tender. (d) The inclusion in the tendered rates for all and any of the general liabilities such as Establishment Charges, legal contingencies, regulations, risks or damage, Royalties and all other overhead charges. The submission of a tender shall be considered prima facie evidence that the Contractor has complied with the requirements of this clause and has satisfied himself as to all circumstances and local conditions which may influence or affect his Tender."										

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

2.4.3	The following additional clause applies:- In the event of any discrepancy or conflict between any parts of the Contract Documents, the order of precedence shall be as follows: 1. Project Specifications 2. Special Conditions of Contract 3. General Conditions of Contract 4. Conditions of Tender 5. Standardized/Particular Specifications 6. Contract Drawings 7. Schedule of Quantities
3.1.3	The Employer's Agent shall obtain the specific approval of the Employer before executing any of his functions or duties according to the following Clauses of the General Conditions of Contract: 1. Clause 3.2.1 Nomination of Employer's Agent's Representative 2. Clause 3.2.4 Employer's Agent's authority to delegate 3. Clause 5.8.1 Non-working times 4. Clause 5.11.1 Suspension of the Works 5. Clause 5.12.4 Acceleration instead of extension of time
4.5.2	The Occupational Health and Safety Act (Act No. 85 and Amendment Act No. 181) of 1993 and Construction Regulations 2003 will in all respects be applicable to this contract and the Contractor, as Mandatory in terms of clause 1(1) (xxviii) of the Act, shall assume full responsibility for compliance with the Act and the Regulations." (See Clause 5.2 in Part 5 of the Contract).
5.3.1	The documentation required before commencement with the Works Instruction is issued are: 1 Approved Works Permit (In terms with Construction Regulations, 2014, Reg 3 and 5) 2 Initial programme (Refer to Clause 5.6) 3 Security (Refer to Clause 6.2) 4 Insurance (Refer to Clause 8.6) 5 Letter of Good Standing from the Compensation Commissioner (if not insured with a Licensed Compensation Insurer)
5.3.2	The time to submit the documentation required in points 2 to 5 in Clause 5.3.1 above (excluding the approved Works Permit) is 14 days before commencement with the Works.
5.4.3	The Contractor shall bear all costs and charges for special and temporary rights of way required by him in connection with access to the Site.
5.5.1	The Works shall be completed within four(4) Months.
5.6.1	The Contractor shall deliver his <u>final programme of work within 14 days</u> from the Commencement Date.
5.8.1	The non-working days are Sundays. The special non-working days are: (1) All gazetted public holidays falling outside the year end break. (2) The year end break commencing after the 15 December and ending after the first Monday after the 3rd of January.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

5.13.1	The penalty for failing to complete the Works is <u>0.1% of the contract value</u> per day.
5.14.5.2	The Defects Liability Period is 6 months measured from the date of the Certificates of Completion.
5.16.3	The latent defect period is 10 years.
6.2.1	The Contractor shall deliver to the Engineer, as part of the documentation required commencement with the Works execution in accordance with Clause 5.3.1, at his cost, the type of security for the due performance of the Contract, as selected in the Contract Data.
6.2.2	If the Contractor fails to select the security to be provided or if the Contractor fails to provide the selected security within the time period stated in Clause 5.3.2, or if the performance guarantee shall differ substantially from the pro forma, it shall be deemed that the Contractor has selected a security of 10 per cent retention of the value of the Works.
6.5.1.2.3	The percentage allowances to cover overhead charges for daywork are as follows: • 15% of the gross remuneration of workmen and foremen actually engaged in the daywork; • 15% on the net cost of materials actually used
6.10.1.5	No allowance will be made for work done, or for materials and equipment for which daywork rates have been quoted at tender stage.
6.10.3	The percentage retention on amounts due to the contractor is <u>10%</u> and the limit on retention is <u>5%</u> of the Contract Price.
8.2.1	From the date of the on which the Site is handed over to the Contractor to the date of the issue of a Certificate of Completion to the date of the issue of a Certificate of Completion, the Contractor shall take full responsibility for the care of the Works and of all Plant intended for incorporation into the Works and materials on site intended for incorporation into the Works; Provided that, if in terms of Clause 5.14.7 the Engineer shall issue a Certificate of Completion in respect of any part of the Works, the Contractor shall cease to be responsible for the care of such part and responsibility therefor shall pass to the Employer.
8.6.1	Insurance to be effected by Contractor.
8.6.1.1.2	The value of plant and materials supplied by the Employer to be included in the insurance sum is NIL
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is Nil
8.6.1.2	Special risk insurance issued by SASRIA is required.
8.6.1.3	The limit of indemnity for liability insurance is R 2 000 000.00

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

10.3.2	Amicable settlement in terms of Clause 10.4 shall be contemplated for all disputes prior to referring any dispute to arbitration or adjudication.
10.5.1	Dispute resolution shall be by ad hoc application
10.5.3	1. The Adjudicator shall be paid at the negotiated hourly rate in respect of all time spent upon or in connection with the adjudication including time spent travelling. 2. The Adjudicator shall be reimbursed in respect of all disbursements properly made including, but not restrict to: (a) Printing, reproduction and purchase of documents, drawings, maps, records and photographs (b) Telegrams, telex, faxes and telephone calls (c) Postage and similar delivery charges (d) Travelling, hotel expenses and other similar disbursements (e) Room charges (f) Charges for legal or technical advice obtained in accordance with the Procedure 3. The Adjudicator shall be paid an appointment fee. This fee shall become payable in equal amounts by each Party within 14 days of the appointment of the Adjudicator, subject to an Invoice being provided. This fee will be deducted from the final statement of any sums which shall become payable under item 1 and/or item 2 of the Contract Data. If the final statement is less than the appointment fee the balance shall be refunded to the Parties. 4. The Adjudicator is currently registered for VAT. 5. Where the Adjudicator is registered for VAT it shall be charged additionally in accordance with the rates current at the date of invoice. 6. All payments other than the appointment fee (item 3) shall become due 14 days after receipt of invoice thereafter interest shall be payable at 5% per annum above the Reserve Bank base rate for every day the amount remains outstanding.
10.7.1	The determination of disputes shall be by Mediation, Adjudication and Arbitration . See 10.3.2 above.

Part 2: Data provided by the Contractor

The contractor is advised to read ***The General Conditions of Contract for Construction Works, Third Edition, 2015*** published by the South African institution of civil engineering, private bag x200, halfway house, 1685, in order to understand the implications of this data which is required to be completed. Copies of these conditions of contract may be obtained from www.saice.org.za

Each item of data given below is cross-referenced to the clause in the Conditions of Contract to which it mainly applies.

Clause	Data										
1.1.1.9	The name of the Contractor is:										
1.2.1.2	The address of the Contractor is: Address (physical): Address (postal): Telephone: Facsimile: e-mail:										
1.1.1.14	The time for achieving Practical Completion is as stipulated in Clause 1.1.1.14 under Part 1: Data provided by the Employer										
6.2.1	The security to be provided by the Contractor shall be: <table border="1"> <thead> <tr> <th>Type of security</th><th>Contractor's Choice. Indicate "Yes" or "No"</th></tr> </thead> <tbody> <tr> <td>Cash Deposit of 10% of the Contract Sum</td><td></td></tr> <tr> <td>Performance Guarantee of 10% of the Contract Sum</td><td></td></tr> <tr> <td>Cash deposit of 10% of the Contract Sum plus retention of 5% of the value of the Works.</td><td></td></tr> <tr> <td>Performance guarantee of 10% of the Contract Sum plus retention of 5% of the value of the Works.</td><td></td></tr> </tbody> </table>	Type of security	Contractor's Choice. Indicate "Yes" or "No"	Cash Deposit of 10% of the Contract Sum		Performance Guarantee of 10% of the Contract Sum		Cash deposit of 10% of the Contract Sum plus retention of 5% of the value of the Works.		Performance guarantee of 10% of the Contract Sum plus retention of 5% of the value of the Works.	
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Cash deposit of 10% of the Contract Sum plus retention of 5% of the value of the Works.											
Performance guarantee of 10% of the Contract Sum plus retention of 5% of the value of the Works.											
6.5.1.2.3	The percentage allowance to cover overhead charges is%.										
6.8.3	The variation in cost of special materials is:										

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

	Special material	Unit on which variation will be determined*		Price for base month ex-factory, excluding transport, labour or any other costs.++
		Containers	Delivered in bulk	
*State unit in appropriate column ++ When called upon to do so, the contractor shall substantiate the above rates or prices with acceptable documentary evidence from the supplier.				

C1.3 PERFORMANCE GUARANTEE

The performance guarantee is to contain the wording of the pro-forma document included in ***The General Conditions of Contract for Construction Works***, published by the South African institution of civil engineering. Copies of these conditions of contract may be obtained from the South African institution of Civil Engineering, Private Bag x200, Halfway House, 1685, at www.saice.org.za

Herewith a copy of the pro-forma document.

PERFORMANCE GUARANTEE

For use with the General Conditions of Contract for Construction Works, 2015:

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

Physical Address:

"Employer" means:

"Contractor" means:

"Employer's Agent" means:

"Works" means:

"Site" means:

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

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

Amount in words:

.....

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

.....

Amount in words:

.....

"Expiry Date" means:

CONTRACT DETAILS

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

1. FIXED PERFORMANCE GUARANTEE

- 1.1 Where a Fixed Performance Guarantee has been selected, the Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
- 1.2 The Guarantor's period of liability shall be from and including the date on which the Performance Guarantee is signed, up to and including the Expiry Date, or the date of issue by the Employer's Agent of the Certificate of Completion of the Works, or the date of payment in full of the Guaranteed Sum, whichever occurs first.
- 1.3 The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.

2. CONDITIONS APPLICABLE TO VARIABLE AND FIXED PERFORMANCE GUARANTEES

- 2.1 The Guarantor hereby acknowledges that:
 - 2.1.1 Any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship.
 - 2.1.2 Its obligation under this Performance Guarantee is restricted to the payment of money.
- 2.2 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 3.2.1 to 3.2.3:
 - 2.2.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 3.2.2;
 - 2.2.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 3.2.1 and the sum certified has still not been paid;
 - 2.2.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 3.2.
- 2.3 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
 - 2.3.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 3.3; or
 - 2.3.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 3.3; and
 - 2.3.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
- 2.4 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 3.2 and 3.3 shall not exceed the Guarantor's maximum liability in terms of 1.1 or 2.1.
- 2.5 Where the Guarantor has made payment in terms of 3.3, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.

- 2.6 Payment by the Guarantor in terms of 3.2 or 3.3 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
- 2.7 Payment by the Guarantor in terms of 3.3 will only be made against the return of the original Performance Guarantee by the Employer.
- 2.8 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may consider fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
- 2.9 The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
- 2.10 This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 1.1.2 or 2.2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
- 2.11 This Performance Guarantee, with the required demand notices in terms of 3.2 or 3.3, shall be regarded as a liquid document for the purposes of obtaining a court order.
- 2.12 Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrates' Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2)

Capacity

Witness signatory (1)

Witness signatory (2)

C1.4 AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO. 85 OF 1993)

THIS **AGREEMENT** made between:

.....
(hereinafter referred to as “the Employer”) of the one part, herein represented by:

.....
in his capacity as

AND:

.....
(hereinafter referred to as “the Mandatory”) of the other part, herein represented by:

.....
In his capacity as

.....
and being duly authorized to act as Mandatory on behalf of the Contractor; WHEREAS the Employer is desirous that certain works be constructed, viz

TENDER NO: DOEEC/02/2023/2024

“Completion of ASIDI water supply projects at Cluster 2B schools (Cibini JS, Fulinzima JP, Kuyasa JS, Laphumikwezi SP, Mbashe SP and Ngoswana SP).

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

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. The Mandatory shall execute the work in accordance with the contract documents pertaining to this Contract.
2. This Agreement shall hold good from its commencement date, which shall be the date on which the site is handed over to the Mandatory by an order in writing from the Employer’s Agent, to either:
 - (a) The date of the final certificate issued in terms of **clause 5.16.1 of the General Conditions of Contract 2015** (hereinafter referred to as “the GCC”), as applicable to this Contract, or
 - (b) The date of termination of the contract in terms of **clause 9** of the GCC.
3. The Mandatory declares himself to be conversant with the following:
 - (a) All the requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), hereinafter referred to as “The Act”, together with its amendments and with special reference to the following Sections of The Act:

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

- (i) Section 8: General duties of employers to their employees;
- (ii) Section 9: General duties of employers and self-employed persons to persons other than employees;
- (iii) Section 37: Acts or omissions by employees or mandatories; and
- (iv) Sub-section 37(2) relating to the purpose and meaning of this Agreement.

(b) The procedure and safety rules of the Employer as pertaining to the Mandatory and to all his subcontractors.

4. In addition to the requirements of Clause 6.3 of the General Conditions of Contract and all relevant requirements of the Contract, the Mandatory agrees to execute all the works forming part of this Contract and to operate and utilize all machinery, plant and equipment in accordance with the Act.
5. The Mandatory is responsible for the compliance with the Act by all his subcontractors, whether or not selected and/or approved by the Employer.

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

At For and on behalf of the **EMPLOYER** on

this the day of 20.....

SIGNATURE:

.....

CAPACITY:

.....

As witnesses:

Witness 1

Signature:.....Date.....

Name:.....

Witness 2

Signature:.....Date.....

Name:.....

NAMES: (1)

.....

(2)

.....

At for and on behalf of the **MANDATORY** on

this the day of 20.....

SIGNATURE:

CAPACITY:

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

As witnesses:

Witness 1

Signature:.....Date.....

Name:.....

Witness 2

Signature:.....Date.....

Name:.....

C1.5 IDT BENEFICIARY RECONCILIATION FORM (BRF)

A : Project Information	 IDT Beneficiary Reconciliation Form (BRF) 																
	Year Programme Name Project Name Programme Number Project Number Month Site name (if applicable)										Contractor Stamp/Logo						
B : Accountability	CONTRACTOR REPRESENTATIVE Name Signature Date Please print Name and Surname																
	IDT REPRESENTATIVE Name Signature Date Please print Name and Surname																
C : Beneficiary Information	No.	Name	Surname	Gender	New	ID Number								RSA ID	OTHER	No. of Days Worked	Signature
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	3																
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	5																
	6																
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	13																
	14																
PAGE 1	Please print Name and Surname				Tick	Please insert 13 digit ID								Please Tick		Please print	

PART C2: PRICING DATA**C2.1 PRICING INSTRUCTIONS**

- 1.1 For the purpose of this bill of quantities, the following words shall have the meanings hereby assigned to them:

Unit : *The unit of measurement for each item of work as defined in the specifications or project specifications.*

Quantity : *The number of units of work for each item.*

Rate : *The payment per unit of work at which the Bidder Bids to do the work.*

Amount : *The product of the quantity and the rate Bidded for an item.*

Lump sum : *An amount Bidded for an item, the extent of which is described in the bill of quantities, the specifications or elsewhere, but of which the quantity of work is not measured in any units.*

- 1.2 This bill of quantities forms part of an integral part of the contract documents.

- 1.3 The quantities set out in the bill of quantities are approximate quantities only. The quantities of work finally accepted and certified for payment, and not the quantities given in the bill of quantities, shall be used for determining payments to the Contractor.

The validity of the contract shall in no way be affected by the differences between the quantities in the bill of quantities and the quantities finally certified for payment. Work shall be valued at the rates or lump sums Bidded, subject only to the provisions of the General Conditions Of Contract and the provisions of paragraphs 11 and 12 of this preamble.

- 1.4 Rates and lump sums shall include full compensation for overheads, profits, incidentals, levies, taxes, etc., and for the completed items of work as specified. Full compensation for completing and maintaining, during the maintenance period, all the work shown on the drawings and specified in the specifications and project specifications, and for all the risks, obligations and responsibilities specified in the General Conditions Of Contract, Special Conditions Of Contract and Specifications shall be considered as provided for collectively in the items of payment given in the bill of quantities, except in so far as the quantities given in the bill of quantities are only approximate.

- 1.5 Rates and lump sums shall also be exclusive of Value Added Tax (VAT). The summary of the bill of quantities allows separately for the calculation of an allowance for Value Added Tax (VAT) (output tax in terms of the Bidder). Rates and lump sums shall, however, be inclusive of all other taxes and levies.

- 1.6 The Bidder must fill in a rate or lump sum for each item where provision has been made for it, even where no quantities are given. Items against which no rate or lump sum has been

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

entered in the Bid will not be paid for when the work is executed, as payment for such work will be regarded as being covered by other rates or lump sums in the bill of quantities.

The Bidder shall fill in a rate against all items where the words "rate only" appear in the amount column. The intention is that, although no work is foreseen under such items, and quantities are consequently not given in the quantity column, the Bidded rates shall apply should work under this item actually be required. Bidders should note the provisions of paragraph 12 of this preamble.

If the Bidder should group a number of items together and Bid one lump sum for such group items, this single Bidded lump sum shall apply to that group of items and not to each individual item, or should he indicate against any item that full compensation for such item has been included in another item, the rate for that item included in another item shall be deemed to be nil.

The Bidded lump sums and rates shall be valid irrespective of any change in the quantities during the execution of the contract.

- 1.7 The Works as executed will be measured for payment in accordance with the methods described in the contract documents under the various payment items, notwithstanding any custom to the contrary. The nett measurements or mass of the finished work in place shall be taken for payment but excluding any volume or mass of work in excess of that ordered.
- 1.8 The amount of work or the quantities of material stated in the bill of quantities shall not be considered as restricting or extending the amount of work to be done, or quantity of material to be supplied by the contractor.
- 1.9 The stating of quantities of material or amount of work in the bill of quantities shall not be regarded as authorisation for the contractor to order material or to execute the work. The Contractor shall obtain the Engineer's detailed instructions for all work before ordering any materials for, or executing work, or making arrangements in this regard.
- 1.10 The short descriptions of payment items given in the bill of quantities are for the purpose of identifying the items and providing specific details. Reference shall be made, inter alia, to the Drawings, Specifications, Project Specifications, General Conditions Of Contract and Special Conditions Of Contract for more detailed information regarding the extent of the work entailed under each item.
- 1.11 Reference shall be made to Clause 6.6 of the General Conditions Of Contract regarding provisional sums and prime cost sums.
- 1.12 Subject to the conditions stated in paragraph 13 below, the rates and lump sums filled in by the Bidder in the bill of quantities shall be final and binding and may not be adjusted should there be any mistakes in the extensions thereof and in the total sums appearing in the Bid. Should there be any discrepancies between the Bid sum and the correctly extended and totalled bill of quantities, the rates will be regarded as being correct, and the Employer shall have the right to make such adjustments to the Bid sum as he may deem necessary in order to reconcile the total of the bill of quantities with the Bid sum. In their own interest Bidders

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

should make doubly sure of the correctness of their Bidded rates, the extensions and the Bid sum. Refer to clause F.2.10.3 Annex F: Standard Conditions of Bid.

- 1.13 A Bid may be rejected if the unit rates or lump sums for some of the items in the bill of quantities are, in the opinion of the Employer, unreasonable or out of proportion, and the Bidder fails, within a period of seven (7) days of having been notified in writing by the Employer to adjust the unit rates or lump sums for such items, to make adjustments, refer to clause F.2.17 Annex F: Standard Conditions of Bid.

- 1.14 The units of measurement indicated in the bill of quantities are metric units.

The following abbreviations are used in the bill of quantities:

mm	=	millimetre
m	=	metre
km	=	kilometre
km-pass	=	kilometre-pass
m ²	=	square metre
m ² -pass	=	square metre-pass
ha	=	hectare
m ³	=	cubic metre
m ³ - km	=	cubic metre-kilometre
kW	=	kilowatt
l	=	litre
kl	=	kilolitre
kg	=	kilogram
t	=	ton (1 000 kg)
%	=	percent
No	=	number
PC sum	=	prime cost sum
Prov sum	=	provisional sum
MN	=	Meganewton
MN-m	=	Meganewton-metre
kN	=	kilonewton

- 1.15 All rates and sums of money quoted in the bill of quantities shall be in rands and whole cents. Fractions of a cent shall be discounted.
- 1.16 The item numbers appearing in the bill of quantities refer to the corresponding item numbers in the Standard Specifications. Item numbers prefixed by the letter B to H refer to payment items which are described or amended under parts B to H of the Construction Specifications.
- 1.17 The schedule titled Calculation Of Bid Sum includes financial provision for payment of contract price adjustment. Actual payments shall be made in terms of Clause 6.1 of the General Conditions of Contract.
- 1.18 The bill of quantities is to be completed in black ink.
- 1.19 *Those parts of the contract to be constructed using labour-intensive methods have been marked in the Bills of Quantities with the letters LI in a separate column filled in against every*

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a variation to the contract. The items marked with the letters LI are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works.

- 1.20 *Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.*

C2.2 Bills of Quantities

CIBINI JS

SECTION 1 : PRELIMINARY AND GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
1.1		SECTION 1 : PRELIMINARY AND GENERAL				
1.1.1		PRELIMINARIES				
1.1.1		Provide for Preliminaries and all costs of a general nature that may affect the cost of works in order to comply with the contractual conditions and which are not otherwise provided for in the compilation of this bid, including taking delivery, storing and safeguarding of materials, site establishment, setting out, welfare of workplace, clearing and cleaning, supervision, attending site meetings, hoardings and gantries, provision of all tools, equipment, labour force protective clothing, scaffolding, formwork, ablution and latrine facilities, water supplies, electric power and communications, as-built drawings and other temporary materials, provision of nails, screws, ""polyfilla"	Sum	1		
1.2		HEALTH & SAFETY				
1.2.1		Compilation and submission of Health & Safety Plan for approval by the client or OHS Consultant	Sum	1		
1.2.2		Compliance with all Construction Regulations (OHS Act); Compliance with all requirements of the Environmental Regulations; Compliance with SANS 1921 - 6 Part 6 HIV/AIDS Awareness; Compliance with all COVID-19 Regulations	Sum	1		
1.3	8.5	SUMS STATED PROVISIONALLY BY ENGINEER				
1.3.1		Appointment of CLO for duration of contract	Prov Sum	4	R 5 500.00	R 22 000.00
1.3.1.1		Overheads, charges and profit on item above	%	R 22 000.00		
1.3.2		PSC Payments	Prov Sum	1	R 2 500.00	R 2 500.00
1.3.2.1		Overheads, charges and profit on item above	%	R 2 500.00		
1.4		DAYWORKS				
1.4.1		Labour during normal working hours				
1.4.1.1		Supervisor	hr		R 650.00	Rate Only
1.4.1.2		Pipelayer	hr		R 450.00	Rate Only
1.4.1.3		Bricklayer	hr		R 450.00	Rate Only
1.4.1.4		Unskilled labour	hr		R 200.00	Rate Only
1.4.1.5		Skilled labour	hr		R 300.00	Rate Only
1.4.2		Plant inclusive of operator, fuel, establishment on and removal from site:				
1.4.2.1		TLB	hr		R 400.00	Rate Only
1.4.2.2		Wacker	hr		R 250.00	Rate Only
1.4.2.3		Plate compactor	hr		R 250.00	Rate Only
1.4.2.4		Pressure test pump	hr		R 380.00	Rate Only
1.4.2.5		Excavator	hr		R 650.00	Rate Only
Total Carried Forward To Summary						

CIBINIJS

SECTION 2 : OUTSTANDING WORKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
		SECTION 2 : OUTSTANDING WORKS				
2.1		Backfill around all 7 tank stands with top soil (6m ³)	m ³	6		
2.2		Install a locking device on the pump chamber to secure the pump.	No.	1		
2.3		Supply and erect 1.8m high security fencing with galvanized post cast into concrete blocks as detailed on Drawing P1270/CD14 to secure elevated tank.	m	20		
2.4		Supply and fit 1.2m wide pedestrian gate complete with hinges, locking devices, posts and padlock	No.	1		
2.5		Replace 3 damaged brass lockable taps complete with padlocks, use drawing P1270/CD04 for tap specifications	No.	3		
2.6		Construct soak aways complete as per Drawing P1270/CD02 Revision B	No.	5		
2.7		Supply and Install galvanized down pipes complete connecting into the rainwater tanks	m	60		
2.8		Install new galvanized streamline gutters. Gutter brackets to be fixed at 1m centres	m	80		
2.9		Install new fibre cement fascia boards	m	80		
2.10		Install a new float valve with accessories onto 10kl ground tank.	Sum	1		
2.11		Demolish and carte away existing concrete channels and existing drinking fountain base. Backfill the areas with top soil.	m ³	6		
2.12		Secure all rainwater tanks on plinths using hoop iron strips.	m	130		
2.13		Pressure test the existing and new reticulation	Sum	1		
2.14		Clean up the whole site and remove rubble from site.	Sum	1		
2.15		Supply and install 50mm Ø PVC pipe from a rainwater tank to a soakway as per Drawing P1270/CD02 incl. excavation and backfilling.	m	12		
2.16		Construct 600mm wide x 75mm thick concrete V-drains to connect from rainwater tanks and standpipes to the soakaways.	m	20		
Total Carried Forward to Summary						

INDEPENDENT DEVELOPMENT TRUST: ASIDI SCHOOLS PROGRAMME
SCHOOL S WATER SUPPLY INFRASTRUCTURE - CLUSTER 2: CONTRACT 2B

CIBINI JS

SUMMARY OF SECTIONS

SECTION	DESCRIPTION	AMOUNT (RAND)
	SECTION 1 : PRELIMINARY AND GENERAL	
	SECTION 2 : OUTSTANDING WORKS	
	SUBTOTAL	
	CONTINGENCIES 10%	
	SUBTOTAL	
	ADD VAT 15%	
Total Carried Forward To Summary Of Schedules		

FULINZIMA JP

SECTION 1 : PRELIMINARY AND GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
1.1		SECTION 1 : PRELIMINARY AND GENERAL				
1.1.1		PRELIMINARIES				
1.1.1		Provide for Preliminaries and all costs of a general nature that may affect the cost of works in order to comply with the contractual conditions and which are not otherwise provided for in the compilation of this bid, including taking delivery, storing and safeguarding of materials, site establishment, setting out, welfare of workplace, clearing and cleaning, supervision, attending site meetings, hoardings and gantries, provision of all tools, equipment, labour force protective clothing, scaffolding, formwork, ablution and latrine facilities, water supplies, electric power and communications, as-built drawings and other temporary materials, provision of nails, screws, ""polyfilla"	Sum	1		
1.2		HEALTH & SAFETY				
1.2.1		Compilation and submission of Health & Safety Plan for approval by the client or OHS Consultant	Sum	1		
1.2.2		Compliance with all Construction Regulations (OHS Act); Compliance with all requirements of the Environmental Regulations; Compliance with SANS 1921 - 6 Part 6 HIV/AIDS Awareness; Compliance with all COVID-19 Regulations	Sum	1		
1.3	8.5	SUMS STATED PROVISIONALLY BY ENGINEER				
1.3.1		Appointment of CLO for duration of contract	Prov Sum	4	R 5 500.00	R 22 000.00
1.3.1.1		Overheads, charges and profit on item above	%	R 22 000.00		
1.3.2		PSC Payments	Prov Sum	1	R 2 500.00	R 2 500.00
1.3.2.1		Overheads, charges and profit on item above	%	R 2 500.00		
1.4		DAYWORKS				
1.4.1		Labour during normal working hours				
1.4.1.1		Supervisor	hr		R 650.00	Rate Only
1.4.1.2		Pipelayer	hr		R 450.00	Rate Only
1.4.1.3		Bricklayer	hr		R 450.00	Rate Only
1.4.1.4		Unskilled labour	hr		R 200.00	Rate Only
1.4.1.5		Skilled labour	hr		R 300.00	Rate Only
1.4.2		Plant inclusive of operator, fuel, establishment on and removal from site:				
1.4.2.1		TLB	hr		R 400.00	Rate Only
1.4.2.2		Wacker	hr		R 250.00	Rate Only
1.4.2.3		Plate compactor	hr		R 250.00	Rate Only
1.4.2.4		Pressure test pump	hr		R 380.00	Rate Only
1.4.2.5		Excavator	hr		R 650.00	Rate Only
Total Carried Forward						

INDEPENDENT DEVELOPMENT TRUST: ASIDI SCHOOLS PROGRAMME
SCHOOLS WATER SUPPLY INFRASTRUCTURE - CLUSTER 2: CONTRACT 2B

FULINZIMA JP

SECTION 2 : OUTSTANDING WORKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
		SECTION 2 : OUTSTANDING WORKS				
2.1		Equip borehole completely. Supply and Install an electric driven pump with all associated connections. Pump is required to pump water from a borehole depth of 60mbgl to a vertical head of about 70m. Borehole yield 1.73l/s	Sum	1		
2.2		Supply and erect a lockable device to protect the borehole shaft and pump	Sum	1		
2.3		Low Voltage (600 / 1000 V) Cable Supply, delivery and install 6mm x 3 core electric cable feeding from a 30A breaker to supply power for the borehole pump. Installation rate to include ducts, trenches, excavations etc.	m	550		
2.4		Supply and erect 1.8m high security fencing at Elevated tank stand with galvanized post cast into concrete blocks as detailed on Drawing P1270/CD14	m	20		
2.5		Supply, lay and bed 50mm NB class 10 HDPE rising main complete with appropriate couplings and disinfect. Trench should be at least 500mm deep marked with 1m high concrete pipeline markers at 100m intervals. Excavation, backfilling, compaction all inclusive.	m	550		
2.6		Supply and Install 4No. Brass lockable taps on rainwater tanks with respective 4No. x 50mm "Viro" padlocks . Use Drawing P1270/CD04 for tap specifications	No.	10		
2.7		Construct 600mm wide x 75mm thick concrete V-drains to connect to soak aways	m	45		
2.8		Demolish existing tank stand slab. Supply, lay and compact imported material. Cast new tank stand slab as per Drawing P1270/CD02	Sum	1		
2.9		Construct soak aways to connect to v-drains from rainwater tanks and standpipes, use Drawing P1270/CD02 for soak away detail	No.	5		
2.10		Inspect electrical connections and issue a C.O.C	Sum	1		
2.11		Clean up the whole site and remove rubble from site.	Sum	1		
2.12		Pressure test the existing and new reticulation	Sum	1		
2.13		Install new galvanized streamline gutters	m	60		
2.14		Supply and install fibre cement fascia boards	m	60		
2.15		Install new galvanized downpipes complete with accessories to feed rainwater tanks	m	40		
2.16		Supply, lay and bed 22mm NB class 10 HDPE pipe complete with appropriate couplings and disinfect to connect kitchen sink and toilet sinks. Trench should be at least 300mm deep. Excavation, backfilling, compaction all inclusive.	m	75		
2.17		Demolish and carte three (3) existing drinking fountains and make the area good	No.	3		
2.18		Construct 1No. Drinking fountain complete as per Drawing P1270/CD04 with a stainless steel pressing tap	No	1		
Total Carried Forward to Summary						

Contract

Part C2: Pricing Data

Bid No: DOEEC/02/2023/2024

INDEPENDENT DEVELOPMENT TRUST: ASIDI SCHOOLS PROGRAMME
SCHOOLS WATER SUPPLY INFRASTRUCTURE - CLUSTER 2: CONTRACT 2B

FULINZIMA .JP

SUMMARY OF SECTIONS

SECTION	DESCRIPTION	AMOUNT (RAND)
	SECTION 1 : PRELIMINARY AND GENERAL	
	SECTION 2 : OUTSTANDING WORKS	
	SUBTOTAL	
	CONTINGENCIES 10%	
	SUBTOTAL	
	ADD VAT 15%	
Total Carried Forward To Summary Of Schedules		

INDEPENDENT DEVELOPMENT TRUST: ASIDI SCHOOLS PROGRAMME
SCHOOLS WATER SUPPLY INFRASTRUCTURE - CLUSTER 2: CONTRACT 2B

KUYASA JS

SECTION 1 : PRELIMINARY AND GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
1.1		SECTION 1 : PRELIMINARY AND GENERAL				
1.1.1		PRELIMINARIES				
1.1.1		Provide for Preliminaries and all costs of a general nature that may affect the cost of works in order to comply with the contractual conditions and which are not otherwise provided for in the compilation of this bid, including taking delivery, storing and safeguarding of materials, site establishment, setting out, welfare of workplace, clearing and cleaning, supervision, attending site meetings, hoardings and gantries, provision of all tools, equipment, labour force protective clothing, scaffolding, formwork, ablution and latrine facilities, water supplies, electric power and communications, as-built drawings and other temporary materials, provision of nails, screws, ""polyfills"	Sum	1		
1.2		HEALTH & SAFETY				
1.2.1		Compilation and submission of Health & Safety Plan for approval by the client or OHS Consultant	Sum	1		
1.2.2		Compliance with all Construction Regulations (OHS Act); Compliance with all requirements of the Environmental Regulations; Compliance with SANS 1921 - 6 Part 6 HIV/AIDS Awareness; Compliance with all COVID-19 Regulations	Sum	1		
1.3	8.5	SUMS STATED PROVISIONALLY BY ENGINEER				
1.3.1		Appointment of CLO for duration of contract	Prov Sum	4	R 5 500.00	R 22 000.00
1.3.1.1		Overheads, charges and profit on item above	%	R 22 000.00		
1.3.2		PSC Payments	Prov Sum	1	R 2 500.00	R 2 500.00
1.3.2.1		Overheads, charges and profit on item above	%	R 2 500.00		
1.4		DAYWORKS				
1.4.1		Labour during normal working hours				
1.4.1.1		Supervisor	hr		R 650.00	Rate Only
1.4.1.2		Pipelayer	hr		R 450.00	Rate Only
1.4.1.3		Bricklayer	hr		R 450.00	Rate Only
1.4.1.4		Unskilled labour	hr		R 200.00	Rate Only
1.4.1.5		Skilled labour	hr		R 300.00	Rate Only
1.4.2		Plant inclusive of operator, fuel, establishment on and removal from site:				
1.4.2.1		TLB	hr		R 400.00	Rate Only
1.4.2.2		Wacker	hr		R 250.00	Rate Only
1.4.2.3		Plate compactor	hr		R 250.00	Rate Only
1.4.2.4		Pressure test pump	hr		R 380.00	Rate Only
1.4.2.5		Excavator	hr		R 650.00	Rate Only
Total Carried Forward						

KUYASA JS

SECTION 2 : OUTSTANDING WORKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
		SECTION 2 : OUTSTANDING WORKS				
2.1		Equip borehole completely. Supply and Install an electric driven pump with all associated connections. Pump is required to pump water from a borehole depth of 60mbgl to a vertical head of about 40m. Borehole yield is 3.8l/s	Sum	1		
2.2		Supply and erect a lockable device to protect the borehole shaft and pump	Item	1		
2.3		Low Voltage (600 / 1000 V) Cable Supply, delivery and install 6mm x 3 core electric cable feeding from a 30A breaker to supply power for the borehole pump. Installation rate to include ducts, trenches, excavations etc.	m	200		
2.3		Supply and erect 1.8m high security fencing at Elevated tank stand with galvanized post cast into concrete blocks as detailed on Drawing P1270/CD14	m	20		
2.4		Supply, lay and bed 50mm NB class 10 HDPE rising main complete with appropriate couplings and disinfect. Trench should be at least 500mm deep marked with 1m high concrete pipeline markers at 100m intervals. Excavation, backfilling, compaction all inclusive.	m	200		
2.5		Replace damaged lockable taps; use Drawing P1270/CD04 for tap specifications	No.	9		
2.6		Construct soak aways to connect to v-drains from rainwater tanks and standpipes, use Drawing P1270/CD02 for soak away detail	No.	6		
2.7		Supply and install 10 000L Polyethylene ASIDI customized rainwater tank and strapped using hoop iron ties	No	1		
2.8		Construct 600mm wide x 75mm thick concrete V-drains to connect to soak aways on all rainwater tanks and stand pipes	m	35		
2.90		Re-align existing gutters to drain into 3 water tanks and fix them onto existing fascia boards	m	25		
2.10		Inspect electrical connections and issue a C.O.C	Sum	1		
2.11		Pressure test the existing and new reticulation	Sum	1		
2.12		Clean up the whole site and remove rubble from site.	Sum	1		
2.16		Demolish and carte three (3) existing drinking fountains and make the area good	No.	3		
2.17		Construct 1No. Drinking fountain complete as per Drawing P1270/CD04 with a stainless steel pressing tap	No	1		
2.18		Complete construction of 1No. valve chamber as per Drawing P1270/CD09. It includes plastering internal walls, casting base slab and cover slab.	No.	2		
2.19		Demolish and carte two (2) old standpipes	No.	2		
Total Carried Forward to Summary						

INDEPENDENT DEVELOPMENT TRUST: ASIDI SCHOOLS PROGRAMME
SCHOOLS WATER SUPPLY INFRASTRUCTURE - CLUSTER 2: CONTRACT 2B

KUYASA JS

SUMMARY OF SECTIONS

SECTION	DESCRIPTION	AMOUNT (RAND)
	SECTION 1 : PRELIMINARY AND GENERAL	
	SECTION 2 : OUTSTANDING WORKS	
	SUBTOTAL	
	CONTINGENCIES 10%	
	SUBTOTAL	
	ADD VAT 15%	
Total Carried Forward To Summary Of Schedules		

INDEPENDENT DEVELOPMENT TRUST: ASIDI SCHOOLS PROGRAMME
SCHOOLS WATER SUPPLY INFRASTRUCTURE - CLUSTER 2: CONTRACT 2B

LAPHUMIKWEZI JS

SECTION 1 : PRELIMINARY AND GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
1.1		SECTION 1 : PRELIMINARY AND GENERAL				
1.1.1		PRELIMINARIES				
1.1.1		Provide for Preliminaries and all costs of a general nature that may affect the cost of works in order to comply with the contractual conditions and which are not otherwise provided for in the compilation of this bid, including taking delivery, storing and safeguarding of materials, site establishment, setting out, welfare of workplace, clearing and cleaning, supervision, attending site meetings, hoardings and gantries, provision of all tools, equipment, labour force protective clothing, scaffolding, formwork, ablution and latrine facilities, water supplies, electric power and communications, as-built drawings and other temporary materials, provision of nails, screws, ""polyfills"	Sum	1		
1.2		HEALTH & SAFETY				
1.2.1		Compilation and submission of Health & Safety Plan for approval by the client or OHS Consultant	Sum	1		
1.2.2		Compliance with all Construction Regulations (OHS Act); Compliance with all requirements of the Environmental Regulations; Compliance with SANS 1921 - 6 Part 6 HIV/AIDS Awareness: Compliance with all COVID-19 Regulations	Sum	1		
1.3	8.5	SUMS STATED PROVISIONALLY BY ENGINEER				
1.3.1		Appointment of CLO for duration of contract	Prov Sum	4	R 5 500.00	R 22 000.00
1.3.1.1		Overheads, charges and profit on item above	%	R 22 000.00		
1.3.2		PSC Payments	Prov Sum	1	R 2 500.00	R 2 500.00
1.3.2.1		Overheads, charges and profit on item above	%	R 2 500.00		
1.4		DAYWORKS				
1.4.1		Labour during normal working hours				
1.4.1.1		Supervisor	hr		R 650.00	Rate Only
1.4.1.2		Pipelayer	hr		R 450.00	Rate Only
1.4.1.3		Bricklayer	hr		R 450.00	Rate Only
1.4.1.4		Unskilled labour	hr		R 200.00	Rate Only
1.4.1.5		Skilled labour	hr		R 300.00	Rate Only
1.4.2		Plant inclusive of operator, fuel, establishment on and removal from site:				
1.4.2.1		TLB	hr		R 400.00	Rate Only
1.4.2.2		Wacker	hr		R 250.00	Rate Only
1.4.2.3		Plate compactor	hr		R 250.00	Rate Only
1.4.2.4		Pressure test pump	hr		R 380.00	Rate Only
1.4.2.5		Excavator	hr		R 650.00	Rate Only
Total Carried Forward To Summary Contract						

LAPHUMIKWEZI JS

SECTION 2 : OUTSTANDING WORKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
		SECTION 2 : OUTSTANDING WORKS				
2.1		Repositioning of existing 10kl elevated water tank on existing elevated platform and secure it onto the stand with hoop iron strips.	Sum	1		
2.2		Replace missing 4 vertical bracings on elevated tank stand. Refer to Drawing P1270/CD01 Revision C for the bracing specification.	Sum	1		
2.3		Supply and erect 1.8m high security fencing at elevated tank stand complete with galvanized post cast into concrete blocks as detailed on Drawing P1270/CD14	m	20		
2.4		Supply and fit 1.8m high x 1.2m wide pedestrian gate complete with hinges, locking devices, posts and padlock on elevated tank fence	No.	1		
2.5		Construct 600mm x 75mm concrete V-drains to connect to soak aways.	m	80		
2.6		Install new galvanized streamline gutters. Gutter brackets to be fixed at 1m centres	m	80		
2.7		Install new fibre cement fascia boards.	m	80		
2.8		Demolish and carte two (2) old standpipes complete and make good the area.	No.	2		
2.9		Construct soak aways complete as per Drawing P1270/CD02 Revision B	No	6		
2.10		Make good concrete on two (2) drinking fountains	No	2		
2.11		Supply and install 8No. Brass lockable taps complete with padlocks, use Drawing P1270/CD04 for tap specifications	No.	8		
2.12		Pressure test all existing and new reticulations	Sum	1		
2.13		Clean up the whole site and remove rubble from site.	Sum	1		
2.14		Supply and install 5000L Polyethylene rainwater ASIDI customised tank	No	1		
2.15		Secure all rainwater tanks on plinths using hoop iron strips.	m	105		
2.16		Galvanize spray paint the elevated tank stand, see Drawing P1270/CD01 for the stand structure.	No	1		
2.17		Close the borehole shaft by welding a metal plate on top of the opening and cast concrete around it.	Sum	1		
Total Carried Forward to Summary						

INDEPENDENT DEVELOPMENT TRUST: ASIDI SCHOOLS PROGRAMME
SCHOOLS WATER SUPPLY INFRASTRUCTURE - CLUSTER 2: CONTRACT 2B

LAPHUMIKWEZI JS

SUMMARY OF SECTIONS

SECTION	DESCRIPTION	AMOUNT (RAND)
	SECTION 1 : PRELIMINARY AND GENERAL	
	SECTION 2 : OUTSTANDING WORKS	
	SUBTOTAL	
	CONTINGENCIES 10%	
	SUBTOTAL	
	ADD VAT 15%	
Total Carried Forward To Summary Of Schedules		

MBASHE SP

SECTION 1 : PRELIMINARY AND GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
1.1		SECTION 1 : PRELIMINARY AND GENERAL				
1.1.1		PRELIMINARIES				
1.1.1		Provide for Preliminaries and all costs of a general nature that may affect the cost of works in order to comply with the contractual conditions and which are not otherwise provided for in the compilation of this bid, including taking delivery, storing and safeguarding of materials, site establishment, setting out, welfare of workplace, clearing and cleaning, supervision, attending site meetings, hoardings and gantries, provision of all tools, equipment, labour force protective clothing, scaffolding, formwork, ablution and latrine facilities, water supplies, electric power and communications, as-built drawings and other temporary materials, provision of nails, screws, ""polyfilla"	Sum	1		
1.2		HEALTH & SAFETY				
1.2.1		Compilation and submission of Health & Safety Plan for approval by the client or OHS Consultant	Sum	1		
1.2.2		Compliance with all Construction Regulations (OHS Act); Compliance with all requirements of the Environmental Regulations; Compliance with SANS 1921 - 6 Part 6 HIV/AIDS Awareness; Compliance with all COVID-19 Regulations	Sum	1		
1.3	8.5	SUMS STATED PROVISIONALLY BY ENGINEER				
1.3.1		Appointment of CLO for duration of contract	Prov Sum	4	R 5 500.00	R 22 000.00
1.3.1.1		Overheads, charges and profit on item above	%	R22 000.00		
1.3.2		PSC Payments	Prov Sum	1	R 2 500.00	R 2 500.00
1.3.2.1		Overheads, charges and profit on item above	%	R 2 500.00		
1.4		DAYWORKS				
1.4.1		Labour during normal working hours				
1.4.1.1		Supervisor	hr		R 650.00	Rate Only
1.4.1.2		Pipelayer	hr		R 450.00	Rate Only
1.4.1.3		Bricklayer	hr		R 450.00	Rate Only
1.4.1.4		Unskilled labour	hr		R 200.00	Rate Only
1.4.1.5		Skilled labour	hr		R 300.00	Rate Only
1.4.2		Plant inclusive of operator, fuel, establishment on and removal from site:				
1.4.2.1		TLB	hr		R 400.00	Rate Only
1.4.2.2		Wacker	hr		R 250.00	Rate Only
1.4.2.3		Plate compactor	hr		R 250.00	Rate Only
1.4.2.4		Pressure test pump	hr		R 380.00	Rate Only
1.4.2.5		Excavator	hr		R 650.00	Rate Only
Total Carried Forward To Summary						

Contract

Part C2: Pricing Data

Bid No: DOEEC/02/2023/2024

MBASHE SP

SECTION 2 : OUTSTANDING WORKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
		SECTION 2 : OUTSTANDING WORKS				
2.1		Supply and erect 1.8m high security fencing at elevated tank stand complete with galvanized post cast into concrete blocks as detailed on Drawing P1270/CD14	m	20		
2.2		Supply and Install new pump with Duty point of 15m Head @ 2 l/s	No.	1		
2.3		Construct a pump chamber complete, plastered inside with a lockable cover as per Drawing P1270/CD15	No.	1		
2.4		Construct 600mm wide x 75mm thick concrete V-drains to connect to soakaways.	m	25		
2.5		Complete construction of 1No. valve chamber as per Drawing P1270/CD09. It includes plastering internal walls, casting base slab and cover slab.	Sum	1		
2.6		Backfill with top soil around all rainwater harvestings tanks	m ³	2		
2.7		Supply and fit 1.2m wide pedestrian gate complete with hinges, locking devices, posts and padlock	No	1		
2.8		Supply and Install 6No. Brass lockable taps complete with padlocks, refer to Drawing P1270/CD04 for tap specifications	No.	6		
2.9		Construct soak aways complete as per Drawing P1270/CD02 Revision B	No.	3		
2.10		Demolish and carte two (2) old standpipes complete and make good the area.	No	2		
2.11		Pressure test all existing and new reticulations.	Sum	1		
2.12		Clean up the whole site and remove rubble from site.	Sum	1		
Total Carried Forward to Summary						

INDEPENDENT DEVELOPMENT TRUST: ASIDI SCHOOLS PROGRAMME
SCHOOLS WATER SUPPLY INFRASTRUCTURE - CLUSTER 2: CONTRACT 2B

MBASHE SP

SUMMARY OF SECTIONS

SECTION	DESCRIPTION	AMOUNT (RAND)
	SECTION 1 : PRELIMINARY AND GENERAL	
	SECTION 2 : OUTSTANDING WORKS	
	SUBTOTAL	
	CONTINGENCIES 10%	
	SUBTOTAL	
	ADD VAT 15%	
Total Carried Forward To Summary Of Schedules		

NGOSWANA SP

SECTION 1 : PRELIMINARY AND GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
1.1		SECTION 1 : PRELIMINARY AND GENERAL				
1.1.1		PRELIMINARIES				
1.1.1		Provide for Preliminaries and all costs of a general nature that may affect the cost of works in order to comply with the contractual conditions and which are not otherwise provided for in the compilation of this bid, including taking delivery, storing and safeguarding of materials, site establishment, setting out, welfare of workplace, clearing and cleaning, supervision, attending site meetings, hoardings and gantries, provision of all tools, equipment, labour force protective clothing, scaffolding, formwork, ablution and latrine facilities, water supplies, electric power and communications, as-built drawings and other temporary materials, provision of nails, screws, ""polyfilla"	Sum	1		
1.2		HEALTH & SAFETY				
1.2.1		Compilation and submission of Health & Safety Plan for approval by the client or OHS Consultant	Sum	1		
1.2.2		Compliance with all Construction Regulations (OHS Act); Compliance with all requirements of the Environmental Regulations; Compliance with SANS 1921 - 6 Part 6 HIV/AIDS Awareness; Compliance with all COVID-19 Regulations	Sum	1		
1.3	8.5	SUMS STATED PROVISIONALLY BY ENGINEER				
1.3.1		Appointment of CLO for duration of contract	Prov Sum	4	R 5 500.00	R 22 000.00
1.3.1.1		Overheads, charges and profit on item above	%	R 22 000.00		
1.3.2		PSC Payments	Prov Sum	1	R 2 500.00	R 2 500.00
1.3.2.1		Overheads, charges and profit on item above	%	R 2 500.00		
1.4		DAYWORKS				
1.4.1		Labour during normal working hours				
1.4.1.1		Supervisor	hr		R 650.00	Rate Only
1.4.1.2		Pipelayer	hr		R 450.00	Rate Only
1.4.1.3		Bricklayer	hr		R 450.00	Rate Only
1.4.1.4		Unskilled labour	hr		R 200.00	Rate Only
1.4.1.5		Skilled labour	hr		R 300.00	Rate Only
1.4.2		Plant inclusive of operator, fuel, establishment on and removal from site:				
1.4.2.1		TLB	hr		R 400.00	Rate Only
1.4.2.2		Wacker	hr		R 250.00	Rate Only
1.4.2.3		Plate compactor	hr		R 250.00	Rate Only
1.4.2.4		Pressure test pump	hr		R 380.00	Rate Only
1.4.2.5		Excavator	hr		R 650.00	Rate Only
Total Carried Forward To Summary						

NGOSWANA SP

SECTION 2 : OUTSTANDING WORKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
		SECTION 2 : OUTSTANDING WORKS				
2.1		Supply and erect 1.8m high security fencing at elevated tank stand complete with galvanized post cast into concrete blocks as detailed on Drawing P1270/CD14	m	25		
2.2		Install 2No. Brass ball valve/float switch with accessories in 10kl ground tank and 10kl Header tank	No.	2		
2.3		Supply and install four (4) lockable taps on standpipes	No	4		
2.4		Demolish and carte three (3) existing drinking fountains and make the area good	No	3		
2.5		Cast 100mm thick concrete around rainwater tanks, concrete to have a wood float finish.	m ³	2		
2.6		Construct 600mm wide x 75mm thick concrete V-drains to connect from rainwater tanks and standpipes to soak aways	m	30		
2.7		Construct 2No. Rainwater tank stands complete as per Drawing P1270/CD02	No.	2		
2.8		Complete construction of 1No. valve chamber as per Drawing P1270/CD09. It includes plastering internal walls, casting base slab and cover slab.	No.	1		
2.9		Supply and Install 8No. Brass lockable taps on rainwater tanks with respective 8No. x 50mm "Viro" padlocks	No.	8		
2.10		Clean up the whole site and remove rubble from site.	Sum	1		
2.11		Realign the existing gutter to drain in one direction	m	20		
2.12		Supply and install 5000L Polyethylene rainwater ASIDI customised tank	No	1		
2.13		Construct 1No. Drinking fountain complete as per Drawing CD04 with a stainless steel pressing tap	No	1		
2.14		Supply and fit 1.2m wide pedestrian gate complete with hinges, locking devices, posts and padlock	No.	1		
2.15		Secure all rainwater tanks on plinths using hoop iron strips.	m	105		
Total Carried Forward to Summary						

INDEPENDENT DEVELOPMENT TRUST: ASIDI SCHOOLS PROGRAMME
SCHOOLS WATER SUPPLY INFRASTRUCTURE - CLUSTER 2: CONTRACT 2B

NGOSWANA SP

SUMMARY OF SECTIONS

SECTION	DESCRIPTION	AMOUNT (RAND)
	SECTION 1 : PRELIMINARY AND GENERAL	
	SECTION 2 : OUTSTANDING WORKS	
	SUBTOTAL	
	CONTINGENCIES 10%	
	SUBTOTAL	
	ADD VAT 15%	
Total Carried Forward To Summary Of Schedules		

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

SUMMARY OF THE BILL OF QUANTITIES

Project Name	Section 1	Section 2	Total
	Preliminary & General	Outstanding Works	
CIBINI JS	R.....	R.....	R.....
FULINZIMA JP	R.....	R.....	R.....
KUYASA JS	R.....	R.....	R.....
LAPHUMIKWEZI SP	R.....	R.....	R.....
MBASHE SP	R.....	R.....	R.....
NGOSWANA P	R.....	R.....	R.....
Total			R.....

CALCULATION OF BID SUM

TOTAL OF THE BILL OF QUANTITIES (SUM 1)	R.....
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CONTINGENCIES (10% of Sum 1)

The sum provided here is under the sole control of the Engineer R.....
and may be deducted in whole or in part.

SUB TOTAL (Sum 2)	R.....
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VALUE ADDED TAX

(The Bidder shall add 15% of Sum 2 for VAT) R.....

TENDER SUM CARRIED TO FORM OF OFFER	R.....
--	--------

Signature _____ Date _____

Name _____ Capacity _____

Bidder _____

PART 3 – SCOPE OF WORKS

C3.1 Scope of Work

1 DESCRIPTION OF THE WORKS

1.1 Employer's objectives

The Contract entails the equipping of borehole development water supply and reticulation infrastructure at **FULINZIMA JPS, and KUYASA JSS**.

Rainwater harvesting and reticulation infrastructure at **CIBINI JSS, LAPHUMIKWEZI SPS, MBASHE SPS** and **NGOSWANA SPS** in the Eastern Cape.

The provision of water infrastructure to targeted schools to provide basic levels of service to the Department of Basic Education's ASIDI standard.

1.2 Overview of the works

No detailed geological investigation has been undertaken, other than that undertaken for the borehole investigations.

This report indicates that the area is largely underlain by fractured and weathered mudstone shale. Dolerite intrusions in the form of dykes and sheets are present.

1.3 Extent of the works

The major items of outstanding works are described below in general terms, with more details provided in the construction specifications, bill of quantities and tender drawings.

CIBINI JS

- Backfill around tank stands with topsoil.
- Install a locking device on the pump chamber to secure the pump.
- Supply and erect 1.8m high security fencing with galvanized post cast into concrete blocks to secure elevated tank.
- Supply and fit 1.2m wide pedestrian gate complete with hinges, locking devices, posts, and padlock.
- Replace damaged brass lockable taps.
- Construct soak aways
- Supply and install galvanized down pipes, gutters, fascia boards.
- Install a new float valve with accessories onto 10kl ground tank.
- Demolish and cart away existing concrete channels and existing drinking fountain base. Backfill the areas with topsoil.
- Secure rainwater tanks on plinths using hoop iron strips.
- Pressure testing the reticulation.
- Clean up the whole site and remove rubble from site.
- Supply and install 50mm Ø PVC pipe from a rainwater tank to a soakway
- Construct concrete V-drains

FULINZIMA JP

- Equip existing borehole with electric driven pump complete with all accessories and cabling.
- Supply and erect 1.8m high security fencing at elevated tank stand complete with galvanized post cast into concrete blocks
- Supply, lay and bed 50mm dia. rising main
- Supply and Install Brass lockable taps with 50mm "Viro" padlocks
- Construct concrete v-drains

- Construct soakaways
- Refurbish existing tank stand
- Install new galvanized streamline gutters with fibre cement fascia boards and galvanized downpipes
- Pressure test all reticulations
- Clean up the whole site and remove rubble from site.
- Supply, lay and bed 22mm dia. pipes
- Construct drinking fountain
- Demolish and cart away existing drinking fountains.
- Inspect electrical connections and issue a C.O.C

KUYASA JS

- Equip existing borehole with electric driven pump complete with all accessories and cabling.
- Supply and erect 1.8m high security fencing at elevated tank stand complete with galvanized post cast into concrete blocks
- Supply, lay and bed 50mm dia. rising main
- Supply and Install Brass lockable taps with 50mm "Viro" padlocks
- Construct concrete v-drains
- Construct soakaways
- Supply and install 10000L Polyethylene rainwater ASIDI customised tank
- Inspect electrical connections and issue a C.O.C
- Refurbish existing tank stand
- Re-align existing gutters
- Pressure test all reticulations
- Clean up the whole site and remove rubble from site.
- Construct drinking fountain
- Demolish and cart away existing drinking fountains and standpipes
- Construct a valve chamber.

LAPHUMIKWEZI SP

- Reposition existing 10kl elevated water tank on existing elevated platform and secure it onto the stand with hoop iron strips.
- Replace missing vertical bracings on elevated tank stand and galvanize spray paint the elevated tank stand
- Supply and erect 1.8m high security fencing at elevated tank stand complete with galvanized post cast into concrete blocks
- Supply and fit 1.8m high x 1.2m wide pedestrian gate complete with hinges, locking devices, posts, and padlock on elevated tank fence
- Construct concrete V-drains
- Install new galvanized streamline gutters with fibre cement fascia boards.
- Demolish and cart away old standpipes and make good the area.
- Construct soak ways
- Make good concrete on drinking fountains
- Supply and install brass lockable taps complete with padlocks
- Pressure test all reticulations
- Clean up the whole site and remove rubble from site.
- Supply and install ASIDI customized 5kl water tank
- Close existing borehole shaft by welding a metal plate on top of the opening and cast concrete around it.

INDEPENDENT DEVELOPMENT TRUST**COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS****TENDER NO. DOEEC/02/2023/2024****MBHASHE SP**

- Supply and erect 1.8m high security fencing at elevated tank stand complete with galvanized post cast into concrete blocks and a lockable pedestrian gate
- Supply and install new pump with Duty point of 15m Head @ 2 l/s
- Construct a pump chamber complete
- Construct concrete V-drains
- Construct valve chambers with top covers plastered inside
- Backfill with topsoil around all rainwater harvestings tanks
- Supply and fit 1.2m wide pedestrian gate complete with hinges, locking devices, posts, and padlock
- Supply and Install brass lockable taps
- Construct soak ways complete
- Demolish and cart away old standpipes complete and make good the area.
- Pressure test all reticulations.
- Clean up the whole site and remove rubble from site.

NGOSWANA SP

- Supply and erect 1.8m high security fencing at elevated tank stand complete with galvanized post cast into concrete blocks
- Install brass ball valve/float switch with accessories in 10kl ground tank and 10kl header tank
- Supply and install lockable taps on standpipes
- Demolish and cart away existing drinking fountains and make the area good
- Cast concrete around rainwater tanks, concrete to have a wood float finish.
- Construct concrete V-drains
- Construct Rainwater tank stands
- Construct Valve chamber complete
- Supply and Install Brass lockable taps with 50mm "Viro" padlocks
- Clean up the whole site and remove rubble from site.
- Realign the existing gutter to drain in one direction
- Supply and install 5000L Polyethylene rainwater ASIDI customised tank
- Construct Drinking fountain complete with a stainless-steel pressing tap
- Supply and fit 1.2m wide pedestrian gate complete with hinges, locking devices, posts, and padlock
- Secure all water tanks using hoop irons as tie-downs.

1.4 Location of the works

Cluster 2					
Project Type	Contract	ID	School Name	East	South
Water	2B	1	CIBINI JS	28.37669	-31.72753
Water	2B	2	FULINZIMA JP	28.44594	-31.71958
Water	2B	3	KUYASA JS	28.38022	-31.64156
Water	2B	4	LAPHUMIKWEZI SP	28.4705	-31.6166
Water	2B	5	MBASHE SPS	28.3666	-31.7579
Water	2B	6	NGOSWANA SPS	28.40204	-31.59833

2 DRAWINGS

2.1 General

The drawings as listed in *Table 2.1* form part of the tender documents and shall be used for tender purposes only. Revised drawings will be issued for construction purposes.

The Contractor will be supplied with an unreduced paper print of each of the drawings. These prints will be issued free of charge and the Contractor shall make any additional prints he may require at his own cost.

Any information in the possession of the Contractor necessary for the Resident Engineer to complete his as-built drawings shall be supplied to the Resident Engineer before a Certificate of Completion will be issued.

Only figured dimensions shall be used and drawings may not be scaled unless so instructed by the Engineer. The Engineer will supply and figured dimensions, which may have been omitted from the drawings.

The levels given on the structural drawings are subject to confirmation on the site, and the Contractor shall submit all levels to the Engineer for confirmation before he commences any structural construction work. The Contractor shall also check all clearances given on the drawings and shall inform the Engineer of any discrepancies.

2.2 List of Contract Drawings prepared by Employer

The drawings tabulated in *Table 2.1* below form part of the Contract.

Table 2.1: List of Drawings Complete

DRAWING NO	DESCRIPTION
CD01	4.5m High Elevated Water tank (5000l or 10000l) Details and Sections
CD02	Drinking Water Rainwater Storage
CD03	Standpipe Details
CD04	Drinking Fountain Detail
CD05	Pump house Floor Details
CD06	Borehole Pump Installation Details
CD07	Road Crossing, Pipe Bedding and Concrete Encasement Details
CD08	Schematic Layout of New Proposed Water Infrastructure
CD09	Gate Valve and Chamber Detail
CD10	Thrust Block in Pressure Pipeline for 90° Bend
CD11	Thrust Block in Pressure Pipeline for 45°, 22.5° & 11.25° Bends
CD12	Thrust Block in Pressure Pipeline for Tee
CD13	Thrust Block in Pressure Pipeline for Reducer
CD14	Borehole Fencing Details
CD15	Pump Chamber Detail
C08	Site Development Plan – Cibini JSS
C09	Site Development Plan – Fulinzima JSS
C10	Site Development Plan – Kuyasa JSS
C11	Site Development Plan – Laphumikwezi SPS
C12	Site Development Plan – Mbashe SPS
C13	Site Development Plan – Ngoswana SPS

3 PROCUREMENT

3.1 Preferential procurement procedures

SANS 10396: 2003 and SANS 1914-1 to 6: 2002 are applicable to this Contract, as detailed further in the Tender component of this document.

3.1.1 Requirements for the sourcing and engagement of labour.

3.1.1.1 Labour required for the execution of all labour intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

3.1.1.2 The rate of pay set for this project is as follows:

Description	Daily wage for 7 hour work day (Minimum)	Important Note to Bidders
Unskilled labour	R 120.00	NB: Rates are just a guide. Bidders are to check and verify rates used in the area from Local Department of Labour.
Semi-skilled labour	R 160.00	
Skilled labour	R 190.00	
Supervisor	R 230.00	

3.1.1.3 Tasks established by the contractor must be such that:

- a) the average worker completes 5 tasks per week in 40 hours or less; and
- b) the weakest worker completes 5 tasks per week in 55 hours or less.

3.1.1.4 The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 3.1.1.3.

3.1.1.5 The Contractor shall, through all available community structures, inform the local community of the labour intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:

- a) where the head of the household has less than a primary school education;
- b) that have less than one full time person earning an income;
- c) where subsistence agriculture is the source of income;
- d) those who are not in receipt of any social security pension income

3.1.1.6 The Contractor shall endeavor to ensure that the expenditure on the employment of temporary workers is in the following proportions:

- a) 25 % women;
- b) 50% youth who are between the ages of 18 and 25; and
- c) 2% on persons with disabilities.

3.1.2 Specific provisions pertaining to SANS 1914-5

3.1.2.1 Definitions

3.1.2.1.1 Targeted labour: Unemployed persons who are employed as local labour on the project.

3.1.2.2 Contract Participation Goal

3.1.2.2.1 The minimum Contract Participation Goal applicable to the Contract is 30%.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

- 3.1.2.2.2 The wages and allowances used to calculate the contract participation goal shall, with respect to both time-rated and task rated workers, comprise all wages paid and any training allowance paid in respect of agreed training programmes. The Person / days will be calculated in accordance with Addendum F: Contract Person / Days Calculation Format.

3.1.2.3 Terms and conditions for the engagement of targeted labour

- 3.1.2.3.1 Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts to be signed between the Contractor and workers will be in accordance with the pro-forma contract, attached as Addendum D.

- 3.1.2.3.2 Further to the provisions of clause 5.2 of SANS 1914-5, the Contractor will use the pro-forma attendance register, attached as Addendum E, to record the required information as per said clause.

3.1.2.4 Variations to the SANS 1914-5

None

3.2 Subcontracting

3.2.1 Scope of mandatory subcontract work

As per the mandatory sub-contracting clause, the Contractor must not sub-contract more than 30% of work to Domestic Sub-contractors.

The Contractor shall without delay enter into contracts with the Domestic Subcontractors as submitted on the returnable schedule and forward a copy of these agreements to the Principal Agent. The Contractor shall remain responsible for providing the subcontracted portion of the works as if the work had not been subcontracted.

The Contractor to take note of item 3.2.2 below

3.2.2 Preferred subcontractors / suppliers

3.2.3 Subcontracting procedures

See items 3.2.1 and 3.2.2 as well as tender data

3.2.4 Attendance on subcontractors

Attendance to Domestic Sub-contractors as stated above should be priced under the relevant items in the Preliminaries section of the bills of quantities. Attendance to nominated sub-contractors should be priced under the relevant items in the Provisional Sums section of the bills of quantities.

4. MANAGEMENT

4.1 MANAGEMENT OF THE WORKS

4.1.1 Applicable Standards

The Contractor is referred to SANS 1921: 2004 parts 1, 2 and 3: Construction and Management Requirements for Works Contracts. These specifications shall be applicable to the Contract under consideration and the Contractor shall comply with all requirements relevant to the project.

Certain aspects however require further attention as described hereafter.

4.1.2 Planning and Programme

The Contractor is required to submit for approval by the Engineer, within the timeframe stipulated in the Contract Data, a programme of works. The programme must be for the full contract period stipulated in the Contract Data and must clearly indicate all the main construction activities, their sequence and the critical path. The Contractor may not proceed with construction activities until such time as the programme has been approved by the Engineer.

The Contractor is required to report on and update the programme on a monthly basis.

The Contractor shall be deemed to have allowed fully in his tendered rates and prices as well as in his programme, for all possible delays due to normal adverse weather conditions and special non-working days as specified in the Contract Data.

The following constraints shall be taken into account in preparing the construction programme:

- a) The Contract time is **4 months**. Plant and personnel requirements to complete the project in the contract period must be incorporated in the Tender.

If during the time for completion of the Works or any extension thereof abnormal rainfall or wet conditions occurs, then the formula below shall be used to calculate separately the delay for each calendar month or part thereof. It shall be calculated each month during the period referred to in Clause 42.1 as the time for the completion of the Works and any extension time in accordance with Clause 42 that may have been granted by the Employer, or until the issue date of the certificate of practical completion, whichever is the shorter period. The delay calculated for a given month shall be used to determine the interim extension of time granted for the month. At the end of the applicable period referred to above, the aggregate of the monthly delays will be taken into account for the final determination of the total extension of time for the Contract:

$$V = (Nw - Nn) + \frac{(Rw - Rn)}{X}$$

If any value of V is negative and its absolute value exceeds Nn, then V shall be taken as equal to minus Nn.

The delay for a part of a month shall be calculated by substituting pro-rata values for the variables in the equation.

The symbols shall have the following meanings:

V	=	Delays due to rain in calendar days in respect of the calendar month under consideration.
Nw	=	Actual number of days during the calendar month on which a rainfall of Y mm or more per day has been recorded.
Rw	=	Actual rainfall in mm for the calendar month under consideration.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Nn	=	Average number of days in the relevant calendar month (as derived from existing rainfall records provided in the project specifications) on which a rainfall of Y mm or more per day has been recorded.
Rn	=	Average rainfall in mm for the calendar month, as derived from the rainfall records supplied in the project specifications.
X	=	20, unless otherwise provided in the project specifications.
Y	=	10, unless otherwise provided in the project specifications.

The total delay that will be taken into account for the determination of the total extension of time for the Contract shall be the algebraic sum of the monthly totals for the period under consideration. But if the grand total is negative, the time for completion shall not be reduced on account of abnormal rainfall. The total extension of time for any calendar month shall not exceed $(N_c - N_n)$ calendar days, where N_c = number of days calendar days in the month under consideration.

The factor $(N_w - N_n)$ shall be considered to represent a fair allowance for variations from the average number of days during which rainfall equals or exceeds Y mm per day.

The factor $(R_w - R_n) \div X$ shall be considered to represent a fair allowance for variations from the average for the number of days during which rainfall does not equal or exceed Y mm per day, but wet conditions prevent or disrupt work.

This formula does not take into account any flood damage, which could cause further or concurrent delays and which should be treated separately in so far as extension of time is concerned.

Accurate rain gaugings shall be taken at a suitable point on the site daily at 08H00 unless otherwise agreed to by the Engineer, and the Contractor shall, at his own expense, take all necessary precautions to ensure that the rain gauges cannot be interfered with by unauthorised persons.

Information regarding existing rainfall records, if available from a suitable rainfall station near the site, will be supplied in the project specifications, together with calculations of rain delays for previous years in accordance with the above formula. The average of these delays will be regarded as normal rain delays which the Contractor shall accommodate in his programme, and for which no extension of time will be considered.

CALENDAR MONTH	EXPECTED NUMBER OF WORKING DAYS LOST DUE TO NORMAL RAINFALL	AVERAGE MONTHLY RAINFALL (mm)
January	4	114
February	4	110
March	4	106
April	3	49
May	2	26
June	1	15
July	1	18
August	2	21
September	2	46
October	3	74
November	4	99
December	4	104
TOTAL	34 days	783 mm

4.1.3 Sequence of the Works

Prior to commencing with construction, the Contractor is required to obtain approval from the Engineer, of his intended sequencing of the work.

4.1.4 Methods and procedures

The Contractor is required to undertake all construction activities in an orderly fashion and to maintain the cleanliness of the site during the contract period, to the satisfaction of the Engineer.

The Contractor is required to take note of and comply with the requirements of the Environmental Management Plan contained in this document. Monthly audits will be conducted by others to ensure compliance thereto. During the setting out of the works, guidance should be sought from the Engineer prior to the removal of trees and shrubs.

No blasting operations may be undertaken without the approval of the Engineer. The requisite documentation indicating the competence of the blaster, the approvals of the relevant authorities and the method statement for each blast, are required for approval purposes.

Adequate materials should be available from the site. The Engineer will however indicate as required, the location of suitable borrow pits. These shall be opened and managed in accordance with the requirements of the Environmental Management Plan.

All suitable excess materials may be spread over the trench width. However, no rocks or boulders greater than 0.15m³ or of mass exceeding 25kg, may be placed within 2 m of the centreline of pipeline. Such materials are to be disposed at suitable locations within the freehaul distance.

The Contractor shall pay special attention to the management and disposal of water and stormwater on the site and the conservation of topsoil and the rehabilitation of the site. It is essential that all completed works or parts thereof are kept dry and properly drained. Furthermore, portions of the Works must be completed and suitably rehabilitated before moving onto new portions of the Works.

The Engineer reserves the right to limit the number of working fronts to ensure that the above is adhered to. Claims for delay and for repair of damage caused to the works as a result of the Contractor's failure with the above or to properly manage rain and surface water will not be considered.

The Contractor shall take all reasonable measures to maintain access to properties and a free flow of traffic during the construction of the works. Where it is this required to disrupt access and the free flow of traffic, it must be kept to a minimum, be of short duration and adequate notice and traffic accommodation measures must be provided. Furthermore, the approval of the Engineer must be sought in advance of any planned disruption.

The Contractor is to undertake all reasonable measure to minimize dust, noise, water, waste and other impediments and shall comply with the requirements of the Environmental Management Plan contained in this document.

The Contractor is required to obtain permission from the Engineer prior to working outside normal working hours.

The Contractor will be obliged to comply with the QA system of the Engineer, which dictates the requirements pertaining to inspections required prior to covering works.

4.1.5 Quality plans and control

The Contractor will be solely responsible for the production of work that complies with the Specifications to the satisfaction of the Engineer. To this end it will be the full responsibility of the Contractor to institute an appropriate Quality Assurance (QA) system on site. However,

the Contractor will also be required to comply with certain QA systems imposed by the Engineer, concerning to the approval of works o temporary works.

Process Control:

The Contractor shall arrange for all tests required for process control to be done by a laboratory acceptable to and approved by the Engineer.

The Contractor may employ the services of an independent commercial laboratory and must submit the results of tests carried out on materials and workmanship when submitting work for acceptance by the Engineer. The costs for these tests shall be deemed to be included in the relevant rates and no additional payment will be made for testing as required.

Acceptance control:

The process control test results submitted by the Contractor for approval of materials and workmanship may be used by the Engineer for acceptance control. However, before accepting any work, the Engineer may have further control tests carried out by a laboratory of his choice. The cost of such additional tests will be covered by the Employer, but tests that failed to confirm compliance with the specifications, will be for the account of the Contractor.

4.1.6 Environment

The Contractor is required to undertake the construction of the Works in such a manner so as to minimize its impact on the environment. To this end, the Contractor is required to comply with the requirement of the Environmental Management Plan contained in Part 5 of this document.

4.1.7 Other contractors

No other construction works are envisaged to be undertaken during the construction of this Contract.

4.1.8 Testing, completion, commissioning and correction of defects

It is required that the reservoirs and pipelines undergo and comply with the requisite water tightness and pressure tests prior to the connection to any existing works. Only once the Engineer has satisfied himself with the adequacy on the initial tests, will the Contractor be allowed to commission the Works. A method statement for the commissioning of the works will however be required for approval in advance of the commissioning. Relevant acceptance testing will also comply to all pump stations prior to their connection to the rest of the works.

Should any components of the works not meet the requirements of the initial tests, they shall be repaired be the Contractor at his own costs, and be re-tested, prior to the commissioning of the works.

4.1.9 Recording of weather

The Contractor shall erect an effective rainfall gauge on the site and record the daily rainfall figures in a book. Such book shall be handed to the employer's representative for his signature no later than 12 days after rain that is considered to justify an extension of time occurs.

4.1.10 Management meetings

The Employer's Representative and the Contractor shall hold meetings relating to the progress of the works at regular intervals and at other such times as may be necessary. The Contractor shall attend all site meetings and shall ensure that all persons under his jurisdiction are notified timeously of all site meetings should the Employer's Representative require their attendance at such meetings.

The Contractor shall keep on site a set of minutes of all site meetings, daily records of resources (people and equipment employed), a site instruction book, a complete set of contract working drawings and a copy of the procurement document and make these available at all reasonable times to all persons concerned with the contract.

4.1.11 Forms for contract management

It is required that the Contractor submit the requisite progress, plant, labour and other pertinent information on a monthly basis, in the format to be provided by the Engineer, for the management of the contract and reporting to the Client and provincial and national government.

All site instructions are to be recorded in writing in triplicate on pro forma forms to be provided by the Engineer.

4.1.12 Daily records

It is required that a daily site diary of all plant and labour on site, and all details of work performed be maintained on site by the Contractor. Similar documentation will be maintained by the Engineer.

4.1.13 Bonds and guarantees

All bonds and guarantees required to be provide by the Contractor in undertaking his obligations in terms of this Contract, will be held in safe keeping by the Engineer, and returned to the Contractor as required in terms of the Contract.

4.1.14 Health and safety

It is a requirement of this contract that the Contractor provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons, who may be directly or indirectly affected by his activities, are not exposed to hazards to their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the OHSA 1993 Construction Regulations 2003 issued on 18 July 2003 by the Department of Labour.

For the purpose of this contract the Contractor is required to confirm his status as mandatory and employer in his own right for the execution of the contract by entering into an agreement with the Employer in terms of the Occupational Health and Safety Act contained in the Agreement and Contract Data.

*Health and Safety Specifications and Plans:***(a) Employer's Health and Safety Specification**

The Employer's Health and Safety Specification is included in Part 5 of this document.

(b) Health and Safety Plan

The Contractor shall submit his own documented Health and Safety Plan he proposes to implement for the execution of the work under the contract. His Health and Safety Plan must at least cover the following:

- (i) a proper risk assessment of the works, risk items, work methods and procedures in terms of Regulations 7 to 28;
- (ii) pro-active identification of potential hazards and unsafe working conditions;
- (iii) provision of a safe working environment and equipment;
- (iv) statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas (*Regulation 5*);
- (v) monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- (vi) details of the Construction Supervisor, the Construction Safety Officers and other competent persons he intends to appoint for the construction works in terms of Regulation 6 and other applicable regulations; and
- (vii) details of methods to ensure that his Health and Safety Plan is carried out effectively in accordance with the Construction Regulations 2003.

The Contractor's Health and Safety Plan will be subject to approval by the Employer, or

amended if necessary, before commencement of construction work. The Contractor will not be allowed to commence work, or his work will be suspended if he had already commenced work, before he has obtained the Employer's written approval of his Health and Safety Plan.

Time lost due to delayed commencement or suspension of the work as a result of the Contractor's failure to obtain approval for his safety plan, shall not be used as a reason to claim for extension of time or standing time and related costs

4.1.15 Unauthorized persons

The Contractor shall keep unauthorized persons from the works at all times. Under no circumstances may any person except guards be allowed to sleep on the building site.

4.1.16 Payment certificates

The Contractor to ensure that the VAT invoice required with each certificate is delivered timeously. The date of the certificate will be that of the date when the certificate is received by the consultant.

The Contractor to ensure timeous submission of all required documentation for the expedient processing of payment certificates, as required by the client, eg BAS entity forms, company registration details, VAT clearance certificates, etc. The Contractor is responsible for such documentation submission.

C3.2 Technical Specification

CC FENCING AND GATES

CONTENTS

CC 01	SCOPE
CC 02	STANDARD SPECIFICATIONS
CC 03	OPERATING AND MAINTENANCE MANUALS
CC 04	EXECUTION OF WORK
CC 05	QUALITY STANDARD
CC 06	MATERIALS
CC 07	MAINTENANCE
CC 08	MEASUREMENT AND PAYMENT

CC 01 SCOPE

This specification covers the materials, equipment, methods, and work required for the repair and upgrade of existing water distribution networks. This specification covers the repair and maintenance of fencing and gates.

Where a particular specification has been included in the documents to supplement Technical Specification CC: Fencing and gates, this technical specification shall act as a guideline to the Particular Specification and, in the event of any discrepancies between the Technical Specification and the Particular Specification, the latter shall take precedence. The Contractor shall at all times adhere to this technical specification, unless otherwise specified in the applicable Particular Specification.

CC 02 STANDARD SPECIFICATIONS

CC 02.01 GENERAL STANDARD SPECIFICATIONS, REGULATIONS AND CODES

The latest edition, including all amendments up to date of tender, of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall be deemed to form part thereof:

- SABS 763 - Hot-dip (galvanised) zinc coatings (other than on continuously zinc-coated sheet and wire) (1988)
- SABS 675 - Zinc-coated fencing wires (plain and barbed) (1993)
- SABS 1373 - Chain-link fencing and its wire accessories (1983)

CC 02.02 OCCUPATIONAL HEALTH AND SAFETY ACT OF 1993

All regulations and statutory requirements as laid down in the latest edition of the Occupational Health and Safety Act, 1993 (Act no 85 of 1993) shall be adhered to.

CC 02.03 MANUFACTURERS' SPECIFICATIONS, CODES OF PRACTICE AND INSTALLATION INSTRUCTIONS

All equipment and materials shall be installed, serviced and repaired strictly in accordance with the manufacturers' specifications, instructions and codes of practice.

CC 02.04 MUNICIPAL REGULATIONS, LAWS AND BY-LAWS

All municipal regulations, laws, by-laws and special requirements of the Local Authority shall be adhered to unless otherwise specified.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

CC 03 OPERATING AND MAINTENANCE MANUALS

No operation and maintenance manuals will be required for fencing and gates.

CC 04 EXECUTION OF WORK

The Contractor shall investigate and inspect all areas of the installation to confirm the extent of the repair work required and shall report to the Engineer. The Engineer will thereafter demarcate any areas to be repaired and shall instruct the Contractor with regard to the repair work to be done.

Any fencing work identified either by the Contractor or during inspection by the Engineer shall be carried out on the instruction of the Engineer.

The Contractor shall ensure that the necessary materials, skilled personnel, tools and equipment are available at all times to maintain the prison fence in a state of good repair.

The Engineer shall indicate where new fences are to be erected, or where repairs are necessary.

Wherever an opening has been made in the fence while repairing it, the area shall be guarded by a guard of the User Client. Under no circumstances shall a fence be left open or unattended at any time. Whenever a part of the fence is taken down to repair/replace it, it will be replaced within the same day it has been taken down.

Unless otherwise instructed by the Engineer, similar type fencing material to that in the existing fence line shall be used where fences are to be repaired.

CC 04.01 SCOPE OF WORK

Supply and erect 1.8m high galvanised fence with standard post at 4m cast into concrete blocks consisting of the following features: barbed wire, smooth wire, diamond mesh, tubular standard post, tubular straining post including anchors and corner post including anchors. Supply and fit 1.2m wide pedestrian gate complete with hinges, locking device, posts and padlock.

CC 04.02 CLEARING THE FENCE ROUTE

The fence route shall be cleared over a width of at least 0,5 m on each side of the centre line of the fence and surface irregularities shall be levelled so that the fence will follow the general contour of the ground.

The bottom of the fence shall be located at a uniform distance above the ground line, but no more than 50 mm.

CC 04.03 INSTALLATION OF POSTS AND STANDARDS

Posts shall be accurately set in holes and be provided with concrete bases to the dimensions specified.

Holes shall be dug to their full specified depth.

Posts shall be firmly planted into the ground at the same spacing as the existing posts or as instructed by the Engineer. The spacing of posts between any two straining posts shall be uniform.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

CC 04.04 ERECTING FENCE WIRES

All fencing wire shall be wired to the sides of posts in order to prevent the wires from being displaced or becoming loose. The wire shall be carefully strained and hung without sag, and with true alignment, care being exercised not to strain the wire so tightly that it will break or that end, corner, straining or gate posts will be pulled up.

Each strand of fencing wire shall be securely fastened in the correct position to each post with soft galvanised binding wire.

Splices in the fencing wire shall be permitted if made in the following manner using a splice tool. The end of each wire at the splice shall be carried at least 75 mm past the splice tool and wrapped snugly around the other wire for not less than six complete turns, the two separate wire ends being turned in opposite directions. After the splice tool is removed the space left by it in the splice wire shall be closed by pulling the wire ends together. The unused ends of wire shall be cut close so as to leave a neat splice.

CC 04.05 ERECTING DIAMOND MESH OR WIRE NETTING

Wire netting or diamond mesh shall be stretched against the fence and properly secured to the fencing wire. The diamond mesh or wire netting shall be secured by means of soft binding wire at 1,2 m centres along the top and bottom wires and at 3 m centres along each of the other fencing wires unless otherwise specified.

CC 04.06 CLOSING OPENINGS UNDER FENCES

At ditches, drainage channels or other hollows where it is not possible to erect the fence so that it follows the general contour of the ground, the Contractor shall cover the openings with wire netting or diamond mesh fixed to the fence.

CC 04.07 EXISTING FENCES

Where a new fence joins an existing fence, whether in line or at an angle, the new fence shall be erected with a new straining post positioned at the terminal of the existing fence.

CC 04.08 GATES

Gates shall be hung on gate fittings in accordance with the requirements specified. The gates shall be so erected that they swing in a horizontal plane at right angles to the gateposts, clear of the ground in all positions.

Double swing gates shall not leave a gap of more than 25 mm between them when closed and other gates shall not be further than 25 mm from the gatepost when closed. The clearance below the gates shall not exceed 75 mm with the gates closed.

CC 04.9 ERECTING NEW FENCING MATERIAL

All new material used to replace old material shall be similar to the old material replaced unless a new material is specified by the Engineer.

CC 05 QUALITY STANDARD

The completed fences shall be plumb, taut, true to line and ground contour, with all posts, standard and stays firmly set.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

The Contractor shall, on completion of each section of fence, remove all cut-offs and other loose wire or netting so as not to create a hazard to grazing animals or a nuisance to the owners of the ground.

CC 06 MATERIALS

CC 06.01 POSTS

CC 06.01.01 Steel posts

New posts or posts that need to be replaced shall be of the same type and size as the existing posts. Tubular posts shall be galvanised in accordance with SABS 763 for Class B1 articles or shall be painted as specified and have a minimum wall thickness of 2,00 mm.

Tubular stays shall have a minimal bore of at least 60 mm and a wall thickness of at least 2,00 mm. These stays shall be galvanised as specified In SABS 763 or shall be painted as specified.

CC 06.02 WIRE

CC 06.02.01 Barbed wire

Barbed wire shall comply with the requirements of SABS 675 and shall be one or more of the following types:

- (a) High-tensile grade, oval shaped, single-strand wire, 3,15 mm x 2,50 mm (2,81 mm equivalent diameter), and fully galvanised;
- (b) High-tensile grade, oval shaped, single-strand wire, 2,80 mm x 1,90 mm (2,31 mm equivalent diameter), fully galvanised (first class coating). This wire shall not be used less than 500 mm above ground where there is danger of grass fires;
- (c) Mild-steel grade, double strand, unidirectional twist wire, each strand 2,50 mm diameter, for use at any height above ground. The wire shall be fully galvanised;
- (d) Barbs shall be manufactured from 2,0 mm galvanised wire and shall be spaced at not more than 152 mm.

CC 06.02.02 Barbed tape coil

Barbed tape coil shall comply with the requirements for type A in CKS 592 and shall consist of close-coiled, high-tensile wire with a continuous strip of flat steel barbs (barbed tape) crimped to the wire along the entire length of the wire.

The high-tensile wire shall be Class B galvanized. The barbed tape shall be made of cold-roller carbon steel and galvanized to Class 2450.

CC 06.02.03 Smooth wire

Smooth wire shall comply with the requirements of SABS 675 and shall be of the types specified below:

- (a) Straining wire shall be 4,0 mm diameter and fully galvanised.
- (b) Fencing wire shall be high-tensile grade, 2,24 mm diameter wire fully galvanised.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

- (c) Tying wire shall be 2,50 mm diameter, mild steel, galvanised wire for tying fencing wire to standards and droppers, and 1,60 mm diameter, mild steel, galvanised wire for typing netting and mesh wire to fencing wire.

CC 06.03 **DIAMOND MESH**

- (a) Diamond mesh (chain-link) fencing shall comply with the requirements of SABS 1373. The edge finish shall be both sides clinched or barbed.
- (b) The nominal diameter of the wire shall be 2,5 mm and the mesh size shall be 64 x 64 mm.
- (c) The wire shall be fully galvanised.

2.1.2.1.1 CC 06.04 WELDED MESH

Wire netting shall be fully galvanised with mild steel wire with a minimum diameter of 1,8 mm and 75 mm mesh.

2.1.2.1.2 CC 06.05 MANUFACTURING TOLERANCES FOR WIRE

The actual diameter of wire supplied shall nowhere be less than the specified diameter by more than the following tolerances:

Specified diameter	Tolerance
1,00 - 1,8 mm	0,05 mm
2,00 - 2,8 mm	0,08 mm
3,15 - 4,0 mm	0,10 mm

CC 06.06 **GATES**

New gates or gates that need to be replaced shall be the same type and size as existing gates. Gates shall be galvanised in accordance with SABS 763 for class B1 articles or shall be painted as specified.

CC 08 **MEASUREMENT AND PAYMENT**

- CC.01 **CLEARING FENCE ROUTE 1 m WIDE STRIP** Unit: metre (m)
The unit of measurement for the clearing of the fence route shall be the metre of fence line measured along each fence line.

The tendered rate shall include full compensation for the clearing of the fence line as specified, including the removal of stones and other obstructions and the disposal as directed of all material resulting from clearing operations.

CC.02 **SUPPLY AND ERECTION OF NEW FENCING MATERIAL TO REPLACE OLD MATERIAL:**

- (a) Barbed wire Unit: metre (m)
- (b) Smooth wire Unit: metre (m)
- (c) Diamond mesh..... Unit: metre (m)
- (d) Wire netting..... Unit: metre (m)
- (e) Barbed tape coil..... Unit: metre (m)

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

- (f) Posts Unit: number
- (g) Gates Unit: number
- (h) Y-standards Unit: number

The quantity of material used shall be determined by measuring the quantities of individual items of material installed in the completed fence. Clearing of the fence line will be paid for under item CC.01. Removal and disposing of the existing fencing material shall be deemed included in the rate for new material.

The applicable units of measurement are as follows:

- (a) Fencing wire and basked tape coil
The unit of measurement shall be the metre of each type of fencing wire measured in place and between end posts. Binding wire and wire used for bracing and anchoring of posts shall not be measured for payment. Barbed tape coil shall not be measured along the coiled wire but also between end posts.
- (b) Diamond mesh and wire netting
The unit of measurement shall be the square metre of diamond mesh or wire netting and the quantity shall be calculated using the prescribed width and the length between straining posts or gate posts, or the length of strips for covering openings under fences, or the length used for the covering of gates.
- (c) Posts
The unit of measurement shall be the number of posts, as follows:

All straining posts erected in accordance with the maximum specified spacing or such lesser spacing as authorised by the Engineer, all corner and gateposts authorised by the Engineer and all end posts. Gate posts for new gates shall not be measured for payment.
- (d) Gates
The unit of measurement shall be the number of each type of gate repaired or replaced.

CC.04 **REDRESS, TREAT AND PAINTING OF FENCE** Unit: metre (m)

The unit of measurement for the redressing (tightening, repairing and patching), treating and painting the fence line shall be the metre of fence line measured along each fence line.

The tendered rate shall include full compensation for performing minor repairs, tightening the fence, patching damaged areas, treating the existing fence with an approved rust remover/inhibitor and then applying cold galvanising as specified by the Engineer.

CC.05 **TREATING AND PAINTING OF POLES** Unit: metre (m)

The unit of measurement for the treating and painting of poles shall be the metre of pole as instructed by the Engineer.

- (a) For steel posts

The tendered rate shall include full compensation for treating the existing poles with an approved **rust remover/inhibitor** and the applying **cold galvanising** as specified by the Engineer.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

CE WATER DISTRIBUTION NETWORKS

CONTENTS

CE 01	SCOPE
CE 02	STANDARD SPECIFICATIONS
CE 03	OPERATING AND MAINTENANCE MANUALS
CE 04	EXECUTION OF REPAIR WORK
CE 05	TESTS AND INSPECTIONS ON COMPLETION OF REPAIR WORK
CE 06	QUALITY ASSURANCE SYSTEM
CE 07	MAINTENANCE TO INSTALLATION SYSTEMS AND REPAIR WORK
CE 08	MEASUREMENT AND PAYMENT

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

CE 01

SCOPE

This specification covers the materials, equipment, methods, testing and work required for the repair and upgrade of existing water distribution networks at the police station. Such distribution networks may comprise:

- | | |
|-----|------------------------------------|
| (a) | Primary and secondary distribution |
| (b) | pipelines |
| (c) | Valves |
| (d) | Bulk water meters |
| (e) | Domestic water meters |
| (f) | Chambers |
| (g) | Pumping stations |
| (h) | Borehole installations |
| | Reservoirs. |

This specification shall form an integral part of the repair and upgrade contract document and shall be read in conjunction with portion 3: Additional Specifications included in this document.

Where a particular specification has been included in the documents to supplement Technical Specification CE: Water distribution networks, this technical specification shall act as a guideline to the Particular Specification and, in the event of any discrepancies between the Technical Specification and the Particular Specification, the latter shall take precedence. The Contractor shall at all times adhere to this technical specification, unless otherwise specified in the applicable Particular Specification.

CE 02

STANDARD SPECIFICATIONS

CE 02.01

GENERAL STANDARD SPECIFICATIONS, REGULATIONS AND CODES

The latest edition, including all amendments up to date of tender, of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall be deemed to form part thereof:

- | | | |
|--------------|---|----------------------------|
| SANS 1200 D | - | Earthworks |
| SANS 1200 DB | - | Earthworks (pipe trenches) |
| SANS 1200 G | - | Concrete (structural) |
| SANS 1200 L | - | Medium-pressure pipelines |
| SANS 1200 LB | - | Bedding (pipes) |

CE 02.02

OCCUPATIONAL HEALTH AND SAFETY ACT OF 1993

All regulations and statutory requirements as laid down in the latest edition of the Occupational Health and Safety Act, 1993 (Act no 85 of 1993) shall be adhered to.

CE 02.03

MANUFACTURERS' SPECIFICATIONS, CODES OF PRACTICE AND INSTALLATION INSTRUCTIONS

All equipment and materials shall be installed, serviced and repaired strictly in accordance with the manufacturers' specifications, instructions and codes of practice.

CE 02.04

MUNICIPAL REGULATIONS, LAWS AND BY-LAWS

All municipal regulations, laws, by-laws and special requirements of the Local Authority shall be adhered to unless otherwise specified.

CE 03

OPERATING AND MAINTENANCE MANUALS

The Contractor shall at the start of the Contract be given all available as-built information and operating and maintenance manuals.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

The Contractor shall be responsible for the compilation of an inventory list and operating and maintenance manuals.

This shall be done in accordance with Additional Specification SB: Operating and Maintenance manuals.

CE 04 **EXECUTION OF REPAIR WORK**

CE 04.01 **GENERAL**

The Contractor shall investigate and inspect all areas of the installation to confirm the extent of the repair work required and shall report to the Engineer. The Engineer will thereafter demarcate any areas to be repaired and shall instruct the Contractor with regard to the repair work to be done.

All repair work shall be executed using approved materials and equipment suitable to the systems and/or installations they serve.

All materials and equipment shall comply fully with the requirements as specified for each installation.

The said repair work shall be executed in accordance with the relevant codes of practice, standards, regulations, municipal laws and by-laws, manufacturer's specifications and codes of practice and all additional and particular specifications included in this document.

All new equipment, materials and systems shall be furnished with a written guarantee with a defects liability period of 12 months from date of completion of repair work. These guarantees shall be furnished in favour of the Department of Basic Education. On completion of the required and specified repair work the systems, installations and equipment shall be commissioned and handed over if the satisfaction of the Engineer has been obtained.

Repair work items for the water distribution systems shall be categorised under the following headings:

- (a) Repair of existing pipelines
- (b) Cleaning of existing pipelines
- (c) Repair of fittings
- (d) Repair of existing structures.

CE 04.02 **REPAIR OF EXISTING PIPELINES**

This section covers the requirements for the repair of the water distribution pipelines for defects such as pipe breaks and leakage for distribution pipelines.

CE 04.02.01 **General**

Repair work to the water distribution system is detailed in the Particular Specification and may include but not be limited to the following:

- (a) Replacement of damaged, broken, leaking, corroded surface and underground pipework and fittings;
- (b) Replacement of damaged, broken and missing manhole covers and frames;
- (c) Repair work to damaged manholes;
- (d) Initial unblocking and clearing of all water distribution pipes and manholes;
- (e) Repair and upgrading of the water distribution system where necessary;
- (f) Introduction of additional connections to the water distribution system;
- (g) Removal of unauthorised connections;

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

- (h) Reinstatement and making good of walls, concrete, road surfaces, etc, to an approved acceptable level where any repair, upgrade and/or service work has been executed;
- (i) Video surveying of all underground drainage pipework to establish root ingress, damaged pipework, fat build-up, blockages, incorrect falls, sagging and as-built information. This survey shall be utilised to establish the extent of repair and upgrade work to be executed;
- (j) Test pipe system for leakage;
- (k) Repair, replace and service valves, which shall include new gaskets, gland packings, seals, bolt and nuts, etc;
- (l) Where valves do not close properly, all these valves shall be refurbished, descaled and if necessary replaced;
- (m) Repair, clean and service all strainers, including the replacement of strainer elements where corroded and installation of new gaskets;
- (n) Repair, service, test and readjust pressure-reducing valves. Pressure gauges are to be recalibrated and checked. Up and downstream pressures are to be logged. Downstream pressure has to be adjusted to an acceptable level, taking into account the allowable working pressure of the system and its components;
- (o) Repair, service and check the proper functioning of all non-return valves;
- (p) Repair, service, readjust and calibrate all safety and expansion relief valves;
- (q) Repair, service and clean out all air release valves and vacuum breakers;
- (r) Repair, service and log readings of water meters including cleaning of integral strainers;
- (s) Water storage tanks are to be emptied, cleaned out, repaired, sealed and put back into operation. Ball float and/or filling valves to these tanks are to be serviced and repaired where required;
- (t) Water pipes are to be sampled for corrosion and scaling. The Engineer will evaluate the actions to be followed if the outcome of this sampling requires attention;
- (u) Water supply has to be sampled and chemically analysed for the suitability to the systems and materials it serves;
- (v) Pressure test and sterilise repaired new installation and equipment;
- (w) Reinstatement and making good of walls, tiling, floors, concrete, finishes, holes, chases, surfaces, etc, to an acceptable level where repair, upgrade and/or service work have been executed.

CE 04.02.02 Construction

The Engineer will indicate the pipeline sections in need of repair and shall instruct the Contractor with regard to the repair work to be done.

(a) Excavation

The width of the excavation shall be sufficient to allow the proper laying, bedding and backfilling of the pipelines. The width of the excavation for each type and size of pipeline shall be as set out in SANS 1200 DB.

The depth of the excavation for each type and size of pipeline shall depend on site conditions and the amount by which the excavation is to exceed the proposed level of the invert of the pipeline and shall be sufficient to allow the type and thickness of bedding material instructed by the Engineer.

Where excavation is to be carried out through asphalt premix or concrete, the asphalt/concrete shall be cut neatly and vertically with approved sawing equipment before the asphalt/concrete is removed.

Cutting, breaking out and replacing of concrete pavements will be paid under Subclause CA.02.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Excavations shall extend such that, where possible cut in may be reduced by lifting adjacent pipes.

(b) Classification of excavation

All excavations shall be classified as follows for payment purposes:

(i) Hard material

Material which cannot be excavated except by drilling and blasting or with the use of pneumatic tools or mechanical breakers and boulders exceeding 0,10 m³ shall be classified as hard material.

Where more than 40% of any material (by volume) consists of boulders each exceeding 0,10 m³ in size, the material shall be classified as hard material.

(ii) Soft material

All material not classified as hard material shall be classified as soft material.

Notwithstanding the above classification, all material excavated from previously constructed fills, subgrades and subbases shall be classified as soft material.

(c) Disposal of excavated material

Where excavated material does not comply with the requirements for backfilling material as specified or is surplus to backfilling requirements, such excavated material shall be removed from the site.

Material suitable for use in the works, however, shall be used as prescribed.

(d) Removal of damaged pipelines

Where indicated by the Engineer damaged sections of pipelines shall be completely removed and replaced.

(e) Pipe couplings

Repair sections will be joined, utilising existing pipe sockets and collars where possible.

Repair couplings shall be used with the approval of the Engineer.

(f) Laying of mPVC pipelines

New sections of mPVC pipelines shall be laid on a granular bed suitable for flexible pipelines as directed by the Engineer. The inside of the pipes shall be smooth and without any displacement and all pipes shall be laid true to line and level with a minimum slope of 2% or as directed by the Engineer.

Refer to SANS 1200 LB: Bedding (pipes), for the specification on bedding.

(g) Laying of asbestos cement, concrete or galvanised mild steel pipelines

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

New sections of the pipelines shall be laid on class A or B bedding as directed by the Engineer. The inside of the pipes shall be smooth and without any displacement and all pipes shall be laid true to line and level with a minimum slope of 2% or as directed by the Engineer.

Refer to SANS 1200 LB: Bedding (pipes), for the specification on bedding.

(h) Rock foundation

Where rock, shale or hard material is encountered on the bottom of excavations a bed of fine material as required for class B bedding shall be placed before laying the pipe.

(i) Concrete encasement

Where instructed by the Engineer pipes shall be encased in concrete. All such encasing shall be done in accordance with the Engineer's instructions and sufficient allowance shall be made for movement joints.

(j) Extension of existing pipelines

Where existing pipelines require extension or where damaged sections are replaced the new sections shall be placed at the same grade and, where they join the existing service, at the same level as the existing pipeline.

Existing chambers or other structures which may obstruct any new work shall be demolished and removed. The demolition and reconstruction of new structures shall be paid for under the relevant sections in the specification.

(k) Construction in existing roads

Road crossings shall either be constructed utilising sufficient provision of bypass roads or utilising the half width of the road. At all times a through route shall be maintained for all traffic.

(l) Repairing of leaks

Where leaks occur at pipe sockets or collars the affected section shall be cut from the pipeline and repaired using repair couplings.

Where obvious leaks occur due to displaced sealing rubbers, the rubbers shall be replaced if the replacement can be done economically by lifting adjacent pipes.

(m) Replacement of pipes damaged by exposure to extensive ultraviolet light

Pipes damaged as a result of excessive exposure to sunlight shall be replaced where indicated by the Engineer.

CE 04.02.03 Quality standard

Pipelines shall be laid at even gradients within the points of correction, to the satisfaction of the Engineer and the applicable specifications.

CE 04.02.04 Materials

Materials and equipment to be used for repair items shall be suitable and/or adaptable to the existing installation and shall comply with the following:

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

(a) Supercast cast-iron pipes and fittings

Supercast cast-iron pipes can be used for underground and above ground installations. Plain-ended cast-iron pipes and fittings shall be used, manufactured from 150, Grade A, grey iron in accordance with SANS 1034. Fittings and pipes shall be free of pinholes, blowholes, blemishes, flash and foundry sand and have a smooth bore. All pipes and fittings shall be sand blasted and coated on the inside and outside by submersion in a corrosion inhibiting oxide primer or bitumen paint.

The pipes and fittings shall be joined by means of stainless steel neoprene couplings as supplied by the manufacturer's of the pipe system. The coupling shall be installed according to the manufacturer's specification and is to be tightened with a torque wrench to a torque of 6,8 Nm.

(b) mPVC pipe and fittings under ground

mPVC pipes and fittings can be used for above ground installations.

For pipe sizes larger than 160 mm diameter, mPVC pressure pipe to SANS 966 shall be used with prefabricated mPVC bends and junctions. Prefabrication shall be done by means of hot-air welding of fittings to be covered with three layers of fibreglass reinforced lining over welded sections. The resin to be used shall be as specified by the manufacturer for usage with PVC. Bends shall be manufactured out of 3 to 4 sections per bend. Pipe joints shall be done by means of couplings fixed with solvent cement for PVC piping. This joint shall be reinforced with a fibreglass lining of three layers.

Piping is to be supported and bracketed with properly sized and designed brackets consisting of two half sections clamped over the pipe and hung with two hanger rods.

Pipes are to be pressure tested in sections as specified in this specification.

(c) Prefabricated galvanised steel piping and fittings above ground

Prefabricated galvanised steel piping can be used for above ground rainwater drainage systems. The pipe to be used shall be plain-ended medium gauge uncoated pipe to SANS 62, galvanised to SANS 763. All fittings are to be manufactured out of the same material, welded with flanged ends or rolled ends to fit clambon fittings. Fittings are only to be galvanised after manufacturing. All joints are to be either flanged or equipped with clambon couplings. All fittings and junction to be 45° sections.

The pipe system must be properly secured and bracketed at regular intervals with correctly sized and designed galvanised brackets.

Pipes are to be pressure tested in sections as specified in this specification.

(d) HDPE pipe and fittings

HDPE pipes and fittings can be used for underground installations where specified. Pipes shall be plain ended and only HDPE bends and fittings shall be used. Jointing of pipes and fittings shall be done by butt welding, electro-sleeve couplings and/or flanged joints. Pipes and fittings shall only be installed by approved installers and the Contractor shall furnish a certificate to this effect.

Pipes are to be pressure tested in sections as specified in this specification

INDEPENDENT DEVELOPMENT TRUST**COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS****TENDER NO. DOEEC/02/2023/2024****(e) Galvanised steel pipe installations**

- (i) All galvanised steel pipes shall be medium gauge mild steel screwed and socketed pipes to SANS 62 and shall be normalised and marked as such by the manufacturer. Pipes shall be hot-dipped galvanised to SANS 763.
- (ii) All fittings shall be malleable cast-iron fittings to SANS 509 and galvanised to SANS 763.
- (iii) All 80 diameter and larger pipes shall be joined with Class 16 flanged couplings to SANS 1123/1600. The bolts, nuts and spring washers to be used on these joints shall be cadmium plated.
- (iv) In pipe ducts and elsewhere pipes shall be fixed onto walls, soffits, etc, with approved type of supports, holderbats, clamps, etc. Brackets shall be designed to structurally support and fix the pipe system and shall have enough clearance from walls, soffits, etc, to insulate hot-water pipes and maintain equipment.
- (v) Pipes shall be supported according to the manufacturer's specifications with approved brackets at the following maximum intervals:

NORMAL SIZE (mm)	HORIZONTAL (metre)	VERTICAL (metre)
15 dia to 20 dia	1 200	1 830
32 dia to 40 dia	1 830	2 450
50 dia to 150 dia	2 450	3 050

- (vi) Pipes shall be installed in such a manner as to prevent airlocks. A minimum rise of 1:250 shall be maintained to high points, which shall be fitted with suitable air release valves.
- (vii) All pipes shall be marked according to SANS 0140 or as specified by the Engineer. All surface pipes shall be painted.
- (viii) Pipes shall be installed flush unless otherwise instructed by the Engineer.
- (ix) Provision shall be made for thermal contraction and expansion.
- (x) The type of pipe joint compound shall be approved by the Engineer and used sparingly with good quality hemp. For pipes larger than 80 mm diameter a jointing compound such as Epidermix 32 shall be used.
- (xi) Any pipes buried shall have at least 900 mm cover and be coated and wrapped to SANS 11 17 and tested in the presence of the Engineer.
- (xii) All exposed hot-water pipes shall be lagged as specified.
- (xiii) All pipework and fittings shall be pressure tested and sterilised as specified.
- (xiv) Valves shall be installed on all branch pipes and ball-o-stop valves on all connectors to basin pillar cocks, sink mixers, cistern type WCs and other fittings.
- (xv) Approved type expansion bellows shall be installed where required for expansion and contraction to prevent excessive stain on fittings and pipe joints.

(f) mPVC underground pipe installations

- (i) mPVC piping shall conform to SANS 966 with rubber ring type joints.
- (ii) All bends shall be mPVC type fittings with rubber ring joints.
- (iii) All other fittings such as T-pieces, reducers, flanges, etc, shall be bitumen-dipped cast iron rubber ring jointed fittings to SANS 546.
- (iv) No solvent weld type fittings will be allowed.
- (v) All cast iron fittings shall be coated and wrapped to SANS 1117.
- (vi) All pipes shall be laid on a 100 mm sand-bedding cradle and covered with 300 mm sand before backfilling.
- (vii) All backfilling shall be to the Engineer's specification and approval.
- (viii) Pipe trenching and bedding shall be as follows:

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

AREA	MINIMUM COVER	BEDDING TYPE	MAIN FILL
Vehicle traffic	1 100	Flexible pipe bedding as per SANS 1200 LB	Soilcrete
Under surface bed	600		Soilcrete
Other areas	900		90% of modified AASHTO density

- (ix) All thrust blocks shall be cast between the pipe and the undisturbed trench material.
- (x) No concrete shall come into direct contact with the mPVC pipe. At the thrust blocks the bend shall be wrapped with Densopol 80 HT Tape or approved equivalent.
- (xi) DPE pipe connections to mPVC pipes up to 50 mm diameter can be done by means of SG iron manufactured saddles with the appropriate gaskets and cadmium-plated bolts and nuts.
- (xii) All pipe crossings under traffic areas shall be backfilled with soilcrete and compacted as specified.
- (xiii) All pipework shall be pressure tested with all joints uncovered, to the satisfaction of the Engineer.
- (xiv) Suitably sized air release valves built into valve chambers shall be installed at all high points of the pipeline.

(g) HDPe underground pipe installations

- (i) HDPe piping shall be Type 4 HDPe pipe to SANS 533.
- (ii) All fittings shall be of Plasson compression type, conforming to ISO/DIS 3458.
- (iii) All pipes shall be laid on a 100 mm sand bedding cradle and covered with 300 mm of sand of selected material.
- (iv) All backfilling shall be to the Engineer's specification and approval.
- (v) Pipe trenching and bedding shall be as follows:-

AREA	MINIMUM COVER	BEDDING TYPE	MAIN FILL
Vehicle traffic	1 100	Flexible pipe bedding as per SANS 1200 LB	Soilcrete
Under surface bed	600		Soilcrete
Other areas	900		90% of modified AASHTO density

- (vi) No concrete shall come into direct contact with the HDPe pipe. At these points the fittings shall be wrapped with a Densopol 80 HT tape or approved equivalent.
- (vii) All pipe crossings under traffic areas shall be backfilled with soilcrete and compacted as specified.
- (viii) All pipework shall be pressure tested with all joints uncovered to the satisfaction of the Engineer.
- (ix) Suitably sized air release valves built into valve chambers shall be installed at all high points of the pipeline.

(h) Valves

- (i) Gate valves underground in valve chambers to connect to mPVC piping (65 mm NB and larger)

Gate valves are to be equipped with non-rising spindle, spherical graphite iron body to SANS 936 Grade 42, cast-iron nitrile butadiene rubber-covered

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

gate, stainless steel spindle, nitrile butadine rubber O-rings and seals, cast iron bonnet and gunmetal thrust collar to BS 1400 LG2.

The valve shall conform to SANS 664 and/or 665 and shall be capable of withstanding a working pressure of 1 600 kPa.

The valve shall be fitted with a square key spindle top to close the valve in a clockwise direction and socket ends to SANS 665 to fit into mPVC Class 12 pipe and installed to detail.

- (ii) Gate valves underground in valve chamber to connect to HDPE piping

The gate valves shall be of the dezincified brass type with brass gate, brass body, non-rising spindle and BSP threaded socket ends. The valve shall conform to SANS 776 Class 125. The valve shall be able to withstand a working pressure of 1 600 kPa. The valve shall be fitted with a hand wheel on an extended spindle shaft of 700 mm to close in a clockwise direction and installed to detail.

- (iii) Gate valves above ground for temperatures up to 40 °C to connect to steel piping (65 mm NB and larger)

Gate valves to be equipped with non-rising spindle, spherical graphite iron body to SANS 936 Grade 42, cast-iron nitrile butadine rubber-covered gate, stainless steel spindle, nitrile butadine rubber O-rings and seals, cast iron bonnet and gunmetal thrust collar to BS 1400 LG2.

The valve shall conform to SANS 664 and/or 665 and shall be capable of withstanding a working pressure of 1 600 kPa.

The valves shall be fitted with flanged ends to SANS 1123/1600, hand wheel to close the valve in a clockwise direction and installed in an upright position or sideways to a maximum 90° from upright.

- (iv) Gate valves above ground for temperatures above 40 °C to connect to steel piping (65 mm NB and larger)

Gate valve shall be equipped with non-rising spindle, spherical graphite iron body to SANS 963 Grade 42, cast-iron gate, gunmetal seat and gate rings, high-tensile bronze spindle, cast-iron bonnet and gunmetal thrust collar to BS 1400 LG2.

The valve shall conform to SANS 665 and shall be capable of withstanding a working pressure of 1 600 kPa and a temperature of 90 °C.

The valve shall be fitted with flanged ends to SANS 1123/1600, hand wheel to close the valve in a clockwise direction and installed in an upright position or sideways to a maximum 90° from upright.

- (v) Gate valves above-ground to fit to copper pipes (65 mm NB and larger)

Gate valves shall be equipped with non-rising spindle, gunmetal bronze or dezincified brass body, gunmetal or dezincified brass gate, graphite asbestos packing in the gland.

The valve shall be fitted with a hand wheel to close in a clockwise direction and installed in an upright position or sideways to maximum 90° from upright.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

The valve shall be equipped with flanges to SANS 1123/1600, hand wheel to close the valve in a clockwise direction and installed in an upright position or sideways to a maximum 90° from upright.

- (vi) Gate valves above-ground for temperatures up to 100 °C (up to 50 mm NB)

The gate valves shall be of the dezincified brass type with brass gate, brass body, non-rising spindle and BSP threaded socket ends. The valve shall conform to SANS 776-1965 Class 125.

The valve shall be able to withstand a working pressure of 1 600 kPa.

The valve shall be equipped with a hand wheel to close in a clockwise direction.

The valve shall be installed in an upright position or sideways to a maximum 90° from upright and shall be so placed with other fittings to be removable without cutting the pipework.

- (vii) Ball-O-Stop valves (15 mm diameter - 25 mm diameter)

This valve shall be a full-way ballcock type with BSP threaded ends. This valve shall conform to SANS 1056 Part 3, 1985, shall be rated for a test pressure of 2 000 kPa, and shall be chrome-finished where exposed.

- (viii) Angle regulating valves

This valve shall be a 15 mm diameter chromium-plated angle regulating valve with a 350 mm chromium-plated copper tube and cap nuts where required.

- (i) Strainers

- (i) Strainers for connection to steel or mPVC pipes (65 mm NB and larger)

These strainers shall be of the Y-type with cast-iron body, stainless steel or bronze strainer element and shall be equipped with flanged ends to SANS 1123/1600. The whole size of the strainer element shall be maximum 1 mm diameter and be removable without dismantling of pipework. The strainer shall be suitable for a temperature of up to 90 °C at a 1 000 kPa pressure rating and installed with the element facing downwards or a maximum of 45° sideways.

- (ii) Strainers for connection to steel and copper pipes (up to 50 mm NB)

The strainers shall be of the Y-type with bronze or dezincified brass body, stainless steel strainer element and must be equipped with BSP threaded socket ends. The whole size of the strainer element shall be maximum 0,8 mm diameter. The strainer shall be suitable for a temperature of up to 90 °C at a pressure rating of 1 000 kPa and installed with the element facing downwards or a maximum of 45° sideways.

- (j) Non-return valves

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

- (i) Non-return valves for cold water (65 mm NB and larger)

The non-return valve shall be of the spring-loaded dual flap plate type fitted between two flanges (wafer).

The non-return valve shall be equipped with a cast-iron body, aluminium bronze plates, stainless steel springs and neoprene seals on the plates. The valves shall be suitable for a working pressure of 1 000 kPa.

- (ii) Non-return valves for hot water (up to 100 mm diameter) and cold water (up to 50 mm NB)

The non-return valve shall be of the spring-loaded piston type, with bronze or dezincified brass body, stainless steel spring and bronze disc with neoprene seal fitted with BSP threaded socket ends. The valve shall be suitable for a working pressure of 1 000 kPa and a temperature of up to 90 °C. All valves shall be installed as to be removable without extensive pipework removal.

- (k) Air release valves and vacuum breakers

- (i) Double orifice double-acting air release valves with sizes from 50 mm B to 200 mm NB

The air release valve shall be fitted with small and large orifice. The air release valve shall be fitted with a cast-iron or stainless-steel body, stainless steel or fibreglass balls, integral shut-off valve and flanged ends to SANS 1123/1600. The valve shall be equipped with an anti-shock facility.

The valve shall be suitable for maximum pressure of 1 600 kPa.

- (ii) Single orifice air release valves for main water lines with sizes from 25 mm NB to 50 mm NB

The air release valve shall be fitted with a small orifice, cast-iron or stainless-steel body, fibre glass or stainless-steel ball float and BSP threaded inlet.

When the valve is installed a shut-off valve shall be installed on the inlet side. The valve shall be equipped with an anti-shock facility.

The valve shall be suitable for maximum pressure of 1 600 kPa.

- (iii) Single orifice double purpose air release valves for domestic water lines up to 15 mm NB

The air release valves shall be fitted with a stainless-steel float, brass or cast steel body with an integral shut-off valve fitted.

The valve shall be capable to withstand a working pressure of 1 000 kPa at 110 °C.

- (iv) Vacuum breaker up to 40 mm diameter

The vacuum breakers shall be fitted with neoprene seal, spring-loaded disc in a dezincified brass or bronze body. The valve shall seal watertight and

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

shall be designed to withstand a working pressure of 1 000 kPa and a temperature of 90 °C.

(l) Pressure-reducing valves

(i) Combination pressure reducing stations

Where a high peak flow can occur as well as a small flow and the small flow is out of the range of the large pressure-reducing valve, a small pressure-reducing valve shall be installed in parallel with the large pressure-reducing valve. The two pressure-reducing valves in parallel shall be set according to the manufacturer's specification.

(ii) Large pressure-reducing valves (65 mm NB and larger)

The pressure reducing valve shall be equipped with a cast iron body, neoprene-nylon reinforced diaphragm, bronze seal disc washer, stainless steel shaft and flanged ends. The valve shall be pilot operated and shall be designed to handle high flows at a minimum head loss.

The valve must be adjustable to handle a wide range of incoming pressure at a constant downstream pressure.

The valve shall be equipped with flanged ends to SANS 1123/1600.

(iii) Small pressure-reducing valves (15 mm NB - 50 mm NB)

The pressure-reducing valve shall be equipped with brass body, balanced single seat and integral strainer. The valve shall be able to handle a wide range of incoming pressure while the downstream pressure stays constant with maximum inlet pressure of 1 000 kPa and a maximum water temperature of 40 °C.

The valve shall be equipped with BSP male threaded brass union couplings.

(m) Water meters

(i) Combination water meters

Where high peak flow as well as a low flow can occur, and the low flow is out of the registration range of large water meter, a small diameter water meter shall be installed in parallel with the large water meter to cater for the low flows with integral automatic change-over valves. These valves shall be designed to have a minimum pressure drop at the operating point.

(ii) Water meters (50 mm NB and larger)

These water meters shall be of the dry type with all gears and transmission and roller counters in a dry head, and shall be equipped with flanged ends to SANS 1123, cast-iron body with high quality corrosion proof coating. The meter must be protected from magnetic fields and sealed to prevent tampering with adjustments. The meter must be able to work up to a pressure of 1600 kPa under a maximum water temperature of 40 °C. The scale of meter must be in cubic metre (m³) and equipped with needle indicators reading in litres. The accuracy of the meter shall be not less than 98%.

The meters shall be installed with leading and trailing lengths of pipes to the manufacturer's specification.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

(iii) Water meters (up to 50 mm NB)

The meter shall be of the volumetric rotary piston type with brass body equipped with union couplers. The meter reading must be in kilolitres. The meter shall have an accuracy of not less than 98%. The meter must be able to operate up to a water pressure of 1000 kPa at a water temperature of 40 °C.

The meters shall be installed with leading and trailing lengths of pipes to the manufacturer's specification.

CE 05 DRILLING OF BOREHOLES

The Engineer shall in writing indicate or provide co-ordinate positions for the borehole positions.

The contractor shall sub-contract a drilling contractor for the drilling of one or two boreholes; yield testing and a laboratory for water quality testing.

In the event of the installation or equipping of borehole not being successful or completed because it does not give enough yield, the Engineer shall in writing instruct the Contractor to remove all its personnel or employees from the site and lock the site and provide security until further notice from the Engineer.

CE.05.01 Payment – Drilling of Borehole

The provisional sum shall include the drilling, yield testing and laboratory water quality testing of two boreholes. Should the first borehole be successful the contractor will be paid a pro-rata amount for all reasonable expenses incurred.

CE.05.02 Payment – Removal of Personnel

The provisional sum shall include the removal and bringing back of personnel and provision of security for this duration.

CE 06 TESTS AND INSPECTIONS ON COMPLETION OF REPAIR WORK

Except where otherwise provided in the Contract, the Contractor shall provide all labour, materials, power, fuel, accessories and properly calibrated and certified instruments necessary for carrying out such tests. The Contractor shall make arrangements for such tests and he shall give at least 72 hours notice to the Engineer, in writing, prior to commencement of the test.

In the event of the plant or installation not passing the test, the Employer shall be at liberty to deduct from the Contract price all reasonable expenses incurred by the Employer or the Engineer attending the repeated test.

Whenever any installation or equipment is operated for testing or adjusting as provided for above, the Contractor shall operate the entire system for as long a period as may be required to prove satisfactory performance at all times in the occupied space served by that system for up to twenty-four hours a day continuously until the system is handed over.

The Contractor shall provide all labour and supervision required for such operation and the Employer may assign operating personnel as observers, but such observation time shall not be counted as instruction time.

After complete installation of the system all equipment shall be tested, adjusted and readjusted until it operates to the satisfaction and approval of the Engineer.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

The Contractor shall submit certificates of tests carried out to prove the quality and proper functioning of all equipment and also certificates to be obtained from all relevant authorities and statutory bodies, etc.

CE 07 **QUALITY ASSURANCE SYSTEM**

The Contractor shall institute an approved quality assurance (QA) system which shall be submitted to the Employer or Engineer for approval. The records of this QA system shall be kept throughout the duration of the Contract and be submitted to the Engineer at regular intervals as required.

CE 08 **MAINTENANCE TO INSTALLATION SYSTEMS AND EQUIPMENT**

[Note: There is no maintenance in terms of this contract]

CE 09 **MEASUREMENT AND PAYMENT**

CE.01 **WATER DISTRIBUTION PIPELINES**

CE.01.01 **Repair of existing pipelines** Unit: metre (m)

The unit of measurement shall be per metre length of pipe replaced. In each case the Contractor shall agree on the length of pipe to be replaced and the method of coupling the pipes.

The tendered rate shall include full compensation for cleaning and grubbing, excavation, removal of existing pipeline, dealing with water logged conditions, provision of bedding and additional backfill, logging and backfilling of replacement pipeline, finishing, repair of kerbs, road surfaces, accommodation of traffic, excavation in all materials, removal of unsuitable material from the trench, disposal of surplus materials.

Separate items will be scheduled for house connections and distribution pipes.

The provision of the materials will be measured separately under CE 01.02.

CE.01.02 **Provision of materials**

(a) Pipelines Unit: metre (m)

The unit of measurement shall be the metre of pipe replaced.

(b) Fittings Unit: number

The unit of measurement shall be the number of fittings installed.

The tendered rates shall include full compensation for all transport to the place of installation, storage, labour costs.

Separate pay items shall be listed for the pipe materials and fittings per diameter and class.

CE.01.03 **Replacement of manhole covers, grid inlets and the like**

(a) SANS 558 Type 4 - covers, grids, etc. only:

(i) Maximum dimension up to 300 mm Unit: number

(ii) Maximum dimension 301 mm - 600 mm Unit: number

(iii) Maximum dimension 601 mm - 900 mm Unit: number

(iv) Maximum dimension over 900 mm Unit: number

(b) SANS 558 Type 4 - frames only for covers, grids, etc:

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

- (i) Maximum dimension up to 300 mm Unit: number
- (ii) Maximum dimension 301 mm - 600 mm Unit: number
- (iii) Maximum dimension 601 mm - 900 mm Unit: number
- (iv) Maximum dimension over 900 mm Unit: number

(c) SANS 558 Type 2A - covers, grids, etc, only:

- (i) Maximum dimension up to 300 mm Unit: number
- (ii) Maximum dimension 301 mm - 600 mm Unit: number
- (iii) Maximum dimension 601 mm - 900 mm Unit: number
- (iv) Maximum dimension over 900 mm Unit: number

(d) SANS 558 Type 2A - frames only for covers, grids, etc:

- (i) Maximum dimension up to 300 mm Unit: number
- (ii) Maximum dimension 301 mm - 600 mm Unit: number
- (iii) Maximum dimension 601 mm - 900 mm Unit: number
- (iv) Maximum dimension over 900 mm Unit: number

The unit of measurement shall be the number of covers or frames installed. The classification of the size of each cover or frame will be based on the nominal dimensions of the unit and not on the actual dimensions.

The tendered rates shall include full compensation for procuring, furnishing and placing the new covers, grids and/or frames. The tendered rates shall also include full compensation for removing and disposing of the damaged covers, grids and/or frames from the site.

CE.01.04

Repair of corrosion protection

Corrosion protection of pipes with diameters of:

- (a) Up to 100 mm dia Unit: metre (m)
- (b) 101 to 200 mm dia Unit: metre (m)
- (c) 201 to 300 mm dia Unit: metre (m)
- (d) 301 to 400 mm dia Unit: metre (m)

The unit rate of measurement shall be meter length of pipe painted with corrosion protection in accordance with Specification LB: Corrosion protection.

The tendered rate shall include full compensation for preparation of pipe fittings, application of corrosion protection and curing of corrosion protection.

Separate items shall be scheduled for different types of pipework.

CE.02

REPAIR OF FIRE WATER PIPE RETICULATION NETWORK

Measurement and payment items from CE 01, CE 03, CE 04 and CE 05 will be utilised for work done on the external fire water pipe reticulation. Additional payment items for specialist fittings shall be paid under Specification JC.

CE.03

CLEANING OF PIPELINE

CE.03.01

**Cleaning of deposits in pipeline by mechanical means
for pipes of diameters of:**

- (a) Up to 100 mm dia Unit: metre (m)
- (b) 101 to 200 mm dia Unit: metre (m)
- (c) 201 to 300 mm dia Unit: metre (m)

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

(d) 301 to 400 mm dia Unit: metre (m)

CE.03.02 **Scouring of pipeline to remove trapped debris for pipes of diameters of:**

(a) Up to 100 mm dia Unit: metre (m)

(b) 101 to 200 mm dia Unit: metre (m)

(c) 201 to 300 mm dia Unit: metre (m)

(d) 301 to 400 mm dia Unit: metre (m)

The unit of measurement shall be metre length of pipe cleaned or scoured.

The unit rate of measurement for item CA.03.01 shall include full compensation for the emptying of the pipeline, cleaning, refilling and reporting on the condition of the pipe after cleaning. The rate shall also include the disposal of waste material in and appropriate manner.

The unit of measurement for item CA.03.02 shall include full compensation for the scouring of the pipeline and refurbishing of the pipeline. The unit of measurement shall be the total length of filled pipeline from which the water is scoured. The length shall be agreed with the Engineer prior to scouring.

The provision of additional scour points shall also be included in the rate.

CE.04 **REPAIR OF FITTINGS**

CE.04.01 **Servicing of valves** Unit: number

The unit of measurement shall be the number of valves serviced.

The tendered rate shall include full compensation for cleaning, removing rust, scale or other solids from surfaces or moving parts, proper greasing of all moving parts, preparation for corrosion protection coating and painting of valves.

Separate items will be listed in the Schedule of Quantities for different types and sizes of equipment.

CE.04.02 **Recondition valves** Unit: number

The unit of measurement shall be the number of valves reconditioned.

The tendered rate shall include full compensation for dismantling, cleaning, removing rust, removing scale or other solids from surfaces and moving parts, replacing components such as hinges, spindles, hard wheels or gates, swing axles, swing gates, replacing or repair of seals, skimming of seal surfaces, proper greasing of all moving parts, preparation for corrosion protection, painting or any other action or cost necessitated to recondition a valve to a perfect functional drop tight condition.

Separate items will be listed in the Schedule of Quantities for different types and sizes of equipment.

CE.04.03 **Decommission and remove valves** Unit: number

The unit of measurement shall be the number of valves decommissioned and removed.

The tendered rate shall include full compensation for all labour and equipment required to decommission and remove valves, such as installation of temporary isolating valves or blank flanges, removal of unserviceable valves, loosening and removal of bolts and nuts, or any other related action required. Excavation to exposed partially buried valves shall also be included in the rate.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Separate items will be scheduled in the Schedule of Quantities for different types and sizes of valves.

CE.04.04 **Repair of house connections** Unit: number
The unit of measurement shall be the number of house connections repaired.

The tendered rate shall exclude the provision of new fittings measured under CE. 01.02 but shall otherwise include full compensation for appurtenant fittings, excavation, backfilling and other necessary work to repair existing house connections.

All connections to the distribution pipelines, up to a diameter of 32 mm shall be measured as "house connections".

CE.05 **REPAIR OF STRUCTURES**

CE.05.01 **Demolition and removal of damaged existing structures**

- (a) Plain concrete Unit: cubic metre (m³)
- (b) Reinforced concrete Unit: cubic metre (m³)
- (c) Brickwork Unit: square metre (m²)
- (d) Precast concrete manhole sections Unit: number

The unit of measurement for CE.05.01(a) and (b) shall be the cubic metre of existing material demolished, determined from 70 % of the rated cubic metre capacity of the truck used to remove the material.

The unit of measurement for CE.05.01(c) and (d) shall be the square metre length of brickwork and the number of precast concrete manhole sections.

The tendered rates shall include full compensation for all labour, equipment and tools for removal of the damaged sections, trimming the bedding and for loading, transporting and disposing of the material. Excavation and backfill shall also be included for constructing the precast concrete manholes inclusive of all work required to complete the work as shown on the drawings.

The reinstatement of damaged sections shall be paid for under the relevant items for constructing new structures.

CE.05.02 **Overhaul on material for haul in excess of 1,0 km**

- (a) Excavated material to spoil.....Unit: cubic metre kilometre (m³-km)
- (b) Existing structures demolished.....Unit: cubic metre kilometre (m³-km)

The unit of measurement shall be the cubic metre of loose material hauled in excess of 1,0 km, measured according to the rated capacity of the truck used, multiplied by the average overhaul distance. All trucks shall be fully loaded to their rated capacity.

The tendered rate shall include full compensation for hauling the material in excess of the free-haul distance.

CE.05.03 **Repair of structures**

- (a) Brickwork Unit: square metre (m²)
- (b) Concrete Unit: cubic metre (m³)
- (c) Precast concrete manhole sections Unit: number

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

The unit of measurement shall be the cubic metre of brickwork or concrete constructed.

The tendered rate shall include full compensation for the provision of materials, transport, preparation and placing of foundations, labour and all other associated work to complete the work required.

Separate items will be scheduled for specific installations.

CE.05.04 **Marker posts**.....Unit: number
The unit of measurement shall be the number of marker posts installed.

The tendered rate shall include full compensation for the manufacture and installation complete as shown on the drawings.

CE.05.05 **Sample testing**

(a) Extract sample to determine lime deposition, corrosion and general condition for pipes of:

- (i) Up to 100 mm dia Unit: number
- (ii) 101 to 200 mm dia.....Unit: number
- (iii) 201 to 300 mm dia.....Unit: number
- (iv) 301 to 400 mm dia.....Unit: number

The unit rate of measurement shall be the number of sample tests carried out.

The tendered rate shall include full compensation for cutting into pipe and extraction of sample, visual inspection and reporting on condition of pipe. The tendered rate shall also include full compensation for the appropriate disposal of the sample and for the repair of the section pipeline.

Compensation for provision of new pipes and fittings, shall be measured under CE 01.

CE.06 TESTS AND INSPECTIONS OF REPAIR WORK

CE.06.01 **Pressure testing**

(a) Pressure test pipeline in sections of pipes with diameter of:

- (i) Up to 100 mm dia Unit: metre (m)
- (ii) 101 to 200 mm dia.....Unit: metre (m)
- (iii) 201 to 300 mm dia.....Unit: metre (m)
- (iv) 301 to 400 mm dia.....Unit: metre (m)

The unit of measurement shall be the metre length of pipe tested.

The tendered rate shall include full compensation for isolation of test section, filling of section with water, testing for required duration and reporting on performance of pipes, the provision of any additional water shall also be included in the rate. The rate shall also include the provision of all equipment, labour and supervision necessary for the completion of the pressure test.

CE.06.02 **Provision of equipment for visual inspection of underground pipeline network**

Unit: lump sum

The tendered sum shall include full compensation for the provision of suitable equipment, such as torches, lights and mirrors, etc, to enable a basic visual inspection of the pipeline network.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

C3.3 AMENDMENTS TO THE STANDARD SPECIFICATIONS

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

C3.6: AMENDMENTS TO THE STANDARD SPECIFICATIONS AND PARTICULAR SPECIFICATIONS

PSA: GENERAL

PSA 1 ESSENTIAL CLAUSES

PSA 1.1 QUALITY (sub-clause 3.1)

All materials used in the Works shall bear the SABS mark or an equivalent official standardization mark.

All samples as required in terms of the Specifications shall be delivered to a designated laboratory in East London or the Engineer's site office as directed by the Engineer.

PSA 1.2 SETTING-OUT OF THE WORKS (sub-clause 5.1.1)

The Engineer or his representative will indicate where the reservoirs are to be located, the routes for the rising mains and reticulation and the locations for the standpipes. Thereafter the Contractor will be responsible for all further setting out of the works.

The Contractor shall also be responsible for defining and setting of tasks for the local labour.

PSA 1.3 WATCHING, BARRICADING, LIGHTING AND TRAFFIC CROSSINGS (SUB-CLAUSE 5.2)

Such works shall be undertaken in accordance with the requirements of SANS 1921.

PSA 1.4 DEGREES OF ACCURACY (sub-clause 6.2)

Degree of Accuracy II shall be applicable throughout the Works.

PSA 2 ESSENTIAL DATA

PSA 2.1 PROVISIONAL SUMS (sub-clause 8.5)

Provisional sums have been provided in the Schedule of Quantities for contingency expenditure for unforeseen items of work and for quality assurance tests to be carried out on the instruction of the Engineer.

PSA 3 ADDITIONAL CLAUSES

PSA 3.1 SAFETY

The Contractor shall undertake the Works in terms of the Occupational Health and Safety Act, Act No 85 of 1993 and the requirements of the Construction Regulations of 2003. The Contractor is therefore required to submit an Occupational Health and Safety Plan for approval prior to commencing with the Works.

The Department of Labour is also to be notified of the commencement of the Works and proof of receipt thereof is required prior to commencing with the Works.

PSAB: ENGINEER'S OFFICE

PSAB 1 ESSENTIAL CLAUSES

PSAB 1.1 ENGINEER'S OFFICE (sub-clause 3.2)

The provision for cooling and heating is not required

PSAB 2 ESSENTIAL DATA

PSAB 2.1 NAMEBOARD (sub-clause 3.1)

Two (2) name boards are required.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

PSAB 2.2 OFFICE BUILDING (sub-clause 3.2)

One (1) engineers office complete with chemical toilet and carport is required.

PSAB 2.3 TELEPHONE (sub-clause 4.1)

The Contractor shall provide the Engineer's Representative with R500 per month of airtime for his exclusive use. The costs thereof shall be deemed to be included in the rates tendered.

PSAB 2.4 SURVEY ASSISTANTS

2 No. survey assistants are required.

PSAB 3 ADDITIONAL CLAUSES

None.

PSC SITE CLEARANCE

PSC 1 ESSENTIAL CLAUSES

PSC 1.1 SCOPE (sub-clause 1.1)

Where site clearance is to be undertaken via labour intensive methods, "boulder size up to 0.15m³" shall be replaced with "boulder of mass not exceeding 25kg".

PSC 1.2 CONSERVATION OF TOP-SOIL (sub-clause 5.6)

The Contractor is required to conserve topsoil as required in terms of the Environmental Management Plan contained in Part 5 of this document.

PSC 1.3 LANDSCAPE PRESERVATION AND CONSERVATION OF FLORA (sub-clause 5.7)

The Contractor is to comply with the requirements of the Environmental Management Plan contained in Part 5 of this document.

PSC 2 ESSENTIAL DATA

PSC 2.1 DISPOSAL OF MATERIAL (sub-clause 3.1)

The Contractor shall make his own arrangements for the disposal of cleared material. Disposal sites identified by the Contractor shall be approved by the Engineer and members of the local community.

All trunks and branches of girth exceeding 0.15m shall be stripped of secondary branches, sawn into manually transportable lengths and stockpiled in designated sites within the village. Minor branches in girth not exceeding 0.15m and scrub shall be burnt on site.

PSC 2.2 AREAS TO BE CLEARED AND GRUBBED (sub-clause 5.1)

A strip 1.0 m wide on either side of the centre line of the rising mains shall be cleared.

PSC 2.3 GRUBBING (sub-clause 5.4)

All stumps and matted roots are to be removed to a depth of 600mm below the floor level of the proposed reservoirs.

PSC 3 ADDITIONAL CLAUSES

Nil.

PSD EARTHWORKS

PSD 1.1 CLASSIFICATION FOR EXCAVATION PURPOSES (sub-clause 3.1)

Where labour intensive construction methods are to be used, the definition of clause 3.1.2 shall not apply and shall be replaced as follows:

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

- (a) "Soft excavation" shall be that excavation in material, which in the opinion of the Engineer, which can be excavated by means of hand-held tools excluding pneumatic or hydraulic breaking tools.
- (b) "Intermediate excavation" shall be that excavation in material, which in the opinion of the Engineer, requires breaking with hand-held pneumatic or hydraulic tools before removal.
- (c) "Hard Rock excavation" shall be that excavation, which in the opinion of the Engineer, can not be economically removed by pneumatic or hydraulic means and requires blasting or other mechanical breaking before removal.

"Boulder excavation Classes A + B" shall not apply, irrespective of the construction method used. Boulder excavation will be classified on site by the Engineer, as either "Intermediate" or "Hard rock excavation".

PSD 1.2 NEGLIGENCE (sub-clause 5.1.2.4)

The Contractor shall make good at his own expense, and to the approval of the Engineer, any services negligently damaged by the Contractor.

PSD 2 ESSENTIAL DATA

PSD 2.1 SELECTION (subclause 3.3)

The Contractor shall preserve the topsoil, in accordance with the requirements of the Environmental Management Plan, for later use on site.

PSD 2.2 ROAD TRAFFIC CONTROL (sub-clauses 5.1.6)

Appropriate road traffic signs, in accordance with SANS 1921, are required at all pipeline road crossings.

PSD 2.3 EXCAVATION FOR GENERAL EARTHWORKS AND FOR STRUCTURES (sub-clause 5.2.2.1)

Provision shall be made for working space for the reservoir and associated chambers.

PSD 2.4 BORROW PITS (sub-clause 5.2.2.2)

Sites for borrow pits have not been identified. Should borrow pits be required, they will be identified in consultation with the Engineer and shall be opened, managed and closed in accordance with the requirements of the Environmental Management Plan. Where more than 200m³ of material are to be removed from the borrow pit, it is required that the borrow pit be registered with the Department of Minerals and Energy Affairs.

PSD 2.5 DISPOSAL OF SURPLUS MATERIAL (sub-clauses 5.1.4.3 and 5.2.2.3)

No designated disposal sites have been identified. Surplus material excluding rock material, shall be neatly spread, shaped and trimmed across the pipe servitude or disposed of at a site approved by the Engineer. Surplus rock or bolder material shall be disposed of at sites agreed to with the Engineer in accordance with the requirements of the Environmental Management Plan.

PSD 2.6 BACKFILLING OF TRENCHES AND BACKFILLING AGAINST STRUCTURES (sub-clause 5.2.3.2)

Each layer shall be backfilled at OMC to a density of at least 90% of modified AASHTO maximum density for cohesive soils and 98% for non cohesive soils.

PSD 2.7 TRANSPORT FOR EARTHWORKS (sub-clause 5.2.5)

A free haul distance of 1.0 km shall be applicable to this Contract.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

PSD 3 ADDITIONAL CLAUSES

PSD 3.1 CROSS DRAINAGE BERMS

Earth berms of dimensions 0.3m high x 0.3m wide x 2.0 long shall be constructed across the rehabilitated pipe trench in areas of steep slope, as directed by the Engineer.

The drainage berms shall be constructed immediately after having backfilled the pipe trench.

PSDB EARTHWORKS (PIPE TRENCHES)

PSDB 1 ESSENTIAL CLAUSES

PSDB 1.1 CLASSES OF EXCAVATION (sub-clause 3.1)

Sub-clause 3.1 of SABS 1200 DB shall not apply but shall be replaced by clause PSD 1.1 of the Project Specification.

PSDB 1.2 TRENCH DIMENSIONS

The dimensions of the trench shall be as shown on the drawings.

PSDB 1.3 TRANSPORT OF EARTHWORKS FOR TRENCHES (sub-clause 5.6.8)

A free-haul distance of 1.0 km is applicable to this project.

PSDB 1.4 DISPOSAL OF UNSUITABLE AND SURPLUS MATERIAL (sub-clause 5.6.3)

Soft and surplus material may be disposed along the trench servitude. Rock and boulder material shall however be disposed at locations agreed with the Engineer and in accordance with the requirements of the Environmental Management Plan.

PSDB 2 ESSENTIAL DATA

PSDB 2.1 EXISTING SERVICES THAT INTERSECT OR ADJOIN A PIPE TRENCH (sub-clause 8.3.5)

No special payment, other than that allowed for in clause 8.8.4 (c) of SABS 1200 A, shall be made for working across or adjacent to and the protection of existing services.

PSDB 2.2 EXCAVATION (sub-clause 8.1.2(c), 8.3.2(a) and 8.3.2 (b))

A class C bedding with a 100mm deep bedding layer below the invert of the pipe is required for all pipe, except HDPE pipe, to be installed as part of this contract. HDPE pipe shall be installed with a class D bedding.

PSDB 3 ADDITIONAL CLAUSES

Nil.

PSG CONCRETE (STRUCTURAL)

PSG 1 ESSENTIAL CLAUSES

PSG 1.1 ADMIXTURES (subclause 3.5.1)

The use of admixtures will not be permitted in concrete unless an approved materials laboratory approves in writing to the use thereof in the particular application.

Admixtures containing calcium chloride shall not be permitted for use in concrete for water retaining structures.

PSG 1.2 QUALITY (subclause 5.5.1.1)

Strength concrete is required throughout the works. The Contractor shall in good time, provide the Engineer with details of his proposed aggregates and design mix, for approval. Furthermore, an approved materials laboratory shall test and approve the mix,

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

in writing and confirm that the materials used in mix are not subject to alkali-aggregate reaction.

The mix shall be approved by the Engineer after receipt of satisfactory cube test results.

The costs of designing and approving the concrete mix shall be deemed to be included in the rates tendered.

PSG 1.3 DURABILITY (subclause 5.5.1.5)

The base, walls, roof and columns of the concrete reservoirs and all concrete work for foundations shall be considered to be subject to severe exposure conditions but in no instance shall the W/C ratio exceed 0.5. All other concrete used in the works shall be considered to be subject to moderate conditions.

PSG 1.4 CONSTRUCTION JOINTS (subclause 5.5.7.1)

Only horizontal construction joints shall be permitted in the construction of the reservoirs. Construction joints, complete with a centre - bulb water stop, are required between the floor slab and walls of each reservoir. All other construction joints in the reservoirs, required in compliance with subclause 5.5.5.5 of SABS 1200 G, shall be prepared in accordance with subclause 5.5.7.3 (c) of SABS 1200 G.

PSG 2 ESSENTIAL DATA

PSG 2.1 CONCRETE (subclause 3.2.1)

Ordinary Portland cement complying to SABS 471 shall be used in the concrete throughout the works.

PSG 2.2 CLASSIFICATION OF FINISHES (sub-clause 4.5.2 and 5.2.1)

All concrete shall have a smooth finish.

PSG 2.3 STRENGTH CONCRETE (sub-clause 5.5.1.7)

The strength concrete shall be positioned in the works as follows:

Grade	Structure
30/19	concrete reservoirs, foundations/footings, slabs, columns and all other structural concrete.
15/19	mass concrete, pipe encasement and blinding

PSG 2.4 READY-MIX CONCRETE (sub-clause 5.5.3.2)

The production of concrete at a central production facility shall not be permitted without the Engineers prior approval.

PSG 2.5 WATERTIGHT CONCRETE (sub-clause 5.5.11)

All concrete storage reservoirs are water retaining structures and will be subject to the requirements of the watertightness tests detailed in Particular Specification PTS.

PSG 3 ADDITIONAL CLAUSES

PSG 3.1 STORAGE OF CEMENT (sub-clause 3.2.3)

Cement shall be used in the order in which it is received.

PSG 3.2 DESIGN (sub-clause 4.5.1)

No formwork shall be erected without the Engineer's prior approval.

PSG 3.3 TIES (sub-clause 4.5.3)

Tie cone recesses shall be plugged with well rammed dry 3:1 mortar within 48 hours of casting the concrete. The surfaces of the recesses shall first be roughened by wire brushing. Where tie cone recesses cannot be plugged within 48 hours of casting, they

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

shall be roughened by scabbing and a wet to dry epoxy shall be applied before plugging the recesses with 3:1 mortar.

The mortar plugs shall be properly cured.

PSG 3.4 FIXING (sub-clause 5.1.2)

PSG 3.4.1 GENERAL

Sufficient joints shall be made so that the entire reinforcement cage is rigid and to the satisfaction of the Engineer.

Tie wire shall not encroach on the specified minimum cover by more than a single strand thickness."

PSG 3.4.2 SPACERS

Welding of the reinforcement shall not be permitted.

Spacers to be used shall be of approved design.

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

The mortar shall be well compacted by approved means into the moulds and the mortar blocks shall be cured in water for at least 7 days before being fixed in place.

PSG 3.5 PREPARATION OF FORMWORK (sub-clause 5.2.2)

Panel joints for formwork shall be horizontal or vertical and arranged to match symmetrically throughout the structure.

PSG 3.6 COMPACTION (sub-clause 5.5.6)

The tops of all walls and columns shall be re-vibrated within 3 hours of the concrete having been placed.

PSG 3.7 ADVERSE WEATHER CONDITIONS (sub-clause 5.5.9)

If plastic shrinkage cracking occurs, the cracks shall be closed up by re-vibrating the concrete with a poker vibrator within 3 hours of casting. Once the cracks have been closed, the concrete shall be kept thoroughly wet, or covered with plastic sheeting for at least a further 3 hours.

PSG 3.8 JOINT SEALING MATERIALS

PSG 3.8.1 JOINT FILLERS

Joint filler material shall be of an approved closed-cell polyethylene strip or sheet, having a density of at least 45 kg/m³ and of the thickness indicated on the drawings.

Fillers shall be provided with a tear out strip for forming the specified recess for the sealant, inclusive of the bond breaker, which shall be an approved PVC tape.

PSG 3.8.2 SEALANTS

The primer for the sealant shall be an approved primer fully compatible with the sealing compound specified below and the joint filler specified above.

All elastomeric sealants shall comply with BS 4254 Type A1 and shall have a movement tolerance of 25%.

Sealants shall be 2 part manganese cured polysulphide used strictly in accordance with the manufactures instructions.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

The cleaning and sealing of the joints shall be the last construction operation. Rebates shall be cleaned (with all glue and bitumen removed) and approved by the Engineer before filling.

Joint sealants and primers shall be applied strictly in accordance with the manufacturer's instructions. Flow and non-slumping grades shall be used for horizontal and vertical joints respectively.

Batch numbers of any sealant used shall be recorded.

Only workmen experienced in this type of work shall be employed to apply the sealant.

Immediately after the compound is cold, the joint shall be protected against damage until completion of the contract.

PSG 3.8.3 WATERSTOPS

PVC waterstops shall be of approved type and of the widths specified.

PSG 3.9 NO-FINES CONCRETE

No-fines concrete shall be placed in its final position within 15 minutes of having been mixed. Compaction shall be by hand rodding and tamping as directed by the Engineer.

Any no-fines concrete with loose stones or blocked voids or segregated grout shall be removed.

Protection against loss of moisture shall be accomplished by either:

- a) Covering the exposed surfaces with sacking or other approved material, which shall be kept continuously wet for at least 3 days.
- b) Covering the exposed surfaces with plastic sheeting for at least 5 days.

PSL MEDIUM PRESSURE PIPELINES

PSL 1 ESSENTIAL CLAUSES

PSL 1.1 ABBREVIATIONS (sub-clause 2.4)

add the following:

HDPE	:	High Density Polyethelene PE80
mPVC	:	Modified Polyvinyl Chloride

PSL 1.2 STEEL PIPES, FITTINGS AND SPECIALS (sub-clauses 3.4.2 and 3.4.3)

All steel pipes and fittings for reservoirs, irrespective of their diameter, shall be fabricated from plain ended pipes. Screwed flanges and fittings shall not be permitted. The lengths of the pipes shall be as dimensioned on the drawings but shall be verified on site prior to galvanising. No cutting or welding of pipes shall be permitted on site.

PSL 1.3 POLYETHYLENE PIPES (sub-clause 3.7.2)

HDPE pipes shall be of PE80, shall comply with SABS ISO 4427 and shall bear the SAPPMA mark.

PSL 1.4 PVC PIPES (sub-clause 3.7.3)

Add new clause:

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

All PVC pipes shall be of the spigot and socket joint type with restraining rings and rubber seals and shall comply with the requirements of SABS 966:1 (UPVC) and SABS 996:2 (mPVC). Furthermore, all PVC pipes shall bear the SAPPMA mark.

PSL 1.5 FLANGES AND ACCESSORIES (sub-clause 3.8.3 and 3.8.4)

All flanges shall comply with the requirements of SABS 1123 and all bolts and nuts shall be of the hexagonal lead type and shall comply with SABS 135.

PSL 1.6 COMPRESSION TYPE FITTINGS (sub-clause 3.8.8)

Add new clause:

Fittings for HDPE pipe shall be of the compression type complying with the requirements of ISO 3458, ISO 3459, ISO 3501 and ISO 3503 respectively.

PSL 1.7 JOINTS, BOLTS, NUTS AND WASHERS (sub-clause 3.9.5)

All joints, bolts, nuts and washers shall be hot-dip galvanised in accordance with SABS 763. Electro-plating shall not be accepted.

All bolts shall protrude between 1mm and 6mm above nut, once fastened.

PSL 1.8 CORROSIVE SOILS (sub-clause 3.9.6)

All buried steel pipe shall be treated with a compatible primer, packed with a bitumen-based or tar based mastic and wrapped in an approved plastic tape.

The cost of this work shall be deemed to be included in the rates tendered for the supply and laying of pipes.

PSL 1.9 VALVES (sub-clause 3.10)

Valves shall comply with the requirements of SABS 644 and all gate valves shall be clockwise closing with non rising spindles.

PSL 1.10 DEPTHS AND COVER (sub-clauses 5.1.4.1 and 5.1.4.2)

The depths of cover over pipes shall not be less than 900mm in the case of all bulk mains and 600mm in the case of village reticulation, unless approved by the Engineer.

PSL 2. ESSENTIAL DATA

PSL 2.1 PIPES OF NOMINAL BORE UP TO 150MM (sub-clause 3.4.2)

All steel pipes for reservoirs shall be coupled by flanges or mechanical coupling (flange adaptors) as detailed on the drawings.

PSL 2.2 DEPTHS AND COVER (sub-clause 5.1.4.1)

The depth of cover shall generally not exceed 1.25m. This depth of cover may however be exceeded at road and river crossings.

PSL 2.3 TEST PRESSURE AND TIME OF TEST (sub-clause 7.3.1)

All bulk mains shall be tested between 1,25 and 1,1 times the allowable working pressure of the pipe, measured at the hydraulically lowest point in the main and shall be tested in the presence of the Engineer. The lowest pressure at any position of the pipe shall be 1,1 times the allowable working pressure.

A hydrostatic test certificates, see pro forma focus in section 8 of this document, shall be completed and duly signed on the successful completion of the pressure test.

PSL 3. ADDITIONAL CLAUSES

PSL 3.1 PIPELINE MARKERS (new clause)

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Concrete pipe-line markers, shall be erected at all horizontal changes in direction, valve boxes and on both sides of all road and river crossings at all valve chambers and at intermediate intervals ($\pm 500\text{m}$) as approved by the Engineer.

PSLB BEDDING (PIPES)

PSLB1 ESSENTIAL CLAUSES

PSLB 1.1 SELECTED GRANULAR AND SELECTED FILL MATERIAL (sub-clauses 3.1 and 3.2)
Notwithstanding the requirements of subclauses 3.1 and 3.2 of SABS 1200 LB, selected granular and selected fill material shall comply with clause PSLB 2.1 of the Project Specification.

Such material will generally be available from the trench excavations and the nearby river- beds.

PSLB 1.2 SUITABLE MATERIAL AVAILABLE FROM TRENCH EXCAVATION (sub-clause 3.4.1)
Notwithstanding the requirement of sub-clause 3.7 of SABS 1200 DB and sub-clause 3.4.1 of SABS 1200 LB, the Contractor shall use selective excavation methods to avoid burying or contaminating material suitable for bedding.

PSLB 1.3 PLACING (sub-clause 5.1.3)
All pipes under road crossings will be placed inside 75 D concrete structured wall HDPe pipe sleeves.

PSLB 1.4 CONCRETE CASING TO PIPES (sub-clause 5.4)
All pipes through river crossing will be encased in 150mm concrete surround.

PSLB 1.5 DISPOSAL OF DISPLACED MATERIAL (sub-clauses 8.1.5 and 8.1.6)
Displaced material shall be disposed off as described in clauses PSD 2.5 and 2.7 and clauses PSDB 1.3 and 1.4 of the Project Specification.

PSLB2 ESSENTIAL DATA

PSLB 2.1 SELECTED GRANULAR AND SELECTED FILL MATERIAL (sub-clauses 3.1 and 3.2)
Notwithstanding the requirements of clauses 3.1 and 3.2 of SABS 1200 LB, no distinction shall be made between selected granular and selected fill material. All material for the bedding of pipes shall comply with the following:

- have a maximum partial size of 19mm,
- have a PI not exceeding 12,
- have less than 30% by mass passing the 0.075mm sieve.

PSLB 2.2 BEDDING (sub-clause 3.3)
All PVC pipes shall be bedded in accordance with a ClassC bedding and all HDPE pipes in accordance with a Class D bedding, except where, in the opinion of the Engineer, the nature of the material in the trench bottom, precludes the use of this bedding type.

PSLB 2.3 PLACING AND COMPACTING: ALL PIPES (sub-clause 5.2 and 5.3)
The bedding material shall be firmly compacted in 100mm layers to 300mm above the crown of the pipe, using hand tools. The tools shall be of such a nature and shape that the tampering action can in no way damage the pipe.

The bedding shall then be compacted by mechanical means before backfilling can commence. Backfilling shall be undertaken in 300 layers by mechanical means.

PSLB 3 ADDITIONAL CLAUSES
Nil.

PARTICULAR SPECIFICATIONS**PTS WATERTIGHTNESS TESTING AND STERILISATION OF WATER RETAINING STRUCTURES****PTS 1 SCOPE**

This specification covers the special requirements for the hydrostatic testing and sterilisation of pressed steel and reinforced concrete water retaining structures.

PTS 2 WATERTIGHTNESS TESTING**PTS 2.1 General**

The completed structure shall be watertight. The certificate of completion shall not be issued until such time as the above has been achieved to the satisfaction of the Engineer.

All loose material, dirt and foreign matter shall be removed from the structure before the watertightness test commences.

PTS 2.2 Concrete Structures

Testing shall not commence sooner than 14 days after the structure has been completed.

Water shall be let in slowly (in steps of 300 mm increments of height) into the structure.

Should any noteworthy leak be observed during the filling, the structure shall immediately be emptied and the leak traced and repaired to the satisfaction of the Engineer, whereafter the test may be resumed.

The structure shall then remain full for a period of not less than two weeks to allow the concrete to absorb the water. The water levels at the start and end of this initial filling period shall be recorded and made available to the Engineer.

The structure shall then be refilled to the full capacity height and allowed to stand undisturbed for three days. The above procedure shall be repeated until such time as the drop in water level does not drop by more than 10 mm in the three day period and there is no other indication of leakage.

The Engineer reserves the right to re-test the water retaining structures before the end of the maintenance period. Should any structure fail the watertightness test, the Contractor shall again at his own expense rectify the leakage.

PTS 2.3 Pressed Steel Structures

Nil.

PTS 3. STERILISATION**PTS 3.1 All potable water retaining structures shall be sterilised**

If raw water is used for the watertightness test, then the structure shall be sterilised after the test.

If potable water is used for the test, sterilisation shall occur before the test. In the event of the structure failing the watertightness test, the structure shall be re-sterilised after the remedial work has been completed.

The inside surfaces of the structure shall first be cleaned to remove all loose material, dirt and foreign matter.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

The surfaces shall then be washed down by a chlorine solution. This shall be achieved by filling the structure with water to a depth not exceeding 300 mm. Calcium hypochlorite shall be added as the water enters the structure, at a rate of 150 grams per 1m³ of water, to ensure thorough mixing.

All personnel engaged with this work shall be fitted with the required safety equipment. The chlorine solution shall then be drained to waste.

The standards applicable It may be necessary for the contractor to work within confined areas. No additional payment will be made for work undertaken in restricted areas. The method of construction in confined areas will depend largely on the contractor's constructional plant. The contractor shall however note that measurement and payment will be in accordance with the specified cross-sections and dimensions irrespective of the method used to achieve these cross-sections and dimensions. Tendered rates and amounts shall be deemed to include full compensation for any special equipment and construction methods or for any difficulty encountered in working in confined areas and narrow widths, and at/or around obstructions. No extra payment will be made nor will any claim for additional payment be considered on account of these difficulties.

PTS 4. DELIVERY/CARTING OF WATER TO THE SCHOOL

PTS 4.1 Water Quality

The quality of water being delivered or carted to the school for drinking should generally comply with SANS 241:2005 and should be of acceptable standard with regards to turbidity, colour, pH, calcium, magnesium and iron among other SANS 241:2005 parameters.

PTS 4.2 Testing of Water

Prior to carting of water to the school for drinking the Contractor shall identify a reliable source of water and notify the Engineer for approval. Once the source has been approved two samples shall be taken for testing and analysis by an accredited laboratory.

The Contractor can only start carting water to the school for drinking, once the results have been submitted and approval received from the Engineer.

The above shall apply should the contractor desire to change the source of water supply for any reason(s).

PTS 4.3 Payment

The Contractor shall be paid for transportation or carting of drinking water to the school once a week for a period of twelve (12) months including a once-off payment for sampling and testing of water.

PTS 4.4 Penalties

The Contractor shall be penalised for any non-delivery of drinking water to the school at a price which will cost the school to provide its own water. Non-delivery for a period of two (2) weeks will result to termination of the contract.

The Contractor shall be penalised for delivering untested water to the school at a price which will cost the school to provide its own water including sampling and testing.

PPSA GENERAL REQUIREMENTS FOR ELECTRICAL AND MECHANICAL WORKS

PPSA 1 SCOPE

The clauses in this particular specification shall apply wherever electrical or mechanical equipment are installed on a project, unless they are superseded by the detailed requirements in other sections of the Project Specification.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Wherever, electrical and mechanical equipment are to be installed on a project, the scope of the work for this portion of the work shall include the design, supply, installation, commissioning and the upholding during the maintenance period of such equipment.

PPSA 2 DESIGN

PPSA 2.1 GENERAL

A high-quality standard is required to ensure reliability, long life, trouble free operation, efficient, ease of maintenance and operation and neatness.

All plant and equipment shall be of robust construction and the design shall, as applicable, be based on:

- the full range of duties which can be reasonably anticipated;
- the power and torque transmitted by the driver system under full load and stalled conditions;
- the maximum pressure or vacuum which can be produced by pumps, blowers and compressors under all conditions including blocked or closed inlet and outlet circuits;
- conservative service and safety factors based on approved standards or laid down in the printed specifications of reputable and approved manufacturers;
- a safety margin of at least 20% in addition to any service or safety factors which apply;
- twenty four hour per day operation;
- a minimum life of 100 000 hours before repair or major part replacement;
- prevention of serious damage from normal operational problems such as blockages, blinding, jamming, seizure, malfunction and, as far as is practical, mal-operation, if these occurrences cannot be avoided by good design.

Machines with non-overloading characteristics shall be selected wherever possible; i.e. motors shall be sized so that they cannot be overloaded by the driven machine.

PPSA 2.2 FAIL SAFE OPERATION AND PROTECTIONS

Where damage can occur from normal operations, or from other foreseeable problems, plant, equipment and systems must be designed to fail safe i.e. must return to a safe condition in the event of failure, malfunction, mal-operation or overload where no further damage can be done.

PPSA 2.3 MOVING PARTS

The following general requirements apply not only to machines but to all equipment with moving parts such as headstocks, extension spindles, swivelling davits, heavy duty hinges, pivots and the like: -

All rotating or swivelling shafts, pins and the like, shall be adequately supported, guided and restrained by lubricated or self-lubricating bearings, collars and/or bushes.

- Swivelling joints on linkages and the like shall be of the "universal" or fork and rod type with bearings or bushes fitted to the eyes or forks.
- On abrasive applications, abrasion resistant materials and slow speed operation shall be utilised.
- All applications associated with waste or raw (untreated) water shall be regarded as corrosive and materials of construction shall be selected to suit.
- Susceptibility to fatigue failure shall be minimised by proper design and manufacturing procedures. In particular, changes in section shall be "radiused" and care must be taken to avoid the use of welded components in areas of fluctuating stress.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

- The locking of nuts and pins in position shall be done to the approval of the Engineer.
- Wearing parts shall be designed for interchangeability and ease of removal and replacement.

PPSA 2.4 ARRANGEMENT AND MOUNTING

The arrangement and general design shall take the following requirements into consideration: -

- Lifting eyes, lugs, hooks, etc. shall be provided on heavy and large items to facilitate handling.
- Castings or fabrications shall have machined pads for seating and be mounted on either soleplates or baseplates as appropriate.
- Where accurate alignment is required, positioning pins and/or jacking screws shall be provided.
- The needs of operation and maintenance including neatness, access, working space, safety, cleaning, adjustment, handling, assembly, alignment, disassembly, removal, etc. shall be taken into account.
- With plant and equipment to be mounted on or against concrete or brick structures built by others, provision shall be made for adjustment in the mechanical design. Any special accuracy requirements must be specified on the Contractor's Drawings.

PPSA 2.5 SAFETY

Safety shall be an all-important and overriding consideration and proper attention shall be paid to this aspect at the design and installation stage. The regulations of the Occupational Health and Safety Act, Act 85 of 1993, as amended, shall be strictly observed and the following must also be noted: -

- Hazards must be avoided or guarded. Nip points shall be guarded; sharp corners shall be rounded off; operating handles, supports and protrusions shall be kept clear of access ways; and so forth.
- The Contractor's Drawings and specifications shall clearly specify the structural requirements of the Works and the Contractor shall be responsible for covering all unsafe gaps and openings left in structures after installation.
- Moving parts shall be properly guarded to the satisfaction of the Engineer.
- An emergency stop button shall be installed in a convenient position next to each machine. In addition, trip wires which will stop the driving motor when pulled shall be provided along the accessible side/s of moving conveyor belts, chains and the like irrespective of operating speed and irrespective of guards provided.
- Where, in the opinion of the Engineer, an installation is not safe, the Contractor shall remedy such defect at his own cost to the satisfaction of the Engineer.

PPSA 3 INSTALLATION

All equipment shall be installed according to the manufacturer's specifications.

Furthermore, the following requirements shall apply:

- When complete, the installations shall be of a neat and workmanlike appearance, solidly and evenly supported, true to line and level and in proper working order;
- The Contractor shall provide and install all holding down bolts, supports, hangers, brackets etc. required to support and fix the equipment;
- The Contractor shall undertake all the grouting of the equipment installed under this contract;
- The use of more than three (3) shims in the alignment of the equipment shall not be permitted;
- Fastener threads shall be coated with a nickel based anti-seize compound before assembly.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

PPSA 4 GUARDS

All moving or revolving components of machinery shall be completely covered by guards complying in all respects to the Occupational Health and Safety Act of 1993 as amended.

Furthermore, guards shall comply with the following:

- Be neatly and rigidly constructed and fixed and shall not vibrate or cause noise during operation;
- Be constructed of expanded metal or similar approved mesh where belt drives are used. The openings shall not permit a circular object of 10 mm diameter or larger to penetrate;
- Mesh shall not be acceptable where chain guards are used;
- Shall be easily removable for maintenance purposes;
- Shall allow for adjustments;
- Shall be hot dip galvanised.

PPSA 5 STARTING, SITE TESTING AND COMMISSIONING

The Contractor shall start and test all installed equipment to ensure that it is operating in accordance with the specified requirements. The Engineer must witness all tests and all adjustments shall be made during this period.

The Contractor shall train the operational staff in starting, operating, stopping and undertaking routine maintenance of the installation.

Before starting any installation, the Contractor shall undertake all the necessary checks to ensure that the installation has been correctly carried out and that the equipment has been cleaned, correctly aligned, lubricated and is in all respects ready to start with safety.

The Engineer, and where applicable the sub-contractor, shall be present whenever an installation is started.

PPSA 6 INSTALLATION, OPERATION AND MAINTENANCE MANUALS

Four (4) copies of the Installation, Operation and Maintenance Manual shall be provided for each installation, prior to the commissioning of the installation.

The manuals shall be of a standard acceptable to the Engineer and shall be bound between plastic protective covers and shall contain *inter alia*, the following:

- A description of the equipment installed, as per the technical data schedules, and shall include the details of the name, manufacturer, model number, size and performance data;
- Operating instructions supported by drawings, flow diagrams and sketches;
- Dimensional arrangement and layout drawings;
- A comprehensive lubricating schedule;
- A comprehensive routine maintenance schedule;
- A comprehensive spares list;
- Electrical wiring diagrams.

PPSA 9 PAYMENT

All costs incurred by the Contractor in complying with the requirements of this specification shall be deemed to be included in the rates tendered.

PPSB OPERATIONAL CONTROL

PPSB 1 GENERAL

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

The pumpstation shall have its own local motor control panel. Provision shall however be made for communications to a remote central control room. No control, other than to initiate a shut-down, shall be possible from the Remote Control Room.

Certain specified information shall be displayed at the local control panel and shall be made available for transmission to the Remote Control Room. Communications to the Remote Control Room will however be installed by others.

Once the operating instruction has been initiated by the operator, control of the pump motors shall be governed by the control system.

The Motor Control Panel will be fitted with a Rotary change over switch and a four pin welding plug for emergency generator supply.

PPSB 2 OPERATIONAL BASIS

PPSB 2.1 General:

The pump station will deliver potable water from a receiving reservoir located adjacent to the station, to a remote reservoir, via a single rising main.

The installation shall comprise of a duty and a standby pump set.

Each installation shall be able to operate in the following modes:

- Manual Operator controlled;
- Load Automatic Pressure switch and time clock controlled;
- Remote automatic Telemetry controlled.

Automatic Mode is the normal mode of operation, whilst Manual Mode is for use during testing and maintenance work.

The selection of the mode of operation shall be via an Off, Manual, Auto selector switch.

PPSB 2.2 Automatic Control:

Local and Remote Automatic control of individual and/or combinations of duty pumps, as required to deliver the design flows, shall be available from the pump control panel. Selection of duty pump sets shall be via a selector switch, which shall make provision for alternating duty operation.

The starting and stopping of each individual pump set shall be governed by water levels in the respective reservoirs.

In Automatic Mode, the control system shall operate on the following basis:

Local Automatic:

The duty pump set shall start when in Automatic mode and continue to pump until one of the following conditions occur:

- The receiving reservoir is full (stop initiated by signal from pressure switch);
- The water level in the delivery reservoir drops below a pre-determined level (stop initiated by signal from float switch);
- Operator intervention; or
- A trip condition occurs.

The duty pump set will restart after a given time (adjustable), as determined via a time clock.

Remote Automatic:

The duty pump set shall start when called to do so via a signal from a remote telemetry transmitter (water below a pre-determined level in the receiving reservoir).

The duty pump set will continue to operate until one of the following conditions occur:

- Water level at or above a pre-determined level in the receiving reservoir (receipt of signal from a remote transmitter);
- Signal from the pressure switch;
- The water level in the delivery reservoir drops below a pre-determined level (stop initiated by signal from float switch);
- Operator intervention; or
- A trip condition occurs.

The duty and standby arrangement of the pump motors shall alternate (flip flop) after each duty cycle.

A facility for disabling a pump set and its auxiliary equipment for maintenance and repair work at the pump control panel shall be provided.

PPSB 2.3 Manual Control:

Manual control of individual pump sets shall be available from the pump control panel. When in Manual Mode, all pumps shall be shut-down automatically and shall not be allowed to re-start automatically until back in Automatic Mode.

Operation of individual pump sets shall be via separate start and stop switches. The operation of more than one pump in Manual Mode shall be possible.

A facility for disabling pump motors and its auxiliary equipment for maintenance purposes shall be provided together with emergency stops for each pump motor.

All system protection must remain functional whilst in Manual Mode.

PPSB 2.4 Trip Conditions:

The following trip conditions, which shall contribute to the switching off of the electrical supply to a pump motor, shall exist:

- Operation of an emergency stop;
- On command from the Remote Control Room;
- A signal from the back-up low level float switch or the no-flow switch; and
- Single phasing, earth fault and over or under voltage.

Upon a trip condition, the local alarm shall be activated and a signal sent to the Remote Control Room.

The trip conditional shall only be overridden by the local operator.

PPSB 2.5 Control Valves:

All isolation valves shall be wedge gate valves and shall be manually actuated. All non-return valves are to be flanged swing check valves.

PPSB 3 MONITORING

The following items are to be monitored, displayed and alarmed (where applicable):

- Pump available
- Pump running
- Pump trip (alarm)

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

- Level of receiving reservoir in increments e.g. 25%, 50%, 75%, 100%
- Level of supply reservoir in increments e.g. 25%, 50%, 75%, 100%
- Voltage / amps;
- Power demand (individual and combined); and
- Flow / instantaneous and totalized.

PPSB 4 PUMP CONTROL PANEL

The panel shall comply with the requirements of the Electrical Specification. It shall be compartmentalized and be designed for ease of operation and access to internal equipment.

Control of all pump motors and ancillary equipment functions shall be available at the control panel. The following shall be included on each control panel:

- Operation mode selection;
- Pump selection;
- Pump available;
- Pump start;
- Pump stop;
- Pump running;
- Open / close circuit breaker for main incoming supply;
- Motor Amps;
- Motor kW;
- Pump motor amps and running hours; and
- Alarm / trip conditions if active.

PPSC PUMP SPECIFICATION

PPSC 1 DEFINITIONS

- 'l/s' means litres per second
- 'pump' means the pump of a pump set
- 'pump set' means one pump, its associated motor and ancillary equipment
- 'masl' means metres above sea level
- 'suction head' means the head as defined in BS 5316 and
- 'delivery head' the method of determining these heads shall be, as far as practicable, as laid down in BS 5316 Class B testing
- 'total head'
- 'NPSH' means Net Positive Suction Head as defined in ISO 2548 and measured in metres

PPSC 2 TYPE AND ARRANGEMENT OF PUMPS

The pumps to be supplied shall be suitable for conveying potable water and should be arranged as shown on the drawings issued.

PPSC 3 PUMP DUTIES

The pumps are to be designed to have the best efficiency point at the duty points specified and must be suitable for efficient sustained operation over the pump total head and rate of the flow ranges specified therein.

The pump motors shall comply with requirements of the Electrical Specification and must have at least the following reserve on the continuous rated power requirement.

0-5 kW	50%
5-10 kW	30%
10-30 kW	20%

The pumps to be supplied under the Contract shall be works tested in accordance with BS 5316 Class B, ISO 2548, ISO 9906 or other internationally recognised specification to be stated on the Tenderers offer.

PPSC 4 PUMP SET CHARACTERISTIC CURVES

The Tenderer shall submit with his tender, the following characteristic curves for each pump:

1. Pump total head characteristics
2. Impellor size
3. Pump power input characteristics
4. Pump efficiency characteristics
5. Nett positive suction head requirements

This information is to be presented to cover the normal operating speed or speed ranges of the pump, and is to be plotted against pump output in litres per second from 10 to 120 percent of the duty point flow rate.

The pump unit should preferably have a non-overloading characteristic. In the event of power demand increasing with flow rate beyond the specified duty flow rate, full information is to be submitted with the Tender.

The Tenderer is also to submit in the technical schedules the specific speed (Type Number as defined in BS 5316) at the best efficiency point.

PPSC 5 PERFORMANCE TESTS AT WORKS

PPSC 5.1 Performance Tests

After the pump set has been completed in all its parts and finished with every necessary detail, a series of performance tests are to be carried out at the Contractor's works or at the test bay of the South African Bureau of Standards to ascertain whether the work can be accepted. The Contractor is required to provide test certificates certifying that the performance of the pumpsets is in accordance with the relevant standard specifications to be stated on the certificate.

PPSC 5.2 Performance Test Outputs

The test will be conducted in order to determine the electric power demand, the delivery rate at the rated head at the conditions listed, to assess cavitational behaviour. Each official acceptance test will be carried out at a system head as close as possible to the head specified at duty point.

The measured power demand will be calculated if the pumps are not tested at the rated head. Such calculations are to be presented to the Engineer for approval prior to acceptance and delivery of the pumpset to site.

PPSC 5.3 Performance Tests Acceptance Criteria

If the performance tests prove that:

- The delivery rate of a pump set at the specified total head and designed speed falls short of the quantity specified at the designed duty by more than two (2) percent.
- The electric power demand of the pump drive exceeds the guaranteed power demand by more than four (4) percent at the rated pump duty.
- The motor rated shaft output power is less than fifteen (15) percent above the shaft power required by the pump when delivering the rated quantity at rated head.

The Employer shall have the option of rejecting the pump set and the Contractor shall take steps to immediately carry out such modification as may be necessary to make the pump set comply with the specification or, failing this, to replace the pump set.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

PPSC 6 RESPONSIBILITY FOR ACCEPTANCE TESTS AND GUARANTEES

It is the responsibility of the Contractor to conduct the tests and to provide the requisite support documentation.

PPSC 7 QUALITY OF FLUID TO BE HANDLED

The pumps are to be suitable to handle potable water.

PPSC 8 SUCTION CONDITIONS

The pumps are to be suitable for cavitation free operation over the full range of operating conditions from 10 % to 120 % of duty point flow rate.

PPSC 9 IMPELLORS

Impellers shall be made of a corrosion resistant material of an approved grade. Details of materials are to be furnished with the Tender.

The impeller castings shall be free from blowholes or other significant defects. Plugging or welding of defective castings may be permitted after examination and approval by the Engineer. Repair work done without approval will be cause for rejection.

All fluid passages are to be polished to a smooth finish. Fluid passages which cannot be machined are to be ground and hand-filed to a template.

PPSC 10 CRITICAL SPEED AND BALANCE

Each rotating element shall have a suitable margin of safety between its critical speed and the running speed. The critical speed shall be at least 20 % higher than the highest running speed.

Rotating elements shall be accurately balanced, statically and dynamically with the drive coupling fitted.

PPSC 11 PUMP CASING, BEARINGS AND FITTINGS

The pumps shall be provided with casings made in cast iron or aluminium, dependent on the stresses corresponding to the required test pressure. The pump casings shall be tested to a pressure of at least 1.5 times the maximum possible working pressure and the proposed test pressures shall be stated in this section.

The materials proposed for the pump casings shall be fully described in this section in respect of mechanical and chemical properties. Repair work done without approval shall be cause for rejection.

Through-bolting for the purpose of blanking the castings at the gland housings for pressure test purposes will not be permitted.

The casing shall be free of any internal projections or cavities and top and bottom halves shall be matched on the flange faces.

Suction and delivery branches of each pump shall have a cut made inside the bore when the flanges are being faced to ensure that the branches are concentric and to the correct dimensions.

Ball and roller bearings with oil bath lubrication are preferred and shall be selected to have a B10 life of 100 000 hours. The oil reservoirs shall have sufficient capacity to ensure continuous operation without undue temperature rise.

All bearings shall be designed to function without overheating or damage if the pump runs in reverse.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Adequate provision shall be made to prevent damage to bearings by any stray electric current which may be produced in the pump shaft.

Adequate provision shall be made for cooling of the bearings. All cooling water pipework, valves and fittings shall be of compatible materials. The waterside of the cooler tube assembly shall be hydraulically tested after installation has been completed to 3 times the maximum working pressure. Test pressures shall be maintained for 30 minutes and shall be witnessed by the Engineer.

Any cooling water piping, filters, valves, oil pumps etc., necessary for the safe operation of the bearings or the motor(s) shall be provided under this contract.

PPSC 12 PUMP FLANGES

Pump flanges are to be drilled in accordance with SANS 1123 unless otherwise specified. If the Tenderer wishes to offer equipment having flange drillings different from the above, he shall note this point specifically and state the drilling standard which he proposes to offer.

PPSC 13 DESIGNATION AND INFORMATION PLATES

Each pump is to be provided with a plate giving substantial information of the pump and shall be securely fastened to the pump casing in an easily visible position and clearly and indelibly marked with the following details:

- Marker's name, serial number and order number;
- Client's contract number
- Year of manufacture
- Duty of pump l/s m head at rpm
- Mass of complete pump in kg

PPSC 14 PUMP SET PROTECTION DEVICES

The pump sets are to be provided with the following equipment:

- Over-load Protection
- Over and under voltage Protection
- Surge Protection
- Mercury float switch (Starting and Stop pump sets)
- Pressure switch (stop pump set)
- No-flow switch (stop pump set).
- Timer

PPSC 15 VIBRATION LIMITS

The required vibration velocity limit of the pumpset when operated at full speed over the full pump discharge head curve shall not exceed 4 mm/s.

PPSC 16 ESTIMATED PUMP DUTY SPECIFICATIONS

- | | | | |
|---|---------------------------|---|--------------------------------------|
| • | Type | : | Electrically driven submersible pump |
| • | No. | : | 01 |
| • | Fluid | : | Potable water |
| • | Design Flow | : | 1 l/s |
| • | Total static head | : | 202 m |
| • | Delivery pipeline | : | 63mm (PVC) |
| • | Total pipeline length | : | 500 m |
| • | Calculated TMH | : | 214 metres |
| • | Specified duty conditions | : | 1 x duty pump set |
| • | Expected velocity range | : | 0,7 – 1,5 m/s |
| • | Pump size | : | 4kW |
| • | Control methodology | : | As set per timer |

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

PPSC 17 PERFORMANCE TESTING OF PUMPING PLANT ON SITE

On completion of the installation of the pump sets, the Contractor shall test the pumps in the presence of the Engineer.

Each pump will be individually tested over its whole range of delivery. Where pumps operate in parallel, tests shall be carried out to check these operating conditions.

Should the tests prove that the pumps do not meet specification the Employer shall have the option of rejecting the pump set and the Contractor shall take steps immediately to carry out such modifications as may be deemed necessary to allow for the pump set to comply with the specification, or failing this, to replace the pump set.

PPSD 1 ELECTRICAL SPECIFICATION

PPSD 1.1 MOTOR CONTROL PANELS

The electrical distribution boards are to be manufactured by a reputable company, with relevant experience in the manufacturing of electrical distribution boards, control panels, etc. Approval of the manufacturing company should be obtained from the Engineer prior to the placing of any orders / commencement of Works.

Detailed wiring diagrams and shop (manufacturing) drawings of the proposed electrical distribution board is to be submitted to the Engineer for approval, prior to manufacture.

Approval of the wiring diagrams and shop (manufacturing) drawings by the Engineer does not remove any responsibility from the contractor to ensure the completeness and compliance of the distribution board.

The contractor shall ensure that the respective electrical distribution boards are constructed to fit into the spaces provided, that sufficient space is allowed for the cable ends and termination thereof and that the board is provided with an architrave and a hinged lockable door. All electrical distribution boards shall have a protection rating of no less than IP55.

All gland plates, as well as top or side plates used for the termination of cables shall be easily removable to facilitate the drilling and punching of holes. Panels (fascia) and cover plates are to be fixed to the framework by means of "Quicklock" or other similar captive fasteners. Self-tapping screws or dome nuts will not be accepted. Panels (fascia) and cover plates are to be fitted with chrome plated handles to facilitate removal.

Where applicable, the front panels of normal supply, standby power supply and uninterruptible power supply sections shall be painted in distinctive colours, namely :

- ☐ External : White
- ☐ Normal supply : Light Orange, colour B26 of SABS 1091
- ☐ Standby power supply : Signal Red, colour A11 of SABS 1091
- ☐ Un-interruptible power supply : Dark Violet, colour F06 or Olive Green, colour H05 of SABS 1091

PPSD 1.2 Conduit and Conduit Accessories

Conduit for the general lighting and small power installations shall be PVC type conduit. Wherever, the conduit installation is exposed, or surface mounted, galvanised conduit shall be utilised.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Conduit accessories shall be galvanised conduit type in accordance with SANS 162, 763 and 1007 respectively.

The conduit and conduit accessories shall comply fully with the applicable SABS specifications as set out below and the conduit shall bear the mark of approval of the South African Bureau of Standards.

- ☐ Plain-end metallic conduit and accessories: SANS 1065, Parts 1 and 2
- ☐ Non-metallic conduit and accessories: SANS 950

The Specialist Sub-contractor shall ensure that conduit installation shall, wherever possible, be installed within the ceiling voids / roof space. Wherever necessary, the services shall be chased, or cast into, the concrete slabs and brick walls.

Should flush mounting not be practical (or possible), the Contractor shall obtain prior approval from the Engineer, for the installation of surface mounted conduit and / or accessories. If approved, surface mounted conduits shall be installed using galvanised spacer brackets, allowing a clear space of 25 mm. Conduit accessories shall be mounted on similar brackets, ensuring an aesthetic installation.

PPSD 1.3 Conductors

All low voltage single core conductors shall be of the PVC insulated type with stranded copper conductors, rated at 600 V general service duty and manufactured to SANS 1507 - 1990.

The colour coding for the PVC insulation shall be red, white and blue for phases, black for neutral and green and / or yellow for earth.

No openly installed (i.e. surface mounted) "surfix" or twin and earth will be permitted unless otherwise authorised by the Engineer prior to installation.

No single core conductors will be permitted on open channels and cable ladders.

The drawing in of more than two circuits per conduit shall not be allowed.

PPSD 1.4 Lighting Installation

Light outlet points shall be installed generally in positions as indicated. They shall be as symmetrical as possible within the area in which they are fitted. Cognisance must be taken of the finishes and structural components to avoid clashes of services.

Ceiling mounted fluorescent fittings shall be secured to the concrete ceiling by means of expansion bolts, or "Hilti" fixings, and to the ceiling boards by means of galvanised "Butterfly" expansion nuts.

The Specialist Sub-contractor is to include in the Tender Price the provision of fixing additional branding where needed.

Light switches shall be a fully modular system comprising a strong, universal steel support frame, an easy clip-on assembly and a white screwless cover plate i.e. Mosaic™ product range, or Lumex Clipsal S2000 series, or Crabtree Diamond Range, etc.

Light switches, unless otherwise indicated, shall be installed at 1 400 mm AFFL, and shall be installed generally in positions as indicated.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

The light switches, and associated outlets, shall be of the same type and manufacture as the flush-mounted and the power skirting / flush floor / under-screed small and large power, telephone and data outlets.

All lamp types shall be guaranteed for the full duration of the guarantee period and / or the stipulated lamp life, as stated by the lamp Manufacturers, whichever is the greater.

Ballasts of fluorescent type fittings shall bear of the electronic type, and shall bear the relevant SANS mark.

The Contractor shall, upon completion of the Contract, issue to the Employer, for their maintenance purposes, the spare lamps as specified in the Schedule of Quantities.

Photo-electric daylight switches shall be supplied and installed in accordance with Part 5 of this Tender Document.

PPSD1.5 Earthing System

The earthing system shall comply with SANS 0142 - 1987 and shall comprise a continuous main copper earth bar together with connections to all items of electrical, electronic and mechanical equipment.

Bonding of the earth system to metal work in buildings, concrete reinforcing, roofs or pipework, etc. shall also be supplied under this contract.

The clamping surfaces of all connections shall be properly tinned to prevent oxidation.

Where earthing conductors are run on walls or vertical surfaces they shall be secured by "stand-off" bolted saddles at intervals not exceeding 1 268 mm.

Earth electrodes to be supplied and installed under this contract shall consist of 16 mm diameter extensible molecular bonded copper clad steel rods 1 800 mm long, complete with coupling and terminal. These electrodes must comply with SANS 0163 - 1985.

The Contractor shall be responsible for the supply and installation of the required earthing system.

PPSD1.6 Surge Protection System

All electrical distribution boards are to be fitted with surge protection, as is required by the relevant regulations.

The Contractor shall be responsible for the supply and installation of the required surge protection equipment.

PPSD1.7 Lightning Protection System

A provisional sum has been allowed in the Schedules of Quantities for the lightning protection system, to be undertaken by a Contractor.

The Engineer shall prepare detailed design drawings for the required lightning protection system.

The Engineer shall, in consultation with the Specialist Sub-contractor, invite tenders from prospective Specialist Sub-contractors, for the required lightning protection system.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

The Contractor shall be responsible for the liaison with and co-ordination of the Specialist Sub-contractor appointed for the lightning protection system.

General

Earthing systems to protect buildings against lightning shall be in accordance with SANS 03 - 1985, as amended.

The components of the lightning protection system shall be installed such that they are not visible; surface mounting of the components shall be kept to an absolute minimum and only where absolutely necessary.

Roofs

Metallic roof sections shall be connected to down conductors to form the overall air termination network, and metallic gutters and drainpipes shall be bonded to this.

Non-metallic (e.g. concrete) sections of roofs shall be fitted with edge or ridge conductors of coastal quality aluminium alloy, which shall be bonded to steel reinforcing by means of bimetallic bonding terminals.

These conductors shall be supported by suitable cleats or clamps, which must allow for thermal expansion. The mounting thereof shall be such as to prevent corrosion due to direct contact with the concrete.

The air termination network shall be connected to the ground earth electrodes by down conductors.

Parts of the building, e.g. chimneys protruding above the general level of the roof shall be protected either by lightning masts or edge conductors, connected to the air termination network.

Down Conductors

The concrete reinforcing, steel columns or similar metal work in the walls of the building shall normally be used as down conductors, connected to the air termination network ground electrode systems through bonding terminals.

Where connected to reinforcing, these terminals shall be cast into the concrete and the reinforcing bars shall be bonded together with mild steel wire prior to casting the concrete.

Where separate external copper or aluminium down conductors are used these shall be bonded to the metal structure of the building to prevent flashing puncturing the concrete or brickwork.

There shall be a minimum of two down conductors (maximum spacing 30 m of building perimeter) preferably located at opposite building corners.

Down conductors shall be connected to the ground system with (if aluminium, bimetallic) bonding terminals 500 mm above ground level.

These terminals shall also be useable as test terminals. The down conductor shall be sleeved below the terminal to a depth of 400 mm below ground level by PVC pipe fixed to the building wall.

Ground Earth Electrodes

The steel reinforcing in the foundation of the building shall be bonded to the ground electrode system.

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

The steel reinforcement of the building foundation slab shall be earthed by means of driven or pre-drilled rods prior to casting of the concrete. The reinforcing bars shall be bonded together with mild steel wire.

The ground earth electrode shall consist of a trench earth around the building with a single 70 mm² copper conductor or 25 mm x 3 mm strip, buried at a minimum depth of 1 000 mm not more than 1 000 from the building, unless necessary to increase locally to avoid pipes or other fixtures.

The conductor shall be buried in riddled earth to improve conductivity.

The earth resistance of the ground electrode shall not exceed 30 ohms when isolated from the rest of the low voltage electrical system and down leads and shall be supplemented as necessary with driven molecular bonded copper clad steel rods manufactured to SABS 0163 - 1985.

PPSD1.8 Telemetry/GPRS Equipment

The telemetry/GPRS will send alarms and data to a control room where the operation and the security of the four Sewer Pump station can be monitored 24 hours a day. The system will monitor electric fencing, tamper switches, stopping, starting and trip out on the four system.

C3.4 HEALTH AND SAFETY SPECIFICATION

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

Issued in terms of the Occupational Health and Safety Act, 1993
Construction regulations 2014

**PROJECT DESCRIPTION: ASIDI BASIC SERVICES
(WATER PROJECTS) CLUSTER 2B**

Independent Development Trust (IDT)

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TABLE OF CONTENTS

1	SCOPE	2
2	DEFINITIONS	3
3	INTERPRETATION	4
4	THE OCCUPATIONAL HEALTH AND SAFETY FILE	4
5	GENERAL REQUIREMENTS	5
6	TRAINING, AWARENESS AND COMPETENCY	5
7	OCCUPATIONAL HEALTH & SAFETY MANAGEMENT	6
8	GENERAL RISK MANAGEMENT	9
9	COMMUNICATION ON SITE	11
10	CARE OF WORKERS ON SITE (WELFARE)	11
11	DISCIPLINE, ALCOHOL AND SUBSTANCE ABUSE	11
12	WORKING AT HEIGHTS	11
13	EXCAVATIONS	11
14	TEMPORARY WORKS	12
15	CRANES AND LIFTING OPERATIONS	12
16	ELECTRICAL AND MECHANICAL INSTALLATIONS	12
17	DELIVERY OF MATERIALS TO SITE	13
18	CONTRACTOR MANAGEMENT	13
19	NON-CONFORMANCES	13
20	PROJECT CLOSE OUT REQUIREMENTS	14
21	ANNEXURE A: INCIDENT RECORDING	15
22	ANNEXURE B: NOTIFICATION OF CONSTRUCTION WORK	17
23	ANNEXURE C: MANDATORY DOCUMENTS	19
24	ANNEXURE D: MEDICAL CERTIFICATE	22
25	ANNEXURE E: BASELINE RISK ASSESSMENT	24

Contractor ____ Witness 1 ____ Witness 2 ____ Employer ____ Witness 1 ____ Witness 2 ____

1 SCOPE

1.1 Scope of Application

This health and safety specification shall apply to the ASIDI Basic Services (Water Projects) - Cluster 2B as follows:

- Provides the overarching framework within which the Principal Contractor is required to demonstrate compliance with certain requirements for occupational health and safety established by the Occupational Health and Safety Act 85 of 1993 during construction work;
- Establishes the way the Principal Contractor is to manage the risk of health and safety incidents during construction; and
- Establishes the way the Client's Health and Safety Agent will interact with the Principal Contractor.

This specification establishes general requirements to enable the Principal Contractor to satisfy aspects of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Construction Regulations, 2014. The Principal Contractor is required to develop, implement, and maintain a site-specific health and safety plan. The Client is required to provide certain site-specific information to the Principal Contractor or a health and safety specification for the works to enable such a plan to be formulated. Accordingly, this specification on its own cannot ensure compliance with the requirements of the Act.

The Construction Regulations, 2014, requires a Client to stop any contractor from executing construction work which is not in accordance with the contractor's health and safety plan for the site or which poses to be a threat to the health and safety of persons.

1.2 Scope of Works

The scope of works for the project entails the following:

ASIDI Basic Services (Water Projects) - Cluster 2B.

1. CIBINI JSS

Replace stolen pump
Backfill around all 7 tank stands with top soil (15m³) Plaster inside pump chamber (8m²)
Cast concrete on pump chamber floor (0.5m³ of 30MPa concrete)
Install 1.5x 1.5x 0.2m concrete manhole cover with ref.193 mesh over pump chamber (0.5m³ of 30MPa concrete)
Replace 3 damaged lockable taps with 3 padlocks
Fence elevated tank
Replace damaged down pipes from gutters (15m) Replace damaged galvanized gutters with fascia boards
Install new ball valve with all accessories in receiving ground tank
Install saw-cut joints on 6 cracked tank stands (48m) Inspection of electrical connections and issuing of a C.O.C Pressure testing
Clean up the whole site and remove excess material from site. Install concrete V-drains on water tanks
Replace missing lockable taps
Install damaged toilets standpipe with lockable taps and drainage as per detail

2. FULINZIMA JPS

Equip borehole completely. Supply and Install Wind Turbine (1 kW) complete with Galvanised Monopole Tower and Water Pump
Fence borehole
Fence elevated tank
Backfill rising main to elevated tank with top soil (12m³ of top soil) Replace 2 damaged lockable taps with 2 padlocks
Install concrete V-drain with a soak away from stand pipe
Demolish and redo damaged concrete tank stand (2x2x0.5m) Install concrete V-drain with a soak away from water tank Inspection of electrical connections and issuing of a C.O.C Clean up the whole site and remove excess material from site. Pressure testing
Replace damaged galvanized gutters with fascia boards
Install damaged down pipes
Replace missing lockable tap on water tank
Install new kitchen standpipe with drainage as per detail
Install new drinking fountain with lockable tap and drainage as per detail
Install new standpipe at toilets with drainage as per detail

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

Connect borehole to existing elevated tank. Use 32mm HDPE pipes	
3. KUYASA JS	Equip borehole completely. Supply and Install Wind Turbine (1 kW) complete with Galvanised Monopole Tower and Water Pump Fence borehole Fence elevated tank Backfill rising main to elevated tank with topsoil (12m³ of topsoil) Replace 6 damaged lockable taps with 6 padlocks Install concrete V-drains from tanks as per detail Replace blown away and damaged 10kl elevated water tank Install 4 drainage pipes with soakaways from rainwater tanks Install saw-cut joints on tank stands (30m) Realign 25m existing gutters to drain into 3 water tanks and fix them onto existing fascia boards Inspection of electrical connections and issuing of a C.O.C Pressure testing Clean up the whole site and remove excess material from site. Replace 3 missing lockable taps Install drinking fountain with lockable tap and drainage as per detail Replace damaged galvanized gutters and fascia boards
4. LAPHUMIKWEZI JS	Equip borehole complete. Supply and Install Wind Turbine (1kW) complete with galvanised Monopole tower and water pump. Fence borehole Fence elevated tank Backfill rising main to elevated tank with top soil (12m³ of top soil) Install 8 concrete V-drains with soak aways on rainwater tanks. Install missing down pipes (20m) Plaster 6 tank stands (24m²) Replace damaged stand pipes with drainage at Kitchen and Toilets Inspection of electrical connections and issuing of a C.O.C Replace 2 damaged lockable taps Pressure testing Clean up the whole site and remove excess material from site. Install new drinking fountain with lockable tap and drainage as per detail Galvanize spray paint the elevated tank stand Allow connection of community water supply to the school. 50mm uPVC pipes with fittings
5. MBASHE SP	Fencing the elevated tank area Replace stolen water pump Install a lockable concrete manhole cover (650x650x100) with ref mesh 193 on the pump chamber Install a 110mm diameter uPVC drainage pipe from the pump chamber (6m length) with a soak away as per engineer's detail Construct 3 No. 500x500x350mm deep valve chambers with 500x500x100mm top covers plastered inside Backfill with top soil around all rainwater harvestings tanks (1.5m³ of top soil) Replace 2 vandalized standpipes with drainages at the kitchen and toilets Install 2 drainages and soak on kitchen and toilet stand pipes as per the detail Install saw-cut joints on 5 rainwater tanks (40m). Replace damaged tap on drinking fountain Pressure testing to be done. Clean up the whole site and remove excess material from site. Inspection of electrical connections and issuing of a C.O.C Replace damaged galvanized gutters with fascia boards Replace damaged pipe line to drinking fountain.

2 DEFINITIONS

As per the Occupational Health and Safety Act (85 of 1993) and the relevant regulations and applicable standards.

2.1 List of Abbreviations

CC	Compensation Commissioner
CHSA	Construction Health and Safety Agent
CHSO	Construction Health and Safety Officer
CR	Construction Regulations (Gazette 10113 of 07/02/2014)
DoL	Department of Labour
GAR	General Administration Regulations
GSR	General Safety Regulations
HCSR	Hazardous Chemical Substances Regulations
HIRA	Hazard Identification Risk Assessment
H&S	Health and Safety
OHS	Occupational Health and Safety Act No. 85 of 1993 (as amended)

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

OHSS	Occupational Health and Safety Specification
PA	Principal Agent
PSHSS	Project Specific Health and Safety Specification
PC	Principal Contractor
PPE	Personal Protective Equipment
SANS	South African National Standards (Authority)
SDS	Safety Data Sheet
SWP	Safe Work Procedure

2.2 Key References

- Occupational Health and Safety Act, No. 85 of 1993 and Regulations (as amended)
- Construction Regulations 2014;
- Compensation for Occupational Injuries and Diseases Act, No. 130 of 1993 (as amended);
- Consolidated Directions on OH&S Measures in Certain Workplaces, 2020;
- SANS Standards; and
- Codes of Practice (COPs).

3 INTERPRETATION

The Occupational Health and Safety Act 85 of 1993, herein after referred to as “the Act” and its associated regulations, particularly the Construction Regulations 2014, shall have precedence in the interpretation of any ambiguity or inconsistency between it and this specification.

3.1 Purpose of the Project Specific Health and Safety Specification (PSHSS)

The PSHSS is a performance specification to ensure that the Client and any organization that enter into formal agreements with the Client / Agents, Professional Service Consultants (Engineers, Quantity Surveyors and Architects), Principal Contractors and Contractors achieve an acceptable level of OHS performance on the project.

No advice, approval of any document required by the PSHSS, such as hazard identification and risk assessments, or any other form of communication from the Client shall be construed as acceptance by the Client of any obligation that absolves the Principal Contractor from achieving the required level of performance and compliance with legal requirements. Furthermore, there is no acceptance of liability by the Client, which may result from the Principal Contractor failing to comply with the PSHSS, i.e. the Principal Contractor remains responsible for achieving the required performance levels.

A Mandatory Agreement in terms of Section 37.2 of the OHSA will be signed between parties prior to any works commencing. The PSHSS highlights the aspects to be implemented over and above the minimum requirements of current legislation. Requirements may be changed should new risks or issues be identified that which could not have been foreseen during the design phase of the project, or during the construction phase. Any new legislation or standards (legislated or determined by the Client) that are promulgated or accepted during the contract will automatically be applied.

It should be well noted that in no way does this PSHSS relieve the Contractor of any of his responsibilities set out in the Act and Regulations.

4 THE OCCUPATIONAL HEALTH AND SAFETY FILE

As required by Construction Regulation 7, the Principal Contractor shall keep and maintain a Site Health and Safety File where all relevant health & safety records will be kept, including the Site Specific Health & Safety Plan, COVID-19 Plan and the relevant construction risk assessments as stated above. Other relevant information includes but not limited to:

- Copy of the OH&S Act, the Construction Regulations 2014 and any other Regulations required by law to be kept on site;

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

- Valid Letter of Good Standing with the Workmen's Compensation Commissioner;
- Principal Contractor Appointment Letter and Mandatory Agreement;
- Risk Assessments;
- Safe Work Procedures;
- Method Statements;
- Appointment Letters and Proof of Competency / Training Certificates;
- Attendance registers for inductions and toolbox talks;
- Emergency Preparedness Plan and Emergency Contact Numbers;
- Fall Protection Plan, including Fall Rescue Plan;
- Inspection records;
- Contractor Appointment Letters and Mandatory Agreements with Contractors; and
- COVID-19 Plan and Risk Assessment; etc.

5 GENERAL REQUIREMENTS

5.1 General Risk Management

The Principal Contractor must provide a detailed risk assessment for the entire works on site. Certain construction activities, equipment, substances etc. represent significantly higher safety risks than others. The risk assessment is required to define systems and safe working procedures that will be implemented on site in an endeavor to complete the activity safely. The set of risk assessments required to be submitted to the Client must include the assessment of health risks such as those that are associated with COVID-19, and other health risks which may result from lack of personal hygiene, ergonomic hazards, etc.

The contractor is required to:

- Identify health and safety hazards and risks to which persons may be exposed;
- Analyze and evaluate the identified hazards and risks;
- Document a plan which will highlight safe working procedures to mitigate, reduce or control the identified risks; and
- Develop a Monitoring and Review Plan of the hazards and risks.

The client baseline risk assessment provided with this specification aims to provide the framework within which the risks must be assessed for the construction phase of the project, and to highlight any reasonably foreseeable risks which may be inherent to the project based on its current scope of works. The BRA is therefore not the replacement of the contractor's risk assessment but rather to point the contractor towards some risks he might not be aware of during tendering stage and while conducting his formal risk assessment. The baseline risk assessment, which is attached as an Annexure to this specification must be used as a guide in conducting the construction phase risk assessments.

6 TRAINING, AWARENESS AND COMPETENCY

6.1.1 Health & Safety Training

The Principal Contractor must ensure that all his / her staff is adequately trained to perform the tasks allocated to them and that there is the requisite amount of supervision at all times to maintain safe work practices and standards, particularly where semi-skilled and unskilled personnel are involved. The contractor shall conduct a training needs analysis to ascertain what health and safety training and re-training is required. No employees shall be allowed on site unless there is proof of induction training and some form of identification.

6.1.2 Induction

The contractor shall conduct a site-specific health & safety induction for all the employees, contractors and visitors to the site.

Copies of the attendance registers signed by the attendees as acknowledgement of attendance are to be kept on site in the health & safety file for verification during inspections and Client Audits.

The onsite induction training must also include precautionary measures to be taken on site to prevent the spread of COVID-19. Such measures shall include inter alia the importance of disclosure of any COVID-19 related symptoms, good personal hygiene, observing and maintaining safe social distancing, use of suitable PPE such as face masks, etc.

6.1.3 Awareness

The Principal Contractor shall conduct on-site periodic toolbox talks, preferably weekly or before commencing a hazardous work (activity). The talks shall cover the relevant activity and an attendance register and the contents of the topics discussed must be kept on site in the health & safety file.

Safety notices and symbolic signs, including health and safety awareness posters must be displayed at the site entrance and at strategic positions on the site to create health and safety awareness.

COVID-19 awareness signs, notices and posters must also be displayed at strategic positions.

6.1.4 Competency

The Principal Contractor shall send relevant persons to appropriate courses as required by the Act, relevant Regulations, and applicable safety standards. The type of training to be conducted will be determined after conducting a Hazard Identification and Risk Assessment (HIRA). Copies of training certificates must be kept on site in the health & safety file.

The training to be conducted is, but not limited to:

- Health & Safety Representative Course;
- First Aid Training,
- Fall Protection Planner (SAQA US 229994);
- Working at Heights (SAQA US 229998)
- Scaffolding Erectors and Inspectors;
- Incident investigation; and
- Hazard Identification & Risk Assessment Course.

6.2 Specified Hazardous Chemical Substances

The PC is to supply the products required as per the bill of quantities-, materials data sheets (MSDSs) for each of the product envisaged to be utilized on site. The South African MSDS to be provided.

7 OCCUPATIONAL HEALTH & SAFETY MANAGEMENT

7.1 Notification of Construction Work

The Principal Contractor must, where the Contract meets the requirements laid down in Construction Regulation 4, at least 7 days before that work is to be carried out, notify the Department of Labour of the intention to carry out construction work and use the form (Annexure 2 in the Construction Regulations) for the purpose. The notification of construction work must be signed by the Client and Principal Contractor prior to submission to the Department of Labour.

A copy of Annexure 2 and DOL acknowledgement letter shall be kept on file.

This must take place before any work commences.

It should be noted that in no way does this PSHSS relieve the Contractor of any of his responsibilities set out in the Act and Regulations.

Contractor ____ Witness 1 ____ Witness 2 ____ Employer ____ Witness 1 ____ Witness 2 ____

7.2 Appointment of Competent Site Personnel

The CEO (OHSA S16.1) of the PC will take overall responsibility for the appointment of competent site staff for the duration of the project. Should the CEO not be personally involved in the project, the H&S responsibilities are to be delegated to the Acting CEO (OHSA 16.2). Knowledge and training in H&S are required, and certificates indicating H&S training as well as experience to be included in CVs. The designated Construction Manager (CR 8.1) shall also be empowered to appoint personnel on the site as part of his / her duty to ensure health and safety compliance.

All other legal appointments are to be made with relevance to the type of work to be performed.

7.3 Construction Manager (CR 8.1)

The Principal Contractor must in writing appoint one full time competent person as the construction manager with the duty of managing all the construction work on this single site, including the duty of ensuring occupational health and safety compliance. In the absence of the designated Construction Manager, an alternate must be appointed and the appointed shall have training and/or experience in the area of responsibility.

7.4 Construction Work Supervisor (CR 8.7)

The Construction Manager must in writing appoint construction work supervisor/s responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

7.5 Construction Health and Safety Officer (CR 8.5)

The Principal Contractor must appoint a suitably competent Construction Health & Safety Officer (CHSO) to co-ordinate his or her organization's health & safety efforts on the site.

The CV for the proposed CHSO must be submitted to the Client appointed CHSA for approval. The appointed CHSO must be **full time on the project but part time per school** and readily available on site during working hours. The CHSO must conduct monthly internal audits and random site safety and equipment checks, including overall compliance with the site-specific construction health and safety plan and procedures, and compile a monthly CHSO report to be tabled at each site progress meeting.

The minimum qualification for the CHSO must be a matric certificate, SAMTRAC qualification with at least two years and more experience on civil engineering and/or building projects.

The CHSO that the Principal Contractor intends to appoint must be registered as a CHSO with the SACPCMP and shall provide a valid registration certificate with the Council.

7.6 Health & Safety Representative / H&S Committee Member (OHS Act 17 & 19)

Irrespective of the number of employees employed on the site, the PC and contractors must each appoint a full-time health and safety representative, who at least has completed the necessary health and safety representative course. The election or appointment of health & safety representatives must be in writing.

Regular inspections are to be carried out by health & safety representatives; records must be kept on site in the health & safety file. Deviations must be rectified by the responsible person immediately.

The H&S representative will liaise and report to the health and safety officer.

In cases where there are more than two health & safety representatives elected, a health & safety committee must be established. Health and safety committee meetings must be held at least monthly to discuss relevant health & safety topics.

7.7 First Aider / First Aid Attendant

The Principal Contractor must appoint at least two Level 3 First Aid Attendant for the project and where practicable, one First Aid Attendant for each work team or section of the works.

Contractor ____ Witness 1 ____ Witness 2 ____ Employer ____ Witness 1 ____ Witness 2 ____

The appointed First Aid Attendants must be suitably qualified and have valid training certificates.

The Principal Contractor together with the responsible First Aid Attendant must ensure that the first aid boxes(s) are fully stocked.

7.8 Risk Assessor

The Principal Contractor is required to appoint a competent risk assessor and must understand the process of identifying hazards and assessing risks emanating from the identified hazards.

This appointed person can be an already designated health & safety officer because the task of assessing risks is an ongoing process and therefore risk review process must be done regularly.

This will also mean that that person will be responsible to put together a risk profile, rate the risks, and ensure that there are appropriate corrective action plans.

Further to that, there must be a direct link to the personal protective equipment / clothing and training to be conducted throughout the contract.

7.9 Other Appointments are stated below but not limited to:

- Drivers / Operators of Construction Vehicles and Plant;
- Electrical Installation & Equipment Inspector;
- Excavations Supervisor;
- Emergency / Security / Fire Co-ordinator;
- Fire Equipment Inspector;
- Temporary Works Supervisor and Inspector;
- Scaffolding Erector/s and Inspector;
- Stacking and Storage Supervisor;
- Hand Tools Inspector;
- Ladder Inspector; and
- COVID19 Compliance Officer;
- All other relevant Appointments for the Project.

The Principal Contractor shall, when appointing Contractors, shall do so in terms of the Construction Regulations 2014, and in terms of the requirements of Section 37(2) of the Occupational Health and Safety Act, 85 of 1993 (As amended).

The appointments shall be in writing and the responsibilities clearly stated together with the period for which the appointment / designation is valid. This information shall be communicated and agreed with the appointees as well as all the mandataries.

The Principal Contractor must provide a project specific health and safety organogram of all appointed / designated personnel and a list of contractors appointed on the project and shall always keep an up to date copy of each on site. The site organogram and list of contractors shall also be displayed on the site notice board.

The Principal Contractor is to ensure that each Contractor's H&S documentation is evaluated and approved in accordance with the Occupational Health and Safety Act 85 of 1993 (As amended) and applicable regulations. A copy of the Contractor's H&S Plan Approval is to be sent through to the appointed H&S Agent.

The Principal Contractor must ensure that an audit is conducted on each Contractor on a monthly basis before the arranged site progress meeting. This audit is to be conducted by the Principal Contractor's appointed H&S Officer and a report is to be given on each Contractors H&S performance for the past month.

8 GENERAL RISK MANAGEMENT

8.1 Health Risks and Medical Surveillance

The appropriate MSDSs are to be obtained for all products and used to develop the H&S documentation as they relate to the works. The PC is to ensure and supervise safe use of products / chemicals, and their inclusion into risk assessments.

All employees on the site, including contractors, must be in possession of valid medical certificates of fitness to work, issued by an Occupational Health Medical Practitioner in the form of Annexure 3. These medical certificates shall be in the categories of pre-employment, annual and exit medical evaluation.

Furthermore, the medical surveillance program shall include initial screening of COVID-19 symptoms based on the professional advice of the OHMP / OHNP. Good personal hygiene must be promoted on the site and the sanitary and hand washing facilities with soap and running water must be provided.

8.2 Emergency Procedures

An emergency plan and procedure that is appropriate to the risks is required prior to commencement on site. It is advised that the system should be simple and easy for any worker to follow. The plan / procedure must include COVID-19 related emergencies such as responding to COVID-19 case/s on the site. Assembly point / area to be large enough to allow for social distancing during roll call.

The emergency plan is to ensure the inclusion of local service providers where possible, including nearest COVID-19 testing station. Such arrangements should be made with the service providers prior to the commencement of the project. An isolation area for COVID-19 suspected persons must be made available on site, preferably an enclosed area or room.

Local emergency telephone numbers must be displayed and made part of the emergency procedure. COVID-19 Emergency Contact numbers must also be included on the list

The general principals of emergency management are to be applied as it applies to the hierarchy of control and management.

8.3 Security and Access Control

The Principal Contractor shall establish site access rules, implement, and maintain these throughout the construction period.

Access control procedure shall ensure that non-employees do not proceed on to work areas unaccompanied by a senior site responsible person. All workers and visitors to site must be screened for COVID-19 symptoms before they can be allowed on site. Should a person exhibit any of the COVID-19 symptoms, that person shall not be allowed to site and must either be transported home or to the nearest testing centre.

8.4 Fires and Emergency Management

Attention to emergency planning and procedures is very important. Requirement in terms of identified risks:

- Fire;
- Public Safety;
- Working near water;
- Falls from heights;
- Electricity; and
- Riots.

The emergency plan is to ensure the inclusion of local service providers where possible. Such arrangements should be made with these persons prior to the commencement of the project; the emergency plan is to include the risks of fire on site and related to any specific activities.

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

Fire extinguishers will be appropriate for the risk and in sufficient numbers to deal with the type of fires that could occur.

8.5 Incident Management and Compensation Claims

All incidents and accidents are to be investigated using a form similar to Annexure 1 hereto attached. All serious incidents requiring medical attention or involving any form of disabling or lost time injury or fatality are to be reported to the Client /CHS Agent immediately. This shall be confirmed in writing following the incident.

8.6 Personal Protective Equipment (PPE) and Clothing

The PC is to provide PPE to all employees free of charge, based on the risk assessments and the type of work to be performed.

The wearing of the identified SANS approved PPE at all times is non-negotiable.

- Hard hats;
- Protective footwear;
- Overalls that ensure worker visibility.
- Eye protection (if required)
- Hearing protection;
- Reflective jackets (No bibs);
- Respiratory Protection (minimum of FFP2) for activities where a more effective mask other than a cloth masks is required;
- Safety Harnesses with Big Hooks; and
- Any other necessary PPE identified from MSDS's and/or risk assessments.

All employees and visitors to the site must always wear face masks to prevent the spread of COVID-19 both at the workplaces and within the surrounding communities.

8.7 Occupational Health and Safety Signage

As mentioned earlier on this document, on-site H&S awareness signage is required. Signage shall be posted up at fixed or temporary working areas, or other potential risk areas/operations. These signs shall be in accordance with the requirements of the General Safety Regulations or SANS requirements as amended. Signage is to be noted on the site layout drawing indicating where fixed/temporary signage is required.

The signage to be displayed shall be in respect of the following:

- No Un-authorized entry – Report to Site Office;
- COVID-19 Awareness Signage / Rules / Notices (i.e. Symptoms; Wearing of Masks; Personal Hygiene; Social Distancing; Isolation Area / Room, etc.)
- 'hard hat area' or other PPE requirements;
- First aid box positions (including vehicles);
- Fire extinguishers;
- Assembly Area;
- Scaffold Signage; and
- Deep Excavations.

Signs shall be posted at areas of work on site indicating that a construction site is being entered and that persons should take note of H&S requirements.

8.8 Induction of Employees and Visitors, General H&S Training

A simple, formal induction program is to be prepared which is site specific. Inductions must be carried out for all workers and visitors (including Client) to the site.

DSTI training is required to ensure workers are familiar with the risks and H&S measures of the work or tasks to be done.

9 COMMUNICATION ON SITE

All H&S communication during the project between the CHS Agent and the PC will be done in writing, including the issues and responses to non-conformances and H&S audit results.

10 CARE OF WORKERS ON SITE (WELFARE)

The provision of toilets at reasonable distances within the work areas is required in terms of the National Building Regulations and Construction Regulation 30. Clean drinking water is to be available to all employees at all times. Hand washing stations and / or 70% alcohol-based hand sanitizer must be provided. Hand washing soap must also be provided.

At any one time, no employee's belongings are to be found on the active construction area, the Principal Contractor is to ensure that adequate storage facilities are available for employee's belongings.

At least one toilet for each sex and for every 30 workers and must be maintained in a hygienic manner and disinfected regularly to reduce the spread of COVID-19.

Sheltered eating area to be provided for the workers on site. All facilities to be COVID-19 compliant. An isolation room / area for suspected COVID-19 cases must also be provided on site.

11 DISCIPLINE, ALCOHOL AND SUBSTANCE ABUSE

All employees (management included) are to follow instructions given in the interest of H&S. Disciplinary action is to be imposed on those who do not follow such instructions or company rules or policies.

No person shall be allowed to work or access the site if under the influence of alcohol or other substances that could impact on their own or others safety. Random alcohol testing shall be conducted on site. Care should be taken not encourage the spread of COVID-19. Single-use disposable alcohol test units to utilized and appropriately disposed of.

12 WORKING AT HEIGHTS

A practical site-specific fall protection plan as per the requirements of CR 10 needs to be compiled by a competent person as per unit standard 229994. The Fall Protection Plan must be submitted to the client appointed CHSA for evaluation and approval.

It is envisaged that scaffolding as well as ladders may be utilized to gain access to heights during construction work.

Scaffold erector/s and the scaffold inspector with relevant competencies must be appointed in writing for the purpose of erecting and inspecting scaffolding on the site. A scaffold supervisor must also be appointed to supervise all scaffolding operations on site.

All employees who will be required to work at heights must be declared medically fit to work at heights by an occupational health medical practitioner and the medical certificates must be made available prior to work at heights. All employees working at height shall be in possession of working at heights certificates in line with US 229998.

When working at heights, the effects of wind forces must be considered, and the work must be stopped where significant wind forces are experienced.

13 EXCAVATIONS

The Principal Contractor is to provide a method statement for excavations, and this will be approved by the H&S Agent and the Engineer/Architect.

The Principal Contractor must ensure that all excavations are safe to enter prior to any work commencing.

Area being worked at needs to be properly barricaded or fenced off. Barricading must be done in such a manner that prevents people and animals from falling into open excavations.

All deep excavations deeper than 1m must be sloped or shored to make the work environment for employees safe to work in.

All excavations deeper than 2m must be shored, and shoring must be signed off by the Construction Manager before any work can take place in such excavations.

All excavations on site where employees are performing work, must have a ladder for safe access and egress. The ladder must be long enough to protrude 900mm above the edge of an excavation and must be positioned at every 6m within the excavation length.

Excavations should preferably not be opened beyond what can be worked in daily.

Danger tape or candy tape is not permitted to be used on site as a means of barricading!

Suitable material such as hard-plastic mesh (long durability) adequately supported and being able to withstand a normal person's weight and the elements (wind, rain) must be utilized as barricading.

All open excavations shall be kept clean (dewatered) of stagnating water.

14 TEMPORARY WORKS

The Principal Contractor must appoint a competent person as a Temporary Works Designer to design, inspect and approve the erected temporary works on site before use. The appropriate competent persons are to be appointed to manage and monitor such works to the satisfaction of the Engineer and CHS Agent. Records of temporary works inspections and approvals are to be properly completed by the relevant competent persons and kept in the H&S file.

All temporary works must comply with the requirements of Regulations 6 and 12 of the Construction Regulations 2014. Workers who shall be required to erect, move, or dismantle temporary works structures must be provided with adequate training and instruction to perform those operations safely. If temporary works are to be erected by a Contractor, this must be notified to the Architect / Engineer / CHS Agent. All necessary calculations and drawings of temporary works must be kept on site and available to the PA and CHSA.

15 CRANES AND LIFTING OPERATIONS

Should any form of lifting device or crane (fixed or mobile) be used during the project for deliveries, moving of supplies or equipment, the appropriate documentation must be made available. Valid load test certificates for cranes and lifting tackle must be made available before use on site.

Method statements, risk assessments, safe work procedures and training records are to be available prior to work commencing. A procedure for managing loads and lifting operations on the site must be made available as an addendum to the Construction H&S Plan.

16 ELECTRICAL AND MECHANICAL INSTALLATIONS

All electrical and mechanical installations must comply with the requirements of the Health and Safety Act, the Construction Regulation 2014, other relevant regulations and applicable safety standards and industry best practice. This type of work may be done by specialist contractors, in which case, the requirements of Regulation 7 of the Construction Regulations 2014 must be complied with in respect of appointing such contractors. Relevant safe work procedures and technical method statements must be submitted for approval by the PC.

The work must be conducted by appropriately registered contractors and on completion of such installations, certificates of compliance issued by competent persons will be required.

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

17 DELIVERY OF MATERIALS TO SITE

The PC must reasonably manage all deliveries of material to site. Stacking and storage of materials to be properly coordinated by a person designated for that purpose.

PC to ensure all construction materials and articles are safely stacked in areas designated for that purpose and demarcated accordingly as material laydown areas.

18 CONTRACTOR MANAGEMENT

The Principal Contractor shall remain responsible for all the contractors appointed by him or her, including nominated and selected contractors and shall ensure that they also comply with requirements of this specification and legislated requirements.

All contractors shall be appointed in terms of the requirements of Regulation 7 of the Construction Regulations 2014 and shall enter into a written agreement with the Principal Contractor as stipulated in Section 37(2) of the Occupational Health and Safety Act, 85 of 1993.

Contractors must be appointed in writing by the Principal Contractor and they must submit health and safety plans which shall be evaluated and approved in writing by the Principal Contractor.

Each Contractor must be registered and in good standing with a licensed Compensation Insurer or Compensation Commissioner and a valid letter of good standing must be submitted to the PC.

The PC must audit all the contractors at least monthly and follow up on non-compliances and ensure such are attended to within reasonable time periods as agreed between the Principal Contractor and each Contractor. Audit reports to be made available for verification.

19 NON-CONFORMANCES

The Principal Contractor may be penalized for critical and / or repeat non-conformances with the requirements of this specification, the Principal Contractor's health and safety plan and current health and safety legislation. Penalties shall be in the form of monetary value or work stoppage or both. Penalties of monetary value shall be at the discretion of the CHSA, after consultation with the Client / Consulting Engineer or Architect.

The following constitute examples of the types of non-conformances that will attract penalties:

Minor: Fine: R50/count	Medium: Fine: R500/count and a non-conformance	Severe: Fine: R5000/count, a non-conformance and/or activity stoppage
Non-use of basic PPE supplied (e.g. Overalls, Safety Shoes, Hardhats) per person	Toilets not supplied or regularly serviced; lack of drinking water	Principal Contractors working without OHS Plan approval
Non completion of registers for plant and equipment on site	Contractors not audited	Workers transported in contravention of the OHS Plan or legal requirements
Lack of OHS signage at work areas	Working without training or the appropriate OHS Method Statements / SWP / HIRA	Invalid/expired Letters of Good Standing with licensed Compensation Insurer
Tools and equipment identified in poor condition during inspections	Non-conformances identified during the previous audit and not addressed within the agreed time frame	Allow people to work at heights without proper training and PPE
	No internal monthly Audit Report on file.	Fall Arrest Harness not tied off / worn when a risk of falling exists
	No Medical Certificates of Fitness for relevant workers	Threat to the OHS of persons

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

Minor: Fine: R50/count	Medium: Fine: R500/count and a non-conformance	Severe: Fine: R5000/count, a non-conformance and/or activity stoppage
	Unsafe work at heights	3 rd Offence on Unsafe Work at Heights
	Poor Housekeeping	Failure to submit consolidated H&S report and relevant document.

Should, at any time, the works, or part of the works, be stopped due to unsafe acts or non-compliance with this specification, the PC's H&S Plan or any legislative requirements; the PC shall have no claim for extension of time or any other compensation.

20 PROJECT CLOSE OUT REQUIREMENTS

The documentation submitted and approved following the awarding of the contract will be used to form the H&S file. On completion of the project, a consolidated health and safety file consisting of the following documents but not limited to, shall be submitted to the client appointed CHSA:

- The H&S Plan and the approval by Client;
- PC Appointment Letter;
- Mandatory Agreement with Client;
- Notification of Construction work and Confirmation letter from DOL.
- Record of Competencies (CVs) and appointments;
- Training Records;
- Method statements;
- Risk assessments;
- Safe work procedures;
- Emergency and Injury Management (Accident Stats and Investigations);
- Medical surveillance records;
- Registers and Checklist;
- Internal H&S Audit Reports;
- Contractor H&S Audit Reports;
- Non-Conformance Reports; and
- Any other documents which may be required by the appointed CHSA.

The file must be submitted in an electronic copy stored on a flash drive and must be arranged chronologically in folders and subfolders where necessary.

ANNEXURE 1

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
(ACT NO 85 OF 1993)

REGULATION 9 OF THE GENERAL ADMINISTRATIVE REGULATIONS

RECORDING AND INVESTIGATION OF INCIDENTS

A. RECORDING OF INCIDENT

1. Name of employer
2. Name of affected person.....
3. Identity number of affected person.....
4. Date of incident
5. Time of incident.....

6. Part of body affected

Head or Neck	Eye	Trunk	Finger	Hand
Arm	Foot	Leg	Internal	Multiple

7. Effect on person

Sprains or strains	Contusion or wounds	Fractures	Burns	Amputation
Electric shock	Asphyxiation	Unconsciousness	Poisoning	Occupational Disease

8. Expected period of disablement

0-13 days	2-4 weeks	>4-16 weeks	>16-52 weeks	>52 weeks or permanent disablement	Killed
-----------	-----------	-------------	--------------	------------------------------------	--------

9. Description of occupational disease.....
10. Machine/process involved/type of work performed/exposure**
11. Was the incident reported to the Compensation Commissioner and Provincial Director?

Yes	No
-----	----
12. Was the incident reported to the police?*

Yes	No
-----	----

13. SAPS office and reference

*to be completed in case of a fatal incident.** in case of a hazardous chemical substance, indicate substance exposed to

Contractor ____ Witness 1 ____ Witness 2 ____ Employer ____ Witness 1 ____ Witness 2 ____

**B. INVESTIGATION OF THE ABOVE INCIDENT BY A PERSON DESIGNATED
THERE TO**

1. Name of investigator

2. Date of investigation

3. Designation of Investigator

4. Short description of incident
.....
.....
.....

5. Suspected cause of incident
.....
.....
.....

6. Recommended steps to prevent a recurrence
.....
.....
.....
.....

.....
Signature of Investigator

.....
Date

**C. ACTION TAKEN BY EMPLOYER TO PREVENT THE RECURRENCE OF A SIMILAR
INCIDENT**

.....
.....
.....
.....

.....
Signature of employer

.....
Date

D. REMARKS BY HEALTH AND SAFETY COMMITTEE

Remarks
.....
.....
.....
.....

.....
Signature of Chairperson of Health and Safety Committee

.....
Date

Contractor ____ Witness 1 ____ Witness 2 ____ Employer ____ Witness 1 ____ Witness 2 ____

Annexure 2

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

(Regulation 4 of the Construction Regulations, 2014)

NOTIFICATION OF CONSTRUCTION WORK

1. (a) Name and postal address of principal contractor:

- (b) Name and tel. no of principal contractor's contact person:

2. Principal contractor's compensation registration number:

3. (a) Name and postal address of client:

- (b) Name and tel. no of client's contact person or agent:

4. (a) Name and postal address of designer(s) for the project:

- (b) Name and tel. no of designer(s) contact person:

5. Name and telephone number of principal contractor's construction supervisor on site appointed in terms of regulation 8(1).

6. Name(s) of principal contractor's sub-ordinate supervisors on site in terms of regulation 8(2).

Contractor ____ Witness 1 ____ Witness 2 ____ Employer ____ Witness 1 ____ Witness 2 ____

7. Exact physical address of the construction site or site office:

8. Nature of the construction work:

9. Expected commencement date:

10. Expected completion date:

11. Estimated maximum number of persons on the construction site.

Total: _____ Male: _____ Female: _____

12. Planned number of contractors on the construction site accountable to principal contractor:

13. Names(s) of contractors already selected.

Principal Contractor

Date

Client's Agent (where applicable)

Date

Client

Date

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

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

**OCCUPATIONAL HEALTH AND SAFETY ACT (85 OF 1993)
CONSTRUCTION REGULATIONS 2014**

AGREEMENT WITH MANDATARY

In terms of Section 37(1) and (2)

WRITTEN AGREEMENT ENTERED INTO AND BETWEEN

AND

*Agreement with Mandatary to be completed in black ink and each page
and any change made to be initialled*

Contractor ____ Witness 1 ____ Witness 2 ____ Employer ____ Witness 1 ____ Witness 2 ____

**OCCUPATIONAL HEALTH AND SAFETY ACT OF 1993
AND CONSTRUCTION REGULATIONS 2014
REQUIREMENTS:**

1. Your attention is drawn to "General Duties of Employers to their Employees" as required by Section 8 of the Act.
2. You are required to:
 - 2.1. Sign a written "Agreement with Mandatary" as required by Sect 37(1)(2) of the Act before commencing any work on site.
 - 2.2. Ensure that all your employees receive the necessary Induction Training and have proof thereof.
Note: You must ensure that all employees under your control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences.
 - 2.3. Ensure the provision of Welfare Facilities for your employees as per Construction Regulation 28.
 - 2.4. Provide the Client/Principal Contractor with your SHE Plan and Specifications
 - 2.5. Ensure that Method Statements, Risk Assessments and Safe Work Procedures are done and available.
 - 2.6. Provide the Client/Principal Contractor with written appointment of the person who is going to supervise the Construction Work per Construction Reg. 8
 - 2.7. Provide the Client/Principal Contractor with written designation of your nominated Health and Safety Representative as per Section 17(1).
Note: Your Health and Safety Representative will be expected to attend the Client/Principal Contractor safety meetings.
 - 2.8. If you employ more than five (5) persons, you are required to provide your own First Aid Box (GSR 3(2)).
 - 2.9. If you employ more than ten (10) persons, you are required to provide your own qualified First Aider as per GSR 3(4)
Note: If you have difficulty in complying with items 2.7 and 2.8 above, you may arrange/come to an agreement with the Client/Principal Contractor to make use of his First Aid facilities in case of injury. You will be expected to communicate such an agreement to your employees.
 - 2.10. When working with Hazardous Chemical Substances, comply with HCS Reg. 3
Note: Asbestos and Lead Regulations are separate.
 - 2.11. When using a Materials Hoist, comply with the requirements of Construction Reg. 19.
 - 2.12. When using Lifting Machines and Lifting Tackle, comply with DMR 19
Note: You may be required to appoint a Banksman to control Lifting/Slings operations
 - 2.13. When erecting/using Scaffolding comply with the requirements of SANS/0085 "Access Scaffolding"
 - 2.14. When doing Demolition Work, comply with Construction Reg. 14
 - 2.15. When doing blasting to comply with Explosives Regulations Chapter 10
 - 2.16. When doing Excavation Work, comply with Construction Reg. 13
 - 2.17. When doing Electrical Installations, comply with the requirements of Construction Reg. 24
Note: Electrician to provide copy of registration as per Elect. Install. Reg. 9(3)
 - 2.18. When using Construction Vehicles, comply with Construction Reg. 23
 - 2.19. When using/erecting Support/Form Work, comply with Construction Reg. 12
 - 2.20. When working over or in close proximity to Water, comply with Construction Reg. 26
 - 2.21. Ensure that good Housekeeping, Stacking and Storage principles are applied on this project as per Construction Reg. 27 and 28
 - 2.22. Ensure that appropriate measures are taken to avoid the risk of Fire/Explosion and comply with requirements of Construction Reg. 29
 - 2.23. If you are going to work at heights a Fall Protection Plan must be submitted (roof work included) as per requirements of Construction Reg. 8
 - 2.24. When using Explosive Powered Tools, comply with GSR 19
 - 2.25. When Welding, Flame Cutting/Soldering, comply with GSR 9
 - 2.26. When working in Confined Spaces, comply with GSR 5
3. You are responsible for providing your own legal safety documents and registers to comply with the Act's requirements a copy of the OHS Act of 1993 and the Construction Regulations ;2003 will be available for perusal in the Principal Contractor's site office.
4. You are required to comply with General Safety Regulations 2(1) to (7) and provide your employees with: personal protective equipment which will allow them to carry out their work in a safe manner, e.g. hard hats, safety harnesses, gloves, safe footwear, eye protection, ear protection, waterproof clothing etc.
5. Reporting of Incidents of Occupational Diseases shall be done as per General Admin. Regulation 8 (Also see Sect 24 of the Act)
6. Compensation for Occupational Injuries and Diseases Act (No 130 of 1993) You are required to provide the Client/Principal Contractor with proof of registration with the Compensation Commissioner/Federated Employer(s) Mutual when signing this agreement. If you are not registered, the Client/Principal Contractor may deduct the necessary amounts from your progress payments and pay it over to the Commissioner to ensure that you are insured. See Section 80 and 89 of the COID Act.

Client Signature

Principal Contractor Signature

Date

Date

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

AGREEMENT WITH MANDATARY IN TERMS OF SECTION 37(1) AND (2)

DEFINITION OF MANDATARY

- includes an agent, a contractor or sub-contractor for work, but without derogating from his status in his own right as an employer or user

SECTION 37(1)

Whenever an employee does or omits to do any act which it would be an offence in terms of this Act for the employer of such employee or a user to do or omit to do, then, unless it is provided that –

- (a) in doing or omitting to do that act the employee was acting without the connivance of permission of the employer or any such user;
- (b) it was not under any condition or in any circumstance within the scope of the authority of the employee to do or omit to do an act, whether lawful or unlawful, of the character of the act or omission charged; and
- (c) all reasonable steps were taken by the employer or any such user to prevent any act or omission of the kind in question, the employer or any such user himself shall be presumed to have done or omitted to do that act, and shall be liable to be convicted and sentenced in respect thereof; and the fact that he issued instructions forbidding any act or omission of the kind in question shall not, in itself, be accepted as sufficient proof that he took all reasonable steps to prevent the act or omission.

SECTION 37(2)

The provisions of subsection (1) shall mutates mutandis apply in the case of a mandatary of any employer or user, except if the parties have agreed in writing to the arrangements and procedures between them to ensure compliance by the mandatary with the provisions of this Act.

ACCEPTANCE BY MANDATARY

In terms of the provisions of Section 37(2) of the Occupational Health and Safety Act 1993

I, _____ acting for and on behalf of

(Company/Close Corporation/Enterprise/

Owner/User) undertake to ensure that the requirements and provisions of the Act and Regulations are complied with.

Signature: _____ Print Name: _____

Contractor:

Designation: _____ Date: _____

Mandatary-Workmen's Compensation/Federated Employers Mutual No: _____

Signature: _____

Client:

Designation: _____ Date: _____

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

OCCUPATIONAL HEALTH AND SAFETY ACT OF 1993
CONSTRUCTION REGULATIONS 2014

PRINCIPAL CONTRACTOR APPOINTMENT

CONSTRUCTION REGULATION 5

5(1): A Client shall be responsible for the following:

- k) to appoint every principal contractor in writing for the project or part thereof on the construction site

APPOINTMENT

Principal Contractor, _____ (name)

of: _____ (Company/Close Corporation/Enterprise/Owner/and Labour Only Contractor) is hereby appointed to perform construction work

at: The Redevelopment of Mdantsane Sports Precinct NU2 Swimming Pool for the Buffalo City Metropolitan Municipality

Job/Safety specifications:

You are reminded that:

1. your documented Health and Safety plan based on the Clients Health and Safety Specifications, is provided to the Client before commencing work on site
2. the Client will discuss/negotiate with you regarding the contents of the Health and Safety Plan to approve it for implementation
3. a Health and Safety File, which shall include all documentation required in terms of the provisions of the Act and Regulations are kept available on site for inspection (Risk Assessments and Fall Protection Plan)
4. should you appoint a Contractor to perform or assist you with Construction Work, the responsibilities as required by the Construction Regulations shall apply to you as if you were the Client
5. you are to promptly provide the Client with any information which might affect the Health and Safety of any person at work carrying out Construction Work or any person who might be affected by the work of such a person at work or which might justify a review of the Health and Safety Plan
6. as per Regulation 5(1)(o) audits of your Health and Safety Plan will be undertaken on at least a monthly basis.
7. all your Employees must undergo Safety Induction before starting work

Signature: _____ Date: _____
(Client)

Designation: _____

ACCEPTANCE OF APPOINTMENT

I, _____ accept and understand the requirements of this appointment

Signature: _____ Date: _____
(Principal Contractor)

Designation: _____

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

OCCUPATIONAL HEALTH & SAFETY ACT 85 OF 1993

Construction Regulations 2014

MEDICAL CERTIFICATE OF FITNESS

Name of Employee: _____ ID Number _____ Co. Number _____

	* Possible Exposures e.g. Noise, heat, fall risk, confined space, etc.	* Job Specific Requirements Operating mobile crane, digging trenches, erecting formwork and support work, etc.	*Protective Equipment e.g. Dust respirator (light duty), welding gloves, etc.
*Occupation e.g. General worker, welder, bricklayer, Steel fixer, mobile crane operator, etc.			
*The Employer to complete the information in the spaces marked with an * before sending the Employee for a medical examination Declaration by the Medical Examiner: I certify that I have, by examination and testing, using the above criteria specified by the employer, satisfied myself that the abovementioned employee is fit to perform the duties as described by the employer in the matrix above. Occupational Medicine Practitioner / Occupational Health Nursing Practitioner: (Please print name) _____ Signature _____ Practice Number: _____ Date: _____ Address: _____			

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

25 ANNEXURE E: BASELINE RISK ASSESSMENT

25.1 PURPOSE:

This report discusses the Scheduled Risk Analysis Process and results for ASIDI Basic Services (Water Projects) - Cluster 2B: OHS Agent Quotation. A Risk Analysis was performed to identify project elements that could have an impact on the project, costs, and schedule. The purpose of this document is to identify as much risks and control measures as possible.

25.2 PROJECT SCOPE:

Refer to paragraph 1.2.

Risk Assessment Matrix

Risk Prioritisation Number / Risk Rating = Severity x Likelihood

Severity Table

Pt	Severity level	Workplace Safety	Workplace Health	Loss / Damage	Downtime Incurred
5	Critical	Fatality, single or multiple	Acute Poisoning, Failure of Major Bodily Functions	More Than R10 million damages	More than 1 year for full re-instatement
		Permanent Body Injury or Loss of Use for more than 30 days	Infection with No Known Cure		
4	Very Serious	Injury requiring 30 days of hospitalisation and/or medical leave	Moderate exposure, Reversible injury to Bodily Functions on prolong recovery	More Than R1 million damages	More than 3 months for full re-instatement
		Temporary Body Injury or Loss of Use for more than 10 days but not exceeding 30 days	Infection with Known Cure but extensive treatment		
3	Serious	Injury requiring 10 days of hospitalisation and/or medical leave	Mild exposure, Reversible injury to Bodily Functions with less than 30 days recovery	More Than R100k damages	More than 1 month for full re-instatement
		Temporary Body Injury or Loss of Use for up to 10 days	Infection with Known Cure but extensive treatment		
2	Marginal	Injury requiring maximum of 3 days of medical leave only	Very Mild exposure, Reversible injury to Bodily Functions with less than 3 days recovery	More Than R10k damages	More than 5 days for full re-instatement
		Temporary Body Injury or Loss of Use for 3 days or less	Infection with Known Cure but treatment needed		
1	Negligible	First aid treatment only	Very Mild exposure, Reversible injury to Bodily Functions with less than 3 days recovery	Less than R5k damages	No significant downtime
		No or superficial injury	No Exposure		

Likelihood Table

Pt	Likelihood level	Likelihood of Occurrence / Exposure Criteria
5	Frequent	Likely to occur many times per year
4	Moderate	Likely to occur once per year
3	Occasional	Might occur once in three years
2	Remote	Might occur once in five years
1	Unlikely	Might occur once in ten years

Risk level Determination - 5 x 5 Matrix

		SEVERITY				
		Critical (5)	Very Serious (4)	Serious (3)	Marginal (2)	Negligible (1)
LIKELIHOOD	Frequent (5)	25 Operation not permissible	20 Operation not permissible	15 High priority	10 Review at appropriate time	5 Risk acceptable
	Moderate (4)	20 Operation not permissible	16 Operation not permissible	12 High priority	8 Review at appropriate time	4 Risk acceptable
	Occasional (3)	15 High priority	12 High priority	9 Review at appropriate time	6 Risk acceptable	3 Risk acceptable
	Remote (2)	10 Review at appropriate time	8 Review at appropriate time	6 Risk acceptable	4 Risk acceptable	2 Risk acceptable
	Unlikely (1)	5 Risk acceptable	4 Risk acceptable	3 Risk acceptable	2 Risk acceptable	1 Risk acceptable

Review the risk assessment records every year or whenever there are changes in processes, work activities or upon any incident occurrence, whichever is earlier.

Action Table

Colour	Score	Risks	Action
	16 - 25	High	Manage risk Stop operation & review controls. If necessary abort experimentation.
	12 - 15	Warning	High priority remedial action Proceed with extreme caution with supervision at all times. Implement additional (secondary) controls immediately. Review within 7 days. Emergency control measures shall be in place.
	8 - 10	Medium	Take remedial action at appropriate time Proceed with care. Additional control is advised. Review shall be implemented within 30 days.
	1 - 6	Warning	Risk acceptable: Residual risk If possible, risk reduction should be further considered, particularly severity. There are no imminent dangers. Frequent review shall be in place especially changes in procedures, materials or environment.

BASELINE HAZARD IDENTIFICATION AND RISK ASSESSMENT												
CLIENT / EMPLOYER				Independent Development Trust (IDT)								
PROJECT / CONSTRUCTION SITE & EXACT LOCATION OF THE WORKS				ASIDI Basic Services (Water Projects) - Cluster 2B								
Hazard & Risk Identification				Raw Risk Evaluation			Risk Control Measures & Residual Risk Rating					
S/N	Work activity	Hazard	Consequential Risk / Possible Accident / Ill health to persons, fire or property loss	Severity	Likelihood	RPN*	Risk Control Measures	Severity	Likelihood	RPN*	Responsible Party/ Person	Remarks
GENERIC RISK ASSESSMENT												
1	Notification of Construction Work	Principal Contractor not submitting the required documentation timeously.	Delayed submission of documentation to the Department of Employment and Labour resulting in project delays.	3	1	3	Principal Contractor to begin with document preparation immediately after formal appointment and liaise with the Client appointed Pr CHSA.	N/A	N/A	N/A	N/A	Acceptable Risk
2	Gaining access to site	Restricted access to site (Parking and/or delivery areas)	Damage to private vehicles, construction vehicles and/or mobile plant, delivery vehicles.	3	1	3	Proper layout of site by Construction Manager, taking into consideration all transport plant and material movements and storage on site. Construction Manager to check layout Drawing to compare with the requirements of the OHS Act and other relevant regulations.	N/A	N/A	N/A	N/A	Acceptable Risk
3	Site security and safeguarding	Lack or absence of access control. Inadequate security fence.	Uncontrolled access to construction site. Injury to persons. Theft / property loss.	3	4	12	Security guards to be appointed to keep watch. Security fencing to be a minimum height of 1.8 metre around site area together with two double gates. Symbolic safety signage.	2	3	6	Principal Contractor	To be monitored and implemented on an ongoing basis
4	Clear And Grub	Damaging of unknown underground pipes and services	Work stoppage Flooding Electrical shock Interruption of services	4	3	12	Supervisor to determine and demarcate position of services. Toolbox talk and D.S.T.I. Drawings for existing services;	4	2	8	Engineer / Principal Contractor	Remedial action is required
		People in the vicinity of plant	Fatalities or injuries	5	3	15	Warning signs to be placed. Acoustic warning systems such as reverse alarms; High visibility clothing;	4	2	8	Principal Contractor	Remedial action is required
		Dust	Occupational illness Eye irritation / injury	5	3	15	Workers to be issued with and to wear dust masks; Use dust suppression methods. Vehicles to keep to speed limit.	4	2	8	Client and / or Principal Contractor	Remedial action is required
5	Storage of flammables	Unsafe storage of flammables.	Risk of fire, explosions resulting to burns to the body or even multiple fatalities. Fire spreading to adjacent structures. Serious damages to property.	5	2	10	Flammable store to be well ventilated and fitted with a roof to protect from direct exposure to sunlight. HCS Supervisor / Controller to be designated in writing. Induction of workers and visitors.	5	1	5	Principal Contractor	Proceed with care. Additional control is advised.
6	Temporary electrical installations	Incompetent and/or unregistered electricians. Incorrect/unsafe installations. Damaged cables. Exposed wires.	Electrocution, fires. Serious damages to property. Serious injuries, possible fatalities.	4	2	8	Installation to be done by a competent registered electrician or registered electrical contractor. Electrical Installations Inspector to be designated in writing.	4	1	4	Principal Contractor	Proceed with care. Additional control is advised. Temporary Electrical Installations Inspector to monitor and control.
7	Availability of basic facilities and emergency services / equipment.	Not having the essential services readily available.	Worsening of first aid injuries. Detrimental health to employees. Spread of fires.	4	3	12	Services to be available during site establishment: - Fire fighting equipment. - First aid boxes. - First aider. - Drinking water and water for hand washing. - 70% Alcohol-Based Hand Sanitizer - Toilets.	3	2	6	Principal Contractor	Proceed with care. Additional control is advised.
8	Public safety	Not informing employees and public what the site rules are.	Injuries to persons and / or the public. Public liability / court claims.	4	4	16	Induction of workers and visitors. Symbolic safety signs and notices	3	3	9	Principal Contractor	Proceed with care. Remedial actions to be taken at appropriate times.

Hazard & Risk Identification				Raw Risk Evaluation			Risk Control Measures & Residual Risk Rating					
S/N	Work activity	Hazard	Consequential Risk / Possible Accident / Ill health to persons, fire or property loss	Severity	Likelihood	RPN*	Risk Control Measures	Severity	Likelihood	RPN*	Responsible Party/ Person	Remarks
9	Designation of laydown areas	With inadequate space various materials will be stacked on top of each other causing unstable stacks.	Unstable stacks of materials may fall onto persons resulting in serious injuries / even fatality.	5	3	15	Laydown areas to be sufficient in size. Timber poles and/or other suitable base material to be available to stack materials on. Laydown areas to be of firm level ground.	5	2	10	Principal Contractor	Proceed with care. Remedial actions to be taken at appropriate times.
10	Condition of ablution facilities.	Unclean and unhygieninc ablution facilities. Non-ventilated ablution facilities.	Possible health problems due to propagation of germs.	3	3	9	Toilets are to be well ventilated and kept clean and hygienic at all times. Water for washing of hands to be readily available.	3	2	6	Principal Contractor	Proceed with care. Additional control is advised.
11	Poor waste management	Poor waste management on site	Environmental pollution (Workplace, Air, Ground & Water)	2	3	6	Good housekeeping and waste disposal always in work areas and laydown areas	2	2	4	Principal Contractor	Acceptable Risk
12	Selection of workers / staff for site	Employees medically unfit and incorrectly placed for job categories.	Accidents resulting in injuries and/or damage to property.	3	5	15	All employees to have medicals done before commencing work on site. Employment of local labour to be done in accordance to issued specification relating to the matter.	3	3	9	Principal Contractor	Proceed with care. Remedial actions to be taken at appropriate times.
		Incompetent staff appointed on project	Accidents due to incompetency resulting in serious injuries and/or damage to property. Possible fatality/ies.	5	4	20	Skilled staff to have proof of competencies available. Appointed contractor to ensure all qualifications of staff are verified before appointment for project.	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
		Employees not inducted prior to commencement on site.	Accidents resulting in injuries and/or damage to property.	5	3	15	All staff to be inducted for site before work commences. Contractor to ensure induction is project specific. Every one coming into the site for the first time must be inducted (Visitors).	5	1	5	Principal Contractor	Proceed with care. Additional control is advised.
*RPN - Risk Prioritization Number												

Hazard & Risk Identification				Raw Risk Evaluation			Risk Control Measures & Residual Risk Rating					
S/N	Work activity	Hazard	Consequential Risk / Possible Accident / Ill health to persons, fire or property loss	Severity	Likelihood	RPN*	Risk Control Measures	Severity	Likelihood	RPN*	Responsible Party/ Person	Remarks
WORK SPECIFIC RISK ASSESSMENT												
1	Use of hand tools	Sub-standard and unsafe hand tools; Incorrect use.	Injury to parts of the body	2	5	10	PPE, checks/inspection registers, control, training.	2	3	6	Principal Contractor	Proceed with care. Additional control is advised.
2	Use of portable power tools	Sub-standard electrical power tools and incorrect use thereof.	Damage to private vehicles, construction vehicles and/or mobile plant, delivery vehicles.	3	5	15	Control, checks, issue and inspection registers to be completed, Training, emergency action / plan	3	3	9	Principal Contractor	Remedial action is required
3	Loading and Offl-oading	Unsafe offloading of material and unsafe material stacks; Heavy objects and manual handling; Shortage of persons for task;	Objects falling from heands leading to injury to persons and damage to property; Back pains and musculo-skeletal injuries;	3	4	12	Adequate number of workers for the task at hand; Proper training and induction on manual handling techniques; PPE and adequate supervision; Use designated area for offloading, stacking and storage of material.	3	3	9	Principal Contractor	Proceed with care. Remedial actions to be taken at appropriate times.
4	Stacking and storage	Improper stacking and storage.	Serious injuries and/or fatalities.	3	4	12	Good housekeeping; Competent Stacking & Storage Supervisor; Demarcated material laydown areas; Stacking and storage inspections;	3	3	9	Principal Contractor	Remedial action is required
5	Lifting operations	Unsafe use of lifting equipment and Lifting plant (Cranes) Lifting Equipment / Tackle not load tested; Incompetent Operators;	Falling of suspended loads due to equipment failure causing serious injuries / fatalities, property damage, production loss.	5	4	20	Load testing and inspections, Inspection registers & load test certificates: Control by equipment identification, replace defective equipment; Accredited training per category/unit standards of Lifting machines.	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
6	Working in Elevated Areas / Heights	Unsafe / incorrect use of ladders / scaffolding; Poor erection of scaffolding; Non-Use of Recommended FAS; Lack of Edge Protection;	Falling from height resulting in serious injuries or fatality; Scaffolding collapse leading to multiple serious injuries or fatalities, damage to property and production loss.	5	4	20	Comprehensive fall protection plan developed by a competent fall protection plan developer; Competent scaffold erectors and inspectors; Proper erection and inspection of all scaffolding; Work at heights training and competency; Adequate supervision;	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
		Falling objects	Objects falling on workers below, resulting in serious head injuries and Equipment/tools damage.	5	4	20	Installation of nets and toe boards; Worker training and induction; Regular tool box talks; Identification of "no go areas" and putting up warning signage; Provision of hard hats and other PPE;	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
7	Excavation Work	Use of heavy equipment on site to excavate; Incompetent operators; Poor visibility;	Collisions with other machines or workers resulting in serious injuries or fatality and property damage; Heavy machinery falling into excavations;	4	4	16	Appoint competent Excavatioes Supervisor; Fit and competent operators to be appointed for the job; Workers to wear high visibility clothing at all times; Worker training and induction; Regular safety talks; Workers to stay clear of heavy machinery; Dust control measures to be in place;	4	3	12	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
		Excavating by hand	Injuries due to unsafe use of picks and shovels; Collapse of excavations while there are workers inside leading serious injuries.	4	3	12	Workers keep a safe distance from each other when using picks and shovels; Induction and clear work instruction; Inspection of excavations at appropriate intervals; Adequate supervision;	4	2	8	Principal Contractor	Remedial action is required
		Open trenches / unprotected excavations	Physical injury due to falling into excavations	4	4	16	Open trenches and excavations must be kept to a minimum where possible; Monitoring and barricading of excavations with suitable protective material; Proper instruction and warning signage;	4	3	12	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.

Hazard & Risk Identification				Raw Risk Evaluation			Risk Control Measures & Residual Risk Rating					
S/N	Work activity	Hazard	Consequential Risk / Possible Accident / Ill health to persons, fire or property loss	Severity	Likelihood	RPN*	Risk Control Measures	Severity	Likelihood	RPN*	Responsible Party/ Person	Remarks
8	Excavation Work (Cont.)	People & vehicle / plant movement in close proximity to excavations	Serious injuries or fatality; Asset Damage; Production Loss;	5	4	20	All excavations deeper than 1.5m shall be adequately shored and braced if not sloped; All excavation areas to be barricaded until backfill is complete; Daily Excavation inspections to be conducted before work commences by the appointed inspector (CR13(1)(a)); Checklists to be handed to safety officer for filing; Warning & prohibition signage to be installed at access to excavation. Restrict access to excavation area only to authorized persons & plant .	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
9	Existing Services	Not being aware of existing services (i.e. Electrical and data cables; water and sewer lines)	Damage to existing services; Power cuts, flooding and sewer spillages; Coming into contact with live electrical services may result into electrocution causing serious injuries or even fatality;	5	4	20	As-built drawings and drawings for existing services; Induction of workers and proper work instruction; Wearing of non-conductive gloves when exposing services by hand; Competent operators; Adequate supervision;	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
10	Operating of Heavy Construction Vehicles and Mobile Plant on site	Failure to inspect vehicles and mobile plant; Faulty vehicles and plant;	Equipment failure resulting in serious injuries or fatalities, asset damage and production Loss	5	3	15	Daily pre-use inspections by drivers and operators; Maintenance plans / schedules and implementation; Induction of workers and visitors; Plant to be equipped with warning devices (construction light, reverse hooter, flag, etc.)	4	2	8	Principal Contractor	Remedial action is required
		Incompetent and unfit operators;	Vehicle and plant collisions resulting in serious damage to property and loss of production; Workers / visitors being bumped or run over by vehicles and plant resulting in serious injuries or even fatality;	5	3	15	Operator to be inducted & appointed in writing; Proof of medical fitness to be available; Proof of competency and licencing to be made available prior; High visibility clothing and alertness to the immediate surroundings;	4	2	8	Principal Contractor	Remedial action is required
11	Temporary Works	Poor or no temporary works designs; Incompetent Erectors and / or Inspector; Poorly erected temporary works;	Poorly erected temporary works or temporary works not erected according to the design may collapse resulting into serious injuries, multiple fatalities, property damage and loss of production	5	4	20	Competent person/s to design, supervise, inspect and approve temporary works must be appointed; Temporary works designs to be made available; Training of temporary works erectors; Regular safety talks and adequate supervision; Inspection of temporary works as prescribed;	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
12	Steel Fixing	Poor housekeeping - Steel lying around in work areas;	Tripping / falling over obstacles on ground resulting in injury to workers;	3	5	15	Daily removal of offcuts/ left over steel: daily tidying of stacked/ stored material; Create level pathway to job;	3	3	9	Principal Contractor	Proceed with care. Remedial actions to be taken at appropriate times.
		Placing / fixing steel at heights over 1.5m above ground: decks;	Loose deckplates allowing workmen to fall through, fall from height resulting in serious injuries or even fatality;	5	4	20	Provision of working platform with access ladders and handrails, as well as fall arrest equipment where scaffold is not possible; Supervisor to ensure deck panels are inspected before commencing work;	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
13	Concrete Work - Delivery of concrete by supplier (Ready Mixed)	Ready-mix trucks may collide with other vehicles on site;	Property damage, injury to workers and / or driver;	4	4	16	Ready mix to indicate prior to entering the site and be guided/directed to the off-loading zone, ensure min speed limit clear access route of other site vehicles as well as workers;	4	3	12	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
14	Concrete Work - Delivery of concrete by chute to job	Manual handling of chute; Uneven terrain / obstacles on ground may cause slips/ trips/ falls;	Injuries to workers : hands, body, head etc.	4	4	16	Training in correct handling methods / provision of gloves; Ground to be free of obstacles; Supervisor to ensure correct / specified Gloves are worn (PVC);	4	3	12	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.

Hazard & Risk Identification				Raw Risk Evaluation			Risk Control Measures & Residual Risk Rating					
S/N	Work activity	Hazard	Consequential Risk / Possible Accident / Ill health to persons, fire or property loss	Severity	Likelihood	RPN*	Risk Control Measures	Severity	Likelihood	RPN*	Responsible Party/ Person	Remarks
15	Concrete Work (Cont.) - Delivery of concrete at height over 1.5m	Fall from height;	Serious injuries or fatality;	5	4	20	Provision of working platforms with access ladders and handrails; Supervisor to monitor and take control;	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
16	Concrete Work - General (Placing concrete from bucket hoisted by crane)	Concrete bucket hitting the worker; Opening and closing of bucket;	Injury to workers, time lost, and possible fatal incidents.	5	4	20	Only the Banksman / Spotter responsible for directing the crane during loading and discharging, workers to be advised to stand clear of the path of the bucket; Supervisor to ensure clear visual communication at all times; Ensure bucket is properly closed after each placing, use correct PPE issued on the "PPE Schedule"	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
17	Concrete Work - General (Vibrating concrete)	Concrete splash from vibrating, operating the poker;	Injury to workers, possible serious injuries;	4	5	20	Use correct PPE issued on the "PPE Schedule" ; Operator self check for PPE; Supervisor to ensure and control;	4	3	12	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
18	Brick Work	Mixing of motar - Faulty hand tools;	Injury to workers	3	5	15	Use of correct PPE, tools in good condition; Supervisor to monitor; Regular tool box talks;	3	3	9	Principal Contractor	Remedial action is required
		Stacking or Placing bricks at work - Bricks falling over, brick could cut skin	Injury to parts of the body	3	5	15	Proper and safe stacking of bricks; Use of correct PPE; Regular toolbox talks Adequate supervision;	3	3	9	Principal Contractor	Remedial action is required
		Supplying mortar to bricklayer; Brickwork's to walls - faulty hand tool, poor standard of scaffolding or trestless	Injury to parts of the body	3	5	15	Use of correct PPE; Good standard of scaffolding/ trestles, tools in good condition;	3	3	9	Principal Contractor	Remedial action is required
		Placing window, door frames, and lintels - Falling frames and lintels;	Injury to workers, possible serious injuries;	4	4	16	Checks to be done to confirm that windows and door frames are well stayed; Use of correct PPE; Supervisor to monitor and control;	4	3	12	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
19	Contractor Management	Unapproved contractors on site	Legal non-compliance; Risk to Client and project; Stoppages due to non-compliance;	5	3	15	Principal Contractor to ensure health and safety files for contractors are approved 7 days prior to commencing work. Internal audits must be conducted on contractors and proof of this to be on file; Enforcement of legal requirements;	5	2	10	Principal Contractor	Remedial action is required
*RPN - Risk Prioritization Number												

COVID-19 HEALTH AND SAFETY SPECIFICATION

Issued in terms of the Occupational Health and Safety Act, 1993
Construction regulations 2014

**PROJECT DESCRIPTION: ASIDI BASIC SERVICES
(WATER PROJECTS) CLUSTER 2B**

Independent Development Trust (IDT)

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TABLE OF CONTENTS

1	INTRODUCTION	2
2	DEFINITIONS (RELATED TO COVID-19)	2
3	KEY REFERENCES	2
4	PURPOSE OF THE ADDENDUM	3
5	SCOPE	3
6	COVID-19 RISK ASSESSMENT	3
7	COVID-19 H&S PLAN	4
8	DISCIPLINE, ALCOHOL AND SUBSTANCE ABUSE	9
9	NON-CONFORMANCES	9
10	ANNEXURE A: SECTORAL GUIDELINE	10
11	ANNEXURE B: SYMPTOMS SCREENING TOOL	11
12	ANNEXURE C: PERMIT TO WORK	12
13	ANNEXURE D: COVID-19 RISK ASSESSMENT	13

1 INTRODUCTION

On the 11 March 2020, the World Health Organization (WHO) declared a global pandemic. The SARS Cov-2 (**a novel coronavirus**) originated in Wuhan in China in December 2019 where the disease had reached the level of global pandemic. The Minister of Co-operative Governance and Traditional Affairs in the Disaster Management Act, 2002 (act No 57 of 2002), published in the Government Gazette No. 43096 outlined steps necessary to prevent the escalation of the disaster, contain and minimize its effect hence the introduction of this addendum.

COVID-19 is the infectious condition, which means it can be spread, directly or indirectly, from one person to another. Novel corona virus infection affects your upper respiratory tract (nose, throat, airways, and lungs).

The COVID-19 has had and will continue to have an impact on our lives. We must all be responsible and ensure the safe return to our construction sites. Our actions and implemented controls will affect the lives of thousands of people in our communities.

Prior to reopening of the construction sites, the Principal Contractor is required to develop a plan for the phased in return of the workers to the workplace, prior to commencing with work. This plan must be retained for inspection whilst corresponding with company risk management procedures.

2 DEFINITIONS (RELATED TO COVID-19)

COVID-19 means the Novel Coronavirus (2019- Cov) which is an infectious disease caused by a virus, which emerged during 2019 and was declared a global pandemic by the WHO during the year 2020 that has previously not been scientifically identified in humans

Disaster Management Act means the Disaster Management Act, 2002 (Act No. 57 of 2002)

Adequate space means not more than one person per square meter of floor space

Gathering means any assembly, concourse, or procession of more than 100 persons, wholly or partially in open air or in a building or premises

Isolation means separating a sick individual with a contagious disease from healthy individuals without that contagious disease in such a manner as to prevent the spread of infection or contamination

Worker means any person who works in an employer's workplace including an employee of the employer or contractor, a self-employed person or volunteer

Workplace means any premises or place where a person performs work

Quarantine means separating asymptomatic individuals potentially exposed to a disease from non-exposed individuals in such a manner as to prevent the possible spread of infection or contamination;

WHO means the World Health Organisation;

Cleaning means removal of dirt and impurities from objects using water with detergents or soap but does not kill the virus;

Decontamination means Use of chemicals to kill the virus after cleaning

3 KEY REFERENCES

- Occupational Health and Safety Act No. 85 of 1993 and Regulations (as amended)
- Compensation for Injury and Occupational Diseases Act No. 100 of 1993 (as amended)
- National Disaster Management Act No 57 of 2002 and COVID-19 Regulations
- Department of Employment and Labour: Covid-19 Guideline
- Advice and guidance from WHO on COVID-19
- Government Gazetted No. 43257, Vol, 658 Covid-19 Occupational Health and Safety Measures in Workplaces Covid-19

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

- Risk Adjusted Strategy Regulation - issued by the Department of Cooperative Governance.
- National Institute for Communicable Disease (NICD)
- Centre for Disease Control and Prevention (CDC)

4 PURPOSE OF THE ADDENDUM

During this COVID 19 Pandemic, employers (Principal Contractors) are required to implement policies and protocols to manage the COVID 19 in their workplaces to prevent the uncontrollable spread of the virus.

The COVID-19 addendum is a performance specification to ensure that the Client and any bodies that have entered into formal agreements with the Client / Agents, Professional Service Providers (Engineers, Quantity Surveyors, Architects etc.), Principal Contractors and Contractors achieve an acceptable level of OHS COVID-19 performance.

No advice, approval of any document required by the PSHSS, such as hazard identification and risk assessments, or any other form of communication from the Client shall be construed as acceptance by the Client of any obligation that absolves the Principal Contractor from achieving the required level of performance and compliance with legal requirements. Furthermore, there is no acceptance of liability by the Client, which may result from the Principal Contractor failing to comply with the COVID 19 H&S addendum, i.e. the Principal Contractor remains responsible for achieving the required performance levels.

Requirements may be changed / updated should new risks or issues be identified that could not have been foreseen during the current risk adjusted strategy approach level. Any new legislation or standards (legislated or determined by the Client) that are promulgated or accepted during the contract will automatically be applied.

For this purpose, this addendum, but not limited to, requires the contractor to use it to plan, identify, compile, and implement a COVID-19 plan.

It should be noted that in no way do these COVID-19 health and safety requirements relieve the Principal Contractor of any of his responsibilities set out in the Act and applicable Regulations.

5 SCOPE

5.1 Scope of Application

The scope of application of this specification is in respect of:

Project: **ASIDI Basic Services (Water Projects) - Cluster 2B**

This COVID 19 addendum covers the requirements for minimizing the spread of transmission and cross contamination of the virus during the construction period.

- The scope addresses legal compliance, hazard identification, risk assessment, risk control, and promoting a Positive Health and Safety culture on the project during the COVID 19 pandemic.
- Establishes the way the Client or the Client's Health and Safety Agent will interact with The Principal Contractor on assessing compliance to the health and safety protocols for COVID-19.

5.2 Scope of Works

Refer to the Occupational Health and Safety Specification.

6 COVID-19 RISK ASSESSMENT

The Principal Contractor is required to conduct a COVID-19 workplace risk assessment to determine the COVID-19 associated risks of transmission. Similar to all workplace risk assessments, the COVID-19 risk assessment will (**See Annexure A - Sectoral guideline template**):

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

- Identify health or safety hazards associated with any work which is performed at the workplace (including the risk of transmission of COVID-19);
- Determine the risks associated with the identified hazards;
- Put into place mitigation and precautionary measures associated with the risks determined;
- Monitor and review the control measures put into place determining the effectiveness thereof; and
- Review the risk assessment when required to ensure improved and or continued effectiveness.
- The Principal Contractor must keep a record of the risk assessment and consider matters such as, but not limited to:
 - nature and severity of the SARS-CoV-2 virus to which an employee may be exposed and the suspected route of exposure and exposure scenarios;
 - Labour demographics and their origin, as some may be categorized as vulnerable groups – i.e. Underlying auto-immune or chronic diseases, workers over 60 years of age;
 - The high possibility of workers interacting with the public during working hours;
- Where SARS-CoV-2 virus might be present and in what physical form is it likely to be;
- The nature of the work, processes and any reasonable deterioration, or failure of, any control measure;
- What mental and psychological effects the SARS-CoV-2 virus or the COVID-19 outbreak within communities can have on an affected employee; and
- The period of exposure.

7 COVID-19 H&S PLAN

7.1 Requirements

A COVID-19 H&S Plan / COVID-Ready Workplace Plan specific to the ASIDI Basic Services (Water Projects) - Cluster 2B, in response to this addendum will be subject to approval by the Client or the Client appointed CHS Agent. This must include all supporting documentation as required for verification – i.e. Employee / Visitor Screening Template, Relevant /COVID-19 related Appointments, etc.

7.2 General Requirements

7.2.1 Risks

The Principal Contractor must utilize this addendum and the attached COVID 19 baseline risk assessment in preparation of his documents (COVID-Ready Workplace Plan; COVID-19 Risk Assessment).

The Principal Contractor to provide a detailed updated COVID-19 risk assessment for the works on site, having read and considered the hazards and risks as outlined on the COVID-19 Baseline Risk Assessment as provided by the Client / Client-appointed CHS Agent.

Refer to Project Baseline Risk Assessment

7.2.2 Occupational Health & Safety Management

7.2.2.1 Appointment of Competent Site Personnel as per the COVID regulations

Covid-19 Compliance Officer (Recommend CHSO for the site)

Is required to oversee the:

- implementation of the plan;
- adherence to the standards of hygiene and health protocols relating to COVID-19 at the workplace;
- develop, with the assistance of the appointed Construction Manager, a plan for the phased engagement of the employees to the workplace, prior to commencing work on the site for construction, which plan must at least contain the following information:

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

- the date on which the Principal Contractor intends to commence works on site;
- steps to be taken to get the workplace COVID-19 ready
- which employees will be permitted to work and how many will be allowed on site;
- what the arrangements for the phased engagement of the employees to the workplace are;
- what health protocols are in place to protect employees from COVID-19;
- develop measures to ensure that the workplace meets the standards of health protocols, for adequate space for employees and social distancing, hand washing, wearing of face masks and other COVID-19 related measures as required;
- procedures for the screening of each employee using the recommended tool attached hereto as an annexure to this specification, before being allowed to site, including steps to be taken where COVID-19 related symptoms are exhibited or reported on reporting for work as well as during one's shift.
- procedure for reporting and investigating COVID-19 confirmed cases and other information as prescribed.
- Bio-hazard waste management and disposal.
- Non-compliance by the Contractors engaged on the project.
- The plan must be developed in accordance with the requirements of Direction 3(2) of the Consolidated Directions on Occupational Health and Safety Measures in Certain Workplaces.

7.2.3 General Risk Management

7.2.3.1 Health Risks and Symptom Screening

The Principal Contractor must state on their COVID-Ready Workplace Plan how the symptom screening is to be conducted on site, which shall entail the following:

- Utilizing an infra-red thermometer to record an employee's temperature.
- Screening workers for symptoms of COVID19 at the time that they report for work, namely: fever, cough, sore throat, redness of eyes or shortness of breath (or difficulty in breathing);
- Additional symptoms to be noted: body aches, loss of smell or loss of taste, nausea, vomiting, diarrhea, fatigue, weakness, or tiredness.
- Screening of sub-contract workers and visitors alike.
- Procedure to be followed in cases where COVID-19 symptoms are exhibited or reported, and where abnormal temperatures are registered, including cases where the employee was already at work when symptoms were exhibited.

7.2.4 Emergency Management Procedures

An emergency plan and procedure that is appropriate to the risks of COVID-19 is required prior to resumption on site. It is advised that the system should be simple and easy for any worker to follow.

Attention to emergency planning and procedures is very important during this Risk Adjusted Strategy Level of COVID 19 Requirement in terms of identified risks:

- Level of COVID-19 Awareness of the appointed First Aiders and procedure to be followed when rendering first aid to injured workers;
- Suitable areas of assembly with adequate space for distancing during roll call;

The emergency plan is to ensure the inclusion of the COVID-19 response team of the PC and the nearest COVID-19 testing sites. Such arrangements should be made with these persons prior to recommencing works on site.

Local emergency telephone numbers with COVID-19 Emergency Numbers must be displayed and made part of the emergency procedure.

The general principles of emergency management are to be applied as it applies to the hierarchy of control and management.

Central emergency number: National Department of Health through their helpline (0800 029 999) to obtain further directions.

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

7.2.5 First Aiders and First Aid Equipment

Competent First aiders must assist in identifying symptoms from the employees and direct employees to areas where they will be isolated for further management should these symptoms be exhibited by any of the workers on site; the first aiders will be permitted to wear N95 or FFP1 & FFP2 masks when attending to cases on site, and they must be well conversant with control measures and general precautions to be taken when rendering first aid to injured workers during this COVID-19 pandemic.

7.2.6 Incident Management and COVID 19 Compensation

The Principal Contractor must notify its employees that if they are sick or have symptoms associated with COVID-19, they must not come to work and to take paid sick leave in terms of section 22 of the BCEA. Employees must also be made aware of the importance of disclosing honestly, any COVID-19 related symptoms to the Principal Contractor should they experience any.

If the employee shows symptoms when already at work, the PC must immediately isolate the worker, provide the employee with an FFP1 surgical mask and arrange for the employee to be transported in a manner that does not place other employees at risk to an identified testing site.

If an employee has been diagnosed with COVID-19, the PC must inform the Department of Health and the Department of Employment and Labour; and

Investigate the cause including any control failure and review its risk assessment to ensure that the necessary controls and PPE requirements are in place and indeed effective; and

It must give administrative support to any contact tracing measures implemented by the Department of Health.

If an employee has been diagnosed with COVID -19 and isolated in accordance with Department of Health Guidelines, the PC may only allow the employee to return to work on the following conditions:

- The employee has undergone a medical evaluation confirming that the worker has been tested negative for COVID-19;
- The PC ensures all health and safety protocols are adhered to;
- The PC closely monitors the employee for symptoms on return.

The PC must ensure that no employee is discriminated against on grounds of having tested positive for COVID-19 in terms of section 6 of the Employment Equity Act.

7.2.7 Personal Protective Equipment (PPE) and Clothing

Engineering and administrative controls are considered more effective in minimizing exposure to COVID 19, PPE is also needed to prevent exposures, contamination of surfaces and to prevent cross contamination from employees. Hazard identification and risk assessment will guide as to what type of controls are needed for each area / activity including the type of PPE to be worn where necessary.

The PC is to provide suitable PPE to all employees free of charge based on a risk assessment.

The wearing of the identified COVID 19 PPE is non-negotiable.

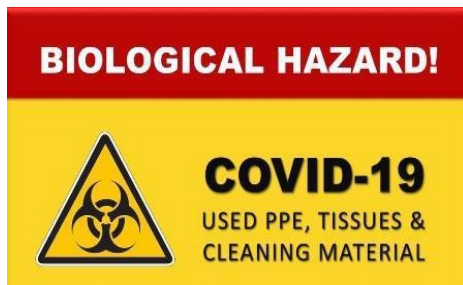
- Cloth face masks for all (including visitors, contractors and suppliers entering site)
- Recommend for construction employees Full face shields - where cloth masks are not wearable in relation to the construction activity.
- N95 / FFP1 & FFP2 and surgical gloves for First Aid Attendants and/or bio-hazardous waste handlers.

7.2.8 Hazardous Waste Management and Disposal

All discarded personal items such as used PPE (disposable dust masks and gloves, etc.), used paper towels or alcohol-based wipes, etc. must be treated as biohazardous waste and disposed of as such.

Contractor _____ Witness 1 _____ Witness 2 _____ Employer _____ Witness 1 _____ Witness 2 _____

The Principal Contractor must provide separate and appropriately labelled biohazardous waste bins (symbolic signage to be used where appropriate – see example below) on site and ensure that waste is disposed of at a registered hazardous waste site and a hazardous waste disposal certificate must be obtained and kept on site for verification.



Workers who are handling hazardous waste on site must be provided with proper instruction and suitable PPE.

7.2.9 Occupational Health and Safety Signage

The following, but not limited to, will be required, and expected to be displayed on site with contact numbers of emergency personnel:

- An area on site for isolation of suspected corona virus employees.
- Internal emergency contact numbers of the people to be called in case of an emergency.
- Departmental call centre numbers for COVID 19 hotline including Local Department of labour, NICD, CDC etc.
- External emergency contact list of facilities identified for COVID 19 management.
- Emergency management plan for COVID 19.
- PPE use and management plan.

On-site H&S signage to now also include more COVID 19 workplace information.

Hereunder is an example:



7.2.10 Induction of Employees and Visitors, General H&S Training

A simple, formal induction is to be done in relation to the COVID 19 health and safety risks.

The PC to utilize technology where possible and be innovative to reduce the number of employees at any given time in a meeting room / area to enable the minimum required social distancing.

The Principal Contractor must ensure that:

- Meetings where spacing of individuals would be less than 1,5m apart are not to be permitted as far as is reasonably practicable.
- Toolbox talks shall be limited to a maximum duration of 15 minutes and shall be in groups that allow for a 1,5m spacing between individuals but do not require the speaker to shout.
- Toolbox talks must be held in well ventilated areas.

The PC must keep clear records of all information, as the Labour Inspectors will be conducting inspections of these respective workplaces.

7.2.11 Transportation of Employees

The PC must provide a transportation plan as issued by the directions of the Transport Minister.

The transport must adhere to the hygienic conditions that must be adhered to and steps to be followed for the limitation of exposure of employees using public transport to COVID-19.

This shall include the transportation of workers within the construction site (to and from the relevant work areas)

Refer Annexure D (Form 2) – Permit to Perform an essential or permitted service to be completed.

7.2.12 Care of Workers on Site (Welfare)

Social Distancing

- Workplaces must be arranged to ensure a minimum of 1½ meters between employees. If this is not practicable, physical barriers must be erected and workers must be supplied free of charge with appropriate Personal Protective Equipment (PPE).
- Social distancing must be implemented in all common areas in and around the workplace to prevent crowding (including working spaces, canteens, meeting rooms etc.)

Sanitizers and disinfectants

- Provide enough quantities of hand sanitizer with at least 70% alcohol content.
- Ensure that work surfaces, equipment, and common areas such as toilets, door handles, and shared equipment are regularly cleaned and disinfected; and
- Provide adequate facilities for hand washing with soap and clean water and sufficient paper towels.

Masks

- Employees must wear masks at work. Employers must also require members of the public entering a workplace to wear masks.
- Employers must provide each employee, free of charge, with at least two cloth masks to wear while at work or commuting.
- There must be suitable arrangements for washing and drying masks. Ultimately, the employer remains responsible for the maintenance and upkeep of PPEs. Where a risk assessment indicates, workers must be provided with alternative appropriate PPE (e.g. FFP1) to provide a greater level of protection.

Eating Areas

- It is recommended that eating times include division of workforce into small groups and be staggered to avoid concentration of workers in this common area.

General Offices

- No persons to congregate in this area.

- Recommendation should an urgent meeting be required - try meeting outside where permitted and or limit the number for the meeting and the time of the meeting; use of technology solutions such as Zoom, Teams, Google Meet, etc. where possible.

8 DISCIPLINE, ALCOHOL AND SUBSTANCE ABUSE

All employees (management included) are to follow instructions given in the interest of previous H&S and now COVID 19 H&S requirements.

Recommended that single use disposable breathalyzer test kit be used to minimize the risk of exposure to the virus.

Disciplinary action is to be imposed on those who do not follow such instructions or company rules or policies.

9 NON-CONFORMANCES

Regular audits will be conducted on site by the Client appointed Construction Health and Safety Agent to verify compliance with legislated COVID-19 workplace requirements, this COVID-19 H&S Specification, the approved COVID-Ready Workplace Plan from the PC and recommended best practice.

COVID-19 is a very serious issue and introduces significant risks within the workplace, particularly within the construction sites and affected communities; in this light, the PC may be ordered to close site should it fail to comply with the COVID-19 workplace requirements.

In addition, as the failure to comply fully with the OHSA (Occupational Health and Safety Act) is a criminal offence, failure to take the necessary measures to prevent the transmission of COVID19 may result in criminal prosecution.

10 ANNEXURE A: SECTORAL GUIDELINE

1. Risk assessment	1.1. Identification of exposure levels 1.2. Identification of “high contact” activities 1.3. Identification of vulnerable workers and special measures for their protection, including protection against unfair discrimination or victimization
2. Engineering controls	2.1. Ventilation 2.2. Physical barriers 2.3. Adaptation of workstations to increase social distance
3. Administrative controls	3.1. Screening/ reporting of symptoms/ sick leave 3.2. Minimizing contact 3.3. Rotation and shift work 3.4. Work-at-home strategies 3.5. Communication and information strategies 3.6. Role of health and safety committees and representatives 3.7. Education and training 3.8. Reporting of incidents for regulatory purposes 3.9. Reporting for purposes of public health, contact tracing, screening, testing and surveillance
4. Healthy and safe work practices	4.1. Disinfectants, sanitisers and personal hygiene 4.2. Other
5. PPE	5.1. Masks 5.2. Gloves 5.3. Facial shields 5.4. Other
6. Provision of safe transport for employees	6.1. Personal hygiene 6.2. Social distancing 6.3. Arrangements to minimise exposure associated with commuting 6.4. Cloth masks (if commuter) 6.5. PPE (driver/conductor of employer-provided transport)

11 ANNEXURE B: SYMPTOMS SCREENING TOOL

COMPANY NAME:

Date:

Site Address:

No	Employee Name & Surname	Job Title	Contact Details	Address	Temperature AM PM		Symptoms YES NO	
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

Symptom Legend (Place number under symptom column as shown below e.g. for fever, temperature 1)

Signs of COVID-19

- 1.Fever, Temperature greater than 37. 2
- 2.Cough
- 3.Sore throat
- 4.redness of eyes
- 5.shortness of breath

Additional Symptoms

- 6.Body Aches
- 7.Loss of smell or Loss of taste
- 8.Nausea
- 9.Vomitting
- 10.Diarrhoea
- 11.Fatigue
- 12.Weakness
- 13.Tiredness

Any employee presenting with any of the above symptoms – should not be allowed onto site, refer to identified testing sites for management

12 ANNEXURE C: PERMIT TO WORK

FORM 2 PERMIT TO PERFORM AN ESSENTIAL OR PERMITTED SERVICE Regulations 16(2)(b) and 28(4)

- Please note that the person to whom the permit is issued must at all times present a form of identification together with this permit. If no identification is presented, the person to whom the permit is issued will have to return to his or her place of residence during Alert Level 4.

I, being the head of institution, with the below mentioned details,

Surname				
Full names				
Identity number				
Contact details	Cell nr.	Tel Nr(W)	Tel Nr(H)	e-mail address
Physical Address of Institution				

Hereby certify that the below mentioned official/employee is performing services in my institution

Surname	
Full names	
Identity number	
Place of residence of employee	

Signed at _____, on this the _____ day of _____ 2020.

Signature of Head of Institution

Official stamp of
Institution

Contractor ____ Witness 1 ____ Witness 2 ____ Employer ____ Witness 1 ____ Witness 2 ____

Risk Assessment Matrix

Risk Prioritisation Number / Risk Rating = Severity x Likelihood

Severity Table

Pt	Severity level	Workplace Safety	Workplace Health	Loss / Damage	Downtime Incurred
5	Critical	Fatality, single or multiple	Acute Poisoning, Failure of Major Bodily Functions	More Than R10 million damages	More than 1 year for full re-instatement
		Permanent Body Injury or Loss of Use for more than 30 days	Infection with No Known Cure		
4	Very Serious	Injury requiring 30 days of hospitalisation and/or medical leave	Moderate exposure, Reversible injury to Bodily Functions on prolong recovery	More Than R1 million damages	More than 3 months for full re-instatement
		Temporary Body Injury or Loss of Use for more than 10 days but not exceeding 30 days	Infection with Known Cure but extensive treatment		
3	Serious	Injury requiring 10 days of hospitalisation and/or medical leave	Mild exposure, Reversible injury to Bodily Functions with less than 30 days recovery	More Than R100k damages	More than 1 month for full re-instatement
		Temporary Body Injury or Loss of Use for up to 10 days	Infection with Known Cure but extensive treatment		
2	Marginal	Injury requiring maximum of 3 days of medical leave only	Very Mild exposure, Reversible injury to Bodily Functions with less than 3 days recovery	More Than R10k damages	More than 5 days for full re-instatement
		Temporary Body Injury or Loss of Use for 3 days or less	Infection with Known Cure but treatment needed		
1	Negligible	First aid treatment only	Very Mild exposure, Reversible injury to Bodily Functions with less than 3 days recovery	Less than R5k damages	No significant downtime
		No or superficial injury	No Exposure		

Likelihood Table

Pt	Likelihood level	Likelihood of Occurrence / Exposure Criteria
5	Frequent	Likely to occur many times per year
4	Moderate	Likely to occur once per year
3	Occasional	Might occur once in three years
2	Remote	Might occur once in five years
1	Unlikely	Might occur once in ten years

Risk level Determination - 5 x 5 Matrix

		SEVERITY				
		Critical (5)	Very Serious (4)	Serious (3)	Marginal (2)	Negligible (1)
LIKELIHOOD	Frequent (5)	25 Operation not permissible	20 Operation not permissible	15 High priority	10 Review at appropriate time	5 Risk acceptable
	Moderate (4)	20 Operation not permissible	16 Operation not permissible	12 High priority	8 Review at appropriate time	4 Risk acceptable
	Occasional (3)	15 High priority	12 High priority	9 Review at appropriate time	6 Risk acceptable	3 Risk acceptable
	Remote (2)	10 Review at appropriate time	8 Review at appropriate time	6 Risk acceptable	4 Risk acceptable	2 Risk acceptable
	Unlikely (1)	5 Risk acceptable	4 Risk acceptable	3 Risk acceptable	2 Risk acceptable	1 Risk acceptable

Review the risk assessment records every year or whenever there are changes in processes, work activities or upon any incident occurrence, whichever is earlier.

Action Table

Colour	Score	Risks	Action
	16 - 25	High	Manage risk Stop operation & review controls. If necessary abort experimentation.
	12 - 15	Warning	High priority remedial action Proceed with extreme caution with supervision at all times. Implement additional (secondary) controls immediately. Review within 7 days. Emergency control measures shall be in place.
	8 - 10	Medium	Take remedial action at appropriate time Proceed with care. Additional control is advised. Review shall be implemented within 30 days.
	1 - 6	Warning	Risk acceptable: Residual risk If possible, risk reduction should be further considered, particularly severity. There are no imminent dangers. Frequent review shall be in place especially changes in procedures, materials or environment.

BASELINE HAZARD IDENTIFICATION AND RISK ASSESSMENT												
CLIENT / EMPLOYER				Independent Development Trust (IDT)								
PROJECT / CONSTRUCTION SITE & EXACT LOCATION OF THE WORKS				ASIDI Basic Services (Water Projects) - Cluster 2B								
Hazard & Risk Identification				Raw Risk Evaluation			Risk Control Measures & Residual Risk Rating					
S/N	Work activity	Hazard	Consequential Risk / Possible Accident / Ill health to persons, fire or property loss	Severity	Likelihood	RPN*	Risk Control Measures	Severity	Likelihood	RPN*	Responsible Party/ Person	Remarks
COVID-19 RISK ASSESSMENT												
1	Preparation for works commencement on site	Lack of appropriate documentation required prior to commencing work; Commencing work on site without approved H&S documentation.	Failure to comply with legal requirements resulting in work stoppage, increased infection rates, and possibly legal action against the PC.	5	2	10	Approval of work commencing to be obtained from the client prior to commencing work. COVID-Ready Workplace Plan, risk assessments to be prepared by the principal contractor and communicated to employees once approved.	5	1	5	Principal Contractor	Proceed with care. Additional control is advised.
2	Site Preparation	Site not COVID-19 ready (Contaminated surfaces; Lack of PPE supplies; Lack of COVID-19 signage; etc.)	Staff not provided with suitable PPE resulting in increased risk of infection; Employees coming in contact with contaminated surfaces may be infected	4	3	12	Decontamination / disinfection of work place and equipment before commencing work and at regular intervals; Disinfectant to be available and employees to be made aware to clean surfaces regularly; Procurement of COVID-19 suitable PPE prior to returning to site;	3	3	9	Principal Contractor	Proceed with care. Remedial actions to be taken at appropriate times.
3	Occupational Health / Symptom-Screening	Workers symptom free but infected with COVID-19, older workers of 60+, workers with underlying auto-immune or chronic diseases. Non-screening of workers and visitors; Non-disclosure of underlying auto-immune or chronic disease by workers and visitors to site.	Increased risk of transmission to others, compromising the vulnerable groups Unscreened and asymptomatic workers or visitors to site resulting in increased exposure to others; Cross contamination amongst workers and contamination of surfaces	5	4	20	COVID-Ready Workplace Plan, Policy and method statement to be available relating to screening surveillance. All workers are to be symptom screened at the time that they report to work, to ascertain whether they have any of the observable symptoms associated with COVID 19, namely - fever, cough, sore throat, redness of eyes or shortness of breathing. PC to provide methodology to remove staff from site safely to an identified test site; Workers to be made aware of risk of non-disclosure of COVID-19 symptoms; Staff in exposed age group and compromised health condition to be considered high risk and managed appropriately. Site security fence to be maintained and all access points to be controlled / manned.	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
4	Induction/Training	Failure to induct workers and lack of training; Lack of correct and updated information/ awareness	Workers not adhering to prescribed controls due to lack of awareness resulting in increased exposure.	5	4	20	Copies of all the updated and relevant regulations and guidelines to be readily available on site and communicated to workers; Information / Awareness posters to be conspicuously displayed at strategic positions on site; Toolbox talks / DSTIs addressing COVID 19 related risks.	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
5	Demographics of labour	Vulnerability due to age, underlying auto-immune or chronic disease/s	Health complications of vulnerable groups once infected with the virus; Possible death.	5	4	20	List of vulnerable employees to be maintained; The screening surveillance policy and method statement to be adhered to; Induction, DSTIs and toolbox talks to be done daily on topics relating to Covid-19, personal hygiene and PPE. Strict enforcement for use of PPE; Job substitution if possible for those who are affected. Staff in exposed age groups and compromised health conditions to be considered high risk and managed appropriately.	4	3	12	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.

Hazard & Risk Identification				Raw Risk Evaluation			Risk Control Measures & Residual Risk Rating					
S/N	Work activity	Hazard	Consequential Risk / Possible Accident / Ill health to persons, fire or property loss	Severity	Likelihood	RPN*	Risk Control Measures	Severity	Likelihood	RPN*	Responsible Party/ Person	Remarks
6	Origin of labour	Use of public transport to get to work and to move between towns and cities, districts, municipalities and rural villages; Workers who may have come into close contact with suspected COVID-19	Non-use of cloth or respiratory masks / face shields by public transport commuters; Employees / workers could be possibly exposed and get infected resulting in spreading of the virus during movement.	5	4	20	Selection and provision of transport services compliant with gazetted requirements. Policy and procedures and rules for travel, where possible to limit the use of public transport, or to arrange selective methods of transport, ongoing toolbox talks and if possible supply of cloth masks to be worn when travelling. Limitation of border crossing unless specialised contractors. Staff in exposed age group and compromised health condition to be considered high risk and managed appropriately.	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
7	Personal hygiene	Poor personal hygiene and improper cough / sneezing etiquette.	Increased risk of spreading the virus amongst co-workers and contaminating surfaces and/or tools. Touching of surfaces, tools and items that may have been contaminated;	5	3	15	Workers to be trained on proper personal hygiene, which training must include the following: - Frequently clean hands by using provided alcohol-based hand rub or soap with water. - Covering of mouth and nose with a flexed elbow when coughing / sneezing - Maintaining safe social distancing by avoiding close contact with anyone that has fever and cough (2m social distancing) - Avoiding unnecessary touching of surfaces	5	2	10	Principal Contractor	Proceed with care. Remedial actions to be taken at appropriate times.
8	Hand Sanitizers, Disinfectants and paper towels	Lack of adequate stock of sanitizers, disinfectants, paper towels	Poor implementation of hygiene protocols due to lack of resources resulting in increased risk of exposure and cross-infection;	4	4	16	Principal Contractor to ensure availability of stock at all times on site; It is recommended that adequate quantities of stock that should last for at least one month be procured and weekly as per the demand on site;	4	3	12	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
9	Use of chemicals / flammable substances	Inappropriate use and unsafe storage of chemicals due to lack of training (Sanitizers, disinfectants, detergents)	Sensitivity to some of these chemicals may cause unpleasant skin conditions such as mild irritation, skin burns or rash, etc. Risk of fire due to incorrect usage and storage of alcohol based sanitizers;	3	3	9	Training on safe use and correct storage of chemicals must be provided to the workers; Relevant MSDSs to be made available on site; Any worker who develops any unpleasant skin reactions must report the matter to site management / CCO for investigation;	3	2	6	Principal Contractor	Proceed with care. Additional control is advised.
10	Transportation	Maximum allowed capacity exceeded. No facilities for sanitising vehicles and passengers. No additional protective measures available, e.g. face masks. Unlicensed drivers and operators.	Increased risk of cross contamination during transportation; Workers older than 60 years and workers with compromised health/immune condition statistically has a low chance to recover and are more susceptible to contract the virus.	5	5	25	Selection and provision of transport services compliant with gazetted requirements. Policy and procedures and rules for travel, where possible to limit the use of public transport, or to arrange selective methods of transport, ongoing toolbox talks and supply of cloth masks to be worn when travelling or moving on and off site. Vehicles maintained at 70% capacity or less. Vehicles sanitised between trips. Hand sanitiser provided for passengers. Staff in exposed age group and compromised health condition to be considered high risk and managed appropriately.	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.

Hazard & Risk Identification				Raw Risk Evaluation			Risk Control Measures & Residual Risk Rating					
S/N	Work activity	Hazard	Consequential Risk / Possible Accident / Ill health to persons, fire or property loss	Severity	Likelihood	RPN*	Risk Control Measures	Severity	Likelihood	RPN*	Responsible Party/ Person	Remarks
11	Social distancing	Construction tasks requiring more than one worker; Congestion at site entrance during arrival and departure from site; Welfare facilities, meeting areas.	Inability to maintain social distancing resulting in increased risk of cross infection;	5	5	25	Policy and method statements for the provision of suitable and sufficient PPE. Demarcation and spacing of queueing areas. Segregation of queueing areas and public outside site perimeters. Meeting/eating areas large enough to maintain 2m distance at maximum occupancy, use of drones, security cameras to limit the need to spend time on site. Only essential workers to spend time on site, Staggered meeting/eating times, use of Zoom, Skype, teams for meetings where necessary. Individual, segregated facilities for safe keeping. Induction training and a programme for information and training.	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
12	Alcohol and substance abuse	Workers, visitors arriving at site under the influence of substances; Use of Breathalyzer for alcohol testing;	Intoxicated workers and/or visitors not complying with procedures laid down to prevent the spread of the virus; Cross infection due to use of shared breathalysers;	5	4	20	Policy and method statement for substance abuse to be reviewed, management of visitors and workers under the influence of alcohol or other substances. Use of disposable individual testing units and appropriate disposal in hazardous waste bins.	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
13	Waste management	Lack of proper hazardous waste management on site; Incorrect disposal of hazardous waste products; Lack of proper hazardous waste bins;	Spreading of virus and contact with virus causing infection from handwashing, paper towels, cleaning equipment and other related waste products.	5	3	15	Prepare a policy, method statements, HIRA. Establish and follow protocols for disposal of hazardous waste (containers). Awareness through notices (posters) regarding correct procedures and classification of waste. Competent supervision and adequate awareness training required. Provide adequate supplies of material and consumables, provision of sealable disposal containers/bags through appropriate waste removal company. Provide adequate supply of paper towels. Ensure appropriate management.	5	2	10	Principal Contractor	Proceed with care. Remedial actions to be taken at appropriate times.
14	COVID-19 Awareness Signage / Posters	Lack of COVID-19 awareness signage and posters	Workers not adhering to prescribed controls due to lack of awareness resulting in increased exposure.	5	3	15	A policy and method statement to be prepared. Display of posters and signage with the site rules and protocols that needs to be maintained at strategic points. Awareness through notices and posters regarding correct protocols to be maintained. Competent supervision and adequate awareness training required. Discipline to be applied to those not complying.	5	2	10	Principal Contractor	Proceed with care. Remedial actions to be taken at appropriate times.
15	Access Control	Uncontrolled access points; Untrained access controller / security guard Poor maintenance of site security fence;	Unauthorised access to site resulting in increased risk of contamination of the workplace and cross infection; Access controller / security guard not following correct procedure; Workers, visitors, site administration arriving on site via personal and public transportation.	5	4	20	Policy and method statements. All persons entering site to sanitize hands, prior to entry to site. Access controller trained on correct procedure to follow and how to utilize no-contact hand-held thermometer. Back-up access controllers trained on same procedure. All persons entering site screened by trained access controller. Periodic alcohol testing to continue however only when warranted through suspicion.	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.

Hazard & Risk Identification				Raw Risk Evaluation			Risk Control Measures & Residual Risk Rating					
S/N	Work activity	Hazard	Consequential Risk / Possible Accident / Ill health to persons, fire or property loss	Severity	Likelihood	RPN*	Risk Control Measures	Severity	Likelihood	RPN*	Responsible Party/ Person	Remarks
16	Construction Vehicles & Mobile Plant	Lack of awareness amongst operators; Failure to disinfect construction vehicles and mobile plant	Operators allowing others inside operator cabs that are designed for one person may increase the risk of contamination and infection; Contaminated surfaces due to failure to disinfect;	5	4	20	Updated policy, method statements and HIRA; Proper induction of operators, toolbox talks and relevant DSTIs; Implementation and maintenance of disinfecting programme for construction vehicles and mobile plant; Operators to also wear prescribed PPE at all times; Supervision to monitor and control;	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
17	Welfare facilities	Inadequate space for maintaining social distancing; Failure to disinfect welfare facilities; Possible contaminated surfaces;	Inability to maintain social distancing resulting in possible cross contamination and increased risk of infection; Workers coming into close contact with contaminated surfaces resulting in virus infections;	5	4	20	Updating of policy, method statements and HIRA, limiting of personnel on site to minimum number required to maintain control and management. Implement and maintain cleaning and disinfecting programme. Site rules for social distancing to 1.5m. Stagger number of people attending induction and training sessions. Use technology to avoid close proximity between individuals where possible.	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
18	Emergency planning and response	Overcrowding of assembly points; Not following correct procedure for dealing with COVID-19 suspected cases; Emergency Co-ordinator not trained in COVID-19 emergency response procedure;	Assembly points may have more than the specified number of people; Limited space for social distancing when practicing or during actual emergencies resulting in cross infections;	5	3	15	Review emergency plan and method statements. DSTIs and toolbox talks. Competent supervision and emergency co-ordinator to be trained on emergency arrangements. Updating of the emergency plan and communicated to all personnel. Emergency Number List updated to include National Institute of Communicable Diseases (NICD) Emergency Hotline – 0800 029 999 and dedicated Isolation Hospital Details.	5	2	10	Principal Contractor	Proceed with care. Remedial actions to be taken at appropriate times.
19	First Aid	First Aid Attendant not trained in COVID-19 and proper procedure to be followed when rendering first aid; First Aid Attendant not provided with and not using suitable PPE.	First Aid Attendant not following proper procedure and not wearing suitable PPE when rendering first aid to injured employee/s;	5	3	15	The designated First Aid Attendant must be made aware of the hazards and risks related to COVID-19; Suitable PPE for the First Aid Attendant must be readily available on site at all times (N-95, FFP1 / FFP2 masks, Goggles and Latex gloves); CCO to monitor and control;	5	2	10	Principal Contractor	Proceed with care. Remedial actions to be taken at appropriate times.
20	Personal protective equipment	Workers not provided with suitable PPE; Lack of PPE usage by the workers; Lack of training on correct and proper use of PPE provided;	Workers not having suitable PPE; Non-use and incorrect use of PPE increases the risk of contracting the virus; Incorrect disposal of used disposable PPE, putting those who may come into contact with such at risk of infection;	5	5	25	Update the policy, method statements and HIRA for PPE. No employee and or visitor will be allowed on site without a face mask. N95 masks only for medical or high risk workers. Adequate training must be provided in the correct use and disposable of these masks. Cloth masks must be washed and ironed daily. Face shields protect mouth, nose and eyes. Daily cleaning of face shields No sharing of PPE will be permitted. Adequate supervision, inclusion induction, policy, method statements and HIRAs. Covid PPE does not replace conventional PPE as per Construction activity HIRA.	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.
21	Contractor Management	Non-compliant Contractors and lack of monitoring	Increased risk exposure due to lack of monitoring and enforcement resulting in the spread of the virus;	5	4	20	Update the policy, method statements and HIRA. Ensure contractors have procedures in place to screen their workers and visitors prior to entering site; Frequent site visits by the designated COVID-19 Compliance Officer; Disciplinary action to be taken against non-compliant Contractors;	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.

Hazard & Risk Identification				Raw Risk Evaluation			Risk Control Measures & Residual Risk Rating					
S/N	Work activity	Hazard	Consequential Risk / Possible Accident / Ill health to persons, fire or property loss	Severity	Likelihood	RPN*	Risk Control Measures	Severity	Likelihood	RPN*	Responsible Party/ Person	Remarks
22	Consequence management	Failure to appoint the COVID-19 Compliance Officer; Failure to report confirmed COVID-19 cases that are work related to the relevant authorities;	Non compliance issues not promptly addressed may result in work stoppage and possible legal action taken against the PC;	5	4	20	Revision of policy, method statements and HIRA. PC must ensure that a COVID-19 Compliance Officer is appointed in writing; Proper reporting procedures must be adhered to; PC must ensure that site is updated daily with all the relevant COVID-19 information; Workers should be updated with new information daily; PC must ensure that company disciplinary procedures are in place. All employees should have knowledge of the company disciplinary procedures and action must be taken against those who are deliberately non-compliant; Work stoppage/site closure where non compliance exists.	5	3	15	Principal Contractor	High priority remedial action. Implement additional (secondary) controls immediately.

C3.5 HIV/AIDS SPECIFICATION

ICS 11.020; 91.010.01; 91.010.20

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Edition 1

SOUTH AFRICAN NATIONAL STANDARD

Construction and management requirements for works contracts

Part 6: HIV/AIDS awareness

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Table of changes

Change No.	Date	Scope

Abstract

Establishes the means by which the risk of HIV spreading between and among construction workers and the local community can be reduced.

Keywords

AIDS, condoms, HIV, sexually transmitted diseases.

Acknowledgement

Standards South Africa wishes to acknowledge that this part of SANS 1921 is based on documentation prepared by the Construction Industry Development Board.

Foreword

This South African standard was approved by National Committee StanSA TC 5120.61, *Construction standards*, in accordance with procedures of Standards South Africa, in compliance with annex 3 of the WTO/TBT agreement.

SANS 1921 consists of the following parts, under the general title *Construction and management requirements for works contracts*:

Part 1: General engineering and construction works.

Part 2: Accommodation of traffic on public roads occupied by the contractor.

Part 3: Structural steelwork.

Part 4: Third-party management support in works contracts.

Part 5: Earthworks activities which are to be performed by hand.

Part 6: HIV/AIDS awareness.

Other parts: To be confirmed.

Annexes A and C form an integral part of this part of SANS 1921. Annex B is for information only.

Introduction

Research indicates that the South African construction industry has the third highest incidence of HIV/AIDS in South Africa. The construction sector has a predominantly migratory labour force, making it a prime contributor towards the spread of HIV/AIDS. Labour camps are a breeding ground for the spread of HIV/AIDS and sexually transmitted diseases (STDs). This situation is compounded where migrant workers on contract generally disregard, or are ignorant of, the consequences of casual sexual relationships.

The prevalence of subcontracting, the emergence of many small contractors and the tendency toward labour-only subcontracting increases the complexity of developing an effective HIV/AIDS strategy that targets the full spectrum of those employed in construction. This level of complexity places a special responsibility on clients, the professions and industry leaders.

The construction sector has the potential to play an important role in the country's inter-sectoral approach to coping with the epidemic. This sector also provides entry-level local jobs, which can be crucial to the survival of youth-headed households and extended families in areas hard hit by the epidemic. Construction sites can accordingly provide a convenient location for HIV/AIDS programmes to be presented to both construction workers and rural communities.

This part of SANS 1921 makes provision for the following four strategies to be implemented in engineering and construction works contracts:

1. Raising awareness of HIV/AIDS.
2. Ensuring that construction workers have access to condoms.
3. HIV/AIDS counselling, testing and referral services.
4. Sexually transmitted infection (STI) diagnosis and treatment.

These strategies are designed to build an HIV/AIDS resilient workforce as well as HIV/AIDS resilient communities associated with the workforce, i.e. communities that are able to draw on their own capacity to prevent further transmission of HIV/AIDS, minimize the impact of the HIV/AIDS epidemic, and talk about HIV/AIDS.

SANS 1921-6:2004

Edition 1

Contents

	Page
Abstract	
Keywords	
Acknowledgement	
Foreword	
Introduction	1
1 Scope	3
2 Normative references	3
3 Definitions and abbreviations	3
4 Requirements	4
Annex A (normative) Preparation of specification data associated with this part of SANS 1921 for inclusion in the scope of work	6
Annex B (informative) The formulation of pricing data	8
Annex C (normative) Compliance report	9

Construction and management requirements for works contracts

Part 6: HIV/AIDS awareness

1 Scope

This part of SANS 1921 contains requirements applicable to the reduction of the risk of transfer of HIV between and among construction workers and the local community through the following four strategies:

- a) raising awareness of HIV/AIDS;
- b) providing construction workers with access to condoms;
- c) HIV/AIDS counselling, testing and referral services; and
- d) sexually transmitted infection (STI) diagnosis and treatment.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of SANS 1921. All standards are subject to revision and, since any reference to a standard is deemed to be a reference to the latest edition of that standard, parties to agreements based on this part of SANS 1921 are encouraged to take steps to ensure the use of the most recent editions of the standards indicated below. Information on currently valid national and international standards can be obtained from Standards South Africa.

SANS 4074/ISO 4074, *Natural latex rubber condoms – Requirements and test methods*.

SANS 10403, *Formatting and compilation of construction procurement documents*.

3 Definitions and abbreviations

For the purposes of this part of SANS 1921, the definitions given in SANS 10403 and the following definitions and abbreviations apply:

3.1 Definitions

3.1.1

construction worker

person in the employ of the contractor or any of the subcontractors contracted by the contractor

SANS 1921-6:2004

Edition 1

3.1.2

local community

community, local to the site, which is most likely to have contact with the construction workers and, in particular, sex workers in that community

3.1.3

service provider

natural or juristic person or partnership conducting HIV/AIDS awareness programmes

3.1.4

specification data

data, provisions and variations that make this part of SANS 1921 applicable to a particular contract (see annex A)

3.2 Abbreviations

AIDS – Acquired Immune Deficiency Syndrome

HIV – Human Immunodeficiency Virus

STD – sexually transmitted disease

STI – sexually transmitted infection

4 Requirements

4.1 General requirements

The contractor shall reduce the risk of transfer of HIV between and among construction workers and the local community, raise awareness amongst construction workers and the local community of the risk of infection with HIV, promote early diagnosis, and assist affected individuals to access care and counselling by

- a) making condoms that comply with the requirements of SANS 4074 available for the duration of the contract to all construction workers at points on the site which are readily accessible and suitably protected from the elements;
- b) either placing and maintaining HIV/AIDS awareness posters of size not less than A1 in areas which are highly trafficked by construction workers, or providing construction workers with a pamphlet, in the languages largely understood by the construction workers, which reinforces the outcomes of the HIV/AIDS awareness programme stated in 4.2.3;
- c) encouraging voluntary HIV/STI testing;
- d) providing information concerning counselling, support and care of those that are infected; and
- e) complying with the requirements of 4.2.

NOTE Annex B provides guidance on how the pricing data may be formulated to remunerate contractors for complying with the aforementioned requirements.

4.2 HIV/AIDS awareness programme

4.2.1 The contractor shall

- a) engage a qualified service provider as described in the specification data (see annex A) to conduct an HIV/AIDS awareness programme which is structured to achieve the outcomes stated in 4.2.3 for contract workers as soon as a construction workers' camp is established and populated or, where no such camp is established, within two weeks of the commencement of a significant portion of the works and at subsequent intervals, if any, provided for in the specification data; and
- b) arrange for, provide a suitable venue, and instruct all construction workers to attend the HIV/AIDS awareness programme and notify the employer of the date, time and venue whenever a session with construction workers is conducted.

4.2.2 The contractor shall do nothing to dissuade construction workers from attending such an HIV/AIDS awareness programme and shall take all reasonable steps to ensure that a minimum of 90 % of construction workers engaged in the works attend such a programme, when it is conducted.

4.2.3 The outcomes of the HIV/AIDS awareness programme shall, as a minimum, result in contract workers exposed to such a programme being able to

- a) communicate the existence of the problem of HIV/AIDS and be able to outline the consequences of transmission of HIV to or from the local community; and
- b) recall and communicate the modes of HIV transmission and preventative measures including the proper use of the condom.

4.3 Reporting

4.3.1 The contractor shall prepare and attach to his claims for payment a compliance report which outlines how the actions taken by the contractor in the period for which payment is claimed comply with the requirements, and a schedule which lists the names, identity numbers, trade/occupation and the name of the employer of all the construction workers exposed to the programme (see annex C).

4.3.2 The employer shall certify the report and schedule described in 4.3.1 whenever a claim for payment is issued to the employer.

NOTE In the event that the contractor fails to comply with the requirements of 4.3, the employer may apply any of the sanctions provided for in the contract. Sanctions may include the application of a financial penalty.

SANS 1921-6:2004
Edition 1

Annex A
(normative)

**Preparation of specification data associated
with this part of SANS 1921 for inclusion in the scope of work**

Specification data form an essential part of this part of SANS 1921; without such data, the requirements are incomplete.

The format for the specification data has been developed to be compatible with the requirements in table D.1 of SANS 10403:2003. The specification data shall be incorporated in the scope of work as shown in table A.1.

**Table A.1 — Incorporating this part of SANS 1921 in the
scope of work associated with a project**

1	2	3				
TOPIC	ASPECT	COMMENTARY				
DESCRIPTION OF THE WORKS						
MANAGEMENT						
Management of the works	Applicable part(s) of SANS 1921	The following parts of SANS 1921 and associated specification data are applicable: 1) SANS 1921..... 2) SANS 1921..... The associated specification data are as follows: <table><tr><td rowspan="3">Specification data pertaining to SANS 1921...</td><td>Essential data: The requirements for are The requirements for are</td></tr><tr><td>Variations: 1)..... 2).....</td></tr><tr><td>Additional clauses: 1).....</td></tr></table>	Specification data pertaining to SANS 1921...	Essential data: The requirements for are The requirements for are	Variations: 1)..... 2).....	Additional clauses: 1).....
	Specification data pertaining to SANS 1921...	Essential data: The requirements for are The requirements for are				
Variations: 1)..... 2).....						
Additional clauses: 1).....						
Particular/Generic specifications						

SANS 1921-6:2004
Edition 1

Develop the specification data based on the contents of table A.2.

Table A.2 — Specification data associated with this part of SANS 1921

1	2	3
Specification data associated with this part of SANS 1921	Guidance notes	
	Clause number	Consideration
Essential data		
A qualified service provider is a service provider that is accredited by / appears on the list of recognized service providers published by The contact particulars of qualified service providers are as follows: <u>Name</u> <u>Tel.</u> <u>Fax</u> <u>Email</u>	4.2.1(a)	Establish what constitutes a qualified service provider, e.g. recognition by the South African Department of Health as a specialist.
The HIV/AIDS awareness programme is to be repeated at four-month intervals throughout the duration of the contract. (Four times in total, including the initial one at the start of the contract.)	4.2.1(a)	State the intervals at which the HIV/AIDS awareness programme is to be conducted.
Variations		
The HIV/AIDS awareness programme described in 4.2 shall, in addition, be conducted for the benefit of the local community on two occasions in the community centre. The contractor shall be responsible for inviting identifiable community-based institutions and organizations, churches and schools to participate in the programme.		State variations, if any. Consider extending the HIV/AIDS awareness programme to the local community.
Additional clauses		
1 2		State additional requirements.

SANS 1921-6:2004
Edition 1

Annex B
(informative)

The formulation of pricing data

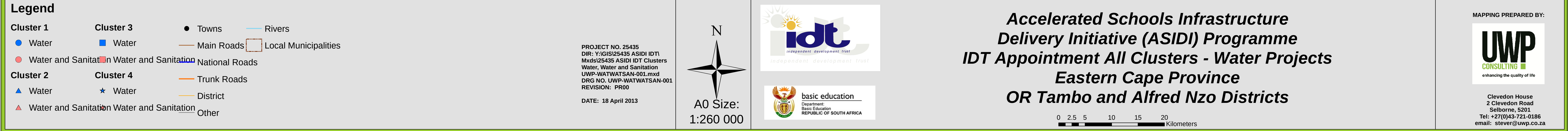
The HIV/AIDS awareness requirements contained in this part of SANS 1921 can be priced in a number of ways. They can be deemed to be included in the sum tendered for contractual requirements and not be separately identified. Alternatively, they can be identified as a separate item/activity and be included in the bills of quantities or in activity schedules as a single item or a group of items as shown in table B.1.

Table B.1 — Sample bill of quantities

1	2	3	4	5
Item	Description	Unit	Rate	Amount
1	Conduct HIV/AIDS Awareness Programme on site for not less than 90 % of the workers inclusive of all direct and indirect costs	number		
2	Provide and maintain condom dispenser	number/sum		
3	Provide and maintain HIV/AIDS awareness posters	number		
4	Provide information regarding the voluntary testing of construction workers, and counselling, support and care	sum		

Some sponsors require that a percentage of the contract price be spent on activities relating to HIV/AIDS awareness. In such cases, it is recommended that a provisional sum be provided in the bill of quantities.

C4 Site Information



ANNEXURE A

PRO-FORMA AGREEMENT IN TERMS OF OCCUPATIONAL HEALTH AND SAFETY ACT 1993

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

PRO-FORMA AGREEMENT IN TERMS OF OCCUPATIONAL HEALTH AND SAFETY ACT 1993 – SECTION 37 (2)

NEW CONSTRUCTION SAFETY REGULATIONS

The above-mentioned regulations were promulgated in the Govt. Gazette on Friday, 18 July 2014 under the Occupational Health & Safety Act (85 of 1993) and are now in force.

The Employer and the Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act 1993 (Act 85 of 1993, hereinafter referred to as the Act), that the following arrangements and procedures shall apply between them to ensure compliance by the Contractor with the provisions of the Act, namely:

- (a) The Contractor undertakes to acquaint the appropriate officials and employees of the Contractor with all the relevant provisions of the Act and the regulations promulgated in terms of the Act, and the Employer's Health and Safety Specifications included in the contract documents.
- (b) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations and the Employer's Health and Safety Specifications included in the contract documents will be complied with in all respects.
- (c) In relation to any work or activity performed by the Contractor, his workmen or any other person for whose acts or omissions the Contractor is responsible in terms of the Contract, the Contractor hereby accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and Regulations and expressly absolves the Employer from itself being obliged to comply with any of the aforesaid duties, obligations and prohibitions.
- (d) The Contractor agrees that any duly authorised officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the Contractor has complied with his undertakings as set out more fully in paragraphs (a) and (b) above, which steps may include, but will not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or to inspect any appropriate records held by the Contractor.
- (e) The Contractor shall be obliged to report forthwith in writing to the Representative/Agent full details of any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the Act and Regulations, pursuant to work performed in terms of this Contract.
- (f) Forward "safety meeting" minutes to the representative/Agent.

For the Employer: _____ Date: _____

Witnesses: 1) : _____ 2) : _____

For the Contractor: _____ Date: _____

Witnesses: 1) : _____ 2) : _____

ANNEXURE B

NOTIFICATION OF CONSTRUCTION WORK

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

NOTIFICATION OF CONSTRUCTION WORK

(Regulation 3 of the Construction Regulations, 2014)

1. CONTRACTOR

1.1 Name and postal address of Contractor :

1.2 Name and telephone number of Contractor's contact person :

1.3 Contractor's compensation registration number :

1.4 Name and telephone number of Contractor's Construction Supervisor :

1.5 Physical address of the construction site or site office:

1.5 Estimated number of persons on the construction site :

1.6 Estimated number of Subcontractors on the construction site accountable to the Contractor :

2. EMPLOYER

2.1 Name and postal address of Employer :

2.2 Name and telephone number of Employer's Principal Agent:

3. DESIGN CONSULTANTS

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

3.1 Name and postal address of design consultants:

3.1.1 Construction project managers/ Principal Agents:

HSC Consulting
25 Schultz Road
Bonnie Doon, East London
5241
Tel: 043 743 9528
Fax: 043 743 5347

3.1.2 Civil engineer :

HSC Consulting
25 Schultz Road
Bonnie Doon, East London
5241
Tel: 043 743 9528
Fax: 043 743 5347

3.1.3 Other (if any) :

3.1 Name and telephone number of design consultant's contact person :

3.2.1 Construction project managers/ Principal Agent :

AS PER ABOVE 3.1_____

3.2.2 Civil engineer :

AS PER ABOVE 3.1_____

3.2.3 Other (if any) :

4. THE WORKS

Nature of the works:

Completion of ASIDI water supply projects at Cluster 2B schools (Cibini JS, Fulinzima JP, Kuyasa JS, Laphumikwezi SP, Mbashe SP and Ngowana SP).

Commencement date :

Contract

157

BID No: DOEEC/02/2023/2024

Annexure B
Notification Of Construction Work

INDEPENDENT DEVELOPMENT TRUST

COMPLETION OF ASIDI WATER SUPPLY PROJECTS AT CLUSTER 2B SCHOOLS

TENDER NO. DOEEC/02/2023/2024

Completion date : _____

Contractor: _____ Date: _____

Employer: _____ Date: _____

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

ALL CONTRACTORS THAT QUALIFY TO NOTIFY MUST DO SO EVEN IF ANOTHER CONTRACTOR ON THE SITE HAD DONE SO PRIOR TO THE COMMENCEMENT OF WORK.

ANNEXURE C

Environmental Management Plan

ENVIRONMENTAL MANAGEMENT PLAN**2.1 ROLES AND RESPONSIBILITIES OF PARTIES WITH REGARD TO THE ENVIRONMENTAL MANAGEMENT PLAN**

The Contract shall be conducted in accordance with the principles of Integrated Environmental Management (IEM) "in an environmentally and socially responsible manner" (DEAT 1992). This section details the controls and procedures necessary to achieve this goal.

The Contractor will be required to comply with the Project Environmental Specifications contained in this document.

No separate payment will be made for compliance with the Environmental Specifications unless specifically detailed in the Bill of Quantities. Therefore the Contractor's rates shall be fully inclusive of all costs incurred in complying with these specifications.

The roles and responsibilities of parties affecting environmental management are outlined in this section followed by the detailed controls required.

2.2 THE ENVIRONMENTAL CONTROL OFFICER (ECO)

Application of this specification is dependent on the appointment of a suitably qualified Environmental Control Officer (ECO). The Independent Development Trust (IDT) will appoint an ECO who will interface with the contract via the Engineer. The ECO will have the following responsibilities:

To advise the Engineer with regard to the interpretation and enforcement of the Environmental Specification;

To supply Environmental information;

Provide input into Environmental check-lists;

To submit a monthly auditing report on the Contractors compliance with the Environmental Specification. These reports shall be copied to the Client, the Engineer / Project Manager and the Contractor.

To demarcate particular sensitive sites and pass instructions through the Engineer concerning safeguards and practises in these areas.

2.3 THE CONTRACTOR

The Contractor has the responsibility to:

Be familiar with the contents of the Scoping Report or the Environmental Impact Assessment;

Comply with the Project Environmental Specifications contained in this Section;

Mark out the proposed sensitive areas in good time for the inspection and approval of the project team and the ECO, and negotiate, through the recognised channels, solutions to any problems which may arise. On occasion minor re-routing / re-siting may be required to avoid negative impacts;

Notify the ECO through the Engineer immediately in the event of any accidental infringements of the specifications so that appropriate remedial action can be taken;

Notify the ECO through the Engineer at least 10 days in advance of any actions he has reason to believe will have significant negative impacts, so that mitigatory measures can be

discussed and implemented before negative impacts arise. Especially important in this context are stream crossings, wetlands, steep slopes and indigenous forest/bush; Conduct environmental education amongst his employees and sub-contractors so that they are fully aware of the Environmental Specifications and the reasons for them. It is the responsibility of the Contractor to ensure that employees have the necessary knowledge to comply with the specifications in the Environmental Impact Assessment; Undertake rehabilitation of all areas affected by construction to restore them to their "original condition" as determined by the Engineer in consultation with the ECO.

2.4 THE ENGINEER / PROJECT MANAGER

The Engineer is required to:

Be familiar with the contents of the Scoping Report or the Environmental Impact Assessment;
Monitor compliance with the Environmental Specification on a regular basis. Compliance by the Contractor to the Environmental Specification will be enforced by the Engineer;
Communicate to the Contractor the advice of the ECO and the content of the ECO reports and issue site instructions giving effect to the ECO requirements where applicable;
Undertake costing of measures recommended by the ECO before issuing site instructions giving effect thereto. This applies where no specific item is provided in the Schedule of Quantities;
Communicate to the ECO, at least 10 days in advance, any proposed project actions which may have negative impacts on the environment;
Communicate to the ECO any infringements of the Environmental Specifications and assist the ECO with monthly audits;
Maintain a register of complaints from the public and communicate these to the Client;
Keep records of the condition of roads and fences (i.e. written and photographic or video records) so that these can be reinstated to their original condition and factual evidence is available to resolve disputes concerning the "original" condition;
Keep photographic and written records of structures in the vicinity of excavation, prior to excavation. These can be used as evidence in the event of claims for damages arising.

2.5 COMMUNICATION BETWEEN PARTIES

The importance of open communication between all parties mentioned above is emphasised as the attainment of environmental quality requires a joint effort. Only with open communication can the role of the ECO be a positive one - aimed at being proactive in preventing problems - rather than a negative "policing" role when negative impacts have already occurred.

2.6 ENVIRONMENT SPECIFICATIONS

It is the stated goal of the Independent Development Trust (IDT) to implement sustainable environmental management practices within the development referred to as Gqunube Green (GG). This applies to the planning, design, construction, operation, restoration, reuse and decommissioning activities for GG and its related bulk infrastructure.

The Construction Environmental Specification (ES) incorporates a standard environmental specification and the standard re-vegetation specification. It has been prepared by the IDT for the inclusion in the tender and Contract documents for the construction of the bulk infrastructure for the GG village.

2.7 PURPOSE OF THE ENVIRONMENTAL SPECIFICATION (ES)

The purpose of the ES is to incorporate recommendations of the Environmental Scoping report and other environmental studies as well as the conditions of Record of Decision into a

Contractual environmental performance specification for implementation during construction of bulk infrastructure within GG.

The document is intended as a performance specification to ensure that the IDT and any bodies that enter into formal agreements with the IDT viz. Consultants, Contractors, sub-Contractors, Tenants and Concessionaires achieve an acceptable level of environmental performance. No advice, approval of method statements or any other form of communication from IDT should be construed as an acceptance by IDT of any obligation that absolves the Contractor from achieving any required level of performance or an acceptance of liability by IDT which may result from the Contractor not doing so unless issued in the form of an instruction or variation order, i.e. the Contractor remains responsible for achieving the required performance levels.

2.8 IMPLEMENTATION OF THE ENVIRONMENTAL SPECIFICATION

This ES forms an integral part of the Contract, and Contractors are required to make it an integral part of Contracts with Sub-Contractors. It is intended for dissemination by IDT to persons responsible for the design of the infrastructure works, who shall ensure that it is included in the Tender Document(s) issued to the prospective Contractors. The Contractors shall incorporate the requirements of the ES in their tenders submitted to IDT.

The Environmental Consultant will be responsible for updating the ES as required, auditing the implementation of the ES and maintaining the document control and record systems associated with the ES.

The ES has been structured to be incorporated into a standard engineering tender document as the Environmental Particular Specification.

A 'Particular Specification' is the terminology used for a specification that covers activities that are not adequately covered in the Standardised SABS 1200 series or COLTO specification for engineering Contracts.

2.9 STANDARD ENVIRONMENTAL SPECIFICATION

This Specification covers the requirements for controlling the impact on the environment of construction activities.

2.9.1 INTERPRETATIONS

Supporting specifications

Where this Specification is required for a project the following specifications shall, inter alia, form part of the Contract Document.

- a) Scope of work;
- (b) SABS 1200 A or SABS 1200 AA, as applicable and
- (c) COLTO Equivalent Specification.

Application:

This Specification contains clauses that are generally applicable to the undertaking of civil, electrical and mechanical engineering works in areas where it is necessary to impose proactive controls on the extent to which the construction activities impact on the environment. This ES forms an integral part of the Contract, and Contractors are required to make it an integral part of Contracts with sub-contractors. It is intended for dissemination by IDT to persons responsible for the infrastructure works who shall ensure that it is included in the Tender Document(s) issued to the prospective subcontractors. The Contractors shall incorporate the requirements of the ES in their submissions to IDT and will be responsible for all permit applications applicable to their construction activities.

In the event of any difference or discrepancy between the provisions of the Standardized Specifications and the provisions of this Specification, the latter shall prevail.

Site:

The site is defined on the engineer's drawings. Where the area is not bounded by any demarcation it will include all adjacent areas, which are reasonably required for the activities for the Contractor, and approved for such use by the Engineer.

2.9.2 HAZARDOUS SUBSTANCES

The Contractor shall comply with all relevant national, regional and local legislation with regard to the transport, use and disposal of hazardous material. Hazardous chemical substances (as defined in the Regulations for Hazardous Chemical Substances¹) used during construction shall be stored in secondary containers. The relevant Material Safety Data Sheets (MSDS) shall be available on Site. Procedures detailed in the MSDS's shall be followed in the event of an emergency situation. The Contractor shall be responsible for training and education of all personnel on Site who will be handling hazardous material about their proper use, handling and disposal.

If potentially hazardous substances are to be stored or used on Site, the Contractor shall provide a Method Statement detailing the substances/materials to be used, together with the storage, handling and disposal procedures of the materials. The Method Statement shall also specify the proposed access route through GG.

2.9.3 TRANSPORT OF MATERIALS OUTSIDE THE SITE

The Contractor shall comply with all the applicable local, regional and national by-laws with regard to road safety and the transport of materials, especially hazardous and/or toxic materials. Any claims against the Contractor shall be for their account.

2.9.4 SITE MANAGEMENT AND REHABILITATION

A Site Rehabilitation Method Statement must be submitted to the Engineer for written approval.

Refuse Disposal

The Contractor shall dispose of all refuse (general waste not road construction materials other than hazardous) generated by them or their Sub-Contractors on a weekly basis at an approved waste disposal site.

Cooking fuel

The Contractor shall provide adequate facilities for staff. No collecting of firewood from site is permitted. The Contractor shall ensure that energy sources are available at all times for construction and supervision personnel for heating and cooking purposes.

Waste management

The Contractor's intended method for waste management and waste minimisation must be implemented at the outset of the contract, and approved by the Engineer. All personnel shall be instructed to dispose of all waste in the proper manner.

Solid waste

All refuse on-site shall be collected in drums and emptied at regular intervals. No waste shall be burned on site. The Contractor shall ensure that no waste is disposed of within excavations or borrow pits.

Litter

No littering by construction workers shall be allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition, and the site is to be kept free of litter.

Rehabilitation

The Contractor shall be responsible for rehabilitation of any areas cleared or disturbed for construction purposes (e.g. pipeline routes, road fringes, haul road or special zone conservation only) as follows:

Topsoil is to be stockpiled separate from other excavated material and is to be replaced as the final fill when backfilling. Backfilling is to occur as per the engineer's specification to a depth equal to the underside of the naturally occurring topsoil in the area. The stockpiled soil is to be loosely placed above this compacted backfill and to be finished 300mm above the surrounding natural ground level to allow for settlement. No additional revegetation is required.

All construction equipment and excess aggregate, gravel, stone, concrete, bricks, temporary fencing and the like shall be removed from the Site upon completion of the work. No discarded materials of whatsoever nature shall be buried on the Site without the written approval of the Engineer.

2.9.5 WORKING AROUND SPECIFIC NATURAL FEATURES OR WITHIN A DEFINED DISTURBANCE CORRODOR.

The Contractor will be expected to work within a defined corridor of disturbance that will be defined on site in agreement between the Contractor, Engineer and ECO. In addition, certain trees or natural features within the disturbed corridor will be declared as protected and these may not be disturbed and the contractor will be expected to take reasonable measures to protect the feature. The exact nature of this protection as well as any penalty for damage or failure to implement will be agreed on site in consultation with all parties and recorded as a site instruction. The Contractor is to cost for reasonable protection measures and by this is meant erecting of physical barriers and instructing staff to adhere to such protection measures.

2.9.6 PLANT - Fuel - petrol, diesel and oil

Fuel shall preferably not be stored on Site but shall be transported to the Site as and when required. If required by operational needs, fuel may be stored on Site in a depot complying with the requirements of the Scope of work.

Where reasonably practical, plant shall be re-fuelled at a specified designated area and the surface under the re-fuelling area shall be protected against pollution to the reasonable satisfaction of the Engineer and use shall be made of a properly equipped service vehicle for re-fuelling prior to any re-fuelling activities. The Contractor shall insure that there is always a supply of absorbent material readily available to absorb/breakdown and where possible be designed to encapsulate minor hydrocarbon spillage. The quantity of such materials shall be able to handle a minimum of 200 l of hydrocarbon liquid spill. The Engineer prior to any re-fuelling or maintenance activities must approve this material.

Tanks containing fuels shall have lids and shall remain firmly shut. Only clean, empty tanks may be stored on the bare ground. Fuel stores shall be placed on a bunded sealed base. The bund should accommodate 110% of the total volume for single tanks. Where two or more tanks are installed within the same bund, the bunds should accommodate 110% of the largest tank or 25% of the total capacity of all tanks, whichever is the greater.

The bund shall have an outlet pipe with a plug that can be removed and connected to a pump to pump out spilt hydrocarbon or rain water. The plug must be secured to the bund wall so that it cannot be removed or "lost".

Any waste water or spilled fuel collected within the bund shall be disposed of as hazardous waste.

The Contractor shall take all the necessary precautions to prevent fires or spills at the fuel stores. No smoking shall be allowed in the vicinity of the stores. Failure to adhere to this specification shall be cause for a spot fine being imposed on the offender.

The Contractor shall ensure that there is adequate and appropriate fire-fighting equipment at the fuel stores.

Appropriate signage will be erected and fixed onto the fuel storage tanks as well as the oil storage facility. The signage must comply with environmental safety and health and construction regulations. All the above must be completed and be in place before construction commences.

2.9.7 ABLUTION FACILITIES

Washing, whether of the person or of personal effects and acts of excretion and urination are strictly prohibited other than at the facilities provided. The Contractor shall provide the necessary ablution facilities for all their personnel prior to the commencement of work and shall ensure that their personnel make use of the facilities.

All personnel must be trained in order to ensure that the environment is not contaminated with grey or sewage waste. In addition, waste bins appropriately labelled must be situated in close proximity to the ablution facilities to ensure that the environment is not polluted.

2.9.8 EATING AREAS/ RESTING AREAS

The Contractor shall designate an eating area for his employees. The Contractor shall provide bins with lids in this area as well as a covered area to provide protection during inclement weather and in the event of exceptional heat and dust.

Any cooking on Site shall be done on well-maintained gas cookers with fire extinguishers present in pre-designated areas only.

2.9.9 DISCHARGE OF CONSTRUCTION WATER

Construction water refers to all water dirtied as a result of construction activities.

The Contractor shall contact the regional office of the Department of Water Affairs and Forestry in East London and obtain any necessary authorisation for the Act. Certified copies of this correspondence are to be lodged with the Engineer and the ECO.

The Contractor may discharge silt laden water overland via a retention pond and allow this clean silt free water to filter into the ground. Such overland discharge may not cause erosion. In the event that erosion the Contractor shall implement measures to reduce the impact to the satisfaction of the Engineer and the ECO.

Natural run-off shall be diverted away from any camps towards the storm water drains where these are available. Special care must be taken in areas susceptible to erosion, e.g. steep slopes. The Contractor shall ensure that sand, silt and silt-laden water do not enter the storm water drain system, or any surface watercourse. The Contractor shall take appropriate

measures to prevent silt and sand entering drainage or watercourses. The Contractor at his own expense shall immediately clear any partial or complete blockage of the storm water drainage system, caused by the Contractor.

The contractor must notify the ECO of any pollution incidents on site. Water from washing concrete-mixing equipment (mixers and the like) shall not be discharged overland. Such water shall be removed from GG and disposed of in the correct manner. The Contractor may consider recycling this water to minimise discharges.

All washing operations shall take place off-site at a location where waste water can be disposed of in the correct manner. A method statement in this respect shall be submitted to the Engineer for written approval.

Construction water refers to all water dirtied as a result of construction activities.

2.9.10 SERVICING / FUELLING OF CONSTRUCTION EQUIPMENT

Servicing and fuelling should occur at dedicated and properly equipped facilities.

If these activities occur on Site, the Contractor shall ensure that all servicing of vehicles and equipment takes place in designated areas agreed upon by the Engineer. All waste generated by these activities shall be managed as per Scope of work (Refuse). The waste shall be collected and disposed of off Site at an appropriately licensed landfill Site. All equipment that leaks onto the ground shall be repaired immediately or removed.

2.9.11 WORKSHOP, EQUIPMENT MAINTENANCE AND STORAGE

Where practical, all maintenance of equipment and vehicles on Site shall be performed in the same area referred to in 12. If it is necessary to do maintenance outside of the workshop area, the Contractor shall obtain the approval of the Engineer prior to commencing activities and appropriate protective measures must be taken to avoid contamination.

All vehicles and equipment shall be kept in good working order and serviced regularly. Leaking equipment shall be repaired immediately or removed from the Site.

The washing of equipment shall be restricted to urgent or preventative maintenance requirements only. All washing shall be undertaken in the area referred to in 12 and these areas must be equipped with a suitable impermeable floor and sump/oil trap. The use of detergents for washing shall be restricted to low phosphate and nitrate containing and low foaming type detergents. It must be ensured that no materials 'creep' into 'no-go' areas.

2.9.12 USE OF EXISTING SABUNGA BORROW PIT

An existing disused sabunga borrow-pit exists on the farm located approximately halfway down the pit located approximately half way done road leading to the river. Access is via an existing eroded gravel road and this may need to be improved prior to use. If this improvement is carried out, then all conditions contained in this ES must apply. Use of material from this pit is at the discretion of the engineers. However, should the pit be used, any excavation must take place in a manner that leads to the eventual rehabilitation of the pit and its use as a water storage dam. This point must be considered in conjunction with the following point 2.9.12

2.9.13 SPOIL SITES FOR SURPLAS MATERIAL

The surplus sub-soil spoil material may be deposited at specified sites in the vicinity of the existing sabunga pit located approximately half way done the road leading to the river. Access is via an existing eroded gravel road and this may need to be improved prior to use.

If this improvement is carried out, then all conditions contained in this ES must apply. This material will require shaping to conform with the natural contours at the end of the contract.

Spoil areas should not negatively affect surface drainage, and nor shall they alter the topography to the extent that they become visually intrusive. Spoil areas shall not have slopes steeper than 1:3, under any circumstances.

2.9.14 DISPOSAL OF CLEARED VEGETATION

Vegetable material cleared from the construction site must be disposed of in designated areas. These areas will be located close to each of the clusters. IDT will arrange for the further disposal of this material by composting or chipping

2.9.15 IMPORTED MATERIALS

Any imported material must be obtained from a registered borrow-pit and proof of a valid and up to date registration must be provided to the engineers before any material is delivered to site.

2.9.16 NOISE

The Contractor shall take precautions to minimise noise generated on Site as a result of his/her operations, especially when working in areas or on activities that may impact on neighbouring land users. The Contractor shall limit noise levels (e.g. install and maintain silencers on machinery). The provisions of SABS 1200A Sub clause 4.1 or Colto's Equivalent Specification regarding "build-up areas" shall apply to all areas within audible distance of residents whether in urban, peri-urban or rural areas.

The Contractor shall comply with the appropriate regulations with regard to noise.

Appropriate directional and intensity settings are to be maintained on all hooters and sirens.

No amplified music shall be allowed on Site. The use of radios, tape recorders, compact disc players, television sets etc. shall not be permitted unless the volume is kept sufficiently low as to avoid any intrusion on members of the public within range. The Contractor shall not use sound amplification equipment on Site unless in emergency situations.

2.9.17 DUST CONTROL

The Contractor shall be responsible for the continued control of dust arising from his/her operations. The Contractor shall inform the Engineer 48 hours in advance of anticipated 'unavoidable' dust generating activities.

2.9.18 SITE DEMARCATION

It is important that construction activities are conducted within a limited area so as to facilitate control and to minimise the impact on the existing natural environment, existing tenants, and other construction activities in the vicinity, public thoroughfares and residential areas.

The Contractor shall demarcate the boundaries of the Site in order to restrict his construction activities to the Site. The method of demarcation and the location of the demarcated area shall be determined by the Contractor and approved by the Engineer and the CEO prior to any work being undertaken. The Contractor shall ensure that all plant, labour and personnel remain within the demarcated area.

The Contractor shall demarcate the boundaries of the Site in order to restrict his materials. Failure to do so may result in the Contractor being required to fence the boundaries of the Site at his own expense to the satisfaction of the Engineer.

Suitable temporary fencing may need to be erected during construction (particularly excavations for servitudes) to minimise the risk of injury. If necessary, the specification for this fencing is provided in the Scope of work. The Contractor is responsible for maintenance of the fence.

2.9.19 “NO GO” AREAS

If so required by the Scope of work, certain areas shall be “no go” areas. The Contractor shall ensure that, insofar as he has the authority, no person, machinery, equipment or material enters the “no go” areas at any time.

2.9.20 EMERGENCY CONTACT NUMBERS

The contractor shall provide and prominently display a list of emergency contact numbers around the site and in site vehicles. Emergency contact numbers required are as follows:

Fire Department
Ambulance Unit
District and Local Authority
Abutting neighbours
Hazmat
Enviro Serve
Engineer
Environmental Consultant
Doctor

2.9.21 FIRE

The Contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it. The Contractor shall strictly enforce the “no fire requirement” on site and shall make other provisions for cooking for his workers. The Contractor shall ensure that adequate fire fighting equipment is available to handle any construction related fire and shall ensure that his employees are aware of the procedure to be followed in the event of a fire.

2.9.22 ACCIDENTAL LEAKS AND SPILLAGES

The Contractor shall ensure that his employees are aware of the procedure to be followed for dealing with spills and leaks, which shall include notifying the Engineer, and the relevant authorities. The contractor shall ensure that the necessary materials and equipment for dealing with spills and leaks is available on Site at all times. Treatment and remediation of the spill areas shall be undertaken to the reasonable satisfaction of the Engineer.

In the event of a hydrocarbon spill, the source of the spillage shall be isolated, and the spillage contained. The area shall be cordoned off and secured. The Contractor shall ensure that there is always a supply of absorbent material readily available to absorb/breakdown and where possible be designed to encapsulate minor hydrocarbon spillage. The quantity of such materials shall be able to handle a minimum of 200 l of hydrocarbon liquid spill.

The Contractor shall ensure that emergency procedures are set up prior to commencing work. Emergency procedures shall include, but are not be limited to, fire, flooding, storm events, spills, contamination of the ground, accidents to employees, use of hazardous substances, etc. Emergency procedures, including responsible personnel, contact details of emergency services, etc. shall be made available to all the relevant personnel and shall be

clearly demarcated at the relevant locations around the Site. This applies to the emergency contact numbers as well.

The Contractor shall advise the Engineer of any emergencies on Site, together with a record of action taken within 24 hours of the emergency occurring.

2.9.23 SAFETY

Telephone numbers of emergency services, including the local fire fighting service, shall be posted conspicuously in the Contractor's office near the telephone.

No unauthorised firearms are permitted on Site.

In the event of an emergency the following activities are required and should be in place:

- Fire extinguishers serviced and accessible.
- Secure area from potential accidental damage e.g. vehicle collision
- Emergency and contact Numbers to be available and displayed.
- Adequate ventilation
- No stores or containers in flood line – 1:100 years.
- A well equipped first aid box should be provided at the site office

Safety aspects that must be ensured on site during civil works are as follows:

- All trenches and manholes secured and visibly marked and shored against collapse.
- Fencing and barriers in place as per the Occupational Health and Safety Act (No. 85 of 1993).
- Notice boards and safety signage as may be applicable clearly displayed.
- Emergency and Management contact details displayed.
- Site safety officer checks prior to closure per the Occupational Health and Safety Act (No. 85 of 1993)
- Security persons briefed and have facility for contact.
- Night hazards checked e.g. reflectors, lighting, traffic signage.
- Fire hazards identified – local authority notified of any potential threats e.g. large brush stockpiles, fuels etc.
- Pipe stockpile wedged / secured.
- Scaffolds secure.
- Inspection schedule and log by security or contracts staff.

Erosion prevention measures are as follows:

- Wind and dust mitigation in place e.g. straw, brush packs, irrigation.
- Slopes and stockpiles at stable angle or shored.
- Re-vegetated areas watering schedules & supply secured.
- Retention ponds or channels in place.

Prevention of Water contamination and pollution will require the following measures:

- Fuels hazardous stores secure.
- Flood precautions e.g. withdraw out of floodplain
- Stabilise banks for expected normal flow
- Structures in watercourses secured
- Cement and materials stores secured.

- Toilets empty and secured
- Refuse bins empty and secured (lids)
- Bunding clean and treated e.g. Spill Sorb, Zorbit or Enretech #1 powder
- Drip trays empty & secure (where possible)
- Structures vulnerable to high winds secure.

2.9.24 PROTECTION OF ARCHAEOLOGICAL AND PALAEOLOGICAL SITES

If any possible palaeontological/archaeological material is found during excavations, including graves and shipwreck artefacts, the Contractor shall stop work immediately and inform the Engineer. The Engineer will inform the South African Heritage Resources Agency (SAHRA) and arrange for a palaeontologist/archaeologist to inspect, and if necessary excavate, the material, subject to acquiring the requisite permits from SAHRA:

111 Harrington Street, Cape Town, 8001

P O Box 4637, Cape Town, 8000

Tel: (021) 462 4502

Fax: (021) 462 4509

Email: director@sahra.org.za

2.9.25 STABILISATION OF STEEP SLOPES

The disturbance of steep slopes, for example by the removal of vegetation, may result in slope instability and erosion by rain and surface run off. The Contractor shall ensure that slopes that are disturbed during construction are stabilised to prevent erosion occurring. Where re-vegetation of sloped is undertaken, this shall be in accordance with the specification provided.

Slopes that are susceptible to accidental damage during construction shall be protected to reduce the risk of disturbance.

Any erosion that does occur must be reinstated at the Contractor's cost.

2.9.26 TOLERANCES

Environmental management is concerned not only with the final results of the Contractor's operations to carry out the Works but also with the control of how those operations are carried out. Tolerance with respect to environmental matters applies not only to the finished product but also to the standard of the day-to-day operations required to complete the Works.

It is thus required that the Contractor shall comply with the environmental requirements on an ongoing basis and any failure on his part to do so will entitle the Engineer to certify the imposition of a fine subject to the details set out in the Scope of work.

2.9.27 FINES

Spot fines shall be imposed by the Engineer or ECO on the Contractor for any repeated infringing on these specifications. The Contractor shall be advised in writing of the nature of the infringement and a first warning issued and the amount of the anticipated spot fine. In the vent that the infringement is repeated, the fine shall be imposed and the amount deduced from the next payment certificate. The Contractor shall also take the necessary steps (e.g. training) to prevent a recurrence of the infringement and shall advise the Engineer accordingly.

The Contractor is also advised that the imposition of spot fines does not replace any legal proceedings the Council, authorities, land owners and/or members of the public may institute against the Contractor.

This condition is to form part of the General Conditions of Contract.

2.9.28 TRENCHING FOR WATER, SEWAGE, ELECTRICAL AND TELECOMMUNICATION INFRASTRUCTURE

Unless otherwise permitted in writing by the Engineer, not more than 500m of trench per pipe laying gang shall be open at any time.

Following installation, the testing of pipelines and backfilling of trenches (including topsoil) shall be completed for each section of pipeline without delay. The reason for this is to minimise the negative impacts associated with open trenches and maximise the likelihood that grass contained in topsoil will regrow.

Trenches passing through wetlands and streams require special attention and shall not remain open for longer than 14 days.

2.9.29 OPEN TRENCH PROTECTION

Adequate measures must be taken to prevent humans or stock from injuring themselves by falling into an open trench. Where necessary some form of barrier shall be placed around the trench adjacent to public access ways.

2.9.30 PROTECTION OF PUBLIC

The Contractor shall be responsible for protecting the public from any dangerous situation pertaining to the construction activities. This clause shall apply from the time that any portion of the Works shall be commenced until the completion of all outstanding works which the Contractor has undertaken to finish during the period of maintenance.

Any excavation, material dumps, spoil dumps or other obstructions likely to cause injury to any persons or thing shall be suitably barricaded.

The Contractor must comply with all the requirements contained in the Construction Regulations 2003 and is specifically tasked with ensuring that this aspect of the work is adequately costed. IDT will appoint a professional Health and Safety Officer to check and audit this aspect of the work.

2.9.31 WORKING CORRIDOR

Working corridors along pipeline routes shall be kept to a minimum to reduce environmental damage, but shall not exceed 10 meters wide on bulk pipelines or 6 meters on reticulation pipelines. This includes all activities : excavation, stockpiling and access. Through wetlands and forests this limit shall be reduced to 3m - the stockpiling being done outside of the wetland or forest area.

The conditions contained in point 2.9.5 are to be read in conjunction with this clause.

2.9.32 TOPSOIL CONSERVATION

Topsoil shall be excavated to the base of the A-horizon or 150mm whichever is greater, and stockpiled. The topsoil shall be stockpiled separately to ensure that it does not become mixed or contaminated with any other material.

Experience has shown that excavator buckets with three teeth are inadequate for separating topsoil and suitable equipment or hand labour must be used for this purpose.

2.9.33 REINSTATEMENT OF TRENCHES

The topsoil shall be replaced on top after backfilling and only lightly compacted e.g. by trampling under foot.

Care shall be taken to ensure that the finished surface is not below the surrounding ground to avoid channelling or concentrating flows.

Where slope gradients exceed 12% in long-section, anti-erosion berms shall be made which are angled at $\pm 10^\circ$ across the contours such that they lead water off the disturbed corridor. These berms shall be at least 300mm high and shall be long enough to lead water off the entire disturbed surface. The ridges shall be at a maximum spacing of 1m of vertical distance.

Permanent berms shall be made immediately after backfilling and before topsoil replacement. No additional payment shall be made for temporary anti erosion measures.

The conditions contained in point 2.9.4 are to be read in conjunction with this clause.

2.9.34 CREATION OF TEMPORARY ACCESS TRACKS

The need for temporary access tracks can give rise to considerable environmental damage and as far as is possible, should be avoided. It temporary tracks are required this is to be with the approval of the engineer and the ECO and must be routed with due regard to potential erosion. On steep slopes contours shall be crossed obliquely and not perpendicularly. Only a single track to each site is permitted. Multiple tracks across the veld are unacceptable.

2.9.35 REHABILITATION : ACCESS ROADS AND PIPELINES

Temporary access tracks made by the Contractor over grassland must be ripped to a depth of 150mm to loosen soil to encourage grass growth.

Rehabilitation of temporary access tracks, and any disturbed areas outside of the allowed working areas, to their original condition will be at the Contractor's expense.

Blast rock and boulders which are removed from the trenches and which are visually detracting or environmentally unacceptable shall be removed to an approved spoil site. The spoil site must be approved by the ECO.

Complete rehabilitation of all work areas will be required to return the site to its former condition. This will include removal of all cement sludge, waste concrete, builders refuse etc., ripping of compacted surfaces to loosen soil, replacement of topsoil and re-grassing.

2.9.36 EROSION CONTROL

No erosion will be permitted on site arising from the activities of the Contractor.

Areas affected by construction related activities must be monitored on an ongoing basis for evidence of rill/sheet erosion. Remedial measures shall be applied at an early stage before a severe erosion problem arises.

Erosion prevention measures must be implemented under the instruction of the Engineer in consultation with the ECO.

Areas particularly susceptible to erosion are areas where topsoil has been stripped, soil stockpiles, spoil sites and borrow pits, and steep slopes traversed by the pipeline. Slopes

with gradients exceeding 12% are particularly susceptible. The Contractor is expected to allow in pricing for taking reasonable measures to protect against erosion. These measures are deemed to be actions that are concomitant with good civil engineering practices and not actions extraordinary to normal practice.

2.9.37 SCOUR VALVES

The positions of scour valves are to be checked on site by the Engineer and Contractor prior to construction to ensure that scouring will not cause erosion, nor damage to agricultural lands or property.

2.9.38 STOCKPILES

Stockpile areas should be identified and approved in consultation with the engineer and ECO during the site establishment phase and be located either within the road reserve boundary or, in the case of top-soil only, on the sites demarcated as Permaculture sites. If the stockpile area is located closer than 500m from a river, anti-erosion protection measures must be designed and implemented.

As far as possible, existing roads should be used to access these stockpile areas. Where new access/haul roads are required to be constructed, these should be designed in accordance with the specifications outlined in the Engineer.

2.9.39 CULVERTS AND HEADWALLS

The specific on-site construction of under-road drains, culverts and associated headwalls and energy dissipating structures requires interpretation on site and liaison with the engineer and the CEO should take place to agree the optimum design solution for a specific site.

2.9.40 CUT AND FILL SLOPES

All new cut and fill forms should be rounded on the edges to allow them to blend with the surrounding landforms, and should, as far as possible, reflect the natural form of the landscape to reduce visual intrusiveness. Slopes with a constant gradient from top to bottom and across the face must be avoided, the so-called “butter-knife” cut.

Cut slopes must be self-sustaining. Where it is necessary to use retaining structures or gabions, these must be designed to minimise visual intrusiveness. In areas where the road intersects ridges or spurs, the exposed rock face and soil must be stepped back in a manner that mimics natural rock faces as far as possible.

Where possible, topsoil should be placed on the slopes by allowing the soil to cascade naturally down the slope, to be retained in small pockets as it falls down the irregular surface of the slope. This will allow for the creation of micro habitats where plants can become established.

2.9.41 REFUSE DISPOSAL

The Contractor shall dispose of all refuse (general waste not road construction materials other than hazardous) generated by them or their Sub-Contractors on a weekly basis at an approved waste disposal site.

2.10 PRE – CONSTRUCTION

2.10.1 CONTRACTUAL OBLIGATIONS:

This Environmental Management Plan (EMP) forms part of the contract between IDT and the Civil Engineering Contractor (The Contractor). The contract will be conducted in accordance with the principles of Integrated Environmental Management (IEM) “in and

environmentally and socially responsible manner” (DEAT). This section details the controls and procedure necessary to achieve this goal.

No separate payment will be made for compliance with the Environmental Specifications unless specifically detailed in the Bill of Quantities. The contractor’s rates shall be fully inclusive of all costs incurred in complying with these specifications.

2.10.2 THE ENVIRONMENTAL CONTROL OFFICER (ECO) FOR THE CONSTRUCTION SITE

The ECO shall have the following responsibilities:

- To advise the Engineer with regard to interpretation and enforcement of the Environmental specification.
- To supply environmental information.
- Provide input into Environmental check-list, proposals for scoping, scoping reports and possible additional EIA's.
- submit a monthly auditing report on the contractor’s compliance with the environmental specification.
- Demarcate particular sensitive sites and pass instructions via the engineer concerning the safeguards and practices in these areas.

2.12 THE CONTRACTOR.

2.12.1 PENALTIES AND REMEDIES:

In addition to any other guarantees or sureties that may be required, a retention sum as detailed in the General Conditions of Contract will be retained from each payment and kept by IDT as a guarantee that not only the contractual conditions are met but also the conditions contained in this EMP are executed. The retained sum will be released upon payment of the final payment.

Fines as outlined in 2.9.27 may also be issued to ensure compliance.

2.12.2 LINE OF AUTHORITY AND MEETINGS:

The client will be the Independent Development Trust (IDT), which is administered by a Board of Directors. This Board will delegate responsibility to one Board member. In addition, the Board will appoint a Environmental Control Officer (ECO) to supervise the work on its behalf. This person will report to the delegated Board member who will report to the IDT Board.

Regular weekly site meetings must be held with the Contractor, chaired by the ECO and attended by the delegated Board member and minutes kept.

The Contractor may only take instructions from the Engineer and any instruction acted upon given by any other person, including any Board Member, will be at the contractor’s risk.

2.12.3 DEFINITION OF SENSITIVE AREAS:

With the exception of areas already disturbed such as the existing roads, the farm workers accommodation, farmlands and the farmhouse precincts, all areas are to be considered as environmentally sensitive areas. The environmentally sensitive areas are defined as sub tropical valley thicket, wetlands, water catchments and coastal grasslands.

The Contractor and his supervisory staff must attend a one-hour environmental induction lecture prior to construction commencing to educate them regarding the sensitive areas.

No defacement of any natural features will be permitted and any remedial work required to make good will be deducted from the monies owing to the Contractor.

2.12.4 CONSTRUCTION CAMP:

The Contractor will be permitted one construction camp area what will be selected in conjunction with the PM/ECO and agreed with the ECO.

2.12.5 ECOLOGICAL SENSITIVITIES:

The Contractor must ensure that all National, Regional and Local legislation and by-laws regarding the protection of flora and fauna is complied with and if uncertain as to interpretation, must consult with the ECO.

No species of animal or bird may be poached, snared, hunted, captured, fed or wilfully damaged or destroyed. Snakes or reptiles that may be encountered on the construction site may not be killed. Should the presence of any animal, bird or reptile result in work being unable to proceed, the ECO is to be informed and the ECO will have a six hour period from the time of advising to remove the animal, bird or reptile, thereafter a delay may be claimed.

2.12.6 VISUAL IMPACT:

Within the construction area, vegetation clearing should be kept to a minimum to soften visual impact and prevent run-off.

2.12.7 REMOVAL OF ALIEN VEGETATION:

Alien vegetation occurring within the construction area that needs to be removed as a result of the construction work must be disposed of in a manner agreed with the ECO. No burning of removed vegetation may take place under any circumstances.

2.12.8 CONSTRUCTION CAMP:

The Contractor and ECO are to agree on the area to be used as a construction camp. The perimeter of this area is to be physically defined on site by means of danger tape or preferably by fencing. The construction camp is to be used for the storage of materials and equipment. No fuel storage tank with a capacity of more than 5000l may be kept within the Camp and should this be required, the area around the tank is to be bunded and adequate containment measures taken.

Repair work to construction equipment is preferably to be carried out off-site, but where this is unavoidable, adequate precautions (plastic sheets and drip trays) are to be taken to control any oil, diesel or hydraulic oil spillage and any spillage is to be removed and rehabilitated to the ECO's satisfaction at the expense of the Contractor.

It is the Contractor's responsibility to ensure that all equipment used on site is kept in good working condition and serviced regularly and meets the manufacturers specifications for safety, fuel consumption and emissions.

Parked vehicles are to be supplied with drip trays beneath all potential leak points. Drip trays are to be checked and emptied regularly. Should they need to be emptied the waste is to be disposed of at a registered waste disposal site.

No personnel will be permitted to stay on the construction area unless by prior agreement with the ECO.

No open fires will be allowed except in areas designated for this purpose and agreed with the ECO. The contractor's attention is drawn to the need to protect against the occurrence of uncontrolled veld fires and the associated liability associated with this.

No trespassing by construction personnel outside of the construction area is permitted and the Contractor is responsible for ensuring adherence to this condition.

2.12.9 WATER FOR CONSTRUCTION:

The Contractor must make arrangements for independent supply of any water needed for the completion of the works.

2.12.10 ELECTRICAL SUPPLY FOR CONSTRUCTION:

The Contractor must make arrangements for independent supply of any electricity needed for the completion of the works.

2.12.11 CONSTRUCTION WORKERS ABLUTIONS:

The Contractor is to provide and maintain ablution facilities, including an adequate drinking water supply, as may be required by law for all construction personnel.

2.12.12 MOVEMENT OF PERSONNEL AND EQUIPMENT:

The Contractor must ensure that all construction personnel and equipment remain within the demarcated area of the construction area. Any need or requirement to work or move outside of the construction area must be agreed with and approved by the ECO.

Vehicular movement must be confined within the construction area and no new roads, other than those indicated as required in terms of the contract, may be formed.

Parking and turning areas are to be discussed with the ECO before construction commences and these must be recorded on a copy of the site plan that is to be included as part of the contract.

A speed limit of 40km/h will apply within the boundaries of Farms 792 and 793.

2.12.13 FUEL FOR EQUIPMENT:

All fuel and lubricant containers brought into the construction area must be clearly marked and must have lids that are well sealed or have tightly fitting caps. All containers, empty or full, must be closed and stored in a designated area where the ground has been protected by means of heavy-duty plastic sheeting and suitably banded to contain the volume of any spilled material.

Fuel may not be dispensed by pouring or tipping and suitable dispensing equipment must be used for this purpose. The dispensing equipment must be stored in a leak proof container when not in use.

Adequate firefighting equipment must be provided in the area of the fuel store or dispensing area. As a minimum requirement this is considered to be 2 x 9kg dry powder extinguishers within their service dates. The firefighting equipment must be suitably signposted.

All spills are to be recorded and reported to the ECO. The clean-up of spills will be the responsibility of the Contractor and any contaminated material must be disposed of at a registered waste disposal facility and a written confirmation of this provided to the ECO.

Any water that collects in banded areas is to be removed within one day and disposed of in a way approved by the ECO.

2.12.14 MAINTENANCE OF EQUIPMENT:

Where possible this is to occur off-site. Where it is unavoidable, maintenance work must take place as detailed in 2.9.6. Any environmental damage resulting from gross negligence or disregard for the conditions in the EMP must be made good by the contractor or, failing which, IDT reserve the right to employ a specialist waste re mediation company and claim the cost from the Contractor by deducting the amount from any monies owed the contractor in the final account.

2.12.15 FUEL FOR COOKING:

The gathering of firewood for use by the construction staff is forbidden. It is the Contractor's responsibility to ensure that workers are supplied with a adequate and suitable energy source for cooking.

2.12.16 DUST:

The Contractor must take reasonable measures to suppress the generation of dust during the construction activities.

Appropriate dust suppression measures must be used when dust generation is unavoidable. The method of suppression is to be agreed with the ECO prior to implementation.

Stored materials are to be adequately protected against wind.

2.12.17 NOISE:

All construction personnel must be made aware that they may not make excessive noise.

2.12.18 TRENCHING:

The stripping and separation of topsoil shall occur as stipulated by the ECO. Soil shall be excavated and used for re-filling trenches using the roll-over method whereby soil from the initial section of trench is stockpiled. Thereafter, soil excavated from subsequent trench lengths shall be used to backfill the trench behind it once the services have been laid. The final trench length shall be re-filled using the soil stockpiled from the first trench length.

Trenches must be backfilled to a slightly higher level than the surrounding surface to allow for settlement. Topsoil must be used for the final layers and unlike preceding layers, this must not be mechanically compacted.

Trenches are to always be dug with a graded escape route provided to the satisfaction of the ECO so that any wildlife falling into the trench has an escape route. IDT accepts the responsibility to keep farm livestock away from the vicinity of any open trenching.

2.12.19 WASTE MANAGEMENT:

In consultation with the ECO the Contractor must institute a waste control and removal system applicable to the entire construction area. Waste refers to all waste, including construction debris, chemical waste, hazardous waste, excess cement or concrete, wrapping material, timber, tins and cans, drums, nails, food and domestic waste. The control system shall include for a waste collection method that shall also include the collection of personal waste from workers.

Cognisance must be taken of the risk of wind blown waste scatter.

No on site burying or dumping of any waste or construction debris may occur. All waste must be collected in designated collection points and removed from the farms.

2.12.20 WORK STOPPAGE

The ECO shall have the right to order work to be stopped in the event of significant infringements of the Environmental Specifications until the situation is rectified in compliance with the specifications. In the event of this happening the Contractor shall not be entitled to claim for delays.

2.13 POST CONSTRUCTION**2.13.1 SITE CLEAN-UP**

All temporary structures and facilities, equipment, leftover materials and waste must be removed upon completion of the project and the site left clean and to the satisfaction of the ECO.

Any materials belonging to IDT must be stored in a locality to the satisfaction of the ECO.

Areas occupied by the construction camp and areas where maintenance may have occurred are to be checked for spills or discarded parts and the results recorded by the ECO.

Fences, barriers and demarcations associated with the construction phase are to be removed from site.

A handover meeting is to be held between the Contractor, ECO and board representative to ensure the site has been cleared and cleaned to the satisfaction of IDT. The holding of this meeting and a clean record is to be a precondition to final payment being made in terms of the contract.

2.13.2 REHABILITATION

Stockpiled topsoil is to be spread over areas within the construction area as will be designated by the ECO.

Full rehabilitation is not part of the contract and IDT will appoint a separate contractor to undertake this work.

ANNEXURE D

Drawings

CO-ORDINATES:
-31.727530S, 28.376690E

LEGEND :

- EXISTING WATER TANKS
- PROPOSED WATER TANKS
- PROPOSED STANDPIPE
- PROPOSED RETIC MAIN
- PROPOSED RISING MAIN
- 50mm HDPE WATER

ENROLMENT NUMBERS			
BOYS	GIRLS	TEACHERS	TOTAL
179	169	11	359

Revisions			
No.	Date	Description	By
B	14/01/22	Issued for Completion	CNN
Z	28/01/16	As Built - Terminated	CNN
B	01/12/14	Water retic. amended	TM
A	04/06/14	Issued for Construction	CNN
2	09/10/13	Issued for Approval	TM
1	21/06/13	Issued for Approval	CNN
0	23/05/13	Issued for Information	CNN

Designed/Drawn	Checked/Approved	Date	Scale
CNN		03/05/13	1:1000

Client



basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

Implementing Agent



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Project
ASIDI WATER & SANITATION PROGRAMME

Drawing Title
SITE DEVELOPMENT PLAN
WATER PROJECT
CLUSTER 2B:CIBINI JS
EMIS NO.: 200401330

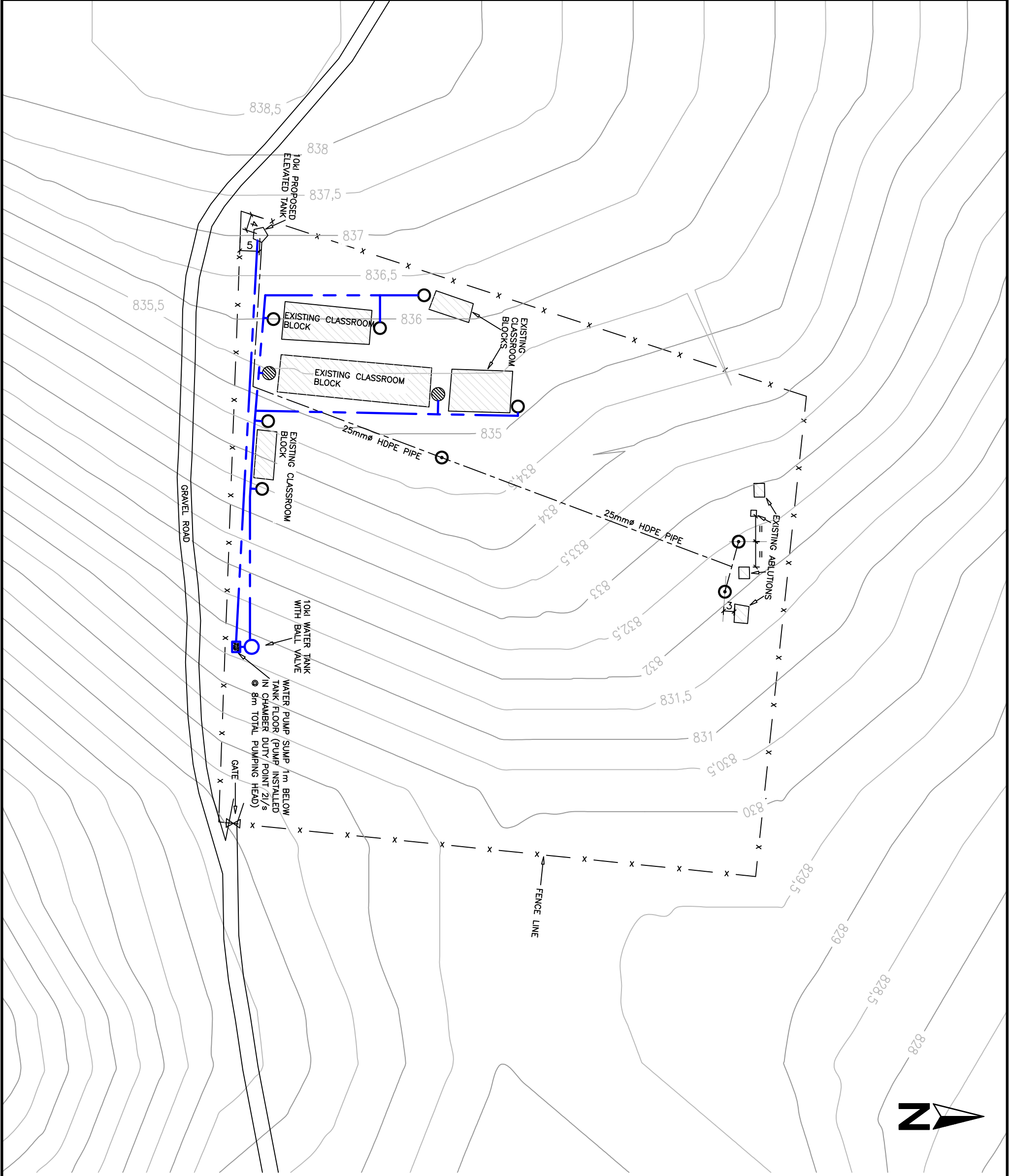
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Job No.	Drawing No.	Revision
P1270	C08	B

Cad file ref.: N:\P1270\drawings\SDPs



CO-ORDINATES:
-31.719580S, 28.445940E

LEGEND :

- EXISTING WATER TANKS
- PROPOSED WATER TANKS
- PROPOSED STANDPIPE
- PROPOSED RETIC MAIN
- PROPOSED RISING MAIN

ENROLMENT NUMBERS

BOYS	GIRLS	TEACHERS	TOTAL
141	127	10	278

Revisions			
No.	Date	Description	By ChkApp
B	13/01/22	Issue for Completion	FC
Z	28/01/16	As Built Terminated	CNN
A	04/06/14	Issued for Construction	T.M
2	09/10/13	Issued for Approval	TM
1	21/06/13	Issued for Approval	CNN
0	23/05/13	Issued for Information	CNN

Designed	Drawn	Checked	Approved	Date	Scale
CNN				03/05/13	1:1000

Client



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Department:
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Project
**ASIDI WATER &
SANITATION PROGRAMME**

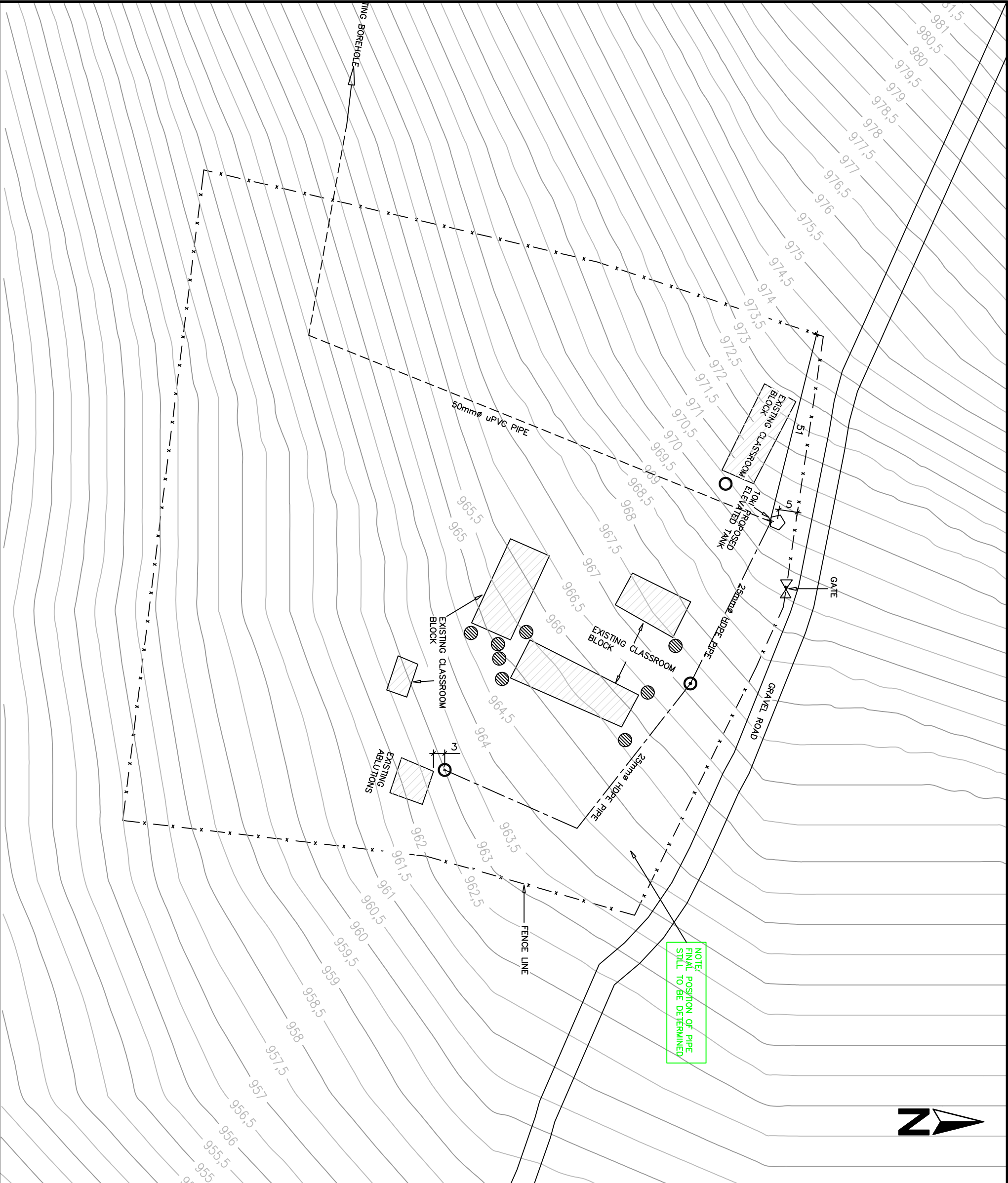
Drawing Title
**SITE DEVELOPMENT PLAN
WATER PROJECT
CLUSTER 2B:FULINZIMA JP
EMIS NO.: 200400186**

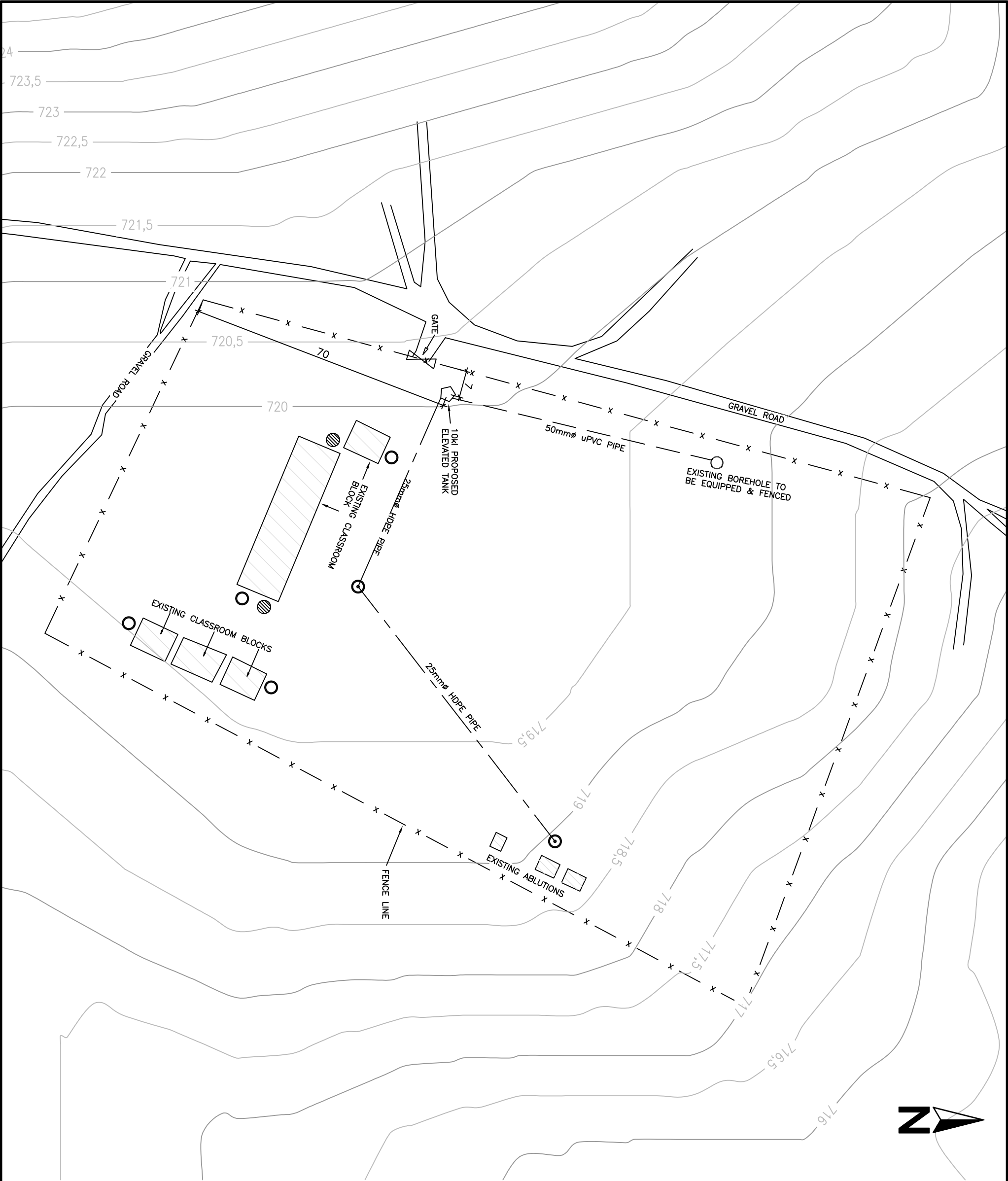


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Job No.	Drawing No.	Revision
P1270	C09	B

Cad file ref: N:\P1270\Drawings\SDPs





CO-ORDINATES:
-31.641560S, 28.380220E

LEGEND :

- EXISTING WATER TANKS
- PROPOSED WATER TANKS
- PROPOSED STANDPIPE
- PROPOSED RETIC MAIN
- PROPOSED RISING MAIN

ENROLMENT NUMBERS

TOTAL NO. OF LEARNERS	TEACHERS	TOTAL
146	7	153

Revisions			
No.	Date	Description	By
B	13/01/22	Issue for Completion	FC
Z	28/01/16	As Built Terminated	CNN
A	04/06/14	Issued for Construction	T.M
2	09/10/13	Issued for Approval	TM
1	21/06/13	Issued for Approval	CNN
0	23/05/13	Issued for Information	CNN

Designed/Drawn	Checked/Approved	Date	Scale
CNN		03/05/13	1:1000

Client



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Project

**ASIDI WATER &
SANITATION PROGRAMME**

Drawing Title

**SITE DEVELOPMENT PLAN
WATER PROJECT
CLUSTER 2B KUYASA JS
EMIS NO.:200400337**

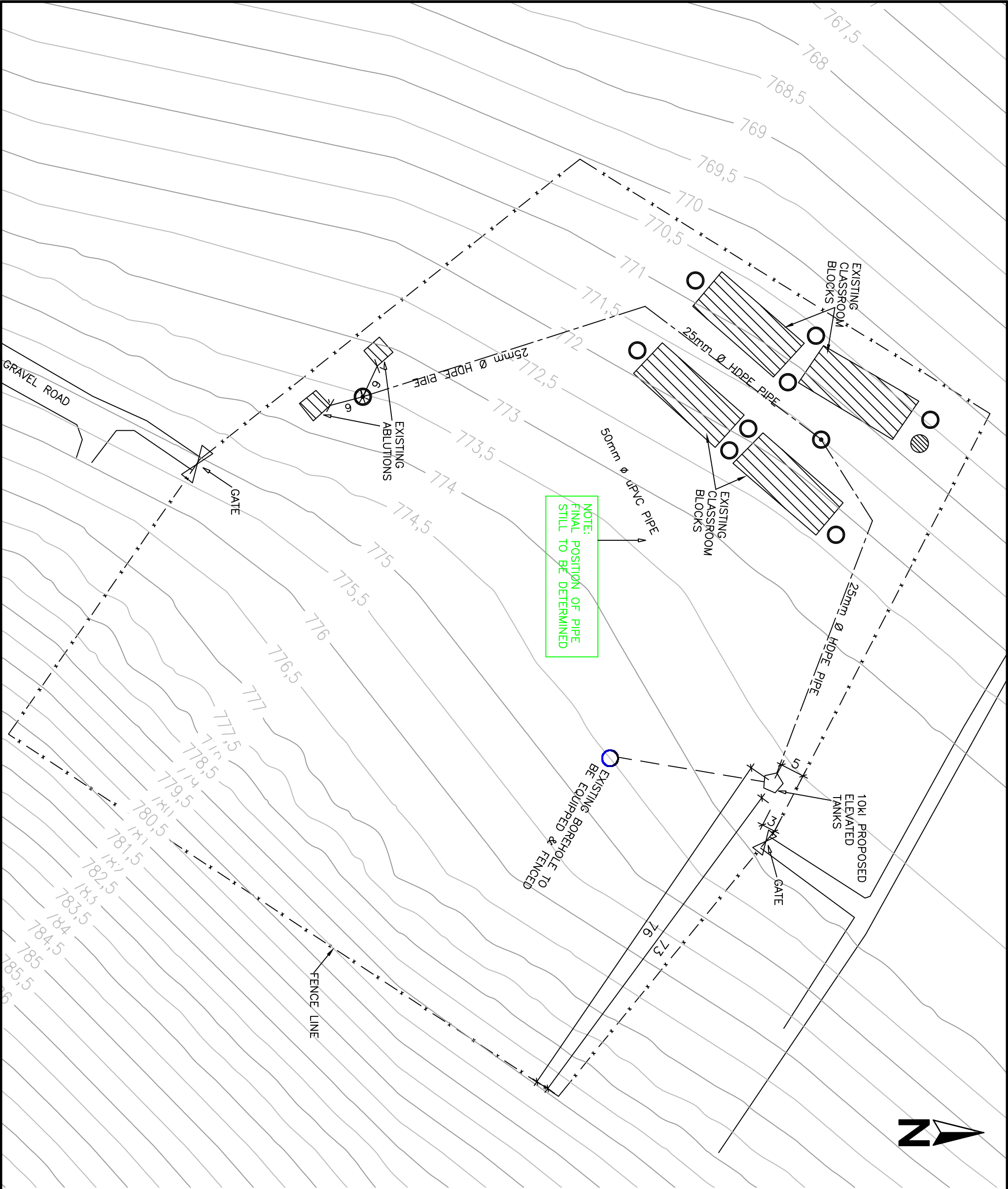
HSC CONSULTING



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Job No.	Drawing No.	Revision
P1270	C10	B

Cad file ref.: N:\P1270\drawings\SDPs



CO-ORDINATES:
-31.589489S, 28.742056E

LEGEND :

- EXISTING WATER TANKS
- PROPOSED WATER TANKS
- PROPOSED STANDPIPE
- EXISTING BOREHOLE
- PROPOSED RETIC MAIN
- PROPOSED RISING MAIN

ENROLMENT NUMBERS			
BOYS	GIRLS	TEACHERS	TOTAL
284	244	17	545

Revisions			
No.	Date	Description	By
B	13/01/22	Issued for Completion	FC
Z	28/01/14	As Built - Terminated	CNN
A	04/06/14	Issued for Construction	T.M
3	15/04/14	Issued for Approval	CNN
2	09/10/13	Issued for Approval	TM
1	21/06/13	Issued for Approval	CNN
0	22/05/13	Issued for Information	CNN

Designed	Drawn	Checked	Approved	Date	Scale
CNN				03/05/13	1:750

Client


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Department:
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Project

ASIDI WATER &
SANITATION PROGRAMME

Drawing Title

SITE DEVELOPMENT PLAN
WATER PROJECT
CLUSTER 2B:LAPHUMIKWEZI SP
EMIS NO.: 200400355


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Job No.	Drawing No.	Revision
P1270	C11	B

CO-ORDINATES:
-31.757900S, 28.366600E

LEGEND :

- EXISTING WATER TANKS
- PROPOSED WATER TANKS
- PROPOSED STANDPIPE
- PROPOSED DRINKING FOUNTAIN
- PROPOSED RETIC MAIN
- PROPOSED RISING MAIN
- 50mm⁶ HDPE WATER

ENROLMENT NUMBERS

TOTAL NO. OF LEARNERS/TEACHERS/ TOTAL		
239	7	248

Revisions

No.	Date	Description	By	ChkApp
B	14/01/22	Issued for Completion	FC	
Z	28/01/16	As Built - Terminated	CNN	
B	01/12/14	Water retic. amended	T.M	
A	04/06/14	Issued for Construction	T.M	
3	15/04/14	Issued for Approval	CNN	
2	09/10/13	Issued for Approval	TM	
1	21/06/13	Issued for Approval	CNN	
0	23/05/13	Issued for Information	CNN	

Designed/Drawn	Checked/Approved	Date	Scale
CNN		03/05/13	1: 750

Client



Implementing Agent



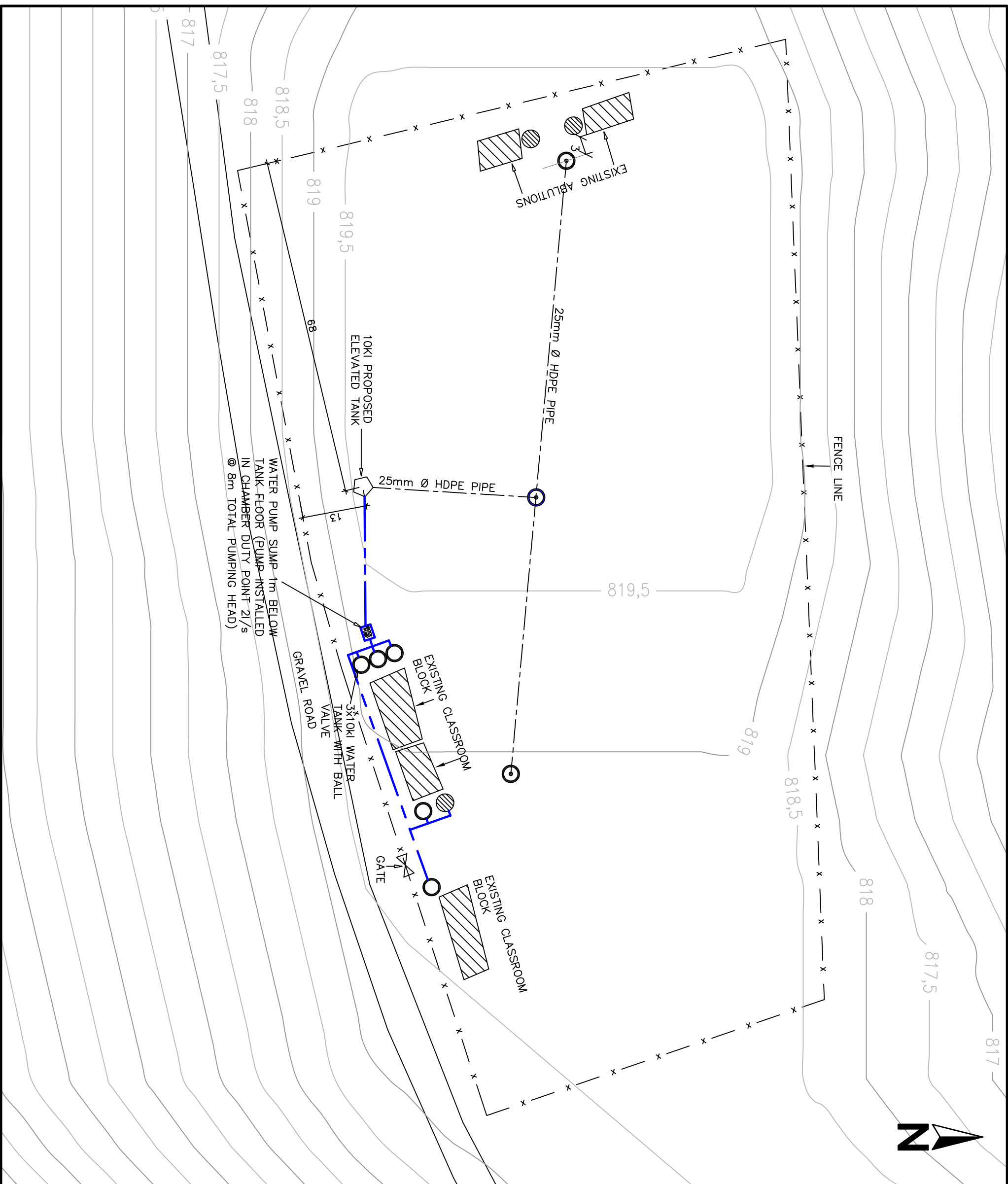
Project
ASIDI WATER &
SANITATION PROGRAMME

Drawing Title
SITE DEVELOPMENT PLAN
WATER PROJECT
CLUSTER 2B:MBASHE SP
EMIS NO.:200400529



Job No.	Drawing No.	Revision
P1270	C12	B

Cad file ref. N:\P1270\drawings\SDPs



CO-ORDINATES:
-31.598330S, 28.402040E

LEGEND :

- EXISTING WATER TANKS
- PROPOSED WATER TANKS
- PROPOSED STANDPIPE
- PROPOSED RETIC MAIN
- 50mm HDPE WATER

ENROLMENT NUMBERS			
BOYS	GIRLS	TEACHERS	TOTAL
52	59	5	116

Revisions			
No.	Date	Description	By
B	13/01/22	Issued for Completion	FC
Z	28/01/16	As Built Termination	CNN
B	04/12/14	Water retic. amended	T.M
A	04/06/14	Issued for Construction	T.M
2	09/10/13	Issued for Approval	TM
1	21/06/13	Issued for Approval	CNN
0	23/05/13	Issued for Information	CNN

Designed	Drawn	Checked	Approved	Date	Scale
CNN				03/05/13	1:1000

Client


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Project

**ASIDI WATER &
SANITATION PROGRAMME**

Drawing Title

**SITE DEVELOPMENT PLAN
WATER PROJECT
CLUSTER 2B:NGOSWANA SP
EMIS NO.: 200400751**


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Job No.	Drawing No.	Revision
P1270	C13	B

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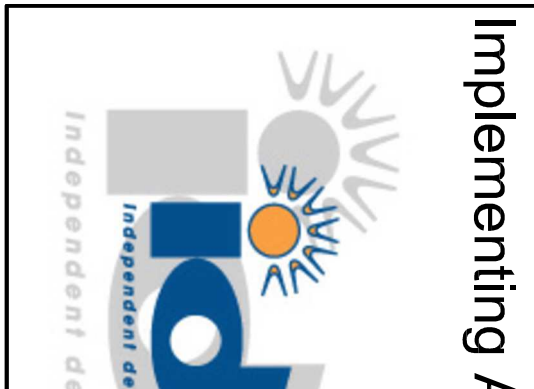
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B 56	WELDED STEEL FLANGE	500S 11	PAINT
C 66	90 DEGREE ELBOW	200	PAINT
D 66	90 DEGREE ELBOW	200	PAINT
E 66	90 DEGREE ELBOW	200	PAINT
F 66	90 DEGREE ELBOW	200	PAINT
G 66	90 DEGREE ELBOW	200	PAINT
H 66	90 DEGREE ELBOW	200	PAINT
I 66	90 DEGREE ELBOW	200	PAINT
J 66	90 DEGREE ELBOW	200	PAINT
K 66	90 DEGREE ELBOW	200	PAINT
L 66	90 DEGREE ELBOW	200	PAINT
M 66	90 DEGREE ELBOW	200	PAINT
N 66	90 DEGREE ELBOW	200	PAINT
O 66	90 DEGREE ELBOW	200	PAINT
P 66	90 DEGREE ELBOW	200	PAINT
Q 66	90 DEGREE ELBOW	200	PAINT
R 66	90 DEGREE ELBOW	200	PAINT
S 66	90 DEGREE ELBOW	200	PAINT
T 66	90 DEGREE ELBOW	200	PAINT
U 66	90 DEGREE ELBOW	200	PAINT
V 66	90 DEGREE ELBOW	200	PAINT
W 66	90 DEGREE ELBOW	200	PAINT

Revisions	No.	Date	Description	By	Chk App
A	15/05/14	Issued for Construction	CNN		
0	05/07/13	Issued for Tender	CNN		

Designed	Drawn	Checked	Approved	Date	Scale
				06/03/13	AS SHOWN



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Project

ASIDI WATER & SANITATION PROGRAMME

Drawing Title

4.5m HIGH ELEVATED WATER TANK (5000l or 10000 l) DETAILS AND SECTIONS

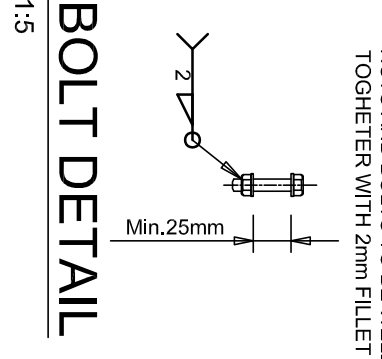
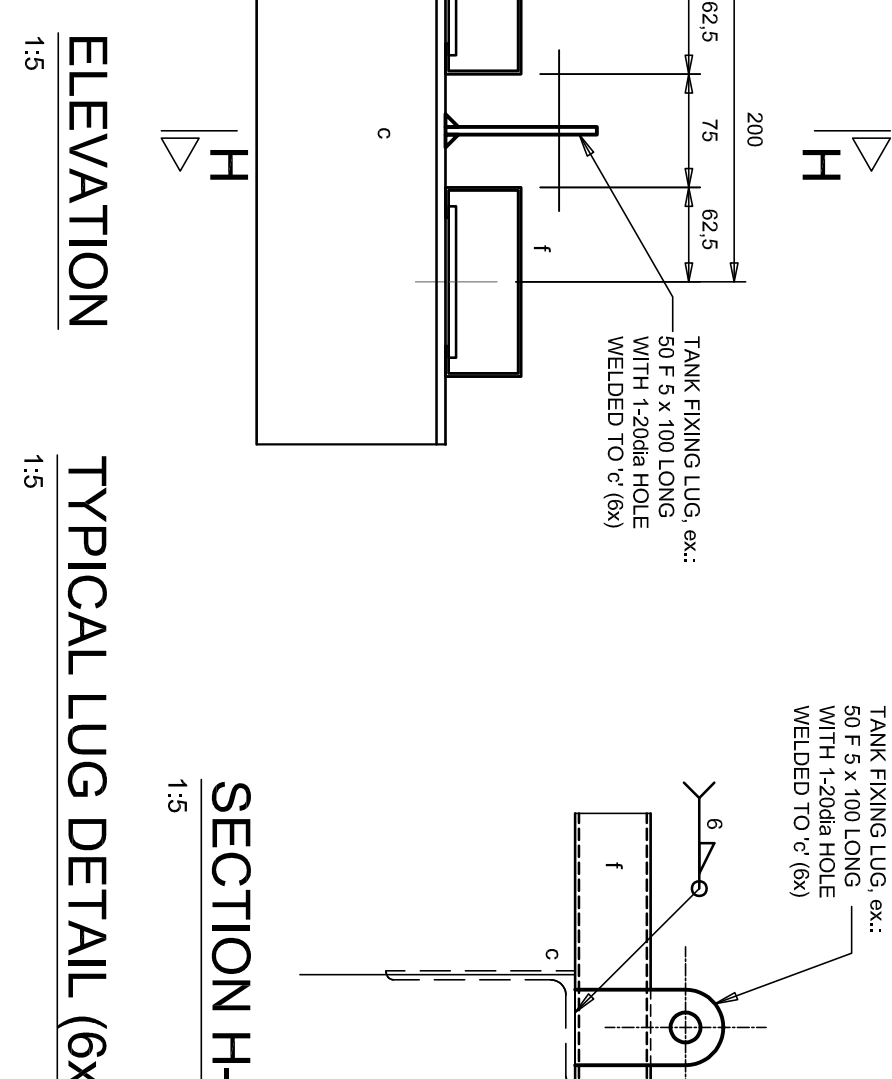
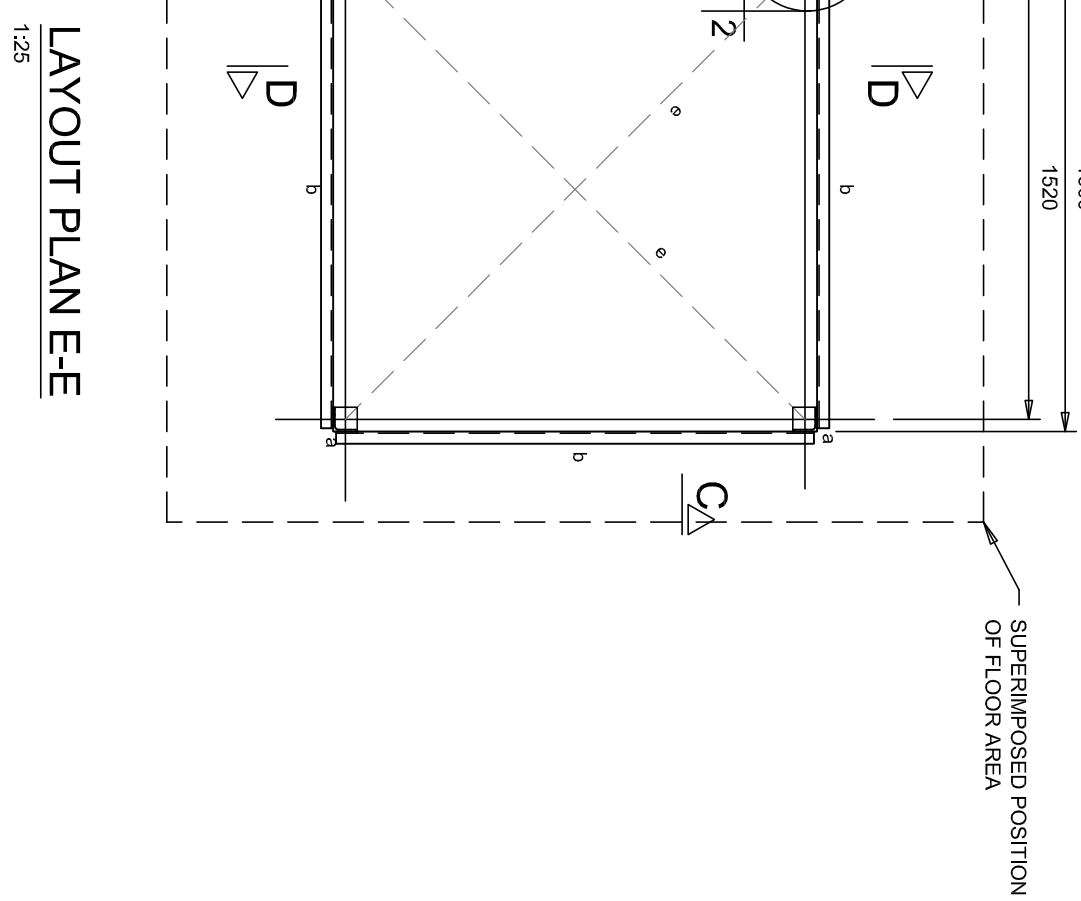
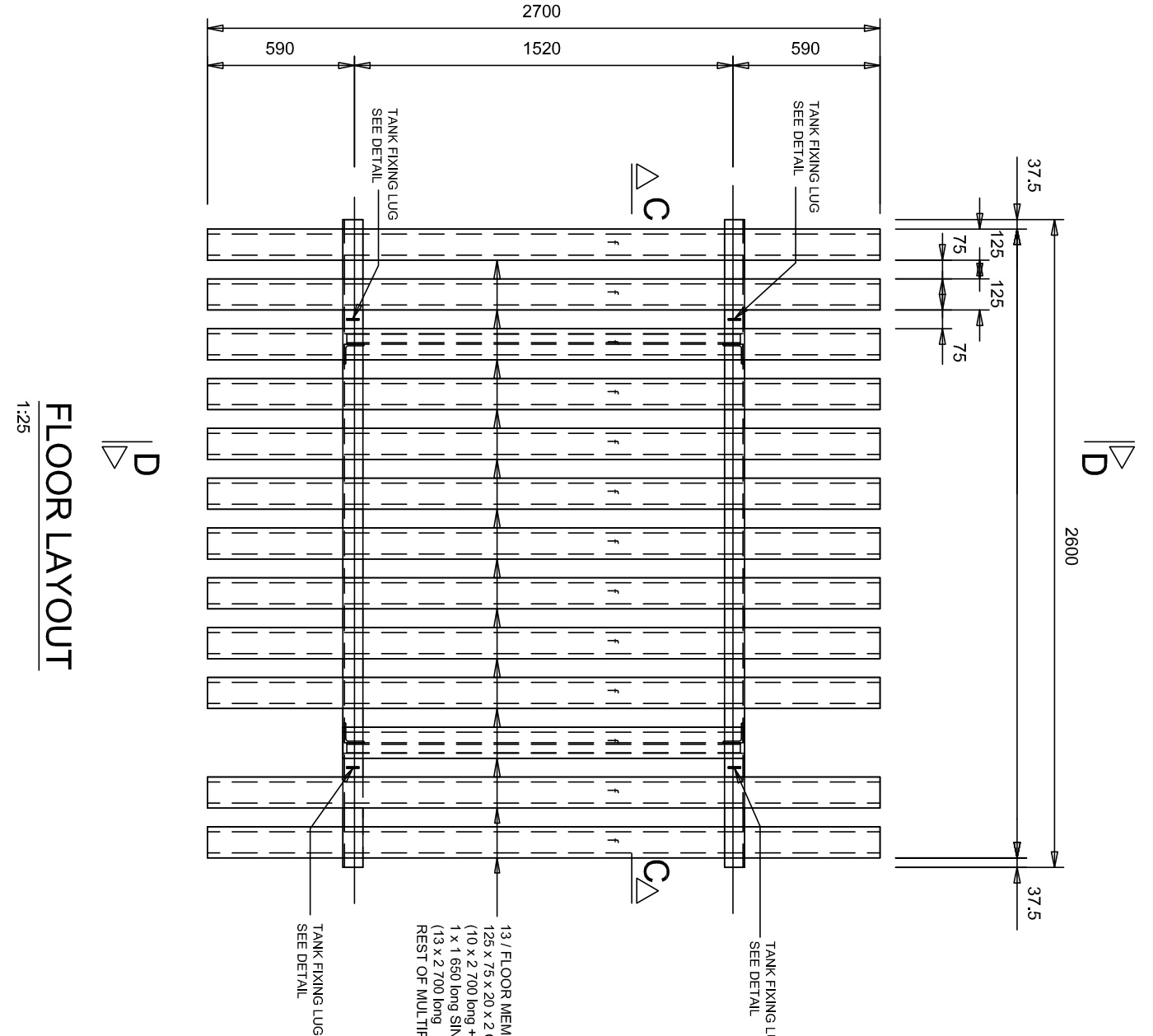
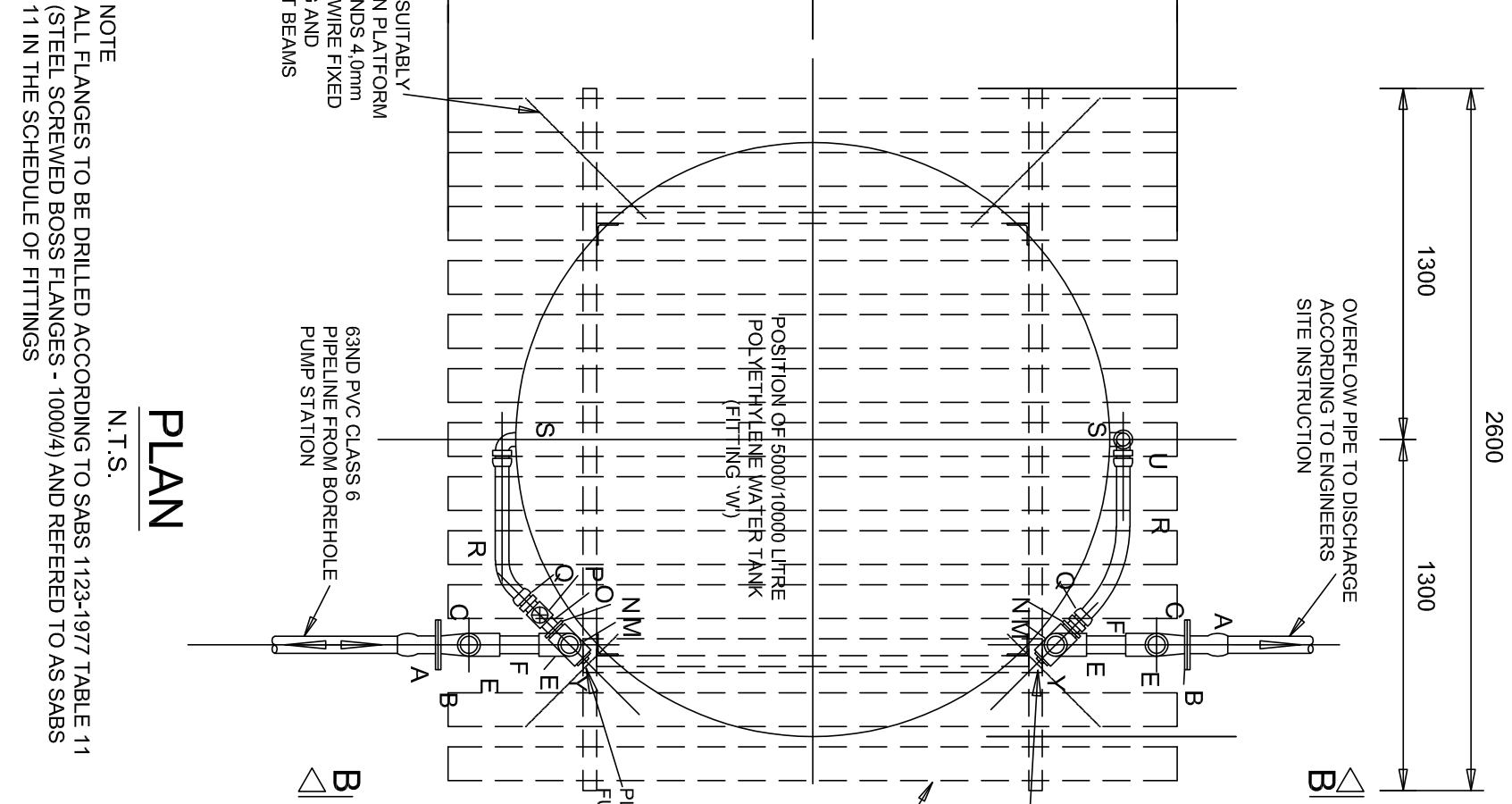
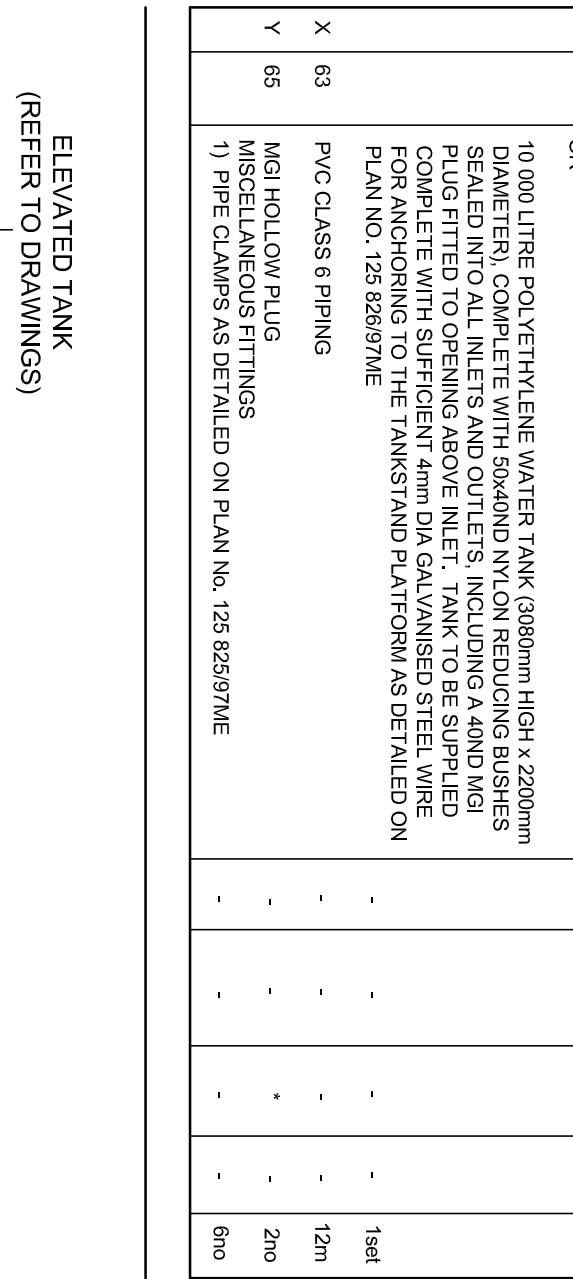


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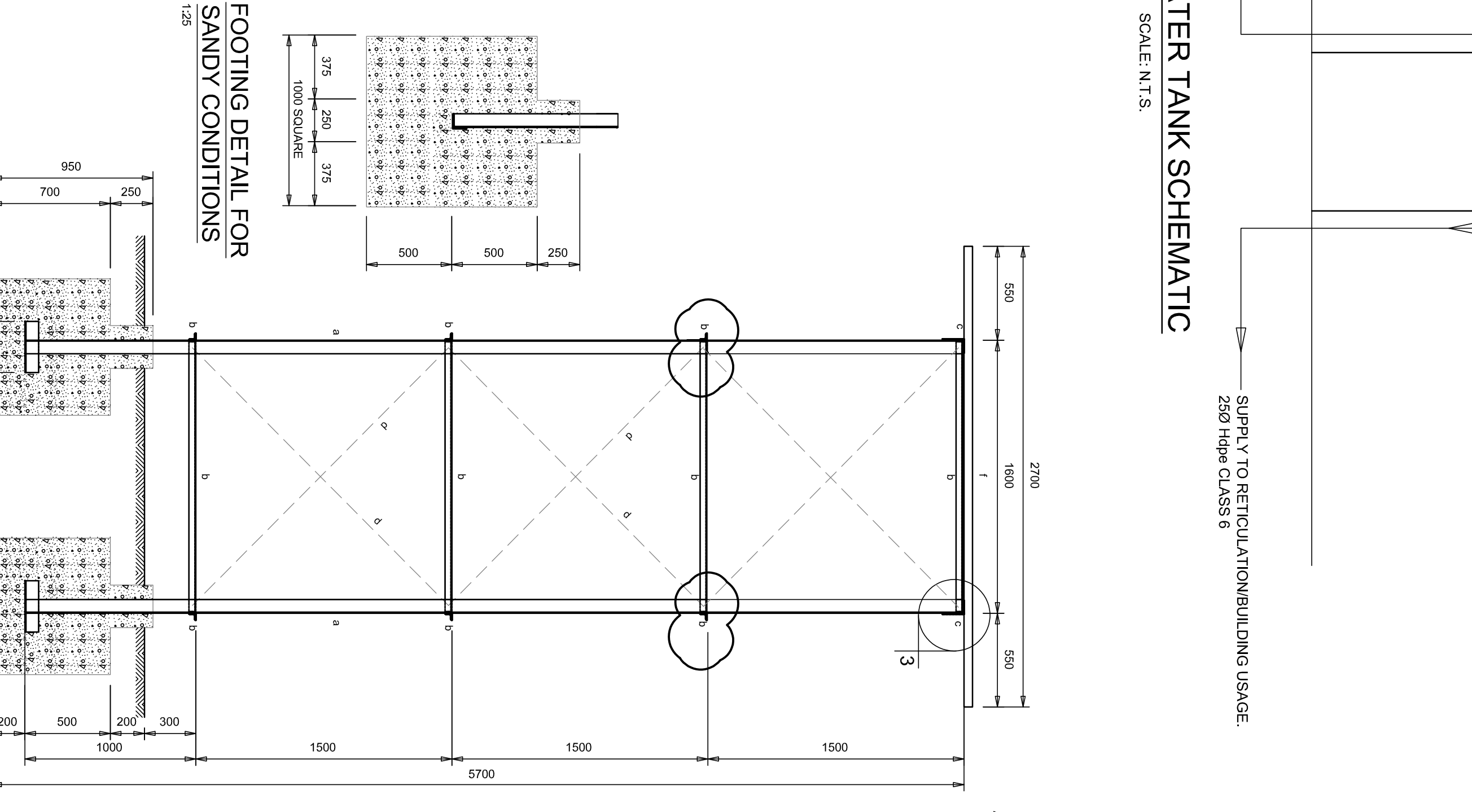
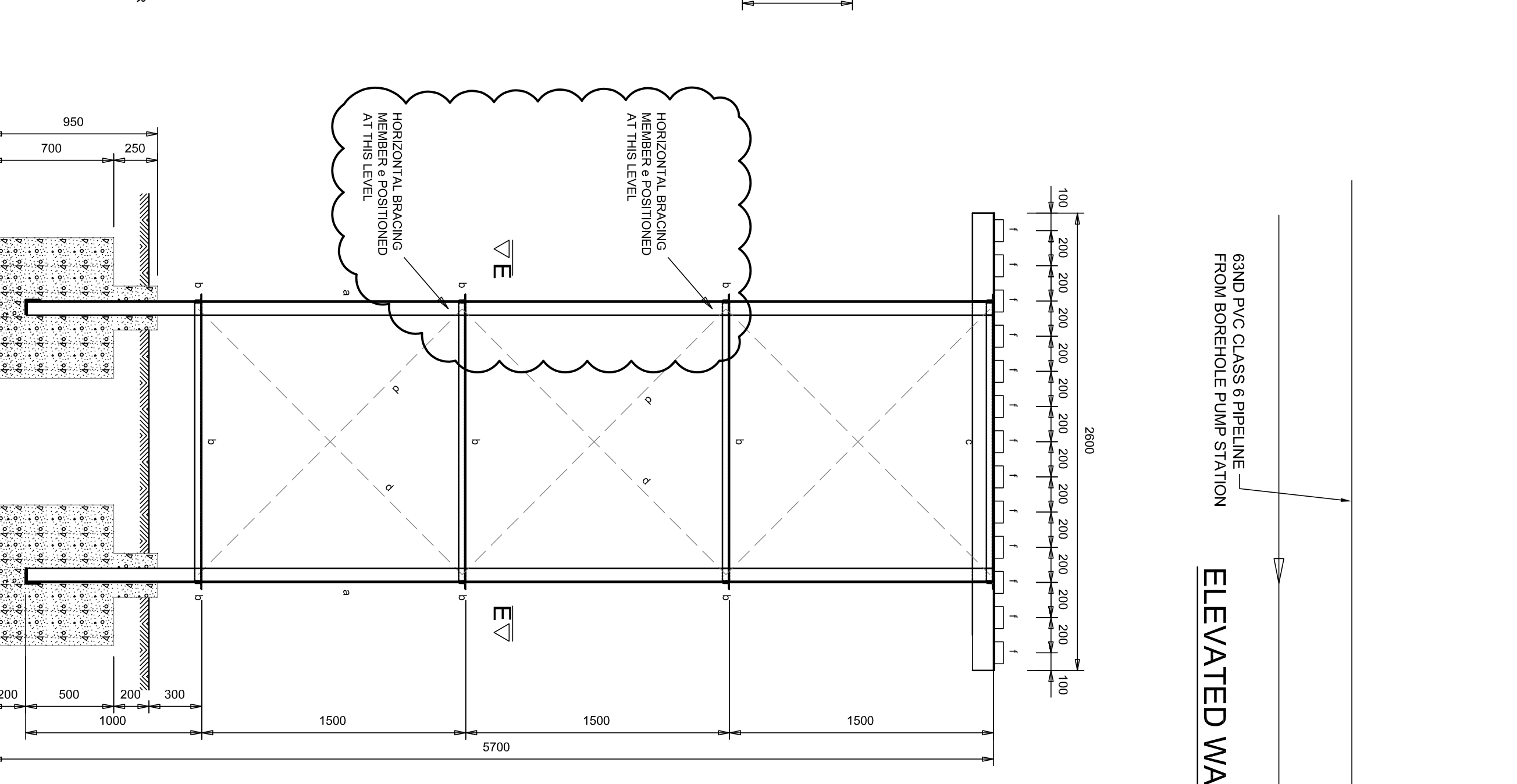
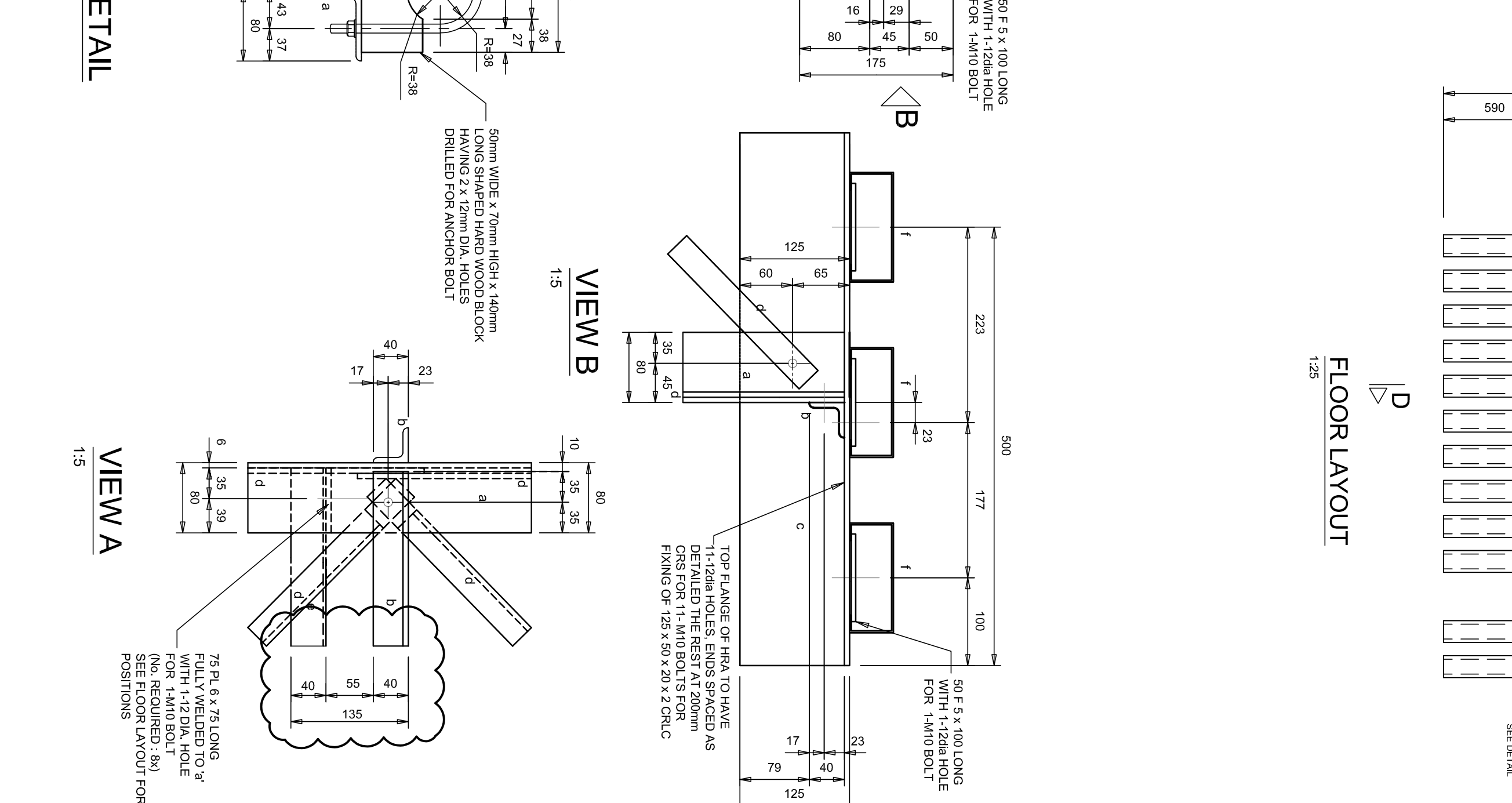
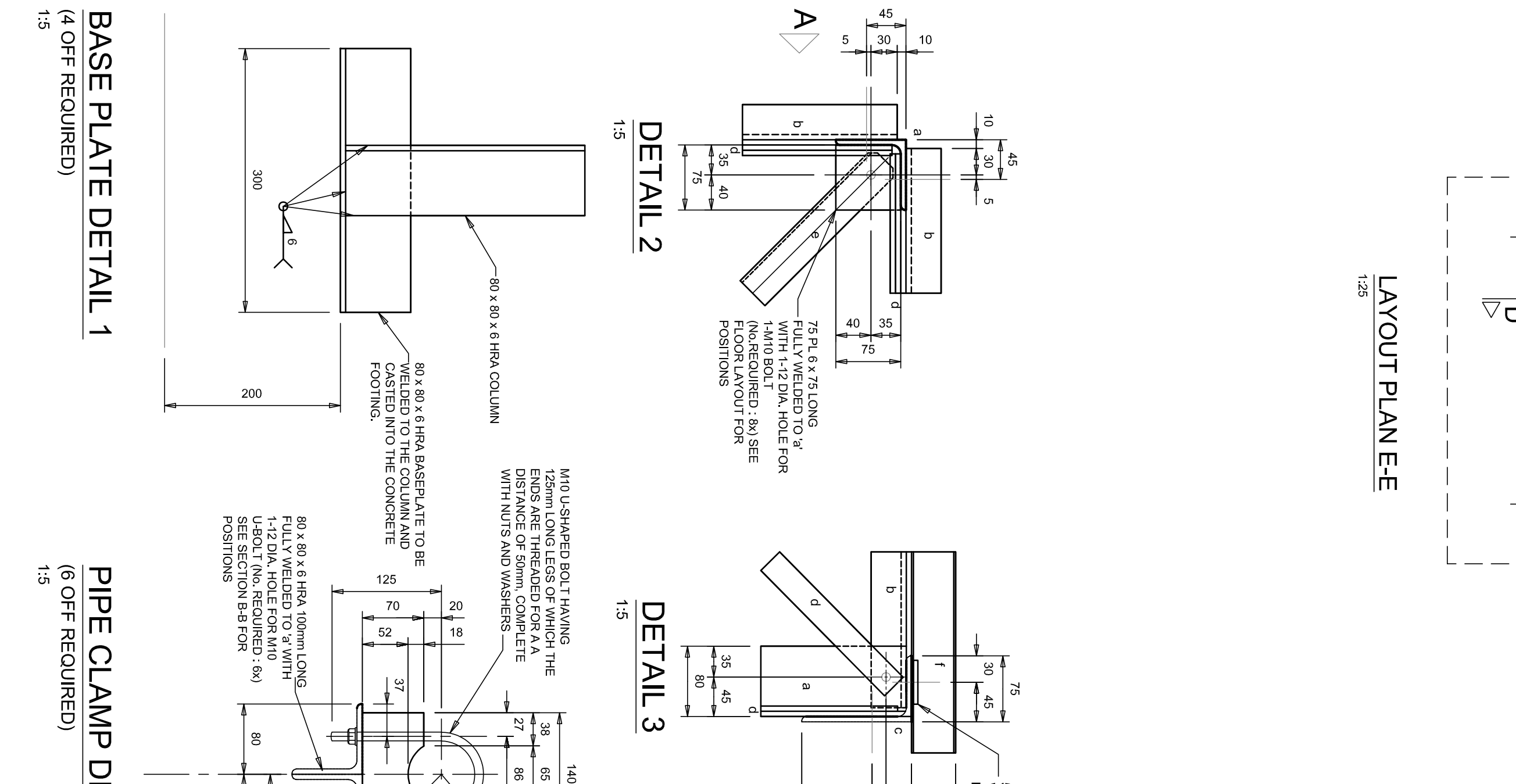
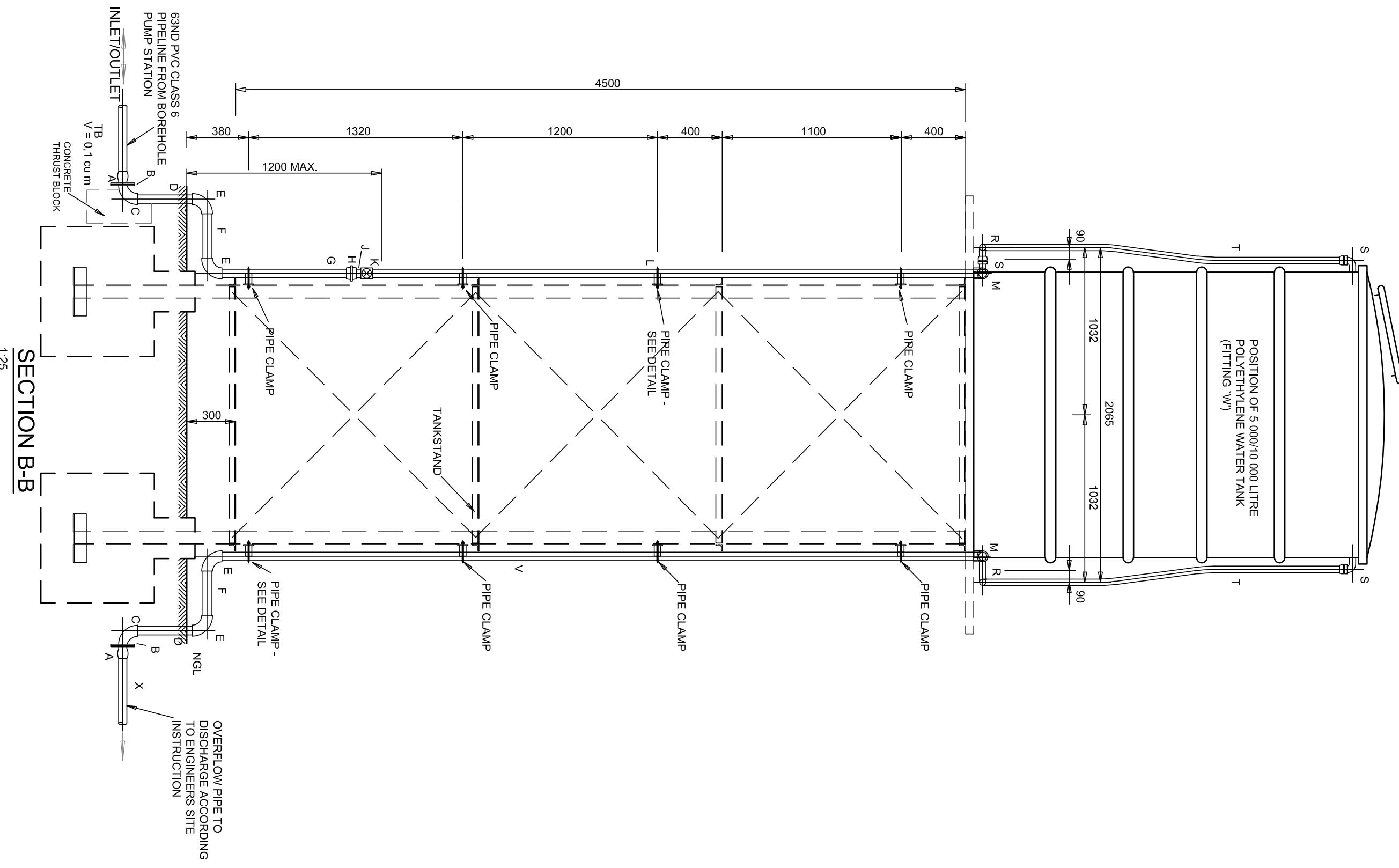
Job No.	Drawing No.	Revision
P1270	CD01	C

SCHEDULE OF FITTINGS

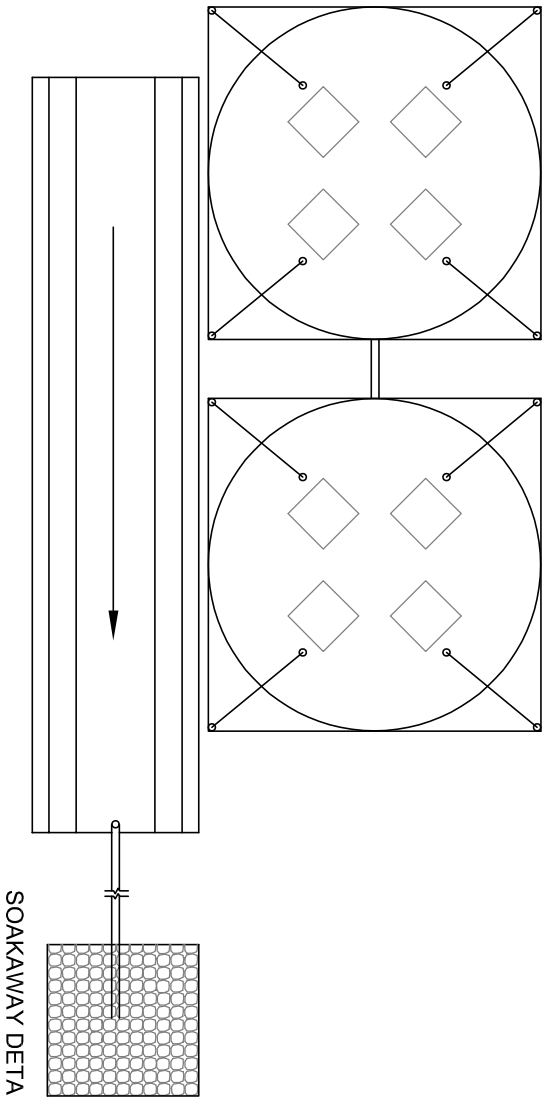
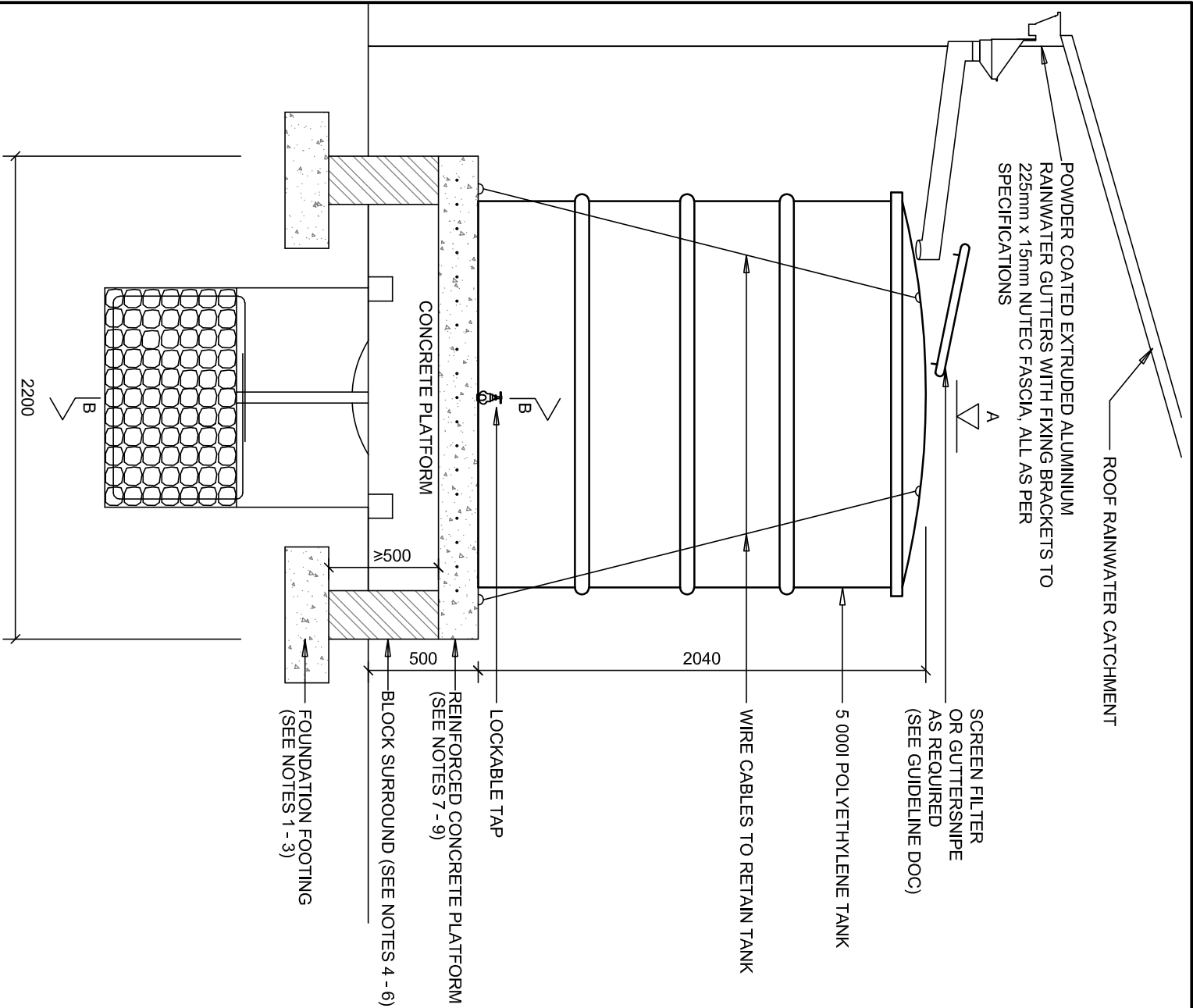
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B 56	WELDED STEEL FLANGE	500S 11	PAINT
C 66	90 DEGREE ELBOW	200	PAINT
D 66	90 DEGREE ELBOW	200	PAINT
E 66	90 DEGREE ELBOW	200	PAINT
F 66	90 DEGREE ELBOW	200	PAINT
G 66	90 DEGREE ELBOW	200	PAINT
H 66	90 DEGREE ELBOW	200	PAINT
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K 66	90 DEGREE ELBOW	200	PAINT
L 66	90 DEGREE ELBOW	200	PAINT
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R 66	90 DEGREE ELBOW	200	PAINT
S 66	90 DEGREE ELBOW	200	PAINT
T 66	90 DEGREE ELBOW	200	PAINT
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V 66	90 DEGREE ELBOW	200	PAINT
W 66	90 DEGREE ELBOW	200	PAINT



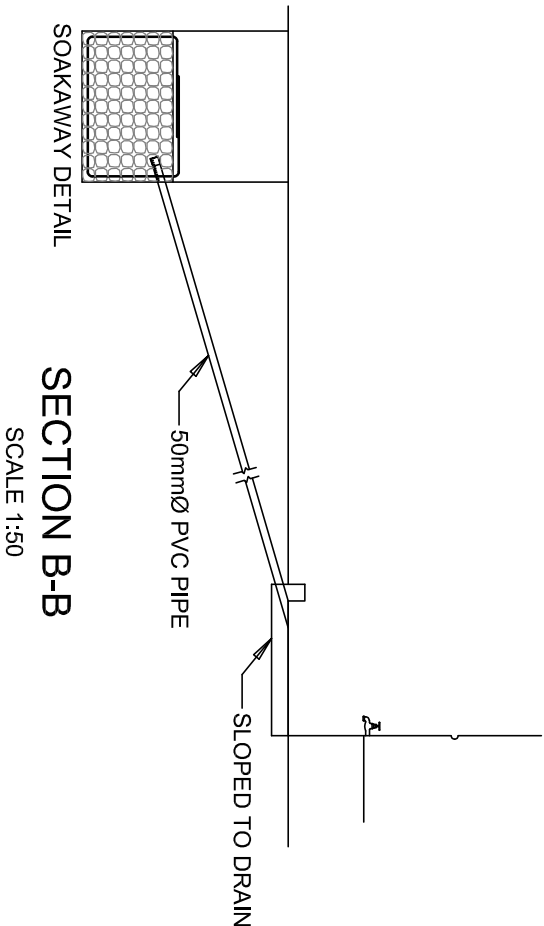
LEGEND	DESCRIPTION	LENGTH	WALF
A	80 x 80 x 6 HR4 (ASBMS)	400mm	4
B	40 x 40 x 6 HR4 (ASBMS)	200mm	2
C	125 x 75 x 3 HR4 (ASBMS)	200mm	2
D	6 x 40 x 3 HR4 (ASBMS)	200mm	2
E	6 x 40 x 3 HR4 (ASBMS)	200mm	2
F	125 x 75 x 3 HR4 (ASBMS)	200mm	2
G	6 x 40 x 3 HR4 (ASBMS)	200mm	2
H	6 x 40 x 3 HR4 (ASBMS)	200mm	2
I	6 x 40 x 3 HR4 (ASBMS)	200mm	2
J	6 x 40 x 3 HR4 (ASBMS)	200mm	2
K	6 x 40 x 3 HR4 (ASBMS)	200mm	2
L	6 x 40 x 3 HR4 (ASBMS)	200mm	2
M	6 x 40 x 3 HR4 (ASBMS)	200mm	2
N	6 x 40 x 3 HR4 (ASBMS)	200mm	2
O	6 x 40 x 3 HR4 (ASBMS)	200mm	2
P	6 x 40 x 3 HR4 (ASBMS)	200mm	2
Q	6 x 40 x 3 HR4 (ASBMS)	200mm	2
R	6 x 40 x 3 HR4 (ASBMS)	200mm	2
S	6 x 40 x 3 HR4 (ASBMS)	200mm	2
T	6 x 40 x 3 HR4 (ASBMS)	200mm	2
U	6 x 40 x 3 HR4 (ASBMS)	200mm	2
V	6 x 40 x 3 HR4 (ASBMS)	200mm	2
W	6 x 40 x 3 HR4 (ASBMS)	200mm	2



Cad file ref: N:P1270drawings1



VIEW A
SCALE 1:50



GENERAL NOTES:

PRECAUTIONARY MEASURES NEED TO BE TAKEN WHEN
EXCAVATING IN SANDY MATERIAL TO ENSURE STABILITY OF
THE EXCAVATION AND THE SAFETY OF WORKERS.

- NOTES:
1. ENSURE FOOTING IS ON SOLID UNDISTURBED GROUND.
 2. REMOVE TOPSOIL AND EXCAVATE STRIP FOOTING TO A MINIMUM
DEPTH OF 500mm BELOW BASE OF TOPSOIL.
 3. FOOTING TO BE AT 600mm WIDE x 200mm DEEP.
 4. CONSTRUCT CONCRETE BLOCK SURROUND OF 9 BLOCKS (450mm
x 220mm x 220mm EACH BLOCK) TO HEIGHT ABOVE GROUND AT
LEAST 500mm.
 5. FILL CONCRETE BLOCKS WITH CONCRETE.
 6. RAISED BLOCK SURROUND TO BE INFILLED WITH APPROPRIATE
HARD-PACKED BACKFILL MATERIAL (NOT TOPSOIL).
 7. 100mm THICK REINFORCED CONCRETE SLAB TO BE CAST
 8. REINFORCE WITH MESH REF 245 AT 35mm COVER TO TOP OF SLAB
 9. PLATFORM SIZED TO FIT SELECTED TANK.

Revisions		
B	27/01/16	Issue for Completion
Z	27/01/16	As Built – Terminated CNN
A	15/06/14	Issued for Construction
O	06/07/13	Issued for Tender
No.	Date	Description

Designed	Drawn	Checked	Approved	Date	Scale
				05/07/13	AS SHOWN

Client



basic education

Department:
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REPUBLIC OF SOUTH AFRICA

Implementing Agent



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Project

**ASIDI WATER &
SANITATION PROGRAMME**

Drawing Title

**DRINKING WATER
RAINWATER STORAGE**



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email: hsc@hsc.co.za

Job No.	Drawing No.	Revision
P1270	CD02	B

- NOTES:**
- 1) PAYMENT: TO INCLUDE EXCAVATION, BACKFILL AND ALL FITTINGS AND MATERIALS
 - 2) SEPARATE PAYMENT FOR:
 - a) STANDPIPE
 - b) AQUALOC
 - c) DRAINAGE
 - 3) EVERY STANDPIPE TO BE INSTALLED WITH AQUALOC
 - 4) ALL CONCRETE 30/19

NOTES:

1) PAYMENT: TO INCLUDE EXCAVATION, BACKFILL AND ALL FITTINGS AND MATERIALS

2) SEPERATE PAYMENT FOR:

b) AQUALOC

c) DRAINAGE

4) ALL CONCRETE 30/19

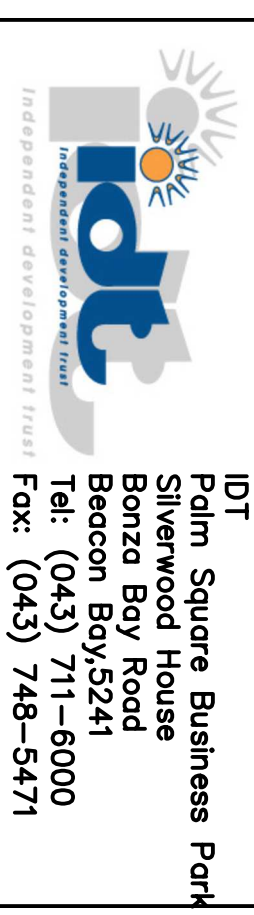
Revisions			
No.	Date	Description	By ChkApp
B	14/01/22	Issued for Completion	FC
Z	27/01/16	As Built - Terminated	CNN
A	15/05/14	Issued for Construction	CNN
0	05/07/13	Issued for Tender	CNN

Designed	Drawn	Checked	Approved	Date	Scale
				06/03/13	AS SHOWN

Client



Implementing Agent

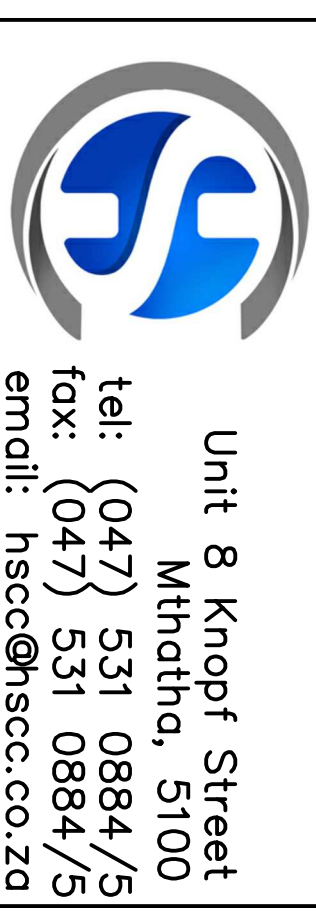


Project

ASIDI WATER & SANITATION PROGRAMME

Drawing Title

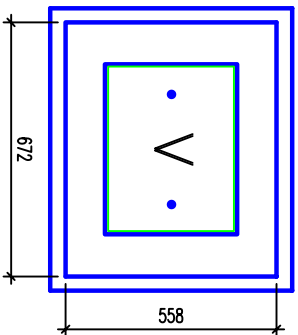
STANDPIPE DETAILS



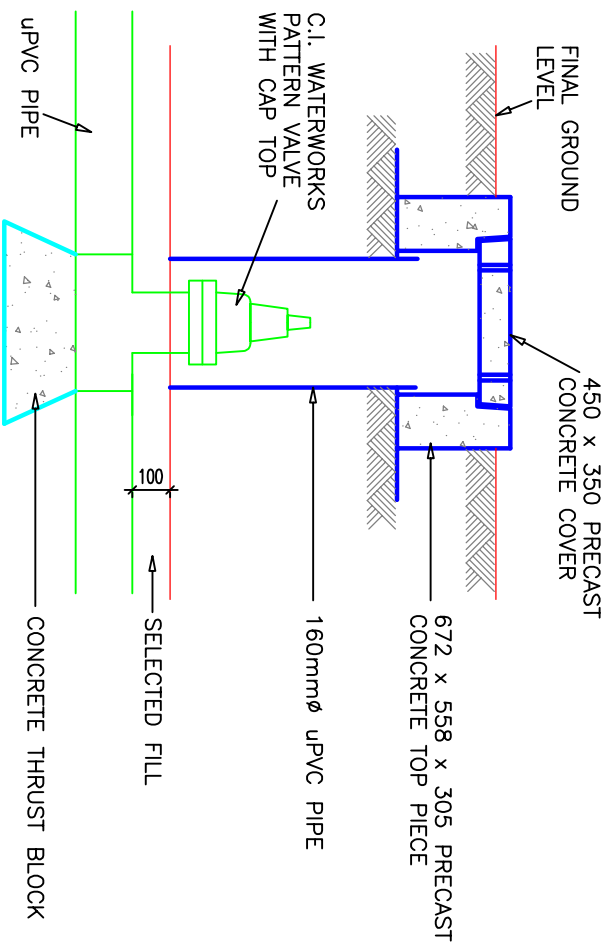
Job No.	Drawing No.	Revision
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P1270	CD03	B
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Cad file ref. N:\P1270\drawings\cd03



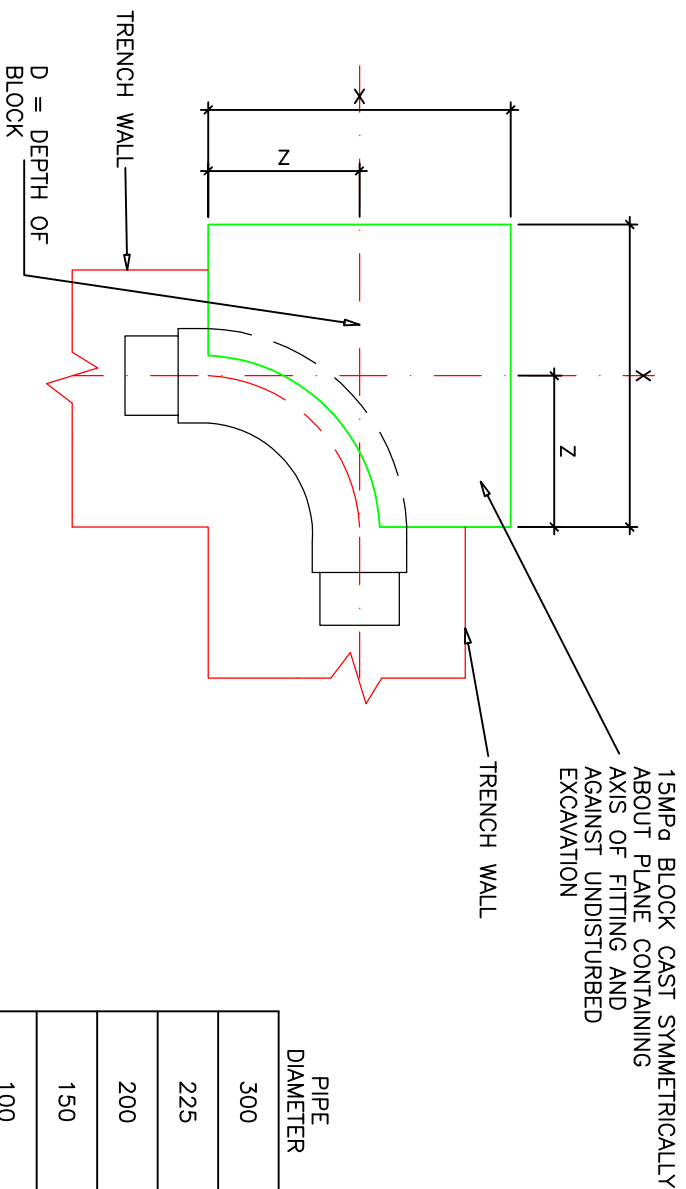
PLAN OF LID



Revisions		
Rev.	Date	Revision
0	05/07/13	Issued for Tender
A	15/05/14	Issued for Construction
B	14/01/22	Issued for Completion

Project Title			
ASIDI WATER & SANITATION PROGRAMME			
Drawing Title			
GATE VALVE AND CHAMBER DETAIL			
Scale	Date	Drawn	Checked
1 : 20	MARCH 2013	J.R.	

 HSC CONSULTING	Unit 8 Knopf Street Mthatha, 5100 tel: (047) 531 0884/5 fax: (047) 531 0884/5 email: hsc@hsc.co.za		
	Project No. P1270	Dwg No. CD09	Rev. B



NOTE : COUPLINGS AND FLANGES SHALL BE LEFT CLEAR OF CONCRETE

PIPE DIAMETER	X	D	Z
300	2550	1300	575
225	1890	1000	500
200	1640	900	475
150	1210	700	400
100	740	500	250
75	530	400	175
50	330	300	125

Rev.	Date	Revision
0	05/07/13	Issued for Tender
A	15/05/14	Issued for Construction
Z	27/01/16	As Built – Terminated
B	14/01/22	Issued for Completion

Project Title		
ASIDI WATER & SANITATION PROGRAMME		
Drawing Title		
THRUST BLOCK IN PRESSURE PIPELINE FOR 90° BEND		
Scale	Date	Drawn
1 : 20	MARCH 2013	J.R.
		Checked

		
Unit 8 Knopf Street Mthatha, 5100 tel: (047) 531 0884/5 fax: (047) 531 0884/5 email: hsc@hsc.co.za		
Project No.	Dwg No.	Rev.
P1270	CD10	B