

# MOGALE CITY LOCAL MUNICIPALITY

## DIRECTORATE INFRASTRUCTURE

**TENDER NUMBER: UMS (W&S) 17/2021**

### THE INSTALLATION OF A BULK WATER PIPELINE, A NEW SEWER CONNECTION AND A NEW 5ML RESERVOIR WITH ASSOCIATED WORKS IN LERATONG SMART CITY DEVELOPMENT (PHASE 1)

Name of Tendering Entity			
Name of Tendering Entity Representative			
Physical Address of Tendering Entity			
Postal Address of Tendering Entity			
Contact Details of Tendering Entity	Tel: ..... Fax: ..... Cell: ..... Email: .....		
Tender Amount carried from Form of Offer and Summary	R..... (Incl. Vat)		
CIDB CRN No: & Grading	CRN No: ..... Grading: .....		
Tax No.		Tax Compliance Status Pin	
Central Supplier Database Registration Number	MAAA.....		

*Prepared for:*

Mogale City Local Municipality  
P.O. Box 94  
Krugersdorp  
1740

*Prepared By:*

Pro-Plan Consulting Engineers (Pty) Ltd  
P.O Box 756  
Paardekraal  
1752

## PART A INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (NAME OF DEPARTMENT/ PUBLIC ENTITY)					
BID NUMBER:	UMS (W&S) 17/2021	CLOSING DATE:	25 May 2021	CLOSING TIME:	11:00
DESCRIPTION					
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)					
Mogale City Local Municipality					
Supply Chain Management Unit, situated on the upper level of the West Wing of the Mogale City Local Municipality's Civic Centre					
Corner Commissioner and Market Street in Krugersdorp					
1740					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO			TECHNICAL ENQUIRIES MAY BE DIRECTED TO:		
CONTACT PERSON			CONTACT PERSON	Kabelo Ledwaba	
TELEPHONE NUMBER			TELEPHONE NUMBER	011 954 4441	
FACSIMILE NUMBER			FACSIMILE NUMBER	086 524 9967	
E-MAIL ADDRESS			E-MAIL ADDRESS	<a href="mailto:proplan@proplansa.co.za">proplan@proplansa.co.za</a>	
SUPPLIER INFORMATION					
NAME OF TENDERER					
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
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE	TICK APPLICABLE BOX]  <input type="checkbox"/> Yes <input type="checkbox"/> No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT		[TICK APPLICABLE BOX]  <input type="checkbox"/> Yes <input type="checkbox"/> No
[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EME's & QSE's) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]					

Municipality 1		Consultant	
Municipality 2		Contractor	

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]	ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER THE QUESTIONNAIRE BELOW]
<b>QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS</b>			
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?		<input type="checkbox"/> YES <input type="checkbox"/> NO	
DOES THE ENTITY HAVE A BRANCH IN THE RSA?		<input type="checkbox"/> YES <input type="checkbox"/> NO	
DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?		<input type="checkbox"/> YES <input type="checkbox"/> NO	
DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?		<input type="checkbox"/> YES <input type="checkbox"/> NO	
IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?		<input type="checkbox"/> YES <input type="checkbox"/> NO	
<b>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.</b>			

Municipality 1		Consultant	
Municipality 2		Contractor	

## PART B

### TERMS AND CONDITIONS FOR BIDDING

<b>1. BID SUBMISSION:</b>
1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
1.2. <b>ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED) OR IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.</b>
1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
1.4. <b>THE SUCCESSFUL TENDERER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).</b>
<b>2. TAX COMPLIANCE REQUIREMENTS</b>
2.1 TENDERERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
2.2 TENDERERS 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 TENDERERS 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 TENDERER 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 TENDERER: .....

CAPACITY UNDER WHICH THIS BID IS SIGNED: .....

(Proof of authority must be submitted e.g. company resolution)

DATE: .....

Municipality 1		Consultant	
Municipality 2		Contractor	



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*Note: The Tenderer must ensure that the documents he received are complete, as neither the Client nor the Employer's Agent will accept any responsibility for any problem that may occur as a result of incomplete documentation.*

Municipality 1		Consultant	
Municipality 2		Contractor	

ADVERTISED IN : The Star  
PUBLISHING DATE : 21 April 2021  
TENDER NOTICE : UMS (W&S) 17/2021



## MOGALE CITY LOCAL MUNICIPALITY

Tenders are hereby invited for the following: Department of Utilities Management Services

**TENDER NO: UMS (W&S) 17/2021 : TENDERS ARE HEREBY INVITED FROM SUITABLE CIVIL ENGINEERING CONTRACTOR/S WITH A CIDB GRADING OF 7CE OR HIGHER FOR THE INSTALLATION OF A BULK WATER PIPELINE, A NEW SEWER CONNECTION AND A NEW 5ML RESERVOIR WITH ASSOCIATED WORKS IN LERATONG SMART CITY DEVELOPMENT (PHASE 1)**

### **Adjudication: Functionality, Financial Offer & Preferences**

Tenders will initially be evaluated and assessed on the basis of Functionality. On meeting minimum Functionality criteria, tenders will be further evaluated and assessed using the 80/20 preference point system which awards points on the basis of 80 points for price and 20 points for B-BBEE level of contribution.

**C.2.1.1.2 Only those tenderers who can demonstrate that they will have in their employ management and supervisory staff satisfying the requirements of the scope of work for labor-intensive competencies for supervisory and management staff during the validity of the contract are eligible to submit tenders.**

**C.3.11.9 the tenderer must submit to the Employer, names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.**

**Compulsory Briefing & Site Visit:** Please note that no site briefing will be held due to the COVID-19 regulation.

**Non-refundable Document fee:** The tender document must be downloaded at [www.mogalecity.gov.za](http://www.mogalecity.gov.za) or [etenders.gov.za](http://etenders.gov.za).

Tender Documents Enquiries: Maropeng Makhatla Tel: 011 951 2541 / [kefilwe.jobeta@mogalecity.gov.za](mailto:kefilwe.jobeta@mogalecity.gov.za)  
Ofentse Matsose Tel: 011 951 2177  
For Technical Enquiries: Kabelo Ledwaba Fax: 086 524 9967 / [proplan@proplansa.co.za](mailto:proplan@proplansa.co.za)

**Documents available:** As from **23 April 2021** during office hours from the Reception Desk of Supply Chain Management Unit, situated on the upper level of the west wing of Mogale City Civic Centre, Corner of Commissioner and Market Street in Krugersdorp.

**Closing date:** **25 May 2021** Time: **11:00** Tender Box: **1**

Venue: Tender boxes are situated at the reception desk of the Supply Chain Management Unit, situated on the upper level of the west wing of Mogale City Civic Centre, Corner of Commissioner and Market Street in Krugersdorp.

Tender Documents must be properly secured together in a sealed envelope as Mogale City will not take any responsibility for any loss of documentation as a result of not being properly secured together upon submission. The sealed envelope must be endorsed with the tender number and description and closing date as provided in Clause C2.13.5 of the Tender Data.

Municipality 1		Consultant	
Municipality 2		Contractor	

**BIDDING TENDER CONDITIONS:**

1. All suppliers of good & services are urged to register in the National Treasury web based Central Suppliers Database with Effect from 1 July 2016 @ [www.csd.gov.za](http://www.csd.gov.za)
2. As per National Treasury Instruction No.4 A of 2016/2017 National Treasury Supplier Database, organs of state must ensure that suppliers awarded business with the State, excluding instances mentioned in paragraph 3.3, are registered on the CSD prior to award letter/purchase order/signed contract being issued.
3. According to the amended Codes of Good Practice, an *Exempted Micro Enterprise (EME)* is only required to obtain a sworn affidavit or a certificate issued by Companies Intellectual Property Commission (CIPC) confirming their annual turnover of R10 million or less and level of Black ownership to claim BEE points
4. According to the amended Codes of Good Practice, Qualifying Small Enterprise (QSE) is only required to obtain a sworn affidavit or a certificate issued by Companies Intellectual Property Commission (CIPC) confirming their annual turnover of R50 million or less and level of Black ownership to claim BEE points.
5. A trust, consortium or joint venture will qualify for points for the BBBEE status level as a legal entity, provided that the entity submits their consolidated BBBEE status level certificate. If a bidder does not submit a certificate substantiating the BBBEE status level of contribution/ and Affidavit or is a non-compliant contributor, such bidder will score 0 out of the maximum of 20 points for BBBEE.
6. Tenders by joint ventures are to be accompanied by the Document Formation of the joint venture, duly registered and authenticated by a Notary Public or other official deputized to witness sworn statements. This document must define precisely the conditions under which the joint venture will function, the period for which it will function, the persons authorized to represent and obligate it, the address for correspondence, the participation of several firms forming the joint venture and any information necessary to permit a full appraisal of its functioning, including a clause to the effect that the members of the joint venture are jointly and severely bound.
7. No late tender will be accepted.
8. Telefax or e-mail tenders will not be accepted.
9. Tenders may only be submitted on the bid documents as provided by Mogale City. The use of Tipp-Ex or Tipp-Ex like material is not allowed on the bid documents. Bids completed in pencil will be regarded as invalid bids. No page(s) may be removed from the original tender document
10. Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the tender document;
11. In the event of a mistake having been made it shall be crossed out in ink and be accompanied by a full signature at each and every alteration.
12. The Municipality reserves the right to reject the Bid if corrections are not made in accordance with the above.
13. The lowest or any tender will not necessarily be accepted, and Mogale City reserves the right to accept a tender in whole or in part.
14. The validity period for this tender is ninety (90) days.
15. The bidder must initial each and every page of the tender document.
16. A Corporate social responsibility contribution of one (1) percent inclusive of 15%VAT will be levied on all companies/ service providers appointed as successful bidders if such companies are not based in the area of jurisdiction of Mogale City.

Municipality 1		Consultant	
Municipality 2		Contractor	

17. The Municipality reserve the right to negotiate a fair market related price with recommended bidders after a competitive bidding process.
18. All tender prices must be inclusive of VAT.
19. The bid will be evaluated on an 80/20 principle where 80 points will be pricing and 20 points is BBBEE component.
20. Tender documents may be downloaded from e-tender portal at [www.etenders.gov.za](http://www.etenders.gov.za) as well as [www.mogalecity.gov.za](http://www.mogalecity.gov.za)

**Mr. Pringle Raedani**  
**MUNICIPAL MANAGER**

Municipality 1		Consultant	
Municipality 2		Contractor	

**CERTIFICATE OF SITE VISIT / BRIEFING SESSION**

NOT APPLICABLE

I hereby certify that I

Representative of (Tenderer)

Of address

visited the Site of Works / attended compulsory briefing session\* on (date)

and have ascertained all aspects which may influence the work and the costs thereof. I have also studied the tender documents before visiting the Site of Works.

I certify that I am satisfied with the description of the Works and the explanations (if any) given to me by the Employer's Agent. I am also familiar with the manner in which the Work is set out and specified, as well as the way the Work must be carried out under the Tender.

Signed by Tenderer

Signed by Employer's Agent or Attending Municipal Representative

Municipality 1		Consultant	
Municipality 2		Contractor	

## PART T1 : TENDERING PROCEDURES

Municipality 1		Consultant	
Municipality 2		Contractor	

**THE TENDER****Part T1 TENDERING PROCEDURES****T1.1 Tender Notice and Invitation to Tender**

T1.1.1 Mogale City Local Municipality, invites only those tenderers who are registered with the CIDB with a grading designation of 7CE or higher, 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 by a value in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, are eligible to have their tenders evaluated.

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 7CE or higher class of construction work
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 a value determined in accordance with Regulation 25 (1 B) or 25(7A) of the Construction Industry Development Regulations.
4. Partners in a Joint Venture are only allowed to form a Joint Venture with a single set of partners.

T1.1.2 Tenders will be evaluated using the 80/20 preference point system which awards points on the basis, 80 for price and 20 points for B-BBEE level of Contribution.

T1.1.3 Preferences points are offered to tenderers for B-BBEE level of contribution.

T1.1.4 The physical address for collection of tender documents is:

**Mogale City Local Municipality**

**Reception Desk of Supply Chain Management Unit, situated on the upper level of the west wing of Mogale City Civic Centre, Corner of Commissioner and Market Street in Krugersdorp**

T1.1.5 Queries relating to the issues of these documents may be addressed to:

Mr. Ofentse Matsose Tel No. 011 951 2177 (Supply Chain Management)

Mrs. Maropeng Makhatlal Tel No. 011 951 2541 (Supply Chain Management)

Technical queries relating to this documents may be addressed to:

Mr. Kabelo Ledwaba Fax no: 086 524 9967 E-mail: [proplan@proplansa.co.za](mailto:proplan@proplansa.co.za)

T1.1.6 A clarification meeting will not take place due to the COVID-19 Regulations.

Municipality 1		Consultant	
Municipality 2		Contractor	

- T1.1.7 The closing time and date for receipt of tenders is on **25 May 2021 at 11:00** at the reception desk of the Supply Chain Management Unit, situated on the upper level of the west wing of Mogale City Civic Centre, Corner of Commissioner and Market Street in Krugersdorp.
- T1.1.8 Telegraphic, telephonic, telex, facsimile and late tenders will not be accepted. Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.
- T1.1.9 Tenders will be opened in public in the Supply Chain Management Unit, Civic Centre, Corner of Commissioner and Market Street in Krugersdorp.

Municipality 1		Consultant	
Municipality 2		Contractor	



**T1.2 TENDER DATA****T1.2.1 Standard Conditions of Tender**

The conditions of tender are the Standard Conditions of Tender as contained in the CIDB Standard for Uniformity in Construction Procurement August 2019. (The tenderer to obtain a copy of the Annex C from the CIDB website [www.cidb.org.za](http://www.cidb.org.za)).

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

**T1.2.2 Tender Data Information**

The following information is based on the Standard Conditions of Tender and refers to the relevant clauses of the Standard Conditions of Tender. The following Clauses are highlighted. It is the responsibility of the Tenderer to obtain the full CIDB Standard Conditions of Tender from their website. [www.cidb.co.za](http://www.cidb.co.za)

**Clause**

C1.1 The Employer is: **Mogale City Local Municipality**

C.1.2 The documents listed below will form part of this contract. The tender documents issued by the employer comprise of Volume 3. The employer does not supply Volumes 1 and 2. Tenderers are to acquire their own copies of these documents.

**Volume 1 The General Conditions of Contract for Construction Works (2015)** published by the South African Institution of Civil Engineering, is applicable to this contract. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel: 011 805 5947).

**Volume 2 Standardised specifications for Civil Engineering Construction SANS 1200** - not bound in this document and obtainable from: The South African Bureau of Standards, Private Bag X191, Groenloof, Pretoria, 2001. Sections of COLTO may also be referenced.

**Volume 3** The tender documents issued by the Employer comprise:

**Part T1: Tendering Procedures**

T1.1 Tender notice and invitation to tender

T1.2 Tender Data

Municipality 1		Consultant	
Municipality 2		Contractor	

**Part T2: Returnable Documents**

- T2.1 List of returnable documents  
T2.2 Returnable schedules

**Part C1: Agreement and Contract Data**

- C1.1 Form of offer and acceptance  
C1.2 Contract Data  
C1.3 Form of Guarantee

**Part 2: Pricing data**

- C2.1 Pricing Assumptions  
C2.2 Bill of Quantities

**Part 3: Scope of work**

- C3.1 Scope of works

**Part 4: Site Information**

- C4.1 Site information

**Part 5 - Annexures**

- C5.1 Annexure A: Occupational Health & Safety Act  
C5.2 Annexure B: Environmental Management Plan  
C5.3 Annexure C: EPWP Labour Forms & Branding  
C5.4 Annexure D: Joint Venture Agreement  
C5.5 Annexure E: Reduced drawings for tender purposes

**C.1.4 Communication and Employer's Agent**

Each communication between the Employer and a tenderer shall be to or from the Employer's agent only, and in a form that can be read, copied and recorded. Writing shall be in the English language. The Employer shall not take any responsibility for non-receipt of communications from or by a tenderer.

The Employer's Agent is: **Pro-Plan Consulting Engineers (Pty) Ltd**

Contact Person: **Kabelo Ledwaba**

Address: **322 Voortrekker Road, Noordheuwel, Krugersdorp.**

Tel No: **011 954 4441**

Fax No: **086 524 9967**

E-mail: **proplan@proplansa.co.za**

The Employer's Agent as per GCC 2015: Barry van Es Pr. Eng. Pr. CPM

All communication should be in writing.

Municipality 1		Consultant	
Municipality 2		Contractor	

**C.1.5 Cancellation and Re- Invitation of Tenders**

C1.5.1 An organ of state may, prior to the award of the tender, cancel a tender if-

- (a) due to changed circumstances, there is no longer a need for the services, works or goods requested; or
- (b) funds are no longer available to cover the total envisaged expenditure; or
- (c) no acceptable tenders are received.

C1.5.2 The decision to cancel a tender must be published in the CIDB website and in the government Tender Bulletin for the media in which the original tender invitation was advertised.

**C1.6 Procurement Procedures****C1.6.1 General****C1.6.1.1 Data Pertaining to Targeted Procurement**

This tender will be adjudicated and awarded in terms of the Mogale City Local Municipality Procurement Policy. The complete document can be requested from Mogale City Local Municipality. The requirement is that a minimum of 20% of the tender must be subcontracted to a Mogale City based subcontractor from designated groups.

**C1.6.1.2 Social Responsibility**

A contribution of 1% of the value of the contract must be made by all contractors as Social Responsibility Contribution for the development of the Community of Mogale City. The 1% contribution will be deducted from all certified interim payments to the contractor and will be deducted from the VAT Inclusive amount payable before payment is issued.

**C1.6.1.3 Preferential Procurement Regulations – B-BBEE Compliance Level (Refer to Government Gazette – Addendum**

The Preferential Procurement Regulations (PPPFA) as implemented on 01 April 2017 are the final part of implementing B-BBEE as contemplated in the Broad Based Black Economic Empowerment Act and is applicable to this tender.

Clients/ Implementing Agencies calling for tenders are now compelled to consider compliance to the Codes of Good Practice when evaluating tenders and that all tenders must be accompanied by a valid B-BBEE certificate, issued by an accredited verification agency. The PPPFA and new rules are effective as of 01 April 2017.

Municipality 1		Consultant	
Municipality 2		Contractor	

B-BBEE points are awarded on the basis of the B-BBEE Status Level of the tenderer. In the event that two or more tenders have scored equal points, the successful tender must be the one scoring the highest number of preference points for B-BBEE.

#### **Evidence of B-BBEE status**

- A tenderer must submit their original (or certified copy) valid B-BBEE status level verification certificate substantiating their B-BBEE rating.
- Exempted Micro Enterprises (EME's) and Qualifying Small Business Enterprises (QSE) must submit a certificate issued by a registered accounting officer by an accredited verification agency or a sworn affidavit.
- The validity of B-BBEE certificates will be determined by its compliance with the requirements of instructions and guidelines issued by the National Treasury and any notices published by the Department of Trade and Industry in the Government Gazette.

#### **JV's and sub-contracting:**

- Incorporated JV's must submit the B-BBEE status of the entity. Unincorporated JV's must submit a consolidated B-BBEE scorecard as if they were a group structure for every separate tender.
- The value of the project is below R30m, above which Regulation 9(2) of the Preferential Procurement Regulations determines that a minimum of 30% of the contract value is to be subcontracted to designated groups. As a result, the 30% limit does not apply. Therefore the subcontracting threshold has been reduced to a minimum of 20% excluding, P&G items, specialised plant; equipment and work, contingencies, escalation and VAT as per the PPPF Regulation, 2017 Clause 9(2).

**Please note: Due to the requirement that a minimum of 20% of the tender must be subcontracted to a Mogale based subcontractor, the following limitations are placed on subcontracting of services:**

- A tenderer may not be awarded points for B-BBEE status level of contributor if the tender documents indicate that the tenderer intends subcontracting more than 25% of the value of the contract to any other person not qualifying for at least the points that the tenderer qualifies for, unless the intended subcontractor is an EME that has the capability to execute the subcontract.

#### **C1.6.1.4 Data Pertaining to CIDB Registration**

##### **Basis for CIDB Rating Requirement – CIDB Table 8**

A contractor registered in a specific contractor's grading designation indicated in Table 8 of Regulation 17 (Government Notice no. 42561 of 5 July 2019) as amended, is considered to be capable of undertaking a contract in the range of values indicated in column 3 below in the class of construction works to which the category of registration relates to:

Municipality 1		Consultant	
Municipality 2		Contractor	

Table 1 amended by Government Notice No. 42561 of 5 July 2019:

Contractor Grading Designation	Tender Value Range Designation	Less Than or Equal to (R)
1 (Class of Construction Works)	1	R 500 000
2 (Class of Construction Works)	2	R 1 000 000
3 (Class of Construction Works)	3	R 3 000 000
4 (Class of Construction Works)	4	R 6 000 000
5 (Class of Construction Works)	5	R 10 000 000
6 (Class of Construction Works)	6	R20 000 000
7 (Class of Construction Works)	7	R60 000 000
8 (Class of Construction Works)	8	R200 000 000
9 (Class of Construction Works)	9	"No limit"

Information regarding the CIDB can be obtained from their website: [www.cidb.org.za](http://www.cidb.org.za)

## C.2 Tenderer's Obligations

### C2.1 Eligibility of the Tender.

- C2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with the Employer.
- C2.1.1.1 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, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for a 7CE or higher class of construction work, are eligible to have their tenders evaluated
- C2.1.1.2 Only those tenderers who have in their employ management and supervisory staff satisfying the requirements of the Scope of Work for labour intensive competencies for supervisory and management staff are eligible to submit tenders. NQF Level 5 will be a minimum requirement for supervisors.
- C2.1.1.3 The tenderers who are registered with the CIDB, or are capable of being so registered prior to the evaluation of submissions, are eligible to submit tenders:
- a) contractors who have a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the value in a class of construction work as per CIDB Table 1; and who satisfy the following criteria, that the employer:

Municipality 1		Consultant	
Municipality 2		Contractor	

Description	Grading Required
<b>THE INSTALLATION OF A BULK WATER PIPELINE, A NEW SEWER CONNECTION AND A NEW 5ML RESERVOIR WITH ASSOCIATED WORKS IN LERATONG SMART CITY DEVELOPMENT (PHASE 1)</b>	7CE or higher

- b) *The Employer do not possess the capacity to assist PE Contractors as per the requirements dictated by the CIDB Guidelines. **Therefore Contractors with a 5CE PE or lower grading designation are NOT eligible.** The inclusivity of PE Contractors is accommodated by the minimum of 20% Local Subcontractor provision.*

C2.1.1.4 Only tenderers who are competent and experienced and tenderers with CIDB registration will be considered. The Tenderer must indicate his relevant experience (similar to the Scope of Works as tendered for) in the schedules (Schedule C) provided. If no information is provided, the tenderer will be considered as inexperienced in the work tendered for and may therefore be disqualified.

C2.1.1.5 Only tenderers that are capable of providing a performance guarantee of 7.5% of the contract value (excl. VAT & Contingencies) for the full duration of the construction period from:

- a Registered Financial Institution or,
- Authorised Financial Provider registered at the Financial Services Board or,
- issued by a company duly registered in terms of the Insurance Act (Long Term Insurance Act no. 52 of 1998) or,
- Short Term Insurance Act No 53 of 1998) or,
- A bank duly registered in terms of the Banks Act No, 94 of 1990 will be considered.

Letter of Intent and previous Guarantee history should be provided.

C2.1.1.6 Joint ventures are eligible to submit tenders provided that:

- a) every member of the joint venture is registered with the CIDB;
- b) the lead partner has a contractor grading designation of 7CE or higher in the Civil Engineering work classification ; and
- c) 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 7CE of Civil Engineering work. (Refer to the schedule below)

Municipality 1		Consultant	
Municipality 2		Contractor	

Table of Joint Venture Combinations

Designation	Deemed to satisfy joint venture arrangements
3	Three contractors registered in contractor grading designation 2
4	Three contractors registered in contractor grading designation 3
5	Two contractors registered in contractor grading designation 4 One contractor registered in contractor grading designation 4 and two registered in contractor grading designation 3
6	Two contractors registered in contract grading designation 5 One contractor registered in contract grading designation 5 and two registered in contract grading designation 4
7	Two contractors registered in contractor grading designation 6 One contractor registered in contractor grading designation 6 and two registered in contractor grading designation 5
8	Three contractors registered in contractor grading designation 7
9	Three contractor registered in contractor designation 8

**C2.2** Cost of Tendering

C2.2.1 Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

**C.2.3** Check documents

Check the tender documents on receipt for completeness and notify the Employer of any discrepancy or omission.

**C.2.4** Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the Employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

Any receiver of tender documents whether a Tender is submitted or not must consider the contents of the documents as private and confidential. Information supplied by Tenderers relating to the examination, clarification, evaluation and adjudication of tenders and recommendations for the award of the contract will not be disclosed to Tenderers or any other persons not officially concerned with such processes. If so instructed by the Procurement Department, return all retained tender documents within 28 days after the expiry of the validity period stated in the Tender Document.

**C.2.5** Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, Conditions of Contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

Municipality 1		Consultant	
Municipality 2		Contractor	

**C.2.6 Acknowledge addenda**

Acknowledge receipt of addenda to the tender documents, which the Employer may issue, and if necessary apply for an extension to the closing time stated in the Tender Data, in order to take the addenda into account.

**C2.7 Site Visit and Clarification Meeting:**

Refer to the T1.1 Tender Notice.

**C2.9 Insurance**

The contractor will be required to provide the following insurances (securities) and the tenderer is advised to seek qualified advice regarding insurance.

**C.2.9.1 Contract Work Insurance (Also Refer to Clause 8.6 GCC 2015)**

A Performance Guarantee to the employer equal in value to 7.5% of the contract value excluding Contingencies and escalation if applicable by an institution approved by the employer. The amount so deposited, or the Suretyship so furnished, shall be held until the completion of the Contract, as security that the Contract shall be implemented and carried out to the fullest extent of its terms by the Contractor.

In the case of Joint Ventures, the Construction Guarantee must be issued in the name of the Joint Venture. The fixed construction guarantee shall come into force on the date of issue and shall lapse on the date of Completion Certificate being issued. The employer or his representatives shall return the original fixed construction guarantee policy contract to the contractor within fourteen (14) days from the date of Completion Certificate being issued.

Should the contractor fail to furnish the required construction guarantee the employer, in his sole discretion may cancel the agreement with the appointed contractor. Should the Contractor not provide the Employers Agent with a Notice of Renewal for the Guarantee within 30 days from expiry date, the Employer reserves the right to reinstate the Guarantee and deduct the monies due from the Contractor's Payment Certificate.

The Tenderer is to state clearly in the Tender form which of the forms of Surety specified, he proposes to submit in the event of his being called upon to take up the Contract, either:

[a] Bank Guarantee Or

[b] Surety Bond by an Accredited Financial Institution

A Letter of Intent to be provided.

**\*Tenderers to note that a 10% retention deduction shall be made on each payment certificate over and above the Construction Guarantee.**

Municipality 1		Consultant	
Municipality 2		Contractor	



**C.2.9.2 Public Liability Insurance**

This insurance provides indemnity against legal liability in the event of accidental death of or injury to a third party person and/or loss of or damage to third party property directly arising from the performance of the contract and occurring during the period of insurance with an indemnity limit of R10,0 million of all claims arising from any one event or series of events resulting from or attributable to any one source or original source.

**C2.10 Pricing the tender offer**

C2.10.1 The tenderer must allow in the tendered rates for all labour, materials, equipment, temporary works, arrangements, etc, for the satisfactory completion of the Works according to the Tender documents. No additional payments will be considered. Should a tenderer wish to deviate from the specifications or propose different construction materials or methods, he may do so, provided that full details are submitted with the tender.

Notice of any deviations or alterations must be given in Schedule A approval for such changes and materials must be obtained by the Contractor and approval certificate submitted to the office of the Employers Agent.

C2.10.2 A provisional amount for VAT must be allowed for in the Bill of Quantities. The amount allowed is fifteen percent (15%) of the Tender amount including contingencies. All payment claims must be accompanied by a Tax Certificate in accordance with the requirements of the Income Tax Law.

**C2.11 Alterations to Documents**

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations

**C2.12. Alternative Offer.**

C.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

C.2.12.2 Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.

C.2.12.3 An alternative tender offer may only be considered in the event that the main tender offer is the winning tender.

Municipality 1		Consultant	
Municipality 2		Contractor	

a) Technical Details

Full details of design parameters utilized for alternative tenders, attention being given to deviations from and interpretations of the data in the tender documents.

b) Drawing and Specifications

- i. Detailed specifications for those in the alternative tender not covered by the Employer's specifications.
- ii. Drawings fully describing the alternative tender

c) Risk

- i. Statement of the effect that the alternative tender has on the sharing of risk between the Employer and the contractor. Any increased risk to the Employer shall be described.
- ii. Risk unacceptable to the Employer will render the tender liable to be rejected by the Employer.

d) Bill of Quantities

A detailed priced bill of quantities shall be submitted and shall cover the following aspects:

- i. The cost implication of any change in risk
- ii. The cost implication of qualifications to the tender (qualifications not priced will render the alternative tender liable to be rejected by the Employer)
- iii. Any items not priced in the alternative tender shall be deemed to be included in the rates and prices tendered

e) Construction Programme

A detailed programme stating the advantages, if any, over the programme utilising the Employer's design for the works

## f) Should the alternative tender include any building work to be carried out in compliance with the National Building Regulations, the tenderer shall certify that the alternative proposals will be in accordance with the National Building Regulations. Payment will not be made by the Employer in respect of such building work prior to the approval by the Employer of the alternative building plans.

## g) The alternative tender will be regarded as incomplete and is liable to be rejected by the Employer should

- i. The Employer design be not priced by the tender where so required.
- ii. The data in respect of the alternative tender are not submitted.

Municipality 1		Consultant	
Municipality 2		Contractor	

- h) Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements.
- i) The modified Pricing Data must include an amount equal to 5% of the amount tendered for the alternative offer to cover the Employer's costs of confirming the acceptability of the detailed design before it is constructed.

**C2.13 Submitting a Tender Offer**

Submit one tender offer only, either as a single entity or as a member of a Joint Venture to provide the whole of the works, services identified in the contract data and described in the Scope of Works unless stated otherwise in the tender data.

Members/ Partners of a JV may only submit ONE tender with one set of partners. If a member/ partner of a JV also commits to a partnership with another company BOTH tenders will be disqualified as unfair competition. Tenderers must submit an offer for all the listed in the Bill of Quantities. An original tender document with all pages intact including drawings with no copies to be submitted.

**C2.13.5 Tender Envelope Information**

Tenders must be submitted in a sealed envelope with the following clearly indicated:

*Employers Address:* Mogale City Local Municipality  
P.O. Box 94,  
Krugersdorp,  
1740

***Location of Tender Box:* Mogale City Local Municipality**

Tender boxes are situated at the reception desk of the Supply Chain Management Unit, situated on the upper level of the west wing of Mogale City Civic Centre, Corner of Commissioner and Market Street in Krugersdorp

*Identification Details:* **Tender No: UMS (W&S) 17/2021**

*Description of Project:* **THE INSTALLATION OF A BULK WATER PIPELINE, A NEW SEWER CONNECTION AND A NEW 5ML RESERVOIR WITH ASSOCIATED WORKS IN LERATONG SMART CITY DEVELOPMENT (PHASE 1)**

Municipality 1		Consultant	
Municipality 2		Contractor	

**C2.13.6 Two Envelope Procedure**

A two envelope procedure will not be followed.

**C.2.13.9 Facsimile / Fax or E-mailed Tenders**

Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted. Late tenders will be disqualified.

**C2.14 Information and data to be completed in all respects**

Accept that tender offers, which do not provide all the data or information as requested completely or in the form required, may be regarded by the employer as non-responsive. The following criteria will be used to establish completeness for responsive tenders

The following criteria will be used to establish completeness for responsive tenders

<b><u>Eligibility Criteria</u></b>	<b>Complete Yes</b>	<b>Incomplete No</b>
Tenderer has attended the site inspection	N/A	
Tender document returned in original form including drawings issued for tender purposes		
Tenderer has signed the Form of Offer		
Tenderer has completed and signed all Returnable documents		
Bill of Quantities has been completed in full in black ink as instructed and the Bill of Quantities Summary page has been duly signed by authorised signatory		
Contractor has supplied <b>ORIGINAL</b> Tax Clearance Status Pin		
Tenderer has supplied a valid B-BBEE certificate, issued by an accredited verification agency for all tendering entities (JV Partners) where applicable or Letter of Exempted Micro Enterprise (EME's) or Qualifying Small Business Enterprise (QSE's).		
Contractor has supplied fully paid-up Municipal Account (no more than 3 months old)		
Contractor has supplied Letter of Good Standing for Workman's Compensation (COIDA)		
Contractor has supplied prove of CIDB Registration for all tendering entities (JV Partners)		
Contractor has completed Bank Details or provided confirmation letter of account		
Must provide a Pre-bid JV Agreement (If applicable)		

**C2.15 Closing Date & Time**

*Closing Date: As per the tender invite*

*Closing Time: As per the tender invite*

Municipality 1		Consultant	
Municipality 2		Contractor	

Later tenders will not be accepted and shall be disqualified.

**C2.16** Tender Offer Validity

90 Calendar Days from Closing Date.

- (a) The tenderer may withdraw or alter his tender prior to the closing date of the tender.
- (b) No tenderer may withdraw his tender for a period of **90 days** after the closing date of tenders.
- (c) If a tenderer should wish to amend or withdraw his tender after the closing date:
  - 1. He gives notice that he is not in a position to perform in accordance with his tender; or
  - 2. Fails to sign the Tender or to submit the required Bond; or
  - 3. Fails to perform
 he will be liable for any additional expenses the employer may incur in calling for new tenders or the difference between his tender and a less advantageous tender, except if the employer considers the circumstances justified and relieves the tenderer of his obligations.

**C2.17** Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers.

This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

**C2.23** Certificates and Documents to be submitted

The following certificates and documents need to be included in the Tender:

- a) A valid Original SARS and or Tax Clearance Status Pin for the tenderer or Joint Venture Tenderer for each of the JV partners issued by the South African Revenue Services;
- b) The tenderers fully paid-up Municipal Account not older than 3 months.
- c) Workmen's Compensation Commissioner - Letter of Good Standing
- d) B-BBEE Level Certification from Accredited Institute., A consolidated B-BBEE Certificate to be submitted for JV.

Municipality 1		Consultant	
Municipality 2		Contractor	

**C.3 Employers Undertaking****C3.4 Opening of Tender Submissions**

Tenders will be opened in public in the Supply Chain Management Unit, Civic Centre, Corner of Commissioner and Market Street in Krugersdorp.

**C3.6 Non-disclosure**

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer

**C3.8 Test for responsiveness**

C3.8.1 The employer or his representative will determine after opening and before detailed evaluation whether each tender offer received:

1. Complies with the requirements of these Conditions of Tender in terms of Eligibility
2. Has been properly and fully completed and signed,
3. And is responsive to the other requirements of the tender document

C3.8.2 A responsive tender is one that conforms to all the terms, conditions and specifications of the tender documents without material deviations or qualifications. A material deviation or qualification is one which, in the opinion of the employer or his representative, would:

- Detrimentially affect the scope, quality or performance of the works, services or supply identified in the Scope of Work
- Significantly change the Employers or the tenderer's risks and responsibilities under the contract, or
- Affect the competitive position of the other tenderers presenting responsive tenders, if it were to be rectified

**C3.9 Arithmetical errors, omissions and discrepancies**

C3.9.2 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with C.3.11 for:

- a) the gross misplacement of the decimal point in any unit rate;
- b) omissions made in completing the pricing schedule or bills of quantities; or
- c) arithmetic errors in:
  - i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or
  - ii) the summation of the prices.

Municipality 1		Consultant	
Municipality 2		Contractor	

- C3.9.4 The employer must correct the arithmetical errors in the following manner:
- Where there is a discrepancy between the amounts in words and amounts in figures, the amount in words shall govern.
  - If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.
  - Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.
  - Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of the arithmetical error in the manner described above.

C3.11 Evaluation of tender Offers

The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following system requirements: Fair, Equitable; Transparent; Competitive and Cost Effective.

The activities associated with evaluating tender offers are as follows:

- Open and record tender offers received
- Determine whether or not tender offers are complete
- Determine whether or not tender offers are responsive
- Evaluate tender offers
- Determine if there are any grounds for disqualification
- Determine acceptability of preferred tenderer
- Prepare a tender evaluation report
- Confirm the recommendation contained in the tender evaluation report

<b>The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following system requirements:</b>	
<b>Requirement</b>	<b>Qualitative interpretation of goal</b>
Fair	The process of offer and acceptance is conducted impartially without bias, providing simultaneous and timely access to participating parties to the same information.
Equitable	Terms and conditions for performing the work do not unfairly prejudice the interests of the parties.
Transparent	The only grounds for not awarding a contract to a tenderer who satisfies all requirements are restrictions from doing business with the employer, lack of capability or capacity, legal impediments and conflicts of interest.
Competitive	The system provides for appropriate levels of competition to ensure cost effective and best value outcomes.

Municipality 1		Consultant	
Municipality 2		Contractor	

The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following system requirements:	
Requirement	Qualitative interpretation of goal
Cost effective	The processes, procedures and methods are standardized with sufficient flexibility to attain best value outcomes in respect of quality, timing and price, and least resources to effectively manage and control procurement processes.

**C3.11.7 Scoring Financial Offers**

The formula to be used in the scoring of the financial offer will be

$$\text{Price PS} = 80 \left( 1 - \frac{(\text{Pt} - \text{Pmin})}{\text{Pmin}} \right)$$

Where

Ps = Point scored for price of tender under consideration

Pt = Rand value of Tender under consideration

Pmin = Rand value of the lowest responsive tender

**C3.11.8 Scoring B-BBEE Preferences**

<i>B-BBEE Status Level of Contributor</i>	<i>Number of Points</i>
Level 1	20
Level 2	18
Level 3	14
Level 4	12
Level 5	8
Level 6	6
Level 7	4
Level 8	2
Non-compliant contributor	0

*Preferential Procurement Regulations, 2017*

**C3.11.9 Scoring Quality (Functionality)**

(If the detail is not provided in the Returnable Schedules zero "0" points will be awarded for quality criteria and the tenderer will be considered to be inexperienced)

Municipality 1		Consultant	
Municipality 2		Contractor	



Description of quality criteria & Sub-criteria	No of points	Points Awarded															
<p><u>Capacity to execute work i.t.o.</u></p> <p>- <b>Current Workload:</b>  less than 3 current projects (2);      more than 3 current projects (0)</p> <p>- Plant &amp; Tools Hired (maximum 6) – Letter of Intent to be provided from Hiring Company)</p> <p>The following is considered essential plant:</p> <table> <tr> <td></td> <td><u>Owned</u></td> <td><u>Hired</u></td> </tr> <tr> <td>TLB;</td> <td>2</td> <td>1</td> </tr> <tr> <td>Water Cart;</td> <td>2</td> <td>1</td> </tr> <tr> <td>5 Ton Tipper Truck;</td> <td>2</td> <td>1</td> </tr> </table>		<u>Owned</u>	<u>Hired</u>	TLB;	2	1	Water Cart;	2	1	5 Ton Tipper Truck;	2	1	Max 8				
	<u>Owned</u>	<u>Hired</u>															
TLB;	2	1															
Water Cart;	2	1															
5 Ton Tipper Truck;	2	1															
<p><u>Key Personnel Staffing</u></p> <p><b>The personnel as listed must be the site team and may not be changed at time of implementation without prior notice to the Employer (MCLM) – CV template (Schedule E) <u>must</u> be completed for each team member</b></p> <table> <tr> <th>Job Description</th> <th>Experience</th> <th>Required Qualifications</th> </tr> <tr> <td><u>Contract Manager</u></td> <td>3 years    (1)</td> <td>National Diploma Civil Engineering or relevant B-degree (1) &amp; Successful completion of minimum 5 projects (2)</td> </tr> <tr> <td><u>Site Agent</u></td> <td>3 years    (1)</td> <td>(Civil &amp; Building)    NQF 5 (Labour Intensive Construction) (2) &amp; National Diploma Civil Engineering (2) &amp; Successful completion of minimum 5 projects (2)</td> </tr> <tr> <td><u>General Foreman</u></td> <td>3 years    (1)</td> <td>NQF 2 (Labour Intensive Construction) (1) &amp; Successful completion of minimum 5 projects (2)</td> </tr> <tr> <td><u>Safety Officer</u></td> <td>3 years    (1)</td> <td>Relevant safety qualification (1)</td> </tr> </table>	Job Description	Experience	Required Qualifications	<u>Contract Manager</u>	3 years    (1)	National Diploma Civil Engineering or relevant B-degree (1) & Successful completion of minimum 5 projects (2)	<u>Site Agent</u>	3 years    (1)	(Civil & Building)    NQF 5 (Labour Intensive Construction) (2) & National Diploma Civil Engineering (2) & Successful completion of minimum 5 projects (2)	<u>General Foreman</u>	3 years    (1)	NQF 2 (Labour Intensive Construction) (1) & Successful completion of minimum 5 projects (2)	<u>Safety Officer</u>	3 years    (1)	Relevant safety qualification (1)	Max 17	
Job Description	Experience	Required Qualifications															
<u>Contract Manager</u>	3 years    (1)	National Diploma Civil Engineering or relevant B-degree (1) & Successful completion of minimum 5 projects (2)															
<u>Site Agent</u>	3 years    (1)	(Civil & Building)    NQF 5 (Labour Intensive Construction) (2) & National Diploma Civil Engineering (2) & Successful completion of minimum 5 projects (2)															
<u>General Foreman</u>	3 years    (1)	NQF 2 (Labour Intensive Construction) (1) & Successful completion of minimum 5 projects (2)															
<u>Safety Officer</u>	3 years    (1)	Relevant safety qualification (1)															

Municipality 1		Consultant	
Municipality 2		Contractor	

Description of quality criteria & Sub-criteria	No of points	Points Awarded
<p><u>Previous experience</u> - Similar project experience as the work tendered for i.e</p> <p><u>Construction of Bulk Water Pipeline</u> (min 300m)            One (1) Similar project completed successfully (1)            Two (2) Similar projects completed successfully (2)            Three (3) Similar projects completed successfully (3)            Four (4) Similar projects completed successfully (4)            Five (5) Similar projects completed successfully (5)</p> <p><u>Construction of Sewer connection manhole</u>            One (1) Similar project completed successfully (1)            Two (2) Similar projects completed successfully (2)            Three (3) Similar projects completed successfully (3)            Four (4) Similar projects completed successfully (4)            Five (5) Similar projects completed successfully (5)</p>	Max 10	
<p><u>Financial Resources</u> – In terms of bank codes or Letter for financial assistance from Approved Financial Institution.</p> <ul style="list-style-type: none"> <li>- Bank Code A &amp; B= (3)</li> <li>- Bank Code C = (2)</li> <li>- Bank Code D = (1)</li> <li>- Can provide a performance guarantee for 7.5% of the contract value – Letter of Intent of Accredited Financial Institution to be provided (1) as well as previous history of Construction Guarantee (1) = (2)</li> <li>- Completed 1 project equal or higher in value to the amount tendered (1)</li> <li>- Completed 2 or more projects equal or higher in value to the amount tendered (2)</li> </ul>	Max 8	
<b>The maximum number of points that can be scored</b>	<b>43</b>	
<p><i>For the purpose of comparison and in order to ensure a meaningful evaluation, tenderers are requested to furnish detailed information on substantiation of compliance to the evaluation criteria. The service provider should at least score a <u>minimum of 33 points out of the 43 points</u> in order to be considered in the next evaluation phase.</i></p>		33

C3.13 Acceptance of Tender Offer.

Accept the tender offer, if in the opinion of the employer, it does not present any risk and only if the tenderer:

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement,

Municipality 1		Consultant	
Municipality 2		Contractor	

- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,
- c) has the legal capacity to enter into the contract,
- d) is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,
- e) complies with the legal requirements, if any, stated in the tender data, and
- f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

The employer reserves the right to accept any Tender or part thereof or to make no award at all. The lowest tender will thus not necessarily be accepted. The employer also reserves the right to award any part of the tender to any Tenderer. No reasons for the acceptance or rejection of a tender will be given.

C3.17 Provide copies of the contracts

The number of paper copies of the signed contract to be provided by the employer is one.

C3.18 Provide written reasons for actions taken

The Employer may withhold information with regard to action taken under certain conditions: e.g

- a) It is not in the public interest to be divulged
- b) Is considered to prejudice the legitimate interest of tenders; or
- c) Might prejudice fair competition between tenders

C3.19 Transparency In the procurement process

C3.19.1 The CIDB prescripts require that tenders must be advertised and be registered on the cidb system.

C3.19.2 The employer must adopt a transparency model that incorporates the disclosure and accountability as transparency requirements in the procurement process.

C3.19.3 Construction procurement shall be undertaken in accordance with:

- a) the provisions of legislation regulating procurement;
- b) the cidb Code of Conduct for all parties engaged in Construction Procurement published in terms of section 5(4) of the Construction Industry Development Board Act.; and
- c) the cidb Competence Standards Framework for Construction Procurement.

Municipality 1		Consultant	
Municipality 2		Contractor	

**4.1      General**

Construction procurement shall be undertaken in accordance with:

- a) the provisions of legislation regulating procurement;
- b) the CIDB Code of Conduct for all parties engaged in Construction Procurement published in terms of section 5(4) of the Construction Industry Development Board Act.; and
- c) the CIDB Competence Standards Framework for Construction Procurement.

Municipality 1		Consultant	
Municipality 2		Contractor	

PART T2 : RETURNABLE SCHEDULES

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Municipality 1		Consultant	
Municipality 2		Contractor	

**T2.1 RETURNABLE SCHEDULES TO BE COMPLETED**

The following Schedules must be completed in full during tendering. Incomplete schedules may lead to disqualification of a tender.

SCHEDULE	Description	Page no
SCHEDULE A	Record of Addenda & Alterations by Tenderer	34
SCHEDULE B1	Compulsory Enterprise Questionnaire	35
SCHEDULE B2	Compulsory Bank Details	38
SCHEDULE B3	MCLM Corporate Social Responsibility	39
SCHEDULE C	Schedule of Company Experience	40
SCHEDULE D1	Schedule of Current Projects	43
SCHEDULE D2	Schedule of Previous Projects Completed In Mogale City LM	44
SCHEDULE D3	Schedule Completion Certificates for Similar Projects	45
SCHEDULE E1	Schedule of Contractor's Staff assigned to Project	46
SCHEDULE E2	Schedule of Size of Enterprise	48
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SCHEDULE F	List of Plant and Equipment	51
SCHEDULE G	Schedule of Labour	52
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SCHEDULE J	Proof of Registration with the Workman's Compensation Commissioner (COIDA)	55
SCHEDULE K	Certificate of Registration at the Construction Industry Board (CIDB)	56
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SCHEDULE M	Central Supplier Database (CSD) Summary Registration Report	58
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MBD 4	Declaration of Interest	60
MDB 6.1	Preference Points Claim Form in terms of the Preferential Procurement Regulation 2017	63
MBD 8	Declaration of Tenderer's Past Supply Chain Management Experience	69
MBD 9	Certificate of Independent Bid Determination	71
	<u>Agreements &amp; Contract Data</u>	
	Form of Offer and Acceptance ("Offer Portion") & Annexure	73
	<u>Pricing Data</u>	
	Bill of Quantities	110

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE A: RECORD OF ADDENDA**

Any Addenda received by the tenderer should be indicated in this schedule (and attached to this page)

Should the Tenderer desire to make any departures from or modifications to the General Conditions of Contract, the Special Conditions of Contract, Specifications, Bill of Quantities or Drawings, or to qualify his tender in any way, he shall set out his proposals clearly hereunder or alternatively state them in a covering letter attached to his tender and referred to hereunder, failing which the tender will be deemed to be unqualified.

The Tenderer 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	ADDENDA NO	DESCRIPTION

PAGE	CLAUSE OR ITEM	PROPOSAL

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE B 1: COMPULSORY ENTERPRISE QUESTIONNAIRE**

The validity of the information supplied in this document will be verified before the contract is awarded to the selected Contractor

The Contractor **must** supply the following information.

The following particulars must be furnished. In the case of a joint venture, separate enterprise questionnaires in respect of each partner must be completed and submitted.		
<b>Section 1: Name of enterprise:</b> .....		
<b>Section 2: VAT registration number, if any:</b> .....		
<b>Section 3: CIDB registration number, if any:</b> .....		
<b>Section 4: CSD number:</b> .....		
<b>Section 5: Particulars of sole proprietors and partners in partnerships:</b>		
<b>Name*</b>	<b>Identity number*</b>	<b>Personal income tax number*</b>
<i>* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners</i>		
<b>Section 6: Particulars of companies and close corporations</b>		
Company registration number: .....		
Close corporation number: .....		
Tax reference number: .....		
<b>Section 7: MBD 4 issued by National Treasury must be completed for each tender (Refer to Part T2)</b>		
<b>Section 8: MBD 6 issued by National Treasury must be completed for each tender (Refer to Part T2)</b>		
<b>Section 9: MBD 8 issued by National Treasury must be completed for each tender (Refer to Part T2)</b>		
<b>Section 10: MBD 9 issued by National Treasury must be completed for each tender (Refer to Part T2)</b>		
<b>Section 11: Turnover – Approximate turnover for each of the past three years</b>		
Year 2018 / 2019 R.....		
Year 2019 / 2020 R.....		
Year 2020 / 2021 R.....		
Anticipated turnover for 2021 / 2022 R.....		

Municipality 1		Consultant	
Municipality 2		Contractor	



**Section 12: Management and Manpower Resources**

Number of Supervisors .....

Number of Labourers .....

Number of Operators .....

Other Personnel (Specify) .....

Total number permanent employees .....

Total number contract employees .....

**Section 13: Record of service of the state**

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder of stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

- |  |   |
|--|---|
| <input type="checkbox"/> A member of any municipal council                                     | <input type="checkbox"/> An employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| <input type="checkbox"/> A member of any provincial legislature                                | <input type="checkbox"/> A member of an accounting authority of any national or provincial public entity  |
| <input type="checkbox"/> A member of the National Assembly or the National Council of Province | <input type="checkbox"/> An employee of Parliament or a provincial legislature  |
| <input type="checkbox"/> A member of the board of directors of any municipal entity            |   |
| <input type="checkbox"/> An official of any municipality or municipal entity                   |   |

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

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board of organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

\*insert separate page if necessary

Municipality 1		Consultant	
Municipality 2		Contractor	

**Section 14: Record of spouses, children and parents in the service of the state**

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has, within the last 12 months been in the service of any of the following:

- |  |   |
|--|---|
| <input type="checkbox"/> A member of any municipal council                                     | <input type="checkbox"/> An employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| <input type="checkbox"/> A member of any provincial legislature                                |   |
| <input type="checkbox"/> A member of the National Assembly or the National Council of Province | <input type="checkbox"/> A member of an accounting authority of any national or provincial public entity  |
| <input type="checkbox"/> A member of the board of directors of any municipal entity            | <input type="checkbox"/> An employee of Parliament or a provincial legislature  |
| <input type="checkbox"/> An official of any municipality or municipal entity                   |   |

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

\*insert separate page if necessary

The undersigned, who warrants that he / she is duly authorized to do so on behalf of the enterprise:

- authorizes the employer to verify the tenderers tax clearance status from the South African Revenue Services that it is in order;
- confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and
- confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE B3 : MCLM CORPORATE SOCIAL RESPONSIBILITY****Mogale City Local Municipality Corporate Social Responsibility**

In terms of Mogale City Local Municipality Corporate Responsibility, non Mogale City Local Municipality based Services Providers will contribute 1% of the Contract value to Mogale City Local Municipality.

**Please attach the Certificate of Confirmation (CM29) as issued by the Registrar of Companies & Close Corporations, for this Tenderer to this page.**

Please provide your registered address: .....

.....

.....

.....

Please indicate if you are a Mogale City Local Municipality based:

YES	NO
-----	----

If not Mogale City Local Municipality based, a person duly authorized by the tenderer must complete and sign the declaration herewith in detail.

**Declaration by Tenderer**

I, the undersigned hereby declare and confirm that we accept the contribution towards the Mogale City Local Municipality Corporate Social Responsibility, by the deduction of one percent (1%) on all payment made.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE C: SCHEDULE OF COMPANY EXPERIENCE**

Provide the following information on relevant company experience. Indicate comparable projects completed in the past 5 years. No points will be awarded if a reference cannot be reached or refuses to supply information. Provide two names and telephone numbers and e-mail address per reference. Completion certificates, assignment letter or a verification letter of successful completion by the employer indicating the value and the scope of works must be attached.

EMPLOYER (Name and tel no and email)		SIMILAR NATURE OF WORK CARRIED OUT PREVIOUSLY	VALUE OF WORK	YEAR OF COMPLETION	COMPLETION CERTIFICATE ATTACHED
<b>PROJECT 1:</b>		Related Works:	R		
Name 1:	Name 2:				
Tel:	Tel:	Description:			
Email:	Email:				
<b>CONSULTING ENGINEER (Name, tel no and email)</b>					
Name 1:	Name 2:				
Tel:	Tel:				
Email:	Email:				

EMPLOYER (Name and tel no and email)		SIMILAR NATURE OF WORK CARRIED OUT PREVIOUSLY	VALUE OF WORK	YEAR OF COMPLETION	COMPLETION CERTIFICATE ATTACHED
<b>PROJECT 2:</b>		Related Works:	R		
Name 1:	Name 2:				
Tel:	Tel:	Description:			
Email:	Email:				
<b>CONSULTING ENGINEER (Name, tel no and email)</b>					
Name 1:	Name 2:				
Tel:	Tel:				
Email:	Email:				

Municipality 1		Consultant	
Municipality 2		Contractor	

RETURNABLE SCHEDULES

EMPLOYER (Name and tel no and email)		SIMILAR NATURE OF WORK CARRIED OUT PREVIOUSLY	VALUE OF WORK	YEAR OF COMPLETION	COMPLETION CERTIFICATE ATTACHED
<b>PROJECT 3:</b>		Related Works:	R		
Name 1:	Name 2:				
Tel:	Tel:				
Email:	Email:				
<b>CONSULTING ENGINEER (Name, tel no and email)</b>					
Name 1:	Name 2:				
Tel:	Tel:				
Email:	Email:				
		Description:			

EMPLOYER (Name and tel no and email)		SIMILAR NATURE OF WORK CARRIED OUT PREVIOUSLY	VALUE OF WORK	YEAR OF COMPLETION	COMPLETION CERTIFICATE ATTACHED
<b>PROJECT 4:</b>		Related Works:	R		
Name 1:	Name 2:				
Tel:	Tel:				
Email:	Email:				
<b>CONSULTING ENGINEER (Name, tel no and email)</b>					
Name 1:	Name 2:				
Tel:	Tel:				
Email:	Email:				
		Description:			

---

Municipality 1		Consultant	
Municipality 2		Contractor	

RETURNABLE SCHEDULES

EMPLOYER (Name and tel no and email)		SIMILAR NATURE OF WORK CARRIED OUT PREVIOUSLY	VALUE OF WORK	YEAR OF COMPLETION	COMPLETION CERTIFICATE ATTACHED
<b>PROJECT 5:</b>		Related Works:	R		
Name 1:	Name 2:				
Tel:	Tel:	Description:			
Email:	Email:				
<b>CONSULTING ENGINEER (Name, tel no and email)</b>					
Name 1:	Name 2:				
Tel:	Tel:				
Email:	Email:				

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

---

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE D 1: SCHEDULE OF CURRENT PROJECTS**

CLIENT	DETAIL SCOPE OF WORK	VALUE OF CONTRACT	EXPECTED COMPLETION DATE
		R	
		R	
		R	
		R	
		R	
		R	

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	



**SCHEDULE D.2: SCHEDULE OF PREVIOUS PROJECTS COMPLETED IN MOGALE CITY LOCAL MUNICIPALITY**

\*Full project details must be included with the relevant completion certificates attached or verification letter issued by the Client.

YEAR COMPLETED	DETAIL SCOPE OF WORK	VALUE OF CONTRACT	MUNICIPAL PROJECT MANAGER
		R	
		R	
		R	
		R	
		R	
		R	

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE D.3: COMPLETION CERTIFICATES FOR SIMILAR PROJECTS COMPLETED**

\*\*\* Attach Completion Certificates to the back of this page \*\*\*

Project Name as listed in Schedule D1 and D2 and as indicated on the Completion Certificate	Completion Certificate attached (Yes / No)
1.	
2.	
3.	
4.	
5.	

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE E1 : SCHEDULE OF CONTRACTOR'S STAFF ASSIGNED TO PROJECT**

The tenderer must indicate the details of staff he intends using should he be awarded this Contract, together with their qualifications. The team members may not be changed without prior written notification to the Employer and the substitute must have similar qualifications and years of experience

It is a requirement that supervisory staff, i.e. team leaders and safety officers have a minimum NQF5 (Labour Intensive Construction) qualification and Project Managers a NQF7 (Labour Intensive Construction) qualification or an associated qualification to that level obtained from an accredited training institution.

Name	Job Title	Years In This Position	Qualifications	Minimum Of 3 (Three) Similar Projects Completed In The Past 3 Years – List Project Title
	Contract Manager:		<ul style="list-style-type: none"> <li>- NQF 2 or 5 (Labour Intensive Qualification)</li> <li>- National Diploma Civil Engineering or relevant B-degree</li> <li>- Other Qualifications List:</li> </ul>	1.)..... 2.)..... 3.).....
	Site Agent		<ul style="list-style-type: none"> <li>- NQF 2 or 5 (Labour Intensive Qualification)</li> <li>- National Diploma Civil Engineering or relevant B-degree</li> <li>- Other Qualifications List:</li> </ul>	1.)..... 2.)..... 3.).....

Municipality 1		Consultant	
Municipality 2		Contractor	

## RETURNABLE SCHEDULES

Name	Job Title	Years In This Position	Qualifications	Minimum Of 3 (Three) Similar Projects Completed In The Past 3 Years – List Project Title
	General Foreman		- NQF 2 (Labour Intensive Qualification) - Other Qualifications List:	1.)..... 2.)..... 3.).....
	Safety Officer		- Applicable Safety Certificate:	1.)..... 2.)..... 3.).....

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

---

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE E2 : SCHEDULE OF SIZE OF ENTERPRISE**

All permanent employees of the tenderer to be listed in accordance to C3.11.9 Scoring Quality (Capacity to execute work):

Name & Surname	ID Numbers	Designation	Signature
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Please note: Kindly use additional sheets if necessary.

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE E3 : SCHEDULE OF PROPOSED SUBCONTRACTORS**

It is a requirement that a minimum of 20% of this contract must be subcontracted to a local based subcontractor. A database of local based subcontractors will be provided to the successful tenderer.

*In accordance with the Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 20 January 2017 (Gazette no. 40553, R. 32)*

**Subcontracting as condition of Tender**

- 9.(1) If feasible to subcontract for a contract above R30 million, an organ of state must apply subcontracting to advance designated groups.
- (2) If an organ of state applies subcontracting as contemplated in sub regulation
- (1) the organ of state must advertise the tender with a specific tendering condition that the successful tenderer must subcontract a minimum of 30% of the value of the contract to-
- (a) an EME or QSE;
- (f) an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships;
- (3) The organ of state must make available the list of all suppliers registered on a database approved by the National Treasury to provide the required goods or services in respect of the applicable designated groups mentioned in subregulation (2) from which the tenderer must select a supplier.

&

**Subcontracting After Award of Tender**

12. (1) A person awarded a contract may only enter into a subcontracting arrangement with the approval of the organ of state.
- (2) A person awarded a contract in relation to a designated sector, may not subcontract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- (3) a person awarded a contract may not subcontract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher BBBEE status level of contributor than the person concerned, unless the contract is subcontracted to an EME that has the capability and ability to execute the subcontract.

Municipality 1		Consultant	
Municipality 2		Contractor	

This schedule is to notify the Employer what proposed subcontractors would be employed.

Name & Address of Proposed Subcontractor	Locally based	B-BBEE Level (Certificate attached)	CIDB Grading (Attached Webprint-Out)	Nature & Extent of Work	Estimated Value of Work
Tel: _____	(Yes / No): _____	B-BBEE Level: _____	CIDB Grading: _____ CIDB Registration No: _____		
Tel: _____	(Yes / No): _____	B-BBEE Level: _____	CIDB Grading: _____ CIDB Registration No: _____		
Tel: _____	(Yes / No): _____	B-BBEE Level: _____	CIDB Grading: _____ CIDB Registration No: _____		

Example to calculate the 20% subcontract value:

**Total Contract Value**

**Less:** Preliminary & General cost

**Less:** Contingencies

**Less:** Escalation

**Less:** Specialised work / equipment / plant

= **Equals** to the value of X

= Calculate 20% of the deducted value

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE F: LIST OF PLANT AND EQUIPMENT**

The Tenderer must indicate below what plant he has readily available, or will be hired for use on the Works should his Tender be accepted. Refer to C3.11.9 Scoring Quality (Capacity to execute work):

DESCRIPTION, SIZE AND CAPACITY	QUANTITY
<b>a) AVAILABLE (OWN PLANT) – proof of ownership <u>MUST</u> be provided. One of the following documents will be accepted:</b> 1) Registration & license discs. Description of item to be clear with registration number. 2) Insurance Document – specified item 3) Confirmation on Company Letterhead	
<b>b) TO BE HIRED – Letter of Intent <u>MUST</u> be provided and <u>MUST</u> list the specified plant that will be hired.</b>	

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	



**ANNEXURE G : SCHEDULE OF LABOUR**

The minimum number of jobs to be created on the project must be 28 (1 job = 60 man-days)

Total jobs created = man-days = .....  
60

**The successful bidder will be required to provide a weekly labour employment schedule at site handover as per the template provided.**

WEEK	NUMBER OF LABOURERS EMPLOYED DURING WEEK	WEEK	NUMBER OF LABOURERS EMPLOYED DURING WEEK	WEEK	NUMBER OF LABOURERS EMPLOYED DURING WEEK	WEEK	NUMBER OF LABOURERS EMPLOYED DURING WEEK
1		14		27		40	
2		15		28		41	
3		16		29		42	
4		17		30		43	
5		18		31		44	
6		19		32		45	
7		20		33		46	
8		21		34		47	
9		22		35		48	
10		23		36		49	
11		24		37		50	
12		25		38		51	
13		26		39		52	
<b>TOTAL</b>		<b>TOTAL</b>		<b>TOTAL</b>		<b>TOTAL</b>	
<b>MAN-DAYS</b>		<b>MAN-DAYS</b>		<b>MAN-DAYS</b>		<b>MAN-DAYS</b>	

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE H : ACCREDITED TRAINING PROVIDERS**

<u>Name of institution</u>	<u>Courses</u>
1.	
2.	
3.	

and

<u>On site Non-accredited Training</u>	<u>Type of Training</u>	<u>Name of NQF LI qualified Site Personnel who will oversee the training</u>	<u>Level of NQF (Labour Intensive Accreditation)</u>
1.			
2.			
3.			
4.			
5.			

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE I: TAX CLEARANCE COMPLIANCE REQUIREMENTS****MBD 2**

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

1. Any person who requires his or her tax compliance status to be disclosed to a Government institution or Department, for the purpose of submitting a tender or to confirm its good standing after the phasing out of paper based TCC's must request a unique security personal identification number (PIN) from SARS.
2. Very important to note is that the disclose of the tenderer's tax compliance status is an express condition for all acceptable Government tender's. Failure to make relevant disclosures will invalidate your bid and your response will be null and void.
3. The Government institution or department must use the PIN referred to above to verify a person's tax compliance status with SARS.
4. Tenderer's to complete the table below and provide a unique security personal identification number (PIN) from SARS which will enable the Employer to access online real-time verification of a person's tax compliance status with the electronic Tax Compliance Status (TCS) system. Failure to submit the PIN will result in the tenderer being disqualified.

Full Name of Tenderer	Electronic Tax Compliance Status PIN No.

***Original Tax Compliance Status Pin Number to be attached***

Each member of the JV must attached an original Tax Compliance Status

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE J : PROOF OF REGISTRATION WITH THE WORKMAN'S COMPENSATION COMMISSIONER  
(COIDA)**

Tenderers Company Name	
WCC Registration Number	
Expiry Date	

**Note: Each JV Partner to complete this page and attach a copy of Letter of Good Standing to be to the  
front of this page**

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE K : CERTIFICATE OF REGISTRATION AT THE CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB)**

Tenderers who have made applications to the CIDB for registration and are capable of being so registered prior to the evaluation of tenders must attach a notification from the CIDB that their application is being considered.

Tenderers Company Name	
CIDB Registration Number	
Contractors Grading	

The bidding entity as well as all its directors must submit Municipal account which is not more than three (3) months in arrears or valid lease agreement which is in the name of the business and or the directors stipulating the responsibility of payment of municipal services.

6.1 If the responsibility of payment of municipal services is that of the tenant/lessee, please provide proof of payment of those services.

6.2 If the business operates from the different address as per CIPC document, affidavit must be provided

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE L : MUNICIPAL ACCOUNT**

Tenderers Company Name	
Municipal Account Holder	
Account Holders Position in Company	
Municipal Account Number	
Stand Number	

**Note: Each JV Partner to complete this page and provide a copy of latest Municipal Account in the name of the Business (not older than 3 months) to be attached to the front of this page**

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE M : CENTRAL SUPPLIER DATABASE (CSD) SUMMARY REGISTRATION REPORT**

Tenderers Company Name	
Registration Number	<b>MAAA</b> .....

**Note: Each JV Partner to complete this page and provide proof of their CSD registration and attach to the front of this page**

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**SCHEDULE N : RATES FOR SPECIAL MATERIALS**

Tenderer to specify special materials that shall be increased or decreased by the net amount of any variation incurred after the date of tender on the basis set out in the Contract Data, provided that any claim for adjustment in terms thereof, shall be substantiated by the submission of acceptable invoices and any other supporting documents that the Employer's Agent considers necessary for the purpose, and provided also that no further adjustment be permitted to the price of any "special material" after the time for completion unless such material forms part of any additional work or variation ordered to be carried out after that date.

SPECIAL MATERIAL	UNIT*	RATE OR PRICE FOR THE BASE MONTH

\*Indicate whether the material will be delivered in bulk or in containers.

When called upon to do so, the tenderer shall substantiate the above rates or prices with acceptable documentary evidence including the supplier's original quote at time of tender. All escalation subject to the subsidy increase from Nation Department of Housing.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	





MBD 4

**MBD 4: DECLARATION OF INTEREST**

1. No bid will be accepted from persons in the service of the state
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the tenderer or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
3. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.
  - 3.1 Full Name of tenderer or his or her representative: .....
  - 3.2 Identity Number: .....
  - 3.3 Position occupied in the Company (director, trustee, shareholder etc): .....
  - 3.4 Company Registration Number: .....
  - 3.5 Tax Reference Number: .....
  - 3.6 VAT Registration Number: .....
  - 3.7 The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.
  - 3.8 Are you or any person connected with the tenderer **YES / NO** presently employed by the state?
    - 3.8.1 If so, furnish the following particulars:

Name of person / director / shareholder/ member:

.....

Name of state institution to which the person is connected: .....

Position occupied in the state institution: .....

60

Municipality 1		Consultant	
Municipality 2		Contractor	

3.9 Have you been in the service of the state for the past twelve months? **YES / NO**

3.9.1 If yes, furnish the following particulars?

.....  
.....  
.....

3.10 Do you have any relationship (family, friend, other) with persons **YES / NO**  
in the service of the state and who may be involved with the evaluation  
and or adjudication of this bid?

3.10.1 If yes, furnish the following particulars?

.....  
.....  
.....

3.11 Are you, aware of any relationship (family, friend, other) between **YES / NO**  
any other tender and any persons in the service of the state who may be  
involved with the evaluation and or adjudication of this bid?

3.11.1 If yes, furnish the following particulars?

.....  
.....  
.....

3.12 Are any of the company's directors, trustees, managers, **YES / NO**  
principle shareholders or stakeholders in service of the state?

3.12.1 If yes, furnish the following particulars?

.....  
.....  
.....

3.13 Are any spouse, child or parent of the company's directors **YES / NO**  
trustees, managers, principle shareholders or stakeholders in service of the state?

Municipality 1		Consultant	
Municipality 2		Contractor	

3.13.1 If yes, furnish the following particulars?

.....  
 .....  
 .....

3.14 Do you or any of the directors, trustees, managers,  
principal shareholders, or stakeholders of this company have any interest  
in any other related companies or business whether or not they are bidding  
for this contract.

**YES / NO**

3.14.1 If yes, furnish the following particulars?

.....  
 .....  
 .....

#### 4 Full details of directors / trustees / members / shareholders.

Full Name	Identity Number	Personal Income Tax Reference Number	State Employee Number / Persal Number

#### 5. DECLARATION

I, the undersigned (name).....

Certify that the information furnished in paragraphs 2 and 3 above is correct. I accept that the state may  
act against me in terms of paragraph 23 of the general conditions of contract should this declaration prove  
to be false.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	



**MBD 6.1: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE  
PREFERENTIAL PROCUREMENT REGULATIONS 2017**

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

**NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.**

## 1. GENERAL CONDITIONS

- 1.1 The following preference point systems are applicable to all bids:
- the 80/20 system for requirements with a Rand value below R50 000 000 (all applicable taxes included);
- 1.2 The value of this bid is estimated to **not exceed** R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable;
- 1.3 Preference points for this bid shall be awarded for:
- (a) Price; and
  - (b) B-BBEE Status Level of Contribution.
- 1.4 The Maximum points for this bid are allocated as follows:

	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTOR	20
<b>Total points for Price and B-BBEE must not exceed</b>	<b>100</b>

- 1.5 Failure on the part of a tender to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.
- 1.6 The purchaser reserves the right to require of a tender, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

Municipality 1		Consultant	
Municipality 2		Contractor	

## 2. DEFINITIONS

- (a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (c) **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;
- (d) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (e) **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (f) **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) **“prices”** includes all applicable taxes less all unconditional discounts;
- (h) **“proof of B-BBEE status level of contributor”** means:
  - 2) B-BBEE Status level certificate issued by an authorized body or person;
  - 3) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
  - 4) Any other requirement prescribed in terms of the B-BBEE Act;
- (i) **“QSE”** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

## 3. POINTS AWARDED FOR PRICE

### 3.1 THE 80/20 PREFERENCE POINT SYSTEMS

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

$$P_s = 80 \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

$P_s$  = Points scored for price of bid under consideration

$P_t$  = Price of bid under consideration

$P_{\min}$  = Price of lowest acceptable bid

Municipality 1		Consultant	
Municipality 2		Contractor	

**4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION**

- 4.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a tender for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (80/20 system)
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

**5. BID DECLARATION**

- 5.1 Tenderers who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

**6. B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 4.1**

- 6.1 B-BBEE Status Level of Contribution: ..... = .....(maximum of 10 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

**7 SUB-CONTRACTING**

- 7.1 Will any portion of the contract be sub-contracted?

**(Tick applicable box)**

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

Municipality 1		Consultant	
Municipality 2		Contractor	

## 7.1.1 If yes, indicate:

- i) What percentage of the contract will be subcontracted..... %
- ii) The name of the sub-contractor.....
- iii) The B-BBEE status level of the sub-contractor.....
- iv) Whether the sub-contractor is an EME or QSE

**(Tick applicable box)**

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

- v) Specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations, 2017:

Designated Group: An EME or QSE which is at least 51% owned by:	EME √	QSE √
Black people		
Black people who are youth		
Black people who are women		
Black people with disabilities		
Black people living in rural or underdeveloped areas or townships		
Cooperative owned by black people		
Black people who are military veterans		
OR		
Any EME		
Any QSE		

**8. DECLARATION WITH REGARD TO COMPANY/FIRM**

8.1 Name of company/firm .....

8.2 VAT registration number .....

8.3 Company registration number .....

8.4 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One person business/sole propriety
- ☐ Close corporation
- ☐ Company
- ☐ (Pty) Limited

[TICK APPLICABLE BOX]

Municipality 1		Consultant	
Municipality 2		Contractor	

**8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES**

.....

.....

.....

**8.6 COMPANY CLASSIFICATION**

- ☐ Manufacturer
- ☐ Supplier
- ☐ Professional service provider
- ☐ Other service providers, e.g. transporter, etc.
- [TICK APPLICABLE BOX]

**8.7** Total number of years the company/firm has been in business? .....

**8.8** I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contribution indicated in paragraph 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- (i) The information furnished is true and correct;
- (ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.
- (iii) In the event of a contract being awarded as a result of points claimed as shown in paragraph 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- (iv) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
- (a) disqualify the person from the bidding process;
- (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
- (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;

Municipality 1		Consultant	
Municipality 2		Contractor	



- (d) recommend that the tender or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury 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

**WITNESSES:**

1. ....

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

2. ....

DATE:.....

ADDRESS:.....

.....

.....

.....

Municipality 1		Consultant	
Municipality 2		Contractor	



MBD 8

**MBD8: DECLARATION OF TENDERER'S PAST  
SUPPLY CHAIN MANAGEMENT PRACTICES**

- 1 This Municipal Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any tender may be rejected if that tender, or any of its directors have:
  - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
  - b. been convicted for fraud or corruption during the past five years;
  - c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
  - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 4 **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

Item	Question	Yes	No
4.1	Is the tender or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied).  <b>The Database of Restricted Suppliers now resides on the National Treasury's website(<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) and can be accessed by clicking on its link at the bottom of the home page.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.1.1	If so, furnish particulars:		

Municipality 1		Consultant	
Municipality 2		Contractor	

Item	Question	Yes	No
4.2	Is the tender or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)?  <b>The Register for Tender Defaulters can be accessed on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) by clicking on its link at the bottom of the home page.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.2.1	If so, furnish particulars:		
4.3	Was the tender or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
4.4	Does the tender or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the tender and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.7.1	If so, furnish particulars:		

**CERTIFICATION**

I, the undersigned (full name) ..... certify that the information furnished on this declaration form true and correct.

I accept that, in addition to cancellation of a contract, action may be taken against me should this declaration prove to be false.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	



MBD 9

**MBD 9: CERTIFICATE OF INDEPENDENT  
BID DETERMINATION**

I the undersigned, in submitting the accompanying bid:

The Installation of a Bulk Water Pipeline, a New Sewer Connection and a New 5ML Reservoir with Associated Works in Leratong Smart City Development (Phase 1)

(Bid Number and Description)

In response to the invitation for the bid made by:

\_\_\_\_\_  
(Name of Municipality / Municipal Entity)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: \_\_\_\_\_ that:  
(Name of tender)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the tender to sign this Certificate, and to submit the accompanying bid, on behalf of the tender;
4. Each person whose signature appears on the accompanying bid has been authorized by the tender to determine the terms of, and to sign, the bid, on behalf of the tender ;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the tender , whether or not affiliated with the tender , who:
  - (a.) Has been requested to submit a bid in response to this bid invitation;
  - (b.) Could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
  - (c.) Provides the same goods and services as the tender and/or is the same line of business as the tender

Municipality 1		Consultant	
Municipality 2		Contractor	

6. The tender 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 consortium<sup>3</sup> will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
- Prices;
  - Geographical area where product or service will be rendered (market allocation)
  - Methods, factors or formulas used to calculate prices;
  - The intention or decision to submit or not to submit, a bid;
  - The submission of a bid which does not meet the specification and conditions of bid; or
  - Bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the tender, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No. 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_ Position: \_\_\_\_\_

<sup>3</sup> Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

Municipality 1		Consultant	
Municipality 2		Contractor	

## PART C1 : AGREEMENTS & CONTRACT DATA

The forms of agreement and surety bonds shall be in accordance with the forms bound in this section of the document.

	Page no	Page Colour
Form of Offer and Acceptance	74	Yellow
Contract Data	80	Yellow
Construction Guarantee (Performance Guarantee)	95	Yellow
<i>Following Agreements will be completed on award of Tender</i>		
Agreement in Terms of the OSH Act	99	Yellow
Agreement to Accept Terms of EMP	100	Yellow
Bond for material on site	101	Yellow
Bond for material not on site	102	Yellow
Ownership of materials	103	Yellow

Municipality 1		Consultant	
Municipality 2		Contractor	



## MOGALE CITY LOCAL MUNICIPALITY

Form C1.1 of Offer & Acceptance  
FORM OF OFFER

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of: **THE INSTALLATION OF A BULK WATER PIPELINE, A NEW SEWER CONNECTION AND A NEW 5ML RESERVOIR WITH ASSOCIATED WORKS IN LERATONG SMART CITY DEVELOPMENT (PHASE 1).**

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** .....

.....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.

Signature(s) : .....

Name(s) : .....

Capacity of the tenderer : .....

Name and address of tenderer : .....

.....

.....

Name and signature of witness : .....

Date : .....

Municipality 1		Consultant	
Municipality 2		Contractor	

**FORM OF ACCEPTANCE**

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

The terms of the contract, are contained in:

Part C1 Agreements and contract data, (which includes this agreement)

Part C2 Pricing data

Part C3 Scope of work

Part C4 Site information and drawings and documents or parts thereof, which may be incorporated by reference into the above listed Parts.

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

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

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now contractor) within five (5) working days of the date of such receipt notifies the employer in writing of any reason why he/she cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

Signature(s) : .....

Name(s) : .....

Capacity of the tenderer : .....

Name and address of tenderer : .....

.....

.....

Name and signature of witness : .....

Date : .....

Municipality 1		Consultant	
Municipality 2		Contractor	



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 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.

### 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 subjects 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 from 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 of 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	.....
	.....
	.....
	.....

Municipality 1		Consultant	
Municipality 2		Contractor	

By the duly authorised representatives signing this agreement, the Employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the 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(s) ..... Date.....

Name(s) .....

Capacity .....

Name and .....

Address of

Organisation .....

Name and .....

Signature of witness ..... Date.....

**For the Employer:**

Signature(s) ..... Date.....

Name(s) .....

Capacity .....

Name and .....

Address of

Organization .....

Name and .....

Signature of witness ..... Date.....

Municipality 1		Consultant	
Municipality 2		Contractor	

**APPENDIX TO FORM OF OFFER & ACCEPTANCE**

	<b><u>CLAUSE IN (GCC 2015)</u></b>	
Special Conditions	1.1.1.8	See Special Conditions of Contract of this document
Address of Contractor	1.1.1.9	* _____ _____ _____
Defects Liability Period	1.1.1.13	12 (twelve) months
Estimated Construction Period	1.1.1.14	_____ * Max 72 weeks
Address of Employer	1.1.1.15	MOGALE CITY LOCAL MUNICIPALITY PO Box 94 KRUGERSDORP 1740
Address of Employer's Agent /Appointed Consultant	1.1.1.16	Pro-Plan Consulting Engineers (Pty) Ltd. PO Box 756 Paardekraal 1752
Special non-working days	5.1.1.1	The period 16 December to 5 January inclusive, plus Good Friday, Human Rights Day, Freedom Day, Workers Day and Youth Day (and National Voting days)
Time within which Works to be commenced	5.3	Within 7 days from Site Handover
Time within Construction Guarantee to be provided	5.3.2	Within 14 days from date of Letter of Acceptance
Programme to be furnished	5.6.1	Within 7 days from date of Site Handover
Amount of penalty	5.13	To a maximum of R3 000-00 per calendar day, capped at 10% of the value of work certified complete.
Latent Defects Liability Period	5.16.3	5 (Five) years
Type of Security	6.2	Contractor to indicate Fixed Security: (Valid until issue of Certificate of Completion) Construction Guarantee <input type="checkbox"/> Performance Guarantee <input type="checkbox"/>

Municipality 1		Consultant	
Municipality 2		Contractor	

**CLAUSE**

Amount of Performance Guarantee	6.2.1	7.5% of the appointed contract value (excluding contingencies, and escalation including VAT)
Duration of Surety	6.2.3	Until issue of Certificate of Completion
Daywork allowances	6.5.1.2.3	As detailed in the Bill of Quantities
Contract Price Adjustment Schedule Only applicable to contracts of 12 months (52 weeks) and longer	6.8.1	Contract Price Adjustment Schedule (SAFCEC) Coefficients for calculating Contract Price Adjustment Factor: (Refer to Contract Data)
Price variation of Special Materials	6.8.3	As per Schedule
Percentage advance on material not yet built into the Permanent Works	6.10.1.5	80 percent on submission of supporting documentation (Invoices & signed delivery notes)
Percentage retention	6.10.3	10 percent (10%)
Limit of retention money	6.10.3	10 percent (10%) of overall Contract Value.
Retention Money Guarantee	6.10.3	Not permitted
Delivery of Contractor's final statement	6.10.8	Within 14 days after certified date of completion of Works subject to the submission of the Close out documentation as noted in the Contract Data
Special Risks Insurance SASRIA	8.6.1.2	Required (Coupon & Number to be provided) to Clients Agent
Minimum Amount of Liability Insurance	8.6.1.3	R 10 000 000-00 (R10,0 million)
Amount of Dolomite Special Risks Insurance	8.6.1.4	R 2 000 000.00 (R2,0 million)
Settlement of disputes	10.7	Arbitration - Refer to clause Special Conditions of Contract

SIGNATURE : \_\_\_\_\_

ON BEHALF OF : \_\_\_\_\_

DATE : \_\_\_\_\_

TEL NUMBER : \_\_\_\_\_

*\*If the time of completion is not stated the Contractor should fill in.*

Municipality 1		Consultant	
Municipality 2		Contractor	

**C1.2 CONTRACT DATA****C1.2.1 Contract Documents**

On acceptance of the offer by the Employer, the following documents shall form part of the Contract:

No	CONTENTS
1	<p><b>This Tender Document</b> consist of and in which is bound into this document.</p> <p>Part T1 - Tendering procedures;</p> <p>Part T2 - Returnable Documents,</p> <p>Part C1 - Agreement and Contract Data;</p> <p>Part C2 - Pricing Data and Bill of Quantities;</p> <p>Part C3 - Scope of Works</p> <p>Part C4 - Site Information and</p> <p>Part C5 - Annexures - all as listed in the Table of Contents.</p>
2	<p>The following publication will constitute The General Conditions of this Contract:</p> <p><b>“General Conditions of Contract for Construction Works – Third Edition [2015]” (GCC 2015).</b></p> <p>This document is not bound in this document and must be obtained from the South African Institution of Civil Engineers Tel (011) 648-1184.</p>
3	<p><b>Standardised specifications for Civil Engineering Construction SANS 1200.</b> This document is not bound in this document and must be obtained from the South African Bureau of Standards, Private Bag X191, Pretoria, 2001.</p>
4	<p><b>Standardised specifications for Civil Engineering Construction SANS 1921 Construction and management requirements for Works Contracts.</b> This document is not bound in this document and must be obtained from the South African Bureau of Standards, Private Bag X191, Pretoria, 2001.</p>
5	<p><b>“National Building Regulation”</b> means the National Building Regulation made under the National Building Regulation and the Building Standards Act, 1977 (Act No. 103 of 1977), and promulgated by Government Notice No. R 2378 of 30 July 1990, as amended by Government Notices No's R. 432 of 8 March 1991, R. 919 of 30 July 1999 and R. 547 of 30 May 2008.</p> <p>The South African Bureau of Standards, Private Bag X191, Pretoria, 2001.</p>
6	<p><b>Occupational Health and Safety Act No.85 of 1993</b>, (as amended) and any and all regulations with regard to this Act – not bound into this document and obtainable from <a href="http://www.acts.co.za/ohs">www.acts.co.za/ohs</a> or Department of Labour at <a href="http://www.labour.gov.za">www.labour.gov.za</a>. Laboria House, 215 Schoeman Street, Pretoria / Private bag X117, Pretoria, 0001.</p>

Municipality 1		Consultant	
Municipality 2		Contractor	

No	CONTENTS
7	<b>Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No. R347 of 14 May 2012</b> as amended, shall apply to works described in the Scope of Work as being labour intensive and which are undertaken by unskilled and semi-skilled workers and can be obtained from Department of Labour at <a href="http://www.labour.gov.za">www.labour.gov.za</a> Laboria House, 215 Schoeman Street, Pretoria / Private bag X117, Pretoria, 0001.
8	<b>EPWP:</b> Guidelines for the Implementation of Labour-Intensive Infrastructure projects under the expanded Public Works Programme – Third Edition 2015. <a href="http://www.epwp.gov.za">www.epwp.gov.za</a> .

Municipality 1		Consultant	
Municipality 2		Contractor	

**GENERAL CONDITIONS OF CONTRACT**

The following publication will constitute The General Conditions of this contract:

**“GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS – THIRD EDITION [2015]”. (GCC 2015)**

The abovementioned documents have been prepared under the auspices of the South African Institution of Civil Engineers and the South African Federation of Civil Engineering Contractors and a copy of this document are obtainable from any of the above bodies. This document replaces GCC 1990, 2004 & 2010

The Contractor must familiarise himself with the above document and must comply with it for the duration of the Tender.

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.

**C1.2.7 AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT 2015 WITH CONTRACT SPECIFIC CONDITIONS.**

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Municipality 1		Consultant	
Municipality 2		Contractor	

**C1.2.7 CONTRACT DATA.**

The following conditions and variations apply to this Contract from the General Conditions:

**PART 1: DATA PROVIDED BY THE EMPLOYER**

REFERENCE TO:	CLAUSE.	SPECIFIC CONDITION
Defects Liability Period	1.1.1.13	The Defects Liability period is: 12 months. The time measured from the date of the Certificate of Completion.
Due Completion Date	1.1.1.14	The time for achieving Practical Completion is max 72 weeks. The time measured from the Commencement Date
Employer	1.1.1.15	The Employer is: Mogale City Local Municipality
	1.2.1.2	P.O. Box 94, Civic Centre, Corner of Commissioner and Market Street in Krugersdorp, 1740
Employer's Agent	1.1.1.16	The Employer's Agent is: Pro-Plan Consulting Engineers (Pty) Ltd.
	1.2.1.2	P.O Box 756, Paardekraal, 1752
Pricing Strategy	1.1.1.26	The pricing strategy is a re-measurement Contract with a Bill of Quantities.
Specific approval by the Employer	3.2.3	<p>The Employer's Agent is required in terms of his appointment by the Employer, to obtain the specific approval of the Employer for the execution of the following duties:</p> <ul style="list-style-type: none"> <li>i) The issuing of an order to suspend the progress of the Works, the extra cost resulting from this order is to be borne by the Employer in terms of Clause 5.10, or the effect of which is liable to give rise to a claim by the Contractor for an extension of time under Clause 10.</li> <li>ii) The issuing of an order to vary the Works in terms of Clause 6.3, the estimated effect of which will be to increase the Contract Price, the valuation of a variation order in terms of Clause 6.4 and the adjustment of the Preliminary and General allowances in terms of Clause 6.4.1.1</li> <li>iii) The approval of any claim by the Contractor.</li> </ul>

Municipality 1		Consultant	
Municipality 2		Contractor	



REFERENCE TO:	CLAUSE.	SPECIFIC CONDITION
Engagement of Employees	4.10.1	<p>Add to this subclause:</p> <p><u>Targeted Labour</u></p> <p>The Contractor shall appoint local unemployed persons as local labour on the project. The Contractor shall endeavour to employ 55% women; 55% youth who are between 16 and 35 and 2% people with disabilities.</p> <p><u>Wage Rates</u></p> <p>Labour outside of the EPWP is subject to the prescriptive of the SAFCEC TARIFFS. EPWP Labour is exempted from sectorial agreement and subject to Ministerial Determination. It is the Tenderer's Contractor's responsibility to verify the latest labour rates and any anticipated cost increases. The Contractor is to provide the Employer's Agent with wage payment receipts.</p> <p><u>Appointment of CLO</u></p> <p>A CLO identified through Municipal Structures and procedures shall be appointed by the Contractor for the duration of the Contract and shall be paid by the Contractor on a monthly basis.</p> <p>The CLO shall be paid R4 635.00 per month and shall be awarded a cell phone allowance at the discretion of the Contractor. The Contractor shall provide the Employer's Agent with the necessary wage payment receipts.</p> <p>The Contractor must provide the CLO with the necessary personal protective equipment (PPE). The CLO must be added to the Contractors Timesheet and must sign in.</p>
Information in respect of employees	4.10.2	<p>Add to the following to this subclause:</p> <p>The Contractor is required in terms of this contract to submit on a monthly basis the following EPWP documentation in order to facilitate the submission of his Payment Certificate to the Employer:</p> <ul style="list-style-type: none"> <li>• EPWP Report in prescribed electronic format</li> <li>• Data Collection Sheet in prescribed electronic format</li> <li>• Wage Payment Receipt for CLO and local labourers employed.</li> <li>• Attendance Register for CLO and local labourers employed</li> </ul>

Municipality 1		Consultant	
Municipality 2		Contractor	

REFERENCE TO:	CLAUSE.	SPECIFIC CONDITION
		<p>The Contractor must also furnish the required once-off EPWP documentation as listed and as instructed by the Employer from time-to-time in compliance with governmental requirements:</p> <ul style="list-style-type: none"> <li>• Employment Contracts for each Local Labour</li> <li>• Full-length colour photo of each Local Labour</li> <li>• Certified copy of ID</li> </ul>
Accredited Training	4.10.3	<p>The following clause is added:</p> <p>“An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training.”</p>
Contractor's superintendence	4.12	<p>Add to this subclause:</p> <p>The Contractor or his Construction Manager shall attend all site meetings with the Employer and/or Employer's Agent on the nominated dates. Non-attendance of meetings will not be tolerated.</p> <p>Unless specifically invited by the Employer's Agent, the Subcontractors of the Contractor may not attend these site meetings.</p>
Non-Working days	5.1.1 & 5.8.1	<p>The Non-working days are: Saturdays and Sundays</p> <p>The special non-working days are:</p> <ol style="list-style-type: none"> <li>(1) Public holidays</li> <li>(2) The year-end break commencing on 15 December and ending the second week in January or such date as determined by SAFCEC.</li> </ol>
Commencement of the Contract	5.2.1	<p>Add to this subclause:</p> <p>If active construction has not commenced within a period of 30 days from Commencement Date the Employer may exercise their right in terms of Clause 9.2.1.3 to cancel the Contract.</p>
Commencement of the Works	5.3.1	<p>The documentation required before commencement with Works execution is:</p> <ol style="list-style-type: none"> <li>1. Submission of Health and Safety Plan for approval (Refer to Clause 4.3)</li> </ol>

Municipality 1		Consultant	
Municipality 2		Contractor	

REFERENCE TO:	CLAUSE.	SPECIFIC CONDITION
		2. Initial programme (Refer to Clause 5.6) 3. Site Security (Refer to Clause 6.2) 4. Insurances (Refer to Clause 8.6) including copy of SASRIA Coupon 5. Original Fixed Construction/Performance Guarantee (Refer to Clause 6.2) 6. Signed Employment Contract of the CLO 7. Letter of Acceptance 8. Letters of Appointment of Site Agent; OHS Representative and the CLO. 9. Notification of Registration of Project at Department of Labour 10. Letter of Good Standing – Workman's Compensation 11. Cash flow 12. Valid Tax Status Pin 13. Authority of signature 14. Schedule of Labour  Add to this subclause:  The time to submit the documentation required before commencement with Works execution is within 28 days from receipt of Letter of Appointment.
Access to the Site	5.4.1	Add this subclause:  The Contractor shall as far as possible, confine his operations to the limits of the areas made available to him by the Employer, but if the land is insufficient for the needs of his site camp the Contractor shall make his own arrangements with the owners or tenants concerned for whatever additional land he may require and pay all rent and other charges in connection therewith. The Contractor shall be responsible for all damages and shall indemnify the Employer against all claims which may arise.
Drawings and Instructions	5.9.1	At Site Handover the Employer's Agent shall deliver to the contractor 3 copies of the construction drawings (free of charge) any additional copies shall be for the cost of the Contractor.  The Employer to provide the Contractor and the Employer's Agent with a copy of the signed contract document within 60 days from signing by all parties.

Municipality 1		Consultant	
Municipality 2		Contractor	

REFERENCE TO:	CLAUSE.	SPECIFIC CONDITION
Abnormal climatic conditions	5.12.2.2	<p>Add to this subclause:</p> <p>No extension of time for completion will be granted on account of normal inclement weather, but extension of time shall be determined for abnormal rainfall or wet conditions in accordance with the formula given below, separately for each calendar month or part thereof. It shall be calculated for the full period for the completion of the Contract including any extension thereof by the formula hereunder and applied at completion.</p> $V = (Nw - Nn) + \frac{(Rw - Rn)}{X}$ <p>The symbols shall have the following meanings:</p> <p><math>V</math> = Extension of time in calendar days in respect of the calendar month under consideration</p> <p><math>Nw</math> = Actual number of days during the calendar month on which a rainfall of Ymm or more has been recorded.</p> <p><math>Nn</math> = Average number of days, as derived from existing rainfall records provided in the table 1 (below) on which a rainfall of Ymm or more has been recorded for the calendar month</p> <p><math>Rn</math> = Average rainfall in mm for the calendar month, as derived from the rainfall records supplied in the table below.</p> <p><math>Rw</math> = Actual rainfall in mm for the calendar month under consideration.</p> <p><math>X</math> = 10</p> <p><math>Y</math> = 10</p> <p>If <math>V</math> is negative and its absolute value exceeds <math>Nn</math>, then <math>V</math> shall be taken as equal to minus <math>Nn</math>. The total extension of time shall be the algebraic sum of the monthly totals for the period of construction, but if the grand total is negative the time for completion shall not be reduced due to abnormal low rainfall. Extensions of time for part of a month shall be calculated using pro rata values of <math>Nn</math> and <math>Rn</math>.</p>

Municipality 1		Consultant	
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REFERENCE TO:	CLAUSE.	SPECIFIC CONDITION
		<p>The factor <math>(N_w - N_n)</math> shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds <math>Ymm</math>. The factor <math>\frac{R_w - R_n}{x}</math> shall be considered to represent a fair allowance for variations from the average in the number of days during which rainfall had not exceeded <math>Ymm</math>, but wet conditions had prevented or had disrupted work. The formula does not take into account flood damage which could cause further or concurrent delays, and which should be treated separately as far as extension of time is concerned.</p> <p>Accurate rain gauging shall be taken at a suitable point on Site. This information shall be regarded as the actual rainfall for this contract. The readings will be done in the presence of the Employers Agent and the Contractor. The Contractor shall at his own expense take all necessary precautions to ensure that the rain gauge cannot be interfered with by unauthorized persons.</p>

**Expected Number of Working Days Lost Per Month Due to Normal Rainfall**

*(The Employer's Agent reserves the right to update the Table with the latest data from the Weather Bureau from a weather station close to the Site of Works)*

Month	Expected number of working days lost as result of normal rainfall (Nn)	Average monthly rainfall (mm) (Rn)
January	13.2	117.1
February	11.0	84.8
March	10.6	78.1
April	6.7	52.4
May	3.0	16.3
June	1.5	7.6
July	0.8	2.8
August	1.8	7.8
September	3.2	18.5
October	8.8	69.0
November	11.6	88.6
December	13.6	115.5
<b>Total</b>	<b>85.7 days</b>	<b>658.5 mm</b>

Municipality 1		Consultant	
Municipality 2		Contractor	

REFERENCE TO:	CLAUSE.	SPECIFIC CONDITION
Penalties	5.13.1	The penalty for failing to complete the Works is R3000.00 per calendar day.  Add the following to this subclause: Limited to 10% of the Contract Price.
Practical Completion	5.14.1	Requirements for achieving Practical Completion are as set out below:  <ul style="list-style-type: none"> <li>- All works (or section of the works as determined by the Employer or the Employers Agent) shall be completed to required specification with no more than 7 (seven) minor items listed on the Practical Completion Inspection Attendance snaglist.</li> <li>- All items to be completed within 14 days from date of inspection otherwise the certificate of practical completion issued will lapse</li> <li>- All required Compliance Certificates were submitted to the office of the Employer's Agent as per checklist provided at site handover.</li> <li>- All required warranties and guarantees were submitted to the office of the Employer's Agent.</li> <li>- All information, measurements (including electronic survey) that is required for the preparation of the As-Built drawings were submitted to the office of the Employer's Agent.</li> <li>- All test results and quality assurance reports were submitted to the office of the Employer's Agent.</li> <li>- All operating manuals; wiring diagrams and manufacturer's maintenance instructions were submitted to the office of the Employer's Agent.</li> <li>- All required EPWP documentation was submitted to the office of the Employer's Agent</li> <li>- A land surveyor's certificate has been submitted certifying the presence and correctness of all erf and boundary pegs, where applicable."</li> </ul>
Certificate of Completion	5.14.4	Add the following to this subclause:  The Contractor shall be entitled to receive a Certificate of Completion, the release of 1 <sup>st</sup> Retention payment and release of selected Surety when the works have been completed to the requirements for achieving Completion as set out below:

Municipality 1		Consultant	
Municipality 2		Contractor	

REFERENCE TO:	CLAUSE.	SPECIFIC CONDITION
		<ul style="list-style-type: none"> <li>- All works shall be completed to required specification with any items listed on the Completion Inspection Attendance snaglist completed.</li> <li>- The Contractor has submitted a consolidated Safety File to the office of the Employer's Agent.</li> <li>- The Contractor has submitted the Quality Assurance File to the office of the Employer's Agent.</li> <li>- The Contractor has submitted all other documentation as requested timeously at time of Completion Inspection by the Employer's Agent.</li> <li>- All outstanding payments due to subcontractors, cession suppliers, cession subcontractors, labour, CLO have been made and proof thereof has been provided to the Employer and the Employer's Agent.</li> </ul>
Latent defects liability	5.16.3	<p>The latent defects period is:</p> <p>10 years for civil engineering works, 5 years for building works and 3 years for electrical and mechanical engineering works.</p>
Delivery of Security	6.2.1	In addition to the 10% Retention to be deducted from each and every Payment Certificate, the Employer requires a fixed surety to the value of 10% of the Contract Price, in the form of either a Construction Guarantee or Performance Guarantee that remains valid and enforceable until issue of Certificate of Completion.
Contractor failing to select or provide security	6.2.2	<p>Replace the contents of this sub-clause with the following:</p> <p>"The selected security shall be a performance guarantee to the value of 10% of the Contract Price.</p> <p>An additional security of ten percent retention of the value of the Works shall be applied."</p>
Percentage allowance	6.5.1.2.3	As tendered in the Bill of Quantities.
Application of the Contract Price Adjustment Factor	6.8.2	<p>The Contract Price Adjustment Factor, rounded off to the fourth decimal place, to be determined according to this formula:</p> $(1 - x \left( \frac{aLt}{Lo} + \frac{bPt}{Po} + \frac{cMt}{Mo} + \frac{dFt}{Fo} - 1 \right))$ <p><i>CPA is only applicable to contracts of 12 months and longer and in excess of R10,0 million.</i></p>

Municipality 1		Consultant	
Municipality 2		Contractor	

REFERENCE TO:	CLAUSE.	SPECIFIC CONDITION
		<p>in which the symbols have the following meaning:</p> <p>"x" is the proportion of "Ac" which is not subject to adjustment.</p> <p>"L" is the "Labour Index",</p> <p>"P" is the "Contractor's Equipment Index",</p> <p>"M" is the "Materials Index"</p> <p>"F" is the "Fuel Index",</p> <p>The suffix "0" denotes the base indices applicable to the base month. The base month shall be the last full month that passed before the tender closed.</p> <p>The suffix "t" denotes the current indices applicable to the month in which the last day of the period falls to which the relevant monthly statement relates.</p> <p>The following values for the different factors are to be used as per SAFCEC guidelines.</p> <p><math>x = 0,15</math>  <i>Water &amp; Sanitation</i></p> <p><math>a = 0,20</math> <math>c = 0,35</math>  <math>b = 0,35</math> <math>d = 0,10</math>  L = Gauteng  P = Mining &amp; Construction Plan and Equipment Index  M = Civil Engineering Material Total  F = Fuel Diesel Index</p>
Special Materials	6.8.3	<p>The price of each "special material" specified in the Schedule N shall be increased or decreased by the net amount of any variation incurred after the date of tender, provided that any claim for adjustment in terms hereof shall be substantiated by the submission of acceptable invoices and any other supporting documents that the Employer's Agent considers necessary for the purpose, and provided also that no further adjustment be permitted to the price of any "special material" after the Due Completion Date unless such material forms part of any additional work or variation ordered to be carried out after that date.</p>

Municipality 1		Consultant	
Municipality 2		Contractor	



REFERENCE TO:	CLAUSE.	SPECIFIC CONDITION
		"The net amount of any variations" in respect of a particular "special material" shall be calculated by multiplying the difference between the rate or price entered in the Contract Data by the Contractor for that material and the equivalent rate or price actually paid by the Contractor for the material by the quantity of the material in question.
Interim payments	6.10.1.5	No payment shall be made for Plant and materials not yet delivered to Site.
Valuation of material brought onto site	6.10.2	Add to this subclause:  "Payment for materials on site will only be considered for those materials which are physically on site. The percentage advance on materials delivered to site but not yet built into the Permanent Works is 80% subject to the submission of signed delivery notes; material invoices and when requested proof of payment.
Limit of Retention Money	6.10.3	The limit of retention money 10% of the value of the Contract Sum inclusive of VAT.
Payment of Retention Money	6.10.5	Add to this subclause:  No interest will be paid on retention money. The Employer reserves the right to withhold retention payment to the Contractor until all outstanding monies due to subcontractors; suppliers, manufactures, cession agreements are paid in full by the Contractor and proof of such payment is submitted to the Employer's Agent.
Quality of Plant, Workmanship and Materials	7.2	Add to this subclause: All materials including all stone, sand, gravel or soil or any other natural material required in the execution of the Works shall not be used until the material has been approved by the Employers Agent."
Value of Plant and Materials supplied by Employer	8.6.1.12	Nil - the Employer will not provide any Plant or materials.

Municipality 1		Consultant	
Municipality 2		Contractor	

REFERENCE TO:	CLAUSE.	SPECIFIC CONDITION
Professional fees in respect of repair or reinstatement of damaged works	8.6.1.1.3	If an Engineer is required to perform design work in respect of the repair or reinstatement of damage to the Works then a professional fee of 10% of the value of the repair or reinstatement shall apply, with a minimum amount payable of R250,00 unless otherwise agreed between the Employer's Agent and the Contractor.  For insurance purposes a provisional sum of R1 million shall be allowed.
Limit of Indemnity for liability	8.6.1.3	The limit of indemnity for liability insurance is R10 000 000 (Ten Million) per claim, number of claims unlimited.
Other additional Insurances	8.6.1.5	Special Risk Insurance for work in Dolomite environment as specified by Department of Public Works (PW344 Aug 2017) and SANS 1936 Development on Dolomite Land.
Adjudication Board Members	10.5.1	A standing Adjudication Board will not be appointed.

Municipality 1		Consultant	
Municipality 2		Contractor	

**PART 2 : DATA PROVIDED BY THE CONTRACTOR:**

REFERENCE TO:	CLAUSE.	SPECIFIC CONDITION	
Contractor.	1.1.1.9	Name:	
	1.2.1.2	Postal Address:	
		Postal Address:	
		E-Mail:	
Due Completion Date	1.1.1.14	The time for achieving Practical Completion of the whole of the Works is ..... weeks.	
Delivery of Security	6.2.1	The security to be provided by the Contractor shall be one of the following: <i>(Indicate Yes or No)</i>	
		Fixed Performance Guarantee of 7.5% of the Contract Sum plus Retention of 10% of the value of Works to a maximum of 5% of the Contract Sum	
		Variable Performance Guarantee of 10% of the Contract Sum for the first period <sup>1</sup> and 5% of the Contract sum for the second period <sup>2</sup> plus Retention of 10% of the value of Works to a maximum of 5% of the Contract Sum	
		1 <sup>st</sup> Period = Works exceeding 50% of Contract Sum	
		2 <sup>nd</sup> Period = From and including the date of Practical completion	
Variation in cost of Special Materials	6.8.3:	The variation in cost of special materials is as indicated in Returnable Schedule N.	

Municipality 1		Consultant	
Municipality 2		Contractor	

### C1.3 PRO-FORMA FORM OF PERFORMANCE GUARANTEE

EXAMPLE

General Conditions of Contract for Construction Works, Third Edition (2015)

#### PRO FORMA PERFORMANCE GUARANTEE

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

#### GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means: .....

Physical address:

.....

"Employer "means: .....

"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:

.....

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

.....

Amount in Words:

.....

Type of performance Guarantee: ..... (Insert Variable or Fixed)

"Expiry date" means: **Date of issue of Certificate of Works Completion.**

Municipality 1		Consultant	
Municipality 2		Contractor	

**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. VARIABLE PERFORMANCE GUARANTEE**

1.1 Where a Variable Performance Guarantee has been selected, the Guarantor's liability shall be limited during the following periods to diminishing amounts of the Guaranteed Sum as follows:

1.1.1 From and including the date of signing the Performance Guarantee up to and including the date of the interim payment certificate certifying, for the first time, more than 50% of the Contract Sum:

R.....

(Amount in words .....)

1.1.2 From the day following the date of the said interim payment certificate 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, whichever occurs first:

R.....

(Amount in words .....)

1.2 The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the interim payment certificate certifying, for the first time, more than 50% of the Contract Sum, has been issued and the date on which the Certificate of Completion of the works has been issued

**2. FIXED PERFORMANCE GUARANTEE**

2.1 Where a fixed Performance Guarantee has been selected, the Guarantor's liability shall be limited to the amount of the Guaranteed Sum.

2.2 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 Guaranteed Sum, Whichever occurs first.

2.3 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.

Municipality 1		Consultant	
Municipality 2		Contractor	

### 3. CONDITIONS APPLICABLE TO VARIABLE AND FIXED PERFORMANCE GUARANTEES

3.1 The Guarantor hereby acknowledges that:

- 3.1.1 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.
- 3.1.2 Its obligation under this Performance Guarantee is restricted to the payment of money.
- 3.2 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:
- 3.2.1 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 a payment in terms of 3.2.2;
- 3.2.2 A first written demand issued by the Employer to 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;
- 3.2.3 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.
- 3.3 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 to this Performance Guarantee, such demand stating that:
- 3.3.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in the terms of 3.3; or
- 3.3.2 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
- 3.3.3 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.
- 3.4 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.
- 3.5 Where the Guarantor has made a 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 the Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date of payment was made by the Guarantor to the Employer until the date of refund.
- 3.6 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.
- 3.7 Payment by Guarantor in terms of 3.3 will only be made against the return of the original Performance Guarantee by the Employer.

Municipality 1		Consultant	
Municipality 2		Contractor	

- 3.8 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.
- 3.9 The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
- 3.10 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.
- 3.11 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 purpose of obtaining a court order.
- 3.12 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) .....

Municipality 1		Consultant	
Municipality 2		Contractor	

## AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 1993, SECTION 37(2)

Gauteng Provincial Government, Mogale City LM 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 1992, 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 Gauteng Provincial Government, Mogale City LM Safety Precautions and Health and Safety Instructions 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 Gauteng Provincial Government, Mogale City LM safety Precautions and Health and Safety Instructions included in the contract documents will be fully complied with.
- (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 Gauteng Provincial Government, Mogale City LM from itself being obliged to comply with any of the foresaid 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 Employer's 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.

\_\_\_\_\_  
ON BEHALF OF MOGALE CITY MUNICIPALITY

\_\_\_\_\_  
DATE

WITNESSES

1. \_\_\_\_\_

2. \_\_\_\_\_

FOR THE CONTRACTOR

\_\_\_\_\_

DATE: \_\_\_\_\_

WITNESSES

1. \_\_\_\_\_

2. \_\_\_\_\_.

Municipality 1		Consultant	
Municipality 2		Contractor	



## AGREEMENT TO ACCEPT THE CONDITIONS OF THE ENVIRONMENTAL MANAGEMENT PLAN PERTAINING TO THIS PROJECT

Whereas \_\_\_\_\_ (the Contractor)

\*Company Registration No. \_\_\_\_\_

Address: \_\_\_\_\_

a \* Company incorporated with limited liability according to the company laws of the Republic of South Africa,  
\*Partnership, \*Close Corporation, \* Public Company (hereinafter called the contractor), represented herein by  
\_\_\_\_\_ in his capacity as \_\_\_\_\_ duly  
authorised hereto by a articles of association, resolution, power of attorney, or otherwise as duly signed and  
declared in Form F.2 of this document.

Do hereby agree that the following arrangements and procedures shall apply to the abovementioned Contractor to  
ensure compliance with the provisions of the Environmental Management Plan (EMP), namely:

- (a) The Contractor undertakes to acquaint the appropriate officials and employees of the Contractor with  
all the relevant provisions of the EMP, the regulations and conditions in terms of the EMP.
- (b) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the  
EMP and the instructions of the duly authorised Environmental Officer, enforcing the conditions of the  
EMP, will be fully complied with.
- (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 EMP and expressly absolves the Dept of Housing from itself being obliged to comply  
with any of the foresaid duties, obligations and prohibitions.
- (d) The Contractor shall be obliged to report forthwith in writing to the Employer's Agent full Details of any  
investigation, complaint or criminal charge which may arise as a consequence of the provisions of the  
EMP, pursuant to work performed in terms of this Contract.

**FOR THE CONTRACTOR** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**WITNESSES** 1. \_\_\_\_\_

2. \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**BOND FOR MATERIAL ON SITE****CONTRACT NO:** \_\_\_\_\_**EMPLOYER:** \_\_\_\_\_**CONTRACTOR:** \_\_\_\_\_**DESCRIPTION OF CONTRACT:** \_\_\_\_\_

I/We, the undersigned, \_\_\_\_\_ (**Bank or Insurance Company**) do hereby bind ourselves as surety and co-principal debtors in solidum for compensating the Employer where the ownership of material for some reason or other cannot pass to the Employer, or the Employer by law is expected to pay a third party to obtain ownership of material in spite of the fact that the Employer paid the Contractor as per clause 62(1)(b) of the general conditions of contract, and for all losses, damages, and expenses that may be suffered or incurred by the Employer as a result of payment for material on site, renouncing all benefits from the legal exceptions ordinis seu excussionis et divisionis "no value received" and all other exceptions which might or could be pleaded against the validity of this guarantee, with the meaning and effect of which exceptions we declare ourselves to be fully acquainted; provided that the liability of the undersigned under this guarantee is limited to (specify amount of bond)

\_\_\_\_\_ (R \_\_\_\_\_) and will lapse on the issue of the completion certificate in terms of the Contract, unless the surety is advised in writing by the Employer before issue of the said certificate of his intention to institute claims and the particulars thereof, in which event this guarantee shall remain in force until all such claims are paid or settled.

**FOR AND ON BEHALF OF** \_\_\_\_\_ (**Surety**)

AT \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

**CAPACITY**

**FULL ADDRESS :** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**AS WITNESSES :**

1. \_\_\_\_\_

2. \_\_\_\_\_

*\*Delete whichever is inapplicable*

Municipality 1		Consultant	
Municipality 2		Contractor	

**BOND FOR MATERIAL NOT ON SITE****CONTRACT NO :** \_\_\_\_\_**EMPLOYER:** \_\_\_\_\_**CONTRACTOR :** \_\_\_\_\_**DESCRIPTION OF CONTRACT :** \_\_\_\_\_

I/We, the undersigned, \_\_\_\_\_ (Bank or Insurance Company) do hereby bind ourselves as surety and co-principal debtors in solidum for compensating the Employer where the ownership of material for some reason or other cannot pass to the Employer, or the Employer by law is expected to pay a third party to obtain ownership of material in spite of the fact that the Employer paid the Contractor as per clause 62(1)(b) of the general conditions of contract, and for all losses, damages and expenses that may be suffered or incurred by the Employer as a result of payment for material prior to delivery on site, renouncing all benefits from legal exceptions ordinis seu excussionis et divisionis "no value received" and all other exceptions which might or could be pleaded against the validity of this guarantee, with the meaning and effect of which exceptions we declare ourselves to be fully acquainted; provided that the liability of the undersigned under this guarantee is limited to (specify amount of bond)

\_\_\_\_\_ (R \_\_\_\_\_) and will lapse on the issue of the completion certificate in terms of the contract, unless the surety is advised in writing by the Employer before issue of the said certificate of his intention to institute claims and the particulars thereof, in which event this guarantee shall remain in force until all such claims are paid or settled.

**FOR AND ON BEHALF OF** \_\_\_\_\_ **(Surety)**

AT \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

**CAPACITY****FULL ADDRESS :** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**AS WITNESSES :**

1. \_\_\_\_\_

2. \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**OWNERSHIP OF MATERIALS**

CONTRACT NO : \_\_\_\_\_

EMPLOYER : \_\_\_\_\_

CONTRACTOR : \_\_\_\_\_

DESCRIPTION OF CONTRACT : \_\_\_\_\_

In order to facilitate payment for material on site in terms of clause 6.10.2 of the General Conditions of Contract, it is hereby confirmed that, although materials may have been supplied on credit to the above named Contractor, ownership of such materials, when delivered will vest with the Employer.

In the event therefore of such materials being delivered on site or any authorised extended site, ownership thereof will then vest with the Employer in terms of clause 6.9.1 of the said general conditions of contract.

SIGNED ON BEHALF OF \_\_\_\_\_ (Supplier)

AT \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

SIGNATURE\*<sup>1</sup>

CAPACITY

*\*<sup>1</sup> Signatories for companies must establish their authority by attaching a copy of the relevant resolution of the board of directors, duly signed and dated, to this form.*

FULL ADDRESS : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

AS WITNESSES :

1. Contractor: \_\_\_\_\_

2. Employer's Agent: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

**PART C2 : PRICING DATA**

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Municipality 1		Consultant	
Municipality 2		Contractor	



**MOGALE CITY LOCAL MUNICIPALITY  
PRICING SCHEDULE – NON-FIRM PRICES  
(PURCHASES)**

**NOTE: PRICE ADJUSTMENTS WILL BE ALLOWED AT THE PERIODS AND TIMES SPECIFIED IN THE BIDDING DOCUMENTS.**

**IN CASES WHERE DIFFERENT DELIVERY POINTS INFLUENCE THE PRICING, A SEPARATE PRICING SCHEDULE MUST BE SUBMITTED FOR EACH DELIVERY POINT**

Name of Tenderer: .....	Tender number: <b>UMS (W&amp;S) 17/2021</b>
Closing Time: <b>As per the tender advert</b>	Closing Date: <b>As per the tender advert</b>

OFFER TO BE VALID FOR **90** DAYS FROM THE CLOSING DATE OF TENDER.

ITEM NO.	QUANTITY	DESCRIPTION	BID PRICE IN RSA CURRENCY **(All applicable taxes included)
-	Required by:	<b>Mogale City Local Municipality</b>	
-	At:	<b>Krugersdorp</b>	
-	Brand and model:	_____	
-	Country of origin:	_____	
-	Does offer comply with specification?	<b>*YES / NO</b>	
-	If not to specification, indicate deviation(s) in:	<b>Schedule A</b>	
-	Period required for delivery:	_____	
-	Delivery:	_____	

\*\* "all applicable taxes" includes value- added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies.

\*Delete if not applicable

Municipality 1		Consultant	
Municipality 2		Contractor	

## PRICE ADJUSTMENTS

### A Non-firm prices subject to escalation

1. In cases of period contracts, non-firm prices will be adjusted (loaded) with the assessed contract price adjustments implicit in non-firm prices when calculating the comparative prices.
2. In this category price escalations will only be considered in terms of the following formula:

$$Pa = (1 - V)Pt \left( D1 \frac{R1t}{R1o} + D2 \frac{R2t}{R2o} + D3 \frac{R3t}{R3o} + D4 \frac{R4t}{R4o} \right) + VPt$$

Where:

- Pa = The new escalated price to be calculated.
- (1-V) Pt = 85% of the original bid price. **Note that Pt must always be the original bid price and not an escalated price.**
- D1, D2.. = Each factor of the bid price eg. labour, transport, clothing, footwear, etc. The total of the various factors D1,D2...etc. must add up to 100%.
- R1t, R2t..... Index figure obtained from new index (depends on the number of factors used).
- R1o, R2o = Index figure at time of bidding.
- VPt = 15% of the original bid price. This portion of the bid price remains firm i.e. it is not subject to any price escalations.

3. The following index/indices must be used to calculate your bid price:

Index..... Dated.....      Index..... Dated.....      Index..... Dated.....

Index..... Dated.....      Index..... Dated.....      Index..... Dated.....

4. Furnish a breakdown of your price in terms of above-mentioned formula. the total of the various factors must add up to 100%.

Factor (D1, D2 etc. eg. Labour, transport etc.)	Percentage Of Bid Price

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Municipality 2		Contractor	

**B Prices Subject to Rate of Exchange Variations**

1. Please furnish full particulars of your financial institution, state the currencies used in the conversion of the prices of the items to South African currency, which portion of the price is subject to rate of exchange variations and the amounts remitted abroad.

Particulars Of Financial Institution	Item No	Price	Currency	Rate	Portion Of Price Subject To Roe	Amount I Foreign Currency Remitted Abroad
				ZAR =		
				ZAR =		
				ZAR =		
				ZAR =		
				ZAR =		

2. Adjustments for rate of exchange variations during the contract period will be calculated by using the average monthly exchange rates as issued by your commercial bank for the periods indicated hereunder: (Proof from bank required).

Average Monthly Exchange Rates For The Period:	Date Documentation Must Be Submitted To This Office	Date From Which New Calculated Prices Will Become Effective	Date Until Which N Calculated Price Will Be Effective

Municipality 1		Consultant	
Municipality 2		Contractor	



**BILL OF QUANTITIES**  
**PRICING ASSUMPTIONS**

- 1.0 The General Conditions of Contract, the Contract Data, the Specifications (including the Project Specifications) and the Drawings (if any) are to be read in conjunction with the Bill of Quantities.
- 1.1 **Those parts of the contract to be constructed using labour-intensive methods have been marked in the Bill of Quantities (BoQ) with the letters LI in a separate column filled in against every item so designated. The works, or part of 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 Works, is a variation to the contract. The items marked with the letters LI are not an exhaustive list of all the activities which must be done by hand and those clauses do not over-ride any of the requirements in the SANS 1921.**
- 1.2 **Unless unforeseen circumstances dictate the use of plant to execute items marked “LI” in the BoQ and the Employer’s Agent gives written approval for the use of such Plant, payment for items which are designated to be constructed labour-intensively (either in the BoQ or in the Scope of Works or Project Specifications) will not be made unless they are constructed using labour-intensive methods. Any unauthorized 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.**
- 2.0 For the purposes of this Bill of Quantities, the following words shall have the meaning hereby assigned to them:
- Unit: The unit of measurement for each item of work as defined in the specifications.
- Quantity: The number of units of work for each item.
- Rate: The payment per unit of work for which the tenderer tenders to do the work.
- Amount: An amount tendered for an item, the extent of which is described in the Bill of Quantities, the specification or elsewhere, but of which the quantity of work is not measured in units.
- “LI” Labour Intensive methods to be used in accordance with Project Specifications**
- Where minimum labour intensity is specified by the design the contractor is expected to use their initiative to identify additional activities that can be done labour-intensively in order to comply with the set minimum labour intensity target*
- 3.0 The quantities set out in the Bill of Quantities are only approximate quantities. The quantities of work finally accepted and certified for payment, and not the quantities given in the Bill of Quantities, will be used to determine payments to the contractor. The validity of the contract shall in no way be affected by 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 tendered, subject only to the provisions of the general conditions of contract.
- 4.0 Rates and lump sums shall include full compensation for overheads, profits, incidentals, tax (except for Value Added Tax), etc. and for the completed items of work as specified. Full compensation for completing and maintaining, during the maintenance period, all work shown on the drawings and specified in the specifications, and for all the risk, obligations and responsibilities specified in the

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Municipality 2		Contractor	

general conditions of contract, special conditions of contract and the project 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.

- 5.0 The tenderer shall fill in a rate or a lump sum for each item where provision is made for it, even where no quantities are given. Items against which no rate or lump sum has been entered in the tender 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 tenderer shall fill in a rate against all items where the words "rate only" appears in the amount column. Although no work is foreseen under such item and no quantities are consequently given in the quantity column, the tendered rate shall apply should work under this item actually be required. Tenderers should note the provisions of paragraph 12 of this preamble.

If the tenderer should group a number of items together and tender one lump sum for such group of items and not to each individual item, or should he indicate that full compensation for any item has been included in the rate for another item, the rate for the item included in another item shall be deemed to be nil. The tendered lump sum and rates shall be valid irrespective of any change in the quantities during the execution of the contract. Preliminary & General Section may not be tendered as a lump sum. A tender may be disqualified if the P&G Section is tendered as a lump sum.

- 6.0 The works executed are measured for payment in accordance with the methods described in the contract documents under the various payment items.
- 7.0 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 the quantity of material to be supplied by the contractor.
- 8.0 The statement 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 Employer's Agent detailed instructions for all work before ordering any materials or executing work or making arrangements in this regard.
- 9.0 The short description of the payment items in the Bill of Quantities is only given to identify the items and to provide specific details. Reference shall inter alia be made to the drawings, project specifications, general conditions of contract and special conditions of contract for more detailed information regarding the extent of work entitled under each item.
- 10.0 The provisions of Clause 6.6 of the General Conditions of Contract shall apply to provisional sums and prime cost sums.
- 11.0 Subject to the conditions stated in paragraph 12 below, the rates and lump sums filled in by the tenderer 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 amounts, appearing in the tender.

Should there be any discrepancies between the tender sum and the correctly extended and totaled Bill of Quantities, the rates will be regarded as being correct, and the employer shall have the right to make adjustments to the tender sum to reconcile the tender sum with the total of the Bill of Quantities. Under

Municipality 1		Consultant	
Municipality 2		Contractor	

no circumstances will tendered rates be adjusted when such errors are corrected. In such an event the contractor will be consulted but, failing agreement between the parties, the decision of the employer shall be final and binding.

Adjustment of the tender sum will take place only after acceptance of the tender, but prior to the signing of the contract. In their own interest tenderers must make doubly sure of the correctness of their tendered rates, the extensions and the tender sum.

12.0 A tender 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 if the tenderer 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 such adjustments.

13.0 The units of measurement indicated in the Bill of Quantities are metric units. The following abbreviations are used in the Bill of Quantities:

mm	=	millimeter	kl	=	kilolitre
m	=	metre	kg	=	kilogram
km	=	kilometer	t	=	ton (1 000 kg)
m <sup>2</sup>	=	square metre	No	=	number
ha	=	hectare	%	=	per cent
m <sup>3</sup>	=	cubic metre	P C sum	=	prime cost sum
l	=	litre	prov sum	=	provisional sum

14.0 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 discarded.

15.0 The Bill of Quantities shall be completed in **BLACK INK**. Tenders where the Bill of Quantities is completed in pencil, **WILL be disqualified**.

16.0 All prices and rates shall exclude value added tax (VAT). **The Tenderer shall calculate VAT and enter it as the end of the Summary of the Bill of Quantities**

17.0 Errors made in the completion of the bill of quantities must be ruled through with the correct rate or price shown above the ruled through item. All changes must be initialled. The use of corrective fluid or attempts to erase the mistake is strictly prohibited. Non-compliance may render the tender subject to rejection.

An electronic copy of the Bill of Quantities will be made available by contacting the Consulting Engineer [proplan@proplansa.co.za](mailto:proplan@proplansa.co.za) It is a requirement that the original yellow pages contained in the tender document must still be completed in black ink. A tender will be disqualified if only a printed copy of the Bill of Quantities is submitted

Municipality 1		Consultant	
Municipality 2		Contractor	

MOGALE CITY LOCAL MUNICIPALITY

TENDER NO: UMS (W&S) 17/2021

TENDER: THE INSTALLATION OF A BULK WATER PIPELINE, A NEW SEWER CONNECTION AND A NEW 3ML RESERVOIR WITH ASSOCIATED WORKS IN IFERATONG SMART CITY DEVELOPMENT (PHASE 1)

ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A1	1200 A		<b>SECTION A</b>				
			<b>PRELIMINARY AND GENERAL</b>				
	8.3.1		<b>FIXED-CHARGE ITEMS</b>				
			<b><u>Contractual requirements</u></b>				
	8.3.1		Contractual Requirements including provision to ensure that all insurances and Guarantees are kept in place for the full duration of the Contract period(s). <u>Payment may be suspended until expired sureties are up to date.</u>	Sum	1		
A1.2	8.3.1.1		<u>Special Risk Insurance: SASRIA</u> Special Risk Insurance - SASRIA for Contract works, material or construction plant policy (Minimum value of R1,5 million).	Sum	1		
			<u>The policy must include cover for:</u> 1. Material bought by the Contractor 2. Material bought by the Municipality by Cession Agreement with Contractor's suppliers 3. Looting				
			<u>Note on item 1.1.1 &amp; 1.1.2:</u> 1. Where the item is not completed no allowance will be made in the monthly payment certificate for unused material on site 2. Material will be paid for only when a letter of cession is provided from the supplier that ownership of material has been transferred to the Contractor				
A1.3	8.3.1.2		<u>Special Risk Insurance: Dolomite Risk</u> Special Risk Insurance for work in dolomitic area (Minimum value of R2 million)	Sum	1		
A2	8.3.2		<b><u>Establishment of Facilities on the Site</u></b>				
A2.1	8.3.2.1		<b><i>Facilities for the Engineer</i></b>				
A2.1.1	8.3.2.3		Facilities for Engineer Refer to the Project Specifications, Standard Specifications, Variations to Standard Specifications and Particular Specifications	Sum	1		
			<b>Carried forward to next page</b>				

**MOGALE CITY LOCAL MUNICIPALITY**
**TENDER NO: UMS (W&S) 17/2021**
**TENDER: THE INSTALLATION OF A BULK WATER PIPELINE, A NEW SEWER CONNECTION AND A NEW 3ML RESERVOIR WITH ASSOCIATED WORKS IN LERATONG SMART CITY DEVELOPMENT (PHASE 1)**

ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			<b>Brought forward from previous page</b>				
A2.1.2			Name Boards: Project construction boards, supplied and erected according to drawing details	No	1		
A2.2	8.3.2.2		<b><i>Facilities for the Contractor</i></b>				
A2.2.1	8.3.2.3		<u>Facilities for Contractor</u> Refer to the Project Specifications, Standard Specifications, Variations to Standard Specifications and Particular Specifications	Sum	1		
<b>A3</b>	8.3.3		<b><u>Other fixed-charged obligations</u></b>				
A3.1	8.3.3		General Responsibilities and other Fixed Charged Obligations	Sum	1		
A3.2	8.3.3.1		Provision of small tools to local labour	Sum	1		
<b>A4</b>	8.3.4		<b><u>Removal of site establishment</u></b>				
A4.1	8.3.4		Removal of Site Establishment on completion and make good to the satisfaction of the Engineer	Sum	1		
<b>A5</b>			<b><u>Occupational Health &amp; Safety Act (At 85 of 1993 and amendments)</u></b>				
A5.1			General safety obligations	Sum	1		
A5.2			Risk assessment	Sum	1		
A5.3			Compile Health and safety Plan	Sum	1		
A5.4			Prepare and submit consolidated Safety File on completion of the project	Sum	1		
A5.5			Personnel Protective clothing and Equipment as per EPWP Branding requirements including PPE for visitors and the CLO	Sum	1		
A5.6			Medical Assessment of Employees and medical certificates	Sum	1		
			<b>Carried forward to next page</b>				

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			Brought forward from previous page				
A6	8.4		TIME RELATED ITEMS (for the duration of the contract unless otherwise stated)				
A6.1	8.4.1		<u>Contractual requirements</u>				
A6.1.1	8.4.1		Contractual Requirements (inclusive of keeping all insurances and guarantees in place) (Tenderer to indicate duration)	mnth			
A7	8.4.2		<u>Operation and Maintenance of Facilities on Site</u>				
A7.1	8.4.2.1		<i>Facilities for the Engineer</i>				
A7.1.1	8.4.2.3		<u>Facilities for Engineer</u> Refer to the Project Specifications, Standard Specifications, Variations to Standard Specifications and Particular Specifications (Tenderer to indicate duration)	mnth			
A7.1.2			<u>Name Boards:</u> Project construction boards, supplied and erected according to drawing details	No	1		
A7.2	8.4.2.2		<i>Facilities for the Contractor</i>				
A7.2.1	8.4.2.3		<u>Facilities for Contractor</u> including Refer to the Project Specifications, Standard Specifications, Variations to Standard Specifications and Particular Specifications (Tenderer to indicate duration)	mnth			
A8	8.4.3		<u>Supervision for the duration of the contract</u>				
A8.1	8.4.3		Supervision for the duration of the Contract (Tenderer to indicate duration)	mnth			
A9	8.4.4		<u>Company and Head office overhead costs for the duration of the contract</u>				
A9.1	8.4.4		Company and Head Office overhead costs for duration of the Contract	Sum	1		
			Carried forward to next page				

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			<b>Brought forward from previous page</b>				
<b>A10</b>	8.4.5		<b><u>Other time-related obligations</u></b>				
A10.1	8.4.5		General Responsibilities and other Time-Related Obligations (Tenderer to indicate duration)	mnth			
A10.2	8.4.5.1	LI	Maintenance of small tools issued to local labour	Sum	1		
A10.3	8.4.5.2		Attendance to other Contractors on site	Sum	1		
<b>A11</b>			<b><u>Occupational Health &amp; Safety Act (At 85 of 1993 and amendments)</u></b>				
A11.1		LI	Implementation of Health and Safety Plan (Tenderer to indicate duration)	mnth			
A11.2		LI	Maintenance of Personnel Protective clothing and Equipment as per EPWP Branding requirements including PPE for visitors and the CLO (Tenderer to indicate duration)	mnth			
<b>A12</b>			<b><i>Disruption of Work</i></b>				
A12.1	8.4.5.3		Allow for all costs which could be experienced as a result of disruption or standing time caused by unrest situation, general strikes in the areas (including moving of plant and materials) (Days claimed subject to Engineers approval)	day	15		
<b>A13</b>	8,5		<b>SUMS STATED PROVISIONALLY BY THE ENGINEER</b>				
A13.1	8.5.1		Alterations and connections to Municipal services and repairs to damaged services where approved by the Engineer	Prov Sum	1	R 15 000,00	R 15 000,00
A13.2			Extra over item 1.13.1 percentage to cover costs, overheads and profits	%	15 000		
A13.3	8.5.2		Alterations and connections to existing services by Authorities	Prov Sum	1	R 15 000,00	R 15 000,00
A13.4			Extra over item 1.13.3 percentage to cover costs, overheads and profits	%	15 000		
			<b>Carried forward to next page</b>				

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			Brought forward from previous page				
<b>A14</b>	8,6		<b>PRIME COST ITEMS</b>				
A14.1	8.6.1	LI	Additional quality control tests by approved laboratory as instructed by the Engineer. (The cost of tests not conforming to the specified standards shall not be included for payment.	PC Sum	1	R 50 000,00	R 50 000,00
A14.2			Extra over item 1.14.1 percentage to cover costs, overheads and profits	%	50 000		
A14.3	8.6.2	LI	Monthly Environmental Audits to be conducted by an approved Professional Service Provider and to comply with Environmental Act.	PC Sum	1	R 150 000,00	R 150 000,00
A14.4			Extra over item 1.14.3 percentage to cover costs, overheads and profits	%	150 000		
A14.5	8.6.3	LI	Monthly Health and Safety Audits to be conducted by an approved Professional Service Provider and to comply with the Health and Safety Act.	PC Sum	1	R 150 000,00	R 150 000,00
A14.6			Extra over item 1.14.5 percentage to cover costs, overheads and profits	%	150 000		
<b>A15</b>	8,7		<b><u>Daywork (Provisional)</u></b>				
A15.1			<b><i>Labour (incl. overheads, profit, small tools, etc.)</i></b>				
A15.1.1			Skilled	h	50		
			Carried forward to next page				



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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			<b>Brought forward from previous page</b>				
A15.1.2			Semi-skilled	h	100		
A15.1.3			Unskilled	h	500		
A15.2			<b>Materials</b>				
A15.2.1			Nett costs of Materials	Prov Sum	1	R 15 000,00	R 15 000,00
A15.2.2			Extra over item 1.15.2.1 percentage to cover costs, overheads and profits	%	15 000		
A15.3			<b>Plant (incl. overheads, profits, operators, fuel, etc.)</b>				
A15.3.1			Backactor CAT 320	h	30		
A15.3.2			Loader CAT 936	h	30		
A15.3.3			Grader CAT 140 G	h	30		
A15.3.4			Roller BW 212	h	30		
A15.3.5			Compressor 325 CFM plus tools	h	30		
A15.3.6			Portable dewatering pump ... 3" (75mm dia)	h	60		
A15.3.7			Tipper Truck 6m3	h	60		
A15.3.8			Tipper Truck 10m3	h	60		
A15.3.9			Whacker	h	70		
A15.3.10			Bobcat	h	40		
A15.3.11			TLB	h	40		
<b>A16</b>	8,8		<b>TEMPORARY WORKS</b>				
A16.1	8.8.2		<u>Dealing with traffic</u>				
A16.1.1	8.8.2	LI	Deal with traffic and maintain access (or accommodation of traffic) for the full duration of the construction period	Sum	1		
			<b>Carried forward to next page</b>				

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			<b>Brought forward from previous page</b>				
A16.2	8.8.4		<b><u>Existing Services</u></b>				
A16.2.1			a) Supply or hire and use specialist equipment for the detection of underground services (On instruction of the Engineer)	Prov Sum	1	R 25 000,00	R 25 000,00
A16.2.2			Extra over item 1.16.2.1 percentage to cover costs, overheads and profits	%	25 000		
A16.2.3		LI	c) Excavate by hand in soft material to expose existing services where instructed by the Engineer	m³	50		
A16.2.4			d) Protection of existing services on site for the full duration of the Contract	Sum	1		
<b>A17</b>	8.8.5		<b><u>Cost of Survey in terms of the Land Survey Act</u></b>				
A17.1	8.8.5.1	LI	<b><u>Verification only on instruction of the Engineer</u></b> , of the setting out of the works done by a Registered Land Surveyor, including the verification of the survey and verification of "as built" information on completion of the Works	Prov Sum	1	R 50 000,00	R 50 000,00
A17.2			Extra over item 1.17.1 percentage to cover costs, overheads and profits	%	50 000		
A17.3	8.8.5.2	LI	Locate and record all survey beacons, bench marks and erf boundary pegs in the vicinity of the Works	Sum	1		
A17.4	8.8.5.3	LI	Protection of beacons, bench marks and pegs located under item 1.17.3	Sum	1		
A17.5	8.8.5.4	LI	Where ordered by the Engineer, re-establish boundary pegs and special pegs by a registered Land Surveyor when pegs have been removed, or disturbed prior to commencement of construction	No	50		
A17.6	8.8.5.5	LI	Re-establish or place boundary pegs or control pegs by a Registered Land Surveyor only on instruction by the Engineer	Prov Sum	1	R 20 000,00	R 20 000,00
A17.7			Extra over item 1.17.6 percentage to cover costs, overheads and profits	%	20 000		
			<b>Carried forward to next page</b>				

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			Brought forward from previous page				
A18	8.9		<b>COMMUNITY PARTICIPATION</b>				
A18.1	8.9.1		<b><u>Training</u></b>				
A18.1.1			Allow for Accredited Training for Local Labour all inclusive of Transport and Subsistence as per EPWP guidelines	Prov Sum	1	R 80 000,00	R 80 000,00
A18.1.2			Extra over item 1.18.1.1 percentage to cover costs, overheads and profits	%	80 000		
A18.2	8.9.2		<b><u>Community Liaison Officer</u></b>				
A18.2.1			Allow for monthly payment of the CLO salary by the Contractor only on instruction of the Engineer (Tenderer to indicate duration)	mnth		R 4 635,00	
A18.2.2			Extra over item 1.18.2.1 percentage to cover costs, overheads and profits	%	0		
Total for Section A carried to summary page							

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>SECTION B - PIPELINE</b>							
<b>SITE CLEARANCE</b>							
<b>B1</b>	1200 C		<b>Site clearance</b>				
B1.1	8.2.1		Clear and grub 2m wider on each side	m	600		
B1.2	8.2.2		Remove and grub large trees and tree stumps of girth				
B1.2.1			a) over 1m and up to and including 2m	No	2		
B1.2.2			b) over 2m and up to and including 3m	No	1		
B1.3	8.2.4		Reclear surfaces (only on instruction from the Engineer)	ha	1		Rate Only
B1.4	8.2.5		Take down and re-instating existing fences	m	1		Rate Only
B1.5	8.2.6		Clear hedge	m	1		Rate Only
B1.6	8.2.6		Clear fence	m	24		Rate Only
B1.7	8.2.8		Demolish and remove structures / buildings and dismantle steelwork, etc.	Sum	1		Rate Only
B1.8	8.2.9		Transport materials and debris to specified sites and dump at sites approved by Engineer.	m³.km	1		Rate Only
B1.9	8.2.10		Remove topsoil to depth of 150mm and stockpile	m³	90		
<b>TOTAL FOR SECTION B1 CARRIED FORWARD TO SUMMARY PAGE</b>							

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SABS 1200 DB		<b>EARTHWORKS (PIPE TRENCHES)</b>				
<b>B2</b>	8,1		<b>Excavation</b>				
B2.1	8.3.2		a) Excavate in all materials for trenches 0-1m wide, backfill, compact, and dispose of surplus and/or unsuitable material, for any pipe size for total trench depth within the free haul distance				
B2.1.1			1) Exceeding 0,0m but not exceeding 1,0m	m³	600		
B2.1.2			2) Exceeding 1,01m but not exceeding 1,5m	m³	300		
B2.1.3			3) Exceeding 1,51m but not exceeding 2,0m	m³			Rate Only
B2.1.4			4) Exceeding 2,01m but not exceeding 3.0m	m³			Rate Only
B2.1.5			4) Exceeding 3,01m but not exceeding 4.0m	m³			Rate Only
B2.2	8.3.2		<b>b) Extra-over items a) above for</b>				
B2.2.1	8,4		2) Hard rock excavation	m³	45		
B2.2.2	8,5	LI	3) Excavation in soft material by labour based methods for trenches shallower than 1,5m. Compaction by labour based methods is excluded.	m³			Rate Only
B2.3	8.3.2	LI	c) Hand Excavation and dispose of unsuitable material from trench bottom (provisional)	m³	36		
B2.4		LI	d) Backfilling of trenches by using labour intensive methods including compaction to specifications	m³	25		
B2.5			<b>Excavation Ancillaries</b>				
B2.5.1			<b>Make up deficiency in backfill material</b>				
B2.5.1.1	8.3.3.1		a) From other necessary excavations on site	m³			Rate Only
B2.5.1.2	8.3.3.1		b) By importation from designated borrow pits	m³			Rate Only
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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			<b>Brought forward from previous page</b>				
B2.5.1.3	8.3.3.1		c) By importation from commercial or off-site sources selected by the Contractor including the total haul distance	m <sup>3</sup>			Rate Only
B2.5.2	8.3.3.3		Compaction in road reserves	m <sup>3</sup>			Rate Only
B2.6			<b>Existing Services that intersect or adjoin</b>				
B2.6.1	8.3.5		a) Services that intersect a trench				
B2.6.1.1			i) HT Underground cable	No.			Rate Only
B2.6.1.2			ii) HT Overhead cable	No.			Rate Only
B2.6.1.3			iii) LT Underground cable	No.			Rate Only
B2.6.1.4			iv) LT Overhead cable	No.			Rate Only
B2.6.1.5			v) Telkom underground cable	No.			Rate Only
B2.6.1.6			vi) Telkom overhead cable	No.			Rate Only
B2.6.2	8.3.5		b) Services that adjoin a trench				
B2.6.2.1			i) HT Underground cable	m			Rate Only
B2.6.2.2			ii) HT Overhead cable	m			Rate Only
B2.6.2.3			iii) LT Underground cable	m			Rate Only
B2.6.2.4			iv) LT Overhead cable	m			Rate Only
B2.6.2.5			v) Telkom underground cable	m			Rate Only
B2.6.2.6			vi) Telkom overhead cable	m			Rate Only
B2.7	8.3.6		<b>Finishing</b>				
B2.7.1	8.3.6.1		Reinstate road surfaces complete with all courses				
B2.7.1.1			a) Complete with all courses except surfacing	m <sup>2</sup>			Rate Only
B2.7.1.2			b) Asphalt 30mm thick in roadway	m <sup>2</sup>			Rate Only
<b>TOTAL FOR SECTION B2 CARRIED FORWARD TO SUMMARY PAGE</b>							

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B3	SABS 1200 L		<b>MEDIUM PRESURE PIPELINE</b>				
B3.1	8.2.1		<b>Supply, lay, joint, disinfect and test complete with the following uPVC pressure pipes:</b>				
B3.1.1			a) 355mm dia. Class 12 - uPVC	m	600		
B3.2	8.2.2		<b>Fittings and Special Fittings for uPVC Pipes</b>				
			Supply, lay and bed, including cut pipes to length where required and test the following fittings and specials complete. Fittings for uPVC Class 12 (unless otherwise specified) and/or steel and/or cast iron.				
B3.2.1			<b>Bends</b>				
B3.2.1.1			<b>(vi) 355mm Diameter bends - uPVC Class 12</b>				
B3.2.1.1			a) 11.25°	No.			Rate Only
B3.2.1.2			b) 22.5°	No.	1		
B3.2.1.3			c) 45°	No.			Rate Only
B3.2.1.4			d) 90°	No.	1		
B3.2.2			<b>Equal T-pieces uPVC Class 12</b>				
B3.2.2.1			a) 355 X 355mm diameter	No.			Rate Only
B3.3			<b>Reducing T-pieces uPVC Class 20</b>				
B3.3.1			a) 355 X 90mm diameter	No.			Rate Only
B3.3.2			b) 355 X 110mm diameter	No.			Rate Only
B3.3.3			c) 355 X 160mm diameter	No.			Rate Only
B3.3.4			d) 355 X 200mm diameter	No.			Rate Only
			<b>Carried forward to next page</b>				

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			Brought forward from previous page				
			<b>Ancillaries</b>				
B3.3.5			<b>Thrust Block</b> V = Volume (m3) and X = Width (m) Dimensions as per details per drawing				
B3.3.6			a) V = 0.05 ; W =0.275	No.			Rate Only
B3.3.7			b) V = 0.1 ; W =0.5	No.			Rate Only
B3.3.8			c) V = 0.3 ; W =0.85	No.			Rate Only
B3.3.9			d) V = 0.45 ; W =1.1	No.			Rate Only
TOTAL FOR SECTION B3 CARRIED FORWARD TO SUMMARY PAGE							



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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SABS 1200 LB		<b>BEDDING</b>				
<b>B4</b>	8.2.1		<b>Provision of Bedding from Trench Excavation with unlimited free haul distance</b>				
B4.1	8.2.1		a) Selected granular material	m³			Rate Only
B4.2			b) Selected fill material	m³			Rate Only
	8.2.2		<b><u>Supply only of Bedding by Importation</u></b>				
			<b>From other necessary excavations within the free haul distance</b>				
B4.3			a) Selected granular material	m³			Rate Only
B4.4			b) Selected fill material	m³			Rate Only
			<b>From borrow pits (provisional)</b>				
B4.5			a) Selected granular material	m³			Rate Only
B4.6			b) Selected fill material	m³			Rate Only
	8.2.2.3		<b>From Commercial sources including total haul distance (provisional)</b>				
B4.7			a) Selected granular material	m³	60		
B4.8			b) Selected fill material	m³	180		
	8.2.4		<b>Encasing of Pipes in Concrete</b>				
B4.9			a) 0 to 355mm dia. pipes in concrete (Class 15/19 concrete)	m³	9		
			<b>Encasing of Pipes in Soilcrete</b>				
B4.10			a) 0 to 355mm dia. pipes in soilcrete as per drawing (12% cement added per volume) vibrated as for concrete	m³	9		
B4.11			Provisional Sum for dealing with Ground Water	Sum	1		
<b>TOTAL FOR SECTION B4 CARRIED FORWARD TO SUMMARY PAGE</b>							

ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C1			<b>SECTION C - CHAMBERS</b>				
			<b><u>BULK SURFACE EXCAVATIONS AND TRENCHING</u></b>				
			<b>EQUIPMENT ITEMS</b>				
			The costs of Contractor's equipment, Temporary Works or both which may be required either for the execution of the Works in general or with specific areas or operations or Portions of the Works shall be priced in Part A : General PC 1.004 and 1.008 and not included in the rates for the quantity proportional items below				
C1.1			<b><u>Bulk surface excavations</u></b>				
	9,001		<b>Excavation in all materials to spoil</b>				
	9.001(a)		<u>Restricted excavation for:</u>				
C1.1.1			Isolating Valve, 300 to 500mm diameter	m <sup>3</sup>	40		
C1.1.12			Flow meter, 300 to 500mm diameter	m <sup>3</sup>	21		
C1.3	9,003		<b>Excavation in all materials to stockpile</b>				
	9.003(a)		<u>Restricted excavation for:</u>				
C1.3.1			Isolating Valve, 300 to 500mm diameter	m <sup>3</sup>	10		
C1.3.12			Flow meter, 300 to 500mm diameter	m <sup>3</sup>	6		
C1.4	9,005		<b>Additional excavation in all material</b>				
C1.4.1	9.005(a)		Restricted excavation	m <sup>3</sup>			Rate Only
C1.4.2	9.005(b)		Bulk excavation	m <sup>3</sup>			Rate Only
C1.4.3	9,006		Extra-Over items 9.001 to 9.005 for hard excavation (blasting)	m <sup>3</sup>			Rate Only
C1.4.4	9,007		Extra-over items 9.001 to 9.005 for hard excavation (by non-explosive means)	m <sup>3</sup>	0		Rate Only
			<b>Carried forward to next page</b>				

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C1.5	9,009		Brought forward from previous page				
			<b>In situ treatment of foundations</b>				
C1.5.1	9.009(a)		Compaction of in-situ material (95% MOD AASHTO density)	m <sup>2</sup>	33		
C1.5.2	9.009(b)		In-situ treatment by ripping	m <sup>3</sup>	5		
C1.5.3	9.009(c)		In-situ treatment by blasting	m <sup>3</sup>			Rate Only
C1.6	9,01		<b>Excavation by hand</b>				
C1.6.1	9.010(a)		Restricted excavation	m <sup>3</sup>	1		Rate Only
C1.7	9,011		Overhaul	m <sup>3</sup> /km	1		Rate Only
TOTAL FOR SECTION C1 CARRIED FORWARD TO SUMMARY PAGE							

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>C2</b>			<b><u>BACKFILLING AND BEDDING</u></b>				
			<b><u>EQUIPMENT ITEMS</u></b>				
			The costs of Contractor's equipment, Temporary Works or both which may be required either for the execution of the Works in general or with specific areas or operations or Portions of the Works shall be priced in Part A : General PC 1.004 and 1.008 and not included in the rates for the quantity proportional items below				
			<b><u>Embankment, terraces and structure backfill</u></b>				
	15,013		<b>Construction of embankment or structure backfill</b>				
C2.1	15.013(a)		<u>Compaction to specified density:</u>				
			<u>From excavations:</u>				
C2.1.1			Selected layers in structure backfill (G7 material) - 93% MOD AASHTO	m³			Rate Only
C2.1.2			Selected layers and cement stabilized in embankments/fill around chambers compacted to 90% of modified AASHTO density	m³			Rate Only
			<u>Selected layers in structure backfill (G7 material) - 93% MOD AASHTO:</u>				
C2.1.4			Isolating Valve, 300 to 500mm diameter	m³	19		
C2.1.24			Flow meter, 300 to 500mm diameter	m³	5		
			<u>From commercial sources:</u>				
C2.1.27			Selected layers in structure backfill (G7 material) - 93% MOD AASHTO	m³	1		Rate Only
C2.2	15,015		Overhaul	m3/ Km	1		Rate Only
<b>TOTAL FOR SECTION C2 CARRIED FORWARD TO SUMMARY PAGE</b>							

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C3			<b><u>CONCRETE WORKS (STRUCTURAL)</u></b>				
			<b><u>EQUIPMENT ITEMS</u></b>				
			The costs of Contractor's equipment, Temporary Works or both which may be required either for the execution of the Works in general or with specific areas or operations or Portions of the Works shall be priced in Part A : General PC 1.004 and 1.008 and not included in the rates for the quantity proportional items below				
			<b><u>SCHEDULED FORMWORK ITEMS</u></b>				
C3.1	20,001		<b>Rough formwork to:</b>				
	20.001(a)		<u>Vertical surfaces:</u>				
			<u>Sides of chamber floor slabs</u>				
C3.1.1			Isolating Valve, 300 to 500mm diameter	m <sup>2</sup>			
C3.1.12			Flow meter, 300 to 500mm diameter	m <sup>2</sup>			
C3.2			<u>Sides of sumps</u>				
C3.2.1			Isolating Valve, 300 to 500mm diameter	m <sup>2</sup>			
C3.2.12			Flow meter, 300 to 500mm diameter	m <sup>2</sup>			
C3.3	20,002		<b>Smooth formwork to:</b>				
	20.002(a)		<u>Vertical surfaces:</u>				
			<u>Sides of chamber walls</u>				
C3.3.1			Isolating Valve, 300 to 500mm diameter	m <sup>2</sup>	84		
C3.3.12			Flow meter, 300 to 500mm diameter	m <sup>2</sup>	55		
C3.4			<u>Sides of plinths</u>				
C3.4.1			Isolating Valve, 300 to 500mm diameter	m <sup>2</sup>	2		
C3.4.12			Flow meter, 300 to 500mm diameter	m <sup>2</sup>	1		
			<b>Carried forward to next page</b>				

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			<b>Brought forward from previous page</b>				
C3.5			<u>Roof slab edges</u>				
C3.5.1			Chambers	m <sup>2</sup>			Rate Only
C3.6	20.002(b)		<u>Horizontal surfaces:</u>				
C3.6.1			Soffits of septic tank roof slabs and remove through confined spaces / access openings	m <sup>2</sup>			Rate Only
C3.7	20,005		<b>Narrow widths (up to 300mm wide)</b>				
	20.005(a)		<u>Different widths in the following ranges:</u>				
C3.7.1			Over 100mm and up to 200mm (roof slab edges)	m			Rate Only
C3.7.2			Over 200mm and up to 300mm (sides of sumps)	m	5		
	20.005(b)		<u>Grooves, chases and splays:</u>				
C3.7.3			25mm Drip groove	m	45		
C3.8			<b><u>SCHEDULED REINFORCEMENT ITEMS</u></b>				
C3.8.1	20,007		<b>Steel bars:</b>				
	20.007(a)		<u>Mild-steel and high-tensile steel bars</u>				
C3.8.1.1			All diameters	t	0,013		
C3.9			<b><u>SCHEDULED CONCRETE ITEMS</u></b>				
C3.9.1	20,011		<b>Blinding layer class 15/19mm</b>				
C3.9.1.1	20.011(a)		50mm minimum thickness	m <sup>2</sup>	11		
C3.10	20,012		<b>Strength concrete, grade</b>				
	20.012(b)		<u>Strength concrete class 30/19 mm</u>				
			<u>Isolating Valve, 300 to 500mm diameter</u>				
C3.10.1			Floor slabs and sumps	m <sup>3</sup>			Rate Only
C3.10.2			Walls	m <sup>3</sup>			Rate Only
C3.10.3			Plinths	m <sup>3</sup>			Rate Only
			<b>Carried forward to next page</b>				

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			<b>Brought forward from previous page</b>				
			<u>Flow meter, 300 to 500mm diameter</u>				
C3.10.34			Floor slabs	m <sup>3</sup>	4		
C3.10.35			Walls	m <sup>3</sup>	7		
C3.10.36			Plinths	m <sup>3</sup>			Rate Only
C3.11	20,013		<b>Unformed surface finishes</b>				
C3.11.1	20.013(a)		Wood floated finish	m <sup>2</sup>			Rate Only
C3.11.2	20.013(b)		Steel floated finish	m <sup>2</sup>	11		
C3.12	20,016		<b>Joints</b>				
	20.016(a)		<u>Sealing joints as detail on drawing</u>				
C3.12.1			Polyurethane sealant in top of v-shaped openings between precast concrete roof slabs	m			Rate Only
C3.12.2			Polyurethane sealant along vertical edge and overhang bottom between precast concrete roof slabs	m	12		
			<u>Polyurethane or Polysulphide flexible sealant between coated steel pipe and concrete for:</u>				
C3.12.3			100mm diameter pipes	No			Rate Only
C3.12.4			150mm diameter pipes	No			Rate Only
C3.12.5			300mm diameter pipes	No			Rate Only
C3.12.6			400mm diameter pipes	No	1		
C3.12.7			500mm diameter pipes	No			Rate Only
	20.016(b)		<u>Slip joint</u>				
C3.12.8			Dry to dry concrete epoxy adhesive between top of wall and bottom of pre-cast concrete roof slabs	m <sup>2</sup>	3		
			<b>Carried forward to next page</b>				

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			<b>Brought forward from previous page</b>				
C3.12.9	20.016(c)		<u>Isolation joint</u> 2 Ply maltoid or similar approved sheeting between pipes and top of concrete plinths	m <sup>2</sup>			Rate Only
C3.13	20,017		<b>Manufacture (or supply) and erect precast elements (complete with smooth off-shutter formwork, chamfers, drip grooves, etc.</b>				
	20.017(b)		<u>For units bigger than 0.5m<sup>3</sup> of formed concrete (allow 85kg/m<sup>3</sup> reinforcing)</u>				
C3.13.1			<u>Isolating Valve roof slabs, 300 to 500mm diameter</u> 4100mm long x 1300mm wide x 200mm thick with one 260mm diameter opening for ventilation pipe, four lifting hooks and four 20mm diameter x 300mm long SS304L stubs casted in	No			Rate Only
			<u>Flow meter, 300 to 500mm diameter</u>				
C3.13.37			2800mm long x 2800mm wide x 200mm thick, with 900mm square opening for chamber lid, with two 260mm diameter openings for ventilation pipes, four lifting hooks and four 20mm diameter x 300mm long SS304L stubs casted in	No	1		
	20.017(c)		<u>For complete precast concrete rings, etc. as shown on drawing</u>				
C3.14	20,019		<b>HD bolts and miscellaneous metal work</b>				
C3.14.1			Valve number identification plates	No	1		
C3.14.2			Operation and safety instructions engraved on a copper plate, or similar approved by the engineer, fixed to concrete walls	No	1		
C3.15	20,021		<b>Miscellaneous work other than metal work</b>				
C3.15.1			Core drill on site 100mm diameter holes through 250mm thick precast concrete roof slabs for valve spindle positions	No			Rate Only
C3.16	33,005		<b>Items cast or built into concrete</b>				
C3.16.1	33.005(a)		Pipes up to 500mm diameter	No	2		
<b>TOTAL FOR SECTION C3 CARRIED FORWARD TO SUMMARY PAGE</b>							



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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C4			<b><u>STRUCTURAL STEEL</u></b>				
			<b><u>EQUIPMENT ITEMS</u></b>				
			The costs of Contractor's Equipment, Temporary Works or both which may be required either for the execution of the Works in general or with specific areas or operations or Portions of the Works shall be priced in Part A : General PC 1.004 and 1.008 and not included in the rates for the quantity proportional items below				
C4.1	24,008		<b>Ladders, complete and installed as shown on the following drawings: All in hot-dipped galvanized mild steel.</b>				
C4.1.1			Internal, over 1000mm and up to 2000mm high	No			Rate Only
C4.1.2			Internal, over 2000mm and up to 3000mm high	No	1		
C4.1.3			Internal, over 3000mm and up to 4000mm high	No			Rate Only
C4.2			<b>Step irons, complete and installed as shown on the following drawings: All in hot-dipped galvanized mild steel.</b>				
C4.2.1			Prefabricated steel steps	No	10		
C4.3	24,009		<b>Flooring and frames, complete and installed</b>				
	24.009(a)		<u>Open grid flooring</u>				
C4.3.1			Hot dip galvanised sump grating 760mm x 660mm complete with cast-in and bolted frames (for 700mm x 500mm sump as on drawing )	No	2		
C4.3.2	24.009(d)		<u>Hot dip galvanised valve access / pipe walkway platforms complete with hand railing, ladders, etc. as shown on drawing</u>				
C4.3.3			Platform size 860mm long x 712mm wide x 1280mm high (L1 dimension) with two ladders and hand railing	No			Rate Only
C4.3.4			Platform size 1110mm long x 712mm wide x 1540mm high (L1 dimension) with two ladders and hand railing	No			Rate Only
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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C4.3.5			<p>Brought forward from previous page</p> <p>Platform size 1410mm long x 712mm wide x 1825mm high (L1 dimension) with two ladders and hand railing</p>	No			Rate Only
TOTAL FOR SECTION C4 CARRIED FORWARD TO SUMMARY PAGE							

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
D1			<b>SECTION D - MECHANICAL</b>				
D1			<b><u>VALVES</u></b>				
D1			<b><u>FLOW METER</u></b>				
D1.1			Supply and Installation of Flow meter including all associated pipe work inside chamber	No	1		
D2			<b><u>ISOLATING VALVE</u></b>				
D2.1			Supply and Installation of isolating valve including all associated pipe work inside chamber	No	5		
<b>TOTAL FOR SECTION D1 CARRIED FORWARD TO SUMMARY PAGE</b>							

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
E1	1200 DB		<b>SECTION E: SEWER CONNECTION</b>				
	8.3.2		<b>Earthworks (Pipe Trenches)</b>				
			<b>Excavation</b>				
E1.1	8.3.2		a) Excavate in all materials for trenches, backfill, compact, and dispose of surplus material, for pipes up to 500mm dia. for total trench depth				
E1.1.1			1) Exceeding 0,0m but not exceeding 1,0m	m³	3		
E1.1.2			2) Exceeding 1,0m but not exceeding 2,0m	m³	3		
E1.1.3			3) Exceeding 2,0m but not exceeding 3,0m	m³	4		
E1.1.4			4) Exceeding 3,0m but not exceeding 4,0m	m³			
E1.2	8.3.2		b) Extra-over items a) above for				
E1.2.1			1) Hard rock excavation	m³	1		
E1.2.2			2) Excavation in soft material by labour based methods for trenches shallower than 1,5m. Compaction by labour based methods is excluded.	m³			Rate Only
E1.2.3	8.3.2		c) Excavate and dispose of unsuitable material from trench bottom (provisional)	m³			
E1.3	8.3.3		<b>Excavation Ancillaries</b>				
E1.3.1	8.3.3.1		Make up deficiency in backfill material (provisional)				
E1.3.1.1			a) From other necessary excavations on site	m³			Rate Only
E1.3.1.2			b) By importation from commercial sources	m³	4		
E1.4	8.3.3.3		Compaction in road reserves	m³			Rate Only
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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			<b>Brought forward from previous page</b>				
E1.5	8.3.5		<b>Existing Services that Intersect or Adjoin a Pipe Trench</b>				
E1.5.1	8.3.5		a) Services that intersect a trench				
E1.5.2			i) Water pipe	No			Rate Only
E1.5.3			ii) Sewer pipe	No			Rate Only
E1.5.4			iii) Stormwater pipe	No			Rate Only
E1.5.5			iv) HT Underground cable	No			Rate Only
E1.5.6			v) HT Overhead cable	No			Rate Only
E1.5.7			vi) LT Underground cable	No			Rate Only
E1.5.8			vii) LT Overhead cable	No			Rate Only
E1.5.9			viii) Telkom underground cable	No			Rate Only
E1.5.10			ix) Telkom overhead cable	No			Rate Only
E1.6	8.3.5		b) Services that adjoin a trench				
E1.6.1			i) Water pipe	m			Rate Only
E1.6.2			ii) Sewer pipe	m			Rate Only
E1.6.3			iii) Stormwater pipe/Channel	m			Rate Only
E1.6.4			iv) HT Underground cable	m			Rate Only
E1.6.5			v) HT Overhead cable	m			Rate Only
E1.6.6			vi) LT Underground cable	m			Rate Only
			<b>Carried forward to next page</b>				

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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			<b>Brought forward from previous page</b>				
	8.3.6		<b>Finishing</b>				
E1.7	8.3.6.1		Reinstate road surfaces complete with all courses				
E1.7.1			a) Complete with all courses except surfacing				
E1.7.1.1			i) Gravel roads	m <sup>2</sup>			Rate Only
E1.7.1.2			ii) Surfaced roads	m <sup>2</sup>			Rate Only
E1.7.2			b) Gravel wearing course 150 mm thick	m <sup>2</sup>			Rate Only
E1.7.3			c) Asphalt 50 mm thick on roadway	m <sup>2</sup>			Rate Only
E1.7.4			d) Grading of streets after completion	Km			Rate Only
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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
E2	1200 LD		<b>Pipework</b>				
E2.1	8.2.1		Supply, Lay, Joint, Bed and Test Pipeline: 300mm Concrete pipe				
E2.1.1			a) 300 mm dia.	m	3		
E2.2	8.2.2		Extra-Over Item 8.2.1 for Specials:				
E2.2.1			a) 45 ° Y junction 300 mm ø with 45° x 300 mm Concrete bend to existing sewer line	No	1		
E2.3	8.2.7		Encasing of pipes in concrete				
E2.3.1			a) For connection between erf sewer collector and sewer mains at depths greater than 1,2 m according to detail on drawing	No			Rate Only
E2.4	8.2.8		<b>Anchor Blocks</b>				
E2.4.1			a) As per drawing for:				
E2.4.1.1			i) 300mm sewer	m³	3		
E2.5	8.2.2		Extra-Over Item 8.2.1 for Specials:				
E2.5.1			End Caps for:				
E2.5.1.1			i) 300mm sewer	No			Rate Only
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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>E3</b>	1200 LB		<b>Bedding</b>				
E3.1	8.2.1		Provision of Bedding from Trench Excavation with unlimited free haul distance				
E3.1.1			a) Selected granular material	m³			Rate Only
E3.1.2			b) Selected fill material	m³			Rate Only
E3.2	8.2.2		Supply only of Bedding by Importation				
E3.2.1	8.2.2.3		From Commercial sources (Provisional)				
E3.2.1.1			a) Selected granular material	m³	2		
E3.2.1.2			b) Selected fill material	m³	9		
E3.3	1200 LD 8.2.7		<b>Encasing of Pipes in Concrete</b>				
E3.3.1			a) 0 to 200mm dia. pipes in concrete (Class 15/19 concrete)	m³			Rate Only
E3.4	8.2.7		Encasing of Pipes in Soilcrete				
E3.4.1			a) 0 to 200mm dia. pipes in soilcrete as per drawing (12% cement added per volume) vibrated as for concrete	m³	7		
<b>TOTAL FOR SECTION E3 CARRIED FORWARD TO SUMMARY PAGE</b>							



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ITEM NO	PAYMENT CLAUSE	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>E4</b>	1200 LD		<b>Manholes</b>				
E4.1	8.2.3		1800m Complete as per drawing for depth between:				
E4.1.1			a) 0,00m and 1,00m	No			Rate Only
E4.1.2			b) 1,01m and 1,50m	No			Rate Only
E4.1.3			c) 1,51m and 2,00m	No			Rate Only
E4.1.4			d) 2,01m and 2,50m	No			Rate Only
E4.1.5			e) 2,51m and 3,00m	No	1		
E4.1.6			f) 3,01m and 4,00m	No			Rate Only
E4.2	8.2.4		Extra over Item 8.2.3 for Backdrops, etc.				
E4.2.1			a) High inlet ramp type complete as per drawing	No			Rate Only
E4.2.2			b) High inlet vertical drop type complete as per drawing	No			Rate Only
E4.3	8.2.11		<b>Connection to Existing Sewer at</b>				
E4.3.1			a) Connecting to Existing Manhole for depth				
E4.3.1.1			i) 0,00m and 1,00m	No			Rate Only
E4.3.1.2			ii) 1,01m and 1,50m	No			Rate Only
E4.3.1.3			iii) 1,51m and 2,00m	No			Rate Only
E4.3.1.4			iv) 2,01m and 2,50m	No	3		
E4.3.1.5			v) 2,51m and 3,00m	No			Rate Only
E4.3.2			b) Connecting to Existing Main Sewer				
E4.3.2.1			iii) 300 mm sewer	No	3		
<b>TOTAL FOR SECTION E4 CARRIED FORWARD TO SUMMARY PAGE</b>							

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F1	SANS 1200 C		<b><u>SECTION F - RESERVOIR</u></b>				
			<b><u>SANS 1200 C: SITE CLEARANCE</u></b>				
F1.1	8.2.1		Clear and grub the entire reservoir site, access road and materials storage area	ha	0,30		
	8.2.2		Remove and grub large trees and tree stumps of girth.				
F1.2		LI	1. Over 1m and up to and including 3m	No	8		
F1.3		LI	2. Over 3m	No	5		
F1.4			Penalty for unauthorized removal or damage of indigenous trees on the site area	No	3		
			Dealing with walls from:				
F1.5		LI	1m to 2m in height	m			Rate Only
F1.6		LI	greater than 2m in height	m			Rate Only
			Dealing with fences from:				
F1.7		LI	1m to 2m in height	m			Rate Only
F1.8		LI	greater than 2m in height	m			Rate Only
			Supply and erect gates in new or existing crossing fences				
	8.2.10		<u>Top soil (SANS 1200C):</u>				
F1.9			a) Excavate 150-300mm, stockpile and maintain (Includes cultivated areas)	m³	375		
F1.10			b) Replace in top layer of backfilled trench (includes cultivated areas)	m³	212		
F1.11			All Related work as per detailed drawings to deal with entrances to properties	Prov Sum	1	R50 000,00	R50 000,00
F1.12			Extra over item F1.11 percentage to cover costs, overheads and profits	%	50 000		
<b>TOTAL FOR SECTION F1 CARRIED FORWARD TO SUMMARY PAGE</b>							

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F2	SANS 1200DA		<b><u>SANS 1200 DA: EARTHWORKS (SMALL WORKS)</u></b>				
			Valve chambers and structures				
	8.3.1.a		Topsoil is measured in 1200C				
	8.3.1.b		<u>Excavate in all materials and use for backfill or disposal for:</u>				
F2.1			a) In soft material	m <sup>3</sup>	60		
F2.2			b) In rock	m <sup>3</sup>	5		
F2.3	8.3.1.c		Extra-over for boulder excavation	m <sup>3</sup>	2		
	8.3.2		<u>Restricted trench excavation</u>				
F2.4		LI	a) In soft material	m <sup>3</sup>	9		
F2.5		LI	b) In rock	m <sup>3</sup>	0		
F2.6	8.3.2.b		Extra-over for restricted trench excavation, boulders	m <sup>3</sup>	0		
F2.7	8.3.3		Overhaul (In excess of 10km radius from centre of reservoir site. Provisional as approved by Engineer)	m <sup>3</sup> km	0		Rate Only
F2.8	8.3.4		Importing of backfill material from a commercial source	m <sup>3</sup>	15		
F2.9	8.3.5		Crossing at angle or parallel to existing services	Sum	1		
F2.10	8.3.11		Replacement of topsoil is measured as in 1200D	m <sup>2</sup>	0		Rate Only
F2.11		LI	All Related work to ensure safety during open excavations	Sum	1		
	SANS 1200D						
F2.12	8.3.10		Top soiling to a minimum thickness of 150 mm after compaction	m <sup>2</sup>	30		
F2.13	8.3.11		Grassing	m <sup>2</sup>	30		
<b>TOTAL FOR SECTION F2 CARRIED FORWARD TO SUMMARY PAGE</b>							

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F3	SANS 1200DB		<b><u>SANS 1200 DB: EARTHWORKS (PIPE TRENCHES)</u></b>				
	8.3.1		Remove and grub measured in 1200C				
	8.3.1.c		Remove of topsoil measured in 1200C				
	8.3.2		Excavate in all materials for trenches, backfill, compact and dispose of surplus/unsuitable material for various widths and total trench depth; excluding bedding and selected fill.				
	8.3.2.1		Pipes of various sizes but limited from 200mm to 600mm NB				
F3.1			a) Exceeding 0.0m but not exceeding 2.0m	m <sup>3</sup>	17		
F3.2			b) Exceeding 2.0m but not exceeding 3.0m	m <sup>3</sup>			Rate Only
F3.3			c) Exceeding 3.0m but not exceeding 4.0m	m <sup>3</sup>			Rate Only
F3.4			d) Exceeding 4.0m but not exceeding 5.0m	m <sup>3</sup>			Rate Only
F3.5			e) Exceeding 5.0m but not exceeding 6.0m	m <sup>3</sup>			Rate Only
F3.6			f) Exceeding 6.0m but not exceeding 7.0m	m <sup>3</sup>			Rate Only
	8.3.2.		Extra over items 4.1.1 to 4.1.6 incl. for, (Provisional as approved by the Engineer):				
F3.7			a) In rock	m <sup>3</sup>	1		
F3.8		LI	Extra over Item 4.1.7 for Trial Blasting	m <sup>3</sup>	1		
F3.9		LI	Controlled Blasting	m <sup>3</sup>			Rate Only
F3.10	8.3.2.c	LI	Excavate and dispose of unsuitable material from trench bottom in rock and marshy areas. (Provisional as approved by the Engineer) - SANS 1200DB	m <sup>3</sup>	5		
F3.11	8.3.3		<b><u>EXCAVATION ANCILLARIES (SANS 1200DB)</u></b>				
	8.3.3.1		Make up deficiency in backfill material (Provisional as approved by the Engineer)				
			<b>Carried forward to next page</b>				

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F3.12	8.3.3.1.a		<b>Brought forward from previous page</b> From other necessary excavations on site	m³	12		
F3.13	8.3.3.1.c		By importation from commercial or off-site sources selected by the Contractor (Including haulage, in excess of 10km radius from centre of reservoir site. Provisional as approved by Engineer)	m³			Rate Only
F3.14	8.3.3.1	LI	Sieve from excavated material	m³			Rate Only
F3.15	8.3.3.4		Overhaul (In excess of 10km radius from centre of reservoir site. Provisional as approved by Engineer) - SANS 1200DB	m³km			Rate Only
	8.3.5.a		Services that intersect a trench - SANS 1200DB				
F3.16		LI	a) Cables (domestic connections)	No.			Rate Only
F3.17		LI	b) House water connections	No.			Rate Only
F3.18		LI	c) Sewer	No.			Rate Only
F3.19		LI	d) Water mains	No.			Rate Only
F3.20		LI	e) Stormwater pipes	No.			Rate Only
F3.21		LI	f) Overhead power lines	No.			Rate Only
F3.22		LI	g) Overhead Telkom lines	No.			Rate Only
	8.3.5.b		Services that adjoin a trench - SANS 1200DB				
F3.23		LI	a) Cables	m			Rate Only
F3.24		LI	b) Water and sewer mains	m			Rate Only
			Services requiring special care				
F3.25		LI	a) Overhead power cables	m			Rate Only
F3.26		LI	b) Overhead telephone cables	m			Rate Only
F3.27		LI	c) Underground telephone cables	m			Rate Only
			<b>Carried forward to next page</b>				

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F3.28	8.3.6		Brought forward from previous page				
			<b><u>FINISHINGS (SANS 1200DB)</u></b>				
	8.3.6.1		Reinstate road surfaces				
F3.29		LI	a) Gravel surface	m <sup>2</sup>			Rate Only
F3.30		LI	b) Gravel shoulders	m <sup>2</sup>			Rate Only
F3.31		LI	c) Concrete stormwater drain	m <sup>2</sup>			Rate Only
F3.32		LI	Excavate by hand in soft material to expose all services as instructed by Engineer	m <sup>3</sup>			Rate Only
F3.33		LI	Backfill the trench with soil cement as per drawing "Typical Bedding"	m <sup>3</sup>			Rate Only
F3.34		LI	Backfill the trench and other excavations with crusher run fill as per drawing "Typical Bedding" including provision and placing of Geotextile Grade A6 (Bidim U44) geotechnical blanket as specified by the Engineer	m <sup>3</sup>			Rate Only
			Replacement of topsoil: is measured in 1200C				
F3.35		LI	All Related work at residential areas to reinstate as before	Prov Sum	1	R30 000,00	R30 000,00
F1.12			Extra over item F3.35 percentage to cover costs, overheads and profits	%	30 000		
TOTAL FOR SECTION F3 CARRIED FORWARD TO SUMMARY PAGE							

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F4	SANS 1200DM		<b><u>SANS 1200DM : EARTHWORKS (ROADS , SUBGRADE)</u></b>				
F4.1	8.3.4		Cut to fill for reservoir foundation	m <sup>3</sup>	180		
F4.2	8.3.5		Borrow to fill selected G7 material compacted to 93 % of Mod. AASHTO max. density	m <sup>3</sup>	430		
F4.3	8.3.7		Cut to spoil unsuitable material and excess material from excavations in box cut	m <sup>3</sup>	90		
	8.3.6		<u>Extra-over Items for excavating and braking down material in:</u>				
F4.4			1) intermediate excavation	m <sup>3</sup>	18		
F4.5			2) hard rock excavation	m <sup>3</sup>	9		
F4.6			3) boulder excavation, Class A	m <sup>3</sup>	4		
F4.7			4) boulder excavation, Class B	m <sup>3</sup>	4		
F4.8	8.3.8		Removal of oversize material	m <sup>3</sup>	13		
	8.3.3		Treatment of road-bed				
F4.9			<u>a) Road-bed preparation and compaction of material to minimum of 93% Mod AASHTO max density</u>	m <sup>3</sup>	77		
			b) In-place treatment of road-bed in intermediate or hard rock material by				
F4.10			1) ripping and construction to minimum of 93% Mod AASHTO max density	m <sup>3</sup>	0		Rate Only
F4.11			2) blasting and construction to minimum of 93% Mod AASHTO max density	m <sup>3</sup>	0		Rate Only
F4.12			Importation of sub-base quality material for road-bed	m <sup>3</sup>	0		Rate Only
<b>TOTAL FOR SECTION F4 CARRIED FORWARD TO SUMMARY PAGE</b>							

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F5	SANS 1200G		<b><u>SANS 1200 G: CONCRETE (STRUCTURAL)</u></b>				
	8,2		<b><u>SCHEDULED FORMWORK ITEMS</u></b>				
	8.2.2		Smooth formwork to Degree of Accuracy II				
F5.1	a)		Vertical formwork to sides of footings	m <sup>2</sup>	105		Rate Only
F5.2	b)		Vertical formwork to sides of columns	m <sup>2</sup>			
F5.3	c)		Vertical formwork to walls	m <sup>2</sup>	1 450		
F5.4	8,3		<b><u>SCHEDULED REINFORCEMENT ITEMS</u></b>				
	8.2.2		high tensile steel reinforcement in ground beams, slabs and columns				
F5.5	a)		Y10	t	14,11		
F5.6	b)		Y12	t	46,64		
F5.7	c)		Y16	t	48,06		
F5.8	d)		Y20	t	14,17		
F5.9	e)		Y25	t	1,48		
F5.10	f)		Y32	t	1,54		
F5.11	8,4		<b><u>SCHEDULED CONCRETE ITEMS</u></b>				
F5.12	8.4.1		Prescribed Mix Concrete				
F5.13	a)		No-fines concrete	m <sup>3</sup>	116		
F5.14	b)		Soilcrete	m <sup>3</sup>	235		
F5.15	8.4.2		Blinding Layer in 15 Mpa concrete	m <sup>3</sup>	9,35		
	8.4.3		Strength Concrete				
F5.16	b)		30 MPa concrete in footings	m <sup>3</sup>	94		
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			<b>Brought forward from previous page</b>				
F5.17	d)		30 MPa concrete in columns	m <sup>3</sup>	18		
F5.18	e)		30 MPa concrete in slab	m <sup>3</sup>	276		
F5.19	f)		40 MPa in walls	m <sup>3</sup>	240		
	8.4.4		Unformed surface finishes				
F5.20	a)		Power floated finish to top of ground floor slab to degree of accuracy I	m <sup>2</sup>	775		
F5.20	b)		Steel floated finish to top of roof slab to degree of accuracy II	m <sup>2</sup>	940		
	8,5		Joints				
F5.21	a)		290 wide Sika DR-29 rear waterstop	m	479		
F5.22	b)		Sikadur Combiflex system - 200 Hypalon bandage complete with 50 x 50mm aluminium backing angle and sikadur 31 adhesive	m	151		
F5.23	c)		Sikadur Combiflex system - 200 Hypalon bandage complete with 75mm wide backing strip and Sikadur 31 adhesive	m	479		
F5.24	d)		Sika type M35 water bar	m	120		
F5.25	e)		20 x 10 mm Sika Swell hydrophylic waterproofing	m	1 188		
F5.26	f)		15 x 15 mm V-joint	m	120		
F5.27	g)		20 x 20 mm Construction Joint	m	120		
F5.28	h)		20mm Thick closed cell polyethylene Jointex	m	479		
<b>TOTAL FOR SECTION F5 CARRIED FORWARD TO SUMMARY PAGE</b>							

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F6	SANS 1200 GE		<b><u>SANS 1200 GE: PRECAST CONCRETE (STRUCTURAL)</u></b>				
	8.2.1		Provide structural precast units inclusive of reinforcement and connection details as shown on drawings				
F6.1	a)		400 x 400 x 6500mm Columns	no	21		
	8.2.2		Erect structural precast units inclusive of reinforcement and connection details as shown on drawings				
F6.2	a)		400 x 400 x 6500mm Columns	no	21		
TOTAL FOR SECTION F6 CARRIED FORWARD TO SUMMARY PAGE							

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F7	SANS 1200 HA		<b><u>SANS 1200 HA: STRUCTURAL STEELWORK (SUNDRY ITEMS)</u></b>				
			<b><u>SUNDRY ITEMS</u></b>				
	8.3.3		Cat ladder assembly complete as per drawing P0413C00-513-01				
F7.1		LI	a) Inside reservoir (Height = 6.3m)	No	1		
F7.2		LI	b) Outside reservoir (Height = 3.5m)	No	1		
F7.3		LI	Reservoir ventiation pipes complete as per drawing P0413C00-511-01	No	8		
TOTAL FOR SECTION F7 CARRIED FORWARD TO SUMMARY PAGE							

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F8	SABS 1200 ME		<b><u>SANS 1200 ME: SUBBASE</u></b>				
F8.1	8.3.3		Construct 150mm thick sub-base with approved G5 gravel imported from any source, compacted to minimum of 96% Mod AASHTO max density	m <sup>3</sup>	90		
	8.3.5		Extra-over Item for processing with stabilizing agent				
F8.2			a) Road bed	m <sup>3</sup>	16		Rate Only
F8.3			b) Sub-base	m <sup>3</sup>	40		
	8.3.8		<b>Stabilizing agent:</b>				
F8.4			a) Road lime	t	1		Rate Only
F8.5			b) Portland cement	t	6		
TOTAL FOR SECTION F8 CARRIED FORWARD TO SUMMARY PAGE							

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F9	SABS 1200 MK		<b><u>SANS 1200 MK: KERBING AND CHANNELLING</u></b>  Channelling - insitu concrete channeling rate shall cover the cost of supply of all materials for the channeling and bedding (100 mm thick, 25 MPa Concrete) and excavation, jointing, sealant, compacting to 95 % mod. AASHTO, testing, and for all labour in laying and jointing, together with all backfilling, compacting, and removal of excess material to own dump site as indicated on the relevant drawings.				
F9.1		LI	1000 mm wide concrete-lined v-drain	m	120		
F9.2			Roof drainage pipes supply and install of all related items	Sum	1		
F9.3			Subsoil drainage-supply and install of all materials including 250 mikron DCP (Welded)	Sum	1		
<b>TOTAL FOR SECTION F9 CARRIED FORWARD TO SUMMARY PAGE</b>							

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F10			<u>MISCELLANEOUS</u>				
F10.1		LI	Scour dissipator complete with wingwalls and stone pitching	Sum	1		
F10.2		LI	Chlorination and equipment building including all associated works	Sum	1		
F10.3		LI	Razor fence with access gates including all associated works	m	200		
TOTAL FOR SECTION F10 CARRIED FORWARD TO SUMMARY PAGE							

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F11			<b><u>PROVISIONAL SUMS</u></b>				
			<b><u>PROVISIONAL ALLOWANCES</u></b>				
F11.1			R20,000.00 (Twenty Thousand Rand) for builder's work in connection with the electrical installation.	Item	1		
F11.2			R20,000.00 (Twenty Thousand Rand) for builder's work in connection with the mechanical installation.	Item	1		
F11.3			R20,000.00 (Twenty Thousand Rand) for builder's work in connection with existing services and the relocation of existing services.	Item	1		
			<b><u>LANDSCAPING AND IRRIGATION</u></b>				
F11.4			R20,000.00 (Twenty Thousand Rand) for the design and installation of landscaping and irrigation	Item	1	R20 000,00	R20 000,00
F11.5			Profit	%	20000		
F11.6			Allow for general attendance	%	20000		
			<b><u>SIGNAGE</u></b>				
F11.7			R20,000.00 (Twenty Thousand Rand) for the design, manufacture, supply and installation of signage complete	Item	1	R20 000,00	R20 000,00
F11.8			Profit	%	20000		
F11.9			Allow for general attendance	%	20000		
			<b><u>FIRE SUPPRESSION</u></b>				
F11.10			R50,000.00 (Fifty Thousand Rand) for the design, manufacture, supply and installation of fire suppression complete	Item	1	R50 000,00	R50 000,00
F11.11			Profit	%	50000		
F11.12			Allow for general attendance	%	50000		
			<b>Carried forward to next page</b>				

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ITEM NO	PAYMENT REF NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			Brought forward from previous page				
F11.13			<b>RE-ESTABLISH OR PLACE BOUNDARY PEGS</b> R10,000.00 (Ten Thousand Rand) for the Re-establishing or placement of boundary pegs	Item	1	R10 000,00	R10 000,00
F11.14			Profit	%	10000		
F11.15			Allow for general attendance	%	10000		
			<b>CHAMBERS PIPEWORK AND CONNECTIONS</b>				
F11.16			R1,500,000.00 (One Million Five Hundred Thousand Rand) for the design, manufacture, supply and installation of chambers, pipework and connections complete	Item	1	R1 500 000,00	R1 500 000,00
F11.17			Profit	%	1500000		
F11.18			Allow for general attendance	%	1500000		
			<b>ELECTRICAL WORKS</b>				
F11.19			R200,000.00 (Two Hundred Thousand Rand) for all associated electrical installations required on site	Item	1	R200 000,00	R200 000,00
F11.20			Profit	%	200000		
F11.21			Allow for general attendance	%	200000		
			<b>PAVING AROUND RESERVOIR</b>				
F11.22			R50,000.00 (Fifty Thousand Rand) for paving surrounding the reservoir	Item	1	R50 000,00	R50 000,00
F11.23			Profit	%	50000		
F11.24			Allow for general attendance	%	50000		
			<b>ASPHALT ROAD</b>				
F11.25			R100,000.00 (One Hundred Thousand Rand) for the surfacing of the road to the reservoir	Item	1	R100 000,00	R100 000,00
F11.26			Profit	%	100000		
F11.27			Allow for general attendance	%	100000		
TOTAL FOR SECTION F11 CARRIED FORWARD TO SUMMARY PAGE							



	DESCRIPTION	AMOUNT
	<b>SECTION A - PRELIMANARIES &amp; GENERAL</b>	
A1	PRELIMANARIES & GENERAL	
	<b>SECTION B - PIPELINE</b>	
B1	SITE CLEARANCE	
B2	EARTHWORKS (PIPE TRENCHES)	
B3	MEDIUM PRESURE PIPELINE	
B4	BEDDING	
	<b>SECTION C - CHAMBERS</b>	
C1	BULK SURFACE EXCAVATIONS AND TRENCHING	
C2	BACKFILLING AND BEDDING	
C3	CONCRETE WORKS (STRUCTURAL)	
C4	STRUCTURAL STEEL	
	<b>SECTION D - MECHANICAL</b>	
D1	VALVES	
	<b>SECTION E - SEWER CONNECTION</b>	
E1	EARTHWORKS (PIPE TRENCHES)	
E2	PIPEWORK	
E3	BEDDING	
E4	MANHOLES	
	<b>SECTION F - RESERVOIR</b>	
F1	SANS 1200 C: SITE CLEARANCE	
F2	SANS 1200 DA: EARTHWORKS (SMALL WORKS)	
F3	SANS 1200 DB: EARTHWORKS (PIPE TRENCHES)	
F4	SANS 1200DM : EARTHWORKS (ROADS , SUBGRADE)	
F5	SANS 1200 G: CONCRETE (STRUCTURAL)	
F6	SANS 1200 GE: PRECAST CONCRETE (STRUCTURAL)	
F7	SANS 1200 HA: STRUCTURAL STEELWORK (SUNDRY ITEMS)	
F8	SANS 1200 ME: SUBBASE	
F9	SANS 1200 MK: KERBING AND CHANNELLING	
F10	MISCELLANEOUS	
F11	PROVISIONAL SUMS	
	<b>SUB TOTAL A</b>	
	ADD 6% ESCALATION	
	ADD 25% CONTINGENCIES	
	<b>SUB TOTAL B</b>	
	ADD 15% VAT	
	<b>TOTAL TENDER AMOUNT</b>	

Tenderer Signature

Date

PART C 3 – SCOPE OF WORKS

Municipality 1		Consultant	
Municipality 2		Contractor	

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Municipality 1		Consultant	
Municipality 2		Contractor	

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Municipality 1		Consultant	
Municipality 2		Contractor	

**C3 SCOPE OF WORKS****C3.1 DESCRIPTION OF THE WORKS****C.3.1.1 Employers objectives**

This tender is the Installation of a Bulk Water Pipeline, a new Sewer Connection and a new 5ML Reservoir with Associated Works in Leratong Smart City Development (Phase 1).

The following labour intensive measures will be applicable:

- a) The optimum use of local labourers for sections of the works listed as Labour-intensive.
- b) The maximum use of local tradesmen.
- c) The training of local labourers and tradesman in the execution of the work.
- d) All local labourers and tradesmen are to be employed through existing community structures and agencies.
- e) A Community Relations Officer (CRO) will be appointed from the community by Mogale Municipality.
- f) Only key personnel of the contractor will be allowed in the execution of the project. The names and qualifications of these personnel are to be stated in Schedule E1.
- g) The Supervisory Staff shall have completed NQF 2, 5 or 7 training courses as required for the relevant seniority of supervision
- h) Contractor must list all specialist subcontractors to be employed in Schedule E2 (minimum of 20% to be subcontracted to local based subcontractors).

**C3.1.2 Extent of Works**

The work to be performed is within the jurisdiction of the Mogale City Local Municipality.

This tender is for the construction and installation of a bulk water pipeline, sewer connection manhole and the construction of a reservoir consisting of the following works;

- |  |                |            |
|--|----------------|------------|
| • Bulk water line (uPVC)                       | approximately: | 500 m long |
| • Sewer connection manhole and associated work | approximately: | 2m deep    |
| • Reinforced Concrete Reservoir                |                | 5ML        |

***Labour intensive methods will be applicable to all aspects of construction.*** Approximate quantities of each type of work are given in the Bill of Quantities.

The normal duties for construction monitoring shall be included in close liaison with the Employer's agent.

Municipality 1		Consultant	
Municipality 2		Contractor	

**C.3.1.3 Location of Works**

The Site of the works is situated within the already established township, Kagiso within the jurisdiction of the Mogale City Local Municipality. The proposed development borders the City of Johannesburg. The central coordinates are as follows:

- Latitude : 26° 10' 44.4" 'S
- Longitude : 27° 48' 12.9" 'E

**C3.2 ENGINEERING****C3.2.1 Design Services and Activity Matrix**

The responsibilities for design and related documentation are as follows:

DESCRIPTION	RESPONSIBILITY
Detailed design for construction	Design Professional
As-built drawings:	
Provision of data and marked up drawings	Contractor
Preparation of drawings	Design Professional
Materials design	Design Professional
Testing of materials for final use in road layer works	Contractor

**C3.2.2 Employers Design**

The extent of the Employer's requirements is indicated in the documentation.

**C3.3 TARGETED PROCUREMENT****C3.3.1 Targeted Procurement Procedures**

The Works shall be executed in accordance with the requirements specified in Section T1.2, Tender Data and submitted by the Contractor in his Returnable Schedules. It is a requirement of this tender that minimum of 20% of the tender value must be subcontracted to a Mogale based subcontractor.

**C3.3.2 Subcontracting**

As per GCC 2015 – clause 4.4

**Local Subcontracting (minimum of 20% of tender value)**

Should it be proposed to subcontract any part of the work covered by the Tender, full details shall be given, including the name of the proposed sub-Contractor in Schedule E3.

Municipality 1		Consultant	
Municipality 2		Contractor	

It is preferred that tenderers subcontract with local contractors, (to a minimum of 20%) A subcontractor's agreement shall be signed and a copy provided to the Consultants Agent to be kept on file. If for any reason this agreement is dissolved a copy of the dissolution agreement must be provided by the Contractor and must be signed by both parties.

#### **Cession supplier / subcontractors**

Cession suppliers and subcontractors are subject to the discretion and approval of the Employers Agent. Only a duly authorised signatory may sign the Irrevocable Cession Agreement on behalf of the Contractor. Payment shall be deducted from each payment certificate until full payment is made to the cession supplier/subcontractor. The release of retention is subject to subcontractors and cession suppliers being paid in full. The responsibility rest with the contractor to provide suitable proof that full payment has been made in case of a dispute. This proof of payment shall be signed by both parties.

### **C3.4 CONSTRUCTION**

#### **C3.4.1 Works Specifications**

##### **C3.4.1.2 Particular (Project) Specifications**

In certain clauses the Standard Specifications allow a choice to be specified in the Particular (Project) Specifications (C3.7) between alternative materials or methods of construction and for additional requirements to be specified to suit a particular Contract.

Details of such alternatives or additional requirements applicable to this Contract are contained in the Particular (Project) Specifications (C3.7). It also contains some additional specifications required for this particular Contract.

##### **C3.4.1.3 Certification by Recognized Bodies**

Where required, items for inclusion in the Works shall bear the mark of the South African Bureau of Standards (SABS).

#### **C3.4.2 Plant and Materials**

Where required, requirements for proof of compliance with materials specifications, submission of samples of materials and finishes, requirements for shop drawings, are stated in the standard or project specifications. This will also apply to the subcontracts.

#### **C3.4.3 Employment Intensive Construction Works**

The employer's objectives are to deliver public infrastructure and services using labour-intensive methods in accordance with EPWP Guidelines

Municipality 1		Consultant	
Municipality 2		Contractor	

**Labour-intensive works**

Labour-intensive works comprise the activities such as those described in SANS 1921-5, Earthworks activities which are to be performed by hand, and its associated specification data. Such works shall be constructed using local workers who are temporarily employed in terms of this Scope of Work.

**C3.4.3.1 Competencies of Supervisory Staff and Management**

Established contractors shall only engage supervisory and management staff in employment intensive construction work who have either completed, or are registered for training towards the skills programme outlined in Table 1. Emerging contractors shall have personally completed, or be registered on a skills programme for the NQF level 2 unit standard.

All other site supervisory staff in the employ of emerging contractors must have completed, or be registered on a skills programme for the NQF level 2 unit standards or NQF level 4 unit standards.

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader / supervisor	2	Apply Labour-Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, <b>and</b>
		Use Labour-Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	any one of these 3 unit standards
		Use Labour-Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour-Intensive Construction Methods to Construct, Repair and Maintain Structures	
Foreman/ supervisor	4	Implement Labour-Intensive Construction Systems and Techniques	This unit standard must be completed, <b>and</b>
		Use Labour-Intensive Construction Methods to Construct and Maintain	any one of these 3 unit standards
		Roads and Stormwater Drainage Use Labour-Intensive Construction Methods to Construct and Maintain	
		Water and Sanitation Services Use Labour-Intensive Construction Methods to Construct, Repair and Maintain Structures	
Construction Manager (i.e the Contractor's most senior representative that is resident on the site)	5	Manage Labour-Intensive Construction Processes	Skills Programme against this single unit standard

Municipality 1		Consultant	
Municipality 2		Contractor	



**C3.4.3.2 Employment of unskilled and semi-skilled workers****General**

It is the intention of the employer that this contract should make maximum use of the local labour force that is presently unemployed. Only the contractor's skilled key personnel may be used on the project. Employment of local labour shall be targeted at the most needy within the beneficiary community, with women and youth forming a proportion appropriate to the nature of the project and the community. All labour must be sourced through the local channels as prescribed by the Employer's labour policy.

To this end the contractor is expected to limit non-local employees to key personnel only and to employ and train local labour on this contract. The contractor shall fill in the Key Personnel form in the returnable schedules and state how many non-local key personnel he intends to employ. The numbers stated on the above-mentioned form will be strictly controlled during the contract period and any increase in numbers is subject to the approval of the employer.

The contractor will be required to arrange his own documentation regarding a contract for locally employed labour and must include provisions for the Occupational Health and Safety Act (1993) and the Compensation for Occupational Injuries and Diseases Act, and any amendments thereto.

**C3.4.3.3 Wages**

All labour shall be paid according to the rate determined by the employer and is subject to change by employer / Government notification for a local labourer 's general worker's rate.

It will be expected from the tenderers to give a detailed breakdown/explanation of the basis on which labour intensive rates have been calculated.

This is necessary to enable the employer to make the necessary "rate-adjustments" should minimum wages be changed, via Government legislation, during the course of this contract. No payment will be made if work scheduled for labour intensive methods are done by machines, without prior approval by the Employer's Agent.

Where skills training is provided, provision shall be made at the agreed task rate for time spent on training, both on and off site. No claim whatsoever will be considered for unsatisfactory production of local labourers. The Contractor is required to keep detailed records of employment for each task-based worker and experience of each work will be entered into a log book.

Payment of the CLO, on a monthly basis, will be made by the contractor for the full duration of the contract.

**C3.4.3.4 Requirements for the sourcing and engagement of labour**

Unskilled and semi-skilled labour required for the execution of all employment-intensive construction works shall be engaged strictly in accordance with prevailing legislation and SANS 1914 - Part 5,

Municipality 1		Consultant	
Municipality 2		Contractor	

Participation of Targeted Labour. The rate of pay as per the EPWP Guidelines otherwise as instructed by Mogale City. The current rate of employment of local labour is as indicated in the Contract Data and the tenderer must allow for the adjustment of wage rates as per Government and Municipal Notice.

The Tasks established by the Contractor shall be such that:

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

The Contractor shall 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 above.

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

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

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

- i) 55% women;
- ii) 55% youth who are between the ages of 16 and 35; and
- iii) 2% on persons with disabilities.

#### C3.4.4 Specific provisions pertaining to SANS 1914-5

##### C3.4.4.1 Definition

**Local labour:** Refers to work that does not require a person to have received prior training related to the task to be performed and being able to operate to a satisfactory standard.

##### C3.4.4.2 Requirements and activities

Prospective tenderers must take note of the following:

- a) It is required from the contractor to provide all superintendence, labour, small tools and material for the execution of the works where local labour is involved.
- b) People employed must receive suitable training to enable the employees to satisfactorily complete their respective tasks. An amount will be provided in the bill of quantities for accredited training.

Municipality 1		Consultant	
Municipality 2		Contractor	

**C3.4.4.3 Terms and conditions for the engagement of local labour**

Further to the provisions of clause 3.3.2 of SANS 1914-4, written contracts shall be entered into with targeted labour.

The contractor shall ensure that the CLO submits, on a monthly basis in the format required by the Municipality an attendance register of all the labour employed.

The report to be submitted no later than the 1<sup>st</sup> working day following the last day of the month and providing all information required in order to ensure that the employer can comply with compulsory reporting requirements, inclusive of proof of payment of UIF contributions.

**C3.4.4.4 Variations to SANS 1914-5**

The definition for net amount shall be amended as follows: The financial contract value upon completion shall be exclusive of value added tax or sales tax. The schedule for targeted labour shall define women, youth and persons with disabilities and the number of days of formal training provided.

**C3.4.5 Training of Local labour**

The contractor shall, from the commencement of the contract, implement a structured progressive training programme.

Training shall be at or by an approved accredited organisation and shall be delivered by suitably qualified and experienced trainers. The tenderer shall provide with his tender full details of the structured training programme he intends to implement, which details shall include the following:

- (a) The name of the training institution and programme
- (b) The manner in which the training is to be delivered.
- (c) The numbers and details of the trainers

The Contractor shall be responsible for the provision of everything necessary for the delivery of the generic training programme, including the following:

- (a) A suitable venue with sufficient furniture, lighting and power.
- (b) All necessary stationery consumables and study material
- (c) Transport of the students (as necessary)
- (d) Providing coffee / tea and a meal at lunch every day of their training
- (e) Payment of wage to all trainees during the classroom training at a rate equal to the minimum wage as set in the Ministerial Determination for the Expanded Public Works Programme on an annual basis.
- (f) Relevant PPE required for the project works
- (g) Additional supervision of learners during the practical learning stages of the works. Wage for the learners during this stage of the training will be paid through the outputs.

Municipality 1		Consultant	
Municipality 2		Contractor	

Generic training courses shall commence within one month of possession of site and be completed before the end of the contract period.

The contractor's training programme shall be subject to the approval of the Employer's Agent, and the contractor shall if so instructed by the Employer's Agent alter or amend the programme and course content if a need is identified once the contract commences.

The Contractor shall keep comprehensive records of the training given to each student and whenever required shall provide copies of such records to the Employer's Agent. At the successful completion of each course each student shall be issued with a certificate indicating the course contents as proof of attendance and completion.

The cost of the formal training of targeted labour, will be funded by the employer. A minimum of three (3) quotations must be submitted from accredited training services providers.

The contractor shall dissuade targeted labour from participating in training programs and shall take all reasonable steps to ensure that each beneficiary is provided with two days of formal training for every 22 days worked. An allowance equal to 100% of the task or daily rate shall be paid by the contractor to workers who attend formal training.

Proof of compliance with the requirements of the above shall be provided by the contractor to the Employer prior to submission of the final payment certificate. The contractor shall, in so far as it is reasonably feasible taking due cognisance of the nature of the works to be executed at any given time, utilise trained workers on those aspects of the works for which they have been trained.

#### In service Training

The Contractor shall in addition to the structured (accredited) training as provided for implement an in-service training programme, from the commencement of the contract, in which the various skills required for the execution and completion of the works are imparted to the labourers engaged thereon, in a programmed and progressive manner. Labourers shall be trained progressively throughout the duration of the contract, in the various stages of a particular type of work.

#### (a) Details of in-service training

- (i) The contractor shall attach to applicable returnable form the basic details of his proposed in-service training programme, which details shall inter alia include the following:
  - the details of training to be provided
  - the manner in which the training is to be delivered
  - the number and details of trainers to be utilized.
- (ii) The in-service training programme shall be submitted with the initial works programme. The progress in relation to this programme will be recorded monthly and attached to the site meeting minutes and payment certificate.

Municipality 1		Consultant	
Municipality 2		Contractor	

- (iii) The contractor shall provide onsite, sufficient skilled and competent trainers to train all labourers engaged on the contract, in the various skills required for the execution and completion of the works.
- (iv) All labourers shall be remunerated in respect of all time spent undergoing training.
- (v) Every worker engaged on the contract shall on the termination of his participation on the contract, be entitled to receive from the contractor, a certificate of service in which the following information shall be recorded:
- the name of the contractor
  - the name of the employee
  - the name of the project/contract
  - the nature of the work satisfactorily executed by the worker and the time spent thereon
  - the nature and extent of training provided to the worker
  - the dates of service.
- (vi) The cost of the above obligations shall be deemed to be covered by the sums and rates tendered for in the bill of quantities. The performance of the contractor in providing in-service training, shall be taken into consideration should the contractor fail to reach his CPG at the completion of the project.
- (b) Lead time for training
- The training of labour as specified shall, as far as possible, take place before commencement of each activity and the Contractor shall take into account in his programme the lead-time he requires for such training. All training herein specified shall be deemed to be a construction activity and a non-negotiable condition of the contract". All formal training is to be documented in terms of the National/ Provincial submission forms, and accompanied by an attendance register for the applicable days.

#### C3.4.6 Generic employment-intensive specification

##### Scope

This specification describes the requirements for activities which are to be executed by hand – this is not a complete list and can be adjusted where work of a labour intensive nature is identified:

The following suitably qualified and experienced trained employees are potentially available

##### (i) Pipe Laying

- Materials
- Lines, levels and profiles
- Preparation of bedding
- Pipe laying and jointing
- Testing of pipes
- Placing of fill blanket
- Finishing/Compaction
- Use of proper signaling techniques

Municipality 1		Consultant	
Municipality 2		Contractor	

- Traffic control duties
- Identification of hazards on site
- Reading of gauges and instruments
- Basic survey principles and applications
- Operating equipment safely

(i) *Compaction skills: Pedestrian roller*

- Knowledge of pedestrian roller
- Soil types
- Moisture content
- What is compaction
- Reasons for compacting
- Specifications
- Layer thickness
- Compaction

(iii) *Team leader - labour intensive construction*

- Planning and organising
- Problem solving
- Motivation
- Leadership
- Communication
- Safety
- Compaction skills
- Small concrete works
- Construction materials

Mechanical means of trench excavations will only be permitted for trenches over 1,5m deep or in non-pickable material (intermediate to hard rock material). Material must be classified by the Employer's Agent or his representative before the use of plant. All backfilling will be done manually.

**C3.5 LIST OF DRAWINGS**

DRAWING NO.	TITLE
P0413C00-310-01	5ML Concrete Reservoir Floor Layout and Details
P0413C00-310-02	5ML Concrete Reservoir Blinding Layout and Details
P0413C00-310-03	5ML Concrete Reservoir Foundation/Joints Layout, Sections and Details
P0413C00-310-04	5ML Concrete Reservoir Subsoil Drainage Layout and Details
P0413C00-310-05	Potable Water Chamber 1 Layout, Section and Details
P0413C00-310-06	5ML Concrete Reservoir Roof Layout, Section and Details
P0413C00-510-01	Mechanical Drawing Section 900 x 900 mm Manhole Assembly and Parts List
P0413C00-510-02	Mechanical Drawing Section 900 x 900 mm Manhole Assembly and Parts List
P0413C00-510-03	Mechanical Drawing Section 900 x 900 mm Manhole Details of Frame & Cover

Municipality 1		Consultant	
Municipality 2		Contractor	

DRAWING NO.	TITLE
P0413C00-510-04	Mechanical Drawing Section 900 x 900 mm Manhole Assembly and Parts List
P0413C00-513-01	Mechanical Drawing Section Cat Ladder Details: Layouts & Assembly
P0413C00-2200-01	Proposed Site Plan 5ML Reservoir
P0413C00-2201-01	Long Section of Main Pipeline
P0413C00-2250-01	Potable Water Chamber 1 Layout, Section and Details
P0413C00-2250-02	Potable Water Chamber 1 Piping Schedule
P0413C00-2251-01	Potable Water Chamber 2 Layout, Section and Details
P0413C00-2251-02	Potable Water Chamber 2 Piping Schedule
P0413C00-2252-01	Flow Meter Chamber, Section and Details
P0413C00-2252-02	Flow Meter Chamber Piping Schedule
P0413C00-2253-01	Scour Valve Chamber, Section, Details and Piping Schedule
P0413C00-2350-01	Precast Sewer Manhole Layout and Section, Pipe Bedding Section and Details

**NOTE:** Drawings will be issued in PDF format and is for tender purposes only. The Construction drawings will be issued to the successful contractor at site handover.

Municipality 1		Consultant	
Municipality 2		Contractor	

**C3.6 DESIGNS AND DRAWINGS BY THE CONTRACTOR (ALTERNATIVE DESIGN)**

*The tenderer must also price the tendered design before submitting an alternative design.*

Where the Contract entails preparation by the Contractor of designs and details of any work to be supplied he shall submit to the Engineer a drawing or drawings giving full details, dimensions and particulars, together with all relevant information and erecting or operating instructions (if any).

All such drawings shall be prepared in accordance with the Local Authorities and any related documents issued to the Contractor for such purpose.

Before commencing the work, the Contractor shall have obtained the Engineer's signature on such drawings as contemplated in this Sub-Clause to signify that the Contractor's design concept is acceptable to the Mogale City Local Municipality. When any such drawing has been signed by the Engineer, it shall not be departed from in any way except with the written consent of the Engineer. The Contractor shall deliver to the Engineer the original transparency of any such signed drawing and erecting or operating instructions required in connection with any work to be carried out by the Contractor.

The Contractor shall be responsible for any error or deficiency in any drawings or documents supplied by him and for any loss, damage or expense arising out of such error or deficiency, notwithstanding that any such drawing or document may have been signed by the Engineer.

Municipality 1		Consultant	
Municipality 2		Contractor	



**C3.7.1 PROJECT SPECIFICATIONS (PART 1)**

This Project specification consists of three parts:

- Part 1** General description of project, available facilities, requirements, etc.  
**Part 2** Variations and additions to the Standardized Specifications.  
**Part 3** Particular Specifications

Status

In the event of any conflict between the Project Specifications and the Standardized Specifications, the provisions of the Project Specifications shall take precedence.

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**PART 1 : GENERAL**


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**PS1. CONTRACT DETAILS**General

- Establishment of Contractor's camps and the moving of plant onto the site.
- Clearing and grubbing of construction footprint
- Security & Maintenance of campsite & all of the construction works
- Compile and submit for approval a detailed site safety plan and construction method statement.
- Compile and submit a quality management plans for approval by the Employer's Agent.
- Structured and detailed interaction with various role players to ensure timeous completion of the works for each shift. .
- Cleaning of the construction area after each work shift to the satisfaction of the Employer's Agent.

Specific to this tender

This tender is for the construction and installation of a bulk water line, a sewer connection manhole and a reservoir consisting of the following works;

- |  |                |            |
|--|----------------|------------|
| • Bulk water line (uPVC) and associated works  | Approximately: | 500 m long |
| • Sewer connection manhole and associated work | Approximately: | 2 m deep   |
| • Reinforced concrete reservoir                |                | 5ML        |

NB: This description of the Works is not necessarily complete and shall not limit the work to be carried out by the Contractor under this Contract.

The Municipality further reserves the right to adjust the Scope of Works in relation to the available budget with the Preliminary & General Section to be adjusted pro-rata

Municipality 1		Consultant	
Municipality 2		Contractor	

***Labour intensive methods will be applicable to all aspects of construction. Suitable work items are:***

**Bulk water pipeline**

- Exposing and protection of services
- Excavating of trenches, by hand for depths less than 1,5m
- Construction of required manhole(s)
- Laying of pipeline on suitably prepared bedding
- Backfilling and compacting of trenches, disposing of surplus soil

**Sewer connection**

- Exposing and protection of services
- Excavating of trenches, by hand for depths less than 1,5m
- Construction of required manhole(s)
- Laying of pipeline on suitably prepared bedding
- Backfilling and compacting of trenches, disposing of surplus soil

**5ML Reservoir**

- Exposing and protection of services
- Excavating and removing soil materials
- Excavation of trenches, by hand for depths less than 1,5m
- Construction of reservoir and associated components
- Backfilling to required levels and disposing of surplus soil

*This description of the Works is not necessarily complete and shall not limit the work to be carried out by the Contractor under this Contract. Approximate quantities of each type of work are given in the Bill of Quantities.*

**PS2. CONSTRUCTION DOCUMENTATION REQUIRED**

**PS2.1 Construction Programme**

The time limit for submission of a programme is seven (7) days after commencement date. The Contractor to take cognizance of other contractors that maybe employed on the same project and coordinate and plan works accordingly.

The starting date should demonstrate the activities (including their interrelationship to each other), which the contractor intends to deploy in order to complete the work in the contract. In addition the programme shall include:

- The starting date, date of possession of the Site and contractual date for completion of the Works.
- The date when the Contractor plans to complete the Works,

Municipality 1		Consultant	
Municipality 2		Contractor	

- The work of the Employer and others as stated in the Scope of Work.
- The dates when the Contractor plans to complete work needed to allow the Employer and others to do their work.
- Provisions for float, time risk allowances, health and safety requirements and other procedures set out in the contract.
- The dates when, in order to carry out the work in this contract, the Contractor will need acceptances (of drawings, design and the like), "free issue" plant and materials or other things to be provided by the Employer in terms of the contract.
- Method statements demonstrating the extent of resources of people, facilities and equipment the contractor intends to apply to principal activities shown on the program.

If the programme submitted by the Contractor in terms of Clause 5.6 of the General Conditions of Contract, has to be revised because the Contractor is falling behind in his programme, he shall submit a revised programme of how he intends to regain lost time to ensure completion of the Works within the period defined in Clause 5.12 of the General Conditions of Contract or within a granted extension of time.

Proposal to increase the tempo of work must incorporate positive steps to increase production either by more labour and Plant on the Site, or by using the available labour and Plant in a more efficient manner.

Failure on the part of the Contractor to submit or to work according to the programme or revised programme shall be sufficient reason for the Engineer to take steps as set out in Clause 5.13 of the General Conditions of Contract.

The approval by the Employer's Agent of a programme shall have no contractual significance other than that the Engineer will be satisfied if the work is carried out according to the programme. The said approval shall not limit the right of the Employer's Agent to instruct the Contractor to vary the programme if necessary. The Contractor is also referred to Project Specifications PS3, PS 4 & PS17 when he prepares this programme.

## PS2.2 Safety File & Plan

Within fourteen days after award of the contract, the Contractor must submit a detailed Safety Plan in accordance with OHSA (Refer to Check List in this tender document). The Safety Plan must detail safety procedures and measurements in which he proposes to carry out the Works. The Contractor must also make provision for all local subcontractors in his safety plan.

If accepted, the Contractor must execute the works in strict accordance with the Plan. [*Refer to Health & Safety Compliance Form Included in this tender document*]. Safety measures for excavations and trenching will be in accordance with SANS 1200 DM Clause 5.1.1.1 & 5.1.1.2.

## PS2.3 Personal & Other Protective Equipment (Sections 8/15/23 or the OHS Act)

The Contractor is required to identify the hazards in the workplace and deal with them. He must either remove them or, where impracticable take steps to protect workers and make it possible for them to

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work safely and without risk to health under the hazardous conditions.

Personal Protective equipment (PPE) should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of PPE is considered.

Where it is not possible to create an absolutely safe and healthy workplace the Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the said equipment be maintained by the Contractor, that he instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s.

Employees do not have the right to refuse to use/wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other reason, the employee cannot be allowed to continue working under the hazardous condition/s for which the equipment was prescribed but an alternative solution has to be found that may include relocating or discharging the employee.

The Contractor may not charge any fee for protective equipment prescribed by him/her but may charge for equipment under the following conditions:

- Where the employee requests additional issue in excess of what is prescribed
- Where the employee has patently abused or neglected the equipment leading to early failure
- Where the employee has lost the equipment

All employees shall, as a minimum, be required to wear the following PPE on the project:

- Protective overalls
- Protective footwear
- Protective headwear
- Eye/face protection

All PPE provided to local labour working on the Expanded Public Works Programme shall be branded in accordance with the EPWP CI Manual. Typical elements which shall be branded include:

- Protective overalls
- Reflective vests
- Protective headwear

Provision to be made for the CLO and all visitors.

The rate for local labour shall include for the supply of EPWP branded PPE in accordance with the Provincial EPWP specifications. The rate shall include the additional cost of the specified colours for the PPE and branding in accordance with CI manual.

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**PS2.3 EPWP Requirements**Keeping Records

Every Contractor must keep a written record of at least the following –

- (a) the worker's name and position;
- (b) Certified ID copies of all locally employed labour
- (c) Signed Contracts between the employer and the EPWP Participants
- (d) Attendance Registers for the EPWP Participants
- (e) Monthly Reporting Template as per EPWP requirements
- (f) in the case of a task-rated worker, the number of tasks completed by the worker;
- (g) in the case of a time-rated worker, the time worked by the worker;
- (h) Proof of payments made to each worker.

The Contractor's payment certificate shall be accompanied by the labour information for the corresponding period in a format specified by the Employer. The Contractor's payment certificate will only be processed and submitted for payment to the Employer after all the information have been submitted. The labour returns shall be submitted as per the frequency and timeframes stipulated by the Employer on a monthly basis. The Contractor's payment certificate shall also not be paid until all pending labour information has been submitted.

It is required to submit on a **monthly** basis the following EPWP documentation in order to facilitate the submission of his payment certificate to the employer:

1. EPWP report in prescribed electronic format
2. Data Collection sheet in prescribed electronic format
3. Wage payment receipt for CLO and local labourers employed
4. Daily attendance register for CLO and local labourers employed when at work
5. CLO Report

The contractor must also furnish the required **once-off** EPWP documentation as listed and as instructed by the employer from time-to-time in compliance with governmental requirements:

1. Employment contracts for each Local Labourer
2. Full-length colour photo of each Local Labourer
3. Certified copy of ID of each Local Labourer

Copies of the documentation are provided in the Annexures.

**PS2.4 Site Instruction Book; Site Diary and Visitors Book**

The Contractor must supply an A4 Duplicate Site Dairy book. All entries to be dated consecutively and signed by the Site Agent and the Employer's Agent or his representative and these instructions shall form part of the contract documentation.

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Only the Employer's Agent will be allowed to remove pages from the site instruction book. While payment for this item is deemed to be included in the P&G items.

#### PS2.5 **Rehabilitation Plan & Environmental Management Plan (EMP)**

The Environmental Management Plan (EMP) for the site of the Works can be obtained from Mogale City Local Municipality. A copy of a generic EMP is included in this document.

The Contractor shall comply with all the requirements laid down in the EMP and the associated Record of Decision.

The Contractor shall acquaint his employees with the provisions, regulations, duties, obligations and prohibitions, and shall accept sole liability for due compliance with the duties, obligations and prohibitions and absolve the Employer from being obliged to comply with the aforesaid duties, obligations and prohibitions.

In case of failure on the part of the Contractor to comply with the requirements of the EMP the Employer shall be entitled to employ and pay other persons to carry out any remedial work to rectify any consequence resulting from the non-compliance by the Contractor and all cost consequent or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the Employer.

If it is not practical to rectify any consequence resulting from the non-compliance of the Contractor with the EMP the Employer will be entitled to impose a penalty on the Contractor which penalty shall be in relation to the expense which the Contractor would have incurred to comply.

The Contractor shall indemnify the Employer and the Employer's Agent against responsibility for damage to the environment on the site of the Works by completing the "Agreement Form A1 included in Part 3 of the Contract, before commencement of construction.

#### PS2.6 **Registration of Project at Department of Labour**

The contractor must apply for a permit to do construction work at Department of Labour within 3 weeks (21 days). As proof of registration a photocopy of the original registration form with the original ink stamp of the local Department of Labour, as well as the protocol registration number

#### PS3 **SITE FACILITIES AVAILABLE**

##### PS3.1 **Camp Site**

A specific Site will be allocated to the appointed Contractor for his construction camp, toilet/ ablution facilities and offices and will be pointed out to the contractor at the site handover meeting.

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The construction site must be fenced and all the Contractor's activities restricted to these areas. The security of the compound and construction site will be the responsibility of the Contractor. During construction the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store materials and equipment for which he is responsible in an orderly manner, and shall keep the Site free from debris and obstructions.

**PS 3.2 Utilities (including water and electricity)**

The Contractor shall make his own arrangements in terms of the utilities he requires on Site and at his site camp, including water and electricity. A Municipal Account needs to be opened and paid accordingly by the Contractor.

**PS 4 SITE FACILITIES REQUIRED**

**PS 4.1 Facilities for the Engineer**

A separate chemical toilet will be required for the use of the engineer and his representative. A Name board meeting the required standards must be erected and maintained.

**PS 4.2 Sewerage**

Toilet Facilities must be constructed/provided in accordance with local authority requirements. Where a sewer connection cannot be provided, the contractor must provide chemical toilets at the camp and on the different work fronts. Chemical toilets must be serviced regularly. No separate payment will be made for obtaining and distributing water, electricity and sewage, the cost of which will be deemed to be included in the tendered rates.

**PS 4.3 Site Instruction Book**

Please see no PS 2.4.

**PS.4.4 Laboratory facilities**

Facilities for conducting density tests in the bedding and backfill, concrete cubes as well as the pressure testing of the pipelines and water tightness tests for manholes, must be provided by an accredited commercial or in house laboratory approved by the Employer's Agent as provided in SANS 1200.

All of the costs for testing and tests shall be deemed to be included in the tendered rates for each item. DCP soil testing equipment must be available on site at all times to control compaction effort on trench backfilling. Soil compaction tests and concrete cube testing may be done by a commercial laboratory. Density tests shall be required on trench backfilling in addition to DCP control tests.

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**PS.4.5 Tender Notice Board (EPWP Signboard)**

The Contractor will be required to erect a signboard displaying the EPWP logo, indicating that this project is part of the EPWP. All costs related to the provision, erection and subsequent removal of the signboard shall be refunded to the Contractor through the provisional sum included in the Bill of Quantities for this purpose. The notice board shall be in accordance with the attached drawing and must be erected where indicated by the engineer.

Please refer to the annexures for the Construction Board template.

**PS4.6 Landline Telephone**

Landline fax and telephone line not required. The contractor must however provide suitable contact details for all his site personnel.

**PS4.7 Rain Gauge**

The contractor will be required to erect a rain gauge at the site office to record daily rainfall figures in the Site Dairy Book. The reading of the rain gauge shall be made at 08h00 of each working day for the duration of the contract.

The records shall be submitted weekly to the Employer's Agent (the Engineer) together with a statement recording the Contractor's opinion of the effect on his programme of any weather condition that he may consider to be abnormal. The Engineer shall adjudge the extent of the delays that are attributable to "abnormal climatic conditions" in terms of GCC 2015 Clause 5.12 and Special Conditions of Contract. No separate payment shall be made for this item and it shall be deemed to be included in the other payment items.

**PS5. ASPECTS REQUIRING SPECIAL ATTENTION****PS5.1 Site Maintenance & Security**

Notice boards, signboards and advertisements shall be approved prior to erection on the site. Trees, other than those to be removed for the Contract, shall be protected from damage. During progress of the work and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store materials and equipment for which he is responsible in an orderly manner, and shall keep the Site free from debris and obstructions. Each Contractor will be responsible for his own security at the camp site as well as the site of work for the full duration of the contract.

**PS5.2 Existing services**

Civil engineering services are being constructed by other contractors and the tenderer must make allowance to work alongside with these contractor(s).

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The services indicated on the plans are not necessarily correct and **all services must be located using hand labour** at the start of the Tender the Contractor must arrange with the different service owners to indicate their services and to certify the location and depth thereof in the site dairy book. The availability of each service department shall not be guaranteed by the Client.

The different service owners include Telkom, Eskom and the Municipality. The existing services on site will be indicated prior to construction and must be protected for the duration of the contract. The requirements of the service owners must strictly be adhered to.

Existing services must be located by hand and are measured separately in the Bill of Quantities. All services must be protected against damage and any damage to services pointed out to the contractor or shown on plans or that can be reasonably determined though contacting services departments, will be for the account of the Contractor.

The Contractor's attention is drawn to SANS 1200A Item 5.4. The contractor shall be responsible for immediately notifying the Authorities concerned regarding any damage caused to public services and existing works. The Employer's Agent shall also be notified without delay. (Pro-Plan Consulting Engineers – Mr. Kabelo Ledwaba 011 954 4441)

### PS5.3 Testing and Quality Control

The Contractor may engage the services of an approved independent laboratory for the testing of materials and the quality testing of layer works, to ensure that his work complies with the Specifications. Alternatively he shall provide at own cost a laboratory on site including all necessary testing for all materials.

Please note: Full Density tests are required for trench backfilling with written records provided. No separate payment will be made for such a laboratory or testing, the cost of which will be deemed to be included in the Contractor's tendered rates for the items of work that require testing in accordance with the Specifications.

All material must, where applicable, shall carry the SANS mark. **Notification for all inspections shall be 48 Hours in advance**

### PS5.4 Removal of trees

No trees may be removed without the prior written approval of the Employer's Agent. **Labour intensive methods will be employed to remove trees under supervision of an experienced supervisor. The necessary safety precautions must be taken at all times.**

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**PS5.5 Accommodation of Other Contractors**

In addition to the requirements of Clause 4.8 of the General Conditions of Contract (GCC 2015), the Contractor must make allowances for other Contractors on the Site.

This may involve adapting his programme to accommodate the work of other Contractors and ensuring access to their sites along prescribed routes over the Site of this Contract. This must be considered when the works programme is compiled as no extra claims will be entertained in this regard.

**PS5.6 Subcontractors**

It is a requirement of this contract, that only local subcontractors shall be used to carry out any subcontractor tasks to a minimum of 20% of Contract to be subcontracted.

In addition to the requirements of Clause 4.10 of the General Conditions of Contract, the Contractor shall be responsible for work carried out by subcontractors on his behalf. The Employer's Agent will not liaise directly with such subcontractors. Problems related to payments, programming, workmanship, etc., shall be the concern of the Contractor and the subcontractor, and the Employer's Agent will not become involved except in the case of the nominated subcontractor and only on overall performance and issues that relate to payment between the main contractor and nominated subcontractor. Subcontractors to be listed in Schedule E2.

Where local subcontractors are registered for a Specific discipline, these local subcontractors shall be used in preference to any outside subcontractor. Cession Subcontractors at discretion of the Municipality and subject to approval of rates by the Engineer /Employer's Agent

**PS5.7 Opening Up and Closing Down Borrow Pits**

No borrow pits may be opened on site without prior written approval by the Engineer.

Where borrow areas are indicated for use of materials, the work shall only be to the exact levels and dimensions as shown on the plans. The contractor shall set out and control all dimensions and levels of the borrow area to exact dimensions and all work shall be within these limits. Where excavations are carried out to outside the allowed dimensions and levels, the contract shall repair this at his own cost.

Measurement and payment for opening up and closing down designated borrow pits, including the setting out and control of dimensions and levels including removal and stockpiling of overburden and restoration of the Site, shall be made under item 8.3.4 of SANS 1200 D. This item applies to all borrow material required under this Contract.

The requirements of Subclause 5.2.2.2 of SANS 1200 D regarding the opening up, maintenance and closing down of borrow pits shall strictly be adhered to.

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**PS5.8 Adjacent Occupied Areas**

The Contractor shall organize the work to cause the least possible inconvenience to Mogale City LM and to the property owners adjacent to or affected by the work.

The contractor shall exercise the greatest care to avoid unnecessary damage to trees, gardens, fences, walls and structures on public and private property, and also strictly supervise the behavior of his workmen. The material resulting from any demolition of existing structures shall be the property of the owner.

**Work Executed in Terms of Wayleaves**

The contractor must take due care and exercise caution when working in the vicinity of the existing services and all requirements and precautions stated in the Wayleave must strictly be adhered to. No plant may be parked, or structures erected within 30m of a Provincial Road. Notice to all relevant Provincial Authorities and service providers and arrangements with them shall be the full responsibility of the contractor and is deemed to be included in the rates tendered.

**PS5.9 Blasting operations and requirements**

No Blasting will be allowed under any circumstances. Contractors to use jackhammers and/or approved chemical means of rock-breaking. Contractors to allow sufficient time for chemical rock busting when calculating the construction period.

**PS5.10 Dolomite Areas**

It shall always be kept in mind that the area is underlain by dolomites and precautionary measures for dolomites shall take precedence over normal construction activities:

- The work must be scheduled in such a way that excavated trenches may not be left open for more than 24 hours and may not be left open over weekends.
- Blasting shall not be allowed unless extreme conditions are experienced. A proposal must be submitted by the contractor proving to the Geotechnical Engineer that only minimum impact will be experienced. Only certified and explosive experts with dolomitic conditions experience will be allowed to execute the procedure.
- Relocation of trenches and structures may be necessary from geological data obtained on site.

**PS5.11 Beacons & Pegs**

The Contractor's attention is drawn to SANS 1200 A Clause 5.1.2 - Preservation and Replacement of Pegs subject to Land Survey Act - and to the liabilities of the Employer and the Contractor in this regard. The Contractor shall locate and mark all existing pegs for the whole site. Pegs can be encountered all over the site.

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The Contractor shall be held responsible for the maintenance of all the cadastral and bench mark pegs on the site that are recorded as existing at the commencement of construction, and for the placement of any pegs that are found to be missing or disturbed upon the completion of the contract.

A Completion Certificate shall only be issued after the Contractor has handed back all the pegs and has submitted to the Engineer a certificate from a registered Land Surveyor stating that all erf pegs are in their correct positions.

Notwithstanding Clause 8.8.5 of SANS 1200 A the Contractor shall tender sums for searching for and protecting all pegs. Where pegs have been moved, disturbed or covered on the specific instruction of the Engineer, such pegs shall be reinstated by a registered Land Surveyor and shall be paid for by number reinstated on instruction of the Engineer. If such pegs were disturbed because of the Contractor's negligence, such costs will be for the Contractor's account.

#### PS5.12 **Surveying**

The Contractor must use the services of, or employ a competent engineering surveyor to set out the Works to ensure that the specified building lines and site boundaries are adhered to. The contractor must set out the works in accordance with the plans and levels provided. Payment for the setting out will be deemed inclusive in the rates and no additional payment will be made in that regard unless specifically scheduled.

No beacons, reference pegs, corner pegs, etc. may be disturbed or removed without the prior consent of the Engineer. As-and-when required a Registered Land Surveyor to provide certificate for the reinstatement of pegs and beacons.

As and when instructed by the Employer's Agent a nominated surveyor shall be employed to verify setting out levels and survey the completed works. The Contractor shall be paid as per the relevant PC item provided in the Bill of Quantities. Setting out of the works must be approved by Mogale City Building Control.

#### PS6 **AS-BUILT DRAWINGS**

The Contractor shall provide the Engineer with "As Built" drawings at the end of the contract, positions. For this purpose an additional set of drawings will be kept in the site office for the exclusive use of keeping "As Built" information up to date. Retention (1<sup>st</sup> payment) will not be released until receipt of the As-built information including the survey data. All information in the possession of the Contractor that is required by the Engineer's representative to finalise the as-built drawings must be submitted to the Engineer's representative before a Certificate of Completion will be issued.

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General As-Built Requirements:

- All as-builts shall be done by a Professional Surveyor indicating all the required information together with a Surveyor 's statement (with an original signature on each sheet) shall verify that as-built drawings reflect the true conditions in the field.
- All as-builts are required to be on a title block and shall bear the name, address, and telephone number of the firm preparing the drawing and the date the as-built data is added to the original via the revision block. Electronic AutoCAD drawing files, are also required.
- Drawings should be prepared in accordance to the general Draughting standards of the Client or on the Pro-Plan standard depending on the project requirements.
- Contractors' statement (with an original signature on each sheet) shall verify that all construction specifications and product qualities have been met or exceeded.
- "AS-BUILT DRAWING" shall be clearly labelled on each sheet.
- Street names shall be indicated for all streets.
- All measurements shall be shown and clearly labelled.
- The locations and description of any utility lines and other installations of any kind or other description known to exist within the construction area. The location includes dimensions to permanent features.
- The location and dimensions of all buildings and structures, relevant to the site boundaries shall be shown and clearly labelled.
- Changes in details of design or additional information such as approved placement details, pipe sizes, material changes, etc.
- Where drawings and/or specifications allow options, only the option used in the construction shall be shown on the as-built drawings.

Water As-Built Requirements:

- Locate and show all valves, fittings, services, and fire hydrants in relation to site.
- Show all sizes and types of valves and pipes.
- Show location and of pipes and fittings where changes in direction occur.
- Typical water service installation details with deviations from original plans shall be noted on as-built drawings.

Sewer As-Built Requirements:

- All piping, eyes, tees, valves, manholes and special cases shall be located and shown, in the same manner as water fittings.
- Identify size, material, and slope of all piping.
- Identify flow direction of gravity mains.
- Service laterals are to be identified with location of end service or plug.
- Manholes shall be identified by types.

**PS7 SAMPLES**

Materials or work that does not conform to the approved samples, submitted in terms of Subclause 7.4 of the General Conditions of Contract, will be rejected. The Employer's Agent reserves the right to submit

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samples to tests to ensure that the material represented by the sample meets the specification requirements.

#### PS8 NOTICES, SIGNS, BARRICADES AND ADVERTISEMENTS

Notices, signs and barricades, erected in terms of Clause 8 of the General Conditions of Contract, as well as advertisements may be used only if approved by the Engineer. The Contractor shall be responsible for their supply, erection, maintenance and ultimate removal and shall make provision for this in his tendered rates.

The Employer's Agent has the right to have any sign, notice or advertisement moved to another position or to have it removed from the Site of the Works should it in any way prove to be unsatisfactory, inconvenient or dangerous to the general public. The standard name-board as per Construction Boards drawing provided, the cost of which shall be included in the rates tendered for items PSA 8.3.1 and PSA 8.3.2 of Section 1200 A.

#### PS 9 WORKMANSHIP AND QUALITY CONTROL

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the Specifications and Drawings rests with the Contractor, and the Contractor shall, at his own expense, institute a quality-control system and provide experienced Engineers, foremen, surveyors, materials technicians, other technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the Works at all times.

The cost of supervision and process control, including testing carried out by the Contractor, will be deemed to be included in the rates tendered for the related items of work. The Contractor's attention is drawn to the provisions of the various Standardised Specifications regarding the minimum frequency of testing required.

The Contractor shall, at his own discretion, increase this frequency where necessary to ensure adequate control. Also refer to GCC 2015 Clause 7. **The notification period for inspections is 48 Hours in advance and under special circumstances no less than 24 Hours.** On completion and submission of every part of the work to the Engineer for examination, the Contractor shall furnish the Engineer with the results of the relevant tests, measurements and levels to indicate compliance with the Specifications.

#### PS10 SPOIL MATERIAL & STOCKPILE MATERIAL

No indiscriminate spoiling of material is permitted. Surplus or unsuitable materials shall be spoiled or stockpiled at a site approved by the Engineer. Spoiling shall comply with the applicable statutory and municipal regulations and shall be removed from site on a regular basis and when instructed by the Engineer.

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Stockpiled material shall be classified and stockpiled on different heaps – for use as bedding, backfill or different road layer works. Special care shall be taken to stockpile material and the selective use thereafter. On this contract the selection and care shall be deemed to form part of the tendered rate for earthworks. The Contractor shall be required to rehabilitate any and all stockpiles and spoil sites in accordance with the EMP

## PS11 TRENCHES AND EXCAVATIONS

Trenches and excavations shall not be left open at all during the builders' holidays or for a period more than 48 hours at any time. The careful guarding to maintain as is subsoil moisture conditions shall be an integral basis of this contract. Proper barricading of open excavations and trenches are required due to the proximity of the residential area.

## PS12 TRANSPORT OF MATERIAL

All costs for transporting materials, including 5km freehaul, shall be included in the applicable tendered rates. All references in the Specifications to transport, overhaul and haul distances shall be deleted irrespective of whether or not the deletion is included in these Project Specifications. Where material must be spoiled at Municipal dumping site or similar, it shall be specifically stated for pricing purposes.

### PS12.1 Approved Transportation Route for Loaded Material

Where public streets are involved, an approved route for the transportation of loaded material shall be followed. On such route:

- a) Loaded or muddy material falling from tucks on public roads or on completed work shall be removed immediately.
- b) Roads shall be continuously broomed off and cleaned where mud tracking/falling debris occurs.

## PS13 EMPLOYMENT OF LOCAL LABOUR

### PS13.1 General

It is the intention of Mogale City Local Municipality that this Contract should make maximum use of the local labour force that is presently unemployed. Only the Contractor's skilled key personnel may be used on the project. Employment of local labour shall be targeted at the most needy within the beneficiary community, with women and youth forming a proportion appropriate to the nature of the project and the community. All labour must be sourced through the local channels as prescribed by the Employer's labour policy.

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To this end the Contractor is expected to limit non-local employees to key personnel only and to employ and train local labour on this Contract. The Contractor shall fill in the form: Key Personnel, and state how many non-local key personnel he intends to employ in the various categories.

The numbers stated on the above-mentioned form will be strictly controlled during the Contract period and any increase in numbers is subject to the approval of the Employer.

### PS13.2 Requirements and activities

Prospective tenderers must take note of the following:

- a) It is required from the Contractor to provide all superintendence, labour, small tools and material for the execution of the works where local labour is involved.
- b) People employed must be trained as far as practically possible for their respective tasks. An amount will be provided in the Bill of Quantities for Accredited Training.
- d) The following types of activities have been identified as suitable for labour-based construction methods on this project:
  - Clearing & grubbing of work footprint as indicated in the Bill of Quantities
  - Digging of trenches for pipes where possible and backfilling (up to 1,5m deep)
  - Digging of holes for the posts on the palisade fence
  - Mixing and placing of concrete for smaller on site tasks
  - Accommodation of Traffic
  - Compaction where possible
  - General maintenance of the site camp
  - Spreading of material

### PS13.3 Wages

The following minimum labour rates as set by the Employer must be implemented on the project:

The following rates not to be exceeded:

1. Unskilled labourer - R185 / person / day
2. CLO - R4 635.00 / month (Refer to Special Conditions)

All labour shall be paid according to the rate determined by the Municipality and is subject to change by Municipal / Government notification for a local labourer's general worker's rate. It will be expected from the Tenderers to give a detailed breakdown/explanation of the basis on which labour-based rates have been calculated. This is necessary to enable the Client to make the necessary "rate-adjustments" should minimum wages be changed, via Government legislation, during the course of this Tender.

No payment will be made if work scheduled for labour-intensive methods are done by machines, without prior approval by the Employer's Agent. Where skills training is provided, provision shall be made at the agreed task rate for time spent on training, both on and off site.

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No claim whatsoever will be considered for unsatisfactory production of local laborer's. The contractor is required to keep detailed records of employment for each task-based worker and experience of each work will be entered into a log book. Payment of the CLO on a monthly basis will be done by the Contractor for the full duration of the contract.

#### PS13.4 **Liaison with local communities**

##### PS13.4.1 Community Liaison Officer (CLO)

The Contractor is to liaise through Municipal structures with the local community with regard to local labour to be employed. Mogale City Local Municipality will advise on procedures to be followed.

The representative from the community (CLO) will be identified by through Municipal processes & procedures. The CLO's responsibility will be to keep the community informed regarding the progress of the Tender as well as to inform the Contractor of any grievances from the community.

The CLO salary will be paid by the contractor to a value as approved by the Municipality or has been allowed for in the Bill of Quantities.

#### **(a) Duties of the Community Liaison Officer**

The Community Liaison Officer's duties will be:

- (i) To be available on site daily between the hours of 08:00 and 17:00 and at other time as the need arises.
- (ii) To determine, in consultation with the Contractor, the needs of the temporary labour for relevant skills training. He will be responsible for the identification of suitable trainees and will attend one of each of the training sessions.
- (iii) To communicate daily with the Contractor and the Employer's Agent to determine the labour requirements with regard to numbers and skill, to facilitate in labour disputes and to assist in their resolution.
- (iv) To assist in and facilitate in the recruitment of suitable temporary labour and the establishment of a "labour desk".
- (v) To attend all meetings in which the community and/or labour are present or are required to be represented.
- (vi) To assist in the identification, and screening of labourers from the community in accordance with the Contractor's requirements.
- (vii) To inform temporary labour of their conditions of temporary employment and to inform temporary labourers as early as possible when their period of employment will be terminated.
- (viii) To attend disciplinary proceedings to ensure that hearings are fair and reasonable.
- (ix) To keep a daily written record of his interviews and community liaison.
- (x) To attend monthly site meetings to report on labour matters.
- (xi) All such other duties as agreed upon between all parties concerned.
- (xii) To submit monthly returns regarding community liaison.

Municipality 1		Consultant	
Municipality 2		Contractor	

**(c) Payment for the community liaison officer**

A special pay item is incorporated in the P&G's section of the bill of quantities relating to payment of the liaison officer on a prime cost sum basis. This payment shall only be made for the period for which the duties of the liaison officer are required and not necessarily for the full duration of the contract. The remuneration of the CLO as approved by the employer or has been allowed for in the bill of quantities.

**(d) Period of employment of the community liaison officer**

The period of employment of the community liaison officer shall be as decided upon jointly by the contractor, employer's agent and employer.

**PS13.5 Skills Related Training**

Provision will be made in the Bill of Quantities for Accredited Training. Details of the Accredited Training already provided under the auspices of the Mogale City Local Municipality shall be provided to allow selection of suitable candidates.

**PS13.6 Utilization of workers**

- a) The Contractor shall, in so far as it is reasonably feasible taking due cognizance of the nature of the works to be executed at any given time, utilize trained workers on those aspects of the works for which they have been trained.

**PS13.7 Labour-based Schedules**

The following guidelines are available to the prospective tenderers from the Department of Public Works:

- Broad Guidelines for the Selection Criteria for Employment
- Guidelines for Task Based Payment Services and Conditions of Employment
- Guidelines for Training System
- EPWP Phase 3 Guidelines

The above guidelines are all contained in "the Framework Agreement for Public Works Project Using Labour Intensive Construction Systems." The contractor can also obtain a copy of SANS 1921: 2004 Sections 2,3 & 5 from SANS.

**PS14 REFERENCES IN BILL OF QUANTITIES**

The payment references in the Bill of Quantities correspond with the description of the item concerned. The work required and the measurement thereof in terms of SANS. The Contractor must also take into account. The corresponding references in the Project Specifications, with special reference to Labour Intensive (LI) methods of execution and measurement.

Municipality 1		Consultant	
Municipality 2		Contractor	

**PS14.1 Use of mechanical plant**

The Contractor shall be deemed to have established before tendering the extent to which mechanical plant can be used on the Contract.

Authority to use mechanical plant will not be unreasonably withheld but if it is considered that circumstances are such that the use of plant shall be suspended temporarily or permanently, the relevant construction procedure shall be modified at the Constructor's cost and the Contractor shall be deemed to have no cause for claim against Mogale City Local Municipality on account of having to continue the work by another method or if any order issued in terms of this Clause results in the mechanical plant having to stand idle for any period or having to be removed.

Where, due to proximity or any danger to existing structures or services, it is considered advisable to excavate by hand methods; it shall be deemed reasonable for the purpose of this Clause for authority to use mechanical plant to be withheld.

**PS15. RATES ALL INCLUSIVE**

The tendered rates provided in the BoQ is deemed to be all inclusive of direct and indirect costs required for the provision and/or execution of the items as listed in the Bill of Quantities as no additional payments will be considered. Estimated quantities are given in the Bill of Quantities and will be re-measured on site.

**PS15.1 Payment for day works labour**

Dayworks rates shall be as tendered in the Bill of Quantities and is deemed to be all inclusive of direct and indirect costs. Dayworks shall only be executed on written instruction by the Employer's Agent. The Contractor must submit a quote of works outlining the duration, plant, labour and materials needed to execute the works required by the instruction. Works can only commence on written approval of the quote of works by the Employer's Agent.

**PS16. ESCALATION**

Contract Price Adjustments in terms of GCC 2015 is only applicable to contracts in excess of 1 Year (12 months) and higher in value than R10 Million. The Base Month shall be the last full month preceding the month of tender closing

**PS17 ACCOMMODATION OF TRAFFIC (COLTO 1500)**

The Contractor must allow for the accommodation of traffic on the whole of the site, under the items allowed for in the Bill of Quantities under P&G's. These rates to allow for any temporarily bridges, safety measures at excavations, traffic signs as required by the Safety Regulations, etc.

Municipality 1		Consultant	
Municipality 2		Contractor	

In case of trench excavations across roadways, white painted barricades consisting of 22.5 mm x 40 mm timbers, supported on heavy supports, shall be placed across the road at least 15m before and after the excavations. "Road closed" signs must be prominently displayed.

The rate for Accommodation of Traffic on the Provincial Roads must allow for work to be completed fully on one side of the road before work on the other side of the Provincial Roads may be started.

#### PS18 EARTHWORKS (HAULAGE)

The following Free Haul distances will be applicable:

Dumping	: 5 km
Borrow pit	: 5 km
Stockpile	: 5 km

#### PS19 OCCUPATIONAL HEALTH & SAFETY ACT

The Employer and Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993, and any amendments thereto hereinafter referred to as "the Act", that the contractor as an employer in its own right and in its capacity as contractor for the execution of the works, shall have certain obligations and that the following arrangement shall apply between them to ensure compliance by the contractor with provisions of the Act, namely:

1. The contractor undertakes to acquaint the appropriate officials and the employees of the contractor with all relevant provisions of the Act, and the regulation promulgated in terms of the Act, and
2. The contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and regulations will be fully complied with, and
3. The contractor hereby accepts sole responsibility for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and regulations and expressly absolves the employer and the Employer's Agent from being obliged to comply with any of the aforesaid duties, obligations and prohibitions in respect of the work included in the contract.

The contractor shall be obliged to report forthwith to the employer any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the Act and regulations pursuant to work performed on behalf of the employer, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charges.

A checklist of all Health & Safety Activities that may be required on site is included. The Tenderer is expected to implement all of the requirements as listed. Allowance is made in the P&G's Section of the Bill of Quantities (fixed and time related) to price all of the required safety measures to be executed and formalized on site.

Municipality 1		Consultant	
Municipality 2		Contractor	

The Contractor shall complete the "Agreement Form." and therein designate in writing the name of the responsible person required in terms of the General Safety Regulations R11 sub clause 1.

## PS20 APPLICABLE STANDARDISED SPECIFICATIONS & REGULATIONS

For the purposes of this Contract, the following SANS 1200 Standardised Specifications (latest amendments) shall apply:

SANS 1200 A	: General
SANS 1200 C	: Site clearance
SANS 1200 D	: Earthworks
SANS 1200 DB	: Earthworks (pipe trenches)
SANS 1200 DK	: Gabions and pitching
SANS 1200 DM	: Earthworks (roads, subgrade)
SANS 1200 G	: Concrete (structural)
SANS 1200 H	: Structural steelwork
SANS 1200 HA	: Structural steelwork (sundry items)
SANS 1200 L	: Medium-pressure pipelines
SANS 1200 LB	: Bedding (pipes)
SANS 1200 LC	: Cable ducts
SANS 1200 LD	: Sewers
SANS 1200 LE	: Stormwater drainage
SANS 1200 LF	: Erf connections (water)
SANS 1200 M	: Roads (general)
SANS 1200 ME	: Subbase
SANS 1200 MF	: Base
SANS 1200 MH	: Asphalt base and surfacing
SANS 1200 MJ	: Segmented paving
SANS 1200 MK	: Kerbing and channeling
SANS 1200 MM	: Ancillary roadworks

Variations and additions to the following SANS 1200 Standardised Specifications are given in Portion 2 of the Project Specifications:

SANS 1200 A	: General
SANS 1200 C	: Site clearance
SANS 1200 D	: Earthworks
SANS 1200 DB	: Earthworks (pipe trenches)
SANS 1200 DM	: Earthworks (roads, subgrade)
SANS 1200 G	: Concrete (structural)
SANS 1200 HA	: Structural steelwork (sundry items)
SANS 1200 L	: Medium-pressure pipelines
SANS 1200 LB	: Bedding (pipes)

Municipality 1		Consultant	
Municipality 2		Contractor	

All particular specifications for work not covered by the SANS 1200 Standardised Specifications are also bound in Portion 2 of the Project Specifications:

- PQ - High Energy Impact Compaction (HIEC)
- PU - Reinforced Concrete
- Sewer pipe specification
- Labour intensive specification – Pipe Laying

**The following Labour Intensive Specifications will be applicable:**

**SANS 1921-1 - 2004: General Engineering and Construction Works**

**SANS 1921-2 - 2004: Accommodation of Traffic**

**SANS 1921-5 - 2004: Earthwork Activities to be performed by hand**

### REGULATIONS

The Contractor shall conform in all respects to the requirements contained in regulations by higher authorities. Such regulations shall include inter alia:

- 01) National Building Regulations.
- 02) Code of Practice for the Wiring of Premises, SANS 0142-1981 as amended.
- 03) The Mines and Works Regulations, Government Notice Number R1609 of 1962-09-28, as amended.
- 04) The Occupational, Health and Safety Act 85/93, and any amendments regulation there to.
- 05) The local Municipal By-laws and Regulations as well as the regulations of the local Supply Authority.
- 06) The local Fire Regulations.
- 07) The regulations of Telkom.
- 08) The regulations of the local Gas Board where applicable.
- 09) The standard regulations of any Government Department or public service company where applicable.
- 10) The Regulations of Rand Water.
- 11) The Regulations of Eskom
- 12) Department of Public Works :Guidelines for the implementation of labour intensive infrastructure project

The Contractor shall pay and indemnify the Employer against any fees or charges by law and shall keep the Employer and the Employer's Agent indemnified against all penalties and liabilities of any kind for breach by the Contractor or any of the conditions due by law, except insofar as amended or specifically allowed by the Employer's Agent.

Municipality 1		Consultant	
Municipality 2		Contractor	

**PS21 STATUS**

In event of disputes and/or discrepancies the different documentation will have the following status in order or precedence:

- i. Contract Agreement;
- ii. Form of Tender and Appendix to Form of Tender;
- iii. Special Conditions of Tender;
- iv. Project Specification;
- v. General Conditions of Tender;
- vi. Particular Specifications;
- vii. Bill of Quantity and Summary;
- viii. Statutory Regulations;
- ix. Standard SANS Specifications;
- x. any other Standard Specification

Municipality 1		Consultant	
Municipality 2		Contractor	

**C3.7.2 VARIATIONS AND ADDITIONS TO THE STANDARDIZED SPECIFICATIONS (PART 2)****VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS FOR THIS CONTRACT, AND PARTICULAR SPECIFICATIONS**

The following variations and additions to the SANS 1200 Standardised Specifications referred to in the last clause of Portion 1 apply to this Contract. The prefix PS indicates an amendment to SANS 1200. The letters and numbers following these prefixes respectively indicate the relevant Standardised Specification and clause numbers in SANS 1200.

**PART 2****GENERAL****PSA 1. SCOPE**

*REPLACE SUBCLAUSE 1.1 WITH THE FOLLOWING:*

"1.1 This specification covers requirements, principles and responsibilities of a general nature that are normally applicable to all civil engineering contracts, as well as the requirements for the Contractor's establishment on the Site."

**PSA 2. INTERPRETATIONS****PSA 2.3 DEFINITIONS**

(a) General

*ADD THE FOLLOWING DEFINITIONS:*

Task : "refers to the amount of work to be performed to a defined quantity and quality"

Task Rate : "refers to the amount of work to be performed by a worker to a defined quantity and quality and be completed in a working day"

Daily Rate : "is the daily wage (whether task-rated or time-rated) per individual. This wage rate must be inserted in the Project tender document as per the EPWP Guidelines."

Municipality 1		Consultant	
Municipality 2		Contractor	



Labour-Intensive

Construction : "refers to methods of construction and maintenance involving a mix of labour and machines without compromising on quality, where labour is the primary resource supported by plant and equipment for activities that cannot be feasibly done by labour only."

Labour-based

Construction : See labour intensive construction

#### **PSA 2.4      ABBREVIATIONS**

(a) Abbreviations relating to standard documents

*ADD THE FOLLOWING ABBREVIATION:*

"LI or LIC" : Labour Intensive Construction Methods

#### **PSA 2.8      Items in Bill of Quantities**

In the fourth line of Sub-clause 2.8.1, after the word "specification", add: "or in the measurement and payment clause of the standard specification, particular specification or project specification".

#### **PSA 3      MATERIALS**

##### **PSA 3.1      Quality**

*ADD THE FOLLOWING:*

"All manufactured materials supplied shall be new materials unless the contrary is specified. All materials specified in accordance with SANS Specifications shall bear the SANS mark, whether so specified or not."

*ADD THE FOLLOWING TO CLAUSE 3:*

##### **PSA 3.3      Ordering Of Materials**

The quantities set out in the Bill of Quantities have been carefully determined from calculations based on data available at the time and should therefore be considered to be approximate quantities only. Before ordering materials of any kind the Contractor shall check with the Engineer whether or not the scope of the work for which the materials are required is likely to change substantially. No liability or responsibility whatsoever shall be attached to the Employer for materials ordered by the Contractor except when ordered in accordance with written confirmation issued by the Engineer.

Municipality 1		Consultant	
Municipality 2		Contractor	

The Contractor shall bear the responsibility for all delays caused by himself, his sub – contractors and / or his suppliers, and the provisions of the penalty clause will be applied in the event of late completion even if these are caused by delays in the delivery of materials unless the Contractor can prove that his order for materials was placed timeously.

#### **PSA 4 PLANT**

##### **PSA 4.2 Contractor's Offices, Stores and Services**

*ADD THE FOLLOWING PARAGRAPH BEFORE THE FIRST PARAGRAPH:*

"The Contractor's construction camp shall be fenced off and shall contain all offices, stores, workshops, testing laboratories, toilet facilities, etc. The camp shall always be kept in a neat and orderly condition.

No personnel may reside on the Site. Only night-watchmen may be on the Site after hours."

*ADD THE FOLLOWING TO THE SECOND PARAGRAPH:*

"One toilet per 10 workmen shall be provided and must be screened from public view and its use shall be enforced. The Contractor shall, where applicable, make the necessary arrangements for the removal of night soil."

*ADD THE FOLLOWING TO SUBCLAUSE 4.2:*

##### **PSA 4.2.1 Storage**

The contractor shall make provision at his own expense for the proper storage of all material in connection with this contract.

Small items shall be kept in an enclosed store, properly protected from damage or pilferage. Rubber articles, including pipe insertion or joint rings, shall be kept away from sunlight, oil or grease. Stores of materials shall be properly watched at all times.

All cement shall be stored in completely waterproof and ventilated stores provided with wooden floors. The floors shall be carried on wooden beams, the underside of which shall be 150mm clear of the ground surface beneath.

Every precaution must be taken to keep cement dry and prevent access of moisture to it from the time it leaves the place of manufacture until it is required for use on the site. Any bags of cement which show any degree of hydration and setting shall be removed from the site of the works and replaced at the contractor's own expense.

Municipality 1		Consultant	
Municipality 2		Contractor	

The supply and handling of materials

Add the following

The contractor is to supply all materials required for the works. The transport to, and offloading at the site of the materials supplied by him shall be his responsibility and the cost shall be deemed to be included in the tendered rates.

Materials shall be handled with proper care at all times. Sufficient labour and equipment shall be on hand before loading or unloading is commenced. Under no circumstances may materials be dropped from vehicles

Precaution shall be taken to prevent the bending of steelwork and fittings. Valves shall not be slung from their hand wheels. The engineer shall have the authority to forbid the transporting or handling of material in a manner, which he considers to be damaging, dangerous or inadequate. Breakage, damage or loss, in transport handling etc. shall be for the account of the contractor.

*ADD THE FOLLOWING TO CLAUSE 4:*

**PSA 4.3      Restriction on the use of Plant**

Construction Plant may only be used where permitted and for the works specified and approved by the engineer. The Contractors shall use only hand tools and equipment in the portion of the Works that are required in terms of the Project Specification and Bill of Quantities to be constructed by labour-intensive methods.

*Add to clause 4*

**PSA 4.4      Medical facilities and safety equipment**

The suitable first aid services required in terms of Sub-Clause 23(2) of the General Conditions of Contract and Sub-clause 4.2 of SANS 1200 A shall include, inter alia, a First Aid cabinet fully equipped and maintained with at least the minimum contents as listed in the Annexure (Regulation 3) to the General Safety Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), to deal with accidents and ailments which are likely to occur during the construction period. The Contractor shall provide personal safety equipment and facilities as required by Regulation 2 of the General Safety Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).

**PSA 5      CONSTRUCTION****PSA 5.1.1      Setting Out of the Works**

*ADD THE FOLLOWING*

Municipality 1		Consultant	
Municipality 2		Contractor	

“Where labour intensive work is specified, the Contractor shall also be responsible for the setting out of the daily tasks for task-labour.”

Before commencing of any construction, The Contractor shall check the relative positions and levels of all reference pegs, bench marks and line pegs and inform the Engineer of any discrepancy.

Add to Subclause 5.1.1

‘The Contractor shall be responsible for the true and proper setting out of the Works and for the correctness of the position, levels, dimensions and alignment of all parts of the Works and for the provision of all necessary instruments, appliances and labour in connection therewith.

The Contractor shall carefully protect and preserve all benchmarks, sight-rails, pegs and other things used in setting out of the Works. The checking of any setting-out of any line or level by the Engineer shall not relieve the Contractor of his responsibility for the correctness thereof.

If at any time during the progress of the Works, any errors shall appear or arise in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required to do so by the Engineer, shall at his own expense rectify such error to the satisfaction of the Engineer, but if such error is based on incorrect data supplied in writing by the Engineer or if there is any delay in providing the particulars required, the Contractor shall, in respect of that delay and Cost of such rectification, be entitled to make a claim in accordance to Clause 48 of the GCC’.

The Contractor shall advise the Engineer of any conflict between the position of any part of the Works and an existing feature.

**PSA 5.1.2      Preservation and Replacement of Beacons and Pegs subject to the Land Survey Act**

Before the Contractor commences any work on erven, he shall search for the erf pegs. If any erf pegs are missing, he shall immediately inform the Engineer in writing.

**PSA 5.4      PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES**

*REPLACE THE HEADING AND THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING HEADING AND SUBCLAUSE:*

**LOCATION AND PROTECTION OF EXISTING SERVICES**

Alterations and repairs to existing services

Unless the contrary is clearly specified or ordered, the Contractor shall not carry out alterations to existing services.

Municipality 1		Consultant	
Municipality 2		Contractor	

When this is necessary, the Contractor shall inform the Engineer, who will either make arrangements for such work to be executed by the owner of the service, or instruct the Contractor to make such arrangements himself.

When existing services are damaged by the Contractor, he shall immediately inform the Engineer, or when this is not possible, the relevant authority, and obtain instructions as to who should carry out repairs. In urgent cases the Contractor shall take the necessary steps to minimise damage to and interruption of the service. No repairs of telecommunication cables or electric power lines and cables shall be attempted.

A list of important telephone numbers for use when services are damaged or need to be altered is provided below:

Electricity	:	011 951 2440
Water	:	086 166 4253
Sewerage	:	011 951 2104
Traffic	:	011 951 2103

The Employer will accept no liability for damages due to a delay in having such alterations or repairs effected. The Contractor shall provide all reasonable opportunity, access and assistance to persons carrying out alterations or repairs of existing services."

*ADD THE FOLLOWING SUB CLAUSES:*

**PSA 5.7      Safety**

*ADD THE FOLLOWING:*

Occupational Health and Safety Act, 1993 and the Construction Regulations, 2003 Safety requirements are to be in accordance with the Occupational Health and Safety Act and the Construction Regulations and any amendment thereto.

*ADD THE FOLLOWING SUB CLAUSES TO 5.7:*

**PSA 5.7.1      Responsibilities:**

The Principal Contractor is appointed by the Client to be in overall control and management of the construction site. The Principal Contractor shall develop an Occupational Health and Safety Plan in accordance with this specification and the Client shall approve it.

The principal contractor shall be responsible for the following in order to ensure compliance with the provisions of the Act –

- Provide any contractor who is appointed to perform construction work for the principal contractor, with the relevant sections of the health and safety specification pertaining to the construction work, which has to be performed;

Municipality 1		Consultant	
Municipality 2		Contractor	

- Appoint each contractor in writing for the part thereof of the contract.
- Ensure that a contractor shall provide and demonstrate to the principal contractor a suitable and sufficiently documented health and safety plan, which plan shall be applied from the date of commencement of and for the duration of the construction work.  
A principal contractor shall discuss and negotiate with the contractor the contents of the health and safety plan and shall finally approve that plan for implementation.
- Take reasonable steps to ensure that each contractor's health and safety plan is implemented and maintained on the construction site: Provided that the steps taken shall include periodic audits at intervals mutually agreed upon between the principal contractor and contractor(s), but at least once every month;
- Stop any contractor from executing construction work which is not in accordance with the principal contractor's and/or contractor's health and safety plan for the contract which poses a threat to the health and safety of persons;
- Ensure that where changes are brought about, sufficient health and safety information and appropriate resources shall be made available to the contractor to execute the work safely.
- Ensure that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to work commencing on site.
- A principal contractor shall ensure that a copy of his or her health and safety plan, as well as the contractor's health and safety plan, is available on request to an employee, inspector, contractor, client or client's agent.
- Every contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of the Act and the Regulations, is opened and kept on site and made available to an inspector, client, clients agent or principal contractor upon request.
- A principal contractor shall hand over a consolidated health and safety file to the client upon completion of the construction work and shall in addition include a record of all drawings, designs, materials used and other similar information concerning the completed structure.
- A principal contractor shall ensure that in addition to the documentation required in the health and safety file, a comprehensive and updated list of all the contractors on site accountable to the principal contractor, the agreements between the parties and the type of work being done is included and available.
- No principal contractor shall appoint a contractor to perform construction work unless the principal contractor is reasonably satisfied that the contractor he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely.
- Where a contractor appoints another contractor to perform construction work, the responsibilities as determined in the Regulations and above that apply to the principal contractor shall apply to the contractor as if he or she were the principal contractor.

PSA 5.7.2 Supervision of Construction Work

Every contractor shall appoint a full-time competent employee designated in writing as the construction supervisor, with the duty of supervising the performance of the construction work.

Municipality 1		Consultant	
Municipality 2		Contractor	

The Contractor shall upon having considered the size of the project, the degree of dangers likely to be encountered or the accumulation of hazards or risks on the site, appoint a full-time or part-time construction safety officer in writing to assist in the control of all safety related aspects on the site: Provided that, where the question arises as to whether a construction safety officer is necessary, the decision of an inspector shall be decisive.

No contractor shall appoint a construction safety officer to assist in the control of safety related aspects on the site unless he or she is reasonably satisfied that the construction safety officer he or she intends to appoint has the necessary competencies and resources to assist the contractor.

#### PSA 5.7.3 Risk Assessment

Every contractor performing construction work shall before the commencement of any construction work and during construction work, cause a risk assessment to be performed by a competent person appointed in writing and the risk assessment shall form part of the health and safety plan to be applied on the site and shall include at least:

- the identification of the risks and hazards to which persons may be exposed to;
- the analysis and evaluation of the risks and hazards identified;
- a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards that have been identified;
- a monitoring plan; and
- a review plan.

The contractor shall ensure that a copy of the risk assessment is available on site for inspection by an inspector, client, client's agent, contractor, employee, representative trade union, health and safety representative or any member of the health and safety committee.

The contractor shall consult with the health and safety committee or, if no health and safety committee exists, with a representative group of employees, on the development, monitoring and review of the risk assessment. The contractor shall ensure that all employees under the his or her control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment.

The principal contractor shall ensure that all contractors are informed regarding any hazard as stipulated in the risk assessment before any work commences, and thereafter at such times as may be determined in the risk assessment.

No contractor shall allow or permit any employee to enter any site, unless such person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.

Municipality 1		Consultant	
Municipality 2		Contractor	

The contractor shall ensure that all visitors to a construction site undergoes health and safety instruction pertaining to the hazards prevalent on the site and shall be provided with the necessary personal protective equipment:

Provided that where visits are made only to the site office which is not in direct contact with the construction work activities, those health and safety instructions and the provision of personal protective equipment may not apply.

**Every employee on site shall be in possession of proof of the health and safety induction training issued by a competent person of the contractor prior to the commencement of construction work; and carry the proof contemplated in paragraph (h) i for the duration of the contract or for the period that the employee will be on the construction site.**

PSA 5.7.4 Documentation to be kept on Site

The following documents shall be prepared and maintained on site by the Contractor:

- Notification of Construction Work
- Copy of the latest edition of the Occupational Health and Safety Act.
- Proof of Registration with COIDA Insurer
- The Occupational Health and Safety Programme agreed with Employer including the Risk
- Environmental Management Plan (EMP)
- Assessment/s and Method Statements
- Occupational Health and Safety File
- Appointment/Designation forms
- Drawings
- List of Contractors (Sub-Contractors)

The following registers appropriate to the type of work to be undertaken in the Contract shall be prepared and maintained on site by the Contractor

- Form/Support work Inspection
- Excavations Inspection
- Demolition Inspections
- Tunneling Inspections
- Scaffolding Inspection
- Designer's Inspection of Structures Record
- Suspended Platforms Inspections
- Materials Hoist Inspection
- Batch Plant Inspections
- Explosive Powered Tool Issue and Maintenance
- Welding Equipment
- Construction vehicles and Mobile Plant Inspections
- Electrical Installation and Machinery Inspection

Municipality 1		Consultant	
Municipality 2		Contractor	



- Fire Equipment Inspection and Maintenance
- Lifting Tackle and Equipment
- Cranes
- Ladders
- Vessels under Pressure

**PSA 7 TESTING****PSA 7.2 Approved Laboratories***ADD THE FOLLOWING:*

"The independent laboratory used by the Contractor and approved by the Engineer shall also be deemed an approved laboratory."

The provision of a laboratory on site will not be compulsory. The Contractor shall make the necessary arrangements with an approved laboratory for the undertaking of any tests that may be required in terms of the relevant sections of SANS 1200. The Engineer's written approval for the use of the services of the aforementioned laboratory will be required.

**PSA8 MEASUREMENT AND PAYMENT**

Time-related items will be measured and paid by the month in accordance with the following amendments:

**PSA 8.1.2.1 Contents**

Amend the first line of Subclause 8.1.2.1(b) to read:

"Provision will be made in the schedule for lump sums and rates to cover the cost of the Contractor supplying,"

**PSA 8.1.2.1 Tendered Sums**

Amend the heading to Subclause 8.1.2.2 to read:

"Tendered sums and rates" and amend the first line to read: "The sum or rate tendered in the schedule for any preliminary and general item shall cover".

**PSA 8.1.2.3 Contractor to price all items**

Sub clause 8.1.2.3 is amended to include the following:

"The Contractor shall price all the items in the Bill of Quantities."

Municipality 1		Consultant	
Municipality 2		Contractor	

These items and prices will form the sole basis for cost evaluation in the settlement of variations other than that provided for in the General Conditions of Contract for the applicable section. In the absence of a price against an item or in the event of a price marked N/A or included against any item, no claim in respect of additional costs or charges for provision of any of the duties, services, facilities or obligations required in respect of that item will be considered."

**PSA 8.1.1**      Method of measurement, all sections of the Schedule

Subclause 8.1.1 is amended to read as follows: -

"Except where otherwise specified in Sub clause 8 of a standardized specification or in the project specification or in the preamble to the schedule, all items in the Schedule shall be measured and shall cover the operations as recommended in the Standard Method of Measurement of civil Engineers Quantities as approved by the South African Institution of civil Engineers and the South African Federation of Civil Engineering Contractors, current at the date of tender notwithstanding any general or local custom."

**PSA 8.2**      **PAYMENT**

Monthly payment certificates should be submitted to the engineer's representative before a due date which is sufficiently early to allow for reconciliation of all quantities, rates, extensions and additions to the certificate. Daywork returns shall be submitted within 24 hours of the working day on which the work was executed.

*ADD THE FOLLOWING SUB CLAUSES TO 8.2:*

**PSA 8.2.2**      Time-related items

At the beginning of the Note in Subclause 8.2.2, add:

"Except for an extension of time for abnormal climatic conditions,".

Notwithstanding the stipulation of Subclause 8.2.2, an approved extension of time will only entitle the Contractor to payment in terms of Subclause 45(4) of the General Conditions of Contract.

Amend the third, fourth and fifth lines of Subclause 8.2.2 to read:

"time-related items will be made at the rate tendered for each month the item is maintained on site as ordered by the Engineer."

**PSA 8.2.4.**      Withholding of Payment for Time-related Items

In the third line of Subclause 8.2.4.1, amend the words "incremental amount" to read: "monthly rate tendered."

Municipality 1		Consultant	
Municipality 2		Contractor	

PSA 8.2.5 Labour Rates

**Task-based workers shall be paid for task rates as agreed beforehand. Payment shall be for completed tasks irrelevant of time spend to complete the task. (As per Civil Engineering Industry Published in Government Gazette of 16 Feb 2007)**

*Note: It is the tenderers responsibility to check the rates as given and must take note of the rate as per Mogale City Labour Policy for labour employment on EPWP projects.*

ACTIVITY		UNIT	TASK RATE RANGE	REMARKS
Road/Building/water and Sanitation works	Bush clearing	m <sup>2</sup>	200 - 350	
	Clearing & Grubbing	m <sup>2</sup>	100 - 150	
	Stump removal	No.	Day work	Depends on size
	Boulder removal	No.	Day work	Depends on size
	Excavation			
	Soft/loose soil	m <sup>3</sup>	2.0 - 4.0	
	Medium	m <sup>3</sup>	2.0 - 3.0	
	Stiff/Hard	m <sup>3</sup>	1.0 - 2.0	
	Very hard	m <sup>3</sup>	0.8 - 1.0	
	Gravel excavation	m <sup>3</sup>	1.0 - 3.0	
	Compaction (pedestrian-ride on roller)	m <sup>2</sup>	700 - 1000	
	Camber Formation	m <sup>2</sup>	60 - 80	
	Loading	m <sup>3</sup>	5 – 8	
	Unloading	m <sup>3</sup>	8 - 10	
	Spreading /soil	m <sup>3</sup>	12 – 15	
	Spreading/Gravel	m <sup>3</sup>	8 – 12	
	Wet stone masonry	m <sup>3</sup>	0.5 - 1.0	
	Stone pitching	m <sup>2</sup>	6 - 10	
	Dry stone masonry	m <sup>3</sup>	1.0 - 2.0	

Municipality 1		Consultant	
Municipality 2		Contractor	

	Gabion (including assembling & placing rocks)	m <sup>3</sup>	1.8 - 2.0	
	Concrete/mix & place	m <sup>3</sup>	0.5 - 1.0	
	<b>Wheelbarrow haulage</b> (haul distance)			
	0 - 20m	m <sup>3</sup>	7.0 - 8.5	
	20 – 40m	“	6.5 - 7.5	
	40 – 60m	“	5.5 - 6.5	
	60 – 80m	“	5.0 - 5.5	
	80 – 100m	“	4.0 - 5.0	
Road works	Install precast concrete culverts (excavation of trench and backfilling)			
	Ø450 mm	m	1.0 - 1.5	
	Ø 600 mm	m	0.9 - 1.2	
	Ø 900 mm	m	0.5 - 0.8	
	<b>Paving:</b> Concrete block placing	m <sup>2</sup>	150 - 200	Team task (10 workers)
	Compaction/block paving units/filling joints	m <sup>2</sup>	15 - 25	
	Lay precast kerb units/concrete beam	m	8 - 12	
	<b>Sealing work</b>			
	Cold mix asphalt	m <sup>2</sup>	900 - 1,000	Team task (16 workers)
	Otta seal	m <sup>2</sup>	5,400 - 5,500	Team task (60 workers)
	Sand seal	m <sup>2</sup>	2,800 - 3,000	Team task (20 workers)
	Modified Otta seal (using emulsion binder)	m <sup>2</sup>	1,300 - 1,500	Team task (16 workers)
	Ultra-thin reinforced concrete	m <sup>2</sup>	400 - 500	Team task (25 workers)

Municipality 1		Consultant	
Municipality 2		Contractor	

Routine road maintenance	Cut grass /on verge/ side drains	m <sup>2</sup>	100 - 150	
	Clean culvert /inlet, outfall	m <sup>3</sup>	1.5 - 2.0	
	Clean side/mitre drains	m <sup>3</sup>	2.0 - 3.0	
	Repair side drain erosion	m <sup>3</sup>	3.0 - 5.0	
	Fill pot holes on carriageway	m <sup>3</sup>	2.0 - 3.0	Gravel roads
	Fill ruts/minor gullies on carriageway	m <sup>2</sup>	5.0 - 10	
	Grub edge/shoulder	m <sup>2</sup>	80 - 100	
	Repair shoulder erosion	m <sup>2</sup>	5.0 - 10	
	Repair culvert headwalls	No	Day work	

Tasks established by the contractor must be such that the average worker completes 5 tasks per week in 40 hours or less; and the weakest worker completes 5 tasks per week in 55 hours or less. 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 5 tasks in 55 hour week.

### SANS 1200 C: SITE CLEARANCE

#### PSC 3 MATERIALS

##### PSC 3.1 Disposal of Material (Sub clause 3.1)

The material resulting from clearing and grubbing shall be transported to an approved dumping area, or as directed by the Engineer.

Subclause 3.1 is amended to include: "An unlimited free-haul distance shall apply."

#### PSC 5 CONSTRUCTION

##### PSC 5.1 Clearing

Sub clause 5.3(a) is amended to read:

"The removal of all trees and tree stumps, not exceeding 1 m girth and bushes (complete with roots), other vegetation, refuse, fences and all other material that may interfere with the construction of the works."

Sub clause 5.3 (c) is deleted.

Sub clause 5.3 (e) is deleted.

Municipality 1		Consultant	
Municipality 2		Contractor	

**PSC 5.2 Conservation of Topsoil (Sub clause 5.6)**

Topsoil shall be removed and conserved as and when directed by the Engineer in writing.

**PSC 8 MEASUREMENT AND PAYMENT****PSC 8.2 Removal and Conservation of Topsoil**

The rate for return of topsoil to borrow pit areas shall cover the cost of loading from stockpile, transporting and spreading as specified and shall be extra over the rate for stripping and stockpiling.

Notwithstanding the provisions of Clause PSC 5.1, no payment for clearing and grubbing will be made in areas designated for the removal and conservation of topsoil, except where so specifically designated by the Engineer.

***ADD THE FOLLOWING SUBCLAUSE TO 8.2*****PSC 8.2.11 Relocate existing electricity, Telkom poles and light poles**

The cost shall include removing ,relocating and reinstating the service upon approval by engineer following detection of such services in the vicinity of the works where no work can progress if the service is not relocated.

**PSD: EARTHWORKS (SANS 1200 D)**

Note: Earthworks Activities which are to be performed by hand will be executed and managed in accordance with SANS 1921-5.

The following types of activities have been identified as suitable for labour-based construction methods on this project:

- \* Cleaning & grubbing of site
- \* Removal of topsoil (150mm deep)
- \* Maintenance of stockpiles
- \* Accommodation of traffic
- \* Digging of trenches between 0 to 1,5m deep for pipe lines surface drainage where possible
- \* Laying and backfilling of pipelines
- \* Mixing and placing of concrete for smaller structures
- \* Building of small brick structures
- \* Erection of steel frameworks
- \* Erosion control measure such as grouted stone pitching
- \* Locating and protection of existing services

Municipality 1		Consultant	
Municipality 2		Contractor	

Precedence

This part of the Project Specifications will be executed in accordance with **SANS 1921-5:2004** and shall take precedence over SANS 1200 for any portion of works that has been identified to be executed by labour intensive methods.

**PSD 3. MATERIALS****PSD 3.1.2 Extra-over payment for excavation classification**

Excavation will be classified either as "Soft" or "Hard" excavation. All excavation that can be achieved using an excavator, TLB or similar plant will be classified as "Soft" excavation. Where it is necessary to employ pneumatic hammer excavation, either by means of hand pneumatic hammers or mounted on an excavator, blasting or other means, that excavation will be classified as "Hard" excavation.

**Material excavateable by hand**

**Unless otherwise stated in the scope of works or in the specifications, all materials that have the following characteristics shall be deemed to be materials excavateable by hand:**

**a) granular materials:**

- i) whose consistency when profiled may in terms of table 2 be classified as very loose, loose, medium dense, or dense; or
- ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;

**b) cohesive materials:**

- i) whose consistency when profiled may in terms of table 2 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
- ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

**Note**

- 1) A boulder is material with a particle size greater than 200mm, a cobble and gravel is material between 60 and 200mm.
- 2) A dynamic cone penetrometer is an instrument used to measure the in-situ shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

Municipality 1		Consultant	
Municipality 2		Contractor	

Table 2: Consistency Of Materials When Profiled			
Granular Materials		Cohesive Materials	
Consistency	Description	Consistency	Description
Very loose	Crumbles very easily when scraped with a	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end of a geological pick.	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in up to 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.
Dense	Very high resistance to penetration by the sharp end of a geological pick; requires many blows for	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

PSD 3.1.2 c) Hard Rock excavation

Hard rock excavation shall be classified as excavation that cannot be efficiently ripped by bulldozer (as specified 3.1.2b). **BLASTING WILL NOT BE ALLOWED** except for extreme circumstances. The contractor must submit a proposal at own cost detailing the procedure, subsoil conditions, measuring of shockwave and the expectant shockwave measurement, safety procedures to be followed, etc. Only blasting contractors with dolomitic experience (proven by written certification) will be allowed to execute the procedure.

All legal requirements and documentation is the full responsibility of the main contractor. On approval, the geotechnical engineer shall be notified in advance to be in attendance at all times as well as a Health and Safety Officer with blasting experience. This type of excavation will be separately measured as hard rock excavation.

Municipality 1		Consultant	
Municipality 2		Contractor	



**PSD3.3.1     General**

*ADD THE FOLLOWING AFTER THE FIRST SENTENCE:*

“Topsoil selected shall be removed by Labour Intensive methods and will be spoiled at the contractors own dumpsite.”

**PSD4            PLANT**

All work shall be carried out using Labour Intensive methods where possible.

**PSD5            CONSTRUCTION**

PSD5.2.5.1    Free Haul (SUB CLAUSE 5.2.5.1)  
See PSC 3.1.

**PSD 5.1.3      Stormwater and Groundwater**

*ADD THE FOLLOWING:*

“The contractor shall take all necessary measures to prevent stormwater from entering any of the bulk or trench excavations. He shall furthermore make adequate provision for the removal of all rainwater and groundwater from the excavations and for preventing the ponding of water on the floor of the excavation throughout the construction period. The contractor shall include, in his rates for all earthworks, for the protection of the works against damage due to stormwater or groundwater. The cost of all repair work for damage to the works due to stormwater, springs or seepage water shall be borne by the contractor.”

**PSD5.2        METHODS AND PROCEDURES****PSD 5.2.1.2   Conservation of Topsoil**

*ADD THE FOLLOWING:*

“Topsoil selected shall be removed by Labour Intensive methods and will be spoiled at the contractors own dumpsite.”

**PSD5.2.3.     Placing and Compaction****PSD 5.2.3.2.   Backfilling and compaction around structures [Subclause 5.2.3.2]**

*ADD THE FOLLOWING TO SUBCLAUSE a) GENERAL:*

“The material to be compacted around structures shall be compacted in layers as specified in SANS 1200 D at OMC to a density of at least 93% of modified AASHTO density.”

Municipality 1		Consultant	
Municipality 2		Contractor	

PSD 5.2.4 FinishingPSD 5.2.4.1 Final grading*ADD THE FOLLOWING:*

“Surfaces where material from excavation had been deposited and later removed in the course of the earthworks operation and the surface of all areas where excavation has taken place shall be left smooth to line and level, and free from clay or loose rocks.”

PSD 5.2.4.2 Top soiling*ADD THE FOLLOWING:*

“Only where so measured, top soiling is to be carried out over the area of fill slopes around all structures, the surface of all trenches and on the outer slopes of the embankments. Selected topsoil or other approved material shall be used in the final 150mm of backfilling of pipe trenches and structures unless otherwise directed.”

PSD 5.2.5 Transport of EarthworksPSD 5.2.5.1 Freehaul*ADD THE FOLLOWING BEFORE THE FINAL PARAGRAPH:*

All material moved to the disposal site or imported from the borrowpit shall be subject to the following Free Haul distances:

Dumping	:	5 km
Borrow pit	:	5 km
Stockpile	:	5 km

**PS.SANS.4.2 Haul**

**Where the haul distance on site is less than 200m, excavated material shall be hauled to its point of placement by means of wheelbarrows. Care must be taken to ensure that wheelbarrows are fully loaded. Refer PS.SANS4.8 Specification.**

## PSD 8.1.1 Disposal of material

All surplus material and all unsuitable material from excavations and clearing and grubbing operations shall be removed from the Site by the Contractor and disposed of where instructed by the Engineer.

Municipality 1		Consultant	
Municipality 2		Contractor	

Dumping shall proceed in an orderly manner with coarse material placed at the bottom and covered with finer material, where possible. Upon completion of dumping the material shall be shaped to provide free-draining surfaces and slopes and finished off to the satisfaction of the Engineer.

**PSD 8.3.8.1 Excavation using labour intensive methods**

Except that extra-over payment will only be made for pickable excavation, in terms of sub-clause 8.3.8.1c) shall mutatis mutandis apply.

**PSDM SANS 1200 DM : EARTHWORKS (ROADS, SUB-GRADE)**

**PSDM 5 CONSTRUCTION**

**PSDM 5.2.8.1 Free Haul**

The provision of PSD 5.2 shall apply.

***ADD THE FOLLOWING SUB CLAUSE TO CLAUSE 5***

**PSDM 5.3 Importation of material**

The rate for selected subgrade material imported from commercial sources shall cover the cost of supply, transport, placing & compaction of the selected subgrade layer as specified.

The importation of material from borrow pits or commercial sources, as ordered in writing by the Engineer, will be measured separately and will be paid extra-over the rate for subgrade or selected subgrade. The rate for the imported material shall cover the additional costs of winning or producing, transporting & delivering the material to the point of use. The importation of material from commercial sources will be measured for payment only if such importation has been ordered in writing by the Engineer.

**PSDM 7.1 Testing**

The rates for treatment of road-bed, cut and borrow to fill and selected layer in sub-clause 8.3.3, 8.3.4 & 8.3.5, respectively, shall cover the cost of testing as specified in Clause 7.

**PSDM 8 MEASUREMENTS AND PAYMENTS**

**PSDM 8.2.1. Computation of quantities (Sub-clause 8.2.1)**

Earthworks for base and sub base layers are calculated on the basis that where material is from cut, the material will be cut to a temporary stockpile on the site and then used for fill.

Municipality 1		Consultant	
Municipality 2		Contractor	

Elsewhere earthworks are measured once only.

**PSDM 8.3.3 Material imported from Municipal borrow pit**

The rate for material imported from the municipal borrow pit shall include the cost of loading, transporting, placing & compaction of the material. The rate shall also allow for the royalty lived by the municipality.

**PSDM 8.3.4 Importation of material**

The rate for selected sub-grade material imported from commercial sources shall cover the cost of supply, transport, placing & compaction of the selected sub-grade layer as specified.

The importation of material from borrow pits or commercial sources, as ordered in writing by the Engineer, will be measured separately and will be paid extra-over the rate for sub-grade or selected sub-grade. The rate for the imported material shall cover the additional costs of winning or producing, transporting & delivering the material to the point of use.

The importation of material from commercial sources will be measured for payment only if such importation has been ordered in writing by the Engineer.

**PSDM 8.3.4 Cut and borrow to fill**

***ADD THE FOLLOWING TO SUBCLAUSE 8.3.4***

The unit of measurement shall be the cubic metre of fill measured in site from leveled cross sections taken before and after construction where such material is either imported from a position more than 100m from point of use or is utilized in a portion of a fill which is more than 0,5m above the original ground level.

Where measurement by cross sections is impractical the volume can be measured by taking 70% of the loose volume measured in trucks, in the case of soil and gravel material, and 50% of the loose volume in trucks, in the case of hard material consisting predominantly of particles 100 mm and more maximum dimension. Payment at unit rates shall include full compensation for procuring, furnishing and placing the material in all classes of 1,0 km.

**PSDM 8.3.7 Cut to Spoil**

***ADD THE FOLLOWING TO SUBCLAUSE 8.3.7***

The unit of measurement shall be the cubic metre of authorized excavation taken from cut in bypasses or removed from fill in redundant bypasses and carted to spoil on the instructions of the Engineer, all in site before excavation by means of leveled cross sections.

Municipality 1		Consultant	
Municipality 2		Contractor	

Payment at tendered rates shall include full compensation for excavating in all classes of material; loading, transporting, offloading, including the shaping and leveling of spoil material and transporting.

## **SANS 1200 MK : KERBING AND CHANNELING**

### **PSMK 3 MATERIALS**

#### **PSMK 3.2 PRECAST KERBING AND CHANNELLING**

##### **PSMK 3.2.1 General (Sub-clause 3.2.1)**

Kerbing may be either cast in-situ or obtained from a supplier. All supplied kerbing to be SANS approved. Channelling to be of grade 25MPa concrete.

#### **PSMK 3.7 CONCRETE FOR EXTRUDED-IN-SIU KERBING AND CHANNELING**

##### **PSMK 3.7.2 Concrete (Add to Sub-clause 3.7.2)**

Concrete shall comply with SANS 1200 G for strength of grade 20MPa.

### **PSMK 5 CONSTRUCTION**

Joints in in-situ cast kerbing shall be sawn at 2,00m intervals within 18 hours after being cast. Care shall be taken to prevent the ingress of foreign matter into the joints. The bagging of kerbing to hide stains and other surface defects shall be removed between joints and recast at the Contractors expense.

### **PSMK 6 TOLERANCES**

#### **PSMK 6.1 CONCRETE KERBING AND CHANNELLING (ADD TO SUBCLAUSE 6.1)**

The precast and cast in-site concrete kerbs and channels shall be laid to line and levels shown on the drawings within a tolerance of 3 mm when tested with a 3 m long straight edge.

### **PSMK 8 MEASUREMENTS AND PAYMENTS**

#### **PSMK 8.2.1 Concrete kerbing**

The rate for precast kerbing shall include for the concrete bedding & backing shown on the drawings.

Municipality 1		Consultant	
Municipality 2		Contractor	

**PSMK 8.2.6.1 Inlet, outlet, transition, and similar structures (measured as unit structures)**

Transition kerbs that are used between different types of kerbs and channel or on either side of catchpits will be measured by the number of each type, extra-over the respective types of kerbing & channelling.

The rate shall cover the additional cost of constructing the transition length in in-situ concrete and the kerbing and channelling units as necessary.

**PSMM: ANCILLARY ROAD WORKS (SANS 1200 MM)****PSMM 8 MEASUREMENT AND PAYMENT****PSMM 8.4.1 Road markings (Add to Sub-clause 8.4.1)**

Notwithstanding the requirements of Sub-clause 8.4.1 painted road lines will be measured by net length and special markings by number.

The rates shall cover the cost of supplying all materials and equipment necessary and for painting and reflectorizing, protection, setting out and pre-marking of the road markings.

**PS1500 ACCOMMODATION OF TRAFFIC (COLTO)**

All items under this heading shall be specified, measured and paid under this relevant specifications of COLTO 1998 Section 1500 with all pay items as listed covering full payment for this work

**PS1500 ACCOMMODATION OF TRAFFIC [COLTO 1500]****PS1502 General Requirements****Provision of bypass**

The Contractor shall be responsible for the safe and easy passage of public traffic past or over sections of roads of which he has occupation. The contractor may not commence with any part of the works before he has made adequate provision for the accommodation of traffic

The Contractor shall also provide and allow reasonable access to persons requiring access to existing buildings that fall within or adjoin the area over which he is working. If, for any reason, such access has to be closed for certain periods during the construction period, the persons affected shall be given reasonable notice in writing of each such period. Where an existing road is to remain in use for through traffic, the contractor shall provide, construct or put in order such temporary deviations as specified.

Municipality 1		Consultant	
Municipality 2		Contractor	

**PSDM 1.2      Road traffic control**

In addition to complying with the General Requirements of Sub Clause 1502 .of COLTO Section 1500, the Contractor shall provide, erect, and maintain the traffic signs as called for in the Bill of Quantities.

**LI            SANS            PS1921-2      The contractor shall nominate suitable members of his staff and**  
**1921-2            4.9.1            train    a traffic official and flagman to be responsible for the**  
**arrangements and maintenance of all accommodation of traffic**  
**measures required for the duration of construction – as and when**  
**required on instruction by the engineer.**

**PSDM 1.3      Temporary works**

[a] The Relevant requirements of Subclause 1505 of COLTO 1500 shall apply

[b] The Contractor shall construct the necessary temporary drainage work to deal adequately with surface run-off by means of side channels, catchwater channels, mitre channels, culverts, etc. In addition, temporary culverts or suitable sizes and types, shall be installed on existing drainage channels.

[c] Where any service, other than provision for stormwater, has to be temporarily deviated, the Contractor shall obtain the written approval of the controlling authority before commencing the work.

Municipality 1		Consultant	
Municipality 2		Contractor	

**3.7.3 PARTICULAR PROJECT SPECIFICATION (PART 3)**

The following Particular Project Specifications forms part of the Contract and have been written to cover phases or items of work involving a specialist type of operations or material to be encountered on this Contract and that are not adequately covered by the SANS 1200 or General Specifications

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**PART 3 : PARTICULAR SPECIFICATIONS**


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- PQ - High Energy Impact Compaction (HIEC)
- PU - Reinforced Concrete
- Sewer pipe specification
- Labour intensive specification – Pipe Laying

Municipality 1		Consultant	
Municipality 2		Contractor	



**PQ - HIGH ENERGY IMPACT COMPACTION (HIEC)****IN-SITU TREATMENT OF SOIL BY MEANS OF IMPACT COMPACTION****CONTENTS**

- PQ01. SCOPE
- PQ02. IMPACT COMPACTION PLANT
- PQ03. DEFINITION OF AN IMPACT COMPACTOR PASS
- PQ04. SETTING OUT
- PQ05. PREPARATION AND MAINTENANCE OF COMPACTING SURFACE
- PQ06. IMPACT COMPACTION TRIALS
- PQ07. COMPACTION
- PQ08. QUALITY CONTROL PROCEDURE
- PQ09. MEASUREMENT AND PAYMENT DETAILS
- PQ010. ITEMISED BOQ

**PQ.1. SCOPE**

This is a general specification and covers the in-situ treatment of soil by means of impact compaction.

**PQ.2. IMPACT COMPACTION PLANT**

A 25kJ 3-sided impact compactor should be utilized for the in-situ treatment of soil. The rating of the impact compactors shall be determined by measuring the energy expended per fall of the compactor and shall be calculated by multiplying the mass of the rotating drums, by the lift and by the gravitational constant.

The compactor shall be towed by a 4-wheel drive tractor of sufficient engine power (not less than 180 Kilowatts) and of sufficient capacity to maintain an optimal compactor towing speed (10 – 13 km/hr) on a maximum uphill gradient of 8%. All equipment shall be maintained in good working order.

**PQ.3. DEFINITION OF AN IMPACT COMPACTOR PASS**

A “pass” for the dual drum 25kJ, 3-sided impact compactor is defined as two runs of the compactor over a 4 meter wide lane such that one drum of the compactor during its second run travels in the middle of the inter-drum space created by the first run of the compactor. Overlapping of drum paths in two consecutive runs (ie. In one pass) will not be permitted.

**PQ.4. SETTING OUT**

The area to be treated with impact compaction shall be as defined in the drawings. The contractor shall control the compaction operations by employing appropriate setting out markers to ensure that all areas designated for impact compaction receive the specified number of impact compactor passes. The use of a GPS device could be used to control the surface area coverage.

Municipality 1		Consultant	
Municipality 2		Contractor	

**PQ.5. PREPARATION AND MAINTENANCE OF COMPACTING SURFACE**

Compaction shall be carried out as soon as possible after clearing and grubbing operations to exploit any moisture available in the in-situ material, which will facilitate the compaction process.

Water shall be applied in sufficient quantities to the surface during the compaction process to prevent the crumbling &/or powdering of the surface, to promote efficient compaction and to control dust.

The area being impact compacted shall be lightly graded either by means of a grader unit fitted to the back of the impact roller, or a standard motor grader, to maintain a good operating surface for the compactor, to level out surface undulations and to prevent the formation of deep "footprints" of the compactor. This assists the operator in maintaining the optimum operating speed.

**PQ.6. IMPACT COMPACTION TRIALS**

Before commencement of the full-scale impact compaction works, compaction trial/s should be carried out on a representative section, identified by the Engineer, of at least 40m in length. The impact compactor turning circles shall lie outside the trial section and sufficient length shall be allowed for to ensure that the compactor compacts at optimum speed. The width of the trial section shall be between 4m and 8m, depending on the amount of soil testing data required.

The objective of these trials is to determine the optimum number of passes to be applied, to quantify the level of improvement in the in-situ soil that can be expected and to obtain a correlation for the Continuous Impact Response verification system. Table 1 details the testing required during the trials:

Table 1: Trial Testing Required

Description of Test	Pass 0	Pass 10	Pass 20	Pass 30	Pass 40
DCPs (2m)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Density – 300mm					
Density – 600mm					
Density – 900mm					
Settlement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soil Samples					
CIR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plate Load Test					

The target compaction state shall be based on the number of passes, which results in soil substantially attaining its near elastic state condition, or as per Engineers required specification. The target coverage required will be determined by means of the DCP results and shall be presented to the Engineer for approval. The Engineer shall approve or reject the recommendation within one working day as to ensure that compaction operations are not held back. A trial report shall furthermore be compiled by the Contractor and submitted to the Engineer after all laboratory results have been received.

Municipality 1		Consultant	
Municipality 2		Contractor	

**PQ.7. COMPACTION****PQ.7.1 General**

Impact compaction must be carried out before services, drainage pipes or culverts are installed, where possible. Adequate supervision shall be provided and undertaken by the Contractor to ensure that the specified method of compaction is strictly adhered to.

**PQ.7.2 Variation in Compactive Effort**

For tender purposes, 25 passes shall be used to achieve the required improvement. Should more or less passes be ordered, adjustment in compensation to the Contractor shall be made either as an additional payment to the Contractor in respect of the increased number of passes or as a reduction in payment in respect of a reduced number of passes. This variation in compactive effort shall be measured by the m2pass.

**PQ.7.3 Vibration monitoring**

Should there be structures within a 20m radius of where compaction takes place, vibration monitoring may be required by the Engineer. It is the Contractor's responsibility to ensure that the vibration levels (Peak Particle Velocity (PPV)) are kept below a limit of 25mm/s.

Should a cut-off trench be required to mitigate the vibrations, the Contractor will be paid separately.

**PQ.7.4 Recording Procedure**

The impact compaction work carried out shall be recorded each day in the Compaction Record Book. The Compaction Record Book shall make provision for the recording of:

- The date on which any compaction was carried out.
- The area and section on which the compaction was carried out.
- The lane on which the compaction was carried out.
- The number of passes at which the compaction on those lanes commenced and ended on that day – inclusive (eg. 6-15)
- The number of passes carried out on that day on that lane (eg. 10)
- The width of the area compacted.
- The length of the area compacted.
- The square meter passes compacted on that day (ie. The area compacted x the number of passes).

The record book shall be presented to the Engineer on a daily basis for his verification of the information recorded.

**PQ.8. QUALITY CONTROL PROCEDURE (QCP)**

Either QCP item 8.1, OR, QCP items 8.2 – 8.5 shall be followed:

Municipality 1		Consultant	
Municipality 2		Contractor	

**PQ.8.1 Continuous Impact Response Measurements**

The Continuous Impact Response measurement shall monitor and record the deceleration of the rotating drum of an impact compactor at impact and shall automatically correlate this data with the geographical position of the compactor as determined by a GPS receiver. These measurements shall be recorded during the last two (post-compaction) passes. The data shall be presented to the Engineer in raw and in triangulated Autocad or Modelmaker formats. Raw data shall be presented in the fields of date, time, Y, X and G (deceleration). Back calculation and interpretation of the results to determine the relative weak areas shall be included in the report.

**PQ.8.2 Dynamic Cone Penetration (DCP) Tests**

2m DCP testing shall be conducted before compaction commences and after it is completed. The testing shall be done on a 25m grid and standard method TMH 6:1984 method ST6.

DCP testing shall furthermore be done in areas shown to be relatively weak as indicated by the Continuous Impact Response measurement system (8.1).

**PQ.8.3 Relative density testing**

Density testing shall be done according to TMH1: A10 after compaction has been completed. Density positions shall be tested to depths of 0-300mm, 300-600mm and 600-900mm on a 50m grid. Moisture corrections shall be done according TMH1:A17. Sufficient modified AASHTO dry density samples shall be sampled and tested in order to determine the relative density.

**PQ.8.4 Soaked CBR tests (Optional)**

Soaked CBR samples (TMH 1) shall be taken in relatively weak areas as indicated by the Continuous Impact Response measurement system (8.1).

**PQ.8.5 Plate load tests**

Plate load tests shall be done with a 450mm diameter rigid circular plate in stress increments of 0, 45.4, 0, 45.4, 90.9, 136.3, 181.8, 227.2, 272.7, 318.1, 363.5, 409.0, 454.4 & 0 kPa. Settlement results shall be recorded with three gauges at 30s, 1min, 2min, 4min, 8min & 16min. These plate load tests can be done either on the surface or 400mm below the natural ground surface, under soaked or un-soaked conditions. Each plate load test pit shall be soaked for at least 12 hours in advance. Plate loads shall be done every 750m<sup>2</sup> compacted.

**PQ.8.6 Project report**

A project report shall be presented to the Engineer detailing the test results obtained during compaction operations.

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**PQ.9. MEASUREMENT AND PAYMENT DETAILS****PQ.9.1 Mobilization**

The full cost of mobilization shall form part and deemed to be included Item 90.10.1. Mobilization shall include full compensation for establishing and de-establishing the impact compactors, tow-tractors, personnel and ancillary equipment necessary to complete impact compaction operations.

**PQ.9.2 In-Situ Compaction**

The unit of measurement shall be the square meter of in-situ soil compacted in accordance with the provisions of the specification. The quantity will be computed in accordance with the authorized dimensions of the area to be treated. The quantity shall be based on a tender coverage of 25 passes.

The tendered rates shall include full compensation for grading and watering the surface as required, diesel consumption, impact rolling the soil by the number of passes as approved by the Engineer and for any interruptions to the work necessitated by the taking of control tests. The Contractor shall be reimbursed for the roadbed preparation under a separate item.

**PQ.9.3 Compaction Variation**

The unit of measurement for the increased or decreased number of impact compactor passes, shall be the square meter pass and shall be calculated by multiplying the surface area in square meters of the soil compacted by the number of compactor passes done/not done over that area. For clarity, a lane 100m long and 4m wide given 2 passes, will be measured as 800m<sup>2</sup>passes.

The quantity shall be calculated by multiplying the area in square meters to which the variation applies by the increase or decrease in number of compactor passes.

**PQ.9.4 Impact Compaction Trial Section**

The cost for trial sections shall form part and deemed to be included Item 90.10.1. It shall include full compensation for constructing the trial section specified.

**PQ.9.5 Continuous Impact Response Measurements**

The cost associated to obtain the relative measurements shall form part and deemed to be included Item 90.10.1. The work shall be performed as described in item 90.8.1 above.

The tender rate shall include the cost of procuring, furnishing, installing operating and maintaining all additional equipment to enable the electronic monitoring of the deceleration as detailed above. The cost of processing, back calculating and providing the information to the Engineer (in report format) including all consumables, software and other incidental costs incurred is to be included in the tendered rates.

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**PQ.9.6 Dynamic Cone Penetration Tests (DCP'S)**

The cost associated with the DCP test required shall form part and deemed to be included Item 90.10.1. DCP tests done as described in item 90.8.2.

The tendered rate shall include full compensation for transportation of the test team, setting out of test positions, conducting testing, recording and processing the test values and presenting the test results to the Engineer in report format.

**PQ.9.7 Relative Density Tests**

The unit measurement shall be the number of relative density tests done as described in item 90.8.3 and measured under item 90.10.3. The tendered rate shall include full compensation for transportation of the test team, setting out of test positions, conducting testing (including maximum dry density tests), recording and processing the test values and presenting the test results to the Engineer in report format.

**PQ.9.8 Soaked CBR tests**

The unit measurement shall be the number of soaked CBR tests done as described in item 90.8.4 3 and measured under item 90.10.3. The tendered rate shall include full compensation for transportation of the test team, setting out of test positions, conducting testing, recording and processing the test values and presenting the test results to the Engineer in report format.

**PQ.9.9 Plate load tests**

The unit measurement shall be the number of plate load tests done as described in item 90.8.5 3 and measured under item 90.10.5. The tendered rate shall include full compensation for transportation of the test team, setting out of test positions, conducting testing, recording and processing the test values and presenting the test results to the Engineer in report format.

**PQ.10. ITEMISED BOQ**

Item Description	Unit
90.10.1 Compaction of in-situ soil with 25 passes by means of a 3-sided 25kJ Impact Compactor	m <sup>2</sup>
90.10.2 Variations in the compaction of the in-situ soil Applicable to item 9.2	m <sup>2</sup> pass
90.10.3 Relative density tests	No.
90.10.4 Soaked CBR tests	No.
90.10.5 Plate load tests	No.

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Municipality 2		Contractor	

**PU PLAIN AND REINFORCED CONCRETE****CONTENTS**

PU 01	SCOPE
PU 02	MATERIALS
PU 03	CONSTRUCTION
PU 04	TOLERANCES
PU 05	TESTS

**PU 01 SCOPE**

The Standardized Specification for Civil Engineering Construction of the South African Bureau of Standards (SANS 1200) shall apply throughout in respect of this contract, in addition to the additions and saving the exceptions set out below.

A copy of the said specification shall be furnished by the contractor and shall be kept on the site.

For the purposes of this contract the SANS 1200 G: CONCRETE (STRUCTURAL) standardized specification shall apply. The following should be added to the relevant sub clauses of SANS 1200 G.

**PU 02 MATERIALS****PU 02.1 ALTERNATIVE TYPES OF CEMENT**

Clause 3.2.2: Replace the contents off the subclause with the following:

Only CEM I 42,5 (Portland cement) or CEM II/A-V 42, 5 (Portland fly ash cement) or CEM II/A-S 42, 5 (Portland slag cement) or CEM II/B-S 42,5 (Portland slag cement) according to SANS 50197-1 (SANS ENV 197-1), may be used.

The cement may not consist of more than 30% siliceous fly ash or 15% granulated blast furnace slag, blended with the OPC (Ordinary Portland Cement).

Should the contractor wish to use any other type of cement, he shall obtain the engineer's prior written approval (see 8.1.3.2 and 8.1.3.3).

**PU 02.2 STORAGE OF CEMENT**

Clause 3.2.3: Add the following:

Cement shall not be kept in storage for more than 12 weeks without the engineer's permission.

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**PU 02.3 STORAGE OF AGGREGATE**

Clause 3.4.3: Add the following:

Where aggregates of differing chloride content are stockpiled on the site, strict control shall be exercised over their use for differing classes of concrete.

**PU 03 CONSTRUCTION****PU 03.1 FIXING**

Clause 5.1.2: Add the following:

Welding of reinforcement is not permitted.

The reinforcing steel shall be inspected by the engineer's representative after the fixing of steel, the cleaning of shuttering and the positioning of spacer blocks have been completed, and prior to concrete casting.

**PU 03.2 REMOVAL OF FORMWORK**

Clause 5.2.5: Add the following:

The contractor shall make provision for the continued support of beams and slabs while the formwork is being removed and/or for back-propping of beams, slabs, etc.

The propping may be required simultaneously on more than one level directly underneath one another.

The requirements for continuous propping and/or back-propping shall be calculated to a theoretical model that is acceptable to the engineer, and details shall be submitted for the engineer's approval.

Data required for such calculations, e.g. design loads and structural dimensions, will be supplied by the engineer on request.

**PU 03.3 HOLES, CHASES AND FIXING BLOCKS**

Clause 5.3: Add the following:

Fixing blocks and fixtures may be embedded in concrete, provided that the strength or any other desirable feature (such as the appearance of the member) is not, in the opinion of the engineer, impaired thereby.

**PU 03.4 CONCRETE**

Clause 5.5: Add the following:

The production of concrete at a central concrete production site is permitted.

The shrinkage of concrete to be cast in floor slabs and beams, shall not exceed 0.02 % tested as per SANS 1085.

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Three tests shall be conducted on the mix design to confirm compliance.

Test results shall be made available to the engineer's representative before the concrete is used on site. This is of particular importance in the case of pre-stressed concrete.

#### **PU 03.4.1.1 DURABILITY**

Clause 5.5.1.5: Add the following:

The exposure conditions for concrete are classified as "severe".

Add the following values to table 5:

The maximum water/cement ratio for moderate sections, general reinforced concrete, exterior portions of mass concrete, as well as for buildings under conditions of severe exposure will be 0.55.

The maximum water/cement ratio for Concrete slabs on the ground under conditions of severe exposure will be 0.45.

Notwithstanding the aforementioned, the cementitious content may under no circumstances be less than 280kg for exposed concrete, trafficable surfaces and surface beds.

#### **PU 03.4.1.2 PRESCRIBED MIX CONCRETE**

Clause 5.5.1.6: Add the following:

The engineer shall not prescribe concrete mixes.

#### **PU 03.4.1.3 STRENGTH CONCRETE**

Clause 5.5.1.7: Add the following:

The contractor shall submit the proposed concrete mix designs to the engineer for approval prior to the casting of any concrete.

#### **PU 03.4.2 REMOVAL OF FORMWORK**

Clause 5.2.5: Add the following:

The contractor shall make provision for the continued support of beams and slabs while the formwork is being removed and/or for back-propping of beams, slabs, etc.

The propping may be required simultaneously on more than one level directly underneath one another.

The requirements for continuous propping and/or back-propping shall be calculated to a theoretical model that is acceptable to the engineer, and details shall be submitted for the engineer's approval.

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Data required for such calculations, e.g. design loads and structural dimensions, will be supplied by the engineer on request.

#### PU 03.4.3 CURING AND PROTECTION

Clause 5.5.8: Add the following:

Should a curing compound be allowed by the Engineer then it shall be a resin based curing compound. Curing of columns, shafts and walls shall be done by either retaining the formwork for the required period of time or covering with plastic sheeting. On lesser shafts and walls the Engineer may allow a curing compound for curing.

#### PU 03.4.4 ADVERSE WEATHER CONDITIONS

Clause 5.5.9: Add the following:

Should there be a requirement to place concrete during adverse weather conditions, the contractor will discuss this with the engineer's representative.

The date, time and temperature at placement of all concrete will be recorded.

#### PU 04 TOLERANCES

Clause 6.2: Permissible deviations

Add the following:

Degree of Accuracy II shall apply, except for precast work where Degree of Accuracy I shall apply. Each specified permissible deviation shall be binding by itself. No cumulative effect of permissible deviations will be considered.

None of the prescribed permissible deviations will be deemed as permission for violating the legal boundaries of properties by any part of a structure. The above permissible deviations also apply to slip-form concrete, unless another set of permissible deviations has been accepted in writing by the engineer beforehand.

Such amended permissible deviations shall clearly make provision for interfaces between structures erected with the aid of slip-form concrete and those erected with the aid of conventional concrete. The maximum permissible deviation from a 3 m long straight line connecting two points on the surface of a finished floor, is 5 mm.

#### PU 05 TESTS

##### PA.05.01 Clause 7.1.2: Frequency of Sampling

Replace with the following:

Sets of concrete cubes being sufficient for 3 results shall be taken as follows:

- Sets to be taken of each grade of concrete cast

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- At least one set from each day's casting
  - At least one set from every 50m<sup>3</sup> of concrete of each grade cast
  - Only one sample shall be drawn from any one batch of concrete
  - At least one sample to be taken from each truck if pre-mix concrete is used
  - Samples & sets of cubes shall be representative of all sections of concrete cast.

**PA.05.02 Clause 7.2: Testing**Add the following:

Cube test results shall be submitted to the engineer's representative no later than 3 days after the test date. I.e. 7-day results are to be submitted by no later than 10 days after casting of concrete and days after the test date and 28-day results are to be submitted by no later than 31 days after casting of concrete.

If the cube test results are not received within the allowable time frames, the engineer may instruct whatever remedial measures are deemed necessary. All costs associated with such instructions will be for the contractors account.

**PA.05.03 Clause 7.3: Acceptance Criteria for Strength Concrete**Add the following:

Test results obtained by a ready-mixed concrete production plant as part of its quality-control system are not acceptable for evaluation purposes in terms of sub clause 7.3, but test samples shall be taken from ready-mixed concrete on location.

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**SEWER PIPE SPECIFICATION**

- 200mm – 1300mm: Stainless steel clamp with rubber sleeve and foam.
- 1500mm – 2200mm: Electro fusion belt.
- Joint installation as per manufactures specification.
- For joints from Dn200mm - Dn450mm there is one stainless steel sheet per joint. Tightening of the bolts must be placed at the top of the pipe in the middle section.
- For joints from Dn500mm - Dn1200mm there are two stainless steel sheets per joint. Tightening of the bolt must be placed on the sides of the pipe.
- Do not over tightening the bolts - this will cause the pipe to deform.

**CCTV**

CCTV must be included in the price for sewer pipework. CCTV will only be done after the line has been tested and backfilled complete to the final level.

**SPECIFICATION FOR TELEVISION INSPECTION MAIN SEWER**

(As Provided by NASSCO)

1. After cleaning, the manhole sections shall be visually inspected by means of closed-circuit television. The inspection will be done one manhole section at a time and the flow in the section being inspected will be suitably controlled as specified (see Sewer Flow Control). All CCTV inspections shall be performed in accordance with PACP standards including the specific date and time of inspection.
2. The television camera used for the inspection shall be one specifically designed and constructed for such inspection. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The camera shall be operative in 100% humidity conditions. The camera, television monitor, and other components of the video system shall be capable of producing picture quality to the satisfaction of the Owner's Representative; and if unsatisfactory, equipment shall be removed and no payment will be made for an unsatisfactory inspection.
3. The camera shall be moved through the line in either direction at a moderate rate, stopping when necessary to permit proper documentation of the sewer's condition. In no case will the television camera be pulled at a speed greater than 30 feet per minute. Manual winches, power winches, TV cable, and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions shall be used to move the camera through the sewer line.

If, during the inspection operation, the television camera will not pass through the entire manhole section, the Contractor shall set up his equipment so that the inspection can be performed from the opposite manhole. If, again, the camera fails to pass through the entire manhole section, the inspection shall be considered complete noted as Survey Abandoned and no additional inspection will be required.

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Municipality 2		Contractor	

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4. When manually operated winches are used to pull the television camera through the line, telephones or other suitable means of communication shall be set up between the two manholes of the section being inspected to insure good communications between members of the crew.
  5. The importance of accurate distance measurements is emphasized. Measurement for location of defects shall be above ground by means of a meter device. Marking on the cable, or the like, which would require interpolation for depth of manhole, will not be allowed. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape, or other suitable device, and the accuracy shall be satisfactory to the Owner's Representative.
  6. Documentation of the television results shall be as follows:
    - (6.1) Television Inspection Logs: Electronic media location records shall be kept by the Contractor and will clearly show the location, by distance in 1/10 of a foot or nearest mm, from the manhole wall, in relation to an adjacent manhole of each infiltration point observed during inspection. In addition, other points of significance such as locations of building sewers, unusual conditions, roots, storm sewer connections, cracks, fractures, broken pipe, presence of scale and corrosion, and other discernible features, as defined in the PACP defect codes, will be recorded on electronic media and a copy of such records will be supplied to the Owner.
    - (6.2) Digital photographs of the pipe condition and all defects shall be taken by the Contractor. Photographs shall be located by distance in 1/10 of a foot or nearest mm, from the manhole wall, in relation to an adjacent manhole.
    - (6.3) Electronic media recordings: The purpose of electronic media recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed by the Owner. Each original electronic media recording of conditions and defects will be delivered to the Customer upon completion of a specific line section.
    - (6.4) NASSCO recommends that all CCTV Inspection be performed by CCTV personnel who are trained and certified in the use of NASSCO's Pipeline Assessment and Certification Program (PACP)©.
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**LABOUR INTENSIVE SPECIFICATION – PIPE LAYING (METHOD STATEMENT)****1. SCOPE**

This Specification establishes general requirements for activities which are to be executed by hand involving the following:

- 1) The excavations for the pipes up to a depth of 1,5m.
- 2) The spreading, levelling and compaction of the bedding material.
- 3) The laying/placing of the pipes in the trench on the bedding.
- 4) The spreading, levelling and compaction of the blanket material.
- 5) Backfilling of the trench.
- 6) The levelling and compaction of trench areas.

**1.1 Precedence**

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this contract, the requirements of this specification will prevail.

**1.2 Hand excavatable material**

Hand excavatable material is material:

## a) Granular materials:

- i) Whose consistency when profiled may in terms of Table 1 be classified as very loose, loose, medium dense or dense; or
- ii) Where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;

## b) Cohesive materials:

- i) Whose consistency when profiled may in terms of Table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
- ii) Where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

Note: 1) A boulder, a cobble and gravel material is with a particle size greater than 200mm.

- 2) A dynamic cone penetrometer is an instrument used to measure the in-situ shear resistance of a soil comprising a drop weight of approximately 10kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

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**Table 1: Consistency of materials when profiled**

GRANULAR MATERIALS		COHESIVE MATERIALS	
Consistency	Description	Consistency	Description
Very loose	Crumbles very easily when scraped with a geological pick	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handles.
Loose	Small resistance to penetration by sharp end of a geological pick	Soft	Easily dented by thumb, sharp end of a geological pick can be pushed in 30-40mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological stick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in up to 10mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.
Dense	Very high resistance to penetration by the sharp end of geological pick; requires	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

**1.3 Trench excavation**

All hand excavatable material in trenches having a depth of less than 1,5m shall be excavated by hand.

**1.4 Compaction of backfilling to trenches (areas not subject to traffic)**

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers:

- to 90% Proctor density;
- such that in excess of 5 blows of a dynamic cone penetrometer (DCP) is required to penetrate 100mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or
- such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

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**1.5 Excavation**

All hand excavatable material including topsoil classified as hand excavatable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand.

The excavation of any material which presents the possibility of danger or injury to workers shall not be excavated by hand.

**1.6 Clearing and grubbing**

Grass and small bushes shall be cleared by hand where instructed by the Engineer.

**1.7 Shaping**

All shaping shall be undertaken by hand where instructed by the Engineer.

**1.8 Loading**

All loading shall be done by hand, regardless of the method of haulage where instructed by the Engineer.

**1.9 Haul**

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m.

**1.10 Offloading**

All material, however transported, is to be off-loaded by hand, unless tipper trucks are utilised for haulage.

**1.11 Spreading**

All material shall be spread by hand.

**1.12 Compaction**

Small areas may be compacted by hand provided that the specified compaction of achieved.

**1.13 Grassing**

All grassing shall be undertaken by sprigging, sodding or seeding by hand.

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**GENERIC HEALTH & SAFETY REGULATIONS 2014**


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**C3.8 COMPLIANCE WITH HEALTH & SAFETY REGULATIONS 2014**

This part of the Generic Specifications contains comprehensive Occupational Health and Safety Specifications.

**TABLE OF CONTENT**

1.	Introduction
2.	Standard Occupational Health and Safety Specification
3.	Requirements at Tender Stage
4.	Application for Construction Work Permit
5.	Health & Safety Specification Principal Contractors (Pc)
6.	Protection of the Workforce During COVID-19
7.	Check List & Templates

**LIST OF ABBREVIATIONS**

MCLM	Mogale City Local Municipality
GAR	General Administration Regulations
GSR	General Safety Regulations
OHS Act	Occupational Health and Safety Act 85 of 1993
OHS Spec	Occupational Health and Safety Specification
SABS	South African Bureau of Standards

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Municipality 1		Consultant	
Municipality 2		Contractor	

## 1. INTRODUCTION

### 1.1 Purpose of the Occupational Health and Safety Specification (OHSS)

The purpose of the OHSS is to assist Contractors to achieve compliance with the Occupational Health and Safety law, in order to reduce incidents and injuries. The OHSS will be implemented during the construction of this project or any construction activity that the Employer has control over.

The OHSS is a performance specification to ensure that the Employer and any bodies that enter into formal agreements with the Employer viz. Agents, Consultants and Contractors achieve an acceptable level of OHS performance. No advice, approval of any document required by the OHSS such as hazard identification and risk assessment action plan or any other form of communication from the Employer shall be construed as an acceptance by the Employer of any obligation that absolves the contractor from achieving the required level of performance and compliance with legal requirements. Further, there is no acceptance of liability by the Employer which may result from the Contractor failing to comply with the OHSS, i.e. the Contractor remains responsible for achieving the required performance levels.

### 1.2 Implementation of the Occupational Health and Safety Specification

This OHSS forms an integral part of the Contract, and Contractors are required to make it an integral part of their contracts with Sub-Contractors and Suppliers. It will be disseminated by the Employer to persons responsible for the design of the infrastructure works, who will ensure that it is included in the Tender Document(s) issued to prospective Contractors. The prospective Contractors shall incorporate the requirements of the OHSS in their submission of tenders to the Employer.

This specification must be read in conjunction with the OHS Act No 85 of 1993 (as amended), the Regulations as published in Government Gazette No 7721 of 18 July as well as the General Safety Regulations published in the Government notice No. R1031 of 30 May 1986, and the Construction Regulations 2014. The OHS Act Agreement in this document (Returnable Schedules) must be fully completed by the Contractor.

## 2. STANDARD OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

### 2.1 Scope

This OHSS covers the requirements for eliminating and mitigating incidents and injuries in all Employer controlled projects. The scope also addresses legal compliance, hazard identification and risk control, promoting a health and safety culture amongst those working on projects and those affected by the activities taking place in and around them.

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## 2.2 Interpretations

### 2.2.1 Application

The OHSS contains clauses that are generally applicable to building / construction and that impose proactive controls associated with activities that impact on human health and safety as they relate to plant and machinery.

Compliance to the requirements of the OHSA, Construction regulations and General Safety Regulations is in addition to the requirements of the OHSS and is part of the Contractor's responsibility. The Employer will through the Agents, as appointed, monitor that the Contractor complies with the requirements of the OHSA and will not prescribe to the contractor how such compliance is achieved.

#### **Definitions**

The definitions used will be those set out in the Regulation Gazette No 10113 of 7 February 2014 with the following addition:

MCLM Mogale City Local Municipality

Hazard Identification and Risk Assessment and Risk Control:

Means a documented plan, which identifies hazards, assesses the risks and details the control measures and safe working procedures which are to be used to mitigate and control the occurrence of hazards and risks during construction or operation phases.

Health and Safety Management Plan:

Means a documented plan which addresses the hazards identified and include safe working procedures to mitigate, reduce or control the hazards identified.

Induction Training:

Means once off introductory training on general health and safety issues given to all employees before commencement of work on site.

Risk: Means the probability or likelihood that a hazard can result in injury or damage.

Site: Means the area in the possession of the contractor for the construction of the works. Where there is no demarcated boundary it will include all adjacent areas, which are reasonably required for the activities for the contractor, and approved for such use by the Engineer.

The Act: Means, unless the context indicates otherwise, the Occupational Health and Safety Act, 1993 (ACT NO. 85 of 1993) and Regulations promulgated there under.

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Municipality 2		Contractor	

Contractor: The Contractor terminology used in these specifications shall be deemed to cover Principle Contractor, Contractors and Sub-Contractors.

### 3. REQUIREMENTS AT TENDER STAGE

The contractor shall make available the following with his completed tender: A Preliminary Health and Safety Plan as described in Regulation 5 of the construction Regulations. The Safety Plan must be based on the Construction Regulations 2014 and this specification and will be subject to approval by the Employer. This will include a Hazard Identification and Risk Assessment appropriate to the project, expansion of Annexure D, and a declaration to the effect that he has the competence, completion of Occupational Health and Safety Questionnaire, and necessary resources to carry out the work safely in compliance with the Construction Regulations 2014.

Failure to submit the foregoing with his tender, will lead to the conclusion that the contractor is not able to carry out the work under the contract safely in accordance with the construction Regulations and may result in the tender being disqualified.

### 4. APPLICATION FOR CONSTRUCTION WORK PERMIT

A client who intends to have construction work carried out must, at least 30 days before work is to be carried out apply to the provincial director in writing for a construction work permit to perform construction work if the intended construction work will –

- Commence after 07 August 2018 Exceed 35 days
- Will involve more that 3600 person days of construction work; or
- The works contract is of value equal to or exceeding construction Industry Development Board (CIDB) grading level 7; 8 or 9.

An application contemplated in sub regulation (1) must be done in a form similar to annexure 1. the provincial director must issue a construction work permit in writing to perform construction work contemplated in sub regulation (1) within 30 days of receiving the construction work permit application and must assign a site specific number for each construction site.

A site specific number contemplated in sub regulation ( ) must be conspicuously displayed at the main entrance to the site for which that number is assigned. A construction work permit contemplated in this regulation may be granted only if –

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The fully completed documents contemplated in regulation 5(1)(a) and (b) have been submitted and Proof has been submitted :

- (a) That the Client complies with regulation 5(5)
- (b) With regard to the regulation and good standing of the principal contractor as contemplated in regulation 5(1)(i); and
- (c) That regulation 5(1)(c), (d), (e), (f), (g), and (h) has been complied with.

A client must ensure that the principal contractor keeps a copy of the construction work permit contemplated in subregulation (1) in the occupational health and safety file for inspection by an inspector, the client, the client's representatives or an employee.

No construction work contemplated in sub regulation (1) may be commenced or carried out before the construction work permit and number contemplated in sub regulation (3) have been issued and assigned. A site specific number contemplated in sub regulation (3) is not transferable.

## 5. HEALTH & SAFETY SPECIFICATION PRINCIPAL CONTRACTORS (PC)

5.1. The Employer and Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No.85 of 1993, hereinafter referred to as "the Act", that the contractor as an employer in its own right and in its capacity as contractor for the execution of the works, shall have certain obligations and that the following arrangement shall apply between them to ensure compliance by the contractor with provisions of the Act, namely:

- a) The contractor undertakes to acquaint the appropriate officials and the employees of the contractor with all relevant provisions of the Act, and the regulation promulgated in terms of the Act, and
- b) The contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and regulations will be fully complied with, and
- c) The contractor hereby accepts sole responsibility for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and regulations and expressly absolves the employer and the employer's consulting engineers from being obliged to comply with any of the aforesaid duties, obligations and prohibitions in respect of the work included in the contract.
- d) The contractor shall be obliged to report forthwith to the employer any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the Act and regulations pursuant to work performed on behalf of the employer, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charges.

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2. The Employer recognizes the right of each employee to work safely in a healthy environment under decent human conditions. Each employee has the right to return home safely and healthy to his home and family after each day's work.
3. Work should not be done at the expense of human safety or health.
4. Work shall be executed under humane conditions, especially with reference to hours and H&S issues in mind.
5. The PC shall appoint a fulltime H&S Manager should he have more than 50 employees on site. A fulltime Safety Representative shall be present on site for 50 employees or less
6. The PC shall conduct monthly safety meetings on site. All foremen, gang leaders and other employees shall participate and all incidents with relation to unsafe practices shall be discussed. Minutes of such meetings shall be kept in the H&S file.
7. Foremen and gang leaders shall, under the supervision of the H&S manager conduct meetings with all their staff and people under their direct supervision on a frequent basis. Minutes of such meetings shall be kept in the H&S file.
8. New personnel shall attend safety induction courses under the supervision of the H&S manager.
9. The PC shall install and maintain a box in which proposals for improvement of H&S procedures could be placed. All such proposals shall be considered, recorded and placed in the H&S file.
10. And adequate first aid facility shall be placed maintained on site and shall be adequately indicated by means of signs. All personnel shall be made aware of its existence and only trained first aid assistants shall be authorized to treat injuries.
11. The PC shall see that work is only executed by people trained for the particular task.
12. All safety equipment shall be SANS approved and under no circumstances shall any safety equipment be non-certified homemade equipment. Specifications and order details shall be kept in the H&S file.
13. Workers shall be attending safety courses on a regularly basis and all information regarding such training shall be kept in the H&S file.
14. All employees shall be trained in safe working procedures and shall be trained safety consciousness in particular. Employees in position of leadership shall be trained through accredited training processes in H&S matters.
15. The contractor shall prepare and maintain a safety plan for the particular project and shall train his personnel to work according to such plan.

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16. Personnel will be made aware of any natural hazards existing on site. They will also be made aware of items defined by the designer in his risk assessment.
  17. No horseplay between employees will be tolerated on site. Neither will aggressive or threatening behaviour by anybody be allowed.
  18. Workers shall wear appropriate protective clothing for the applicable task, which shall include special safety equipment like protective eyewear, gloves, boots, ear protection, etc. Workers shall be issued with these items and copy of such issuing shall be kept in the H&S file.
  19. Workers shall not be allowed to wear loose clothes and footwear.
  20. Workers shall have the opportunity and right to regular rest, eating and toilet breaks.
  21. Workers on nightshift shall be protected against inclement weather and shall have access to adequate food and drinks.
  22. In cases where work is executed in remote or in security-restricted areas, the PC will make provision for food to be supplied to his employees.
  23. Potable water shall be made available free of charge to all workers on site.
  24. Adequate toilet and washing facilities shall be made available to workers.
  25. In the event of chemicals being present on site, the PC will allow for adequate shower facilities on site.
  26. Workers under instruction to execute inherently unsafe procedures shall report such incidences to the H&S manager immediately, or to the designer.
  27. Unauthorized or unlawful instructions from foremen, gang leaders or colleagues shall be reported by the H&S manager immediately.
  28. The PC shall stop his contractors if they work unsafely.
  29. All specialist work shall be executed by registered artisans only.
  30. Workers shall not be required to lift equipment or material heavier than 25kg or carry a load of more than 50kg for more than 10 metres.
  31. Workers shall not be exposed to conditions of heat where the temperature is above 40° Celsius and the humidity more than 75%. Likewise will personnel not be exposed to temperatures lower than -5° Celsius. Should the designer and the PC decide that the work is urgent; workers will be issued with proper protective clothing.

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32. All workers shall have access to a shaded eating and resting place on site.
  33. Workers executing tasks in rivers, trenches and other natural or artificial water ways shall be made aware of the hazard of flash floods and special precautions shall be made by the PC to implement an effective flood warning system.
  34. Workers executing tasks in manholes for sewer or stormwater systems, shall be made aware of the existence of hazardous gasses in closed areas and shall be issued with gas masks in any event, even after tests conducted by the H&S manager has proven that no gasses are existent. Only specialists shall work in gas filled chambers.
  35. Personnel executing work during rainy weather or under other wet conditions shall be equipped with proper gumboots and proper rain suits.
  36. No personnel will be allowed to work in water unless gumboots are worn. Should the water be deeper than 300mm watertight suits shall be worn.
  37. All ladders shall be fixed against scaffolding or other permanent structures.
  38. Welding on site shall only be done by trained personnel adequate eye protecting shields and all welders shall wear proper protective gear.
  39. Personnel operating grinders, saws or any other hand tools of similar description, shall be equipped with the necessary eyewear and ear protection.
  40. All personnel working under potentially dusty conditions shall wear nose and mouth filters.
  41. Workers operating rock drilling equipment shall wear ear, nose and eye protection.
  42. All scaffolding will comply with the H&S regulations.
  43. Blasting will be done by specialists under the regulations of the Explosives Act.
  44. Workers shall wear protective clothing when exposed to chemicals like cement, lime, detergents, tar, fumes, etc. Should work be executed in the presence of such material, adequate protective clothing and equipment shall be issued after permission is granted by the H&S manager.
  45. Workers will not be allowed to make open fires on any part of the site unless it is made in designated areas approved by the H&S manager.
  46. Fuel storage will only be allowed on certified areas on site.
  47. Workers and other personnel will be trained for fire procedures and will practice such fire drill on a regular basis.
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48. Assembly areas for emergency evacuations will be indicated by adequate signage.
  49. The PC will have an attendance register for the purposes of identifying people before, during and after potential hazardous situations.
  50. All transport supplied by the PC shall be on road worthy vehicles only and all transport shall be conducted in terms of the transport act.
  51. Drivers of vehicles shall be responsible for the roadworthiness of vehicles and will report any vehicles that do not comply to the PC.
  52. All drivers will be responsible to handle vehicles in such a way to comply with the transport act.
  53. Passengers of vehicles shall report any unsafe conduct to the PC immediately. Such report shall be forwarded to the H&S manager and shall be investigate. Copy of such procedure shall be entered into the H&S file.
  54. Only trained personnel shall be permitted and required to operate construction machinery. All such machinery shall be maintained in a safe working condition.
  55. All vehicles operating on site shall have audible warning signals if driven backwards.
  56. No vehicle shall be kept on site if it is leaking oil or other substances.
  57. No vehicle shall be operated on site if it produces noise above 90 decibel measured within a distance of 10,0 m from the unit.
  58. Equipment producing serious dusty conditions shall only be operated under the supervision of the PC and the H&S manager with the necessary protection to workers.
  59. All excavations on site shall be adequately protected and not only indicated.
  60. Exploratory excavation to reveal services shall be done in a specific way. All areas to be explored shall first be inspected by the landowner or local authority. Positions of services identified shall then be verified by opening by hand, not by machine. Particular care shall be taken not to damage these services. Electrical services are inherently dangerous and shall be opened by skilled people only. These excavations shall not be left open without supervision. If necessary the excavation shall be backfilled temporarily with approved material until the specified modifications to the services can be made.
  61. Access to excavations shall only be by means of ladders of stairs with handrails.
  62. All refuse, unsafe material, potential hazardous material and rubbish shall be placed in designated areas to be removed on a regular basis.

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63. Rainwater shall be contained in trenches or pipes in such a way that it will not cause contamination of material in this refuse areas.
64. All electrical sources or cables or overhead power lines should be regarded as live at all times and all workers on site shall be made aware of its existence during H&S meetings and as many times as necessary.
65. Adequate signage shall be used on site to indicate
- Non-smoking areas on site
  - Safety exits / Emergency exits from buildings under construction
  - Stairs (temporary and permanent works)
  - Toilets
  - Fire fighting equipment
  - Workmen busy with equipment
  - Fire assembly points
  - Fire escapes
  - Areas where members of the public are not allowed
  - First aid room
66. Members of the public visiting the site shall be granted permission to the site only upon application through a predetermined procedure and records of these visitors shall be kept in the H&S file. Visitors shall attend safety induction training before entering the site.

Areas out of bounds to all visitors shall be indicated clearly by means of adequate signs.

67. Work performed in public servitudes like the construction of streets or roads shall be done according to the specifications of the local or national authority and adequate signage shall be implemented.
68. People complaining about their health or people displaying symptoms of illness or disease, shall be allowed to go to the first aid facility or to visit a doctor or a clinic. Permission shall not be withheld unreasonably. In remote areas the PC is required to have reasonable ways of transporting people to a doctor or clinic whether the person is ill or injured on site.
69. Personnel must be informed about the location of the nearest doctor or clinic for casualty purposes and the PC shall provide such transport for injured workers and injured members of the public (within the limits of the site) free of charge.
70. A checklist of all Health and Safety activities that may be required under this tender is included. It will be expected from the tenderer to implement all of the requirements listed. An item is included under the P&G's Section of the Bill of Quantities allowing the tenderer an opportunity to price all of the measures to be executed and formalized on site and must be completed in full.  
This work is subdivided into a fixed cost allowance and a time based cost that will be paid out pro-rata to time lapsed on the contract.

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*Note: Significant changes have been made to the OSH Act and the Contractor must familiarize himself with the changes and preferably obtain a copy of the Act from the Department of Labour.*

## 6. PROTECTION OF THE WORKFORCE DURING COVID-19

### 6.1. Introduction

Construction sites operating during the Coronavirus COVID-19 pandemic need to ensure they are protecting their workforce and minimising the risk of spread of infection. This guidance is intended to introduce consistent measures on construction sites of all sizes in line with the Government's recommendations on social distancing when conducting their workplace risk assessments. These are exceptional circumstances and the industry must always comply with the latest Government advice on Coronavirus including compliance with the Occupational Health and Safety Act No.85 of 1993 and the Disaster Management Act, of 2002, and the subsequent regulations.

Given the nature of the construction industry and its strict health and safety regulatory environment in which we have always and continue to operate, we are an industry that is able to deal with such an unprecedented global pandemic. With trained health and safety practitioners within organisations - driven by existing health, safety, environment, risk and quality policies and procedures - already exist within the construction industry, all of which is prescribed by the Occupational Health and Safety Act No.85 of 1993 and in particular, Section 8 of the Act that places the onus on employers to provide and maintain a working environment that is safe and without risk to the health of their employees. The Construction Health and Safety Accord signed by Government, Organised Labour and Organised Business further reinforces these considerations.

This document is for the purpose of a coordinated approach and common action to deal with identifying COVID-19 cases and risks within the construction industry and communities.

### 6.2. Responsibilities

To ensure and maintain a safe and healthy working environment for employees and members of the public, it is advised that the contractor should assess the workplace risks posed by the COVID-19 pandemic, giving due consideration to the response measures announced in the president's speech.

The Contractor should therefore determine mitigation measures to minimize risk as far as reasonably practicable, allowing work to continue safely and without harm to all relevant stakeholders, including clients, employees, contractors, suppliers, manufacturers and all interested and affected parties.

#### COVID-19 Symptom Screening

Recognising that the public health system will not be able to respond to every possible COVID-19 incident identified in the workplace, employers should have the following in place:

- Adequately train (directly or indirectly) identified company personnel to perform daily workplace COVID-19 symptom screening.
- Provide compulsory medical screening equipment

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- Provide prescribed personal protective equipment (PPE) to those assigned to perform the screening.
- Companies should keep record of all such screening, and should an employee show any positive symptoms related to COVID-19, then such an employee will be quarantined, and call the Department of Health Hotline 0800 029 999 immediately contacted.

Contractors will furthermore ensure a healthy working environment by:

- As far as reasonably practicable educating employees, subcontractors and their employees and all visitors to our sites and offices as to the preventive measures to avoid infection.
- Ensuring the workplace, ablution facilities, eating facilities are clean and hygienic.
- Providing sanitising and/or hand wash facilities as required.
- Promoting regular hand washing by employees and subcontractors.
- Reducing meetings and gatherings that bring individuals within 2 meters of each other for extended durations.
- Providing PPE when close contact work is required.
- The separation of individuals wherever practicably possible.
- Promoting good respiratory hygiene by employees and sub-contractors.
- Keeping employees and sub-contractors informed on developments related to COVID-19.
- Each site and or Company is to open and maintain a COVID-19 register and will update the information daily.

Employers to obtain relevant information, recommendations and topics regarding the COVID-19 pandemic from the World Health Organization's (WHO) website ([www.who.int](http://www.who.int)) for use in the education of employees, and to display the information in prominent areas within every workplace. Such information should also be included in health and safety briefings both on project sites as well as offices. Detailed information on symptoms and protection can be found on the Corona Virus Q&A section of the WHO website (direct link: <https://www.who.int/news-room/q-a-detail/q-a-coronaviruses#>).

Employers to acknowledge the associated risks of the virus, act accordingly, and to put into place extraordinary health and safety measures. Employers are further advised to avoid disinformation in social media and to reference the following sources for official, accurate information and updates:

The World Health Organisation [www.who.int](http://www.who.int)

- The National Institute of Communicable Diseases [www.nicd.co.za](http://www.nicd.co.za)
- National Department of Health [www.health.gov.za](http://www.health.gov.za)
- The Presidency

### 6.3. Who should not report for duty

Anyone who meets one of the following criteria should not report for duty / be present on site:

- Has a high temperature or a new persistent cough.
- Is a vulnerable person as identified by an Occupational Health Practitioner (by virtue of their age, underlying health condition, clinical condition or is pregnant).
- Is living with someone in self-isolation.

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**6.4. Procedure if employee displays symptoms**

If a worker develops a high temperature or a persistent cough while at work, they should:

- Return home immediately.
- Avoid touching anything.
- Cough or sneeze into a tissue and put it in a bin, or if they do not have tissues, cough and sneeze into the crook of their elbow.

Thereafter, they must arrange to be tested and follow the government's requirements in terms of isolation and or quarantine and report this to the Department of Health.

**6.5. Site Access Points**

- Ad-hoc visitors to sites or offices are to be denied access.
- A strict visitor access control policy to be implemented for all sites or offices, which should include application, pre-screening procedures (including a medical and travel history questionnaire), and authorisation procedures.
- All individuals will be required to wash their hands with a hand sanitiser or soap and water, before and immediately after using a fingerprint reader such as those used for access control.
- Introduce staggered start times or multiple access points to reduce congestion.
- Have in place safety representatives equipped with the necessary PPE to ensure adequate distancing between workers (2m) is enforced at access points.
- No breathalysers are to be used. Should an individual display suspected intoxication, alternative methods of testing will be considered.
- Entrances to offices and sites must have a hand washing facility and all individuals entering and exiting the site must wash their hands - alternatively hand sanitiser must be provided.
- Hand washing technique posters shall be displayed near the hand wash area.
- A fever screening process will be implemented at all site access points.
- Visitor registers at entry points will be completed by the security guard and not by the visitor.
- Security guards will wash their hands every time they use the visitors register and pen.

**6.6. Hand Washing**

All individuals shall wash their hands with soap and water for at least 20 seconds or use approved alcohol based sanitizer when: -

- entering or leaving a site;
- before eating
- after eating;
- after site walks;
- after ablutions;
- after touching hand rails, door handles, paper, envelopes etc; and
- any other interactions that may require hand washing.

Basins with soap and water or alcohol based hand sanitizer must be provided at: -

- site access points;
- offices;

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- ablution facilities;
- eating areas; and
- appropriate areas around the site such that a person does not need to walk further than 50m to access these facilities

Where soap and water are provided for hand washing, so too must paper towels be provided for drying of hands.

Workers who work in close contact shall have regular access to hand washing facilities.

#### 6.7. Cleaning

- Clean and disinfect objects and surfaces that are frequently touched. This must be done at regular intervals and shall include: -
  - door handles;
  - handrails;
  - basins;
  - taps;
  - toilets;
  - lift and hoist controls;
  - showers;
  - tables;
  - chairs;
  - computer equipment;
  - telephones / cellphones;
  - photocopiers;
  - gates; and
  - biometric readers
- As far as practicable, crockery and eating utensils should be disposable.
- Sites are to ensure that soap and water is always available and hand sanitiser levels are kept at levels that are sufficient.
- Adequate rubbish bins are to be provided for the disposal of paper towels.
- Cleaning registers are to be provided in the areas where regular cleaning is required.

#### 6.8. Respiratory Hygiene

- Individuals who sneeze must be considerate. Leave the group or room, cover their mouths and nose with a tissue and dispose of the tissue properly; alternatively sneeze into a flexed inside of the elbow.
- Avoid touching one's eyes, nose and mouth with unwashed hands.

#### 6.9. Social Distancing

The following will apply to all individuals on a construction site:

- There will be no hand shaking with any person.
- Avoid the unnecessary touching of other individuals.

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- When talking, sitting or eating with others, keep a distance of at least 2m between yourselves.
- Avoid close contact with anyone who has a fever or cough and request that site or office management follow these procedures and guidelines in terms of dealing with this person.
- Lifts should be avoided, as they are a confined space. Use stairways and do not touch the hand rails.
- Where tasks require workers to be in close contact, the site shall provide the appropriate PPE for this.
- Wherever possible, work that requires close contact shall be planned to reduce the number of individuals involved in the activity at any one time.

#### 6.10. PPE

- Masks will be compulsory for all employees; personnel and professional team members, reducing the potential of inhaled COVID droplets.[could be material cloth face masks with protective layers]
- Workers who work in close contact with one another shall wear appropriate PPE
- Workers shall be trained on how to wear, remove and - where appropriate - dispose of their PPE properly.
- Bins for the disposal of masks shall be provided.
- Safety and supervisory personnel shall ensure no close contact work is carried out by workers who are using defective or inadequate PPE.
- Overalls - All employees will be issued with more than one set of overalls. This will ensure that the employee will be able to wear clean hygienic overalls. This must form part of the COVID-19 training for all employees.
- Hand Gloves - Gloves will only be used when the activity demand the wearing of specific type of hand gloves.

#### 6.11. Ablution, Eating and Changing Facilities

- The number of individuals using these facilities at one time is to be restricted to allow for social distancing requirements, and this should be supervised accordingly to ensure compliance.
- Break times are to be staggered to reduce congestion.
- Eating tables should be cleaned before and after each use.

#### 6.12. Meetings / Briefings

- Meetings where spacing of individuals would be less than 2m apart are not to be permitted.
- Toolbox talks shall be limited to a maximum duration of 15 minutes and shall be in groups that allow for a 2m spacing between individuals but do not require the speaker to shout.
- Toolbox talks must be held in well ventilated areas.
- The awareness of hand washing and other hygiene behaviours is to be communicated daily.
- Site meetings shall be reduced to only those that are essential and shall wherever possible be held via video conference.
- Wherever possible, meetings and / or briefings shall be held in open areas with good ventilation.

#### 6.13. Transport

- Where transport is provided, occupancy of the vehicle should be reduced in line with government policy in the taxi industry.
- Transport vehicles should be sanitized before and after each trip.
- A fever screening process will be implemented prior to embarkation.

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**6.14 Waste Management: Covid-19 waste**

Waste management arrangements will be updated to include provision for the disposal of additional waste generated due to preventative measures implemented.

- Disposal of any gloves, masks

The contractor will dispose of all used gloves and masks as hazardous waste and provide sealable bags and containers for the safe disposal of this waste.

- Paper towels

The contractor will provide adequate supplies of paper towels on site. At points where these towels are provided lined waste bins to be placed in order to collect all used towels and then to be disposed of in hazardous waste.

- Disinfectant solution

The contractor will provide adequate supplies of disinfectant on site where the use of water and soap for cleaning is not practical. If disinfectant dispensers are not refilled it should be disposed with other hazardous waste.

- Waste water

Waste water from washing points, toilets, and bathrooms will be flushed into existing sewer drainage systems to prevent surface spills.

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## 7. CHECK LIST &amp; TEMPLATES

**OCCUPATIONAL HEALTH & SAFETY ACT 1993 (ACT 85 OF 1993) CONSTRUCTION REGULATIONS 2014 AND AMENDMENTS THERETO.***(All items to be allowed for in the Bill of Quantities Item)*

No	Description	Noted <input checked="" type="checkbox"/>
1	<u>NOTIFICATION OF CONSTRUCTION WORK (Regulation 3 &amp; 4)</u> <u>(Select applicable option)</u> Allow for costs to prepare and submit an application for a construction work permit (Annexure 1) Allow for cost to prepare and submit a Notification of Construction Work (Annexure 2)	
2	<u>HEALTH &amp; SAFETY PLAN AND FILE (Regulation 7)</u> Allow for costs to prepare and submit a Health and Safety Plan in terms of the Client's documented Health & Safety Specifications including opening and keep on site a Health and Safety File which must include all documentation required in terms of the Act and these Regulations. Copy of Construction Regulations, 2014 Copy of Tender Document Copies of drawings issued for Construction Notification of Construction Work Letters of Appointment Company Safety Policy Company Organogram Notice in respect of machinery Ten commandments of safety Emergency telephone numbers List of subcontractors Proof of registration with COIDA Insurer (valid Letter of Good Standing) Training material Risk Assessment and Method Statements Registers as noted in the Act and this Regulations Safe work procedures <i>Note: The Safety File will be a durable lever arch file with original in colour documents of acceptable standards. This file will be expanded and updated during the project as required in terms of the Act and this Regulations.</i>	
3	<u>IDENTIFICATION CARDS</u> Allow for the costs of providing identification cards for employees with an acceptable ID photo.	
4	<u>RISK ASSESSMENT</u> Allow for the cost to carry out a risk assessment for construction work	

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No	Description	Noted <input checked="" type="checkbox"/>
5	<u>SUPERVISORS</u> Allow for the appointment of employees as fulltime construction managers and assistant managers.	
6	<u>HEALTH AND SAFETY INDUCTION TRAINER</u> Allow for the appointment of a H&S induction trainer	
7	<u>EXCAVATION INSPECTOR</u> Allow for the appointment of a full time excavation inspector	
8	<u>CONCRETE MIXER INSPECTOR</u> Allow for the appointment of a full time inspector for a concrete mixer	
9	<u>HAND TOOL INSPECTOR</u> Allow for the appointment of a full time Hand Tool Inspector	
10	<u>LADDER INSPECTOR</u> Allow for appointment of full time ladder inspector	
11	<u>SCAFFOLD INSPECTOR &amp; SUPERVISOR</u> Allow for the appointment of a full time scaffold inspector and supervisor	
12	<u>STACKING AND STORAGE</u> Allow for the cost of a competent person to supervise all stacking and storage	
13	<u>SHE REPRESENTATIVE</u> Allow for the appointment of SHE Representative to be permanently on site	
14	<u>ACCIDENT INVESTIGATOR</u> Allow for the appointment of a accident investigator	
15	<u>SHE INSPECTOR</u> Allow for the appointment of a SHE Inspector to do monthly inspections (as control on SHE Representative)	
16	<u>FIRE EQUIPMENT INSPECTOR</u> Allow for the appointment of a full time fire Equipment Inspector	
17	<u>TRAINING COURSES</u> Allow for the cost of setting up training courses: Induction Training Training on construction vehicles and mobile plant	

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No	Description	Noted <input checked="" type="checkbox"/>
	First Aid level 1 Fire fighting level 1 Toolbox Talks	
18	<u>FIRE FIGHTING EQUIPMENT</u> Provide 3kg firefighting equipment suitable for each electrical fires on each site	
19	<u>FIRE FIGHTING EQUIPMENT INSPECTION CERTIFICATES</u> Allow for cost of obtaining inspection certificate each of firefighting equipment	
20	<u>FIRST AID</u> Allow for the cost of a basic First Aid Kit and Stretcher	
21	<u>SIGNS</u> Allow for the erection of suitable number of signs prohibited Area - TR 208 Men at Work TW - 336	
22	<u>BARRICADING</u> Allow for the erection of 1.2m high Dayglo mesh or similar to fence off the construction site	
23	<u>PERSONAL PROTECTIVE EQUIPMENT</u> Allow for suitable PPE to provide for the task to be executed, such as <ul style="list-style-type: none"> <li>▪ Hard hats</li> <li>▪ PVA gloves</li> <li>▪ Protective Overalls</li> <li>▪ Reflector Vests</li> <li>▪ Safety Goggles &amp; Earmuffs</li> <li>▪ Dust Masks</li> <li>▪ Safety Shoes</li> <li>▪ Gumboots</li> <li>▪ Leather Aprons</li> </ul>	
24	<u>MEDICAL TEST</u> Allow for the cost of medical fitness tests for all employees.	
28	<u>SAFE WORK PROCEDURES</u> Allow for the cost of setting up safety work procedures by a competent person	
26	<u>WELFARE FACILITIES</u> Make a provision for 2 x mobile toilets, 1 x shower, changing facilities and a sheltered eating area	

Municipality 1		Consultant	
Municipality 2		Contractor	

No	Description	Noted <input checked="" type="checkbox"/>
27	<b>REGISTERS</b> Allow for the cost of obtaining original register on the following items:	
	▪ Personal protective clothing issued	
	▪ Compaction machinery checklist	
	▪ Concrete mixer daily checklist	
	▪ Daily vehicle pre-ignition checklist	
	▪ Dumper daily checklist	
	▪ Mini dumper daily checklist	
	▪ TLB daily checklist	
	▪ Hand tool checklist	
	▪ PRM016 Scaffolding safety harness register	
	▪ Register of trained operators	
	▪ Lockout request form	
	▪ Lockout permits	
	▪ PRM010 - Ladder, fixed and portable	
	▪ PRM068 - SHE incident investigation	
	▪ PRM012 - Portable electrical equipment	
	▪ PRM007 - SHE Representative monthly inspection	
	▪ Hygiene Facility inspection register	
	▪ Motor vehicle accident report	
	▪ PRM018 - First Aid equipment	
	▪ PRM006 - Fire extinguishing equipment	
	▪ Register of trained fire fighters	
	▪ Register of trained employees in first Aid	
	▪ Trainee attendance	
	▪ Environmental checklist	

Municipality 1		Consultant	
Municipality 2		Contractor	

## Safety and Fire Rules

### SAFETY AND FIRE RULES FOR CONTRACTORS ON THE PREMISES

- i. All persons on company premises shall obey all health and safety rules, procedures and practices. In particular, NO SMOKING signs and the prohibition of the carrying of smoking materials in designated areas shall always be obeyed.
- ii. All the applicable requirements of the Occupational Health and Safety Act (1993) and Regulations and any amendments thereto, shall be met.
- iii. Where the OHS Act prescribes certification of competency of persons performing certain tasks, proof of such certification shall be provided prior to signing of the contract or commencement of work.
- iv. The Contractor's Workmen's Compensation fees must be up to date. A copy of Contractor's WCA registration shall be produced on request. WCA Registration No. of the Contractor company.....

Any process involving open flames, sparks or heat shall be authorized by the issue of a permit to work, obtained from the officials designated as permit issuer. Any work done under the protection of a permit to work shall be in strict compliance with every prescription on the permit.

- v. Safety equipment shall be used where applicable, (e.g. safety goggles, boots, harness, etc.). The Contractor shall provide this at his own expense. The Contractor shall apply the necessary discipline and control to ensure compliance by his workers.
- vi. All work shall be done during normal working hours, unless otherwise instructed or agreed in writing.
- vii. The contractor shall maintain good housekeeping mandates in the area where he is working for the duration of the contract.

Signed \_\_\_\_\_

Date \_\_\_\_\_

Name \_\_\_\_\_

Position \_\_\_\_\_

Tenderer \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	

ANNEXURE 1  
OCCUPATIONAL HEALTH AND SAFETY ACT, 1993  
Regulation 3(2) of the Construction Regulations, 2014

APPLICATION FOR A PERMIT TO DO CONSTRUCTION WORK

This application must be submitted with the following documents:

1. Health and Safety specification.
2. Health and Safety plan.
3. Baseline risk assessment.

- 
- 
1. Name, postal address and telephone numbers of the client:

---



---

2. Details of the Agent.

a. Title, Surname and Initials. : \_\_\_\_\_

b. Identity number/ Passport Number : \_\_\_\_\_

c. Registration number with SACPCMP : \_\_\_\_\_

a. Office Tel. number and/or Mobile number : \_\_\_\_\_

b. Postal address : \_\_\_\_\_

\_\_\_\_\_

3. Name, postal address and telephone numbers of the appointed principal contractor:

---



---

4. Name, postal address and telephone numbers of designer of the project:

---



---

5. Name, postal address and telephone numbers of the following persons:

a. Construction Manager:

\_\_\_\_\_

---

Municipality 1		Consultant	
Municipality 2		Contractor	

b. Construction Health and Safety Manager:

---

c. Construction Health and Safety Officer:

---

6. Exact physical address of the construction and site office:

---



---

7. Nature of construction work:

---

8. Expected commencement date:

---



---

9. Expected completion date : \_\_\_\_\_

10. Estimated maximum number of persons on the construction site: \_\_\_\_\_

11. Planned number of contractors on site accountable to principal contractor \_\_\_\_\_

12. Name (s) of contractors appointed:

---



---



---

13. \_\_\_\_\_  
Signature of the Client/ Client's Agent Date

14. \_\_\_\_\_  
Signature of the Principal Contractor Date

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

**ALL PRINCIPAL CONTRACTORS** THAT QUALIFY TO NOTIFY MUST DO SO EVEN IF ANOTHER PRINCIPAL CONTRACTOR ON THE SAME SITE HAD DONE SO PRIOR TO THE COMMENCEMENT OF WORK

Municipality 1		Consultant	
Municipality 2		Contractor	

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 appointed in terms of regulation 8.(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: \_\_\_\_\_

Municipality 1		Consultant	
Municipality 2		Contractor	



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. Name(s) of contractors already selected.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Principal Contractor

\_\_\_\_\_  
Date

\_\_\_\_\_  
Client's Agent (Where Applicable)

\_\_\_\_\_  
Date

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

Municipality 1		Consultant	
Municipality 2		Contractor	

PART C4 : SITE INFORMATION

Municipality 1		Consultant	
Municipality 2		Contractor	

**C4 SITE INFORMATION****C4.1. Site of Works**

The Site of the Works is situated within the already established township of Kagiso within the jurisdiction of the Mogale City Local Municipality located in Gauteng Province.

The development site is bordered as follows:

Northern side	Randfontein Street (R41) and Leratong Hospital
Eastern side	Kagiso Ext. 13
Southern side	New railway servitude
Western side	Adcock Street

The site can be accessed from Randfontein Street (R41).

The central coordinates are as follows:

- Latitude : 26° 10' 44.4" 'S
- Longitude : 27° 48' 12.9" 'E

**C4.2. Geology of the Site**

The geology of the site for Phase 1 of the development the region around Kagiso is characterized by quartzite, shale, subordinate conglomerate and amygdaloidal lava of the Johannesburg Subgroup of the Central Rand Group of the Witwatersrand Supergroup, as well as by quartzite, shale subordinate lava and minor conglomerate of the Jeppestown Subgroup of the West Rand Group of the Witwatersrand Supergroup.

Based on this geological information, the proposed area of the development appears to not be dolomitic and therefore does not pose a risk of sinkhole formation. Detailed geotechnical investigations are currently underway to determine the need for additional technical expertise that will inform the design process.

**C4.3. Topography Area**

The topography of the area is relatively flat with an average natural grade of less than 0.5%. There is an existing tributary of the Klip River which flows towards the south. The vegetation in the area is minimal with light grass and scattered trees.

Municipality 1		Consultant	
Municipality 2		Contractor	

**PART 5     ANNEXURES**

- C5.1    Annexure A:      Occupational Health & Safety Act
- C5.2    Annexure B:      Environmental Management Plan
- C5.3    Annexure C:      EPWP Labour Forms & Branding
- C5.4    Annexure D:      Joint Venture Agreement
- C5.5    Annexure E:      Reduced drawings for tender purposes

---

Municipality 1		Consultant	
Municipality 2		Contractor	

**C5.1 ANNEXURE A**

**OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO. 85, 1993) AND ANY  
AMENDMENTS THERETO**

Contractor to obtain his own copy of the Act for reference purposes.

**C5.2 ANNEXURE B**

**ENVIRONMENTAL MANAGEMENT PLAN**

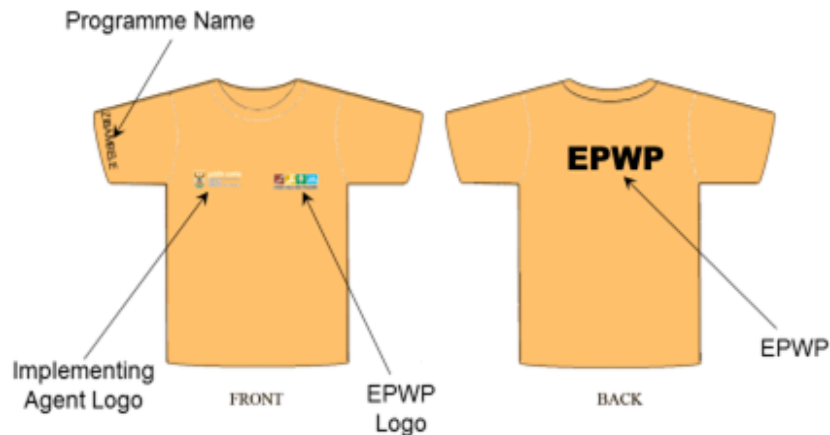
(Shall be provided to the successful tenderer)

### **C5.3 ANNEXURE E**

#### **EPWP LABOUR FORMS & BRANDING**

- Employment Contract Template
- EPWP Report
- EPWP Data Collection Report
- EPWP Branding
- Construction Board Template

## EPWP BRANDING



## Printing on PPE

PPE (Overalls) shall be orange with/without reflective tape and shall be branded as follows:

- EPWP logo (printed or embroidered) on the left front pocket location ie over the heart position. (full colour)
- Implementer's Logo on the right front pocket (printed or embroidered) location (full colour)
- The height of the provincial logo (including text) shall exceed the height of the EPWP logo (including text)
- The letters EPWP on the back of the PPE in BLACK
- The program name eg Vuk'uphile is to be printed on the left sleeve of short sleeved apparel and may not have to be placed on long sleeved apparel.
- Where required orange safety vests are to be branded with similar specification above. In this instance the Overalls may not necessarily be branded provided that the works ever allow for labour to work without high visibility vests.
- All artwork and PPE samples shall be approved and signed off by the consultant prior to printing/embroidering.

## Logo Options

### Implementing Agent Examples



### EPWP LOGO



PLEASE VERIFY WHICH LOGO NEEDS TO USED



## Practical Examples



Floppy hats are to have the EPWP Logos on the front of the hat. The implementing agents logo may be placed on the rear of the cap



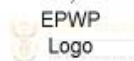
## Practical Examples



Hard Hats may be printed monochrome or colour. The EPWP and Implementing Agent Logos are to be located on the sides of the Hard-Hat.



## Practical Examples



Implementing Agent Logo



EPWP

Overalls may be printed or embroidered.



MOGALE CITY LOCAL MUNICIPALITY

TENDER NO: UMS (W&S) 17/2021

TENDER: THE INSTALLATION OF A BULK WATER PIPELINE, A NEW SEWER CONNECTION AND A NEW 5ML  
RESERVOIR WITH ASSOCIATED WORKS IN LERATONG SMART CITY DEVELOPMENT (PHASE 1)

JV AGREEMENT

---

## **C5.4 ANNEXURE D**

### **JOINT VENTURE AGREEMENT TEMPLATE**

MOGALE CITY LOCAL MUNICIPALITY

TENDER NO: UMS (W&S) 17/2021

TENDER: THE INSTALLATION OF A BULK WATER PIPELINE, A NEW SEWER CONNECTION AND A NEW 5ML  
RESERVOIR WITH ASSOCIATED WORKS IN LERATONG SMART CITY DEVELOPMENT (PHASE 1)

REDUCED DRAWINGS

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## **C5.5 ANNEXURE E**

### **REDUCED DRAWINGS FOR TENDER PURPOSES ONLY**

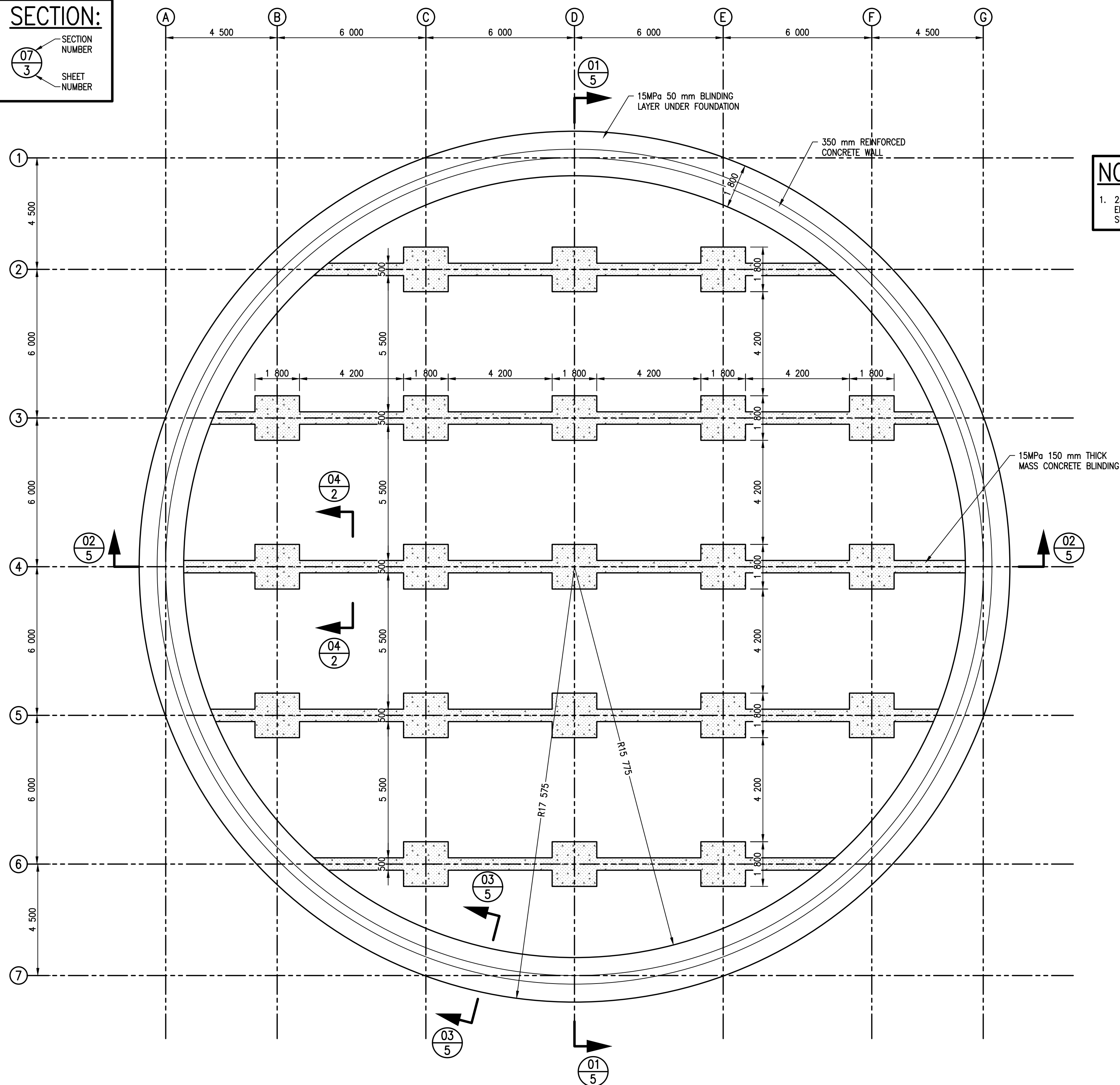


SCALE 1:100

0 1 2 3 4 5 10 20 m

PROJECT No :			
FOR TENDER PURPOSES			
SCALE :	DATE :	PAPER :	
As Shown	2021/03/29	A1	
MEET :	PHASE :	REV :	
2/6	01	00	
DRAWING No :			
P0413C00-310-01			



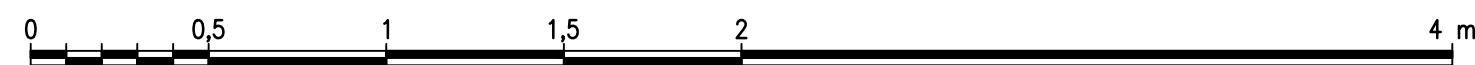


BLINDING / NO FINES LAYOUT

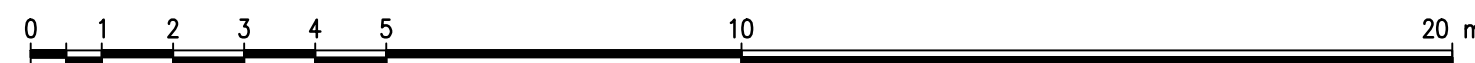
SCALE 1:100

1. FINAL DESIGN SUBJECT TO COMPLETION  
OF GEOTECHNICAL INVESTIGATION

SCALE 1:20



SCALE 1:100



- 1) THE CONTRACTOR SHALL VERIFY ALL LEVELS AND DIMENSIONS ON SITE BEFORE ANY WORK COMMENCING AND ANY DISCREPANCIES MUST BE DISCUSSED WITH THE ENGINEER.
- 2) DRAWING MUST NOT BE SCALED.
- 3) ALL WORKSMANSHIP AND MATERIALS MUST COMPLY WITH THE LATEST RELEVANT SANS CODES.
- 4) MINIMUM SAFE BEARING PRESSURE = 250kPa.
- 5) ALL CO-ORDINATES, DIMENSION AND LEVELS MUST BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE ANY WORK COMMENCES. ANY DISCREPANCIES MUST BE DISCUSSED WITH THE ENGINEER.
- 6) FINISHES
  - ALL CONCRETE BELOW GROUND LEVEL – F1
  - ALL CONCRETE ABOVE GROUND LEVEL – F2
- 7) CONCRETE STRENGTHS
  - FOUNDATIONS – 40 MPa
  - WALLS – 40 MPa
  - COLUMNS – 40 MPa
  - FLOOR/ROOF SLAB – 30 MPa
  - BLINDING – 10 MPa
- 8) ALL EXCAVATIONS MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
- 9) ALL REINFORCEMENT MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
- 10) COVER TO REINFORCEMENT
  - SURFACE BED – 50mm
  - WALL, STRIP FOOTINGS – 50mm
  - COLUMN PAD FOOTINGS – 50mm
  - WALLS – 40mm
  - COLUMNS – 40mm
  - ROOF SLAB – 50mm
  - ROOF UPSTAND BEAM – 40mm
- 11) ALL CORNERS TO HAVE 20mm X 20mm CHAMFERS.

STEEL

- 1) FRAME & COVER TO BE HOT DIPPED GALVANIZED TO SABS ISO 1461, AFTER FABRICATION AND THEN ASSEMBLED.
- 2) ROOF PERIMETER WALL SUPPORT BEARING "KILCHER LIMTGILTS 3LG200".

**WHEN IN DOUBT - ASK !!!**



## REVISIONS :

[illegible]

PROJECT TITLE :

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

DRAWING TITLE :

## 5ML CONCRETE RESERVOIR BLINDING LAYOUT AND DETAILS



Tel: +27 11 954 4441 322 Voortrekker Rd  
Fax: +27 11 954 5008 Noordheuwel, 1740  
eFax: +27 86 524 9967 P.O. Box. 756  
E-Mail: [proplan@proplansa.co.za](mailto:proplan@proplansa.co.za) Paardekraal, 1752

RESPONSIBLE PROFESSIONAL :

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_  
Responsible Engineer \_\_\_\_\_ Reg No \_\_\_\_\_

DESIGNED : L. KRUGER

CG No : -

DRAWN : S. MNGUNI

CLIENT PROJECT NO :

—

PROJECT No :  
FOR TENDER PURPOSES

FOR TENDER PURPOSES		
SCALE :	DATE :	PAPER :

FOR TENDER PURPOSES		
SCALE :	DATE :	PAPER :

As Shown	2021/03/29	A1
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SHEET :	PHASE :	REV :
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2/6	N.A	00
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DRAWING No : P0413C00-310-02









**NOTE:**

1. HORIZONTAL JOINT @ LIFTS
2. MAXIMUM POOR HEIGHT OF 2.0m
3. NO VERTICAL JOINTS

REINFORCEMENT CONTINUOUS THROUGH JOINTS.

SIKA V24 WATERSTOP. INSTALLATION IN CENTER OF CONCRETE WALL. ANCHORING TO REINFORCEMENT WITH SPECIAL FIXING CLIPS TO SUPPLIERS SPEC.

FORMED V JOINT CONSTRUCTION JOINT

WHEN THE CONCRETE HAS SET AND IS STILL GREEN (24-48hrs) THE SURFACE FILM & ALL LOOSE MATERIAL SHALL BE REMOVED WITHOUT DISTURBING THE AGGREGATES TO LEAVE A SOUND SURFACE.

— 1 mm MIN. 'SIKADUR 31'.

THE SURFACE LAITANCE IS TO BE REMOVED DOWN TO THE AGGREGATE, 10 mm WIDER EACH SIDE THAN THE BANDAGE, USING PNEUMATIC SCABBLING TOOLS. APPLY 'SIKADUR 31' ADHESIVE, 2 mm THICK AND MIN. 50 mm WIDE, TO THE PREPARED SUBSTRATE ON EITHER SIDE OF THE PVC / ALUMINIUM STRIP IN ACCORDANCE TO THE MANUFACTURER'S SPECIFICATION.

HORIZONTAL  
CONSTRUCTION JOINT

— PLACE 75 x 3 mm PVC BACKING STRIP CENTRALLY OVER JOINT.

APPLY A SECOND (1 mm THICK) COAT OF 'SIKADUR 31' ON TOP OF THE SHEETING AND 10 mm EITHER SIDE OF THE JOINT.

200mm WIDE HYPALON BANDAGE.

SCALE 1:10



THE SURFACE LAITANCE IS TO BE REMOVED DOWN TO THE AGGREGATE, 10 mm WIDER EACH SIDE THAN THE BANDAGE, USING PNEUMATIC SCABBLING TOOLS. APPLY 'SIKADUR 31' ADHESIVE, 2 mm THICK AND MIN 50 mm WIDE, TO THE PREPARED SUBSTRATE ON EITHER SIDE OF THE PVC / ALUMINIUM STRIP IN ACCORDANCE TO THE MANUFACTURER'S SPECIFICATION.



NAIL IN POSITION 50 x 50 x 2 mm ALUMINIUM  
ANGLE OVER JOINT TYPES 'C'



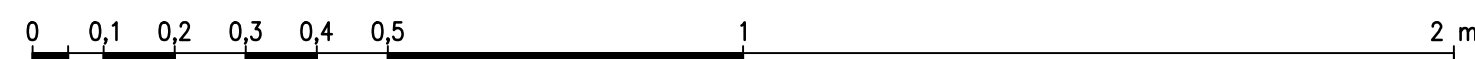
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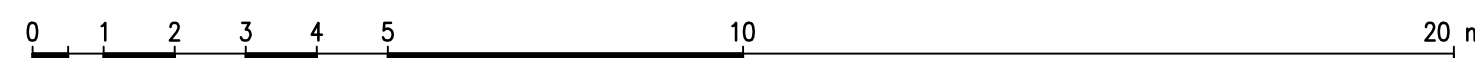
SCALE 1:10

1. FINAL DESIGN SUBJECT TO COMPLETION OF GEOTECHNICAL INVESTIGATION

SCALE 1:10



SCALE 1:100



WHEN IN DOUBT - ASK !!!



## REVISIONS :

[illegible]

PROJECT TITLE :

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

DRAWING TITLE :

## 5ML CONCRETE RESERVOIR SUBSOIL DRAINAGE LAYOUT AND DETAILS



Tel: +27 11 954 4441  
Fax: +27 11 954 5008  
eFax: +27 86 524 9967  
E-Mail: [proplan@proplan.co.za](mailto:proplan@proplan.co.za)

322 Voortrekker Rd  
Noordheuwel, 1740  
P.O. Box. 756  
Paardekraal, 1752

RESPONSIBLE PROFESSIONAL :

SIGNATURE	DATE
Responsible Engineer	Reg No
DESIGNED : L. KRUGER	
REG No : -	
DRAWN : S. MNGUNI	
REG No : -	

CLIENT PROJECT NO :

PROJECT No :  
FOR TENDER PURPOSES

SCALE :	DATE :	PAPER :
As Shown	2021/03/29	A1
SHEET :	PHASE :	REV :
4/7	N.A	00

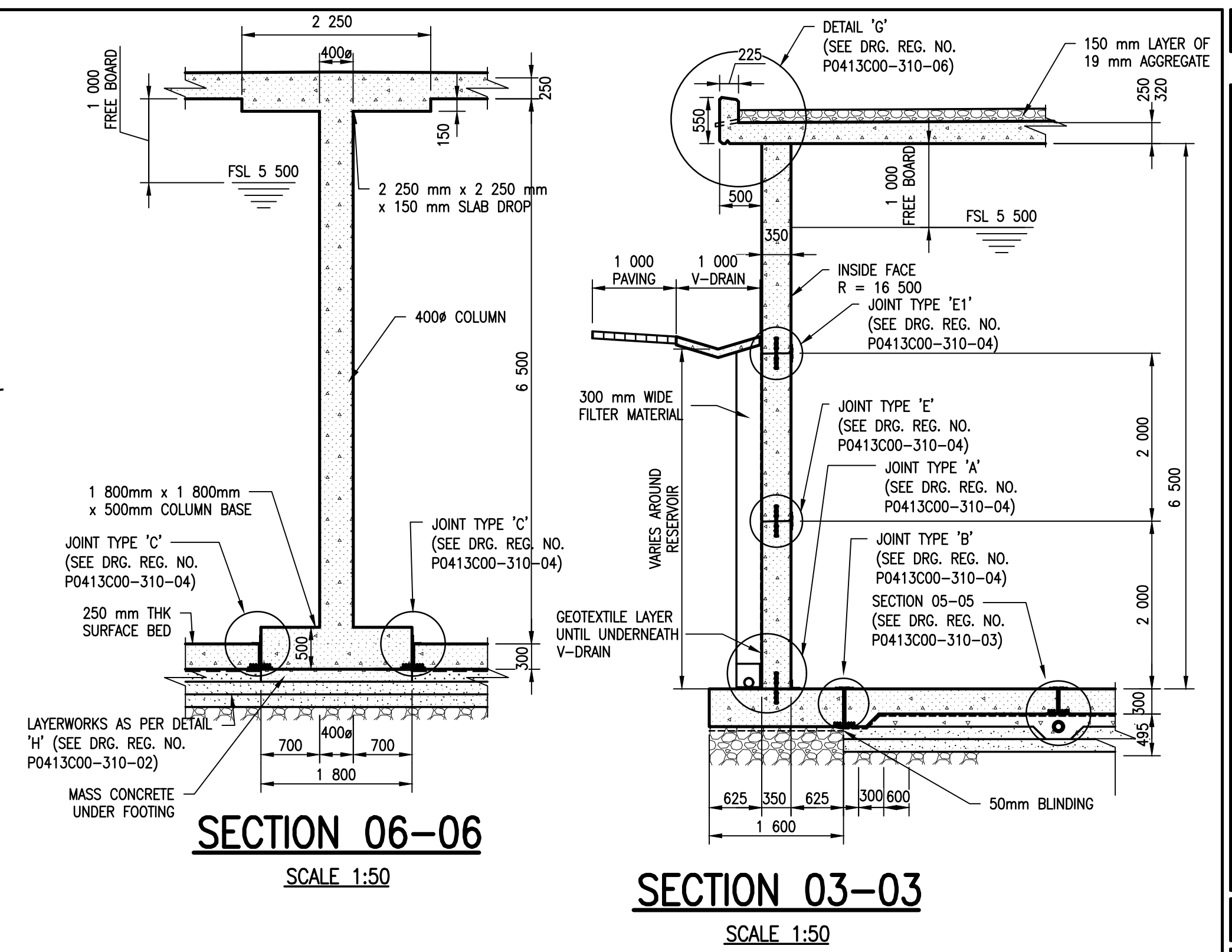
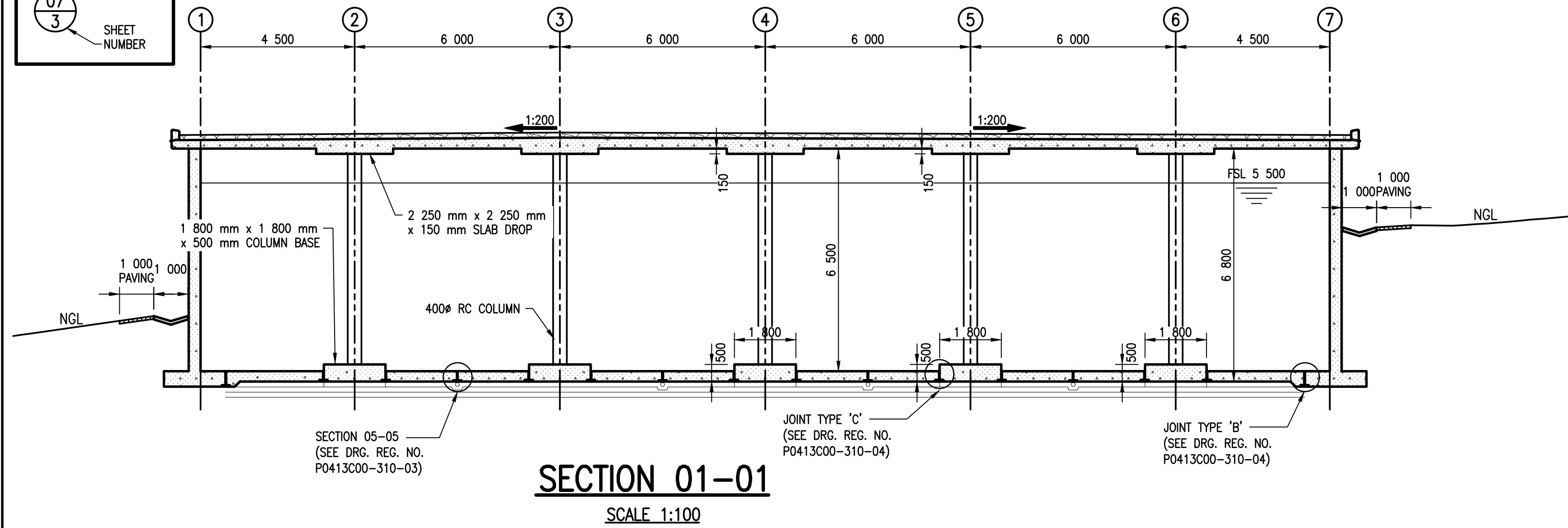
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P0413C00-310-04	



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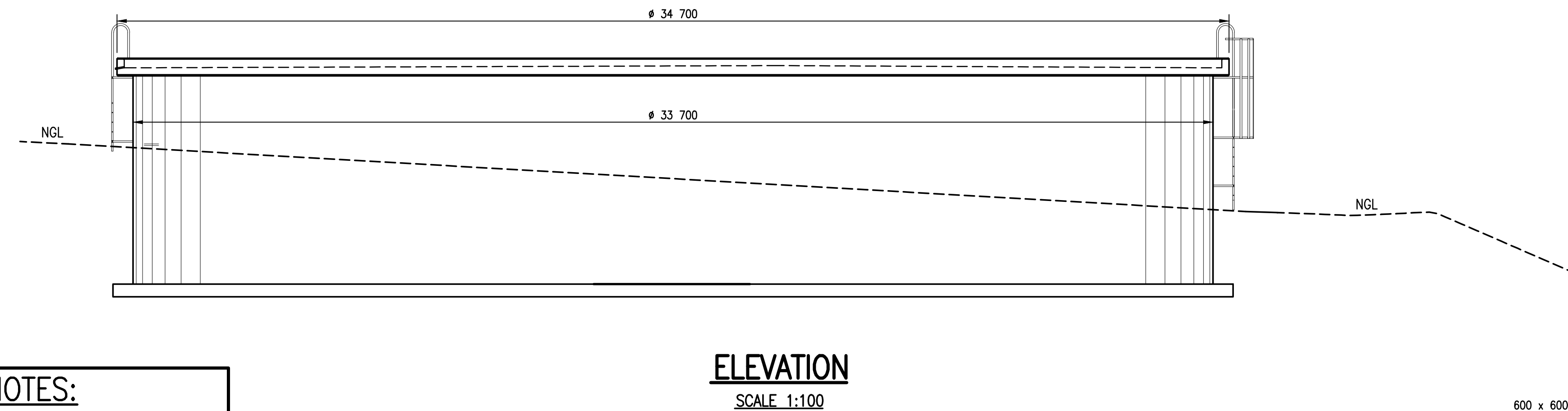
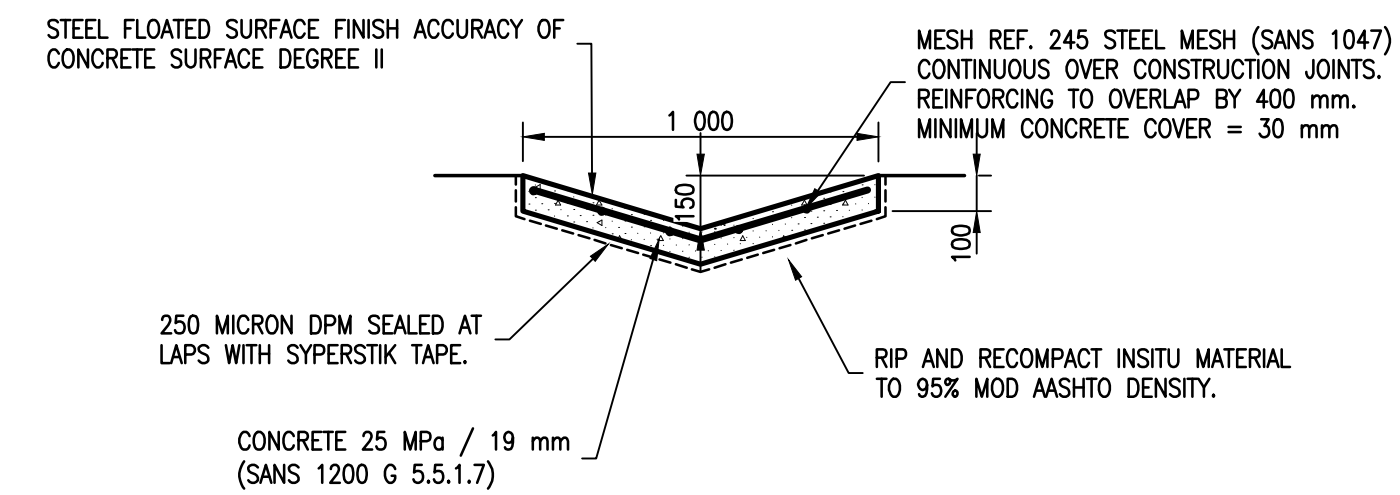
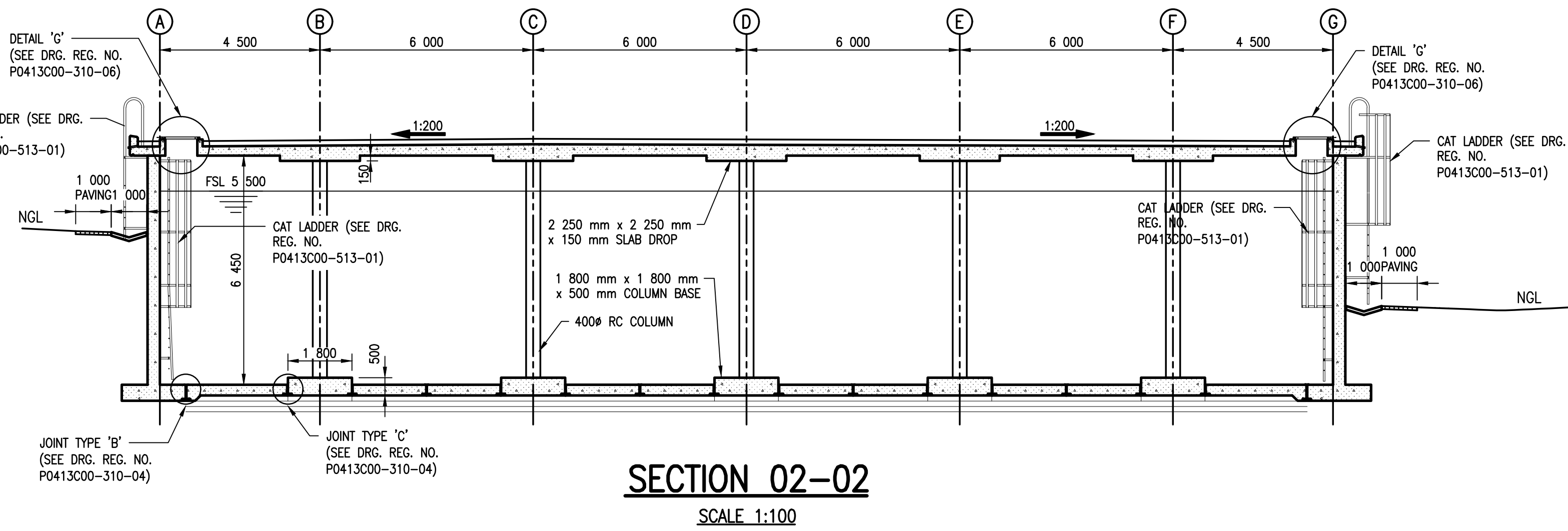
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SECTION  
NUMBER  
07  
SHEET  
NUMBER  
3



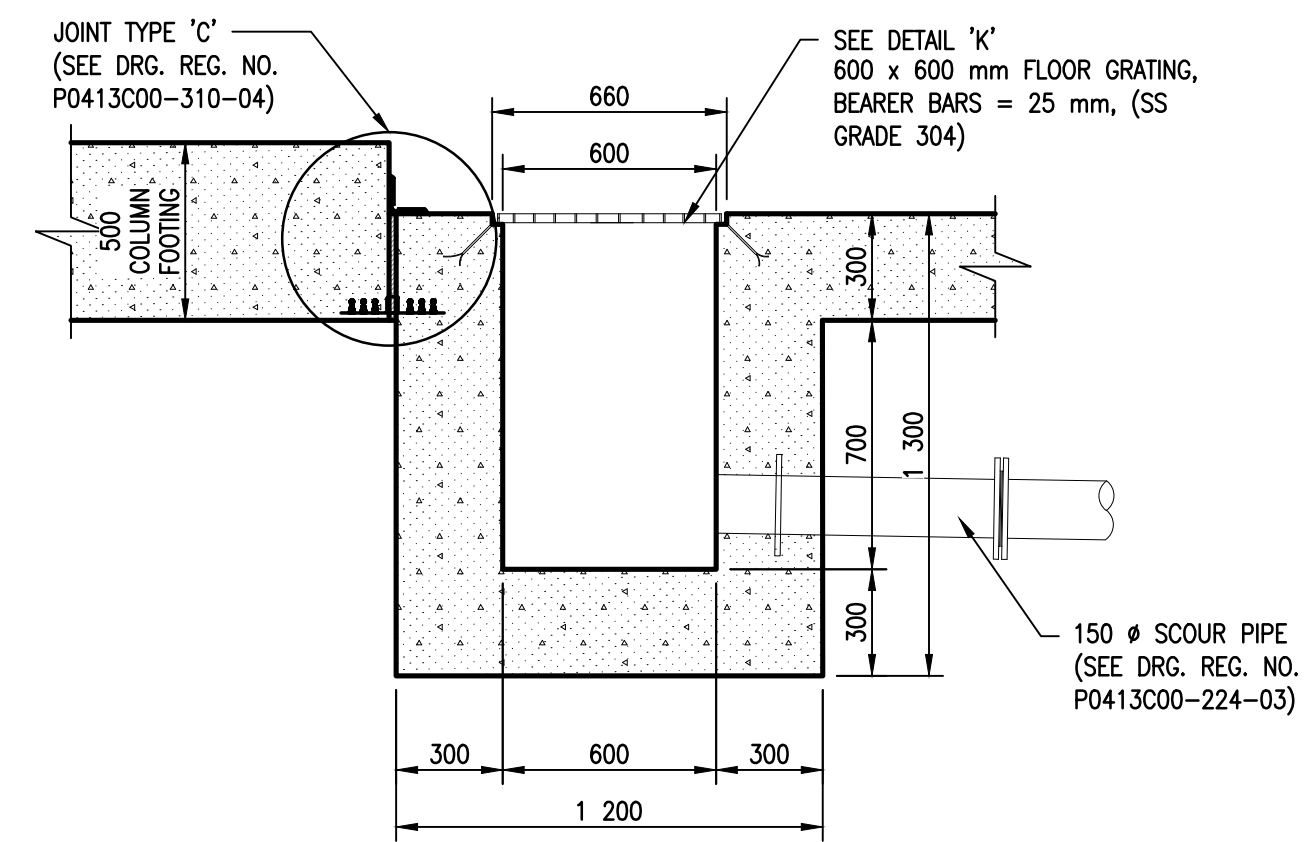
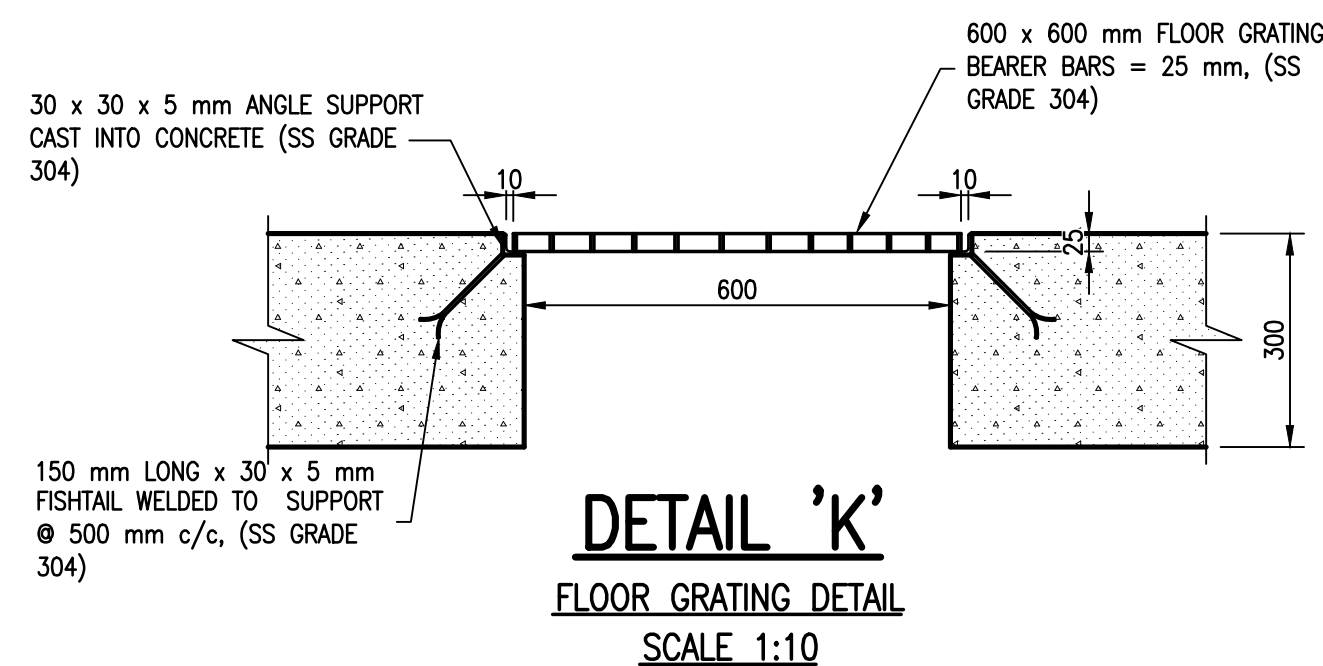
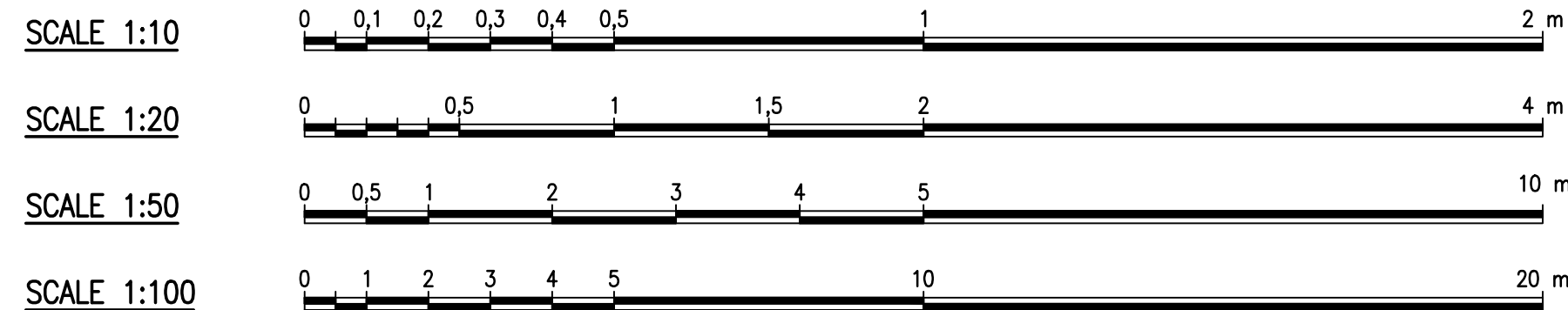
## NOTES:

- EXPANSION JOINT BETWEEN CANAL AND WALL ONLY IF INDICATED.
- CAST IN ALTERNATIVE SECTIONS 1.5 m LONG WITH EXPANSION JOINT AT 18 m



## NOTES:

- FINAL DESIGN SUBJECT TO COMPLETION OF GEOTECHNICAL INVESTIGATION



1/1	STRUCTURAL NOTES		NWS-301-01
1/3	LIST OF DRAWINGS		NWS-010-01
SHEET	DESCRIPTION	OTHER No.	REG. No.
LIST OF DRAWINGS			

WHEN IN DOUBT - ASK !!!

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REVISIONS:			
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PROJECT TITLE :

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

DRAWING TITLE :

POTABLE WATER CHAMBER 1  
LAYOUT, SECTION AND DETAILS

**PRO-PLAN**  
consulting engineers (pt) ltd  
Tel: +27 11 954 4441  
Fax: +27 11 954 5008  
eFax: +27 66 524 9967  
E-Mail: proplan@proplansa.co.za  
322 Voortrekker Rd  
Noordheuwel, 1740  
P.O. Box 756  
Paardekraal, 1752

RESPONSIBLE PROFESSIONAL :

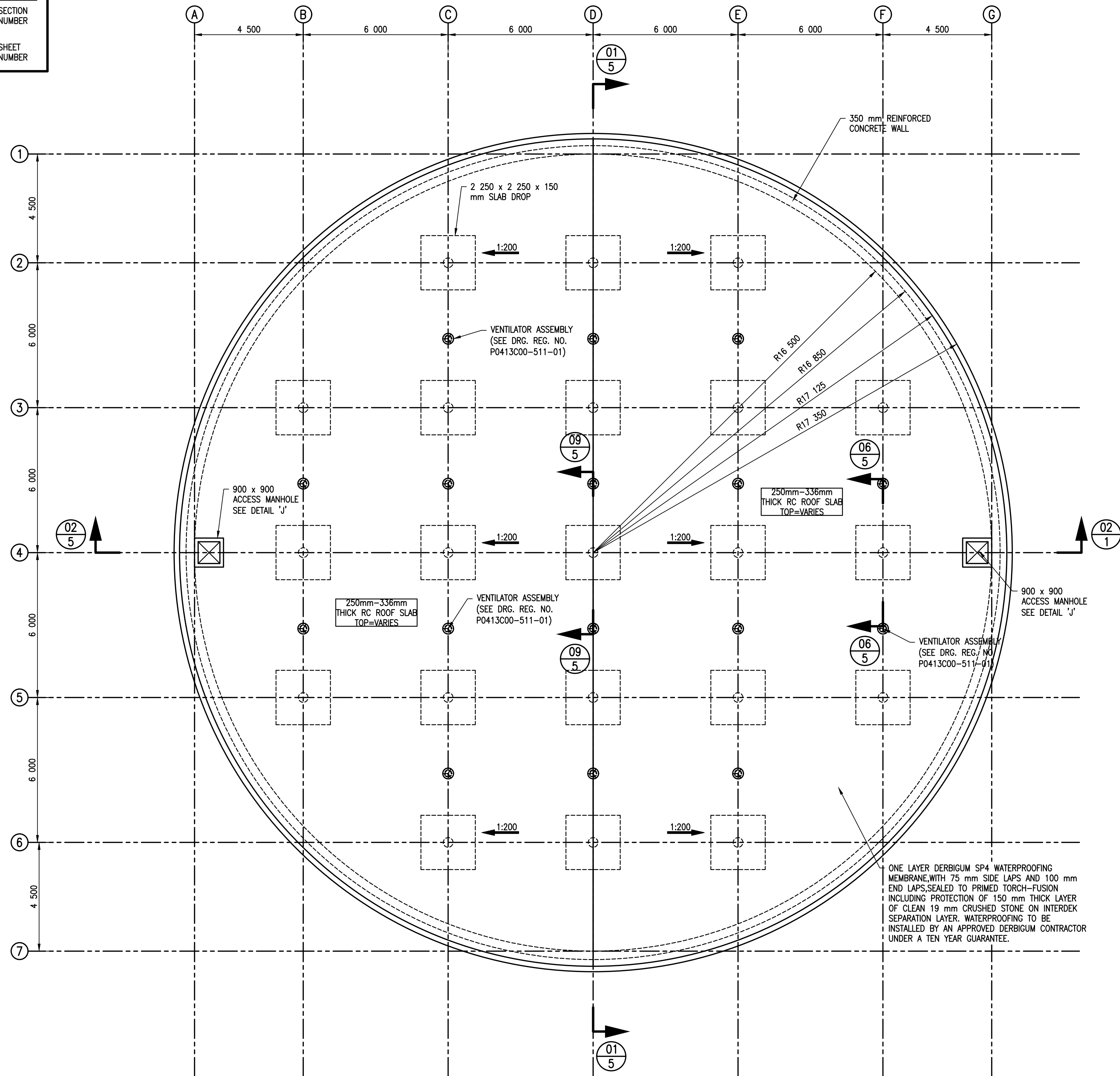
DESIGNED : L. KRUGER  
REG No : -  
DRAWN : S. MINGUNI  
REG No : -

CLIENT PROJECT NO :

PROJECT No :  
FOR TENDER PURPOSES  
SCALE : As Shown  
DATE : 2021/03/29  
SHEET : 1/1  
PHASE : 01  
DRAWING No : P0413C00-310-05  
PAPER : A1  
REV : 00



## SECTION:

SECTION  
NUMBER  
07  
3  
SHEET  
NUMBER

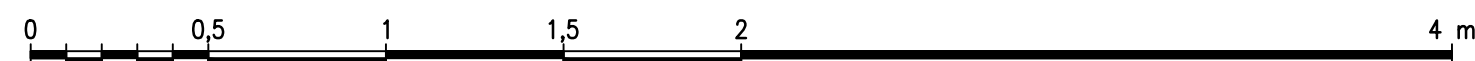
## ROOF LAYOUT PLAN

SCALE 1:100

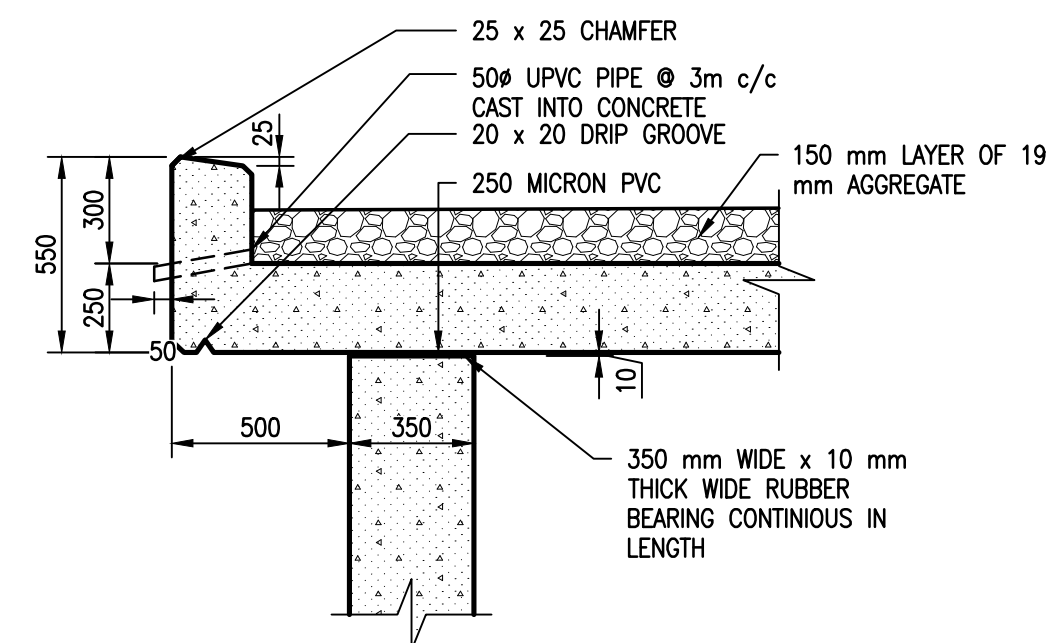
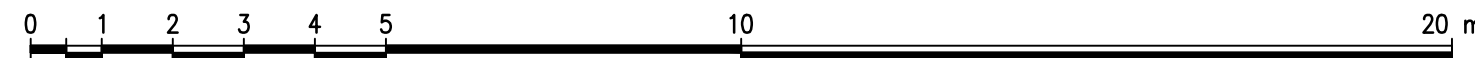
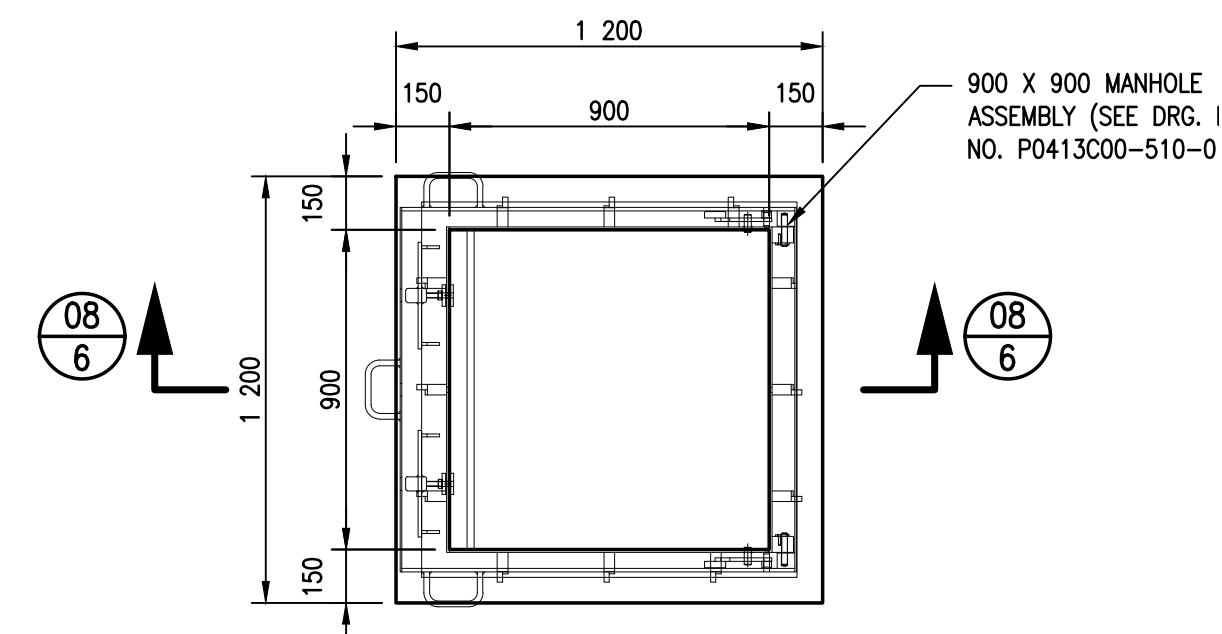
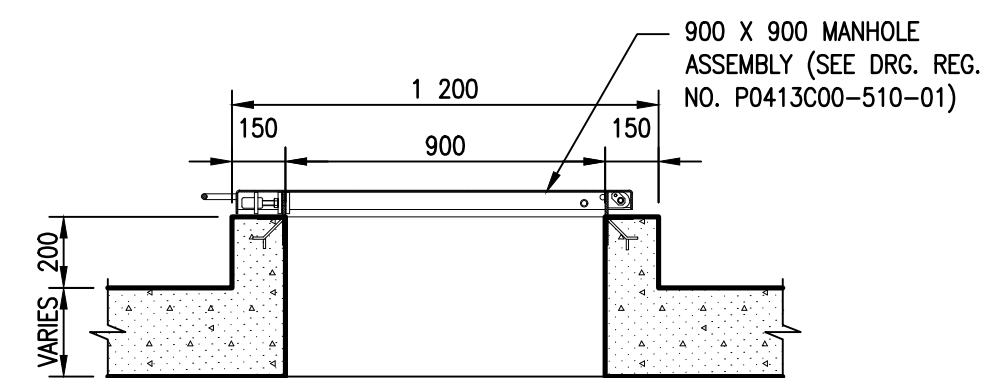
## NOTES:

1. FINAL DESIGN SUBJECT TO COMPLETION OF GEOTECHNICAL INVESTIGATION

SCALE 1:20



SCALE 1:100

DETAIL 'G'  
ROOF OVERHANG  
SCALE 1:20DETAIL 'J'  
MANHOLE DETAIL  
SCALE 1:20

## SECTION 08-08

MANHOLE DETAIL  
SCALE 1:20

WHEN IN DOUBT - ASK !!!



## REVISIONS:

REV	DATE	DRN	NOTES
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

## PROJECT TITLE:

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

## DRAWING TITLE:

5ML CONCRETE RESERVOIR  
ROOF LAYOUT, SECTION AND  
DETAILSTel: +27 11 954 4441  
Fax: +27 11 954 5008  
E-Mail: proplan@proplansa.co.za  
322 Voortrekker Rd  
Noordheuwel, 1740  
P.O. Box 756  
Paardekraal, 1752

## RESPONSIBLE PROFESSIONAL:

DESIGNED BY: Responsible Engineer  
DESIGNED BY: L. KRUGER  
REG No: -  
DRAWN BY: S. MINGUNI  
REG No: -

## CLIENT PROJECT NO:

PROJECT No: -  
FOR TENDER PURPOSESSCALE: As Shown  
DATE: 2021/03/29  
SHEET: 6/6  
PHASE: N.A  
PAPER: A1  
REV: 00

DRAWING No: P0413C00-310-06

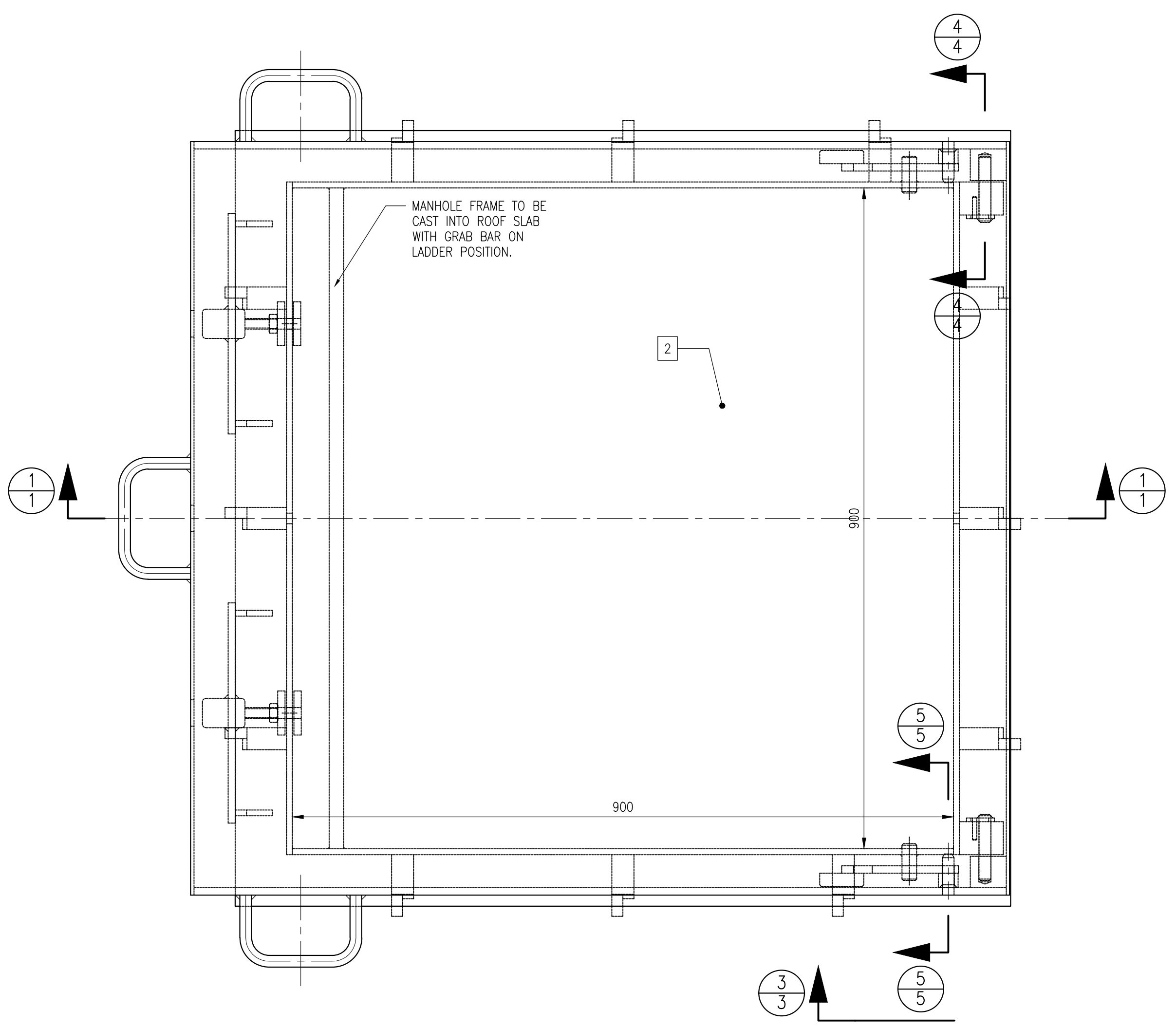
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07

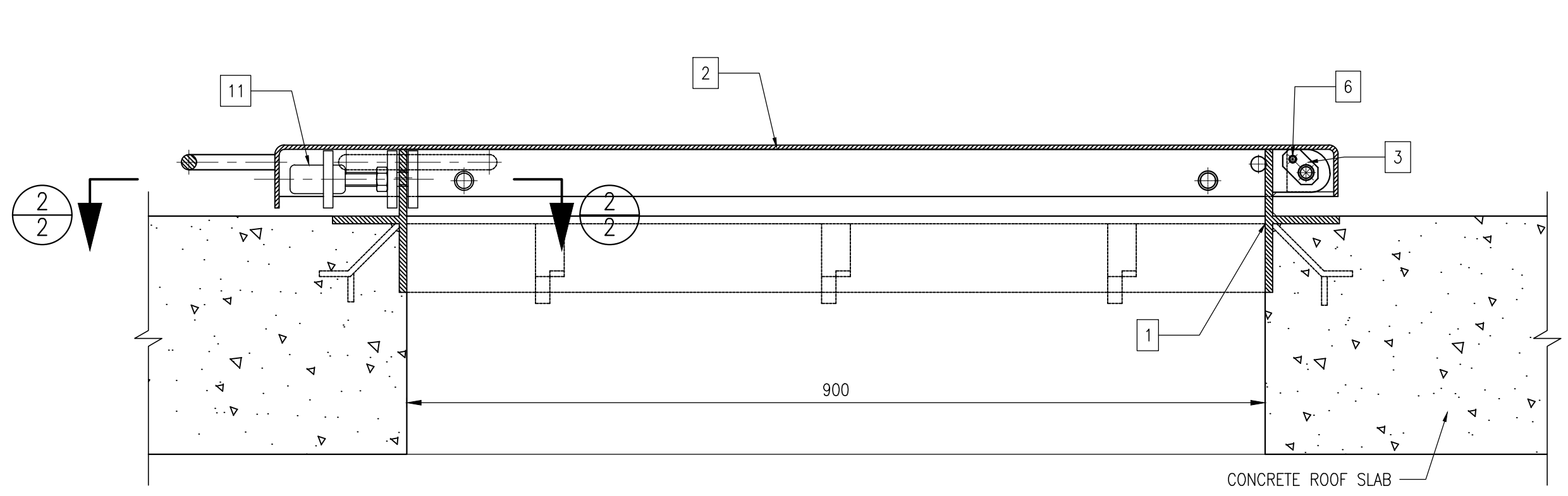
3

SECTION  
NUMBER

SHEET  
NUMBER



PLAN  
900 x 900 mm MANHOLE  
SCALE 1:5



SECTION A-A  
900 x 900 mm MANHOLE  
SCALE 1:5

PARTS LIST				
ITEM	DESCRIPTION	QTY	MATERIAL	REMARKS
1	MANHOLE FRAME	1	3CR12 & ST. STEEL	304L
2	MANHOLE COVER	1	3CR12 & ST. STEEL	304L
3	PIN	2	ST. STEEL 304L	304L
4	SPACER	2	ST. STEEL 304L	304L
5	LOCKING DEVICE	1	ST. STEEL 304L	304L
6	HEX SOCKET HEAD CAP SCREW: M8 x 20 LONG	2	STAINLESS STEEL	304L
7	WASHER M8	2	STAINLESS STEEL	304L
8	LOCKING DEVICE OPP-HAND	1	ST. STEEL 304L	304L
9	WASHER M16	2	STAINLESS STEEL	304L
10	SPLIT PIN: TO SUIT Ø4 HOLE	2	STAINLESS STEEL	304L
11	LOCKING DEVICE	2	STAINLESS STEEL	304L

NOTE:  
1. QUANTITIES REFLECTED IN PARTS LIST ARE FOR ONE COMPLETE MANHOLE: 900 x 900 mm OPENING.  
2. MATCHING FRAME AND COVER TO BE CLEARLY IDENTIFIED THROUGH NUMBERING.  
3. AFTER FACTORY ASSEMBLY MATCHING FRAME AND COVER TO REMAIN ASSEMBLED FOR DELIVERY TO SITE.  
4. THE USE AND ORDER OF THE LOCKING DEVICE (ITEM 11) IS SUBJECTED TO APPROVAL BY THE DIRECTOR: ME ENGINEERING.



4/4	900 x 900 mm MANHOLE: DETAILS OF PARTS		P0413C00-510-04
3/4	900 x 900 mm MANHOLE: DETAILS OF FRAME AND COVER		P0413C00-510-03
2/4	900 x 900 mm MANHOLE: DETAILS OF ASSEMBLY		P0413C00-510-02
SHEET	DESCRIPTION	OTHER No.	REG. No.
LIST OF DRAWINGS			

WHEN IN DOUBT - ASK !!!

REVISIONS :

REV	DATE	DRN	NOTES
-	-	-	-

PROJECT TITLE :

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

DRAWING TITLE :

MECHANICAL DRAWING SECTION  
900 x 900 mm MANHOLE  
ASSEMBLY AND PARTS LIST

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RESPONSIBLE PROFESSIONAL :

PROPLAN

Responsible Engineer

DESIGNED : L. KRUGER

REG No : -

DRAWN : S. MNGUNI

REG No : -

CLIENT PROJECT NO :

-

PROJECT No :

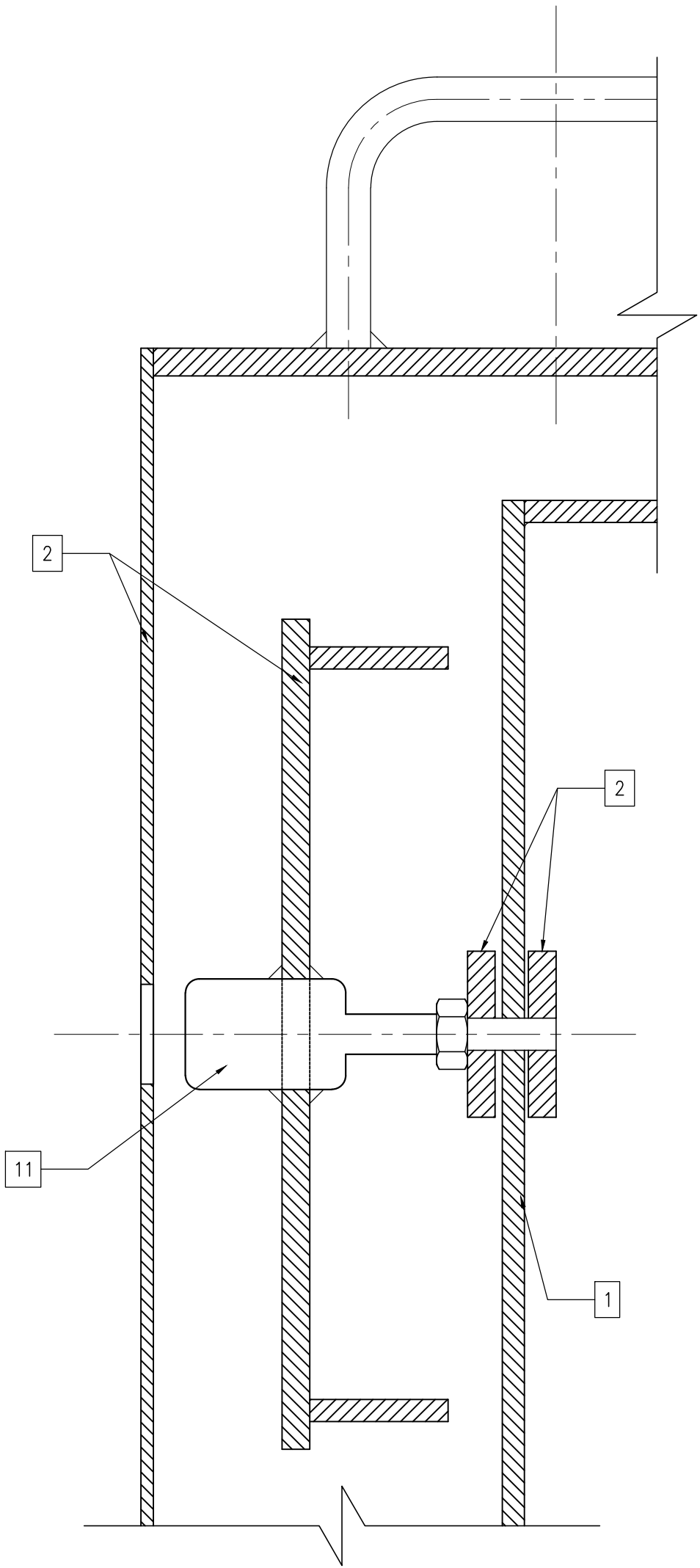
FOR TENDER PURPOSES

SCALE :	DATE :	PAPER :
As Shown	2021/03/29	A1
SHEET :	PHASE :	REV :
3/6	N.A	00
DRAWING No : P0413C00-510-01		

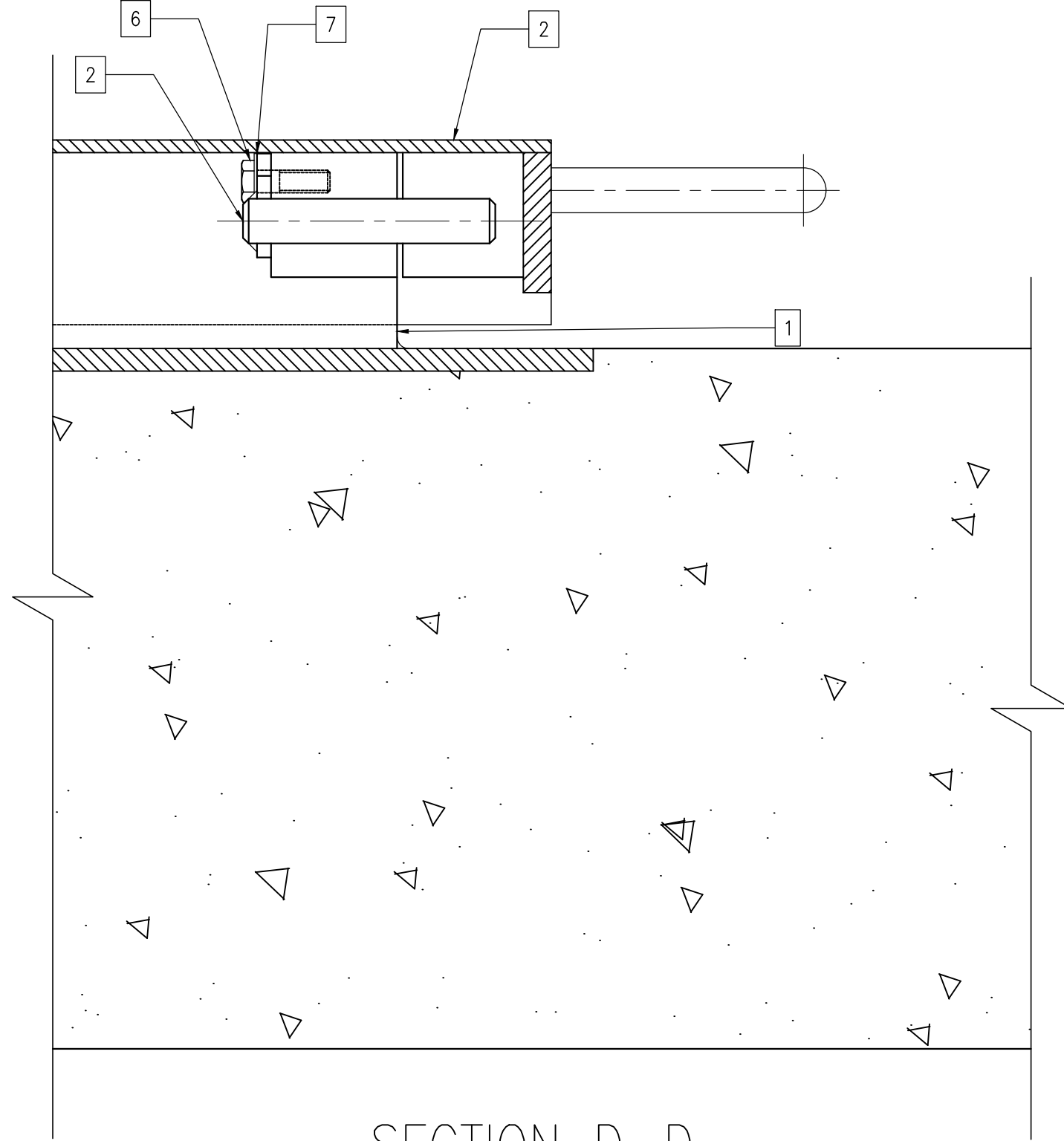
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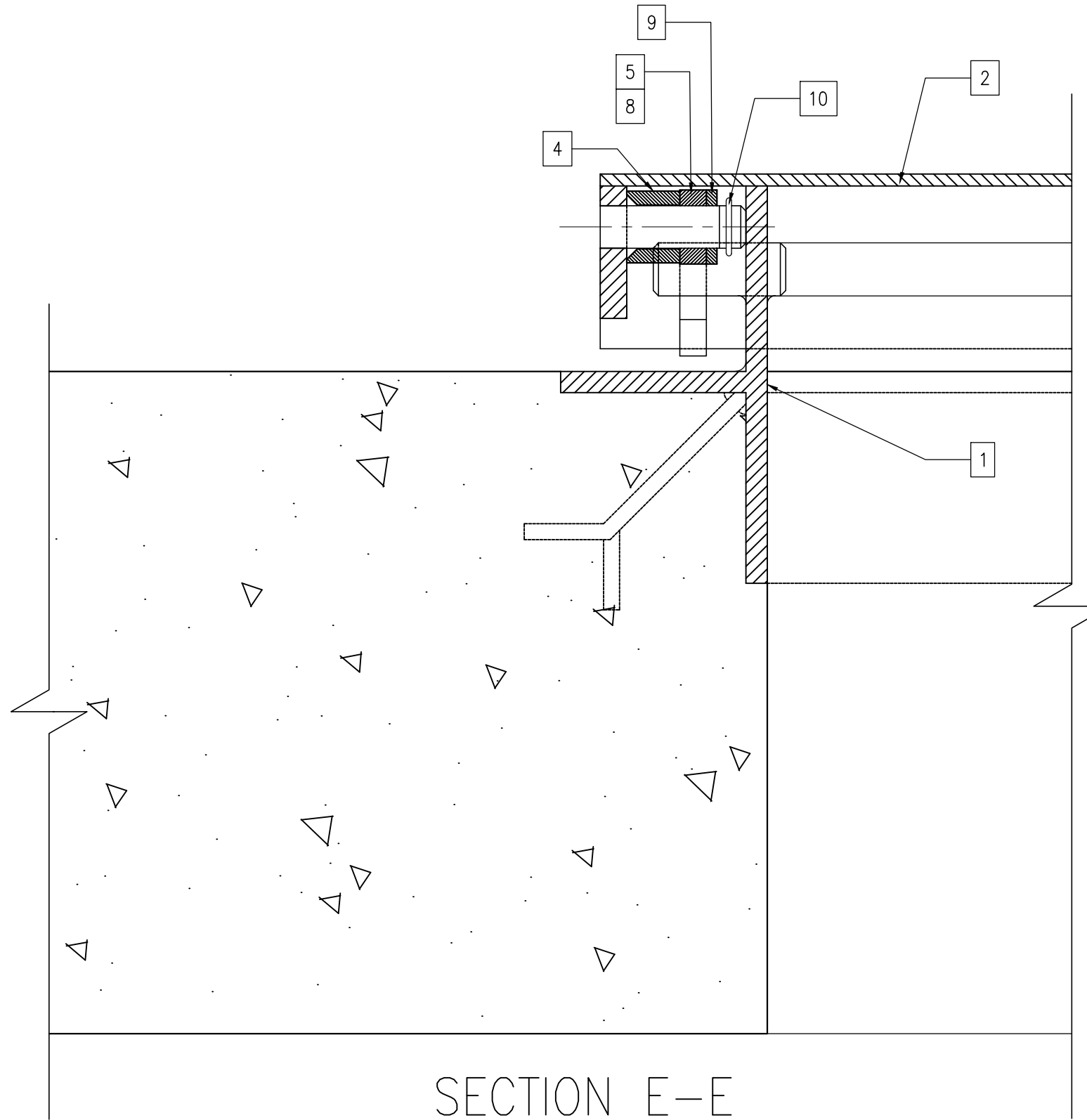
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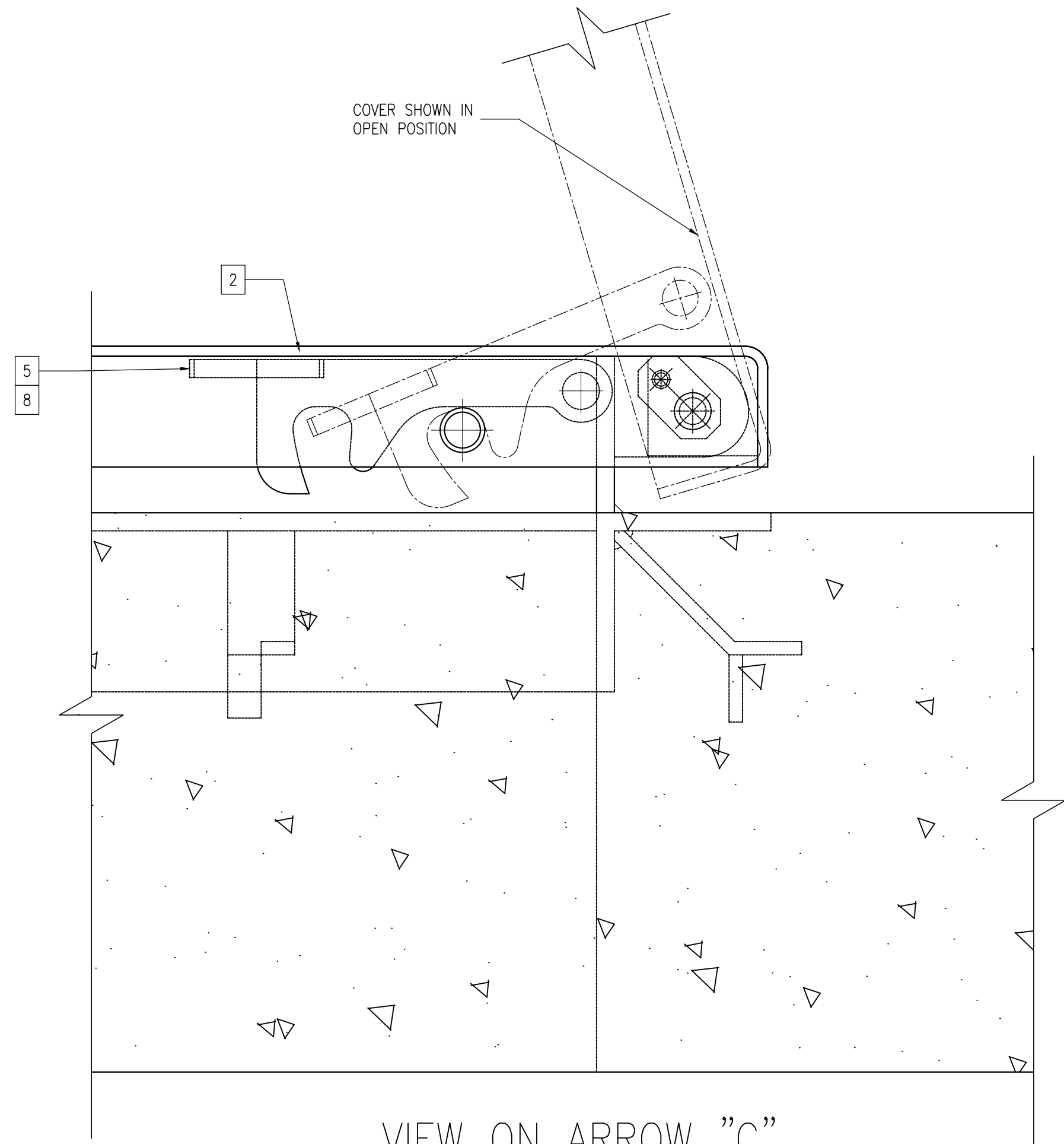
SECTION B-B  
900 x 900 mm MANHOLE  
SCALE 1:2



SECTION D-D  
900 x 900 mm MANHOLE  
SCALE 1:2

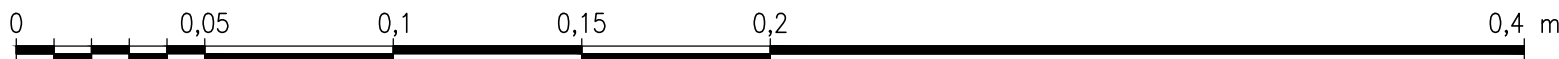


SECTION E-E  
900 x 900 mm MANHOLE  
SCALE 1:2



VIEW ON ARROW "C"  
900 x 900 mm MANHOLE  
SCALE 1:2

SCALE 1:2



4/4	900 x 900 mm MANHOLE: DETAILS OF PARTS		P0413C00-510-04
3/4	900 x 900 mm MANHOLE: DETAILS OF FRAME AND COVER		P0413C00-510-03
1/4	900 x 900 mm MANHOLE: ASSEMBLY AND PARTS LIST		P0413C00-510-01
SHEET	DESCRIPTION	OTHER No.	REG. No.
LIST OF DRAWINGS			

WHEN IN DOUBT - ASK !!!



REVISIONS :

REV	DATE	DRN	NOTES
-	-	-	-

PROJECT TITLE :

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

DRAWING TITLE :

MECHANICAL DRAWING SECTION  
900 x 900 mm MANHOLE  
ASSEMBLY AND PARTS LIST



RESPONSIBLE PROFESSIONAL :

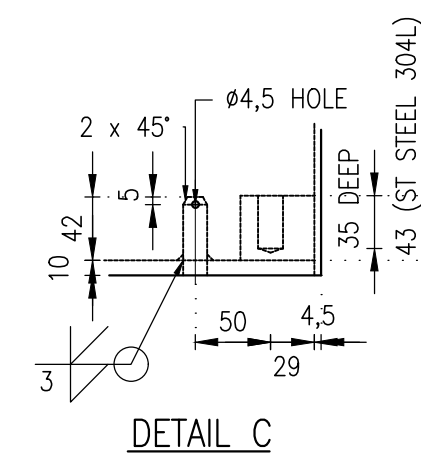
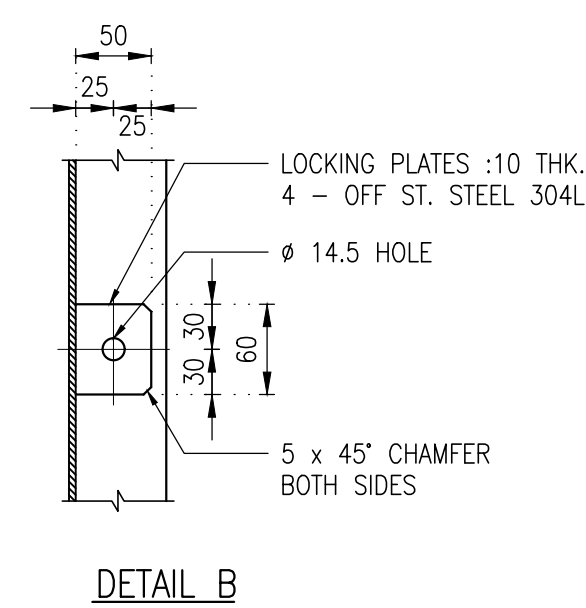
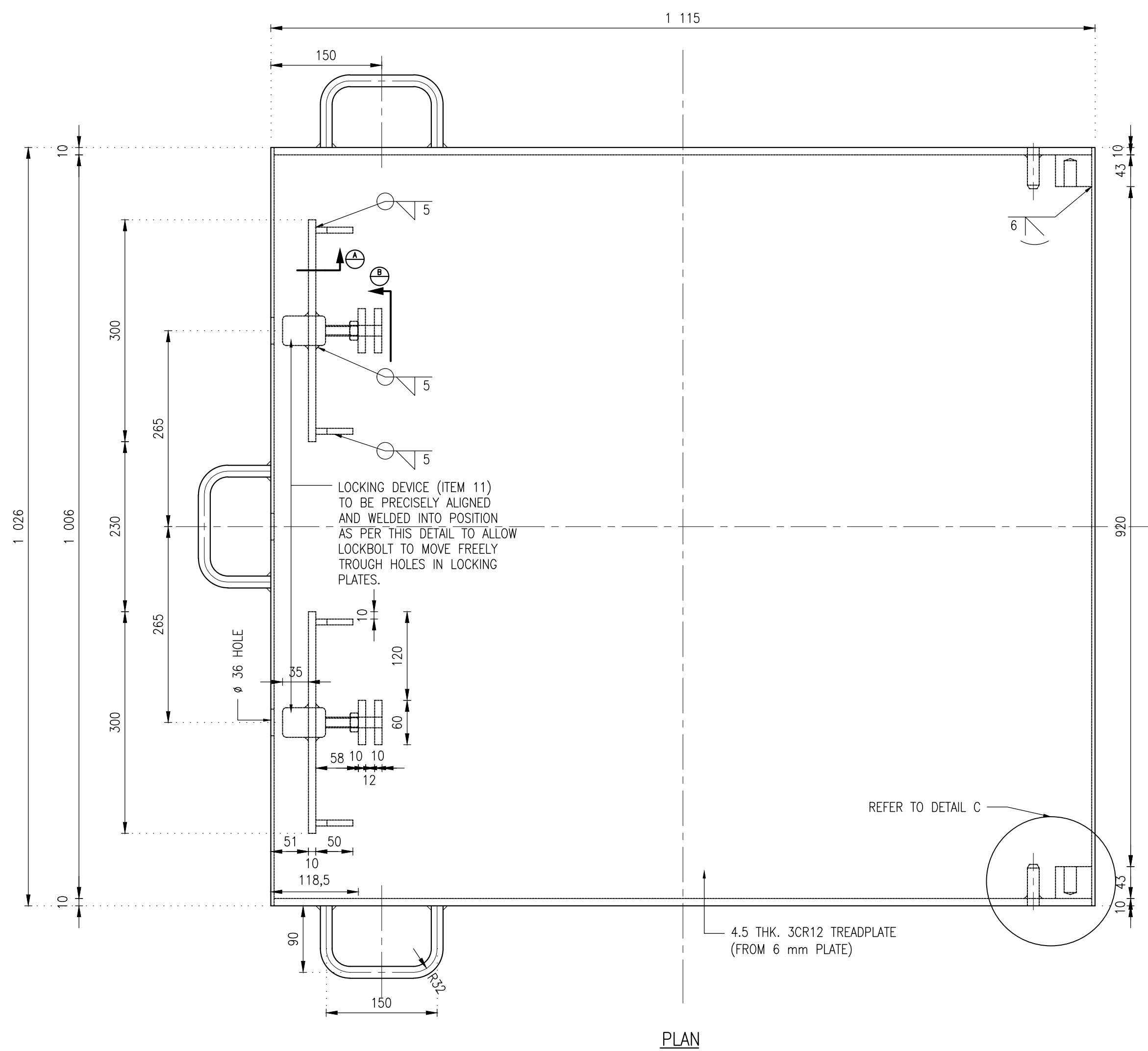
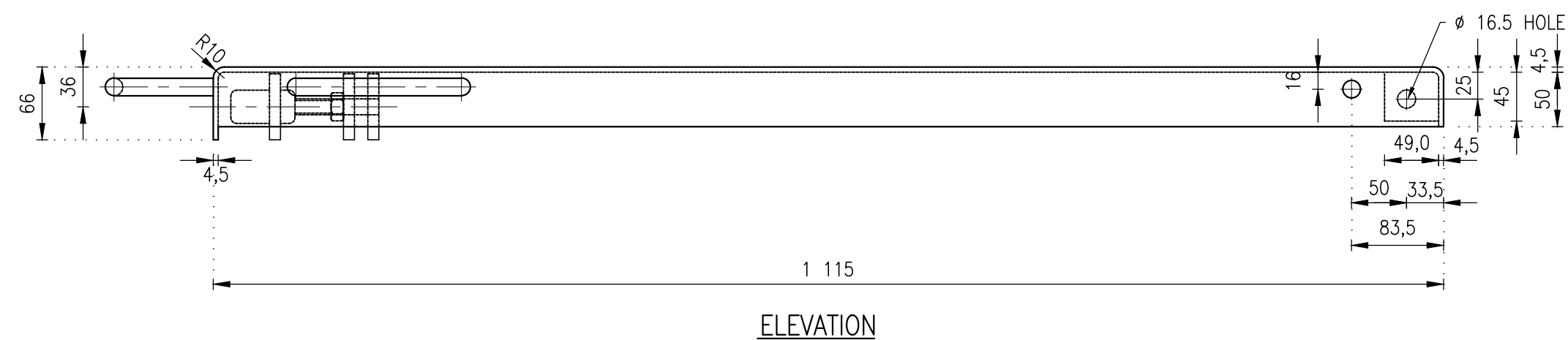
SIGNATURE	DATE
Responsible Engineer	# Reg No
DESIGNED : L. KRUGER	
REG No : -	
DRAWN : S. MNGUNI	
REG No : -	

CLIENT PROJECT NO :

PROJECT No :

FOR TENDER PURPOSES

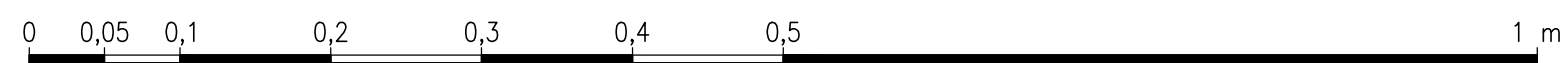
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As Shown	2021/03/29	A1
SHEET :	PHASE :	REV :
3/6	N.A	00
DRAWING No :	P0413C00-510-02	



2	MANHOLE COVER	
MATL: 3CR12 & ST. STEEL	MASS: $\pm 40$ kg	
No. OFF: 1	SCALE: 1:5	

MANHOLE COVER

900 x 900 mm MANHOLE  
SCALE 1:5



4/4	900 x 900 mm MANHOLE: DETAILS OF PARTS		P0413C00-510-04
2/4	900 x 900 mm MANHOLE: DETAILS OF ASSEMBLY		P0413C00-510-02
1/4	900 x 900 mm MANHOLE: ASSEMBLY AND PARTS LIST		P0413C00-510-01
SHEET	DESCRIPTION	OTHER No.	REG. No.
LIST OF DRAWINGS			



**Mogale City**

[illegible]

PROJECT TITLE :

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

DRAWING TITLE :

MECHANICAL DRAWING SECTION  
900 x 900 mm MANHOLE  
DETAILS OF FRAME & COVER

**PROPLAN**  
SOUVENIERS (PTY) LTD

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E-Mail: [proplan@proplan.co.za](mailto:proplan@proplan.co.za)

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Noordheuwel, 1740  
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Paardekraal, 1752

RESPONSIBLE PROFESSIONAL :

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_  
Responsible Engineer \_\_\_\_\_ Reg No \_\_\_\_\_

DESIGNED : L. KRUGER

REG No : -

DRAWN : S. MNGUNI

CLIENT PROJECT NO :

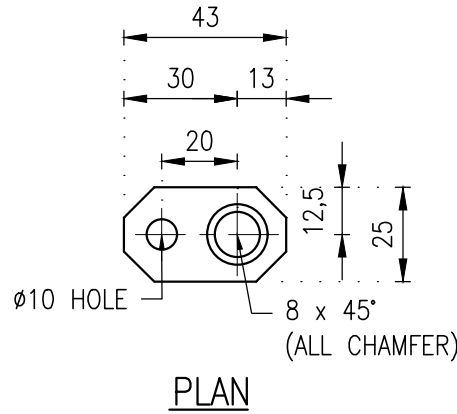
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FOR TENDER PURPOSES

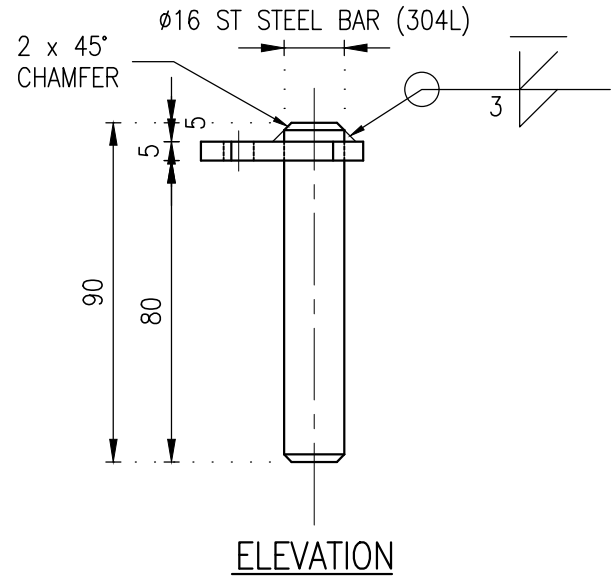
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As Shown	2021/03/29	A1

SHEET : 3/6	PHASE : N.A	REV : 00
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DRAWING No : \_\_\_\_\_



PLAN

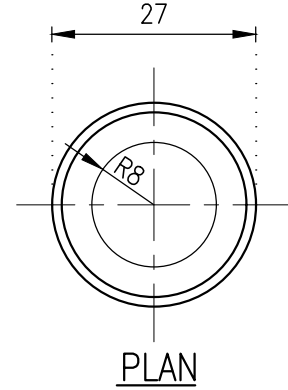


ELEVATION

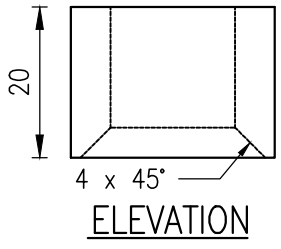
3		PIN	
MATL: STAILLESS STEEL 304 L		MASS: ± 1 kg.	
No. OFF: 2		SCALE: 1:2	

## PIN

STAINLESS STEEL (MASS ± 1 kg)  
SCALE 1:2



PLAN

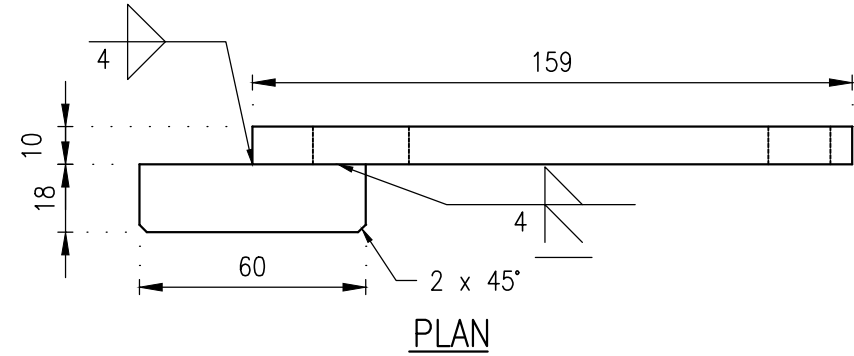


ELEVATION

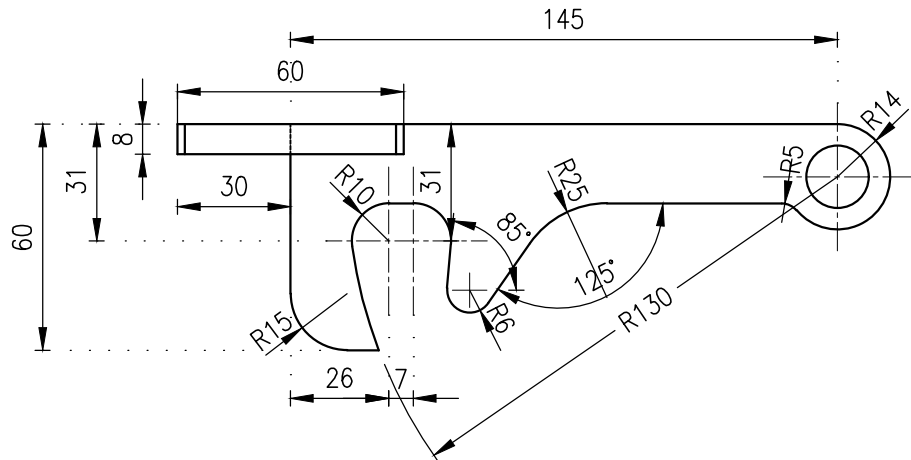
4		SPACER	
MATL: ST. STEEL 316 (U.O.S.)		MASS: ± 0.1 kg.	
No. OFF: 2		SCALE 1:1	

## SPACER

STAINLESS STEEL (MASS ± 0.1 kg)  
SCALE 1:1



PLAN



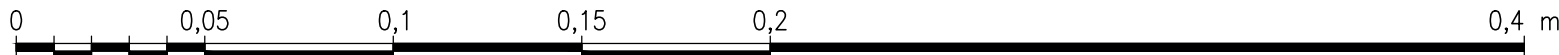
ELEVATION

5		LOCKING DEVICE	
MATL: STAILLESS STEEL 304 L		MASS: ± 0.4 kg.	
No. OFF: 1		SCALE: 1:2	
8		LOCKING DEVICE (OPP. HAND)	
MATL: STAILLESS STEEL 304 L		MASS: ± 0.4 kg.	
No. OFF: 1		SCALE: 1:2	

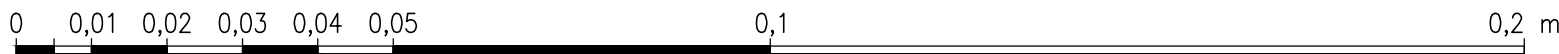
## LOCKING DEVICE

STAINLESS STEEL (MASS ± 0.4 kg)  
SCALE 1:2

SCALE 1:2



SCALE 1:1



WHEN IN DOUBT - ASK !!!



### REVISIONS :

REV	DATE	DRN	NOTES
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
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-	-	-	-

### PROJECT TITLE :

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

### DRAWING TITLE :

MECHANICAL DRAWING SECTION  
900 x 900 mm MANHOLE  
ASSEMBLY AND PARTS LIST



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P.O. Box 756  
Paardekraal, 1752

### RESPONSIBLE PROFESSIONAL :

PROF. L. KRUGER  
Responsible Engineer  
DESIGNED : L. KRUGER  
REG No : -  
DRAWN : S. MNGUNI  
REG No : -

### CLIENT PROJECT NO :

-

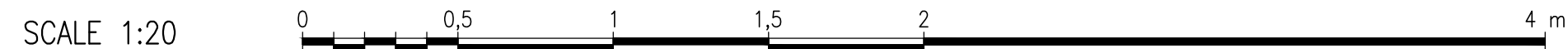
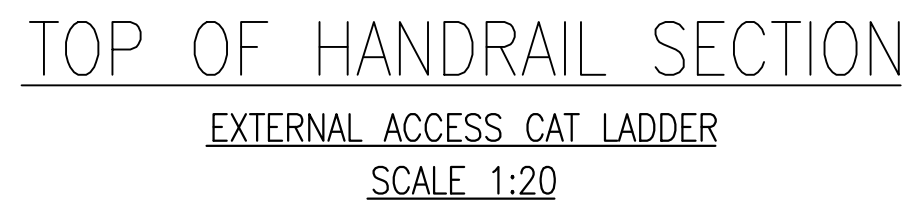
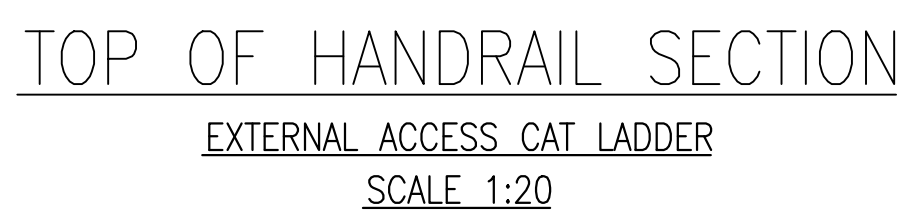
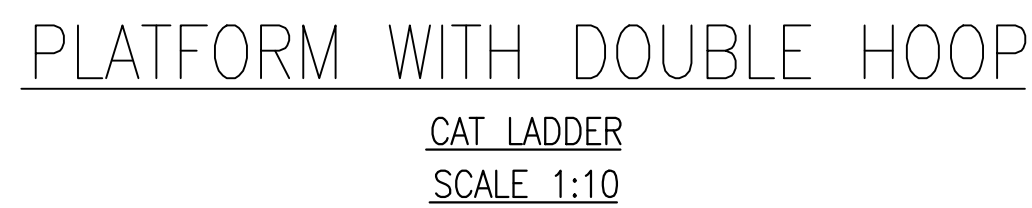
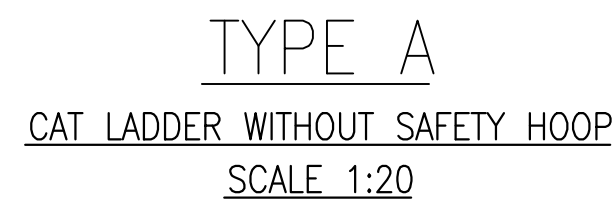
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SCALE : As Shown  
SHEET : 4/4  
DRAWING No : P0413C00-510-04

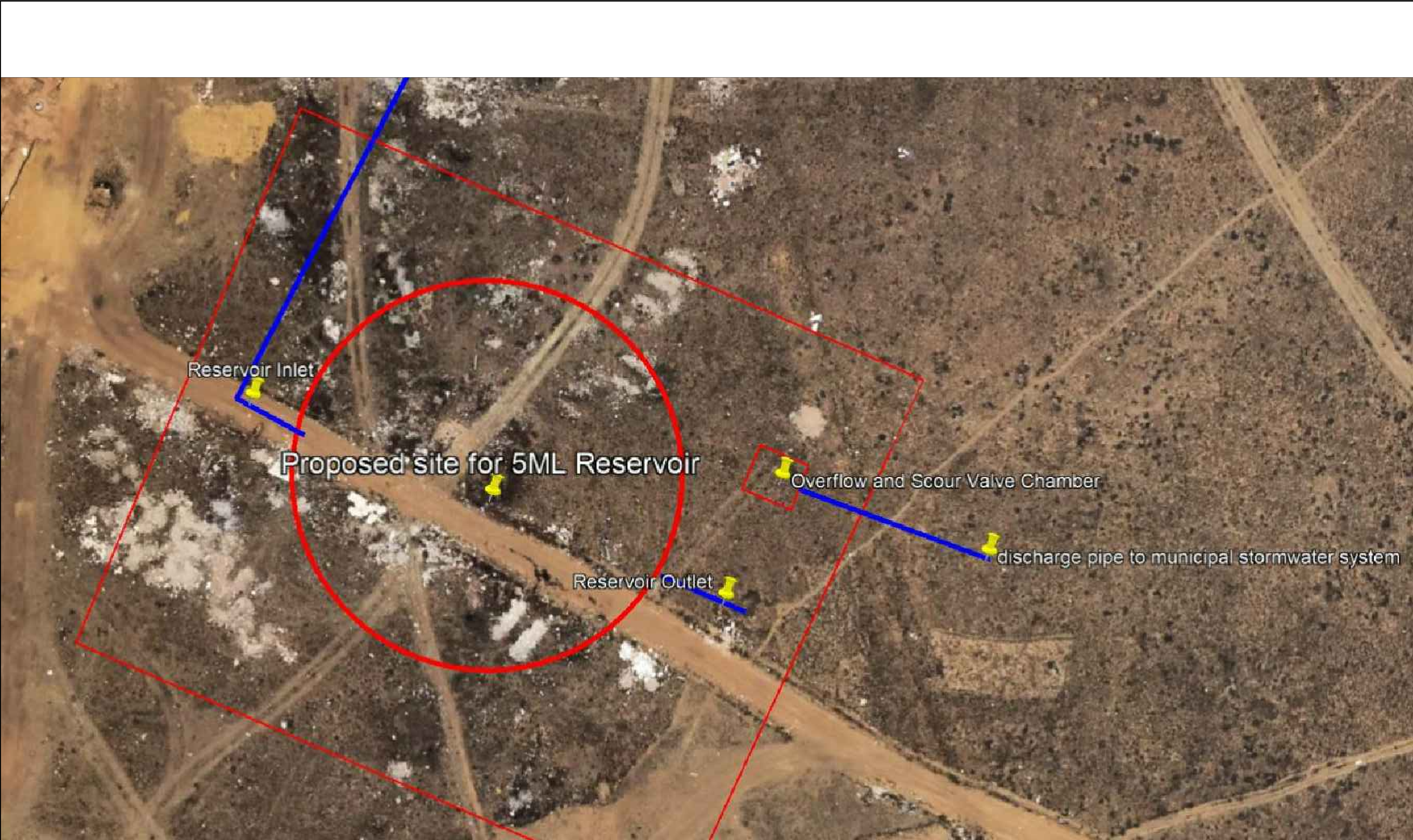
DATE : 2021/03/29  
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REV : 00

3/4	900 x 900 mm MANHOLE: DETAILS OF FRAME AND COVER		P0413C00-510-03
2/4	900 x 900 mm MANHOLE: DETAILS OF ASSEMBLY		P0413C00-510-02
1/4	900 x 900 mm MANHOLE: ASSEMBLY AND PARTS LIST		P0413C00-510-01
SHEET	DESCRIPTION	OTHER No.	REG. No.
LIST OF DRAWINGS			









NOTES:

1. FINAL DESIGN SUBJECT TO COMPLETION OF GEOTECHNICAL INVESTIGATION

WHEN IN DOUBT - ASK !!!

Ref: I:\Logos\Wegale\_CAD\_Logo.dwg

REVISIONS :

REV	DATE	DRN	NOTES
-	-	-	-

PROJECT TITLE :

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

DRAWING TITLE :

PROPOSED SITE PLAN FOR  
5ML RESERVOIR

PRO-PLAN  
consulting engineers (pty) ltd

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RESPONSIBLE PROFESSIONAL :

SIGNATURE

Responsible Engineer

DESIGNED : Caspar Eksteen

DRAWN : Caspar Eksteen

REG No : -

REG No : -

DATE

# Reg No

CLIENT PROJECT NO :

-

PROJECT No :

FOR TENDER PURPOSES

SCALE :  
As Shown

DATE :  
2021/02/26

PAPER :  
A1

SHEET :  
1/1

PHASE :  
N.A

REV :  
P00

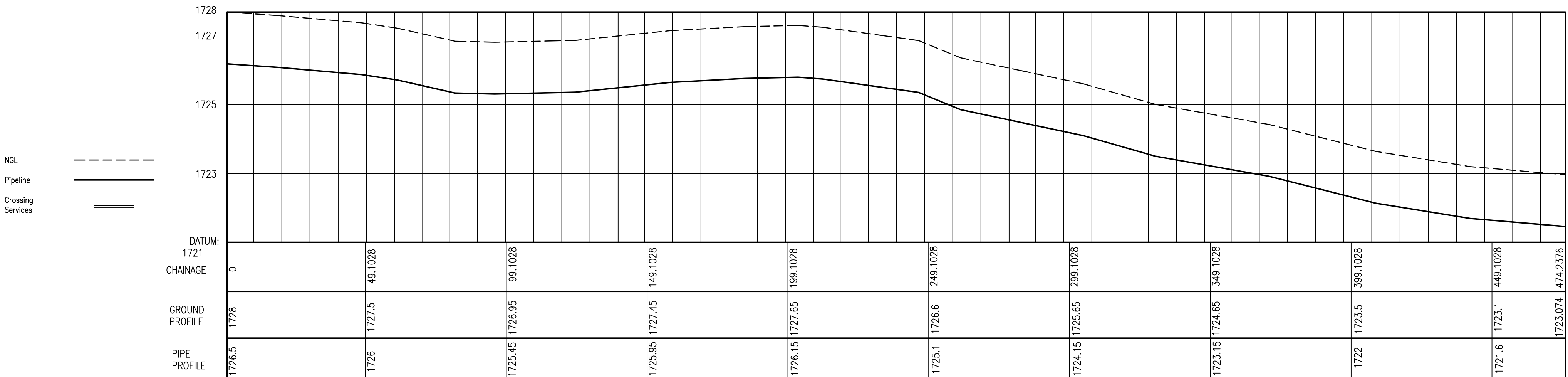
DRAWING No :

P0413C00-2200-01





**SITE LAYOUT**  
MAIN PIPELINE  
NTS



**LONG SECTION**  
MAIN PIPELINE  
NTS

**NOTES:**

1. FINAL DESIGN SUBJECT TO COMPLETION OF GEOTECHNICAL INVESTIGATION

WHEN IN DOUBT - ASK !!!

Ref: I:\Logos\Wegale\_CAD\_Logo.dwg

REVISIONS :

REV	DATE	DRN	NOTES
-	-	-	-

PROJECT TITLE :

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

DRAWING TITLE :

LONG SECTION OF  
MAIN PIPELINE

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eFax: +27 86 524 9967 P.O. Box 756  
E-Mail: proplan@proplansa.co.za Paardekraal, 1752

RESPONSIBLE PROFESSIONAL :

SIGNATURE

DATE

# Reg No

Responsible Engineer

DESIGNED : Caspar Eksteen

REG No : -

DRAWN : Caspar Eksteen

REG No : -

CLIENT PROJECT NO :

-

PROJECT No :

FOR TENDER PURPOSES

SCALE :

DATE :

PAPER :

As Shown

2021/02/26

A1

SHEET :

PHASE :

REV :

1/1

N.A

P00

DRAWING No :

P0413C00-2201-01





SCALE 1 : 10

SCALE 1:10

SCALE 1:10

1	350 mm Ø FLANGE ADAPTOR	A	3	FLANGES TO SANS 1123:2015, TABLE 1000/3	—
ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES

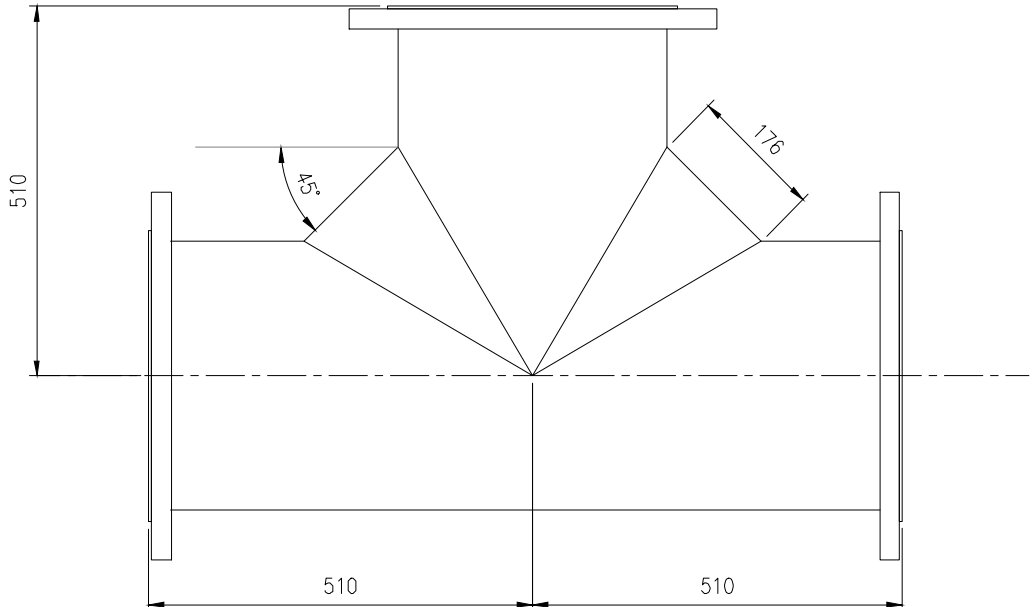
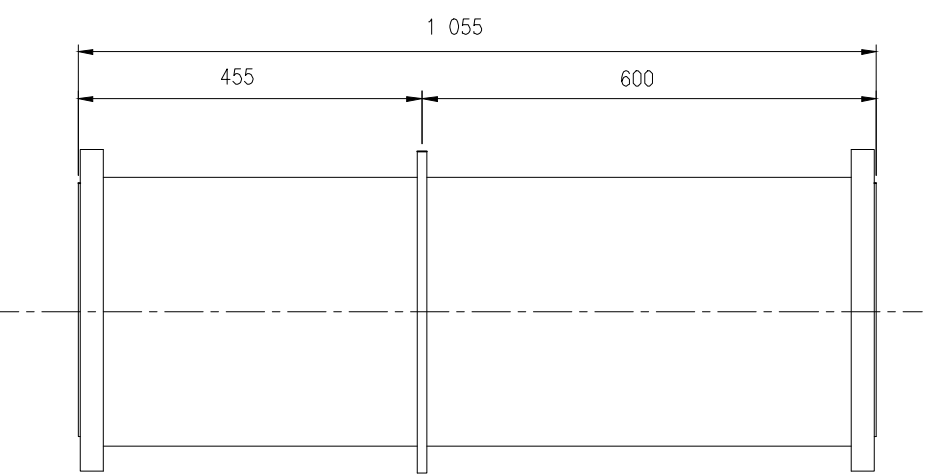
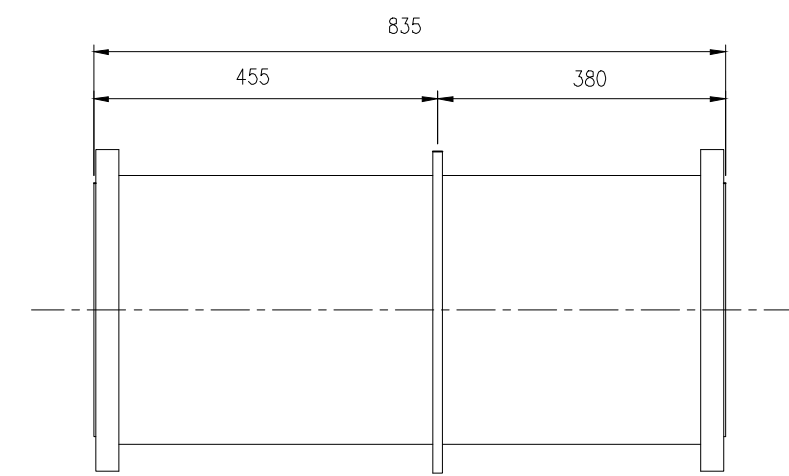
PIPE SCHEDULE

2	350 mm Ø PN10 DISMANTLING JOINT	A	3	FLANGES TO SANS 1123:2015, TABLE 1000/3	—
ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES

PIPE SCHEDULE

3	350 mm Ø PN10 GATE VALVE, AS PER SUPPLIER	A	3	FLANGES TO SANS 1123:2015, TABLE 1000/3	—
ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES

PIPE SCHEDULE

																	
SCALE 1:10						SCALE 1:10						SCALE 1:10					
4	350 mm GUSSETTED TEE	B	1	ALL ENDS FLANGED TO SANS 1123:2015, TABLE 1000/3	API 5L X42, PIPE t = 4 mm	5	350 mm Ø FLANGED PUDDLE PIPE	B	1	BOTH ENDS FLANGED TO SANS 1123:2015, TABLE 1000/3	API 5L X42, PIPE t = 4 mm, PUDDLE FLANGE t = 12 mm	6	350 mm Ø FLANGED PUDDLE PIPE	B	2	BOTH ENDS FLANGED TO 1123:2015, TABLE 1000/3	API 5L X42, PIPE t = 4 mm, PUDDLE FLANGE t = 12 mm
ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES	ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES	ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES
PIPE SCHEDULE						PIPE SCHEDULE						PIPE SCHEDULE					

### NOTES:

- ALL PIPE SIZES GIVEN ARE NOMINAL BORE.
- ALL FLANGES TO BE ACCORDING TO SANS1123:2015
- FOR DETAILS OF INSULATING JOINTS SEE DRG. REG. NO. NWS-244-01
- FOR TYPICAL PIPING DETAILS (DETAIL 'E') SEE DRG. REG. NO. NWS-C00-310-01
- GENERAL:
  - REPAIR EPOXY LINING OF PIPE ENDS IN ACCORDANCE WITH DWS 9900.
  - CHECK THAT PIPE SPECIALS FIT CORRECTLY IN THE CHAMBER BEFORE MANUFACTURE.
  - ALLOW FOR 3 mm GASKETS BETWEEN THE FLANGES.
  - PROVIDE LIFTING LUGS WHERE REQUIRED
- IF INCOMING PIPE MATERIAL IS STEEL, FLANGE TO FLANGE CONNECTION / WELDED.
- IF INCOMING PIPE MATERIAL IS ANYTHING OTHER THAN STEEL, FLANGE ADAPTOR CONNECTION.
- REFER TO SEPARATE DRAWING FOR FLANGE TABLE DETAILS.
- ANY PIPE SIZE BELOW 300 mm Ø SHALL BE A FLANGED CONNECTION.
- GATE VALVES: RESILIENT SEAL < 25 BAR, METAL SEATED > 25 BAR.

### MATERIAL:

- AS PER SUPPLIER / MANUFACTURER.
- STEEL PIPES – API 5L GRADE X42 CARBON STEEL
- LINED – RIGID EPOXY, MIN DFT = 0.4 mm.
- COATED – FBE, MIN DFT = 2 mm.

### NOTES:

- FINAL DESIGN SUBJECT TO COMPLETION OF GEOTECHNICAL INVESTIGATION

WHEN IN DOUBT - ASK !!!

C:\Users\proplan\OneDrive\CAD\Logo.dwg

#### REVISIONS :

REV	DATE	DRN	NOTES
—	—	—	—

PROJECT TITLE :

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

DRAWING TITLE :

POTABLE WATER CHAMBER 1  
PIPING SCHEDULE

**PRO-PLAN**  
consulting engineers (pty) ltd

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eFax: +27 86 524 9967  
E-Mail: proplan@proplansa.co.za

322 Voortrekker Rd  
Noordheuwel, 1740  
P.O. Box 756  
Paardekraal, 1752

RESPONSIBLE PROFESSIONAL :

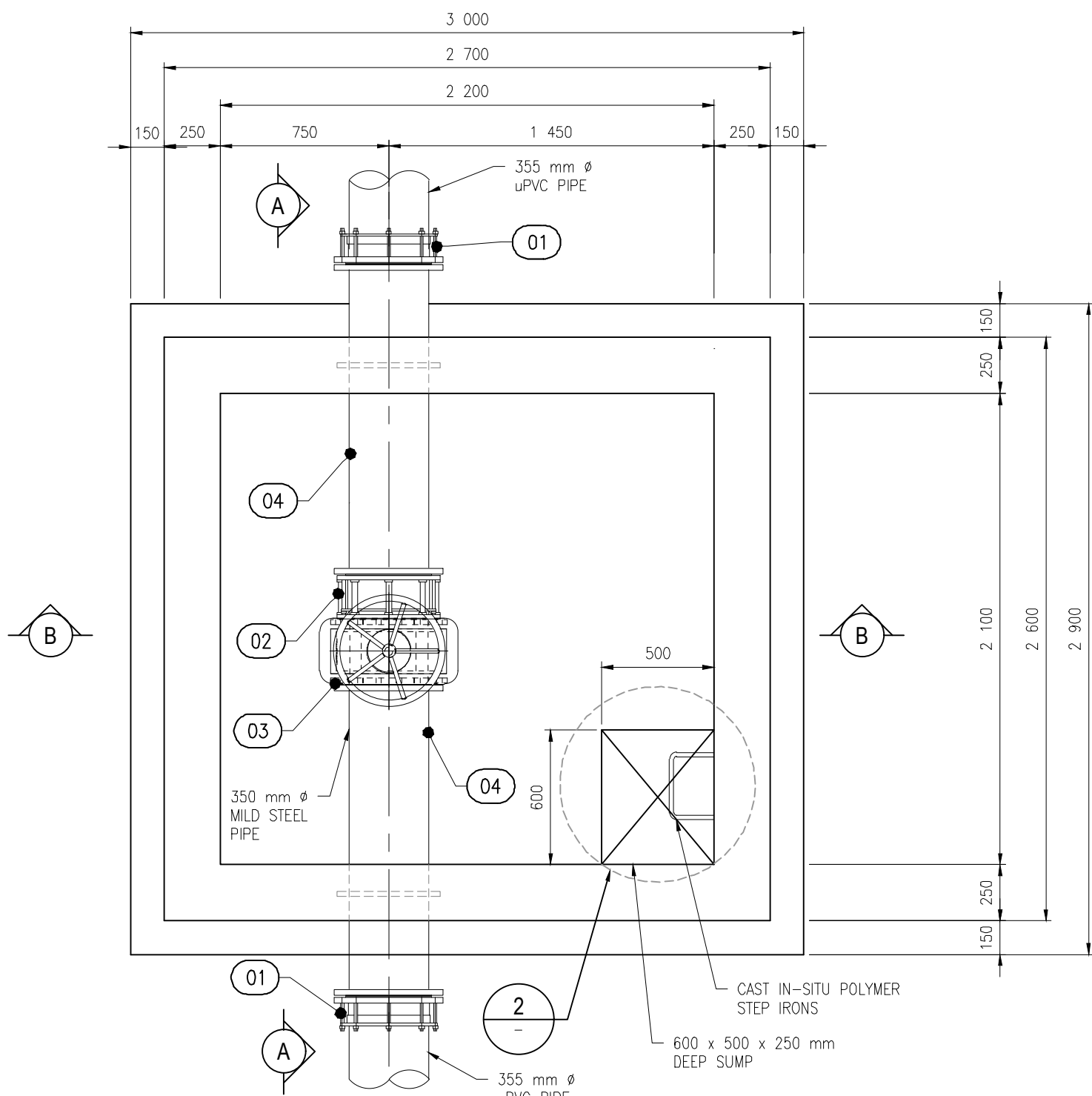
DESIGNED : Kabelo Ledwaba  
REG No : —  
DRAWN : Cospor Eksteen  
REG No : —

CLIENT PROJECT NO :

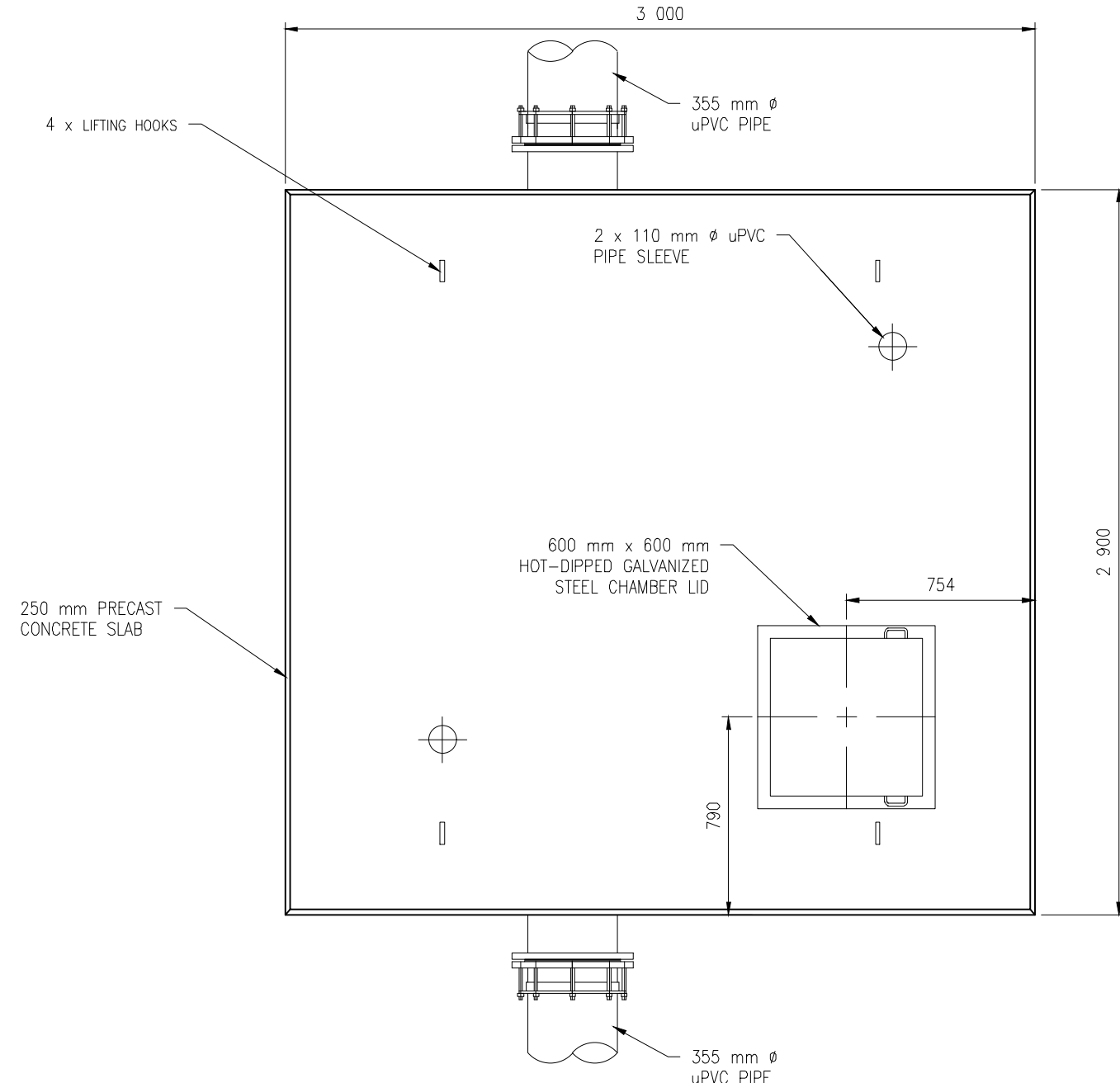
PROJECT No :  
FOR TENDER PURPOSES

SCALE : As Shown	DATE : 2021/02/26	PAPER : A1
SHEET : 1/2	PHASE : N.A	REV : P00
DRAWING No : P0413C00-2250-02		

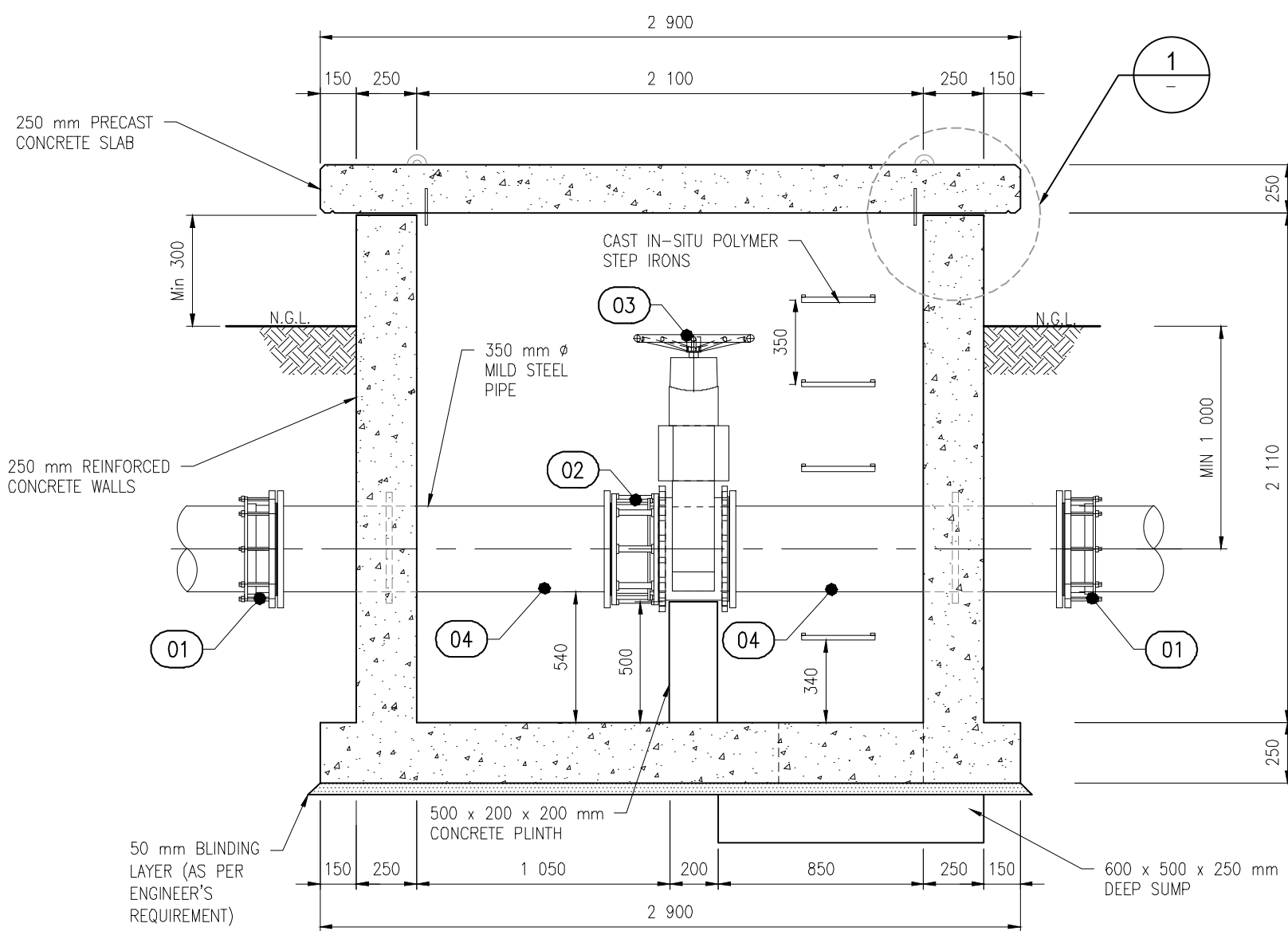




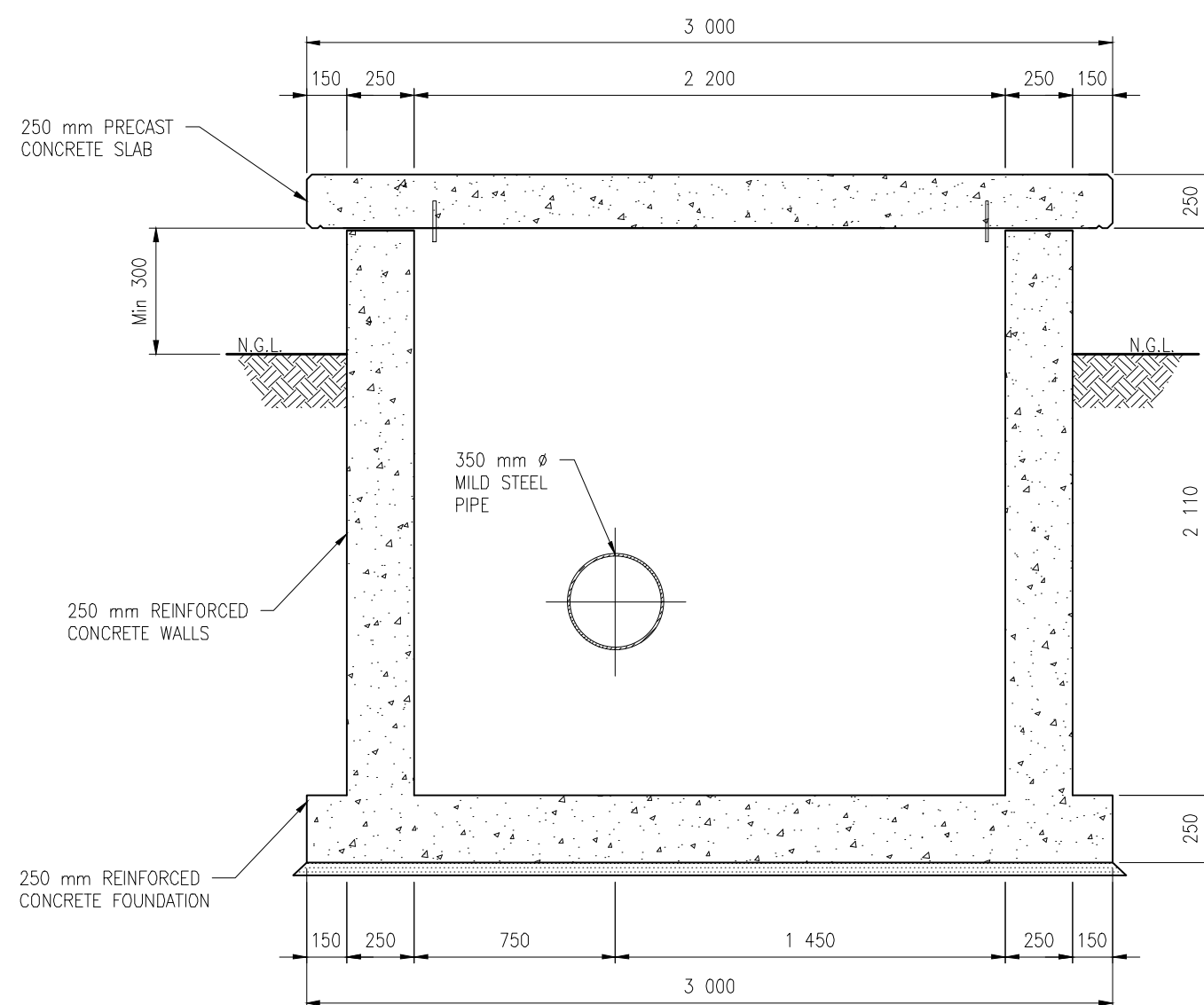
**VALVE CHAMBER LAYOUT**  
POTABLE WATER CONCRETE CHAMBER  
Scale 1:25



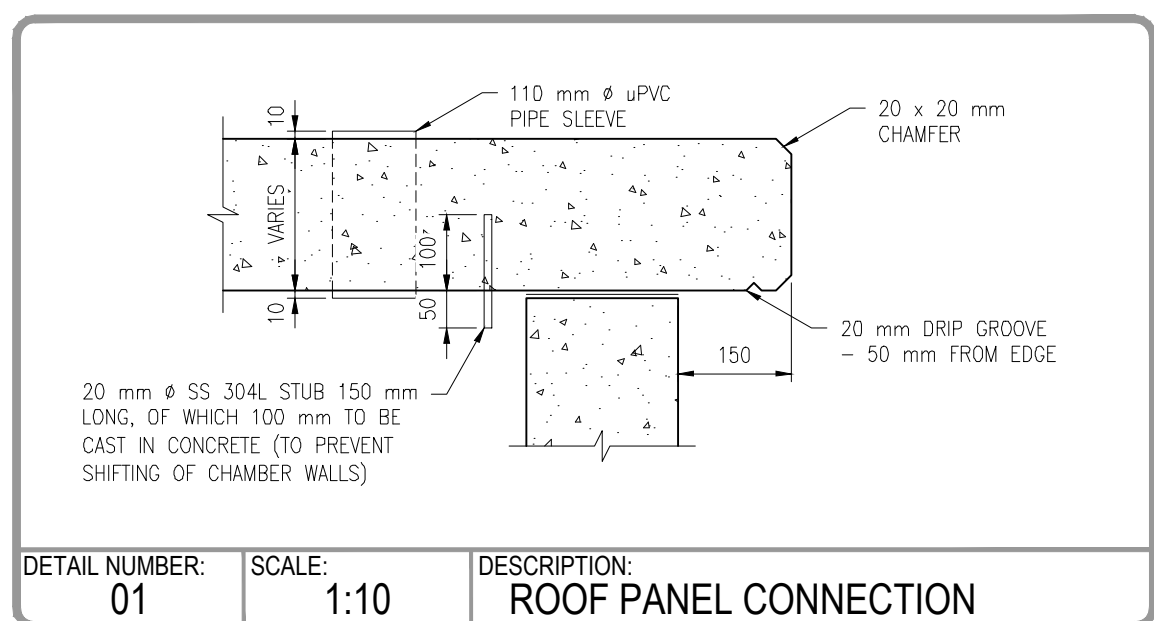
**PRECAST CONCRETE SLAB LAYOUT**  
POTABLE WATER CONCRETE CHAMBER  
Scale 1:25



**SECTION A - A**  
POTABLE WATER CONCRETE CHAMBER  
Scale 1:25



**SECTION B - B**  
POTABLE WATER CONCRETE CHAMBER  
Scale 1:25



DETAIL NUMBER: 01 SCALE: 1:10 DESCRIPTION: ROOF PANEL CONNECTION

## NOTES:

- ALL PIPE SIZES GIVEN ARE NOMINAL BORE.
- ALL FLANGES TO BE ACCORDING TO SANS1123:2015
- FOR DETAILS OF INSULATING JOINTS SEE DRG. REG. NO. NWS-244-01
- FOR TYPICAL PIPING DETAILS (DETAIL 'E') SEE DRG. REG. NO. NWS-C00-310-01
- GENERAL:
  - REPAIR EPOXY LINING OF PIPE ENDS IN ACCORDANCE WITH DWS 9900.
  - CHECK THAT PIPE SPECIALS FIT CORRECTLY IN THE CHAMBER BEFORE MANUFACTURE.
  - ALLOW FOR 3 mm GASKETS BETWEEN THE FLANGES.
  - PROVIDE LIFTING LUGS WHERE REQUIRED
- IF INCOMING PIPE MATERIAL IS STEEL, FLANGE TO FLANGE CONNECTION / WELDED.
- IF INCOMING PIPE MATERIAL IS ANYTHING OTHER THAN STEEL, FLANGE ADAPTOR CONNECTION.
- REFER TO SEPARATE DRAWING FOR FLANGE TABLE DETAILS.
- ANY PIPE SIZE BELOW 300 mm Ø SHALL BE A FLANGED CONNECTION.
- GATE VALVES: RESILIENT SEAL < 25 BAR, METAL SEATED > 25 BAR.

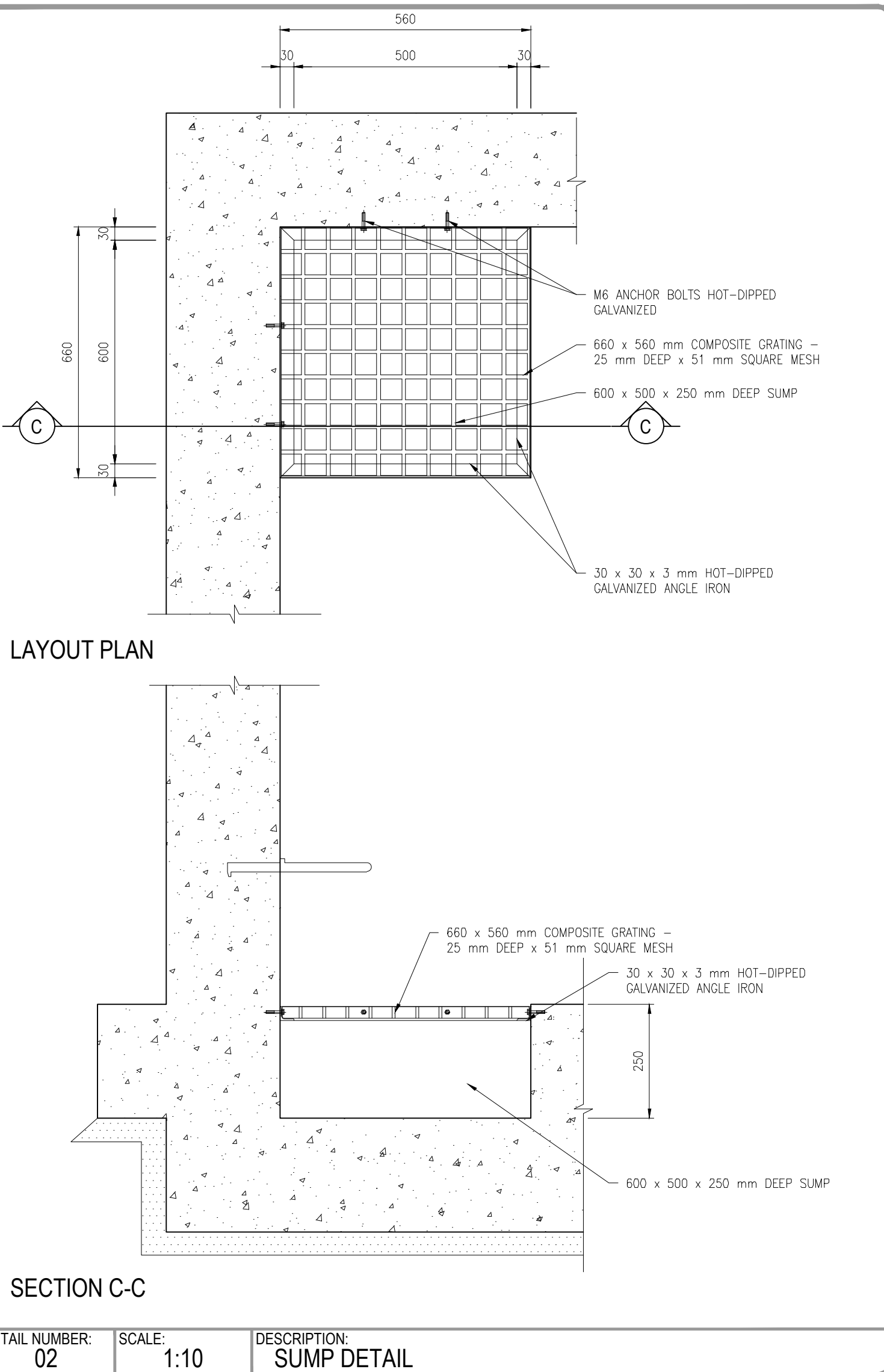
## MATERIAL:

- AS PER SUPPLIER / MANUFACTURER.
- STEEL PIPES – API 5L GRADE X42 CARBON STEEL
- LINED – RIGID EPOXY, MIN DFT = 0.4 mm.
- COATED – FBE, MIN DFT = 2 mm.

PIPE THICKNESS	
PIPE Ø	WALL THICKNESS (t)
50	3.9
65	5.2
80	3.2
100	3.2
125	3.7
150	4.8
200	4.5
250	4.5
300	4.5
350	4.5
400	4.5
450	4.5
500	6.0
650	6.0
700	7.0
800	8.0
900	9.3
1 000	10.0
1 200	12.7

ITEM	DESCRIPTION	QTY	MATERIAL	REMARKS
04	STRAIGHT PIPE WITH PUDDLE FLANGE*, (T=12mm)	2	B	TO DWS 9900 & 1130, BOTH ENDS FLANGED.
03	350 mm Ø PN10 GATE VALVE, AS PER SUPPLIER	1	A	TO DWS 9900 & 1130.
02	RIGID DISMANTLING JOINT, LENGTH AS PER SUPPLIER	1	A	TO DWS 9900 & 1130.
01	FLANGE ADAPTOR, SEE NOTE 6	2	A	TO DWS 9900 & 1130.
ITEM LIST				

\* >400 Ø10 x (PIPE DIAMETER) D1 DISTANCE BEFORE & 5 x D1 DISTANCE AFTER.  
< 400 Ø 5 x (PIPE DIAMETER) D1 DISTANCE & 2 x D1 DISTANCE AFTER FLOW METER.



**SECTION C-C**

DETAIL NUMBER: 02 SCALE: 1:10 DESCRIPTION: SUMP DETAIL

WHEN IN DOUBT - ASK !!!



## REVISIONS :

REV	DATE	DRN	NOTES

## PROJECT TITLE :

**LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT**

## DRAWING TITLE :

**POTABLE WATER CHAMBER 2  
LAYOUT, SECTION AND DETAILS**



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322 Voortrekker Rd  
Noordheuwel, 1740  
P.O. Box 756  
Paardekraal, 1752

## RESPONSIBLE PROFESSIONAL :

Responsible Engineer: \_\_\_\_\_  
DESIGNED : Caspar Eksteen  
REG No : \_\_\_\_\_  
DRAWN : Caspar Eksteen  
REG No : \_\_\_\_\_

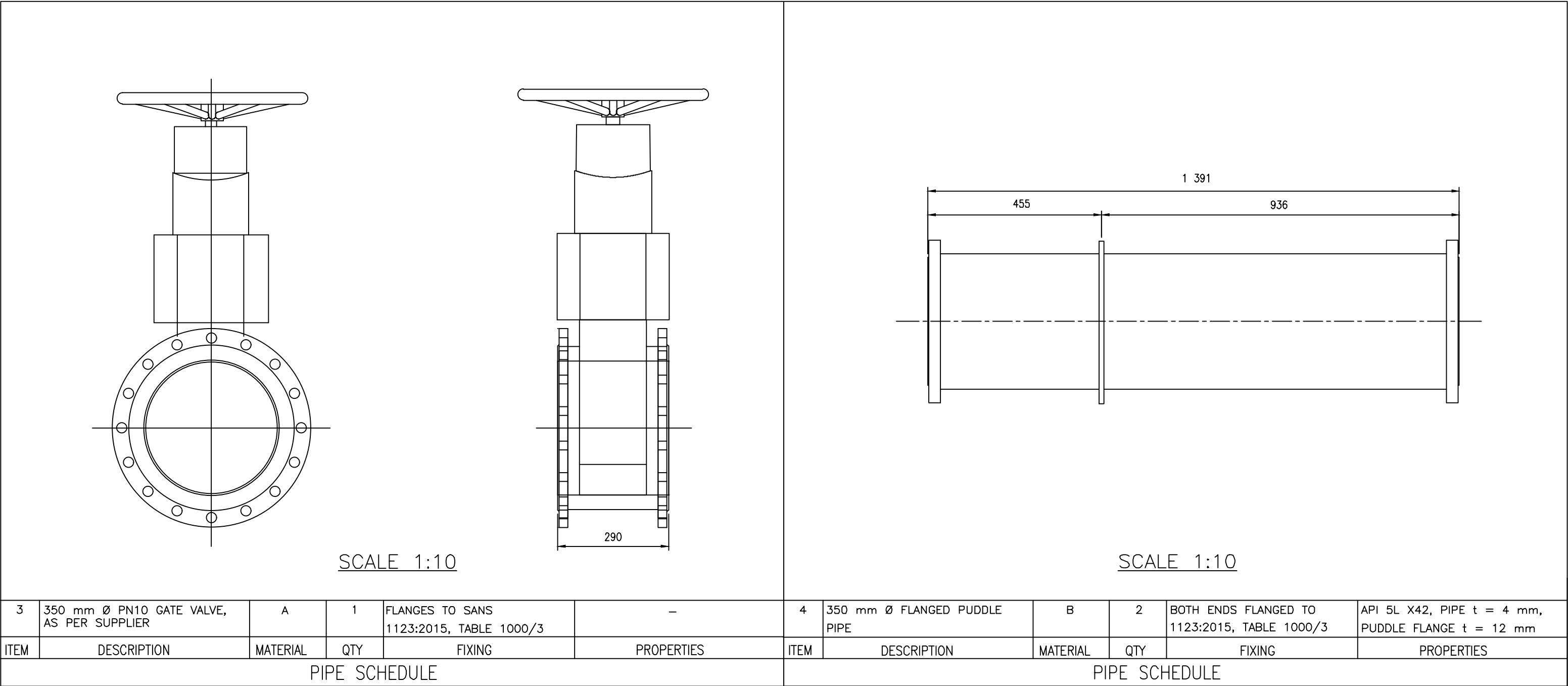
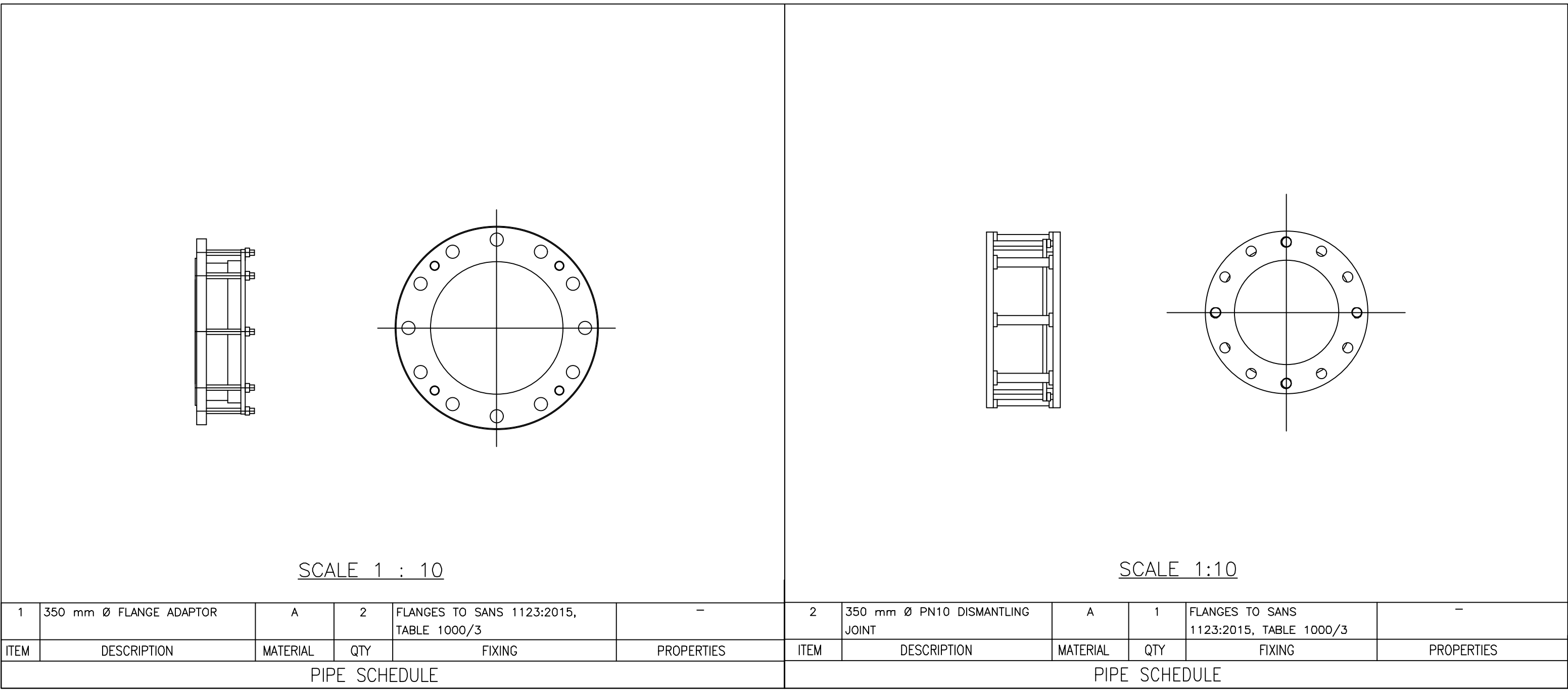
## CLIENT PROJECT NO :

PROJECT No :  
**FOR TENDER PURPOSES**  
SCALE : As Shown DATE : 2021/02/26 PAPER : A1  
SHEET : 1/1 PHASE : N.A REV : P00  
DRAWING No : P0413C00-2251-01

## NOTES:

- FINAL DESIGN SUBJECT TO COMPLETION OF GEOTECHNICAL INVESTIGATION

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- NOTES:
- ALL PIPE SIZES GIVEN ARE NOMINAL BORE.
  - ALL FLANGES TO BE ACCORDING TO SANS1123:2015
  - FOR DETAILS OF INSULATING JOINTS SEE DRG. REG. NO. NWS-244-01
  - FOR TYPICAL PIPING DETAILS (DETAIL 'E') SEE DRG. REG. NO. NWS-C00-310-01
  - GENERAL:
    - REPAIR EPOXY LINING OF PIPE ENDS IN ACCORDANCE WITH DWS 9900.
    - CHECK THAT PIPE SPECIALS FIT CORRECTLY IN THE CHAMBER BEFORE MANUFACTURE.
    - ALLOW FOR 3 mm GASKETS BETWEEN THE FLANGES.
    - PROVIDE LIFTING LUGS WHERE REQUIRED
  - IF INCOMING PIPE MATERIAL IS STEEL, FLANGE TO FLANGE CONNECTION / WELDED.
  - IF INCOMING PIPE MATERIAL IS ANYTHING OTHER THAN STEEL, FLANGE ADAPTOR CONNECTION.
  - REFER TO SEPARATE DRAWING FOR FLANGE TABLE DETAILS.
  - ANY PIPE SIZE BELOW 300 mm Ø SHALL BE A FLANGED CONNECTION.
  - GATE VALVES: RESILIENT SEAL < 25 BAR, METAL SEATED > 25 BAR.

- MATERIAL:
- AS PER SUPPLIER / MANUFACTURER.
  - STEEL PIPES – API 5L GRADE X42 CARBON STEEL
  - LINED – RIGID EPOXY, MIN DFT = 0.4 mm.
  - COATED – FBE, MIN DFT = 2 mm.

- NOTES:
- FINAL DESIGN SUBJECT TO COMPLETION OF GEOTECHNICAL INVESTIGATION

WHEN IN DOUBT - ASK !!!

REVISIONS :

REV	DATE	DRN	NOTES
—	—	—	—

PROJECT TITLE :

LERATONG BULK INFRASTRUCTURE PROJECT TO SUPPORT THE LERATONG SMART CITY DEVELOPMENT

DRAWING TITLE :

POTABLE WATER CHAMBER 2 PIPING SCHEDULE

PRO-PLAN CONSULTING ENGINEERS (Pty) Ltd

Tel: +27 11 954 4441 Fax: +27 11 954 5008 eFax: +27 86 524 9967 E-Mail: proplan@proplansa.co.za

322 Voortrekker Rd Noordheuwel, 1740 P.O. Box. 756 Paardekraal, 1752

RESPONSIBLE PROFESSIONAL :

Responsible Engineer # Reg No

DESIGNED : Kabelo Ledwabo REG No : —

DRAWN : Casper Eksteen REG No : —

CLIENT PROJECT NO :

—

PROJECT No : FOR TENDER PURPOSES

SCALE : As Shown DATE : 2021/02/26 PAPER : A1

SHEET : 1/2 PHASE : N.A REV : P00

DRAWING No : P0413C00-2251-02





A. AS PER SUPPLIER / MANUFACTURER.

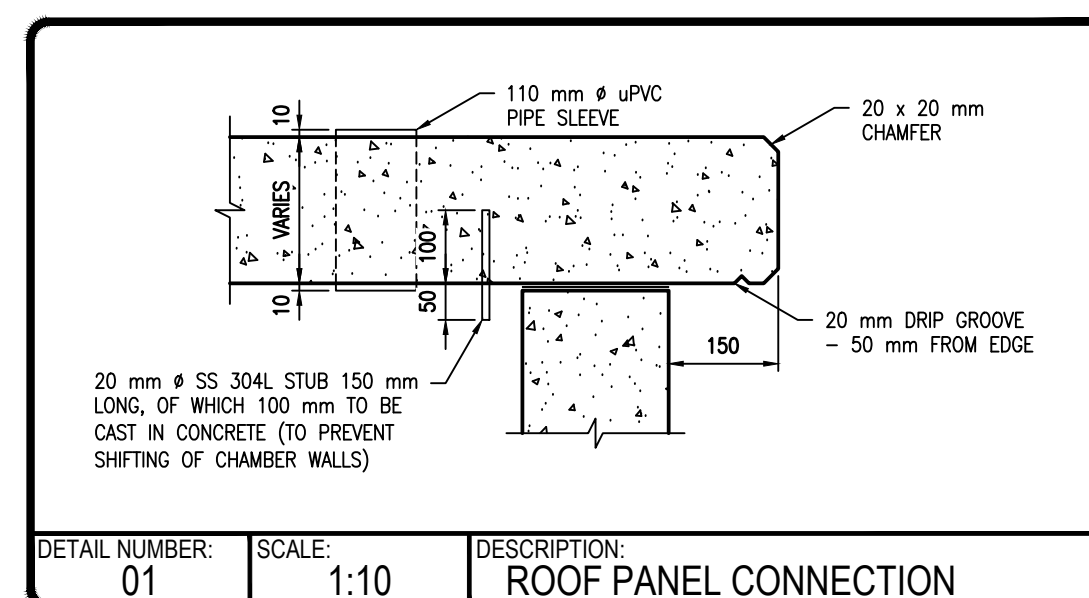
B. STEEL PIPES - API 5L GRADE X42 CARBON STEEL.

C. LINED - RIGID EPOXY, MIN DFT = 0.4 mm.

D. COATED - FBE, MIN DFT = 2 mm.

1. ALL PIPE SIZES GIVEN ARE NOMINAL BORE.
2. ALL FLANGES TO BE ACCORDING TO SANS1123:2015
3. FOR DETAILS OF INSULATING JOINTS SEE DRG. REG. NO. NWS-244-01
4. FOR TYPICAL PIPING DETAILS (DETAIL 'E') SEE DRG. REG. NO. NWS-C00-310-01
5. **GENERAL:**
  - 5.1. REPAIR EPOXY LINING OF PIPE ENDS IN ACCORDANCE WITH DWS 9900.
  - 5.2. CHECK THAT PIPE SPECIALS FIT CORRECTLY IN THE CHAMBER BEFORE MANUFACTURE.
  - 5.3. ALLOW FOR 3 mm GASKETS BETWEEN THE FLANGES.
  - 5.4. PROVIDE LIFTING LUGS WHERE REQUIRED
6. IF INCOMING PIPE MATERIAL IS STEEL, FLANGE TO FLANGE CONNECTION / WELDED.
7. IF INCOMING PIPE MATERIAL IS ANYTHING OTHER THAN STEEL, FLANGE ADAPTOR CONNECTION.
8. REFER TO SEPARATE DRAWING FOR FLANGE TABLE DETAILS
9. ANY PIPE SIZE BELOW 300 mm Ø SHALL BE A FLANGED CONNECTION.
10. GATE VALVES: RESILIENT SEAL < 25 BAR, METAL VALVES > 25 BAR.

PIPE THICKNESS	
PIPE Ø	WALL THICKNESS (t)
50	3.9
65	5.2
80	3.2
100	3.2
125	3.7
150	4.8
200	4.5
250	4.5
300	4.5
350	4.5
400	4.5
450	4.5
500	6.0
650	6.0
700	7.0
800	8.0
900	9.3
1 000	10.0
1 200	12.7



05	STRAIGHT PIPE WITH PUDDLE FLANGE*, (T=12mm)	1	B	TO DWS 9900 & 1130, BOTH ENDS FLANGED.
04	MECHANICAL FLOW METER, LENGTH AS PER SUPPLIER	1	A	TO DWS 9900 & 1130.
03	RIGID DISMANTLING JOINT, LENGTH AS PER SUPPLIER	1	A	TO DWS 9900 & 1130.
02	STRAIGHT PIPE WITH PUDDLE FLANGE*, (T=12mm)	1	B	TO DWS 9900 & 1130, BOTH ENDS FLANGED.
01	FLANGE ADAPTOR. SEE NOTE 6	2	A	TO DWS 9900 & 1130, ONE END PREPARED FOR WELDING OTHER END FLANGED
ITEM	DESCRIPTION	QTY	MATERIAL	REMARKS
ITEM LIST				

\* >400 Ø10 x (PIPE DIAMETER) D1 DISTANCE BEFORE & 5 x D1 DISTANCE AFTER.  
< 400 Ø 5 x (PIPE DIAMETER) D1 DISTANCE & 2 x D1 DISTANCE AFTER FLOW METER.

1. FINAL DESIGN SUBJECT TO COMPLETION OF GEOTECHNICAL INVESTIGATION

WHEN IN DOUBT - ASK !!!

[illegible]

PROJECT TITLE :  
LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

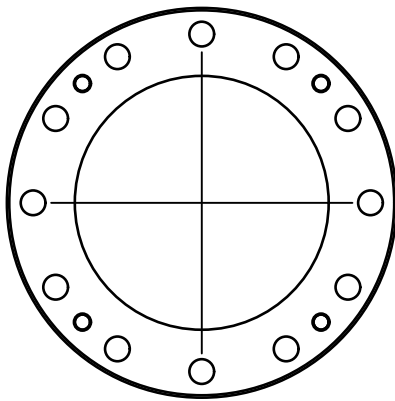
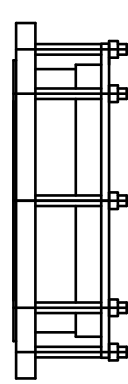
DRAWING TITLE :

## FLOW METER CHAMBER, SECTION AND DETAILS



RESPONSIBLE PROFESSIONAL :	
<u>SIGNATURE</u>	<u>DATE</u>
Responsible Engineer	# Reg No
DESIGNED : Kabelo Ledwaba	
REG No : -	
DRAWN : Yusuf Mall	
REG No : -	

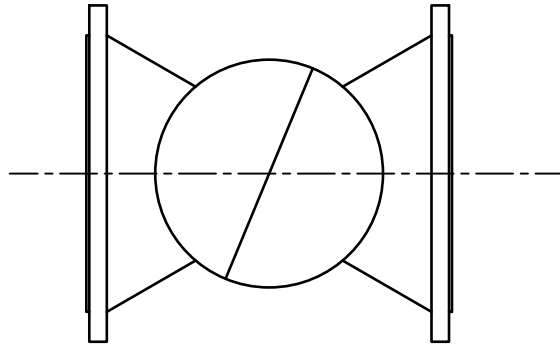
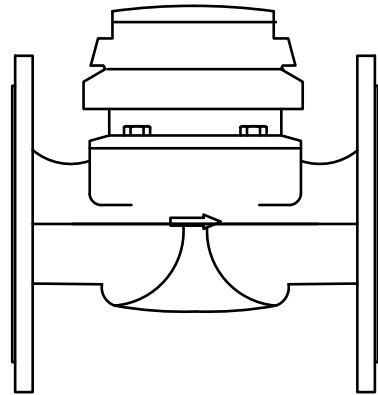
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PROJECT No :		
FOR TENDER PURPOSES		
SCALE :	DATE :	PAPER :
As Shown	2021/02/26	A1
SHEET :	PHASE :	REV :
1/2	N.A	POC
DRAWING No :		
P0413C00-2252-01		



SCALE 1 : 10

1	350 mm Ø FLANGE ADAPTOR	A	2	FLANGES TO SANS 1123:2015, TABLE 1000/3	—
ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES

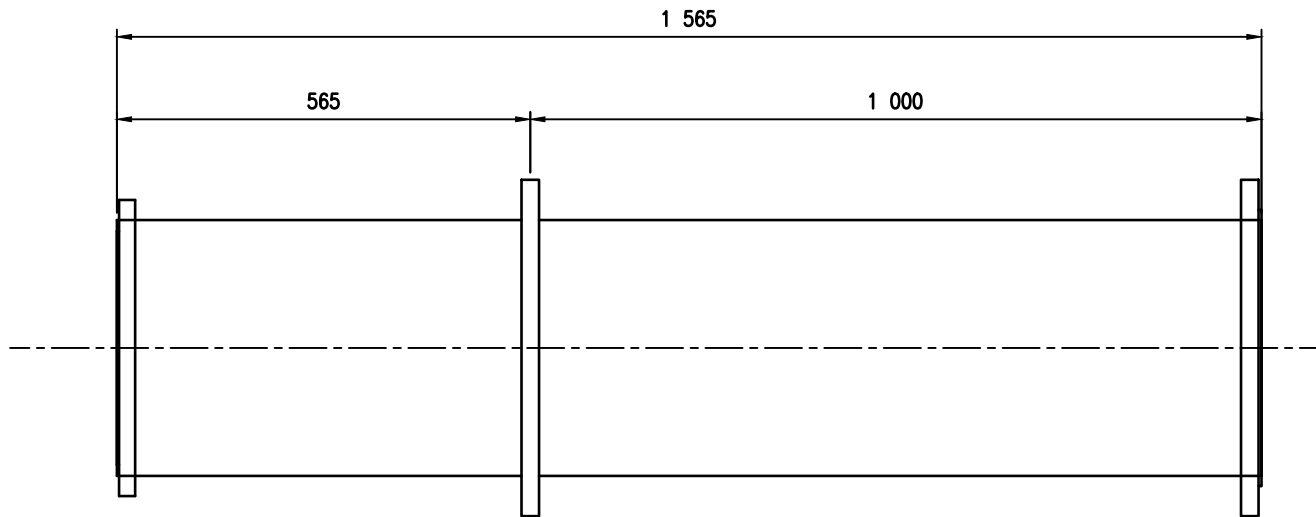
PIPE SCHEDULE



SCALE 1:10

4	MECHANICAL FLOW METER, LENGTH AS PER SUPPLIER	A	1	FLANGES TO SANS 1123:2015, TABLE 1000/3	—
ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES

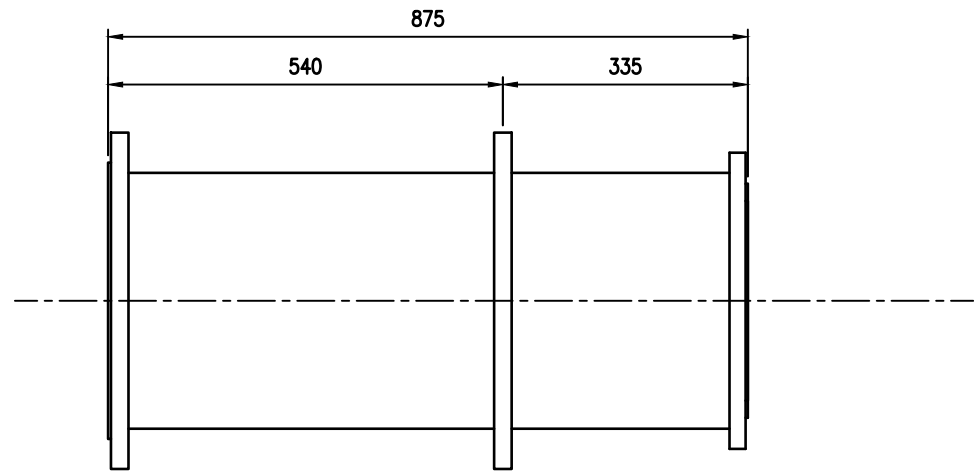
PIPE SCHEDULE



SCALE 1:10

2	350 mm Ø FLANGED PUDDLE PIPE	B	1	BOTH ENDS FLANGED TO SANS 1123:2015, TABLE 1000/3	API 5L X42, PIPE t = 4 mm, PUDDLE FLANGE t = 12 mm
ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES

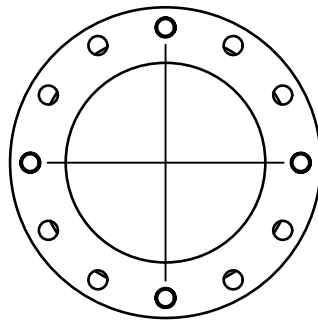
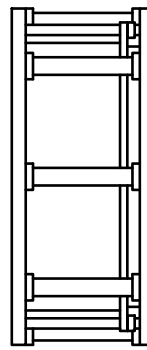
PIPE SCHEDULE



SCALE 1:10

5	350 mm Ø FLANGED PUDDLE PIPE	B	1	BOTH ENDS FLANGED TO SANS 1123:2015, TABLE 1000/3	API 5L X42, PIPE t = 4 mm, PUDDLE FLANGE t = 12 mm
ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES

PIPE SCHEDULE



SCALE 1:10

3	350 mm Ø PN10 DISMANTLING JOINT	A	1	FLANGES TO SANS 1123:2015, TABLE 1000/3	—
ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES

PIPE SCHEDULE

### MATERIAL:

- A. AS PER SUPPLIER / MANUFACTURER.  
B. STEEL PIPES – API 5L GRADE X42 CARBON STEEL  
C. LINED – RIGID EPOXY, MIN DFT = 0.4 mm.  
D. COATED – FBE, MIN DFT = 2 mm.

### NOTES:

- ALL PIPE SIZES GIVEN ARE NOMINAL BORE.
- ALL FLANGES TO BE ACCORDING TO SANS1123:2015
- FOR DETAILS OF INSULATING JOINTS SEE DRG. REG. NO. NWS-244-01
- FOR TYPICAL PIPING DETAILS (DETAIL 'E') SEE DRG. REG. NO. NWS-C00-310-01
- GENERAL:
  - REPAIR EPOXY LINING OF PIPE ENDS IN ACCORDANCE WITH DWS 9900.
  - CHECK THAT PIPE SPECIALS FIT CORRECTLY IN THE CHAMBER BEFORE MANUFACTURE.
  - ALLOW FOR 3 mm GASKETS BETWEEN THE FLANGES.
  - PROVIDE LIFTING LUGS WHERE REQUIRED
- IF INCOMING PIPE MATERIAL IS STEEL, FLANGE TO FLANGE CONNECTION / WELDED.
- IF INCOMING PIPE MATERIAL IS ANYTHING OTHER THAN STEEL, FLANGE ADAPTOR CONNECTION.
- REFER TO SEPARATE DRAWING FOR FLANGE TABLE DETAILS.
- ANY PIPE SIZE BELOW 300 mm Ø SHALL BE A FLANGED CONNECTION.
- GATE VALVES: RESILIENT SEAL < 25 BAR, METAL SEATED > 25 BAR.

### NOTES:

1. FINAL DESIGN SUBJECT TO COMPLETION OF GEOTECHNICAL INVESTIGATION

WHEN IN DOUBT - ASK !!!

### REVISIONS :

REV	DATE	DRN	NOTES
—	—	—	—

PROJECT TITLE :

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

DRAWING TITLE :

FLOW METER CHAMBER  
PIPING SCHEDULE

**PRO-PLAN**  
consulting engineers (pty) ltd

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Fax: +27 11 954 5008 Noordheuwel, 1740  
eFax: +27 86 524 9967 P.O. Box 756  
E-Mail: proplan@proplansa.co.za Paardekraal, 1752

RESPONSIBLE PROFESSIONAL :

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_  
Responsible Engineer # Reg No \_\_\_\_\_  
DESIGNED : Kabelo Ledwaba  
REG No : —  
DRAWN : Yusuf Moll  
REG No : —

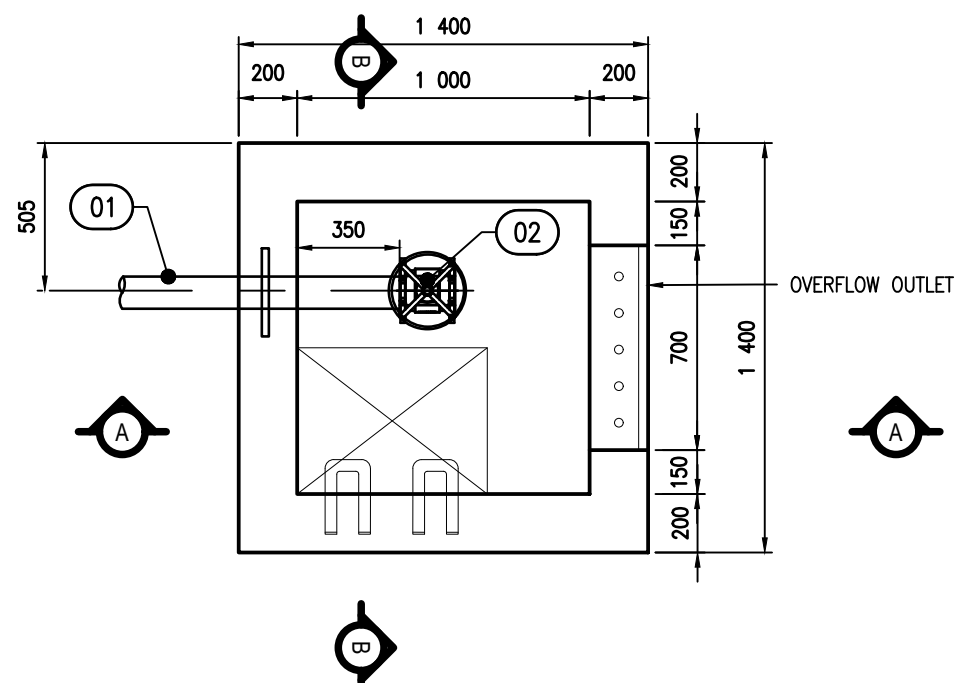
CLIENT PROJECT NO :

PROJECT No :  
FOR TENDER PURPOSES

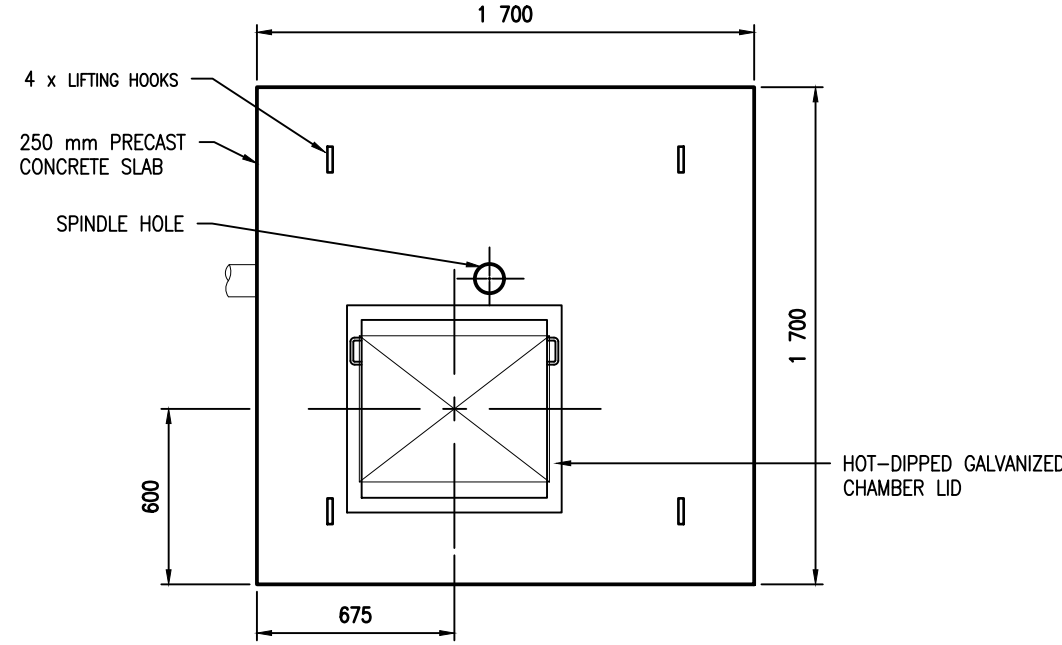
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SHEET : 2/2 PHASE : N.A REV : P00

DRAWING No :  
P0413C00-2252-02

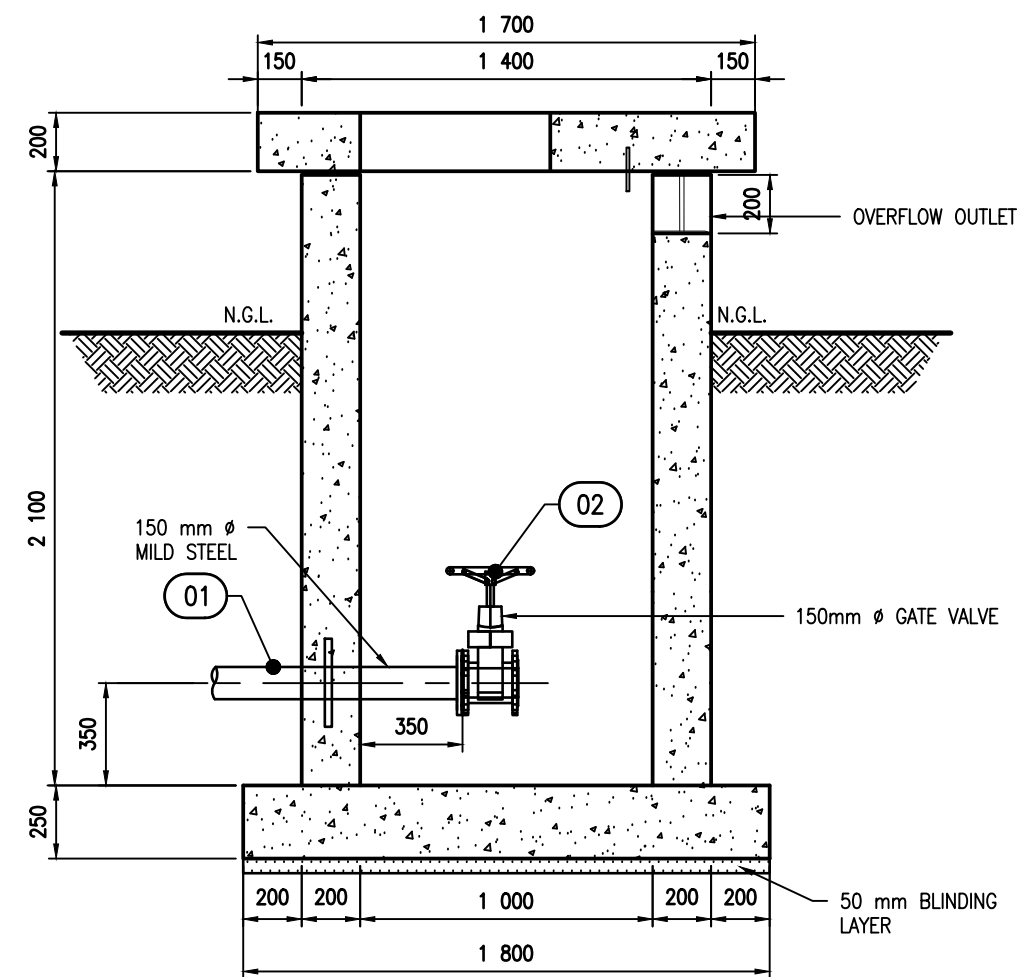




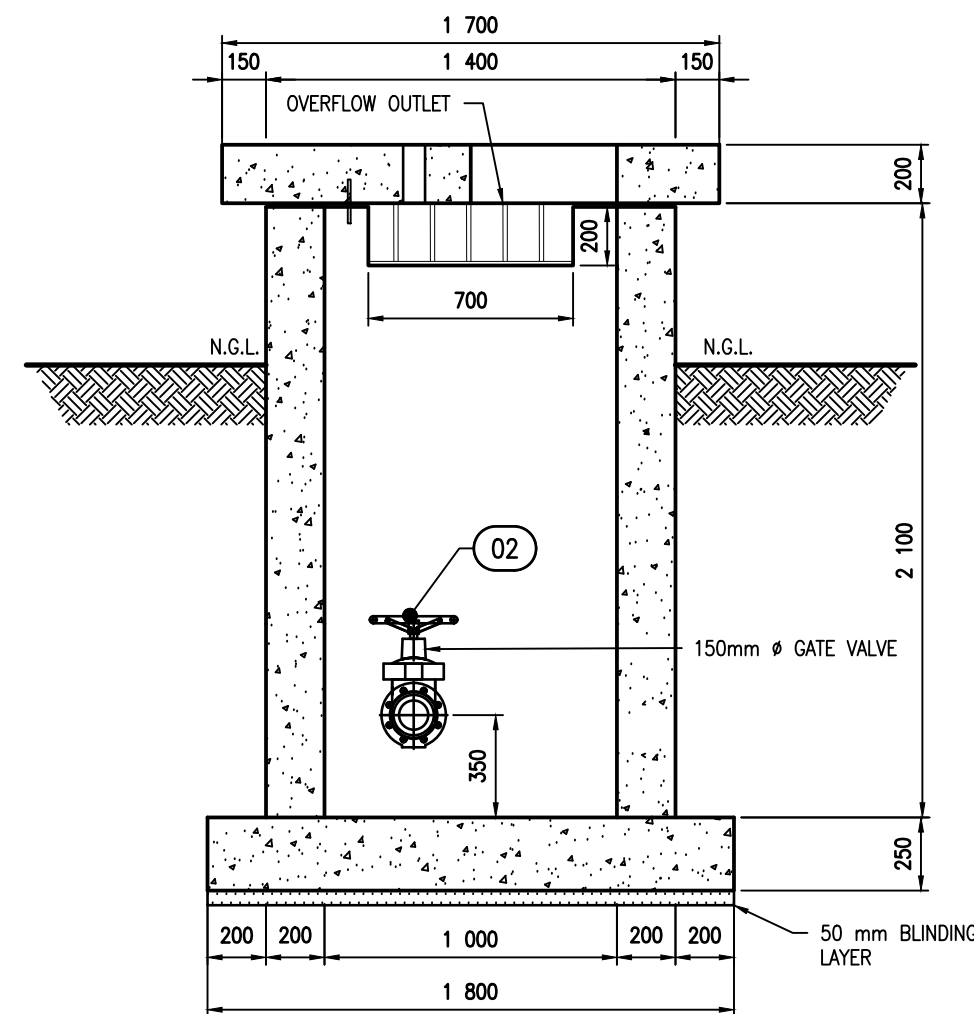
**CHAMBER LAYOUT**  
SCOUR VALVE CHAMBER  
Scale 1:25



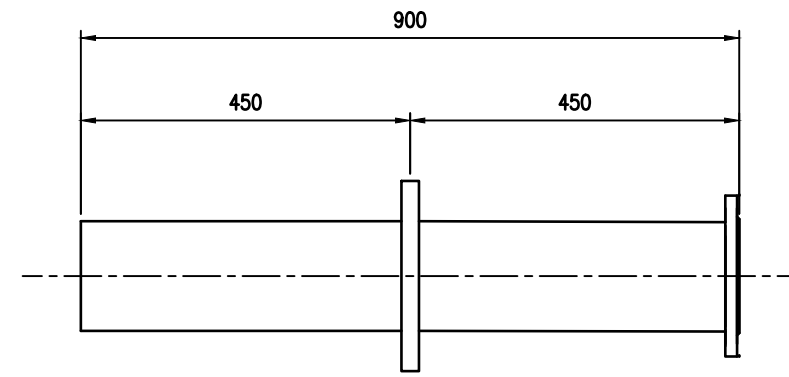
**PRECAST CONCRETE SLAB LAYOUT**  
SCOUR VALVE CHAMBER  
Scale 1:25



**SECTION A-A**  
SCOUR VALVE CHAMBER  
Scale 1:25



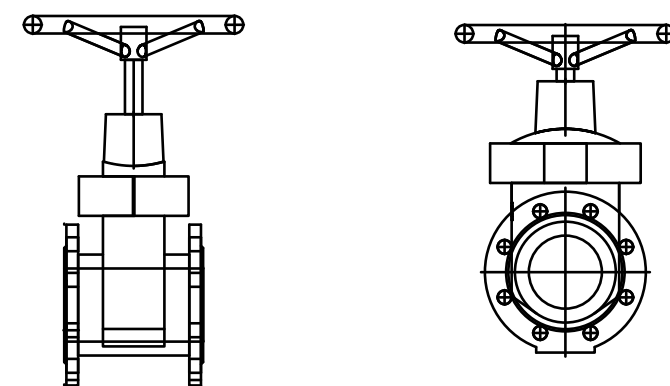
**SECTION B-B**  
SCOUR VALVE CHAMBER  
Scale 1:25



**SCALE 1:10**

ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES
2	150 mm Ø FLANGED PUDDLE PIPE	B	1	ONE END FLANGED, OTHER END PLAIN. FLANGE TO SANS 1123:2015; TABLE 1000/3	API 5L X42, PIPE t = 4 mm, PUDDLE FLANGE t = 12 mm

**PIPE SCHEDULE**



**SCALE 1 : 10**

ITEM	DESCRIPTION	MATERIAL	QTY	FIXING	PROPERTIES
6	150 mm Ø PN10 METAL SEATED GATE VALVE, OR APPROVED SIMILAR	A	1	BOTH ENDS FLANGED TO SANS 1123:2015, TABLE 2500/3	METAL SEATED WITH MANUAL INDICATOR TO SHOW OPEN/CLOSED POSITION

**PIPE SCHEDULE**

02	150 MM Ø PN25 METAL SEATED GATE VALVE, OR APPROVED SIMILAR	1	B	TO DWS 9900, FLANGES TO TABLE 1600/3 FLANGED
01	STRAIGHT PIPE WITH PUDDLE FLANGE*, (t=12mm)	1	B	TO DWS 9900 & 1130, ONE END PREPARED FOR WELDING OTHER END FLANGED
ITEM	DESCRIPTION	QTY	MATERIAL	REMARKS
ITEM LIST				

\* >400 Ø10 x (PIPE DIAMETER) D1 DISTANCE BEFORE & 5 x D1 DISTANCE AFTER.  
< 400 Ø 5 x (PIPE DIAMETER) D1 DISTANCE & 2 x D1 DISTANCE AFTER FLOW METER.

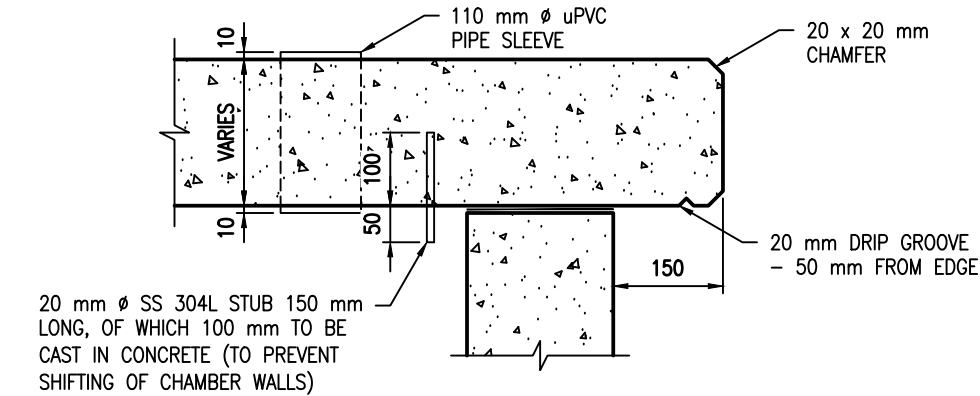
PIPE Ø	WALL THICKNESS (t)
50	3.9
65	5.2
80	3.2
100	3.2
125	3.7
150	4.8
200	4.5
250	4.5
300	4.5
350	4.5
400	4.5
450	4.5
500	6.0
650	6.0
700	7.0
800	8.0
900	9.3
1 000	10.0
1 200	12.7

## NOTES:

- ALL PIPE SIZES GIVEN ARE NOMINAL BORE.
- ALL FLANGES TO BE ACCORDING TO SANS1123:2015
- FOR DETAILS OF INSULATING JOINTS SEE DRG. REG. NO. NWS-244-01
- FOR TYPICAL PIPING DETAILS (DETAIL "E") SEE DRG. REG. NO. NWS-C00-310-01
- GENERAL:
  - REPAIR EPOXY LINING OF PIPE ENDS IN ACCORDANCE WITH DWS 9900.
  - CHECK THAT PIPE SPECIALS FIT CORRECTLY IN THE CHAMBER BEFORE MANUFACTURE.
  - ALLOW FOR 3 mm GASKETS BETWEEN THE FLANGES.
  - PROVIDE LIFTING LUGS WHERE REQUIRED
- IF INCOMING PIPE MATERIAL IS STEEL, FLANGE TO FLANGE CONNECTION / WELDED.
- IF INCOMING PIPE MATERIAL IS ANYTHING OTHER THAN STEEL, FLANGE ADAPTOR CONNECTION.
- REFER TO SEPARATE DRAWING FOR FLANGE TABLE DETAILS.
- ANY PIPE SIZE BELOW 300 mm Ø SHALL BE A FLANGED CONNECTION.
- GATE VALVES: RESILIENT SEAL < 25 BAR, METAL SEATED > 25 BAR.

## MATERIAL:

- AS PER SUPPLIER / MANUFACTURER.
- STEEL PIPES – API 5L GRADE X42 CARBON STEEL
- LINED – RIGID EPOXY, MIN DFT = 0.4 mm.
- COATED – FBE, MIN DFT = 2 mm.



**DETAIL NUMBER: 01 SCALE: 1:10 DESCRIPTION: ROOF PANEL CONNECTION**

## NOTES:

- FINAL DESIGN SUBJECT TO COMPLETION OF GEOTECHNICAL INVESTIGATION

WHEN IN DOUBT - ASK !!!

## REVISIONS :

REV	DATE	DRN	NOTES
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

## PROJECT TITLE :

LERATONG BULK  
INFRASTRUCTURE PROJECT TO  
SUPPORT THE LERATONG SMART  
CITY DEVELOPMENT

## DRAWING TITLE :

SCOUR VALVE CHAMBER,  
SECTION, DETAILS AND PIPING  
SCHEDULE

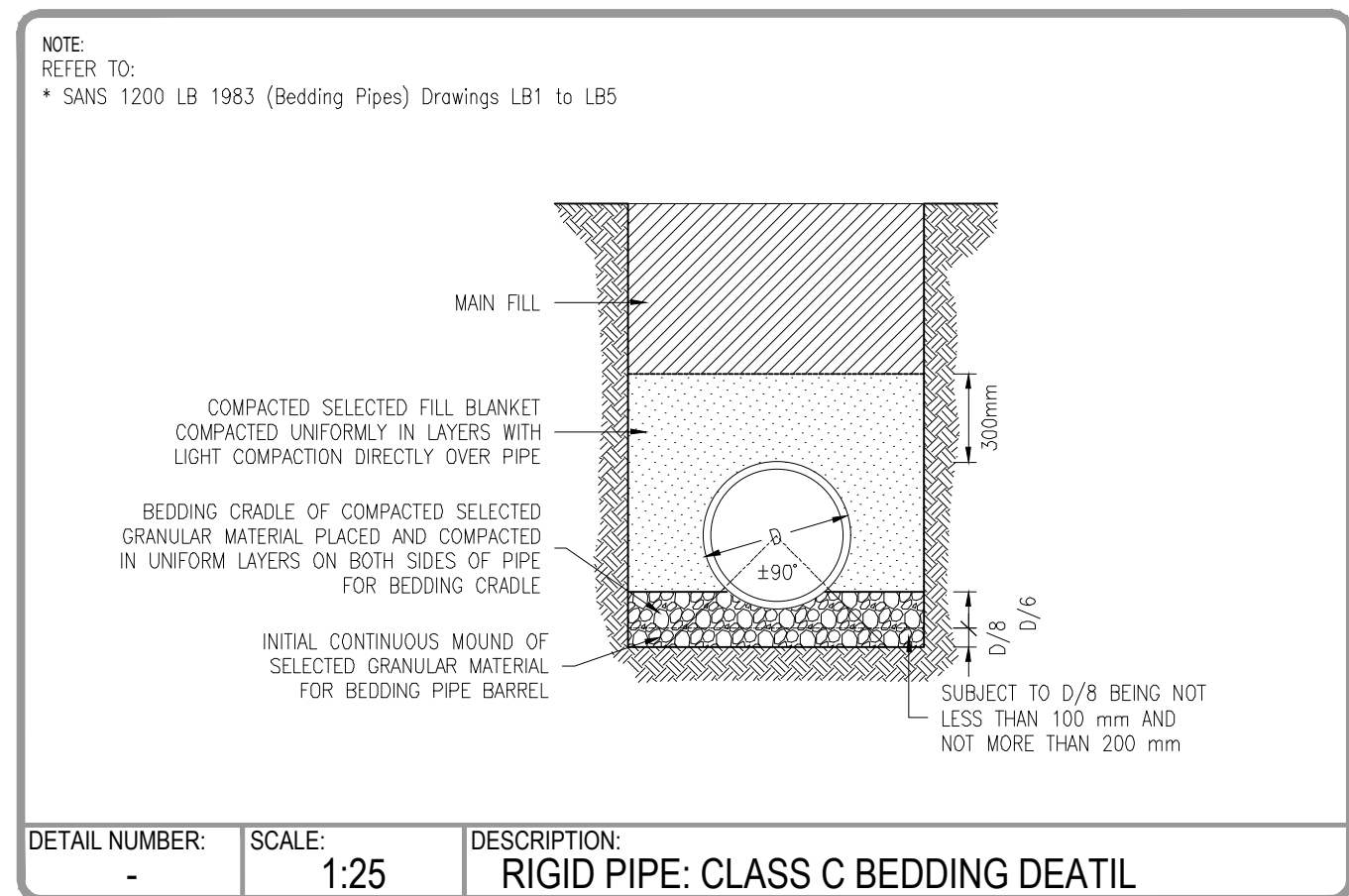
**PRO-PLAN**  
CONSULTING AND ENGINEERING (PTY) LTD  
Tel: +27 11 954 4441 322 Voortrekker Rd  
Fax: +27 11 954 5008 Noordheuwel, 1740  
E-Mail: proplan@proplansa.co.za P.O. Box: 756  
Paardekraal, 1752

## RESPONSIBLE PROFESSIONAL :

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
Responsible Engineer # Reg No  
DESIGNED : Kabelo Ledwaba  
REG No : -  
DRAWN : Yusuf Moll  
REG No : -

## CLIENT PROJECT NO :

PROJECT No : -  
**FOR TENDER PURPOSES**  
SCALE : As Shown DATE : 2021/02/26 PAPER : A1  
SHEET : 1/1 PHASE : N.A REV : P00  
DRAWING No : P0413C00-2253-01



1. Pre-cast concrete manholes and slabs, the installation and construction thereof to comply with SABS1294 and SABS247.
2. The uppermost section of the chamber or shaft to be a 250mm section.
3. Vertical spacing of steps to be 150mm ( $\frac{1}{4}$ " - 12 mm).
4. Manhole shafts and step irons are to be placed over the largest landing on the downstream side.
5. Mortar course to be 10mm thick and 1:2 cement mortar grade to form a compacted water-tight joint of approximately 5mm thick.
6. Maximum protrusion of pipes into manholes to be 50mm.
7. All channels to be vitrified clay.
8. Large pipe diameters, deep sewers and channels require lifting devices. Standard precast manhole sections, the engineer shall design a chamber to suit the conditions.
9. Covers and frames as per SABS558, or similar approved.
10. Covers and frames to be installed (or similar approved) in: roads; Type 1a or 2A. Other areas : Types 1B, 4, 4A.
11. In roads, paved areas or pedestrian walkways, the top of the manhole cover shall be at the same level as the surrounding level of the surrounding area.
12. The cover of manholes underfoot paved areas or manholes on outfall sewers must be  $\pm 75$  - 500mm above natural ground level.
13. Concrete or hardened aggregate iron covers may be used with approval from the client.

P0413C00-2350-01