




**MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GARVEL
 TO SURFACING-(MULTI-YEARS)
 PROJECT NUMBER: TECH/003/2022/23
 CIDB GRADING: 7 CE OR HIGHER**

BOOK 1 OF 1

MOLEMOLE LOCAL MUNICIPALITY Contact Person: Mr. Phaahla K Tel: (015) 501 2300/38		CONSULTANTS PRINCIPAL AGENT Contact Person: Mr. Mosia T Tel: (015) 291 4173	
Name of Bidder:			
Bid Amount (VAT Incl.):			
Bidder Address:			
Email Address:			
Contact numbers:	Tel:	Cell:	Fax:
 Municipal Infrastructure Grant		  EXPANDED PUBLIC WORKS PROGRAMME Creating opportunities towards human fulfilment	

A. VERY IMPORTANT NOTICE ON DISQUALIFICATIONS:

BY SUBMITTING THE BID THE BIDDER UNDERTAKES TO ABIDE BY THE TERMS AND CONDITIONS OF THIS TENDER INCLUDING BUT NOT LIMITED TO THE RULES OUTLINED BELOW

- A bid not complying with the requirements stated hereunder will be regarded as not being an “Acceptable bid”, and as such will be rejected.
- “Acceptable bid” means any bid which, in all respects, complies with the conditions of bid and specifications as set out in the bid documents, including conditions as specified in the Preferential Procurement Policy Framework Act (Act 5 of 2000) and related legislation and regulations, in terms of which provision is made for this policy.
- In this document and other documents referred to but not attached, the following words are synonymous with each other.
 - a. CLIENT, EMPLOYER, MOLEMOLE LOCAL MUNICIPALITY, MUNICIPALITY
 - b. BID, TENDER AND VARIATIONS THEREOF
 - c. JOINT VENTURE / CONSORTIUM
 - d. TENDERER, BIDDER, CONTRACTOR

B. FULL DESCRIPTION OF THE TENDER

- ❖ Molemole Local municipality [MLM] would like to appoint a competent service provider registered on the National Central Supplier Database, for the Maupye Upgrading of 3.1 Km Internal Streets from Gravel to Surfacing .
- ❖ To achieve this, the service provider will work under the direction and instruction of the Technical Services (PMU Division) and will be:
- ❖ Maupye Upgrading of 3.1 Km Internal Streets from Gravel to Surfacing .
- ❖ The municipality will enter into an agreement with the appointed service provider to clarify terms and conditions during the duration of the project.

C. ACCURACY OF REQUEST FOR TENDER

- ❖ Whilst all due care has been taken in connection with the preparation of this bid document, Molemole Local Municipality [MLM] makes no representations or warranties that the content in this bid document or any information communicated to or provided to Bidders during the Tendering Process is, or will be, accurate, current or complete. MLM, its officers, employees and advisors will not be liable with respect to any information communicated which is not accurate, current or complete.

- ❖ If a Bidder finds or reasonably believes it has found any discrepancy, ambiguity, error or inconsistency in the bid document or any other information provided by MLM (other than minor clerical matters), the Bidder must promptly notify MLM in writing of such discrepancy, ambiguity, error or inconsistency in order to afford MLM an opportunity to consider what corrective action is necessary (if any).

- ❖ Any actual discrepancy, ambiguity, error or inconsistency in this document or any other information provided by the MLM will, if possible, be corrected and provided to all Bidders without attribution to the Bidder who provided the written notice.



1. RULES FOR BIDDING

BY SUBMITTING THE BID THE BIDDER UNDERTAKES TO ABIDE BY THE TERMS AND CONDITIONS OF THIS TENDER INCLUDING BUT NOT LIMITED TO THE FOLLOWING RULES:

- 2.1 The bidding entity shall be the same entity that will execute the bid. Any bid found to be fronting for another entity or entities shall be disqualified immediately.
- 2.2 All Bidders submitting bids as part of a consortium or joint venture must submit separate central supplier database reports per each company.
- 2.3 Bidders may ask for clarification on these bid documents or any part thereof up to close of business **seven (7) calendar days** before the deadline for the submission of the bids. All written questions must be addressed to Manager: PMU Mr. Phaahla KJ email: phaahlak@molemole.gov.za written responses will be uploaded on the municipal website and or e-tender portal **five(5) calendar days** before bid closes. Bidders are encouraged to ensure they check the e-tender and or website on a daily basis.
- 2.4 The municipality reserves the right to return late bid submission unopened.
- 2.5 Bidders may not contact the municipality on any matter pertaining to their bid from the time when the bids are submitted to the time the contract is awarded. Any effort by a bidder to influence bid evaluation, bid comparisons or bid award decisions in any manner, may result in rejection of the bid concerned.
- 2.6 Bidders must attach proof of parties involved in the joint venture.
- 2.7 The Bid document must be properly signed by a party having the authority to do so, according to the example of “Authority or Signatory”
- 2.8 Bidders will be disqualified if Municipal rates and taxes or municipal service charges owed by the bidder or any of its directors to the municipality or municipal entity, are in arrears.

- 2.9 All Pages within the Bid document **must** be fully initialized and or signed by Company Director.
- 2.10 If at anytime during the project implementation phase the **rates** or **prices** are found to be abnormal, irregular and or not market related among other things, the Engineer may after written approval from the Municipality revise them to a practical or market related rate. The amount on the **form of offer** will be considered as the final cost of works.
- 2.11 In terms of Section 62 of the Local Government: Municipal Systems Act, 32 of 2000 a person whose rights are affected by a decision taken by the Molemole Municipality in the implementation of its supply chain management system, may appeal against that decision by giving written notice of the appeal and reasons to the Municipal Manager within 21 days of the date of the notification of the decision
- 2.12 An appeal must contain the following:
- 2.12.1 Reasons and/or grounds for the appeal
 - 2.12.2 The way in which the appellants rights have been affected
 - 2.12.3 Remedy sought by appellant
- 2.13 Appeals must be submitted in writing to the Manager: Legal Services (Attention Mr. N.J Moleele) Mogwadi Head Office, 303 Church Street, Private Bag X44 Mogwadi, 0715.
Email: moleelej@molemole.gov.za
- 2.14 Bidders will be disqualified if:
- 2.14.1.1 Any bidders who during the last five years has failed to perform satisfactorily on a previous contract with the municipality, municipal entity or any other organ of state after a reasonable written notice was given to that bidder that performance was unsatisfactory or appears on the register / database of defaulters.
 - 2.14.2 They are bankrupt or being wound up, are having their affairs administered by the courts,
 - 2.14.3 Have entered into an arrangement with creditors, have suspended business activities, are the subject of proceedings concerning those matters, or are in any analogous situation arising from a similar procedure provided for in national legislation or regulations;

- 2.14.4 Are guilty of misrepresentation in supplying the information required in the document as a condition of participation in the procurement procedure or fail to supply this information;
- 2.15 The accounting officer must ensure that irrespective of the procurement process followed, no award may be given to a person –
- Who is in the service of the state, or;
 - If that person is not a natural person, of which any director, manager, principal shareholder or stakeholder, is a person in the service of the state; or;
 - Who is an advisor or consultant contracted with the municipality in respect of contract that would cause a conflict of interest?
- 2.16 Bid offers will be rejected if the bidder or any of his/ her directors is listed on the Register of Bid Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector and all bids would be subjected to vetting.
- 2.17 Failure by the bidder to disclose with the bid submission any form of conflict of interest including disclosure on a person(s) who is in the service of the state or any immediate blood relative in the service of the state will lead to disqualification.
- 2.18 Bids received by telegram, fax or e-mail will not be considered. Late bids shall neither be accepted nor considered.
- 2.19 Bidders are advised to fully index and attach a table of contents for their attachments.
- 2.20 The municipality is not liable for any documents delivered via courier companies and by post. No official is going to sign the receipt of the tender document.
- 2.21 Tender documents must be submitted in a sealed envelope clearly marked with the project name and number.
- 2.22 Fully completed and signed tender documents must be deposited into the tender box located at Mogwadi old building, next to Cashier's office.
- 2.23 The Municipality is strictly not obliged to appoint the lowest or cheapest bidder.



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(MULTI-YEARS).

THE TENDER

PART T1: TENDERING PROCEDURES

PART T2: RETURNABLE DOCUMENTS

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PART T1: TENDERING PROCEDURES

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T1.1 TENDER NOTICE AND INVITATION TO TENDER

TECH/003/2022/23: MAUPYE UPGRADING OF 3.1KM INTERNAL STREETS FROM GRAVEL TO SURFACING

BIDS ARE HEREBY INVITED FOR MAUPYE UPGRADING OF 3.1KM INTERNAL STREETS FROM GRAVEL TO SURFACING

Bid documents are downloadable from Molemole Local Municipality website as from **23 September 2022**. Bidder is responsible to print the downloaded bid document and the bid document must be completed in full.

NB. A compulsory clarification meeting with the relevant representatives of the Municipality will take place as follows:

Project Number	Bid Description	CIDB	Minimum WO to be created	Compulsory Briefing Session	Preference Point System	Closing Date and Time	Contact Person
TECH/003/2022/23	Upgrading Of 3.1km Internal Streets from Gravel To Surfacing – (Multiyear)	7CE or Higher	60 WO	Date:27 September 2022 Time: 10h00AM Venue: Ga-Maupye Village Cross Coordinates: S 23° 20' 59" E29° 11' 52"	80/20 preference point system. 100 Points Functionality 80% minimum qualifying score for evaluation on 80/20	18 October 2022 @ 11h00 AM	Mr. K Phaahla Tel:015 501 2300/38

The Council also reserves the right to negotiate further conditions and requirements with the successful bidder.

Complete tender documents, fully priced and signed with all the necessary documents attached, must be sealed in an envelope marked "TENDER" Description of Project / Project Number" as mentioned above. Closing date of this tender is **18 October 2022 at 11h00** and should be deposited in the tender box at the Mogwadi Municipal Offices. Documents returned after the date and time will be returned unopened.

The Bid box is generally open during office hours, 08h00 to 16h30, Mondays to Fridays. Bidders should ensure that bids are delivered timeously to the correct address.

If the bid is late, it will not be accepted for consideration.

THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATION, 2011, AND THE GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS (Second Edition) (2015).

The Municipality shall adjudicate and award bids in accordance with B-BBEE status level of contribution on 80/20-point system, 80 points for the price and 20 points for contribution. Prospective bidders must

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accept that the bid will be adjudicated, according to the said legislation. Bids will remain valid for 90 (ninety) days.

N.B: NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE (as defined in Regulation 1 of the Local Government: Municipal supply chain Management Regulations)

Only bidders who are registered in the relevant contractor category in the Construction Industry Development Board Register of Contractors will be considered. This requirement will remain in force as long as it is a requirement of the CIDB is **7CE** or higher. The minimum Labour content for this project shall be **60** work opportunities whichever is higher.

The Joint Ventures, all companies, which are part of the joint venture, must be registered with the CIDB. The Joint Venture that meets the grading for the bid will be considered.

Enquiries related to this bid should be addressed to Mr Phaahla K at telephone number (015) 501 2300 or 015 501 2338 or phaahlak@molemole.gov.za during working hours.

MS ZULU K
ACTING MUNICIPAL MANAGER
MOLEMOLE MUNICIPALITY
MOGWADI, 0715

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T1.2 TENDER DATA

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement (SFU) of May 2010, as published in Government Gazette No 33239, Board Notice 86 of 2010 of 28 May 2010. Those Standard Conditions of Tender remained the same as those published in the previous edition of the SFU as published in Government Gazette No 31823, Board Notice 12 of 2009 of 30 January 2009 - See www.cidb.org.za.

Each Tenderer shall obtain its own copy of the Standard Conditions of Tender.

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. In the interpretation of any ambiguity or inconsistency between the Tender Data and the Standard Conditions of Tender, the Tender Data shall have precedence.

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

Clause Number	Tender Data
2. <u>EMPLOYER</u> CI. F.1.1	<p>The "Employer" is "MOLEMOLE LOCAL MUNICIPALITY"</p> <p>The Employer's domicilium citandi et executandi (permanent physical business address) is: Molemole Local Municipality,303 Church Street, Mogwadi, 0715</p> <p>The Employer's address for communication relating to this project is: Molemole Local Municipality,303 Church Street, Mogwadi, 0715</p>
3. <u>TENDER DOCUMENTS</u> CI. F.1.2	<p>"The following documents form part of this tender:</p> <p>VOLUME 1</p> <p>THE TENDER</p> <p>Part T1: Tendering procedures:</p> <p>T1.1 Tender notice and invitation to tender</p> <p>T1.2 Tender Data</p> <p>Part T2: Returnable documents</p> <p>T2.1 Returnable Schedules required for Tender Evaluation</p> <p>T2.2 Other Documents required for Tender Evaluation</p> <p>T2.3 Returnable Schedules that will be incorporated into the Contract</p> <p>THE CONTRACT</p> <p>Part C1: Agreements and contract data</p> <p>C1.1 Form of Offer and Acceptance</p> <p>C1.2 Performance Guarantee</p> <p>C1.3 Contract Data</p>

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	<p>C1.4 Performance Guarantee for Material and Equipment not yet Built into the Works</p> <p>C1.5 Retention Money Guarantee</p> <p>C1.6 Agreement in Terms of the Occupational Health and Safety Act 85 of 1993</p> <p>C1.7 Abstracts of the mine health and safety Act No 29 of 1996 and Amendment act No.72 of 1997</p> <p>C1.8 Agreement with Adjudicator</p> <p>Part C2: Pricing data</p> <p>C2.1 Pricing instructions</p> <p>C2.2 Bills of quantities</p> <p>C2.3 Calculation of Tender Sum</p> <p>Part C3: Scope of work</p> <p>C3.1 Description of Works</p> <p>C3.2 Engineering</p> <p>C3.3 Procurement</p> <p>C3.4 Construction</p> <p>C3.5 Management</p> <p>Part C4: Site information</p> <p>C4.1 Site Information</p> <p>C4.2 Locality Plan</p> <p>Part C5: Annexures</p> <p>C5.3 : Contract Drawings List</p>														
<p>4. <u>EMPLOYER'S AGENT</u></p> <p>Cl. F.1.4</p>	<p>The Employer's agents are:</p> <p>a) Principal Agent Mont Consulting Engineers</p> <table border="0"> <tr> <td><u>Physical Address:</u></td> <td><u>Postal Address:</u></td> </tr> <tr> <td>29 Bendor Drive</td> <td>P.O.BOX 1249</td> </tr> <tr> <td>Pro-Park,Pro Arch Building</td> <td>Fauna Park</td> </tr> <tr> <td>Bendor,Polokwane</td> <td>Polokwane</td> </tr> <tr> <td>0699</td> <td>0787</td> </tr> <tr> <td>Tel.: (015) 291 4173</td> <td>Fax: (015) 291 4218</td> </tr> <tr> <td>E-mail: admin@montce.co.za</td> <td></td> </tr> </table>	<u>Physical Address:</u>	<u>Postal Address:</u>	29 Bendor Drive	P.O.BOX 1249	Pro-Park,Pro Arch Building	Fauna Park	Bendor,Polokwane	Polokwane	0699	0787	Tel.: (015) 291 4173	Fax: (015) 291 4218	E-mail: admin@montce.co.za	
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29 Bendor Drive	P.O.BOX 1249														
Pro-Park,Pro Arch Building	Fauna Park														
Bendor,Polokwane	Polokwane														
0699	0787														
Tel.: (015) 291 4173	Fax: (015) 291 4218														
E-mail: admin@montce.co.za															
<p>5. <u>TENDERER'S OBLIGATIONS</u></p>															
<p>5.1. <u>Eligibility</u></p> <p>Cl. F.2.1</p>	<p>A tender offer may only be submitted if the Tenderer satisfies the criteria stated in the Tender Data and if the Tenderer, or any of his principals, is not</p>														

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	<p>under any restriction to do business with the Employer.</p> <p>Only those tenderers who are registered with the CIDB, or can provide proof of having applied for registration, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 7CE or higher class of construction work, or by a contractor who is registered as a potentially emerging enterprise in terms of these Regulations at a contractor grading designation, one level higher than the contractor's registered grading designation, provided that the client</p> <p>(a) is satisfied that such a contractor has the potential to develop and qualify to be registered in that higher grade; and</p> <p>(b) ensures that financial, management or other support is provided to that contractor to enable the contractor to successfully execute that contract</p> <p>are eligible to submit tenders.</p> <p>Joint ventures are eligible to submit tenders provided that:</p> <ol style="list-style-type: none"> every member of the joint venture is registered with the CIDB or can provide proof of having registered; the lead partner has a contractor grading designation in the 7 class of construction work; and the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 7 class of construction work are eligible to submit tenders.
<p>5.2. <u>Site Visit and Clarification Meeting</u> Cl. F.2.7</p>	<p>The arrangements for a compulsory pre-tender meeting are:</p> <p>Date : 27 September 2022</p> <p>Time : 10H00</p> <p>Venue : Ga-Maupye Village Cross</p> <p>Co-Ordinates (S 23° 20' 59" E29° 11' 52")</p>
<p>5.3. <u>Insurance</u> Cl. F.2.9</p>	<p>No insurance cover will be provided by the Employer.</p>
<p>5.4. <u>Alternative Tender Offers</u> Cl. F. 2.12</p>	<p>Unless anything to the contrary has been determined in the Contract Data, a Tenderer may, together with his tender for the original designs contained in the contract documents, submit alternative designs and tender offers for consideration. All designs, calculations, drawings and Operation and Maintenance manuals shall be fully endorsed by a third-party registered engineer, accomplished in such specific field of practice and the cost thereof</p>

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shall be borne solely by the Contractor. Such alternative designs and offers shall be subject to the following conditions and requirements:

5.4.1. Tenders

An alternative offer or design will be considered only if the tender for the original items has been fully priced and completed. The alternative tender offer is to be submitted in **the same envelope as the main tender offer**, together with a schedule that compares the requirements of the tender documents with the alternative requirements the Tenderer proposes. No alternative tender will be considered unless a tender free from qualifications is also submitted.

Unless the alternative offer stipulates to the contrary, it shall be assumed that the period for completion of the Works shall be the same as for the original design.

Designs, calculations, drawings and a modified schedule of quantities (as determined hereafter) in respect of each alternative offer or design shall accompany the alternative tender offer and shall be endorsed fully by a third-party registered engineer, accomplished in such specific field of practice.

5.4.2. Preliminary calculations

Preliminary calculations for an alternative design shall be submitted with the tender. Such calculations shall give adequate details so as to enable an assessment to be made of the general efficacy of the design and of its principal elements, also of the degree to which the design prescriptions and codes of the Employer are being complied with. The calculations shall be clear and in a logical sequence and shall clearly reflect all the design assumptions.

5.4.3. Preliminary drawings

Preliminary drawings of the alternative designs shall also be submitted with the tender. These drawings shall comprise adequate layout plans, elevations and sections and shall clearly illustrate the general efficacy of the design and its principal elements.

5.4.4. Quantities

Each alternative offer shall be accompanied by a modified priced schedule of quantities compiled in accordance with the specifications, in so far as it is applicable, which clearly shows the manner in which the price for the alternative offer has been determined and the items in the original schedule of quantities which fall away or are being changed. In addition to the schedule of quantities, a set of calculations shall be supplied to show how the quantities have been determined. All assumptions in regard to factors which will determine quantities shall be clearly and conspicuously marked by underlining

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or colouring and shall indicate whether or not the assumptions have been based on information furnished in the Contract Data (with the necessary references).

5.4.5. Further details

Should the Employer's Agent find that the calculations and drawings submitted for alternative designs are not complete enough for proper adjudication of the alternative designs, the Employer reserves to itself the right to call on the Tenderer to submit such further calculations and drawings as may be required. If such further details are not submitted within ten days of having been requested, the alternative designs will not be given further consideration.

5.4.6. Preliminary adjudication of alternative designs

The Employer's Agent will undertake a preliminary scrutiny of any alternative designs for compliance with the specified requirements of the Employer. Should he find any mistakes or unsatisfactory aspects, he may afford the Bidder the opportunity to rectify them within a period to be determined by the Employer's Agent. However, it is emphasized that the preliminary scrutiny of the design and tender by the Employer's Agent, by its very nature, cannot be comprehensive, and no guarantee can be given in this regard that all the mistakes made by the Bidder will in fact be detected. Any correction of such mistakes shall be made with the tender price of the bidder being retained, and, wherever necessary, the priced schedule of quantities for the alternative design shall be adjusted accordingly.

5.4.7. Acceptance of alternative design

The Bidder shall note that the acceptance of a tender which includes alternative designs shall mean that the alternative designs have been approved in principle only. If the final calculations, drawings and details do not comply with the specified requirements, such alternative designs may be rejected, unless they are suitably amended by the Bidder so as to be acceptable to the Employer.

5.4.8. Final drawings and calculations and the priced schedule of quantities

Where a tender with an alternative design has been accepted, the Contractor shall, not less than two months before he intends starting with the construction of such design, submit to the Employer's Agent a complete set of working drawings, detailed calculations and a complete schedule of quantities, for approval. The schedule of quantities shall be based on the preliminary schedule of quantities, but with the necessary adjustments in quantities and prices and with the tendered price for the alternative design being retained.

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	<p>Within three weeks of having received the above, the Employer's Agent will indicate which drawings, calculations, quantities, prices and other particulars are acceptable to him and which not, with reasons furnished. The Contractor shall then submit to the Employer's Agent in good time any modified drawings and other particulars for approval, for which he will require two weeks. Any delay arising from the fact that the amended particulars do not meet the requirements shall be the responsibility of the Contractor.</p> <p>No work which will be affected by an alternative design may be commenced, unless the drawings, schedule of quantities and prices for such alternative design have been approved. Should the Contractor fail to modify any drawings, calculations, quantities, prices or any other particulars to the satisfaction of the Employer's Agent, the alternative design will be rejected and the original design shall be constructed for the same amount as has been tendered for the alternative design.</p> <p>5.4.9. <u>Responsibility for alternative design</u></p> <p>The approval of a design by the Employer's Agent shall not in any way relieve the Bidder of his responsibility to produce a design which conforms in all respects to all the specified requirements and which will be suitable for the purpose envisaged.</p> <p>Should it appear later during construction or during the maintenance period that the design does not conform to the specified requirements, the Contractor only, shall be liable for any damage arising there from and he shall, at his own expense, do all the necessary work to ensure that the Works conforms to all the specified requirements.</p> <p>5.4.10. <u>Indemnity</u></p> <p>Once the alternative design has been approved, the Contractor shall indemnify and hold harmless the Employer, its agents and assigns, against all claims howsoever arising out of the said design whether in contract or delict.</p>
<p>5.1. <u>Submitting a Tender Offer</u> <u>Cl. F2.13</u></p>	<p>5.5.1. <u>Whole of the Works</u> (Cl. F.2.13.1)</p> <p>Tenderers shall offer to provide for the whole of the Works identified.</p> <p>5.5.2. <u>Original tender documents</u> (Cl. F2.13.3)</p> <p>The original tender document, issued to the Bidder, shall be submitted in its entirety. No copies are required.</p> <p>5.5.3. <u>Marking of Tender Submissions</u> (Cl. F2.13.5)</p>

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The complete tender documents shall be enclosed and sealed in a single envelope, marked:

“PROJECT NO: TECH/003/2022/23: “MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING”

The Employer’s address for delivery of tender offers to be shown on each tender submission package is the Tender Box located at:

**Molemole Municipality,
303 Church Street,
Mogwadi,0715.**

5.5.4 Two envelope system (Cl. F.2.13.6)

A two-envelope procedure will not be followed.

5.5.5. Closing date and time (Cl. F.2.15)

Date: 18 October 2022

Time : 11h00

Telegraphic, telephonic, telex, facsimile, e-mail, electronic and late tender offers will not be accepted.

5.5.6. Tender offer validity (Cl. F.2.16)

The tender offer validity period is **90 days** after tender closing date.

5.5.7. Clarification of tender offer after submission (Cl. F.2.17)

Delete the last part of the second sentence, commencing with the word “and”. Furthermore, delete the last two sentences of Cl. F2.17.

Add the following sentence:

“The rates stated by the Bidder shall be binding”.

5.5.8. Provide other Material (Cl. F.2.18.1)

Upon request by the Employer, the Bidder shall promptly supply any other material that has a bearing on the tender offer, the bidder’s commercial position (including, where applicable, notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary

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	<p>by the Employer for the purpose of a full and fair assessment. Should the Bidder not provide the information or material called for, by the time for submission stated in the Employer's request, the Employer will regard the tender offer as being non-responsive.</p> <p>5.5.9. <u>Certificates</u> (Cl. F.2.23)</p> <p>The following certificates are to be provided with this tender:</p> <p>a) Provide a valid Central Supplier Database (CSD) number.</p> <p>b) Compensation Fund registration certificate</p> <p>c) Certificate of Contractor Registration issued by the Construction Industry Development Board or a copy of the application Form for registration in terms of the Construction Industry Development Board Act (Form F006).</p> <p>A minimum grading of 7 CE or Higher is required.</p> <p><u>Important Note:</u></p> <p>Failure to provide the required particulars as per the above-listed certificates implies a non-responsive tender and warrants rejection of the tender on account of non-compliance with the requirements of the Tender Data</p>
<p>6. <u>EMPLOYER'S UNDERTAKING</u></p>	
<p>6.1. <u>Opening of Tender Submissions</u> <u>Cl. F3.4</u></p>	<p>The time and location for opening of the tender offers are:</p> <p style="text-align: center;">11:00 on 18 October 2022</p> <p>Location: The Tender Box 303 Church Street, Mogwadi, 0715</p>
<p>6.2. <u>Arithmetical Errors</u></p> <p>Cl. F.3.9</p>	<p>Delete Clause 3.9.1</p> <p>Insert the following new clause</p> <p>F.3.9.1 Check responsive bids for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.</p> <p>F3.9.2 Check the highest ranked bid or bidder with the highest number of bid evaluation points after the evaluation of bid offers in accordance with F.3.11 for:</p> <p>a) the gross misplacement of the decimal point in any unit rate;</p>

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	<ul style="list-style-type: none"> b) omissions made in completing the pricing schedule or bills of quantities; or c) arithmetic errors in: <ul style="list-style-type: none"> i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; <ul style="list-style-type: none"> or ii) the summation of the prices <p>F.3.9.3 Notify the bidder of all errors or omissions that are identified in the bid offer and either confirm the bid offer as bid or accept the corrected total of prices.</p> <p>F.3.9.4 Where the bidder elects to confirm the bid offer as bid, correct the errors as follows:</p> <ul style="list-style-type: none"> a) 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. b) 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 shall govern and the tenderer will be asked to revised selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.
<p>7. <u>EVALUATION OF BIDS</u></p> <p>CI. F.3.11</p>	<p>The procedure for evaluation of responsive Bid offers is Method 2, viz. the case of a financial offer and preferences.</p> <p>The Employer's Preferential Procurement Policy applicable to this Bid and based on the Preferential Procurement Policy Act, 2000 (Act No. 5 of 2000) is set out here following:</p> <p>7.1 Business Registration</p> <p>Prospective Bidders shall be registered:</p> <ul style="list-style-type: none"> a) with the South African Revenue Services for all categories of taxes applicable to it. b) with the Compensation Commissioner c) with the Construction Industry Development Board.A minimum grading of 7 CE or higher is required. <p>7.2 Preference Point System</p>

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	<p>Refer to form as Preference Points Claim form in Terms of the Preferential Procurement Regulations 2017 (MBD 6.1) in the Returnable Schedules.</p> <p>Contractors must also supply copies of a joint venture, CC's or any other agreements that clearly indicates ownership and % shareholding.</p> <p>If a valid Tax compliance status PIN issued by SARS is not attached the bid will be disqualified.</p>
<p>8. <u>ACCEPTANCE OF TENDER OFFER</u> Cl. F3.13</p>	<p>Tender offers will only be accepted if:</p> <ul style="list-style-type: none"> a) The bidder has in his or her possession an original valid Tax Clearance Certificate issued by the South Africa Revenue Services or in case wherein the Bidder provide the municipality with a printed tax clearance from e-filing, it is compulsory that the bidder provide municipality with tax compliance status pin for verification; b) The bidder is registered with the Construction Industry Development Board in an appropriate contractor grading designation. A minimum grading of 7CE or Higher is required for the main contractor; c) The bidder has demonstrated previous experience with the type of work required under this contract having successfully completed projects of similar scope and size. d) The bidder or any of its principals is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; and e) The bidder has not abused the Employer's Supply Chain Management System. f) The bidder has not failed to perform on any previous contract. g) Has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the bidder's ability to perform the contract in the best interests of the employer or potentially compromise the tender process.
<p>9. <u>PROVIDE COPIES OF THE CONTRACT DOCUMENT</u></p>	<p>The number of paper copies of the signed contract to be provided by the employer is one.</p>

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Cl. F.3.18	
10. <u>Proof of Availability of Staff with LI Competencies</u>	Only those tenderers who can demonstrate that they will have in their employ management and supervisory staff satisfying the requirement of the scope of work for labour-intensive competencies for supervisory and management staff during the validity of the contract are eligible to submit tenders
11. <u>Requirement for submission of names of LI staff</u>	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 eligibility requirements.

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F.1 Standard Conditions of the Bid**F.1.1 Actions**

The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly with openness and transparency.

F.1.2 Tender Documents

The documents issued by the employer for the purpose of a tender offer are listed in the tender data.

F.1.3 Interpretation

F.1.3.1. the tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

F.1.3.2. these conditions of tender, the tender data and tender schedules which are only required for tender evaluation purposes, shall not form part of any contract arising from the invitation to tender.

F.1.3.3 For the purposes of these conditions for the calling of expressions of interest, the following definitions apply:

- a) Comparative offer means the tenderer's financial offer after the factors of non-firm prices, all unconditional discounts and any other tendered parameters that will affect the value of the financial offer have been taken into consideration
- b) Corrupt practice means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process; and
- c) Fraudulent practice means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels.

F.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

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or by a tenderer. The name and contact details of the employer's agent are stated in the tender data.

F.1.5 The employer's right to accept or reject any tender offer

F.1.5.1 The employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a tenderer for such cancellation and rejection, but will give written reasons for such action upon written request to do so.

F.1.5.2 The employer may not, subsequent to the cancellation or abandonment of a tender process or the rejection of all responsive tender offers re-issue a tender covering substantially the same scope of work within a period of three months.

F.2 Tenderer's obligations**F.2.1 Eligibility**

Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his/ her principals, is not under any restriction to do business with the employer.

F.2.2 Cost of tendering

Accept that 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 to satisfy requirements.

It is a term of this bid that the employer is indemnified from any liability arising or accruing from expenses or damages or losses incurred by the bidder including in the event the employer opts to cancel or discontinue the bidding process of this tender.

F.2.3 Check documents

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

F.2.4 Confidentiality and copyright of documentsⁱ

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.

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The distribution of the tender documents is for the sole purpose of obtaining offers. The distribution does not grant permission or licence to use the documents for any other purpose. Tenderers are required to treat the details of all documents supplied in connection with the tender process as private and confidential. All responses to this invitation to tender will be treated in confidence and no information contained therein will be communicated to any third party without the written permission of the tenderer except insofar as is specifically required for the consideration and evaluation of the response or as may be required under law.

F.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.

F.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.

F.2.7 Clarification meeting

Attend, where required, a clarification meeting at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting are stated in the tender data.

F.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least five (5) working days before the closing date stated in the tender data.

F.2.9 Insurance

Be aware that the extent of insurance to be provided by the employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is required to seek adequate cover for covering liability that may ensue while delivering copiers to the employer.

F.2.10 Pricing the tender offer

F.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes, Value Added Tax (VAT), and other levies payable to the successful tenderer, such duties, taxes

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and levies being those applicable fourteen (14) days before the closing time stated in the tender data.

F.2.10.2 Provide rates and prices that are fixed for the duration of the contract, payable after delivery of the copiers, subject to inspection by the Employer.

F.2.10.3 State the rates and prices in South African Rand.

F.2.10.4 The municipality has limited resources and bids must be competitive, with market related pricing, as this will be one of the deciding factors in the final award of the contract

F.2.11 Alterations to documents

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. Erasures and the use of masking fluid or TIPPEX are prohibited.

F.2.12 Alternative tender offers

F.2.12.1 Submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted. The alternative tender offer is to be submitted with the main tender offer together with a schedule that compares the requirements of the tender documents with the alternative requirements of the tenderer proposes.

F.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.

F.2.13 Submitting a tender offer

F.2.13.1 Submit a tender offer to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

F.2.13.2 Return all returnable documents to the employer after completing them in their entirety.

F.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English.

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F.2.13.4 Sign the original copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state; which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.

F.2.13.5 Seal the original package marking the package as "ORIGINAL"

F.2.13.6 Seal the original tender offer package in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.

F.2.13.7 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

F.2.14 Information and data to be completed in all respects

Accept that tender offers, which do not provide all the data or information requested completely and in the form required, will be regarded by the employer as non-responsive.

F.2.15 Closing Time

F.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Proof of posting shall not be accepted as proof of delivery. The employer shall not accept tender offers submitted by telegraph, facsimile or e-mail.

F.2.15.2 Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

F.2.16 Tender Offer Validity

F.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data. The tender validity period for this contract is 90 days after bid closes.

F.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period.

F.2.17 Clarification of tender offer after submission

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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.

Note: Sub-clause F.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.

F.2.18 Provide other material

F.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), referencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.

F.2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.

F.2.20 Submit securities, bonds, policies, etc.

If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

F.2.21 Check final draft

Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.

F.2.22 Return of other tender documents

If so instructed by the employer, return all retained tender documents within twenty eight (28) days after the expiry of the validity period stated in the tender data.

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F.2.23 Certificates

Include in the tender submission or provide the employer with any certificates as stated in the tender data.

F.3 The employer's undertakings**F.3.1 Respond to clarification**

Respond to a request for clarification received up to five (5) working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

F.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until seven (7) days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who drew documents.

F.3.3 Return late tender offers

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

F.3.4 Opening of tender submissions

F.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

F.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened, the total of his prices, preferences claimed and time for completion, if any, for the main tender offer only.

F.3.4.3 Make available the record outlined in F.3.4.2 to all interested persons upon a formal request.

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F.3.5 Two-envelope system

F.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

F.3.5.2 Evaluate the quality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the quality evaluation more than the minimum number of points for quality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any preferences claimed. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for quality.

F.3.6 Non-disclosure

To 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.

F.3.7 Grounds for rejection and disqualification

Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

F.3.8 Test for responsiveness

F.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

- a. Complies with the requirements of these Conditions of Tender,
- b. Has been properly and fully completed and signed, and

F.3.9 Arithmetical errors

F.3.9.1 Check responsive tender offers for arithmetical errors, correcting them in the following manner:

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- a. Where there is a discrepancy between the amounts in figures and in words, the amount in figures shall govern.
- b. If bills of quantities (or schedule of quantities or schedule of rates) apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the rate shall govern and the total shall be corrected.
- c. 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 rate shall govern and the tenderer will be asked to revise selected item prices to achieve the tendered total of the prices.

F.3.9.2 Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of his/ her arithmetical errors in the manner described in F.3.9.1.

F.3.10 Clarification of a tender offer

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

F.3.11 Evaluation Methodology

- a. In addition to all items highlighted under Page 2 titled **“Very Important Notice on Disqualifications”**, the tenders will be evaluated in terms of the Municipality Supply Chain Management policy, Preferential Procurement Framework Act (Act 5 of 2000) and its regulations as enacted in 2001.
- b. Tenders will be evaluated using the 80/20 points allocation system. The total points out of a possible maximum of 100 will be calculated using various formulae to calculate price as well as for preferential procurement.

F.3.13 Acceptance of tender offer

F.3.13.1 Accept tender offer only if the tenderer complies with the legal requirements stated in the Tender Data.

F.3.13.2 Notify the successful tenderer of the employer's acceptance of his/her tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period. Providing the form of offer and acceptance does not contain any qualifying statements, it will constitute the formation of a

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contract between the employer and the successful tenderer as described in the form of offer and acceptance.

F.3.14 Notice to unsuccessful tenderers

After the successful tenderer has acknowledged the employer's notice of acceptance, the employer will publicise a list of successful bidders on the municipal website

F.3.14 Municipality's right to accept or reject any or all Bids

The municipality reserves the right to:

- Accept or reject any bid;
- Annul the tender process and reject all bids at any time prior to contract award;
- Award the contract to one or more bidders; without thereby incurring any liability to the affected Bidder or bidders.
- Accept one or more bids submissions.
- Appoint the lowest bidder
- Reject all bids submitted.
- Request further information from any bidder after the closing date.
- Cancel this bid or any part thereof any time, or
- Award this bid or any part thereof to any one or more bidders.
- Vary the site or number of sites and/or guards due to operational or budgetary requirements.

F.3.15. Prepare contract documents

Revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:

- addenda issued during the tender period,
- inclusion of the returnable documents,
- other revisions agreed between the employer and the successful tenderer, and
- the schedule of deviations attached to the form of offer and acceptance, if any.

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F.3.16 Issue final contract

Prepare and issue the final draft of contract documents to the successful tenderer for acceptance within fourteen (14) days after the date of the employer's signing of the form of offer and acceptance (including the schedule of deviations, if any). Only those documents that the conditions of tender require the tenderer to submit, after acceptance by the employer, shall be included.

F.3.17 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

1. List of attachments required for Evaluation Purposes

- a) The recent up-to-date central supplier database (CSD) registration report detailing all compliance requirements; [Last verified between the advert date and the closing date];
- b) Tax compliance status pin
- c) Copy of the statement of municipal rates and taxes for the company or of its directors (not in arrears for more than three (3) months), if renting a lease agreement and owner's proof of municipal rates must be submitted (not in arrears for more than three (3) months). If the bidder is operating where municipal rates are not applicable, a proof of residence from the traditional authority must be submitted (not older than three (3) months).
- d) Proof of CIDB grading of 7CE or higher.
- e) Certified Letter of Good Standing (COIDA) from Department of Employment.
- f) Latest Audited Financial Statements for the past three (3) years or since the establishment of the company if it is less than three (3) years.
- g) Joint venture/consortium agreements (if applicable);
- h) Submit the above documents (a to f) for each company if bidding as a joint venture/consortium;

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2. EVALUATION METHODOLOGY

Bids will be evaluated in terms of the following 2 stages:

Stage 1: Evaluation on functionality

Under functionality, Bidders must achieve a minimum of 80% ((rounded to the nearest decimal point)) for functionality (quality) in order to be considered for further evaluation in stage 2 (Evaluation on Price and BBBEE). Bidders that score less than 80% (rounded to the nearest decimal point) will be disqualified.

NB: Only the combined Price & BBBEE points will determine the highest point scoring bidder to be awarded the contract.

- **Guidelines for Evaluation using the Weighting method**

- a. Score sheets will be prepared and provided to panel members to evaluate the bids.
- b. The score sheet should contain all the criteria and the weight for each criterion as well as the values to be applied for evaluation as indicated in the bid documents.
- c. Each panel member should after thorough evaluation independently award his / her own value to each individual criterion.
- d. Score sheets should be signed by panel members and if necessary, written motivation may be requested from panel members where vast discrepancies in the values awarded for each criterion exist.
- e. If the minimum qualifying score for functionality is indicated as a percentage in the bid documents, the percentage scored for functionality may be calculated as follows:
 - i. The value awarded for each criterion should be multiplied by the weight for the relevant criterion to obtain the score for the various criteria;
 - ii. The scores for each criterion should be added to obtain the total score; and
 - iii. The following formula should be used to convert the total score to percentage for functionality:

$$Ps = (So/Ms) \times 100$$

Where:

Ps = percentage scored for functionality by bid under consideration

So = total score of bid under consideration

Ms = maximum possible score [the highest score by any bidder]

The percentage of each panel member should be added and divided by the number of panel members to establish the average percentage obtained by each bidder for functionality.

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Criteria	Weights	Applicable values
Company Experience	30	Poor = 1
10 x Successfully completed traceable projects in construction of roads and stormwater.(attach 10 appointment letters with corresponding completion certificates on a client's letter head and bidders assessment form for each appointment)		Average = 2
		Good = 3
Plant and equipment	20	Very good = 4
Plant and equipment <ul style="list-style-type: none"> • 1x Grader • 1x Smooth drum roller (15 ton) • 2x (10 m³) tipper trucks • 1x Water tankers (9 000 litter or larger) • 1x TLB/Loaders • 1 x Walk behind roller or plate compactor These equipments can be owned or rented. Attach proof ownership or intention to lease agreement if renting.		Excellent = 5
Proposed key personal (4)	40	
<u>Contracts Manager</u> Attach the following: <ul style="list-style-type: none"> • CV indicating a minimum of ten (10) years' proven experience in Construction and managing projects of roads, stormwater and bridges. • Certified copy of BTech/BSc/BEng : Civil Engineering, • Certified copy of LI NQF 5 to Manage Labour-Intensive Construction Processes • Certified copy of ECSA Registration certificate as Pr. Technologist or Engineer. 		
<u>Site Agent</u> Attach the following: <ul style="list-style-type: none"> • CV indicating a minimum of five (5) years' proven experience in Construction and managing projects of roads, stormwater and bridges. • Certified copy of ND : Civil engineering or construction • Certified copy of ECSA Registration certificate as a technician 		
<u>Site Foremen</u> Attach the following: <ul style="list-style-type: none"> • CV indicating a minimum of three (3) years' proven experience in construction and supervising projects of roads, stormwater and bridges. • Certified copy of ND: Civil Engineering or higher. • Certified copy of LI NQF 5 to Manage Labour-Intensive Construction Processes 		

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<u>OHS and Environmental Officer</u> Attach the following: <ul style="list-style-type: none"> CV indicating 5 years' experience in construction related projects Certified copy of Occupational health and safety certificate 		
Financial viability	10	
Bank rating of C or higher		
Total functionality Score	100	

Stage 2: Evaluation on price 80/20 and BBBEE status**a) Financial offer and evaluation on price points**

- Score Bid evaluation points for financial offer.
- Confirm that Bidders are eligible for the BBBEE claimed, and if so, score Bid evaluation points for BBBEE.
- Calculate total Bid evaluation points (Price points plus BBBEE points)
- Rank Bid offers from the highest number of Bid evaluation points to the lowest.
- The bidder obtaining the highest number of total points will be awarded the contract.
- Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts;.
- Points scored must be rounded off to the nearest 2 decimal places.
- In the event that two or more bids have scored equal total points, the successful bids must be the one scoring the highest number of preference points for B-BBEE.
- However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for B-BBEE, the successful bid must be the one scoring the highest score for functionality.
- Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

b) Price formula

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

Where-

- P_s = Points scored for price of tender under consideration;
- P_t = Price of tender under consideration; and
- P_{\min} = Price of lowest acceptable tender.

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

c) Scoring for BBBEE

- Bids will be evaluated in accordance with the prescripts of the Preferential Procurement Policy Framework Act (PPPFA) and the associated Preferential Procurement Regulations of 2017, which stipulate a 80/20 preference point system for acquisition of goods or services for Rand value equal to or above R30 000 and up to R50 million
- Bidders must attach certified copies of BBBEE to claim BBBEE points. Failure to attach the valid BBBEE points shall not disqualify the Bidder from further evaluation; but only points will be forfeited.

B-BBEE Status Level of Contributor Number of points (80/20 system)

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



**MAUPYE UPGRADING OF 3.1KM INTERNAL STREETS FROM GRAVEL TO SURFACING –
(MULTI-YEARS).**

PART T2: LIST OF RETURNABLE DOCUMENTS

The tenderer must complete the following returnable documents:

T2.1	LIST OF RETURNABLE SCHEDULES.....	T.32
T2.2	OTHER DOCUMENTS REQUIRED FOR TENDER EVALUATION	T.41

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

T2.1 LIST OF RETURNABLE SCHEDULES

T2.1 A	FORM 2.1.1: SIZE OF ENTERPRISE AND CURRENT WORKLOAD.....	T.33
T2.1 B	FORM 2.1.2. CERTIFICATE OF AUTHORITY FOR JOINT VENTURES [WRITE N/A IF NOT APPLICABLE]	T.34
T2.1 C	FORM 2.1.3: SCHEDULE OF PREVIOUS WORK CARRIED OUT BY THE BIDDER	T.35
T2.1 D	FORM 2.1.4: BIDDER ASSESSMENT FORM	T.36
T2.1 E	FORM 2.1.5: SCHEDULE OF PROPOSED SUB-CONTRACTORS	T.37
T2.1 F	FORM 2.1.6: FINANCIAL REFERENCES.....	T.38
T2.1 G	FORM 2.1.7: DETAILS OF ALTERNATIVE BIDS SUBMITTED.....	T.39
T2.1 H	FORM 2.1.8: AMENDMENTS AND QUALIFICATIONS BY BIDDER	T.40

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

T2.1 A FORM 2.1.1: SIZE OF ENTERPRISE AND CURRENT WORKLOAD

a) Total Turnover in the previous financial year? R_____

b) Estimated turnover for current financial year? R_____

List your current contracts and obligations [maximum]:

Description	Location	Value (R)	Start date	Duration	Expected completed date

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

T2.1 B FORM 2.1.2. CERTIFICATE OF AUTHORITY FOR JOINT VENTURES [WRITE N/A IF NOT APPLICABLE]

[PLEASE ATTACH A CERTIFIED COPY OF THE CERTIFICATE]

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

T2.1 C FORM 2.1.3: SCHEDULE OF PREVIOUS WORK CARRIED OUT BY THE BIDDER

[N.B. COMPULSORY: TO BE USED FOR EVALUATION PURPOSES]

Provide the following information on **relevant previous experience**. Indicate comparable projects of similar or larger size. This information is material to the award of the Contract.

Give a minimum of two (2) names and telephone numbers and e-mail address per reference.

Please provide latest contact details.

CLIENT NAME AND PLACE WHERE PROJECT WAS IMPLEMENTED	TEL NO & EMAIL ADDRESS	DESCRIPTION OF WORK	CONTRACT VALUE (R)	DURATION CONTRACT PERIOD
	<hr/> <hr/>			
	<hr/> <hr/>			
	<hr/> <hr/>			

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

T2.1 D FORM 2.1.4: BIDDER ASSESSMENT FORM

(This must be completed by the bidder's clients listed in the Experience of Tenderer schedule.

(Attach each reference for each appointment letter)

Annexure A (MAKE ADDITIONAL COPIES FOR MORE REFERENCES)

Name of Bidder					
Contract/Tender Number (whichever applicable)					
Value of Contract	R				
Date of Commencement					
Period of Contract					
Your assessment of the Contractor's performance in the following areas: Please tick one of the blocks on the right-hand side. 1 = Poor; 5 = Excellent	1	2	3	4	5
Turn-around times					
Quality of feedback					
Accessibility and availability					
Reliability					
Customer satisfaction					
1 = Poor; 2 = Unsatisfactory; 3 = Average; 4 = Good; 5 = Excellent					
COMMENTS:					
Name of Person Completing this Assessment Form					
Position of the Person completing this form					
Company Telephone Number					
Email Address					
Date of Assessment (between advert date and closing date]					
Signature of person completing this form					

AFFIX OFFICIAL STAMP OF CLIENT

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

T2.1 E FORM 2.1.5: SCHEDULE OF PROPOSED SUB-CONTRACTORS

[IF NOT WRITE N/A ACROSS THE TABLE]

Provide details on all sub-contractors you intend utilising for this contract

Type of work to be used for	a % of contract	Name of sub-contractor	B % HDI ownership	c = a x b Total contribution to HDI ownership
Total % of contract sub-contracted		Total contribution of HDI ownership:		

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

T2.1 F FORM 2.1.6: FINANCIAL REFERENCES

FINANCIAL STATEMENTS (delete which is not applicable)

I/We _____ (name of authorized representative
 Agree / Disagree, if required, to furnish an audited copy of the latest set of financial statements together
 with my/our Directors' and Auditors' report.

- **DETAILS OF BIDDING ENTITY'S BANK**

If the bidder is a Joint Venture or partnership, the information requested below is required for each
 member / partner.

I/ We hereby authorise the Employer to approach all or any of the following banks for the purposes of
 obtaining a financial reference:

DESCRIPTION OF BANK DETAIL	BANK DETAILS APPLICABLE TO BIDDER
Name of bank	
Contact person	
Branch name & code	
Street address	
Bank Telephone number	()
Account number	
Type of account, (i.e. cheque account)	
Bank rating [A, B, C, etc.]	

Note: Information supplied will be treated with the strictest confidence

AFFIX DATED BANK STAMP HERE

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

T2.1 G FORM 2.1.7: DETAILS OF ALTERNATIVE BIDS SUBMITTED

[WRITE N/A ACROSS THE TABLE IF NOT APPLICABLE]

See condition of bid.

Attach additional information on separate sheets and initial all of them

DESCRIPTION

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

T2.1 H FORM 2.1.8: AMENDMENTS AND QUALIFICATIONS BY BIDDER

[WRITE N/A ACROSS THE TABLE IF NOT APPLICABLE]

See condition of bid
Attach additional information on separate sheets and initial all of them

PAGE	DESCRIPTION

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING



**MAUPYE UPGRADING OF 3.1KM INTERNAL STREETS FROM GRAVEL TO SURFACING
– (MULTI-YEARS).**

T2.2 OTHER DOCUMENTS REQUIRED FOR TENDER EVALUATION

T2.2 A	FORM 2.2.1: DECLARATION	T.42
T2.2 B	FORM 2.2.2: DECLARATION OF INTEREST	T.44
T2.2 C	FORM 2.2.3: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)	T.46
T2.2 D	FORM 2.2.4 CERTIFICATE OF INDEPENDENT BID DETERMINATION	T.48

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

T2.2 A FORM 2.2.1: DECLARATION

I/ We, the undersigned:

- (a) bid to Maupye Upgrading of 3.1km Internal Streets from Gravel to Surfacing – (Multi-Years) to MOLEMOLE LOCAL MUNICIPALITY, described both in this and the other Schedules to this Contract to which I shall annex my signature;
- (b) agree that we will be bound by the specifications, prices, terms and conditions stipulated in those Schedules attached to this bid document, regarding execution of duties;
- (c) further agree to be bound by those conditions, set out in, “PARTS T1; T2; C1; C2; and C3”, attached hereto, should this bid be accepted;
- (d) confirm that this bid may only be accepted by Molemole Local Municipality by way of a duly authorised Letter of Acceptance within stipulated timeframe from the appointment letter;
- (e) declare that we are fully acquainted with the Bid document and Schedules and the contents thereof and that we have signed the Bill of Quantities and completed the Returnable Schedules and declarations, attached hereto;
- (f) declare that all amendments to the bid document have been initialled by the relevant authorised person and that the document constitutes a proper contract between MLM and the undersigned.
- (g) certify that the item/s mentioned in the bid document, qualifies/qualify for the preference(s) shown.;
- (h) acknowledge that the information furnished is true and correct;
- (i) Accept that in the event of the contract being awarded as a result of preference claimed in this bid document, I may be required to furnish documentary proof to the satisfaction of MLM that the claims are correct. If the claims are found to be inflated, MLM may in addition to any other remedy it may have, recover from the company or me all costs, losses or damages incurred or sustained by MLM as a result of the award of the contract and/or cancel the contract and claim any damages which MLM may suffer by having to make less favourable arrangements after such cancellation;
- (j) declare that no municipal rates and taxes or municipal service charges owed by the bidder or any of its directors to the municipality, or to any other municipality or municipal entity, are in arrears for more than three months, and
- (k) declare that I have not failed to perform satisfactorily during the last five (5) years on a previous contract with the Municipality, Municipal entity or any other organ of state, after written notice was given to me that my performance was not satisfactory.

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

[PLEASE SIGN ON BEHALF OF THE BIDDER]

Signed at _____ on this _____ day of _____ 20__

Authorised Signature: _____

Name of Bidding Entity: _____

Date: _____

As witness: _____

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

MBD 4

T2.2 B FORM 2.2.2: DECLARATION OF INTEREST

1. **No bid will be accepted from persons in the service of the state including in instances of non-directors of the entity and also those who may be sub-contracting.**
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 bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.
- 3 In order to give effect to the above, the following questionnaire must be completed with honesty and submitted with the bid.

Full Name: _____

Identity Number: _____

Tax Number: _____

VAT Number: _____

- 3.1 Are you presently in the service of the state* YES / NO _____

If yes, furnish particulars _____

- 3.2 Have you been in the service of the state for the past twelve (12) months? YES /NO

If yes, furnish particulars _____

* SCM Regulations: "in the service of the state" means to be –

(a) a member of –

- (i) any municipal Council;
- (ii) any provincial legislature; or
- (iii) the national Assembly or the national Council of provinces;

(b) a member of the board of directors of any municipal entity;

(c) an official of any municipality or municipal entity;

(d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);

(e) a member of the accounting authority of any national or provincial public entity; or

(f) an employee of Parliament or a provincial legislature.

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

3.3 Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid?

YES / NO

If yes, furnish particulars _____

3.4 Are any of the company’s directors, managers, shareholders or stakeholders in service of the state?

YES / NO

If yes, furnish particulars _____

3.5 Are any spouse, child or parent of the company’s directors, managers, principle shareholders or stakeholders in service of the state?

YES / NO

If yes, furnish particulars _____

I, THE UNDERSIGNED (NAME) _____

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.

I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

SHOULD THE INFORMATION REQUIRED ON THIS FORM NOT DULY BE SUPPLIED, THIS BID WILL BE AUTOMATICALLY REJECTED.

Signature

Date

Position

Company Name

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

MBD 5

T2.2 C FORM2.2.3: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)

For all procurement expected to exceed R10 million (all applicable taxes included), bidders must complete the following questionnaire:

1. Are you by law required to prepare annual Financial Statements for auditing?

1.1 If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.

YES/NO

.....
.....

2. Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days?

*YES / NO

2.1 If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.

2.2 If yes, provide particulars.

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

* Delete if not applicable
*YES / NO

3. Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract?

*YES / NO

3.1 If yes, furnish particulars

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

.....

.....

4. Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic? *YES / NO

4.1 If yes, furnish particulars

.....

.....

CERTIFICATION

I, THE UNDERSIGNED (NAME)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.

I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE

FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

MBD 9

T2.2 D FORM 2.2.4 CERTIFICATE OF INDEPENDENT BID DETERMINATION

- a) This Standard Bidding Document (MBD) must form part of all bids¹ invited.
- b) Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).²
- c) Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:
 - i. Disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
 - ii. Cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.
- d) This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- e) In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

¹ Includes price quotations, advertised competitive bids, limited bids and proposals.

² Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Institution)

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

I certify, on behalf of

(Name of Bidder)

that:

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 bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
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 bidder, whether or not affiliated with the bidder, who:
 - has been requested to submit a bid in response to this bid invitation;
 - could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium³ 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:
 - a) prices;
 - b) geographical area where product or service will be rendered (market allocation)
 - c) methods, factors or formulas used to calculate prices;

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

- d) the intention or decision to submit or not to submit, a bid;
- e) the submission of a bid which does not meet the specifications and conditions of the 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 bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

³ Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skills and knowledge in an activity for the execution of a 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.

[PLEASE SIGN BELOW ON BEHALF OF THE BIDDER]

Signature

Date

Position

Name of Bidder



**MAUPYE UPGRADING OF 3.1KM INTERNAL STREETS FROM GRAVEL TO SURFACING
– (MULTI-YEARS).**

THE CONTRACT

PART C1	AGREEMENT AND CONTRACT DATA
PART C2	PRICING DATA
PART C3	SCOPE OF WORKS
PART C4	SITE INFORMATION



**MAUPYE UPGRADING OF 3.1KM INTERNAL STREETS FROM GRAVEL TO SURFACING
– (MULTI-YEARS).**

PART C1: AGREEMENT AND CONTRACT DATA

C1.1	FORM OF OFFER AND ACCEPTANCE.....	C.3
C1.2	PERFORMANCE GUARANTEE	C.8
C1.3	CONTRACT DATA	C.11
C1.4	PERFORMANCE GUARANTEE FOR MATERIALS AND EQUIPMENT NOT YET BUILT INTO THE WORKS.....	C.25
C1.5	RETENTION MONEY GUARANTEE	C.28
C1.6	AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 85 OF 1993 AND APPOINTMENT AS MINE MANAGER IN TERMS OF SECTION 3(1)(A) OF MINE HEALTH AND SAFETY ACT 29 OF 1996.	C.30
C1.7	ABSTRACTS OF THE MINE HEALTH AND SAFETY ACT NO. 29 OF 1996 AND AMENDMENT ACT NO. 72 OF 1997.....	C.37
C1.8	AGREEMENT WITH ADJUDICATOR.....	C.38

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

C1.1 FORM OF OFFER AND ACCEPTANCE

Offer

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

PROJECT NO: TECH/003/2022/23

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

The tenderer, identified in the offer signature block, has examined the documents listed in the tender data and addenda thereto as listed in the tender 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 the 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 PRICE INCLUSIVE OF VALUE ADDED TAX IS
(CONTRACT PRICE)**

.....
.....

Rand (in words); R (in figures)

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

For the Tenderer:

Signature(s)
Name(s)
Capacity

Name and address of organization

.....
.....

Signature and Name of Witness:

Signature
Name
Date

Acceptance

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

The terms of the contract are contained in:

PART C1 Agreements and contract data, (which includes this 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 Parts C1 to C4 above.

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

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 at, or just after, the date this agreement comes into effect. 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 copy of the fully signed original document, including the schedule of deviations (if any). Unless the tenderer (now contractor) within five 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.

For the Employer

Signature

Name

Capacity

Name and address of organization

**Molemole Municipality
303 Church Street
Mogwadi
0715**

Signature and Name of Witness

Signature

Name

Capacity

Schedule of Deviations

Notes:

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

By the duly authorised representatives signing this schedule of deviations, 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.

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

For the Tenderer:

For the Employer

..... Signature

..... Name

..... Capacity

Name and address of organisation:

Name and address of organisation

.....

MOLEMOLE MUNICIPALITY

303 Church Street

.....

Mogwadi

.....

0715

.....

..... Witness Signature

..... Witness Name

..... Date

Confirmation of Receipt

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

the (day) of (month) 20..... (year)

at (place)

For the Contractor:

Signature

Name

Capacity

Signature and name of witness:

Signature

Name

C1.2 PERFORMANCE GUARANTEE

(Not to be completed at tender stage)

In accordance with clause 6.2.1 of General Conditions of Contract, 3rd Edition (2015)

“Guarantor” means:

Physical address:

“Employer” means:

“Contractor” means:

“Engineer” means:

“Works” means:

“Site” means:

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

“Contract Sum” means: The accepted amount inclusive of tax of R

Amount in words:

“Guaranteed Sum” means: The maximum aggregate amount of R

Amount in words:

“Expiry Date” means:

CONTRACT DETAILS

Engineer issues: Interim Payment Certificates, Final Payment Certificate and the Certificate Completion of the Works as defined in the Contract.

PERFORMANCE GUARANTEE

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
2. The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Certificate of Completion of the Works or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Engineer 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.
3. The Guarantor hereby acknowledges that:
 - 3.1 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;
 - 3.2 its obligation under this Performance Guarantee is restricted to the payment of money.
4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:
 - 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Engineer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
 - 4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;
 - 4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.
5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
 - 5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or
 - 5.2 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 5; and
 - 5.3 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.
6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
7. Where the Guarantor has made payment in terms of 5, 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 this Performance Guarantee shall bear interest at the prime

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- overdraft rate of the Employer’s bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
8. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
 9. Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.
 10. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem 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.
 11. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
 12. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 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.
 13. This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
 14. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate’s Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate’s Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate’s Court.

Signed at

Date

Guarantor’s signatory (1)

Capacity.....

Guarantor's signatory (2)

Capacity

Witness signatory (1)

Witness signatory (2)

C1.3 CONTRACT DATA**C1.3.1 Conditions of Contract**

The Conditions of Contract are:

- the “General Conditions of Contract” as they appear in the commercially available publication “General Conditions of Contract for Construction Works, Third Edition, 2015”, hereinafter referred to as “GCC 2015”; and
- Specific data as contained in this Contract Data.

Each party to the Contract shall purchase its own copy of the GCC 2015 (Third Edition) that applies to this Contract, available from its publisher:

South African Institution of Civil Engineering**Private Bag X200****Halfway House****1685****South Africa****Tel +27 (0)11 805 5947****The following Notes apply:****Note 1**

The GCC 2015 makes several references to the Contract Data.

Each item of data below is cross-referenced to the clause in the Conditions of Contract to which it applies. Notwithstanding anything specified to the contrary, the Contract Data shall take precedence in the interpretation of any ambiguity or inconsistency between it and the GCC 2015.

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purpose of interpretation, the priority of the documents shall be in accordance with the following order of precedence:

- (a) The Form of Offer and Acceptance.
- (b) Amendments to the General Conditions of Contract within the Contract Data.
- (c) Additional conditions to the General Conditions of Contract within the Contract Data.
- (d) corrigenda to the General Conditions of Contract.
- (e) The General Conditions of Contract.

(f) The Specifications, Drawings, Schedules and other documents forming part of the Contract (in that order) contained in the Scope of Work and the Site Information.

If any ambiguity or discrepancy is found in the documents, the Engineer needs to be contacted to issue any necessary clarification or instruction.

Note 2

Certain pro-forma forms and pro-forma agreements contained in the GCC 2015 have been adapted for this particular contract. Those pro-forma forms and pro-forma agreements contained in the GCC 2015 do not apply where replaced by similar pro-forma forms and pro-forma agreements in this document.

C1.3.2 Contract Specific Data

The following contract-specific data, referring to the General Conditions of Contract, are applicable to this Contract:

Section 1: Data provided by the Employer

Clause	Data
1.1.1.13	The Defects Liability Period is 12 calendar months calculated from the date of the Certificate of Completion.
1.1.1.14	The time for achieving Practical Completion is 12 months calculated from the Commencement Date, excluding special non-working days.
1.1.1.15	The name of the Employer is Molemole Municipality
1.1.1.26	The Pricing Strategy of a Re-measurement Contract shall apply
1.2.1.2	<p>The address of the Employer is:</p> <p>Physical address: 303 Church Street Mogwadi 0715</p> <p>Postal address: Private Bag X 44 Mogwadi 0715</p> <p>e-mail address: phaahlak@molemole.gov.za</p> <p>Contact numbers: Corporate: 015 501 2300/38 Direct: 015 501 0419</p>
1.1.1.16	'Engineer' means any Director, Associate or Professional Engineer appointed by a Director of Mont Consulting Engineers to fulfil the functions of the Engineer in terms of the Contract Data.

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Clause	Data
1.2.1.2	<p>The employer's agent address for receipt of communication is:</p> <p>Physical address:</p> <p>29 Bendor Drive Propark- Pro Arch Building Bendor- Ext 8 Polokwane, 0699</p> <p>Postal address:</p> <p>P O Box 1249 Fauna Park; 0787</p> <p>e-mail address:</p> <p>admin@montce.co.za</p> <p>Contact numbers:</p> <p>Corporate: 015 291 4173 Mobile: 083 643 3634 Fax: 015 291 4218</p>
3.2.1	<p>The Employer's Agent is required in terms of his appointment with the Employer to obtain the following specific approvals from the employer: e.g.</p> <ol style="list-style-type: none"> 1. Approval of extension of time; 2. Approval of additional costs; 3. Approval of variation orders; 4. Approval of penalties; 5. Approval from MolemoleMunicipality for the utilization of any Contingencies.
4.9.1	<p>The Contractor shall deliver to the Employer Agent, on a monthly basis, a detailed inventory of Construction Equipment kept on Site, full particulars given for each day of the month. Distinction shall be made between Owned Equipment and Hired Equipment as well as Equipment in working order and Equipment out of order. Such inventory shall be submitted by the seventh day of the month following the month to be reported.</p>
4.10.2	<p>The Contractor shall deliver to the Employer Agent, on a monthly basis, a return in detail of supervisory staff and the number of categorized classes of labour</p>

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Clause	Data
	employed each day for the said period by the Contractor for execution of the Contract. Such return shall be submitted by the seventh day of the month following the month to be reported.
5.3.1	The documentation required before commencement with Works execution are: a) Health and Safety Plan (refer to CL 4.3) b) Initial Programme (Refer to CL 5.6) c) Security (Refer to CL 6.2.1 and CL 6.2.3) d) Insurance (Refer to CL 8.6)
5.3.1	The Works are to be commenced within fourteen (14) Days of the Commencement Date taken as Date of Site Hand-over.
5.3.2	The time to submit the documentation required before commencement with Works execution is 14 Days .
5.4.2	The access and possession of Site shall not be exclusive to the Contractor but shall be as set out elsewhere in the Contract.
5.8.1	The non-working Days are Sundays. The special non-working Days are: Statutory public holidays; and All annual year-end shutdown periods as recommended by the South African Federation of Civil Engineering Contractors (SAFCEC), and which commence after the Commencement Date and which commence before the Due Completion Date.
5.9.7	All designs, calculations, drawings and operation and maintenance manuals shall be fully endorsed by a third party registered engineer, accomplished in such specific field of practice and the cost thereof shall be borne solely by the Contractor. Once the alternative design has been approved, the Contractor shall indemnify and hold harmless the Engineer, the Employer, their agents and assigns, against all claims howsoever arising out of the said design, whether in contract or delict".
5.13.1	The penalty for failing to complete the Works is 0,1 percent of contract price per calendar day.
5.16.3	The latent defect period is 10 years, commencing on the Day after the date of certification of Practical Completion.
6.2.1	The type of security required for the due performance of the Contract shall be restricted to one of the following:

Clause	Data															
	<ul style="list-style-type: none"> • Cash deposit of 10 (ten) percent of the Contract Sum, or • Performance Guarantee of 10 (ten) percent of the Contract Sum, issued by a Commercial Bank registered in the Republic of South Africa, or • Performance Guarantee of 10 (Ten) percent of the Contract Sum, issued by an Insurance Company registered in terms of the Short-tem Insurance Act (Act 53 of 1998). <p>Whenever a Joint Venture constitutes the contracting party (Contractor) to this Contract, the Performance Guarantee shall be issued on behalf of the Joint Venture.</p>															
6.2.2	Delete the entire contents of Clause 6.2.2 and replace with: “Failure to deliver an acceptable security as selected in the Contract Data within the stipulated period is a fundamental breach of Contract”.															
6.5.1.2.3	The percentage allowance to cover overhead charges is 10 (ten) percent.															
6.8.2	<p>The value of certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values:</p> <table style="margin-left: 40px;"> <tr> <td>x</td> <td>=</td> <td>0.10</td> </tr> <tr> <td>Labour</td> <td>a =</td> <td>0.20</td> </tr> <tr> <td>Plant</td> <td>b =</td> <td>0.40</td> </tr> <tr> <td>Material</td> <td>c =</td> <td>0.25</td> </tr> <tr> <td>Fuel</td> <td>d =</td> <td>0.15</td> </tr> </table> <p>The applicable area is Limpopo Province.</p> <p>The applicable industry for the Producer Price Index for materials is Civil Engineering Materials Index</p> <p>The applicable area for the Producer Price Index for fuel is Witwatersrand</p> <p>The base month is the month prior to closing date of bid.</p>	x	=	0.10	Labour	a =	0.20	Plant	b =	0.40	Material	c =	0.25	Fuel	d =	0.15
x	=	0.10														
Labour	a =	0.20														
Plant	b =	0.40														
Material	c =	0.25														
Fuel	d =	0.15														
6.8.3	The following are special materials: Bitumen binder extracted from petroleum based products and used on site,															

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

Clause	Data
	<p>including that used in asphalt, irrespective of whether it is produced and/or placed by the Contractor or an approved subcontractor.</p> <p>The rates and prices for the special materials shall be furnished by the contractor, which rates and prices ex refinery with the base date specified under 6.8.2 and shall exclude VAT but shall include all other obligatory taxes and levies on the basis specified in the contract price adjustment schedule (paragraph 4(i) and 4(ii)).</p>
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%. Proof of ownership is required.
6.10.3	<p>The percentage retention on amounts due to the Contractor is 10 (ten) percent.</p> <p>The limit of retention money is 10 (ten) percent of the Contract Sum.</p> <p>Add the following sub-clause 6.10.3.1: A Retention Money Guarantee is not permitted, after Practical Completion.</p>
8.6.1.1.2	The value of Plant and materials supplied by the Employer to be included in the insurance sum is nil .
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is a maximum of nil .
8.6.1.3	The Limit of the liability insurance required should not be less than the contract amount.
8.6.1.5	The following additional and varied insurances are required: CAR & SASRIA.
9.2.1.3.2	Clause 9.2.1.3.2 is replaced by the following “Has failed to submit documentation or to commence the Works in terms of Clause 5.3, or has suspended the progress of the Works for fourteen (14) consecutive days after receiving from the Employer’s Agent written notice to proceed,” duplicate to C1.5.2
10.5.2	Dispute resolution shall be referred to ad-hoc adjudication.
10.6.1	Should either of the contracting parties disagree with any decision of the ad-hoc adjudicator, such matter shall be referred to litigation for court judgement.
Special Clause in terms of RDP	<p>Requirements in terms of government’s reconstruction and development programme.</p> <p>Target values: In this project the minimum target values shall be as follows:</p>

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

Clause	Data
	<ul style="list-style-type: none"> • Labour Maximisation (Wages) :5% • SMME's :20% <p>It is a requirement that the Contractor plan for achieving these targets and that a planned programme for achieving each of the targets is submitted at the start of the project together with the clause 12 programme of construction.</p> <p><u>Penalties:</u></p> <p>The penalties for not reaching the required labour and SMME target values will be calculated at 200% of the difference between the set target values and the actual target values achieved by the contractor at completion of the works. Penalties will be applied monthly, when the actual figures are less than 75% of the planned monthly figures. No bonuses for achieving the set target values are applicable.</p>
Special Clause in terms of EPWP	
Payment for LI Component of Works	Payment for works identified in the Scope of Works as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict
Linkage of Payment to Submission of Project Data	The Contractor's payment invoices shall be accompanied by labour information for the corresponding period in a format specified by the employer. If the contractor chooses to delay submitting payment invoices, labour returns shall still be submitted as per frequency and timeframe stipulated by the Employer. The contractor's invoices shall not be paid until all pending labour information has been submitted.
Applicable Labour Laws	The current Ministerial Determination (also downloadable at www.epwp.gov.za), Expanded Public Works Programmes, issued in terms of the Basic Condition of Employment Act of 1997 by the Minister of Labour in Government Notice, shall apply to works described in the scope of work as being labour-intensive and which are undertaken by unskilled workers.

C1.3.4 Section 2: Data provided by the Contractor

Clause	Data
1.1.1.9	The contractor is
1.2.1.2	The contractor's address for receipt of communication is: Telephone: Facsimile: E-mail:..... Address:.....
5.5.1	The Works shall be completed within Months as proposed by the contractor.
6.5.1.2.3	The percentage allowances to cover all charges for the contractor's and subcontractor's profits, timekeeping, clerical work, insurance, establishment, superintendence and the use of hand tools is% (Maximum 15%).
6.8.3	The rate for special materials, exclusive of Value Added Tax is to be completed in Schedule T2.3 C.

PRIORITY OF DOCUMENTS

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purpose of interpretation, the priority of the documents shall be in accordance with the following sequence:

- a) The Form of Offer and Acceptance.
- b) Amplifications of the General Conditions of Contract within the Contract Data.
- c) Additional special conditions or amendments to the General Conditions of Contract within the Contract Data.
- d) The General Conditions of Contract.
- e) The Specifications, Drawings, Schedules and other documents forming part of the Contract (in that order) contained in the Scope of Work and the Site Information.

If any ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.

C1.3.3 Variations to the General Conditions of Contract

The following amendments of the General Conditions of Contract 2015 apply to this contract. The headings in these Special Conditions of Contract shall not be deemed to be part thereof nor be taken into consideration in the interpretation or construction thereof or of the Contract.

4. CONTRACTOR'S GENERAL OBLIGATIONS

4.1 EXTENT OF OBLIGATIONS AND LIABILITY

Add the following sub clause:

4.1.1.1 The Contractor shall, save in so far as it is legally or physically impossible,

- (b) Provide all superintendence, labour, materials, Constructional Plant, Temporary Works, including the design thereof, all requisite transport and all other things, whether of a temporary or permanent nature, required in and for such design, execution and completion of the Works and for the remedying of any defects, so far as the necessity for providing the same is specified in or reasonably to be inferred from the Contract.
- (c) After award of the Contract, the Contractor shall be obligated to ensure that at least the Constructional Plant stated on the prescribed form in the Tender Documents, or Constructional Plant equivalent thereto, are on the site when required.”

“4.1.3 Contractor deemed to have inspected the Site

The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself before submitting his tender (as far as practicable) as to

- (a) the form and nature of the Site and its surroundings, including subsurface conditions,
- (b) the hydrological and climatic conditions.
- (c) the extent and nature of work and materials necessary for the execution and completion of the Works,
- (d) the means of access to the Site and the Accommodation he may require and, in general, shall be deemed to have obtained all information (as far as is practicable) as to risks, contingencies and all other circumstances which may influence or affect his tender.

No subsequent claims by the Contractor arising from his lack of knowledge of perceptible conditions on the site or its surroundings or of information available in connection therewith shall be entertained.”

4.3 LEGAL PROVISIONS

Add the following sub-sub clauses:

- 4.3.1** The Contractor shall, in fulfilling the Contract, comply with all applicable laws, *with regard to Health, Safety, Wages and Condition of Work*, regulations, statutory provisions and agreements, and shall, at the request to the Employer's Agent, provide proof that he has complied therewith.

4.3.1.1 Mine Health and Safety Act, number 29 of 1996

The Employer shall obtain the Mining Authorisation for all sites where mining activities, as defined in the Mine Health and Safety Act, number 29 of 1996 as amended, are to be conducted.

4.3.1.2 Mineral Resources Petroleum Development Act, number 28 of 2002

The Contractor shall assume responsibility for the Environmental Management Programme (EMPR) in respect of the sites and shall ensure that the sites are rehabilitated at the conclusion of the contract.”

4.4. SUBCONTRACTING

Add the following subclauses:

“4.4.7 Continuing obligation extending beyond date of completion of the work

In the event of a Selected Subcontractor having undertaken to the Contractor, in respect of work executed or goods or materials supplied by such Selected Subcontractor, any continuing obligation extending beyond the date of completion of the work or the end of the Defects Liability Period, and Latent Defect Liability Period as the case may be, the Contractor shall at any time after such date cede to the Employer, at the Employer’s request and cost, the benefit of such obligation for the unexpired duration thereof, whereupon the Employer shall have no further claim against the Contractor in respect of the said continuing obligation.

4.4.8 Convert the subcontract

If the contract shall have been cancelled in terms of clause 9.2, the Employer shall have the right, by written notice given to any Selected Subcontractor not later than 28 days after the said cancellation, to convert the subcontract concerned to a direct contract between the Employer and the Subcontractor.

Provided that:

- (a) the terms of the said direct contract shall mutatis mutandis be those of the subcontract concerned, and
- (b) the Employer shall have the said right, notwithstanding any breach of the subcontract by the Contractor, subject to his forthwith paying to the Subcontractor all amounts then owing to the Subcontractor by the Contractor and perform any obligation which the Contractor has failed to perform.”

4.9 CONSTRUCTION EQUIPMENT

Add the following: sub clauses:

“4.9.2 Preclude seizure of construction equipment

In order to preclude seizure by the owner of any constructional plant being held by the Contractor on a hire or hire-purchase agreement for the purposes of the contract, the Employer shall be entitled to pay any such owner the amount of any outstanding instalment or other sum owing under any hire or hire-purchase agreement and in the event

of his doing so, any amount thus paid by him shall be a debt payable to the Employer by the Contractor and may be deducted by the Employer from any moneys owing or that may become owing to the Contractor in terms of the contract, or be recovered at law from the Contractor by the Employer.

4.9.3 Constructional plant brought to the site by the subcontractor

When entering into any subcontract agreement for the execution of any part of the works, the Contractor shall incorporate in such subcontract agreement, by reference or otherwise, the provisions of this clause in respect of construction equipment brought to the site by the subcontractor.”

5. TIME AND RELATED MATTERS

5.4 ACCESS TO THE SITE

Add the following subclause:

- 5.4.4** “If the site is insufficient for the needs and requirements of the work, the Contractor shall arrange with the owners or tenants for the additional land required and pay all rent and costs in connection therewith. The Contractor shall be responsible for all damage to such land and property, and he shall indemnify the Employer and hold him harmless in respect of all claims, demands proceedings, damages, costs, including attorneys and client costs, charges and expenses arising in respect thereof.”

5.14 COMPLETION

Delete the following:

“5.14.5.3 The retention shall be reduced to half in terms of Clause 6.10.5”

5.16 APPROVAL

5.16.1 Final Approval Certificate

Delete the last sentence of this clause and replace with:

The payment of the retention money or the release of the retention money guarantee shall only be permitted after the Engineer has issued the Final Approval Certificate.

6. PAYMENT AND RELATED MATTERS

6.6 PROVISIONAL SUMS AND PRIME COST SUMS

6.6.1.2.1 In the first line after the word "sums" insert “excluding VAT”

6.6.1.2.2 In the fourth line after the word "amount" insert “excluding VAT”

6.10.5 Payment of retention money

Delete the first four lines where reference is made to the first half of retention. The paragraph should read:”

“Retention money shall become due when the Employer’s Agent shall have certified payment thereof within 14 days after the expiration of the Defects Liability Period, extended if necessary in terms of Clauses 5.14.4 or 7.8.1. No retention, or part thereof, will hence be payable upon the issue of a Certificate of Completion as indicated in Clause 5.14.5.3.

6.11 VARIATIONS EXCEEDING 15 PER CENT

6.11.1 Second paragraph:

Change “15%” to “20%”.

Add the following subclause:

“6.11.2 Variations exceeding 20% per cent

Where the decrease or increase in the quantity of work has not resulted from a written variation order (or an additional agreement) in terms of clause 5.11 but from the fact that the quantities are less or more than those given in the bill of quantities, the tendered rates or sums shall still apply, except in the case of a sub-item (or an item not subdivided into sub-items) in the bill of quantities, which covers work the value of which during the tender stage exceeds 7,5% of the value of the tender sum, and where the quantity of such sub-item or item, upon completion of the contract, deviates by more than 20% from the quantity given in the bill of quantities so that the scale of activities or the method of construction consequently changes to such an extent that the tendered rate or sum no longer applies. In such case the Engineer, should he deem it to be in the interest of the Employer or should the Contractor enter a claim, shall, considering the extent by which the deviation in respect of the quantity of the sub-item or item concerned exceeds 20%, determine a sum which will be equitable in the circumstances, and shall certify that such sum shall be deducted from or added to the sums owing to the Contractor.”

8. RISKS AND RELATED MATTERS

8.2 Care of works

Add the following:

8.2.2.4 The Contractor shall take care that property beacons, trigonometrical survey beacons or setting-out beacons are not displaced or destroyed without the consent of the Employer’s Agent. Property beacons and trigonometrical survey beacons that have been displaced or destroyed shall be replaced by a registered land surveyor, who shall certify such replacement.

The cost of replacing all beacons displaced or destroyed during the course of the Contract without the consent of the Employer’s Agent shall be borne by the Contractor.”

9. TERMINATION OF CONTRACT

9.3 Termination by Contractor

Delete the wording of sub clause 9.3.1.1.2 and replace this clause with the following:

9.3.1.2 “Failing to pay the contractor the amount due in terms of any payment certificate issued by the Employer’s Agent, provided that such payment certificate is acceptable to

the Employer and further more subject to the provision of sub-clause 3.2.3, within the time of payment provided in the contract, or.”

10. CLAIMS AND DISPUTES

Add the following

10.12 Joint ventures

"If the Contractor is in a joint venture of two or more parties or persons, the parties or persons shall be jointly and severally bound to the Employer for fulfilment of the Contractor's obligations and terms of this Contract. The formation and/or conditions of agreement of the joint venture shall not be altered without the consent of the Employers. Should such a change be acceptable to the Employer then two notarially certified copies of the revised Joint Venture Agreement shall be submitted to the Employer's Agent within fourteen (14) days of signature thereof by the parties to the Joint Venture."

C1.4 PERFORMANCE GUARANTEE FOR MATERIALS AND EQUIPMENT NOT YET BUILT INTO THE WORKS

(not to be completed at bid stage)

To:
.....
.....

(hereinafter referred to as the Employer)

re: Demand Guarantee in respect of the project :

Contract No. :

For construction of :

Contractor :

I/We, the undersigned,

.....

and

.....

of

.....

(hereinafter referred to as the "Bank")

address:

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

.....
.....

and acting on behalf of the Bank have been informed that

(hereinafter called "the Contractor") is your contractor under such Contract and wishes to receive payment in respect of manufacture or partial manufacture of equipment and/or materials brought in a ready state for despatch to the construction site, whether temporarily stored in the warehouse of the Contractor or on the Construction Site, for which the Contract requires him to obtain a guarantee.

We hereby irrevocably undertake to pay you, the Employer, any sum or sums not exceeding in total the amount of R..... (in words only) the "Guaranteed Amount"

upon receipt by us of your demand in writing and your written statement stating:

- that the Contractor has failed to deliver such equipment and/or materials when required or instructed to do so.

The Bank's liability under this guarantee is principal in nature and is not subject to the Contract. The Bank's liability shall not be reduced, or in any way be affected by any alteration of the terms of the Contract, or any other arrangements made between the Employer and Contractor.

The Bank will pay on demand and will not determine the validity of the demand or the correctness of the amount demanded, or become party to any claim or dispute of any nature which any party may allege.

The Bank will pay the amount demanded into the bank account to be notified by the Employer.

This guarantee is neither negotiable nor transferable, is restricted to the payment of a sum of money only and is limited to the Guaranteed Amount.

This guarantee will lapse sixty (60) days after all the said equipment and/or materials have been built into the Works unless the Bank is, before the expiration date, advised in writing by the Employer of his intention to demand payment for such equipment and/or materials.

This original guarantee must be returned to the Bank by the Employer or the Employer's duly authorised agent either:

- on expiry of the guarantee; or
- against payment of the Guaranteed Amount.

This guarantee shall be governed by the law of the Republic of South Africa.

The Bank chooses as its domicilium citandi et executandi for the purpose of the service of all notices and legal processes the following address:

THUS DONE AND SIGNED AT ON 20.....

In the presence of the following:

AS WITNESSES:
thereto

on behalf of the Bank and duly authorised

1.
.....
Print Name

1.
.....
Print Name

and

thereto

on behalf of the Bank and duly authorised

2.
.....
Print Name

2.
.....
Print Name

C1.5 RETENTION MONEY GUARANTEE

(not to be completed at bid stage)

TO:
.....
.....
.....

(whom the Contract defines as “the Employer”)

Re: Retention Money Guarantee in respect of :
Contract Number :
For supply of :
Contractor :

I/We, the undersigned,

.....

and

.....

of

.....

(hereinafter referred to as the “Bank”)

address:

.....

.....

and acting on behalf of the Bank have been informed that (hereinafter called the “Contractor”) is your contractor under such Contract and wishes to receive early payment of the retention money, for which the Contract requires him to obtain a guarantee.

We hereby irrevocably undertake to pay you, the Employer, any sum or sums not exceeding in total the amount of R..... (in words) (the “guaranteed amount”,

upon receipt by us of your demand in writing and your written statement stating:

- that the Contractor failed to carry out his obligation(s) to rectify defect(s) for which he is responsible under the Contract.

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

The Bank’s liability under this guarantee is principal in nature and is not subject to the Contract. The Bank’s liability shall not be reduced, or in any way be affected by any alteration of the terms of the Contract, or any other arrangements made between the Employer and Contractor.

The Bank will pay on demand and will not determine the validity of the demand or the correctness of the amount demanded, or become party to any claim or dispute of any nature which any party may allege.

The Bank will pay the amount demanded into the Bank account to be notified by the Employer.

This guarantee is neither negotiable nor transferable, is restricted to the payment of a sum of money only and is limited to the Guaranteed Amount.

This guarantee shall expire on the date on which the last of the retention monies, which but for this guarantee would have been retained by the Employer, becomes payable to the Contractor.

This original guarantee must be returned to the Bank by the Employer or the Employer’s duly authorised agent either:

- on expiry of the guarantee; or
- against payment of the Guaranteed Amount.

This guarantee shall be governed by the law of the Republic of South Africa.

The Bank chooses as its domicilium citandi et executandi for the purpose of the service of all notices and legal processes the following address:

THUS DONE AND SIGNED AT ON 20.....

In the presence of the following:

AS WITNESSES:

on behalf of the Bank and duly authorised thereto

1.

1.

.....

.....

Print Name

Print Name

and

on behalf of the Bank and duly authorised thereto

2.

2.

.....

.....

Print Name

Print Name

C1.6 AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 85 of 1993 AND APPOINTMENT AS MINE MANAGER IN TERMS OF SECTION 3(1)(a) OF MINE HEALTH AND SAFETY ACT 29 of 1996.

This AGREEMENT made at on this day of in the year between MOLEMOLE MUNICIPALITY (hereinafter called “the Employer” on the one part, herein represented by in his capacity as And delegate of the Employer and (hereinafter called “the Principal Contractor”) of the other part, herein represented by in his capacity as

WHEREAS the Employer is desirous that certain works be constructed, as stated for in Project No:TECH/003/2022/23For (description of contract).....

..... in theDistrict of Limpopo Province and has accepted a tender by the Principal Contractor for the construction, completion and maintenance of such works and whereas the Employer and the Principal Contractor have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Principal Contractor with the provisions of the Occupational Health and Safety Act 1993(Act 85 of 1993 and the Construction Regulation, February 2014):

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. The Principal Contractor shall execute the work in accordance with the contract documents pertaining to this contract.
2. This Agreement shall hold good from its commencement date, which shall be the date of a written notice from the employer or engineer requiring him to commence the execution of the Works, to either:
 - a) the date of the final certificate issued in terms of clause 5.14 of the General Conditions of Contract for Construction Works 2015 (Third Edition) as issued by the South African Institution of Civil Engineering (hereinafter referred to as “the GCC 2015”), as contained in the contract documents pertaining to this contract, or
 - b) the date of termination of the contract in terms of clause 9.1, 9.2 or 9.3 of the GCC 2015.
3. The Principal Contractor declares himself to be conversant with the following:-
 - a) All requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), hereinafter referred to as “The Act”, together with its amendments and with special reference to the following Sections of The Act.
 - i. Section 8: General duties of employers to their employees.
 - ii. Section 9: General duties of employers and self-employed persons to persons other than employees
 - iii. Section 37: Acts or omissions by employees or mandatories and
 - iv. Sub-section 37(2) relating to the purpose and meaning of this Agreement.
 - v. Construction Regulations 2014, and other safety regulations, as applicable.

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- b) The procedures and safety rules of the employer as pertaining to the Principal Contractor and to his subcontractors.
- 4. The Principal Contractor is responsible for the compliance with the Act by his sub-contractors, whether or not selected and/or approved by the employer.
- 5. The Principal Contractor warrants that all his and his sub-contractors' employees (permanent and temporary) are covered in terms of the Compensation for Occupational Injuries and Diseases Act 1993 which cover shall remain in force whilst any such employees are present on site. The Principal Contractor shall submit a written report to this effect at each Progress Site Meeting.
- 6. The Principal Contractor undertakes to ensure that he and/or his sub-contractors and/or their respective employees will at all times comply with the following conditions:
 - a) The Principal Contractor shall assume the responsibility in terms of Section 16.1 of the Occupational Health and Safety Act. The Principal contractor shall not delegate any duty in terms of Section 16.2 of this Act without the prior written approval of the Employer. If the Principal contractor obtains such approval and delegates any duty in terms of Section 16.2 a copy of such written delegation shall immediately be forwarded to the Employer.
 - b) All incidents referred to in the Occupational Health and Safety Act shall be reported by the Principal Contractor to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.
 - c) The Employer hereby obtains an interest in the issues of any formal enquiry conducted in terms of Section 32 of the Occupational Health and Safety Act into any incident involving the Principal Contractor and/or his employees and/or his sub-contractors.

Further to the abovementioned, where contracts involve quarries or borrow pits, the following shall be applicable:-

In terms of Section 3(1)(a) of the Mine Health and Safety Act of 1996, MOLEMOLE MUNICIPALITY. shall appoint a manager for its mine/s.

You are hereby appointed as the mine manager for, with effect from until further notice.

In terms of this appointment you are charged with the functions, duties and responsibilities imposed by the aforementioned Act and its regulations. Without derogating from the duties, functions and responsibilities imposed by this legislation, you are to:

- i) Control, manage and direct employees at the Mine (borrow pit or quarry).
- ii) Take all reasonable measures to ensure the health and safety of employees and proper discipline at the Mine.

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- iii) Take all reasonable measures to ensure that the provisions of the Mine Health and Safety Act and its regulations (as may be amended from time to time) are implemented and adhered to at the Mine.
- iv) Ensure and maintain a healthy and safe mine environment for all persons.
- v) Ensure an adequate supply of health and safety equipment and facilities.
- vi) Staff the Mine, with due regard to health and safety.
- vii) Provide health and safety training as far as reasonably practicable to all employees.
- viii) Initiate, prepare and implement codes of practice, relating to health and safety.
- ix) Maintain an effective risk identification and management system.
- x) Ensure the effective maintenance of hazard identification and medical monitoring records.
- xi) Prepare and or review the Health and Safety Policy for the Mine.
- xii) Ensure that an annual medical report is compiled at the Mine, and forwarded to the owner or the appointed owner representative of the Mine.
- xiii) Ensure compliance with relevant environmental legislation.
- xiv) Assist with implementation and maintenance of the Molemole Municipality SHE Management Standards, the Contractor’s Compliance Pack and operational procedures.
- xv) Enhance a culture of high performance in safety and health.

You are to appoint the prescribed persons to assist you in your duties and functions, and you are hereby authorised and obliged to take all reasonable measures to comply with legislative requirements. You are to ensure that an acting mine manager is appointed when you are to be absent, or on leave for a period longer than five (5) days.

Instructions and procedures are from time to time issued by the Council of Molemole Municipality, and it will be your responsibility to ensure the implementation and adherence to these instructions and procedures at the Mine.

You are further responsible to ensure that relevant environmental legislative requirements are complied with, including the implementation of all internal procedures and systems to ensure compliance with such legislation.

It would be the responsibility of yourself to report any shortcomings, in relation to the implementation of applicable legislation which you are unable to rectify, immediately in writing to the appointed owner representative.

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

SIGNED FOR ON BEHALF OF THE EMPLOYER/SECTION 4.1 APPOINTEE

.....

WITNESS: 1..... 2.....

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

NAME

(IN CAPITALS) 1..... 2.....

DATE:

SIGNED FOR AND ON BEHALF OF THE PRINCIPAL CONTRACTOR/MINE MANAGER

.....

WITNESS: 1..... 2.....

NAME

(IN CAPITALS) 1..... 2.....

DATE:

Copy to: The Chief Inspector - Department of Minerals and Energy

**EXAMPLE FOR USE BY CONTRACTOR WHEN APPOINTING SUB-ORDINATES IN TERMS OF THE MINE HEALTH AND SAFETY ACT (1996) AS AMENDED.
(To be printed on Contractors letter head)**

APPOINTMENT IN TERMS OF SUB-ORDINATE MANAGER: REGULATION 2.6.1 IN FORCE IN TERMS OF SCHEDULE 4 OF THE MINE HEALTH AND SAFETY ACT (ACT NO. 29 OF 1996) AS AMENDED BY THE HEALTH SAFETY AMEUREMENT ACT (ACT NO. 72 OF 1997)

I, in my capacity as, having been appointed in terms of **Section 3(1)** of the Act, by the who is our client, 'Molemole Municipality' and owner of the Mine(s) to be worked under the requirements of the above-mentioned Acts hereby, in terms of **Regulation 2.6.1** of the Act as amended, appoint as Sub-Ordinate Manager of the Contractor, of address, and contact number, on Project No.: **TECH/003/2022/23 for Maupye Upgrading of 3.1 km of Internal Streets from Gravel to Surfacing**

In accordance with the provisions of the Mine Health and Safety Act, 1996 (Act 29 of 1996), you are also appointed in terms of Section 7(2) of the Mine Health and Safety Act, 1996 to perform the following functions, assigned to the Mine Manager in terms of Section 7(1), 10(2) (b) and (c) and 11 (1) in so far as your area of responsibilities are concerned:-

1. You must identify the hazards, assess the risk and record the hazards to health and safety to which employees may be exposed while they are at work, and
2. To the extent that is reasonable, you must ensure that every employee is properly trained:
 - a. In the measures necessary to eliminate, control and minimise those risks to health and safety.
 - b. In the procedures to be followed to perform the employee's work.
3. To the extent that is reasonably practical, you must:-

Ensure that every employee becomes familiar with the work-related hazards and risk and the measures that must be taken to eliminate, control and minimise those hazards and risks.
4. To the extent that is reasonably practical, you must:-

Ensure that every employee under your control complies with the requirements of the Act.

Institutes the measures necessary to secure, maintain and enhance health and safety.

Considers and employees training and capabilities in respect of health and safety before assigning a task to that employee.

Ensure that work is performed under the general supervision of a person trained to understand the hazards associated with the work, and who has the authority to ensure that the precautionary measures laid down by the Manager are implemented.

You will be responsible for the control, management and direction of all the activities and employees connected with work and you are required to ensure that all such

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

activities take place in accordance with the provisions of the Mine Health and Safety Act and the Regulations are complied with.

You are further required to inform the Manager, [REDACTED] as soon as practicable, of any breach of any provision of these Regulation, to enable him to inform the Principal Inspector of Mines, Department of Minerals and Energy, or take such steps as may be necessary.

Please acquaint yourself with the relevant Regulations, Standards and Procedures, which have a bearing on your appointment. You must ensure that you are fully conversant with the requirements of the Procedures for Reporting Accidents.

SIGNED:

DATE:

WITNESS: 1. 2.

NAME(Print):1. 2.

I,, having been appointed in terms of Regulation 2.6.1 of the act (as amended) to perform all functions entrusted to.....In terms of the Act (as amended) hereby accept the above appointment.

SIGNED:

DATE:

WITNESS: 1. 2.

NAME(Print):1. 2.

EXAMPLE FOR USE BY CONTRACTOR WHEN APPOINTING SUB-ORDINATES IN TERMS OF THE MINE HEALTH AND SAFETY ACT (1996) AS AMENDED.

(To be printed on Contractors letter head)

APPOINTMENT AS COMPETENT PERSON IN CHARGE OF MACHINERY IN TERMS OF REGULATION 2.13.2 IN FORCE IN TERMS OF SCHEDULE 4 OF THE MINE HEALTH AND SAFETY ACT (ACT NO. 29 OF 1996) AS AMENDED BY THE HEALTH AND SAFETY AMENDMENT ACT (ACT NO. 72 OF 1997)

I, in my capacity as, having been appointed in terms of **Section 3(1)** of the Act , who is our client, 'Molemole Municipality' and owner of the Mine(s) to be worked under the requirements of the above mentioned Acts hereby, in terms of **Regulations 2.13.2** of the Act as amended, appoint as Competent Person in charge of machinery for the Contractor, of address and contact number, on all contracts in the Limpopo Province that are undertaken by the contractor.

You are to report any accident to the mine manager immediately and personally visit the scene of the accident without delay.

You must familiarise yourself with the Mine Health and Safety Act and the Minerals Act and the Regulations and ensure that you have a copy in your possession and you must take all reasonable measures to ensure that the provisions of this Act are complied with.

Your attention are further drawn to Regulation 2.13.4.1 as well as the requirements of Chapter 18,20 and 21.

Please confirm this appointment by signing at the bottom.

SIGNED: DATE:.....

NAME:

SIGNED: DATE:.....

NAME:

C1.7 ABSTRACTS OF THE MINE HEALTH AND SAFETY ACT No. 29 OF 1996 AND AMENDMENT ACT No. 72 OF 1997**DEFINITIONS:**

Section 102 of the Mine Health and Safety Act refers.

“mine” means, when –

- (a) “used as a noun-
- (i) any borehole, or excavation, in any tailing or in the earth, including the portion of the earth that is under the sea or other water, made for the purpose of searching for or winning a mineral, whether is being worked or not, or
 - (ii) any other place where a mineral deposit is being exploited, including the mining area and all buildings, structures, machinery, mine dumps, access roads or objects situated on or in that area that are used or intended to be used in connection with searching, winning, exploiting or processing of a mineral, or for health and safety purposes. But, if two or more excavations, boreholes or places are being worked in conjunction with one another
 - (iii) a works; and
- b) used as a verb, the making of any excavation or borehole referred to in paragraph (a) (i), or the exploitation of any mineral deposit in any other manner, for the purpose of winning a mineral including prospecting in connection with the winning of a mineral.
- a) whether that substance is in solid, liquid or gaseous form;
 - b) that occurs naturally in or on the earth, in or under water or in tailings, and
 - c) that has been formed by or subjected to a geological process.

“processing” means the recovering, extracting, concentrating, refining, calcimining, classifying, crushing, milling, screening, washing, reduction, smelting or gasification or any mineral, and “process” has a similar meaning

“works” means any place, excluding a mine, where any person carries out-

- a) The transmitting and distributing to another consumer of any form of power from a mine, by the owner thereof, to the terminal point of bulk, to the power supply meter on any such other consumer’s premises, or
- b) Training at any central rescue station, or
- c) The making, repairing, re-opening or closing of any subterranean tunnel, or
- d) Any operations necessary in connection with any of the operational listed in this paragraph.

C1.8 AGREEMENT WITH ADJUDICATOR

This agreement is made on the.....day of 20.....between: the Employer
(*name of company / organisation*).....
of (*address*).....
.....and the
Contractor
(*name of company / organisation*)
of (*address*).....
.....
(hereinafter called **the Parties**)

and

(*name*).....
of (*address*)
.....
.....
(hereinafter called **the Adjudicator**)

Disputes or differences may arise/have arisen* between the Parties under a Contract
dated.....
and known as Contract No.....
(*Contract
title*).....

and these disputes or differences shall be/have been* referred to adjudication in accordance with
the CIDB Adjudication Procedure, (hereinafter called "**the Procedure**") and the Adjudicator may
be or has been requested to act.

(* *Delete as necessary*)

IT IS NOW AGREED as follows:

1. The rights and obligations of the Adjudicator and the Parties shall be as set out in the Procedure.
2. The Adjudicator hereby accepts the appointment and agrees to conduct the adjudication in accordance with the Procedure.
3. The Parties bind themselves jointly and severally to pay the Adjudicator's fees and expenses in accordance with the Procedure as set out in the Contract Data.
4. The Parties and the Adjudicator shall at all times maintain the confidentiality of the

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

adjudication and shall endeavour to ensure that anyone acting on their behalf or through them will do likewise, save with the consent of the other Parties which consent shall not be unreasonably refused.

- 5. The Adjudicator shall inform the Parties if he intends to destroy the documents which have been sent to him in relation to the adjudication and he shall retain documents for a further period at the request of either Party.

SIGNED by:

Signature): (*Signature*): (*Signature*):

Name: **Name:** **Name:**

who warrants that he/ she is who warrants that he/ she is the **Adjudicator** in the
duly authorised to sign for and duly authorised to sign for presence of
on behalf of the **First Party** in and on behalf of the **Second**
the presence of **Party** in the presence of

Witness: **Witness:** **Witness:**

(*Signature*)..... (*Signature*)..... (*Signature*).....

Name: **Name:** **Name:**

Address: **Address:** **Address:**

.....

Date: **Date:** **Date:**



**MAUPYE UPGRADING OF 3.1KM INTERNAL STREETS FROM GRAVEL TO SURFACING –
(MULTI-YEARS).**

PART C2: PRICING DATA

C2.1	PRICING INSTRUCTIONS	C.41
C2.2	BILL OF QUANTITIES	C.45

C2.1 PRICING INSTRUCTIONS

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

Unit: The unit of measurement for each item of work as defined in the standard specifications or the project 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: The product of the quantity and the rate tendered for an item.

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

- 2 This bill of quantities forms part of the contract documents and must be read in conjunction with all the other documents comprising the contract documents.

- 3 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 is valued at the rates or lump sums tendered, subject only to the provisions of sub-clause 1209 (a) of the standard specifications.

- 4 Rates and lump sums shall include full compensation for overheads, profits, incidentals, tax (other than VAT), etc, and for the completed items of work as specified, all in accordance with sub-clause 1209 (b) of the standard specifications. Full compensation for completing and maintaining, during the defects liability period, all the work shown on the drawings and specified in the standard specifications and project specifications and for all the risks, obligations and responsibilities specified in the general conditions of contract, special conditions of contract, standard specifications and 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 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" appear in the amount column. Although no work is foreseen under such item and no quantities are

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

consequently given in the quantity column, the tendered rate shall apply should work under this item actually be required. Tenders should note the provisions of paragraph 12 of this preamble.

If the tender should group a number of items together and tender one lump sum for each group of items, this single tendered lump sum shall apply to that 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 sums and rates shall be valid irrespective of any change in the quantities during the execution of the contract.

- 6 The works executed are measured for payment in accordance with the methods described in the contract documents under the various payment items, notwithstanding any custom to the contrary. Attention is directed to the provisions of clause 1220 of the standard specifications regarding the measurements of quantities for payment. Except where specified otherwise than in clause 1220, the nett measurement or mass of the finished work in place shall be taken for payment, and any volume or mass of work in excess of that prescribed, shall be excluded.
- 7 The amount of work or the quantities of material stated in the bill of quantities shall not be considered as restricting or extending the amount of work to be done or quantity of material to be supplied by the contractor.
- 8 The statement of quantities of material or the amount of work in the bill of quantities shall not be regarded as authorisation for the contractor to order material or to execute work. The contractor shall obtain the engineer's detailed instructions for all work before ordering any materials or executing work or making arrangements in this regard.
- 9 The short descriptions of the payment items in the bill of quantities are only given to identify the items and to provide specific details. Reference shall, inter alia, be made to the drawings, standard specifications, project specifications, general conditions of contract and special conditions of contract for more detailed information regarding the extent of work entailed under each item.
- 10 The provisions of clause 6.6 of the general conditions of contract shall apply to provisional sums and prime cost sums.
- 11 If a bill of quantities (or schedule of quantities or schedule of rates) applies and there is an error in the line item total resulting from product of unit rate and quantity, the line item total shall govern and the rates 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 corrected.
- 12 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

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

employer to adjust the unit rates or lump sums for such items, to make such adjustments.

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

The following abbreviations are used in the bill of quantities:

mm	=	millimetre
m	=	metre
km	=	kilometre
km-pass	=	kilometre-pass
m ²	=	square metre
m ² -pass	=	square metre pass
ha	=	hectare
m ³	=	cubic metre
m ³ km	=	cubic metre kilometre
l	=	litre
kl	=	kilolitre
kg	=	kilogram
t	=	ton (1000 kg)
No	=	number
mn	=	meganewton
mn-m	=	meganewton-metre
%	=	per cent
kW	=	kilowatt
Kn	=	kilonewton
PC sum	=	prime cost sum
Prov sum	=	provisional sum

- 14 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 The item numbers appearing in the bill of quantities refer to the corresponding item numbers in the standard specifications. Item numbers prefixed by the letter B refer to payment items described under part B of the project specifications, those with C to payment items described under part C, and so on for further parts of the project specifications.

Item numbers in schedule B of the bill of quantities are, in addition, preceded by the number of each separate part of schedule B of the bill of quantities, e.g. payment item 62.02 described in the standard specifications (clause 6210), when used in part 3 of schedule B of the bill of quantities, would be numbered 3/62.02, and if this payment item had been amended in part B of the project specifications, the payment item would be indicated as 3/B62.02.

16. Labour intensive items are highlighted in the bills of quantities for the payment items relating to labour intensive works.

16.1 Those parts of the contract to be constructed using labour intensive methods have

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

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

16.2 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

16.3 Payment for items which are designated to be constructed using labour intensively in the schedule of quantities will not be made unless they are constructed using labour intensive methods. Any unauthorised use of plant to carry out work which was to be done labour intensively will not be condoned and any work so constructed will not be certified for payment. If a contractor, through innovation on other activities, achieved the Local labour content target, but he did not perform all LI-marked activities through labour, he will not be penalized. However, if a contractor did not achieve the Local labour content target and constructed a LI-marked activity through other means, he will not be paid for that activity. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

17. All cost for formal training to the targeted workforce (amongst others: allowances, wages, administration, transport, etc) shall be deemed to be included in the rates for Labour Intensive items.

C2.2 BILL OF QUANTITIES**SCHEDULE A : ROADWORKS**

1200	General Requirements and Provisions.....	C.46
1300	Contractor's Establishment and General Obligations	C.47
1400	Housing, Offices and Laboratories for the Engineer's personnel	C.48-49
1500	Accommodation of Traffic	C.50-51
1700	Clear and Grubbing.....	C.52
1800	Daywork Schedule	C.53
2100	Drains.....	C.54
2200	Prefabricated Culverts.....	C.55-57
2300	Concrete Kerbing, Concrete Channelling, Chutes.....	C.58
3100	Borrow Materials.....	C.59
3300	Mass Earthworks	C.60
3400	Pavement Layers of Gravel Material	C.61
3500	Stabilisation	C.62
3600	Crushed Stone Base.....	C.63
4100	Prime.....	C.64
4200	Asphalt Base and Surfacing.....	C.65
5100	Pitching, stonework & Erosion protection....	C.66
5200	Gabions.....	C.67
5400	Guardrails	C.68
5500	Fencing	C.69
5600	Road Signs	C.70
5700	Road Markings.....	C.71
5900	Finishing the Road and Road Reserve and Treating old Roads.....	C.72
7300	Concrete Block Paving for Roads	C.73
8100	Testing Materials and Workmanship	C.74
	SUMMARY OF SCHEDULE OF QUANTITIES.....	C.75
	CALCULATION OF TENDER SUM.....	C.76

SCHEDULE OF QUANTITIES

NB: TENDERERS MUST COMPLETE THE SCHEDULE OF QUANTITIES IN BLACK INK.

SCHEDULE A : ROAD CONSTRUCTION

SECTION 1200

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1200	<u>GENERAL REQUIREMENTS AND PROVISIONS</u>				
B12.01	Relocation and reinstatement of watermains belonging to local or district authority , institution or community				
	(a) Direct payment to the authority or its agent	P C Sum	1		250 000,00
	(b) Eskom Power Lines	P C Sum	1		150 000,00
B12.02	(c) Royalties for borrow pit material	P C Sum	1		50 000,00
	(b) Handling costs and profit in respect of B12.01(a)	%	450000,00		
B12.03	PROVISIONAL SUMS				
	(a) Project Launch Amount	Prov Sum	Lump	Sum	50 000,00
	(b) Employment of Community Liaison Officer (CLO) for the duration of the contract @R 6000.00 pm	Prov Sum	Lump	Sum	72 000,00
	(c)Provisional sum for attending steering committee meetings	Prov Sum	Lump	Sum	20 000,00
	(d) Payment for Student Training @ R5000,00	Prov Sum	Lump	Sum	60 000,00
	(e) Provision for Accredited Training	Prov Sum	Lump	Sum	250 000,00
	(f) Provision for OHS Consultant	Prov Sum	Lump	Sum	300 000,00
	(f) Provision for EIA Consultant	Prov Sum	Lump	Sum	300 000,00
	(g) Handling costs and profit in respect of B12.03(a) to (f)	%	752000		
B12.04	Project Nameboard as per drawing MONT/MAK/RDS/2019/...	number	1		
1200	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING SECTION 1300

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1300	<u>CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS</u>				
B13.01	The Contractor's general obligations:				
	(a) Fixed obligations	-	lump	sum	
	(b) Value-related obligations	-	lump	sum	
	(c) Time-related obligations	month	12,00		
	NB The combined total tendered for subitems (a), (b) and (c) shall not exceed 15% of the Tender Sum (excl VAT)				
13/H11.1	Environmental management plans and specifications	month	12,00		
13/H/B1.1	Contractors' initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Sum	lump	sum	
13/H/B1.2	Contractors' time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations (incl full time construction Safety Officer)	month	12,00		
13/H/B1.3	Submission of the Health and Safety File	Sum	lump	sum	
	<u>NB</u> The combined total tendered for Items B1.1, B1.2, B1.3 shall not be less than 1,0% of the Tender Sum.				
1300	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SECTION 1400 SURFACING

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1400	<u>HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL</u>				
14.01	Office and laboratory accommodation:				
	(a) Offices (interior floor space only)	m ²	30,00		
	(e) Ablution units	m ²	5,00		
	(f) Stores	m ²	0,00		Rate Only
14.02	Office and laboratory furniture:				
	(a) Chairs	number	10,00	370,00	
	(d) Desks, complete with drawers and locks	number	2,00	2000,00	
	(e) Drawing tables	number	1,00	2000,00	
	(f) Conference tables	number	1,00	2300,00	
14.03	Office and laboratory fittings, installations and equipment:				
	(a) Items measured by number:	number			
	(i) 220/250 volt power points	number	6,00	500,00	
	(iii) Double 80 watt fluorescent-light fittings complete with ballast and tubes	number	6,00	600,00	
	(vi) Wash hand basins complete with tap and drains	number	2,00	700,00	
	(xi) Air-conditioning units with 2,2 kW minimum capacity, mounted and with own power connection	number	1,00	7500,00	
	(xii) Heater, space-heating type, minimum capacity 1,5 kW	number	1,00	5000,00	
	(xiv) General-purpose steel cupboards with shelves	number	2,00	1500,00	
	(xv) Steel filing cabinets with drawers	number	2,00	2500,00	
	(xvi) Refrigerators	number	1,00	5500,00	
	(x) Fire extinguishers, 9,0 kg all purpose dry powder type, complete, mounted on wall with brackets	number	2,00	750,00	
	(xix) Uninterrupted power supply	number	1,00	15000,00	
	(xviii) Voltage stabilisers	number	1,00	2000,00	
1400	Carried forward				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SECTION 1400 SURFACING

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
Brought forward					
14.03 (b)(cont)	(b) Prime-cost items and items paid for in a lump sum:				
	(i) The provision of telephone service, including the cost of calls in connection with contract administration and telephone rental	-	Prov	Sum	15 000,00
	(ii) Handling costs and profit in respect of subsubitem B14.03(b)(i) above	%	15000,00		
	(iii) The provision of a direct independent telephone line for the Engineer, including the cost of calls in connection with contract administration and telephone rental	-	Prov	Sum	10 000,00
	(iv) Handling costs and profit in respect of subsubitem 14.03(b)(iii) above	%	10000,00		
	(v) The provision of a fax apparatus as specified	-	Prov	Sum	4 000,00
	(vi) Handling costs and profit in respect of subsubitem 14.03(b)(v) above connections, etc	%	4000,00		
14.04	Car-ports Wooden post Car ports, 6m long, 3m wide and 2,5m high	number	4,00	6000,00	24 000,00
14.07	Rented, hotel and other accommodation:				
	(a) Provisional Sum for providing rented housing, hotel or other accommodation as described in Subsubclause 1403(c)(ii)	-	Prov	Sum	24 500,00
	(b) Handling costs and profit in respect of subitem 14.07(a)	%	24500,00		
14.08	Services:				
	(a) Services at offices and laboratories:				
	(i) Fixed costs	-	lump	Sum	
	(ii) Running costs	month	12,00		
	(c) Services for rented houses	month	12,00		
	(d) Services for labourers' accommodation on the Site:				
	(i) Fixed costs	-	lump	Sum	
	(ii) Running costs	month	12,00		
14.10	Provision of photostat facilities	month	12,00		
14.12	Supply of Survey Equipment, Computer and Printers				
	(a) Computers	-	lump	Sum	
	(b) Printers	-	lump	Sum	
	(c) Provision of survey equipment	-	lump	Sum	
B 14.13	Provision and erection of security fencing (including gate)	m	120,00		
1400	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SECTION 1500 SURFACING

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1500	<u>ACCOMMODATION OF TRAFFIC</u>				
B15.01	Accommodating traffic and maintaining temporary deviations	km	3,80		
15.02	Earthworks for temporary deviations:				
	(a) Shaping of temporary deviations	km	3,80		
	(b) Cut and borrow to fill	m ³	1980,00		
	(c) Cut to spoil	m ³	275,00		
B15.03	Temporary traffic-control facilities:				
	(a) Flagmen	Man-day	270,00		
	(b) Portable STOP and GO-RY signs	number	4,00		
	(e) Road signs, R- and TR-series, (900mm dia)	number	4,00		
	(f) Road signs, TW-series, (1200mm sides)				
	(i) Single	number	8,00		
	(ii) Mounted back to back	number	12,00		
	(h) Delineators (DTG50J)				
	(i) Single	number	50,00		
	(ii) Mounted back to back	number	40,00		
	(i) Movable barricade/road sign combination Chevron and Road Closed type	number	6,00		
	(n) Provision of high visibility safety jackets and hat	number	6,00		
15.04	Relocation of traffic-control facilities	-	lump	sum	
1500	Carried forward				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SECTION 1500 SURFACING

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15.05	Gravelling and repair of temporary deviations and existing gravel shoulders used as temporary deviations:				
	(a) Temporary deviations	m ³	300,00		
15.06	Watering of temporary deviations	kilolitre	1000,00		
15.07	Blading by road grader of:				
	(a) Temporary deviations	km-passes	45,00		
15.12	Temporary culverts:				
	(a) Provision and laying of temporary prefabricated culverts complete:				
	(1) 600mm dia	m	50,00		
	(2) 900mm dia	m	50,00		
	(b) Re-use of prefabricated culverts complete:				
	(1) 600mm dia	m	Rate Only		Rate Only
	(2) 900mm dia	m	Rate Only		Rate Only
	(c) Eventual removal of prefabricated culverts:				
	(1) 600mm dia	m	Rate Only	120,00	Rate Only
	(2) 900mm dia	m	Rate Only	150,00	Rate Only
	(d) Overhaul on excavated material carted to spoil, backfill material (but excluding Portland cement), prefabricated culverts removed and reinstalled, and prefabricated culverts removed and stacked, for haul in excess of a free-haul distance of 1,0 km	m ³ -km	550,00		
1500	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING SECTION 1700

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1700	<u>CLEARING AND GRUBBING</u>				
17.01	Clearing and grubbing	ha	1,50		
17.02	Removal and grubbing of large trees and tree stumps:				
	(a) Girth exceeding 1 m up to and including 2 m	number	20,00		
17.04 LI	Clearing and grubbing at inlets and outlets of hydraulic structures	m ²	Rate only		Rate only
17.09	Demolition,removal and disposal off site of miscellaneous structures consisting of:				
	(a) Unreinforced Concrete	m ³	Rate only		Rate only
	(b) Masonary and stone pitching	m ³	Rate only		Rate only
	(c) Reinforced concrete	m ³	Rate only		Rate only
	(d) Portal Culvert	m	Rate only		Rate only
1700	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING SECTION 1800

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1800	<u>DAYWORKS</u>				
B18.01	Labourers				
	(i) Unskilled	hour	15,00		
	(ii) Semi-skilled	hour	15,00		
	(iii) Skilled	hour	15,00		
B18.02	Foremen	hour	15,00		
B18.03	<u>Trucks</u>				
	(i) 6m3	hour	15,00		
	(ii) 10m3	hour	15,00		
	(iii) 5 ton flat truck	hour	15,00		
B18.04	TLB	hour	15,00		
B18.05	Loader (0,5m3 bucket)	hour	15,00		
B18.06	Grader (CAT 140G or similar)	hour	15,00		
B18.07	Vibratory roller	hour	15,00		
B18.08	Grid roller	hour	15,00		
B18.09	Pedestrian roller (Bomag BW90)	hour	15,00		
B18.10	Water truck (5000l)	hour	15,00		
B18.11	Chainsaw	hour	15,00		
B18.12	Mechanical broom	hour	15,00		
B18.13	Light delivery vehicle (1 ton capacity)	hour	15,00		
1800	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING SECTION 2100

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
2100	DRAINS				
21.01	Excavation for open drains (a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m ³	680,00		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	Rate Only		Rate Only
	(c) Extra over subitem 21.01(a) for excavation by hand within the following depth ranges below surface level:				
	(i) 0 m up to 1,5 m	m ³	Rate Only		Rate Only
21.06	Natural Marerial in subsoil drainage system (crushed stone): (b) crushed stone obtained from commercial sources (Coarse grade 19mm)	m ³	30,00		
21.08	Pipes in subsoil drainage systems: (c) High density type polyethylene pressure pipes and fitting complete with couplings (100mm internal dia. Perforated)	m	45,00		
LI					
21.09	Polythylene sheeting 0.15 mm thick, or similar approved material, for lining subsoil drainage system	m ²	50,00		
21.10	Synthetic fibre filter fabric (a) Kaytech Grade A2	m ²	50,00		
LI					
21.12	Concrete outlet structures, manhole boxes, Junction boxes, and cleaning eyes for subsoil drainage systems				
LI	(a) Outlet Structures	No	12,00		
LI	(b) Cleaning eyes	No	4,00		
21.18	Excavation for cleaning of existing drainage systems a) Manhole inlet and outlet structure	m ³	Rate only		Rate only
LI	b) Culverts barrels	m ³	Rate only		Rate only
21.19	Selected backfill material under concrete-lined side drains compacted to 93% mod. AASHTO density	m ³	Rate only		Rate only
2100	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

SECTION 2200

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
2200	<u>PREFABRICATED CULVERTS</u>				
22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m ³	Rate Only		Rate Only
	(ii) Exceeding 1,5 m and up to 3,0 m	m ³	Rate Only		Rate Only
	(b) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m ³	Rate Only		Rate Only
	(c) Extra over subitem 22.01(a) for excavation by hand within the following depth ranges below surface level:				
	(i) 0 m up to 1,5 m	m ³	Rate Only		Rate Only
22.02	Backfilling:				
	(a) Using the excavated material	m ³	Rate Only		Rate Only
	(b) Using imported selected material	m ³	Rate Only		Rate Only
	(c) Extra over subitems 22.02(a) and (b) for soil cement backfilling containing 5% cement	m ³	Rate Only		Rate Only
22.03	Concrete pipe culverts:				
	(b) On class B bedding:				
	(i) Class 100D - 600 mm Diameter	m	Rate Only		Rate Only
	(i) Class 100D - 750 mm Diameter	m	Rate Only		Rate Only
	(ii) Class 100D - 900 mm Diameter	m	Rate Only		Rate Only
22.05	Portal and rectangular culverts				
	(b) Without prefabricated floor slabs				
	(1) 1200x1200 Class 75S Rectangular Portal Culverts	m	Rate Only		Rate Only
	(2) 1500x1500 Class 75S Rectangular Portal Culverts	m	Rate only		Rate only
22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	Rate Only		Rate Only
2200	Carried forward				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

SECTION 2200

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 30/19 concrete	m ³	Rate Only		Rate Only
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class 30/19 concrete	m ³	Rate Only		Rate Only
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(1) Vertical formwork for F1 surface finish	m ²	Rate Only		Rate Only
	B(f) In concrete surface slab on top of culvert sections, including formwork, joints and class U2 surface finish				
	(1) Class 30/19	m ²	Rate Only		Rate Only
	B(g) In concrete barriers on sides of driving surface				
	(1) Class 30/19	m ³	Rate Only		Rate Only
	Concrete backfilling for culverts and making up levels				
	(a) Class 15/19	m ³	Rate Only		Rate Only
22.10	Steel reinforcement:				
	(a) Mild steel bars	t	Rate Only		Rate Only
	(b) High-tensile steel bars	t	Rate Only		Rate Only
	(c) Welded steel fabric	kg	Rate Only		Rate Only
22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	Rate Only		Rate Only
	(b) Reinforced concrete	m ³	Rate Only		Rate Only
2200	Carried forward				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

SECTION 2200

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
Brought forward					
22.14	Removing and stacking existing prefabricated culverts (450 - 900mm concrete pipes)	m		Rate Only	Rate Only
22.15	Treating surfaces with epoxy resin for joining new to old concrete (ABE epoxy resin or similar)	litre		Rate Only	Rate Only
22.18	Brickwork				
	(a) 115mm thick	m ²		Rate Only	Rate Only
	(b) 230mm thick	m ²		Rate Only	Rate Only
22.19	Plaster	m ²		Rate Only	Rate Only
22.25	Overhaul on excavated material carted to spoil, backfill material (but excluding Portland cement in the case of soil cement), existing structures demolished and removed to spoil, and removing and relaying, and removing and stacking existing prefabricated culverts, for haul in excess of the free-haul distance	m ³ -km		Rate Only	Rate Only
2200	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

SECTION 2300

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LINING</u>				
23.01	Concrete kerbing				
LI	(a) Precast kerbing to SABS 927:2006				
	(i) Figure 8 C	Prov Sum	3 800	912 000,00	912 000,00
	(ii) Contractor's handling cost in respect of item (i)	%	912 000		
23.07	Trimming of excavation for concrete-lined opened drains				
LI	(a) In soft material	m ²	600		
LI	(b) In hard material	m ²	120		
23.08	Concrete lining for open drains;				
LI	(a) Cast insitu concrete lining (V-Drain) including formwork 25/19 mpa	m ³	425		
LI	(b) Class U2 surface finish to cast in situ concrete (V-Drain)	m ²	3 264		
23.09	Formwork to cast in situ concrete lining for open drains (class F2 surface finish)				
LI	(b) To sides with formwork on both internal and external faces	m ²	760		
	(c) To ends of slabs	m ²	410		
23.10 LI	Sealed joints in concrete linings of open drains (polysulphide sealants)	m	3 800		
23.12	Steel reinforcement				
LI	(a) Welded steel fabric ref: 193	kg	6 946		
2300	TOTAL CARRIED FORWARD TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING SECTION 3100

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3100	<u>BORROW MATERIALS</u>				
B31.01	Excess overburden				
	(a) Depth up to and including 0.5m	m ³	1500,00		
	(b) Depth exceeding 0.5m and up to 1.0m	m ³	1200,00		
31.03	Finishing-off borrow areas in:				
	(a) Hard material	ha	1,00		
	(b) Intermediate material	ha	1,00		
	(c) Soft material	ha	1,50		
3100	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING SECTION 3300

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3300	MASS EARTHWORKS				
33.01	Cut and borrow to fill, including free-haul up to 1,0 km: (a) Material in compacted layer thicknesses of 200 mm and less: (ii) Compacted to 93% of modified AASHTO density	m ³	14331		
33.03	Extra over item 33.01 for excavating and breaking down (a) Intermediate excavation (b) Hard excavation (d) Boulder excavation Class A	m ³	30 70 50		
33.04	Cut to spoil, including free haul up to 1,0 km materials (a) Soft excavation (b) Intermediate excavation (c) Hard excavation (e) Boulder excavation Class A	m ³	1100 220 110 50		
33.07	Removal of unsuitable material (including free-haul of 1 km) (a) In layer thickness of 200mm and less (i) Stable material (ii) Removal of existing tar	m ³	1000 60		
33.10	Roadbed preparation and the compaction of material (b) Compaction to 93% of modified AASHTO density	m ³	4560		
33.12	In situ treatment of roadbed: (a) In situ treatment by ripping (b) In situ treatment by blasting	m ³	50 60		
33.13	Finishing-off cut and fill slopes, medians and interchange areas: (a) Cut slopes (b) Fill slopes	m ²	4450 3703		
33/16.02	Overhaul (extra over items 33.01 on material hauled in excess of the free-haul distance of 1km (ordinary overhaul))	m ³ -km	28512		
33/32.06	Stockpiling of material	m ³	Rate Only		Rate Only
3300	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

SECTION 3400

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
34.01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(a) Gravel selected layer compacted to:				
	(ii) 93% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	Rate Only		Rate Only
	(d) Gravel subbase (C4) (chemically stabilized gravel) compacted to:				
	(ii) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	3996,00		
	(f) Gravel base (C3) (chemically stabilized gravel) compacted to:				
	(ii) 97% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	Rate Only		Rate Only
	Extra over item 34.01 for excavation of material in:				
	(a) Intermediate excavation	m ³	600,00		
	(b) Hard excavation	m ³	300,00		
34,07	Extra over item 34.01 for temporarily blading the material to windrow:	m ³	3996,00		
34/16.02	Overhaul on material hauled in excess of 1,0 km (ordinary overhaul)	m ³ -km	35964,00		
3400	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING SECTION 3500

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3500	<u>STABILIZATION</u>				
35.01	Chemical stabilization 150mm layer thickness extra over unstabilized compacted layers (base and subbase layer)				
	(a) Gravel Base and subbase, 150mm thick	m ³	3996,00		
35.02	Chemical stabilizing agent:				
	(a) CEMII B-L	t	340,00		
35.04	Provision and application of water for curing	kilolitre	3500,00		
3500	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING SECTION 3500

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3600	<p><u>CRUSHED STONE BASE</u></p> <p>36,01 Crushed stone base:</p> <p>(c) Constructed from type G2 material obtained from commercial sources and compacted to 98% of bulk relative density (150mm layer)</p>	m ³	3809,00		
3600	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL SECTION 4100 TO SURFACING

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
4100	<u>PRIME COAT</u>				
41.01	Prime coat:				
	(a) RTH 3/12P or RTL 3/12 tar prime (0.8l/m ²)	litre			Rate Only
	(c) MC-30 Cut Back bitumen (0.8l/m ²)	Prov Sum	20 314	406 280,00	406 280,00
	(d) Contractor's handling cost in respect of item (c) above	%	406 280,00		
41.02	Aggregate for blinding	m ²	350		
41.03	Extra over item 41.01 for applying the prime coat in areas accessible only to hand held equipment	litre	640		
4100	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SECTION 4200 SURFACING

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
4200	ASPHALT BASE AND SURFACING				
42.02	Asphalt surfacing 60/70 Penetration grade bitumen				
	(a) Medium grade, continuously graded asphalt (30mm)	Prov Sum	25392	5 205 360,00	5 205 360,00
	(b) Contractor's handling cost in respect of item (a) above	%	5 205 360,00		
42.04	Tack Coat				
	(a) Tack coat using 30% stable-grade emulsion applied at a rate of 0.6l/m ²	Prov Sum	15235	182 822,40	182 822,40
	(b) Contractor's handling cost in respect of item (a) above	%	182 822,40		
42.05	Binder variations				
	(a) 60/70 pen. grade bitumen	t	1		
42.06	Variations in active filler content:				
	(a) Cement	t	1		
	(b) Hydrated Lime	t	1		
42.07	Trial sections:				
	(a) 30 mm thick, continuously graded medium grade, normal mixture	m ²	100		
42.08	100 mm cores in asphalt	No	15		
42.14	Extra over item 42.04 for applying tack coat in restricted areas	litre	12		
4100	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING SECTION 5100

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5100	<u>PITCHING, STONEMWORK AND PROTECTION AGAINST EROSION</u>				
51.01	Stone pitching:				
LI	(b) Grouted stone pitching	m ²	150,00		
5100	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING SECTION 5200

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5200	<u>GABIONS</u>				
52.01	Foundation trench excavation and backfilling				
	(a) In solid rock (material which requires blasting)	m ³	100,00		
LI	(b) In all other classes of material	m ³	60,00		
52.02 LI	Surface preparation for bedding the gabions	m ²	200,00		
52.03	Gabions				
	(a) Galvanised gabion boxes 1.0m wide, 2.7mm diameter (1) 1.0m x 1.0m x 80mm x 1000				
LI	(i) 0 - 3m high - box 2m long	m ³	45,00		
	(b) Galvanised gabion boxes 0.5m wide, 2.7mm diameter (1) 0,5m x 1,0m x 80mm x 100mm				
LI	(i) 0 - 3m high	m ³	32,00		
	(c) Galvanized gabion reno mattresses (80mm x 100mm) with 2.7mm diameter wire, incl. diaphragms				
LI	(i) 2,0m x 1,0m x 0,3m	m ³	22,00		
52.04 LI	Filter Fabric (Bidim U34 or Similar)	m ²	120,00		
5200	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING SECTION 5400

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5400	<u>GUARDRAILS</u>				
54.01	Guardrails on timber posts:				
LI	(a) Galvanized	m	50,00		
54.03 LI	Extra Over item 54,01 for horizontally curved guardrails factory bent to a radius of less than 45m	m	50,00		
54.04	End treatments:				
LI	(a) End wings	number	5,00		
54.05	Additional guardrail posts:				
LI	(a) Timber	number	10,00		
54.06 LI	Reflective plates	number	20,00		
54.07	Removing existing guardrails	m	Rate Only		Rate Only
5400	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING SECTION 5500

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5500	<u>FENCING</u>				
55.01	Clearing the fence line, 2 m wide strip	km	1,00		
55.02	Supply and erect new fencing material for new fences and for supplementing material in existing fences which are being repaired or removed:				
	(a) Zinc-coated barbed wire, high-tensile-grade single-strand 3.15mm x 2.5mm oval-shaped wire, 2.81 mm equivalent dia, fully galvanized	km	6,00		
	(g) Standards, 2,5 kg/m Y-sections:				
	(i) 1.85 m long	number	100,00		
	(h) Droppers (0,56kg/m ridgeback pattern steel)				
	(i) 1.200 m long	number	100,00		
	(i) Straining posts, stays and anchors:				
	(i) Vertical				
	Steel straining post 101.6 mm outside dia, 2.95 mm wall thickness, fully galvanized with base plate and pressed mushroom top, 2100 mm long	number	50,00		
	(ii) Inclined				
	Steel stays and anchors, 60.33 mm outside dia tubular steel posts with cap and 2.95 mm thick walls, 1700 mm long excluding fully galvanized with base plate	number	5,00		
55.03	New Gates:				
	(a) 4.2 government pattern farm gate complete	number	2,00		
5500	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM SECTION 5600 GRAVEL TO SURFACING

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5600	<u>ROAD SIGNS</u>				
B56.01	Road sign boards with painted or coloured semi-matt background. Symbols, lettering and borders in diamond grade retro-reflective material, where the sign board is constructed from:				
	(c) Prepainted galvanized steel plate (chromadek or approved equivalent):				
LI	(i) Area not exceeding 2 m ²	m ²	60,00		
LI	(ii) Area exceeding 2 m ² but not 10 m ²	m ²	60,00		
56.02	Extra over item 56.01 for using:				
	(a) Background of retro-reflective material:				
LI	(i) Class I	m ²	Rate Only		Rate Only
56.03	Road sign supports (overhead road sign structures excluded):				
	(a) Steel tubing (D Profile)				
LI	(i) 76mm dia, 2mm thick	t	Rate Only		Rate Only
LI	(ii) 100mm dia, 4mm thick	t	2,00		
56.05	Excavation and backfilling for road sign				
LI	supports (not applicable to kilometre posts)	m ³	5,00		
56.06	Extra over item 56.05 for cement-treated soil				
LI	backfill	m ³	5,00		
56.07	Extra over item 56.05 for rock excavation	m ³	5,00		
LI					
56.10	Standard road signs : (complete with posts)				
LI	(a) W401/402 back to back at culverts (1200mm height)	number	16,00		
56.11	Construction of speed hump as per Drawing No: MONT/RDS/STD013	number	6,00		
LI					
5600	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

**BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM SECTION 5700
GRAVEL TO SURFACING**

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5700	<u>ROAD MARKINGS</u>				
57.02	Retro-reflective road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	3,80		
	(iv) 300 mm wide	km	0,75		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	4,40		
LI	(d) White lettering and symbols	m ²	45,00		
	Variations in rate of application				
	(a) White paint	L	1,00		
	(b) Yellow paint	L	1,00		
57.06 LI	Setting out and premarking the lines				
	(excluding traffic-island markings, lettering and symbols)				
		km	3,20		
5700	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

SECTION 5900

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND OLD ROADS</u>				
59.01	Finishing the road and road reserve:				
	(b) Single carriageway road	km	3,80		
59.02	Treatment of old roads and temporary deviations	km	3,80		
5900	TOTAL CARRIED TO SUMMARY				

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SI SECTION 7300

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
7300	<u>CONCRETE BLOCK PAVING</u>				
73.01 LI	(a) Supply and laying of 60mm thick concrete interlocking paving blocks of 25MPa crushing strength including 25mm thick sand bedding and filling the joints with jointing sand	m ²	5 700		
LI	(b) Supply and laying of 80mm thick concrete interlocking paving blocks of 25MPa crushing strength including 25mm thick sand bedding and filling the joints with jointing sand	m ²	Rate Only		
73.02 LI	Cast insitu concrete edge and intermediate beams. Concrete class 25/19	m ³	90		
73.03 LI	Provision for approved herbicide and ant poison				
	a) Provision for materials	PC Sum	1,00	PC Sum	150 000,00
	b) Charge on Prime Cost Sum	%	150000,00		
7300	TOTAL CARRIED TO SUMMARY				150 000,00

SCHEDULE A : ROAD CONSTRUCTION

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SI SECTION 8100

PROJECT NUMBER: TECH/003/2022/23

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
8100	<u>TESTING MATERIALS AND WORKMANSHIP</u>				
81.02	Other special tests requested by the Engineer: (a) Cost of testing (b) Charge on Prime Cost Sum	PC Sum %	1,00 150000,00	PC Sum	150 000,00
8100	TOTAL CARRIED TO SUMMARY				150 000,00

**BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM
GRAVEL TO SURFACING**

PROJECT NUMBER: TECH/003/2022/23

SUMMARY OF SCHEDULE OF QUANTITIES

SECTION	DESCRIPTION	AMOUNT
SCHEDULE A : ROADWORKS		
1200	GENERAL REQUIREMENTS AND PROVISIONS	
1300	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS	
1400	HOUSING, OFFICES AND LABORATORY FOR THE ENGINEER'S SITE PERSONNEL	
1500	ACCOMMODATION OF TRAFFIC	
1700	CLEARING AND GRUBBING	
1800	DAYWORK AND HIRE OF CONSTRUCTION PLANT	
2100	DRAINS	
2200	PREFABRICATE CULVERTS	
2300	CONCRETE KERBING, CONCRETE, CHANNELING, OPEN CHUTES AND CONCRETE LININGS FOR OPEN DRAINS	
3100	BORROW MATERIALS	
3300	MASS EARTHWORKS	
3400	PAVEMENT LAYERS OF GRAVEL MATERIAL	
3500	STABILIZATION	
3600	CRUSHED STONE BASE	
4100	PRIME COAT	
4200	ASPHALT BASE AND SURFACING	
5100	PITCHING, STONEMWORK AND PROTECTION AGAINST EROSION	
5200	GABIONS	
5400	GUARDRAILS	
5500	FENCING	
5600	ROAD SIGNS	
5700	ROAD MARKINGS	
5900	FINISHING THE ROAD AND ROAD RESERVE AND TREATMENT OF OLD ROADS	
7300	CONCRETE BLOCK PAVINGS	
8100	TESTING MATERIALS AND WORKMANSHIP	
TOTAL OF SCHEDULE A : ROADWORKS		

SUMMARY

BID DESCRIPTION: MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

PROJECT NUMBER: TECH/003/2022/23

<u>CALCULATION OF TENDER SUM</u>	
TOTAL OF SCHEDULE A	
CONTINGENCIES The sum provided here is under the sole control of the Engineer and may be deducted in whole or in part. (The Tenderer must add 10% of the total of schedule of quantities)	
SUBTOTAL (1)	
CONTRACT PRICE ADJUSTMENT Sum provided in terms of the provisions of the General of Conditions of Contract (The Tenderer must add 5% of of Sub-Total 1)	
SUBTOTAL (2)	
VALUE-ADDED TAX (VAT) The tenderer shall add 15% of subtotal (2) for VAT	
TENDER SUM CARRIED TO FORM OF TENDER	



**MAUPYE UPGRADING OF 3.1KM INTERNAL STREETS FROM GRAVEL TO SURFACING
– (MULTI-YEARS).**

THE CONTRACT

PART C3 SCOPE OF WORKS
PART C4 SITE INFORMATION



**MAUPYE UPGRADING OF 3.1KM INTERNAL STREETS FROM GRAVEL TO SURFACING
– (MULTI-YEARS).**

PART C3: SCOPE OF WORK

C3.1	DESCRIPTION OF WORKS	C.79
C3.2	ENGINEERING.....	C.84
C3.3	PROCUREMENT POLICY	C.85
C3.4	CONSTRUCTION	C.97
C3.5	MANAGEMENT	C.201

C3.1 DESCRIPTION OF WORKS**C3.1.1 Employer's Objectives**

Molemole Local Municipality, in consultation with the community, identified the need for the **Maupye Upgrading of 3.1 km Internal Streets From Gravel to Surfacing**. It is anticipated that upon completion, this project will deliver the following benefits to the users:

- Better road riding quality and improved visibility;
- Better stormwater drainage facilities;
- Improved road safety;
- Sheltered turn and ease overall of turning movements;

Labour-intensive works

Labour-intensive works shall be constructed/maintained using local workers who are temporarily employed in terms of this Scope of Work.

Labour-intensive competencies of supervisory and management staff

Contractors shall engage supervisory and management staff in labour-intensive works that have completed the skills programme including Foremen/Supervisors at NQF "National Certificate: Supervision of Civil Engineering Construction Processes" and Site Agent/Manager at NQF level 5 "Manage labour-intensive Construction Processes" or equivalent QCTO qualifications.

C3.1.2 Overview and Location of Works

The current scope of works entails Construction of Maupye Upgrading of 3.1 km Internal Streets from Gravel to Surfacing.

C3.1.3 Extent of Works

The major activities within the project will include, among other, the following;

- Contractor's Site establishment, maintenance and removal;
- Clearing and grubbing, including removal of rubble on site;
- Installation of sub-surface drains (LI);
- Earthworks comprising of out to spoil and borrow to fill
- Construction of subgrade layer using insitu material
- Construction of pavement layerworks; (G2 Base and C3 Subbase)
- Asphalt surfacing(30mm).

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING

- Construction of concrete kerbs and concrete open V-drains (LI);
- Construction of Concrete edge beams and concrete drifts (LI);
- Grouted stone pitching;
- Supply and erection of Road traffic signs;
- Provision of road markings;
- Finishing the Road and Road Reserve (LI).
- Maintenance of the Works during construction and also during defects liability period..

All labour-intensive works are marked as Labour-Intensive Construction (LIC) items in the Bill of Quantities and this progress is part of the Expanded Public Works Programme (EPWP).

C3.1.4 Location of the Works

The following details provide the key elements of the project area.

- Municipal Area : Molemole Municipality
- Central Co-ordinates:
 - Latitude (S) : 23°20'57.40"
 - Longitude (E) : 29°11'27.28"

The project is located 70 km North of Polokwane and about 8.8 km west of R521 Road to Vivo. The project area falls within the Molemole Municipality under the Capricorn District Municipality.

C3.1.5 Temporary Works

No temporally works are envisaged on the contract.

C3.1.6 General Information**C3.1.6.1 Drawings**

The reduced drawings contained in book 2 of 2 that form part of the tender document shall be used for tender purposes only. Further drawings are to be provided on an on-going basis by the engineer.

The contractor will be supplied with an unreduced 0,05 mm thick transparent polyester print of each of the drawings. These polyester prints are issued free of charge and the contractor shall make any additional prints he may require at his own cost.

Any information in the possession of the contractor, which the resident engineer requires to complete the as-built drawings, shall be supplied to the resident engineer before a certificate of completion will be issued.

Only figured dimensions shall be used and drawings shall not be scaled unless so

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING

instructed by the engineer. The engineer will supply all figured dimensions omitted from the drawings.

C3.1.6.2 Power, Water Supply and Other Services

The contractor shall make his own arrangements concerning the supply of electrical power and all other services. No direct payment will be made for the provision of electrical and other services. The cost of providing these services will be deemed to be included in the rates and amounts tendered for the various items of work for which these services are required.

C3.1.6.3 Contractor's Camp Site and Security

The contractor shall make his own arrangements regarding the establishment of a camp site and housing for his construction personnel and all regulations stipulated by the local authority shall be adhered to.

It is anticipated that the contractor's choice of a camp site will be influenced by the availability of telephone and electrical connections as well as the supply of potable water.

Provision is made in these specifications for the erection of a security fence around the site offices. The contractor shall be responsible for the security of his personnel and constructional plant on and around the site of the works and for the security of his camp, and the employer will consider no claims in this regard.

C3.1.6.4 Additional Requirements for Construction Activities

C3.1.6.4.1 The contractor may not commence constructional activities before adequate provision has been made to accommodate traffic in accordance with the requirements of this document and the South African Road Traffic Signs Manual.

C3.1.6.4.2 The contractor shall submit proposals in connection with directional signs to the engineer for approval.

C3.1.6.5 Programme Requirements for Construction Activities

The contractor shall programme his activities to be suitable in terms of his resources to complete the contract inside the stipulated time period.

C3.1.6.6 Construction in Confined Areas

It may be necessary for the contractor to work in confined areas. In certain areas the width of the fill material and pavement layers may reduce to zero and the working space may be confined. The method of construction in these confined areas depends on the contractor's construction plant. However, the contractor must note that measurement and payment will be in accordance with the specified cross-sections and dimensions, irrespective of the method used to achieve these cross-sections and dimensions, and that the rates and amounts tendered will be deemed to include full compensation for any special equipment or construction methods or for any difficulty encountered in working in confined areas and narrow widths, and at or around obstructions, and that no extra payment will be made nor will any claim for payment be considered on account of these difficulties.

C3.1.7 Labour Regulations**C3.1.7.0 EPWP Requirements**

Labour-intensive works shall be constructed/maintained using local workers who are

temporarily employed in terms of this Scope of Work

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Competencies of LI Management and Supervisory staff

Contractors shall engage supervisory and management staff in labour-intensive works that have completed the skills programme including Foremen/Supervisors at NQF “National Certificate: Supervision of Civil Engineering Construction Processes” and Site Agent/Manager at NQF level 4 “Manage labour-intensive Construction Processes” or equivalent QCTO qualifications.

Wage Dispute (Contractor default to pay beneficiaries)

Any dispute between the Contractor and labourers, regarding delayed payment or default in payment of fair wages, if not resolved immediately may compel the Employer to intervene.

The Employer may, upon the Contractor defaulting payment, pay the moneys due to the workers not honoured in time, out of any moneys due or which may become due to the Contractor under the Contract.

Provision of Hand tools

The Contractor shall provide his labour force with hand tools of adequate quality, sufficient in numbers and make the necessary provisions to maintain the tools in good and safe working conditions

Reporting Requirements

The Contractor should submit the following at the beginning of the Contract:

- (a) Contracts of all the workers employed on the contracts including their certified identity documents;
- (b) Proof of Registration for COIDA and UIF;
- (c) OHS Files

The Contractor shall submit monthly returns/reports as specified below:

- (a) Signed Muster rolls/pay sheets of temporary workers and permanent staff detailing the number, category, gender, rate of pay and daily attendance.
- (b) Copies of certified identity documents of workers
- (c) Number of persons who have attended training including nature and duration of training provided
- (d) Assets created, rehabilitated or maintained in accordance with indicators in the EPWP M&E framework
- (e) Plant utilization returns
- (f) Progress report detailing production output compared to the programme of works

C3.1.7.1 Payment for the labour-intensive component of the works

Payment for works identified in clause 2.3 “the Extent of the Project” in the Project Specifications as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve

the Contractor in any way from his obligations either in contract or in delict.

C3.1.7.2 Applicable labour laws

Ministerial determination 4:

1. Special Public Works Programs Government Gazette no. 34310-3 of 4 May 2012.
2. Code of Good Practice for Employment and Conditions of works of Expanded Public Works Programs – Government Gazette no. 34032 of 18 February 2011.

C3.2 ENGINEERING**C3.2.1 Design**

- (a) The **Employer** is responsible for the design of the permanent Works as reflected in these Contract Documents unless otherwise stated.
- (b) The **Contractor** is responsible for the design of the temporary Works and their compatibility with the permanent Works.
- (c) The **Contractor** shall supply all details necessary to assist the engineer in the compilation of the as-built drawings.

C3.2.2 Employer's Design

- (a) Detail description of Works
- (b) General Works

C3.2.3 Contractor's Design

Where contractor is to supply the design of designated parts of the permanent Works or temporary Works he shall supply full working drawings supported by a professional engineer's design certificate.

C3.2.4 Design procedures

All designs and modifications thereto shall be communicated in writing and the contractor and engineer shall maintain master lists to record and track all transactions.

C3.3 PROCUREMENT POLICY**PREFERENTIAL PROCUREMENT POINT SYSTEM POLICY****C3.3.1 GENERAL CONDITIONS**

The abovementioned provisions of this policy document shall apply subject to the following terms and conditions:

C3.3.1.1 Company Registration

Whereas the Agency shall have the above responsibilities, the respective and prospective service providers shall be:

- (a) Formally registered entity, in compliance with the applicable legislation such as the Companies Act, the Close Corporations Act, other related industry regulatory bodies, and professional bodies, where required;
- (b) Registered with the South African Revenue Services for all categories of taxes applicable to it.

C3.3.1.2 Tender Evaluation

- (a) Only a tenderer who has completed and signed the declaration part of the tender documentation may be considered for preference points.
- (b) The Municipality may, before a tender is adjudicated or at any time, require a tenderer to substantiate claims it has made with regard to preference.
- (c) The Municipality shall, when calculating comparative prices, take into account any discounts, which have been offered unconditionally.
- (d) A discount, which has been offered conditionally must, despite not being taken into account for evaluation purposes, be implemented when payment is effected.
- (e) In the event that different prices are tendered for different periods of a contract, the price for each period must be regarded as a firm price if it conforms to the definition of a "firm price".
- (f) Points scored must be rounded off to the nearest 2 decimals.
- (g) In the event that two or more tenders have scored equal total points, the successful tender must be the one scoring the highest number of preference points for specified goals. Should two or more tenders be equal in all respects, the award shall be decided by the drawing of lots.

C3.3.1.3 Principles

- (a) Preference points stipulated in respect of a tender must include preference points for equity ownership by HDIs.
- (b) The equity ownership contemplated in sub-regulation (C3.3.1.3(a)) must be equated to the percentage of an enterprise or business owned by individuals or, in respect of a company, the percentage of a company's shares that are owned by individuals, who are actively involved in the management of the enterprise or business and exercise control over the enterprise, commensurate with their degree of ownership as the closing date of the tender.
- (c) In the event that the percentage of ownership contemplated in sub regulation (C3.3.1.3 (b)) changes after the closing date of the tender, the tenderer must notify The Agency and such tenderer will not be eligible for any preference points.
- (d) Preference points may not be claimed in respect of individuals who are not actively involved in the management of an enterprise or business and who do not exercise control over an enterprise or business commensurate with their degree of ownership.
- (e) Subject to sub-regulations C3.3.1.3 (a), (b), (c) and (d), all claims made for equity ownership by an HDI must be considered according to the following criteria:
- i. Equity within private companies must be based on the percentage of equity ownership;
 - ii. Preference points may not be awarded to public companies and tertiary institutions;
 - iii. The following formula must be applied to calculate the number of points for equity ownership by an HDI:

$$NEP = NOP \times \frac{EP}{100}$$

Where

NEP = Points awarded for equity ownership by an HDI

NOP = The maximum number of points awarded for equity ownership by an

HDI

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EP = The percentage of equity ownership by an HDI within the enterprise or business, determined in accordance with sub-regulations C3.3.1.3 (a), (b), (c) and (d).

- (f) Equity claims for a Trust may only be allowed in respect of those persons who are both trustees and beneficiaries and who are actively involved in the management of the Trust.
- (g) Documentation to substantiate the validity of the credentials of the trustees contemplated in sub-regulation C3.3.1.3 (f) must be submitted to the relevant The Agency.
- (h) A Consortium or Joint Venture may, based on the percentage of the contract value managed or executed by their HDI members, be entitled to equity ownership in respect of an HDI.
- (i) The number of points scored for a Consortium or Joint Venture must be added to the number of points scored for achieving specified goals.
- (j) The points contemplated in sub-regulation C3.3.1.3 (i) must be added to the points scored for price, in order to establish the total number of points scored.
- (k) Subject to regulations C3.3.1.3 (i), the contract must be awarded to the tender, which scores the highest points.
- (l) A person awarded a contract as a result of preference for contracting with, or providing equity ownership to, an HDI, may not subcontract more than 25 % of the value of the contract to a person who is not an HDI or does not qualify for such preference.

C3.3.1.4 Declarations

A tenderer must, in the stipulated manner, declare that-

- (a) The information provided is true and correct;
- (b) The signatory to the tender document is duly authorised; and
- (c) Documentary proof regarding any tendering issue will, when required, be submitted to the satisfaction of the relevant The Agency.

C3.3.1.5 Penalties

- (a) The Municipality shall, upon detecting that a preference in terms of the Act and these regulations has been obtained on a fraudulent basis, or any

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specified goals are not attained in the performance of the contract, act against the person awarded the contract.

- (b) The Municipality may, in addition to any other remedy it may have against the person contemplated in sub-regulations C3.3.1.5(a).
- (c) Recover all costs, losses or damages it has incurred or suffered as a result of that person's conduct;
- (d) 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;
- (e) Impose a financial penalty more severe than the theoretical financial preference associated with the claim which was made in the tender; and
- (f) Restrict the contractor, its shareholders and directors from obtaining business from the Agency for a period not exceeding 10 years.
- (g) The Municipality reserves the right to have access and/or require production of the original or certified proof of any such registration at a time agreed to by the parties or as may be prescribed by law.

C3.3.1.6 Areas of Policy Coverage

The above-mentioned provisions of this policy shall apply subject to, but not limited to, the following entities and/or activity:

- (a) Procurement of goods or services;
- (b) Appointment of consultants;
- (c) Appointment of contractors, subcontractor, consortia and joint venture contractors;

C3.3.1.7 Criteria for Tender Evaluation

The Agency shall use the following criteria to evaluate tenders: -

- (a) Compliance with tender conditions;
- (b) Preference point system 90/10 on tenders with a Rand value above R 50 000 000 (fifty million Rand) and preference point system 80/20 for tenders with a Rand value equal to, or above R 30 000 but up to a Rand value of R 50 000 000 (Fifty million Rand);

- (c) Status of the enterprise; and
- (d) Price and functionality.

C3.3.1.8 Preference Point System: 80/20

The following formula shall be used to calculate the points in respect of tenders/procurement with a Rand value equal to, or above R30 000 and up to a R 50 000 000 (fifty million Rand). The Municipality may, however, apply this formula for procurement with a value less than R30 000, if and when appropriate. The formula shall be used to determine points for price and functionality.

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

Where: P_s = Points scored for price and functionality for the tender under consideration.

P_t = Rand value of tender under consideration.

P_{\min} = Rand value of the lowest acceptable tender.

- (a) A maximum of 20 points may be awarded to a tenderer for being a Historically Disadvantaged Individual or a pro-rata thereof commensurate with the percentage of an HDI in a firm or a JV.
- (b) The points scored by a tenderer in respect of the HDI shareholding will be added to the points scored for price and functionality.
- (c) Only the tenderer with the highest number of points scored may be awarded.

C3.3.1.9 Preference Point System: 90/10

The following formula must be used to calculate the points in respect of tenders/procurement with a Rand value above R 50 000 000 (fifty million Rand). This formula should be used to determine points for price and functionality.

$$P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where: P_s = Point scored for price and functionality for the tender under consideration.

P_t = Rand value of tender under consideration.

P_{\min} = Rand value of the lowest acceptable tender.

- (a) A maximum of 10 points may be awarded to a tenderer for being an

Historically Disadvantaged Individual or a prorata thereof commensurate with the percentage of an HDI in a firm or a JV.

- (b) The points scored by a tenderer in respect of the HDI shareholding will be added to the points scored for price and functionality.
- (c) Only the tenderer with the highest number of points scored may be awarded.

C3.3.1.10 Award of Contract to Tender Not Scoring the Highest Number of Points

- (a) Despite the fact that only the tenderer with the highest number of points scored may be awarded, a contract may, on reasonable and justifiable ground, be awarded to a tender that did not score the highest number of points.

C3.3.2 APPOINTMENT OF CONTRACTORS

C3.3.2.1 Procedure for Invitation of Tenders

Tenders will be invited publicly through the general media and other forms of communication to ensure that the target communities are reached. The intention is to ensure that the SMME's in rural areas that may not be in a position to access the general press is also reached.

C3.3.2.2 The tender invitation shall include:

- (a) Specifications and description of project or service to be procured.
- (b) Tendering information and documentation will be in English;
- (c) A non-refundable charge shall be payable to cover the cost of the tender documents and specifications;
- (d) In the event where normal tendering is not practical due to other constraints, at least three (3) selected service providers shall be invited to submit quotations.

C3.3.2.3 Compulsory Requirements

The following requirements shall be applicable to all tenders and non-adherence thereto shall result in an automatic disqualification of the tender submitted:

- (a) Attendance of site inspection for briefing;
- (b) Submission of valid original tax clearance certificate.

- (c) *Submission of names of all management and supervisory staff employed to supervise the labour-intensive portion of the work*
- (d) Authority to act and contractually bind the tenderer.

C3.3.2.4 Closure and Opening of Tenders

Tenders shall close on a date and time specified in tender document and shall be opened and read in public.

C3.3.2.6 Preferential Point System

All tenders shall be evaluated according to the price, functionality and preference in compliance with the Preferential Procurement Policy Framework Act No. 5 of 2000 and the Regulations, as amended. Preference points shall be awarded according to tenders whose firms or joint ventures comprise specific combinations of historically disadvantaged persons as owners, trustees, equity shareholders, subcontractors, joint ventures and or managers. Preference will be calculated in accordance with the preferential point system/s set-out hereunder.

C3.3.2.7 The 80/20 Preference System

The following formula shall be used to calculate the points in respect of tenders/procurement with a Rand value equal to, or above R 30 000 and up to a Rand value of R 50 000 000 (fifty million Rand).

The Municipality may, however, apply this formula for procurement with a value less than R30 000, if and when appropriate. This formula shall be used to determine points for price and functionality.

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

Where P_s = Points scored for price and functionality for the tender under consideration.

P_t = Rand value of tender under consideration.

P_{\min} = Rand value of the lowest acceptable tender.

- (a) a maximum of 20 points may be awarded to a tenderer for being a Historically Disadvantaged Individual or a pro-rata thereof commensurate with the percentage of an HDI in a firm or a JV.

- (b) the points scored by a tenderer in respect of an HDI shareholding will added to the points scored for price.
- (c) only the tenderer with the highest number of points scored may be awarded.

C3.3.2.8 The 90/10 Preference System

The following formula shall be used to calculate the points in respect of tenders/procurement with a Rand value above R 50 000 000 (fifty million Rand). This formula should be used to determine points for price and functionality.

$$P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where: P_s = Points scored for price and functionality for the tender under consideration.

P_t = Rand value of tender under consideration.

P_{\min} = Rand value of the lowest acceptable tender.

- (a) a maximum of 10 points may be awarded to a tenderer for being an Historically Disadvantaged Individual or a pro rata thereof commensurate with the percentage of an HDI in a firm or a JV.
- (b) the points scored by a tenderer in respect of the HDI shareholding will be added to the points scored for price and functionality.
- (c) only the tenderer with the highest number of points scored may be awarded.

C3.3.2.9 Points in Respect of Status of Enterprise

A maximum of 10 (ten) points and twenty (20) potential points in respect of 90/10 and 80/20 respectively, will be awarded in respect of the status of the enterprise, which may take into consideration factors such as: -

Factor Appraised	90/10 points	80/20 points
(a) No franchise before 1983 and 1994 constitution	8 points	16 points
(b) Women Equity	1 point	2 points
(c) Disabled	1 point	2 points

The above points shall be allocated on a pro-rata basis to the total composition of owners who are actively involved in the management of the enterprise under consideration. Provided that a person is a South African citizen and has obtained

his/her citizenship before the 27 April 1994.

C3.3.2.10 Points in Respect of Price and Functionality

Tenders shall be evaluated on the basis of price: 50% and functionality: 50%. The criteria and weight shall be calculated in terms of the formula as tabulated below:

(a) Calculation of percentage for price

The percentage scored for price should be calculated as follows:

The lowest acceptable bid/proposal will obtain the maximum percentage allocated for price. The other bids/proposals with higher prices will proportionately obtain lower percentages based on the following formula:

$$P_s = \frac{P_{\min}}{P_t} \times AP$$

Where: P_s = Percentage scored for price by bid/proposal under consideration
 P_{\min} = Lowest acceptable bid/proposal
 P_t = Price of bid/proposal under consideration
 AP = Percentage allocated for price

(b) Calculation of points for functionality

The percentage scored for functionality should be calculated as follows:

The value scored for each criterion should be multiplied with the specified weighting for the relevant criterion to obtain the marks scored for the various criteria. These marks should be added to obtain the total score. The following formula should then be used to convert the total score to percentage functionality:

$$P_s = \frac{S_o}{M_s} \times AP$$

Where: P_s = Percentage scored for functionality by bid/proposal under consideration
 S_o = total score of bid/proposal under consideration
 M_s = maximum possible score

AP = percentage allocated for functionality

The criteria for functionality are:

i	Relevant experience of company/key staff:	30
i	Company Experience	40
ii	Plant and equipment:	20
iii	Financial status	10
	TOTAL	45

After calculation of the percentage for functionality, the prices of all bids that obtained the minimum score for functionality should be taken into consideration.

Bids/proposals that do not score a certain specified minimum percentage for functionality should be disqualified and not be considered further

(c) Calculation of Points for Functionality and Price

The percentages obtained for functionality should be added to the percentage obtained for price to obtain a percentage out of 100, which in turn should be converted to points out of 80 or 90.

The points scored out of 80 or 90 should be calculated according to the following formula:

(i) The 80/20 preference point system

$$P_s = 80 \left(1 - \frac{H_s - R_s}{R_s} \right)$$

(ii) The 90/10 preferential point system

$$P_s = 90 \left(1 - \frac{H_s - R_s}{R_s} \right)$$

Where: P_s = Points scored for functionality and price of the bid/proposal under consideration

H_s = Highest percentage scored by any acceptable tenderer for functionality and price

R_s = Percentage scored for functionality and price by bid/proposal under consideration

Points scored for specified goals as contemplated by the PPPFA and its Regulations are then calculated separately and added to the points scored for price and

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functionality in order to obtain a final point. The contract should be awarded to the tenderer scoring the highest points.

- i. After the calculation, the tender that scores the highest points, when adding the scores on status of enterprises and price and functionality, shall be awarded the tender;
- ii. Points scored on tenders shall be rounded off to 2 decimal places;
- iii. Where equal points are scored, the one with the highest preference points shall be awarded;
- iv. Should two or more tenders be equal in all respects, the award shall be decided by the drawing of lots.

C3.3.2.11 Authority to Award

- (a) The Municipality's Executive Council shall, upon recommendation of the Finance and Procurement Committee, have the authority to award all tenders.

C3.3.2.12 Cessions

A service provider awarded a contract may not cede or subcontract a contract/project or any part thereof without written consent of the Agency and where such consent is granted, a signed agreement involving the cedent, cessionary and the Agency shall be entered into.

In any event, not more than 25% of the value of the contract shall be subcontracted. Both the cedent and the cessionary shall be jointly and severally liable for the quality of the material supplied and workmanship.

C3.3.2.13 Performance Guarantees

The Municipality shall strive to facilitate the participation of HDI's and SMME by waiving or reducing the maximum amounts of sureties as follows:

- (a) No surety for projects between R 0 to R 500 000.
- (b) 1% surety for projects between R 500 000 to R 1 million.
- (c) 2,5% surety for projects between R 1 million to R 2 million.
- (d) 10% surety for projects above R 2 million.

The period required to provide surety shall be 21 calendar days. However, depending on circumstances, a shorter period may be prescribed. In the event of failure to submit the surety within the stipulated period, the Municipality shall be entitled to cancel the contract and award the tender to a suitable contractor.

Sureties may only be accepted from a banking institution registered in terms of the Bank Act, 1996, an insurer registered in terms of the Insurance Act, 1943 or from governmental institutions established for such purposes.

C3.3.2.14 Notification of Acceptance

Successful service tenderer/s shall be notified before the tender validity period expires.

C3.3.2.15 Contractual Agreement

The relationship between the Municipality and contractor shall be managed under the following contractual documents:

- (a) The tender document submitted by the tenderer
- (b) The project drawings relevant for the tendered project
- (c) The General Conditions of Contract.
- (d) The Municipality Procurement Policy
- (e) Any other relevant legislation aimed at meeting other government policy initiatives.

C3.3.2.17 Variations

- (a) The Municipality shall have the right to reduce or increase the scope of work by no more than 30% of the tendered amount.
- (b) Tenders shall make an allowance for a variation in the tendered amount up to 30%.

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING**C3.4 CONSTRUCTION****C3.4.1 STANDARD SPECIFICATIONS**

- (a) The following specifications shall apply for the construction of the Works.
 (i) The COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998).

The contractor may purchase copies of Volume (i) from the South African Institution of Civil Engineers.

SAICE Tel : (011) 805-5947
 Waterfall Park / Postnet Suite 81 Fax : (011) 805-5971
 Howick Gardens / Private Bag X65
 Vorna Valley / Halfwayhouse Contact Person : Angeline Aylward
 Becker Street / 1685
 Midrand

- (b) SABS or BS Specifications and Codes of Practice
 Wherever any reference is made to the South African Bureau of Standards (SABS) and the British Standards Specification (BSS) in either these Bill of Quantities or the Specification of Materials and Methods to be Used (OOG-001E), this reference shall be deemed to read "SABS or equivalent standard" and BS or equivalent standard" respectively.
 (c) Various other specifications specified in the COLTO Standard Specifications or the Project Specifications.
 (d) Latest **Sabita Manual**, Manual 25 entitled "*Quality Management in the Handling and Transport of Bituminous Binders*".

C3.4.2 PROJECT SPECIFICATIONS RELATING TO STANDARD SPECIFICATIONS**C3.4.2.1 General Conditions of Contract Referred to in the Standard Specifications**

The references to the General Conditions of Contract appearing in the COLTO Standard Specifications refer to the COLTO General Conditions of Contract which is superseded in this contract by the General Conditions of Contract for Construction Works 2010. The corresponding clause in the latter document pertaining to the reference in the COLTO Standard Specifications is listed in the table below.

Clause No. in the Standard Specifications	Clause No. in COLTO General Conditions	Equivalent Clause No. in General Conditions of Contract 2010
1202	15	5.6.1
1206	14	Deleted
1209	52	6.10.2
1210	54	51.1
1212(1)	49	6.10.1
1215	45	5.12.1
1217	35	8.2.1
1303	49	6.8
1303	53	6.11
1303	12	5.6

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1303	45	5.12.1
1403	40(1)	6.4.1
1505	40	6.4
31.03	40	6.4
3204(b)	40	6.4
3303(b)	2	3
5803(c)	40	6.4
5805(d)	40	6.4
6103(c)	40	6.4
Item 83.03	22	5.15
ALL SECTIONS	48	6.6

C3.4.2.2 Amendments to the Standard Specifications

There are no amendments to the Standard Specifications as issued by the Committee of Land Transport Officials (COLTO).

C3.4.2.3 Project Specifications Relating to Standard Specifications

This part of the project specifications deals with matters relating to the standard specifications. Where reference is made in the standard specifications to the project specifications this part shall also contain the relevant information e.g. the requirements where a choice of materials or construction methods are provided for the standard specifications.

In certain clauses the standard specifications allow a choice to be specified in the project specifications 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 this part of the project specifications. It also contains some additional specifications and amendments of the standard specifications required for this particular contract.

The number of each clause and each payment item in this part of the project specifications consists of the prefix B followed by a number corresponding to the number of the relevant clause or payment item in the standard specifications. The number of a new clause or a new payment item, which does not form part of a clause or a payment item in the standard specifications and is included here, is also prefixed by B followed by a new number. The new numbers follow on the last clause or item number used in the relevant section of the standard specifications.

Clauses and pay items referring to labour intensive methods are prefixed by L in the project specifications.

Clauses and pay items referring to emerging contractors are prefixed by E in the project specifications.

C3.4.2.4 Project Specifications Relating to EPWP

EPWP Special Project Specification

As much as is economically feasible all work shall be implemented by employing Labour Intensive Construction methods. Over and above the normal Building and Allied works to be implemented by employing skilled and unskilled labour the works specified in the “Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP)” shall be undertaken using Labour Intensive Construction methods

Requirement for Sourcing and engagement of Labour

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

The minimum rate of pay set for the EPWP is R 220.00 per task or per day.

Tasks established by the contractor must be such that:

- a) the average worker completes 5 tasks per week in 40 hours or less; and
- b) the weakest worker completes 5 tasks per week in 55 hours or less.
- (d) 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 1.1.3.
- (e) The Contractor shall, through all available community structures, inform the local community of the labour intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:
 - a) where the head of the household has less than a primary school education;
 - b) that have less than one full time person earning an income;
 - c) where subsistence agriculture is the source of income.
 - d) those who are not in receipt of any social security pension income

Employment demographics

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

- a) 60 % women;
- b) 55% youth who are between the ages of 18 and 35; and
- c) 2% on persons with disabilities.

MATTERS RELATING TO THE STANDARD SPECIFICATIONS

SECTION 1200 : GENERAL REQUIREMENTS AND PROVISIONS	C.101
SECTION 1300 : CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS	C.110
SECTION 1400 : HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL.....	C.111
SECTION 1500 : ACCOMMODATION OF TRAFFIC	C.113
SECTION 1800 : DAYWORK SCHEDULE.....	C.118
SECTION 2100 : DRAINS.....	C.120
SECTION 2200 : PREFABRICATED CULVERTS.....	C.121
SECTION 2300 : CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES AND CONCRETE LININGS FOR OPEN DRAINS.....	C.124
SECTION 3100 : BORROW MATERIALS.....	C.126
SECTION 3300 : MASS EARTHWORKS.....	C.128
SECTION 3400 : PAVEMENT LAYERS OF GRAVEL MATERIAL.....	C.129
SECTION 5200 : GABIONS.....	C.131
SECTION 5600 : ROAD SIGNS.....	C.133
SECTION 5700 : ROAD MARKINGS.....	C.135
SECTION 5900 : FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS.....	C.136
SECTION 6100 : FOUNDATIONS FOR STRUCTURES.....	C.137
SECTION 6200 : FALSEWORK, FORMWORK AND CONCRETE FINISH.....	C.140
SECTION 6300: STEEL REINFORCEMENT FOR STRUCTURES.....	C.141
SECTION 6400 : CONCRETE FOR STRUCTURES.....	C.142
SECTION 6600 : NO-FINES CONCRETE, JOINTS, BEARINGS, BOLT GROUPS FOR ELECTRIFICATION, PARAPETS AND DRAINAGE FOR STRUCTURE	C.148
SECTION 7300: CONCRETE BLOCK PAVING FOR ROADS	C.149

SECTION 1200 : GENERAL REQUIREMENTS AND PROVISIONS**B1202 SERVICES**

Add the following to the fifth paragraph:

“Provision is made in the bill of quantities for payment for searching and exposing of known or unknown services as well as the relocation and/or protection of existing services. Any moving of existing services which may be required within the proclaimed road reserve will be undertaken by the relevant service authorities or by a selected subcontractor if so ordered by the engineer.”

B1204 PROGRAMME OF WORK**(a) General requirements**

Amend the word “network” in the fourth line of the first paragraph to read as “bar (Gantt) chart”.

Add the following after the third paragraph:

“The bar-chart programme to be provided by the contractor shall show the various activities in such detail as may be required by the engineer. Progress in terms of the programme shall be updated monthly by the contractor in accordance with the progress made by the contractor.

In compiling the programme of work, the contractor shall indicate and make due allowance for the following, as specified elsewhere in the contract documents:

- The requirements regarding the accommodation of traffic and areas that may be occupied at any time for construction purposes (as indicated on the drawings and specified in Section 1500 of the specifications)
- Requirements regarding the training of labourers and Emerging Contractors (EC’s).
- The requirements for work to be undertaken by labourers and work to be undertaken by EC’s.

(b) Programme of work for rehabilitation work

Amend the word “network” in the fourth line of the second paragraph to read as “bar (Gantt) chart”.

B1205 WORKMANSHIP AND QUALITY CONTROL

Add the following to the third paragraph:

“The engineer shall, however, undertake acceptance control tests for the judgement of workmanship and quality, without accepting any obligations vested with the contractor in terms of the contract with specific reference to quality of materials and workmanship. Such acceptance control test done by the engineer shall not relieve the contractor of his obligations to maintaining his own quality control system.”

Add the following at the end of this clause:

“The engineer shall, for the purpose of acceptance control on products and workmanship, assess test results and measurements in accordance with the provisions of section 8300 of the standard specifications. Where small quantities of work are involved, a lot shall mean a full day’s production for a specific item of work subject to acceptance control testing.”

B1206 THE SETTING-OUT OF THE WORK AND PROTECTION OF BEACONS

Add the following:

“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 take care that property beacons, trigonometrical survey beacons or setting-out beacons are not displaced or destroyed without the consent of the Engineer. Property

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beacons and trigonometrical survey beacons that have been displaced or destroyed shall be replaced by a registered land surveyor, who shall certify such replacement.

The cost of replacing all beacons displaced or destroyed during the course of the Contract without the consent of the Engineer shall be borne by the Contractor.”

B1209 PAYMENT**(b) Rates to be inclusive**

Add the following:

“VAT shall be excluded from the rates and provided for as a lump sum in the Summary of Bill of Quantities”.

(e) Materials on the site

Add the following:

"In addition, the engineer may at his sole discretion also allow payments under "Materials on Site" in respect of any construction materials if stored off-site providing that:

- (a) The site selected for this purpose is approved by the engineer
- (b) Such land is physically separated from any production plant or operation
- (c) Only materials for use under this contract is stockpiled on such land
- (d) The contractor has provided proof of an agreement with the owner of such land that the owner has no claim whatsoever on any materials stockpiled on such land
- (e) Materials obtained by the contractor for or on behalf of emerging subcontractors (SMME's) shall remain the responsibility of the contractor after payment has been made in respect of materials on site.”

B1214 CONTRACTOR'S ACTIVITIES IN RESPECT OF PROPERTY OUTSIDE THE ROAD RESERVE AND OF SERVICES MOVED, DAMAGED OR ALTERED

Add the following to the first paragraph of subclause (d)(ii)

"This is also required with respect to fences, gates, camp sites, bypasses and material spoiled on private property.”

Add the following after subclause (e)

"These written statements, as required in Clause 1214(b)-(e) shall be handed to the Engineer before the final certificate will be issued.”

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING**B1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL**

Add the following after the first paragraph of this clause:

"For the purposes of this contract, extension of time resulting from abnormal rainfall or other forms of inclement weather shall be determined according to the requirements of Method ii (critical-path method)."

Method (ii) (Critical path method)

Delete "(based on a five-day working week)" in the fifth and sixth lines of the second paragraph of the description of this method.

Delete the last sentence of the second paragraph of the description of this method and replace with the following:

"The value of "n" shall be taken as five (05) working days per calendar month.

If normal rainy or inclement weather, resulting in delays, occurs for less than five (05) working days in any calendar month, the difference between the five (05) working days and the actual number of working days on which normal rainy or inclement weather occurred, shall be ignored and not accumulated for the duration of the contract period for the purposes of determining an extension of time due to normal rainy weather, nor due to any other reason.

Items of work on the critical path of the programme of work which are subject to climatic limitations shall also be considered for extension of time if such items of work are delayed by e.g. cold weather, high winds or other inclement weather conditions.

In this regard, reference shall be made to weather limitations specified for the application of various bituminous products. However, for months during which seal-work cannot be undertaken in terms of the specifications, no extension of time shall be claimed for.

Rainfall records for **MOGWADI**

MONTH	AVERAGE RAINFALL (mm)	RAIN DAYS (per month)
JANUARY	95.8	12
FEBRUARY	82.9	11
MARCH	65.4	10
APRIL	25	6
MAY	9.7	3
JUNE	14.4	2
JULY	2.4	1
AUGUST	2.8	1
SEPTEMBER	4.1	3
OCTOBER	37.3	7
NOVEMBER	111	14
DECEMBER	92.6	13

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING**B1217 PROTECTION OF THE WORKS AND REQUIREMENTS TO BE MET BEFORE CONSTRUCTION OF NEW WORK ON TOP OF COMPLETED WORK IS COMMENCED**

Add the following subclause:

"(h) No concrete kerbing or concrete drains directly adjoining the bituminous surfacing shall be constructed prior to the completion of the bituminous surfacing."

B1222 USE OF EXPLOSIVES

Add the following subclause:

"(h) Where blasting operations are undertaken in close proximity of temporary deviations, the contractor shall implement all such safeguarding measures as may be required and instructed by the engineer."

B1224 THE HANDING-OVER OF THE ROAD RESERVE

Add the following:

"The total length of the road reserve between the specified limits of construction will be handed over to the contractor on the commencement date. Reference shall, however, be made to the requirements of section 1500 of these specifications where limitations in respect of work-areas are specified. In the event of the non-adherence by the contractor in terms of the mentioned specifications, the engineer shall withdraw such sections of the road reserve as may be justified to ensure suitable progress of the works or safe passage of traffic."

B1229 SABS CEMENT SPECIFICATIONS

Replace the last paragraph of this clause with the following:

"Where reference is made in this specification or the standard specifications to the cement specifications, eg. SABS 471: Portland cement and rapid hardening Portland cement, it shall be replaced with the new specification:

SABS ENV 197-1: Cement-composition, specifications and conformity criteria.

Part 1: Common cements.

Furthermore, where reference is made in this specification or the standard specifications to the different cement types, the following new names/types shall apply:

Old product nomenclature	Typical new product nomenclature	
	Cement type	Cement strength class
OPC	CEM I	32,5
	CEM I	32,5R
RHC	CEM I	42,5
	CEM I	42,5R
LASRC	No provision made	No provision made
PC15SL	CEM II/A-S	32,5
	CEM II/A-S	32,5R
	CEM II/A-S	42,5
PC15FA	CEM II/A-V	32,5
	CEM II/A-V	32,5R

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Old product nomenclature	Typical new product nomenclature	
	Cement type	Cement strength class
	CEM II/A-W CEM II/A-W	32,5 32,5R
RH15FA	CEM II/A-V CEM II/A-V CEM II/A-W CEM II/A-W	42,5 42,5R 42,5 42,5R
PBFC	CEM III/A CEM III/A	32,5 32,5R
PFAC	CEM II/B-V CEM II/B-W	32,5 32,5
RH30SL	CEM II/B-S CEM II/B-S	32,5R 42,5
RH40SL	CEM III/A CEM III/A	32,5R 42,5

CEM I 32,5, CEM II A-S 32,5, CEM II/A-V 32,5, or CEM III A may be used for the manufacture of reinforced concrete members.”

Add the following new clauses:

“B1230: IN-SERVICE AND STRUCTURED TRAINING

The contractor shall in addition to the structured (accredited) training as provided for in Part C of this document 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 and structured training

- (i) The contractor shall attach to form RDP 1(E) 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 utilised.
- (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.
- (iii) The contractor shall provide on site, 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

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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.

The cost of the above obligations shall be deemed to be covered by the sums and rates tendered for items B13.01(a), (b) and (c) 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”.

B1231 COMMUNITY LIAISON OFFICER (CLO)

The contractor or his appointed agent will appoint a Community Liaison Officer (CLO) after consultation with the local communities, the engineer and the employer. The contractor shall direct all his liaison efforts with the local communities through the appointed officer. The contractor shall, however, accept the appointed as part of his management personnel.

(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 07:00 and 17:00 and at other times as the need arises. His normal working day will extend from 07:00 in the morning until 16:00 in the afternoon.
- (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 engineer 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.

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- (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 and RDP matters.
- (xi) All such other duties as agreed upon between all parties concerned.
- (xii) To submit monthly returns regarding community liaison as illustrated in Part C5.1 of this document (form RDP 12(E)).

(b) Payment for the community liaison officer

A special pay item is incorporated in section 1200 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. The remuneration of the CLO shall be determined by the Employer in terms of the Sectorial determination 2: Civil Engineering Sector (Task grade 3).

(c) 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, engineer and employer at a maximum period of a six months basis, but with the option of renewal.

B1232 SUBCONTRACTORS

Over and above the stipulations of clause 4.4 of the General Conditions of Contract 2010, regarding subletting of part of the works, it is a condition of the contract that an approved subcontractor shall not sublet part of his work, covered in his appointment by the main contractor, to another subcontractor without the consent and approval of the engineer. Subletting shall in all cases be critically considered by the engineer.

In addition to the provisions of clause 4.4 of the general conditions of contract regarding subcontracting of the works, it is a requirement of this contract that an approved subcontractor shall not further subcontract work subcontracted to him by the main contractor, to another subcontractor without the consent and approval of the engineer. Subcontracting shall in all cases be critically considered by the engineer. The engineer reserves the right to limit the extent or the volume of work subcontracted by the contractor, should he deem it necessary in terms of progress or quality of workmanship.

B1233 WORKMEN'S COMPENSATION ACT

All labour employed on the site shall be covered by the Compensation for Occupational Injuries and Deceases Act (COIDA). The contractor shall pay in full, including the payment of the necessary levies, such amounts, as are due in terms of the Act. The contractor at the commencement of the contract shall resolve the manner in which Workmen's Compensation will be handled. Amounts paid by the contractor shall not be included in the wage rates but shall be covered by the Contractor to be deemed as included in his General Obligations rates in Section 1300 of the Bill of Quantities.

Add the following clause:

B1234 MINE HEALTH AND SAFETY ACT 1996, ACT 29 OF 1996**(a) Introduction**

The main objective of this Act is to protect the health and safety of persons at mines. This specification is therefore aimed at promoting health and safety specifically at borrow pits. Borrow

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pits are classified as mines.

(b) General Provisions

The contractor shall be responsible for controlling his operations at every borrow pit where material is being excavated to ensure compliance with all the requirements of the Mine Health and Safety Act, 1996. The contractor shall also ensure that the works, shaping and finishing off of the borrow pit are done in accordance with the provisions as specified in section 3100 of the COLTO Standard Specifications and this Act. The contractor shall also comply to the requirements as set out in C3.4.3.2 Environmental Management Plan.

The minimum requirements for operations at borrow pits are:

- Borrow pits are worked in such a way that the health and safety of employees and the public will not be endangered.
- A monthly report shall be submitted to the engineer on health and safety aspects at the borrow pits.
- The contractor shall appoint a manager to manage the borrow pits in accordance with the Mine Health and Safety Act.
- The contractor shall take the necessary steps to ensure that the work area of the borrow pits are safe at all times. This shall include items such as the provision of fencing and security guards.

(c) Duties of the Manager

The minimum duties of the manager supervising the activities at borrow pits shall be:

- Maintain a healthy and safe borrow pit environment.
- Identify hazards and related risks to which persons and employees are exposed.
- Establish a health and safety policy that
 - Describes the organisation of work.
 - Contains aspects concerning the protection of the employees and other persons' health and safety.
 - Contains a risk analysis.
- Supply and erect the necessary safety and warning signs.

Add the following pay items and change the clause number.

B12.35 MEASUREMENT AND PAYMENT

Add the following items:

“ITEM	UNIT
B12.01 Locating Existing Services	Provisional Sum
ITEM	UNIT
B12.02 Hand Excavation to determine the positions of existing services	
To determine the positions of existing services	cubic metre (m ³)
Measurement and payment shall be as specified for item 22.01 in the standard specifications.	
ITEM	UNIT
B12.03 Project Launch	

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	Project Launch	Prime Cost Sum
ITEM		UNIT
B12.07	Provision for a Community Liaison Officer	
	Provisional sum for the payment of the Community Liaison Officer	Provisional Sum
	Expenditure of the above item shall be made in accordance with the general conditions of contract.	
ITEM		UNIT
B12.07	Provision for a Community Liaison Officer	
	Provisional sum for the payment for attending steering Committee meetings	Provisional Sum
ITEM		UNIT
B12.07	Handling costs and profit in respect of sub-items a to e	percentage (%)

Measurement and payment shall be in accordance with the general conditions of contract.”

The tendered percentage is a percentage of the amount actually spent under the sub-items, which shall include full compensation for the handling costs of the contractor, and the profit.

The prime cost sums shall be paid in accordance with the provisions of the General Conditions of Contract. The tendered percentage is a percentage of the amount actually spent under the prime cost items, which shall include full compensation for the profit in connection with providing the specified service.

SECTION 1300 : CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS**B1302 GENERAL REQUIREMENTS****(a) Camps, constructional plant and testing facilities**

Add the following:

"The contractor shall, at each area where work is being undertaken, provide on a daily basis at least one (1) portable chemical latrine unit per thirty (30) workers for use by construction workers employed on the project. The latrine units shall be serviced daily and kept in a hygienic and orderly state to the satisfaction of the engineer. No separate payment shall be made for this requirement and shall be deemed to be included in the rates tendered for the contractor's time-related obligations."

B1303 PAYMENT**ITEM****UNIT****B13.01 The contractor's general obligations**

(As specified)

Add the following after the fifth paragraph:

"The combined total tendered for sub-items (a), (b) and (c) shall not exceed 15% of the tender sum, excluding VAT.

Should the contractor be of the opinion that 15% is inadequate to cover his costs in terms of section 1300, he shall indicate separately with his tender where such costs have been allowed for in his tender. If no such indication is given, the contractor shall not at any stage during the contract for any reason whatsoever claim additional compensation under this item."

SECTION 1400 : HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL**B1402 OFFICES AND LABORATORIES****(a) General**

Add the following:

"The facilities to be provided for the engineer in terms of these specifications shall be fenced off by a two metre high veranda type security fence with diamond mesh on the vertical portion and barbed wire on the overhang. A security gate shall be provided in the fence which shall be guarded at all times by an acceptable watchman provided by the contractor.

The engineer's establishment may be incorporated within the contractor's establishment provided that the preceding requirements are met to the satisfaction of the engineer.

Separate payment shall be made for the provision and erecting of the security fence and gate as indicated on the drawings, but the cost in respect of the provision of a watchman at all times by the contractor shall be deemed to be included in the contractor's tendered rate for item B13.01(c)."

(b) Offices

Add the following new sub-sub-clause:

"(xviii) The engineer's site supervisory staff shall be provided with cellular telephones by the contractor for site communication purposes. Provision is made in the bill of quantities for separate payment of the supply and operating costs of such cellular phones."

B1406 MEASUREMENT AND PAYMENT

Add the following sub-item:

ITEM	UNIT
B14.11 Provision of cellular telephone to the Engineer:	
(a) Cost of cellular phone, calls and other charges	Provisional Sum (P Sum)
(b) Handling cost and profits in respect of item B14.11(a)	Percentage (%)

The unit of measurement for item B14.11 shall include full compensation for the monthly cellular phone costs for the Engineer's site personnel.

Measurement and payment in respect of the provisional sum item shall be made in accordance with the provisions of the general conditions of contract.

ITEM	UNIT
B14.12 Provision and erection of security fencing (Including gate)	metre (m)

The unit of measurement shall be the metre of security fence supplied and erected as indicated on the drawings and/or ordered by the engineer. The tendered rate shall include full compensation for procuring and furnishing of all material, including one vehicle gate, labour and equipment required to erect the specified security fence and maintain it for the duration of the contract."

General: Method of payment

Add the following:

"The tendered rates under this section of the bill of quantities shall also include full compensation for the dismantling and removal from site of all offices, laboratories and other facilities provided for the engineer's supervisory staff at the completion of the contract."

SECTION 1500 : ACCOMMODATION OF TRAFFIC**B1502 GENERAL REQUIREMENTS****(e) Access to properties**

Add the following:

“Where the alignment of the new road coincides with the alignment of the existing road, a number of accesses to private properties will have to be operational and maintained during the constructional period. No separate payment will be made for providing acceptable and safe access across the new road at all times during construction of the road.”

(i) Traffic safety officer

Add the following after subclause (viii):

“(ix) be responsible for contacting all the relevant authorities in the event of an accident on the site of the Works

(vi) arrange for the removal of broken down vehicles that obstruct the normal traffic flow

The Contractor shall provide the traffic safety officer with all the necessary resources to carry out his duties as specified, inter alia, light delivery van (LDV), personnel, warning signs and revolving amber flashing lights. A warning sign with the words “CONTRACTOR TRAFFIC CONTROL” and/or “AANNEMER VERKEERSBEHEER” in clearly legible letters shall be mounted on the vehicle at least 1,5m above ground level to be clearly visible. The vehicle shall be equipped with two revolving amber-coloured flashing lights with a minimum intensity of 55W. The flashing lights shall be switched on and the warning sign be displayed at all times when the vehicle is used on the site.

No separate payment will be made for the traffic safety officer, his vehicle, personnel and equipment and the cost thereof shall be included in the Contractor’s cost for his establishment and general obligations (Section 1300).”

Add the following new subclauses:

“(j) Handing over the site

The total extent of the site between the limits of construction as described in this document and indicated on the drawings will be handed over to the contractor at the commencement of the contract period. The engineer however reserves the right to adjust this arrangement should progress or safe passage of traffic warrant such a change.

(k) Use of explosives in close proximity of temporary deviations

The contractor shall arrange all necessary traffic control and other requirements to safeguard the traffic on temporary deviations during blasting operations.

(l) Land taken up for deviations

Negotiations with landowners to obtain the land taken up by temporary deviations will be undertaken by the employer. A prime cost sum is allowed in the bill of quantities for payment of compensation to affected landowners. All other negotiations regarding temporary access to properties, land-use, fencing requirements etc. shall be dealt with by the contractor in conjunction with the engineer and be confirmed in writing and be kept on record by the contractor.

“(m) Maximum lengths of construction areas

A temporary deviation, where the proposed road follows the existing route shall be constructed along the length of existing road. Traffic shall generally be accommodated as follows:

On a two-way two lane gravel deviation (Class 1) constructed partially outside or adjacent to the existing road reserve boundaries of road.

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- (i) On one-way single lane gravel deviation (Class 2) constructed inside the existing road reserve boundaries and on either side of road. In this instance special cognisance shall be taken to accommodate traffic to private properties.

A maximum length of one section of approximately 5,0km or two sections of 3,0km each of deviation (Class 1 or 2) shall be operational at a time and no relieve of this limitation shall be considered by the engineer except where the programme necessitates such at the construction of bridges.”

B1503 TEMPORARY TRAFFIC CONTROL FACILITIES

Add the following after the first paragraph:

“All temporary road signs, devices, sequences, layouts and spacing shall comply with the requirements of the Road Traffic Act, 1996 (Act 93 of 1996), the National Road Traffic Regulations, 2000, the South African Road Traffic Signs Manual, the requirements of the relevant road authority and the drawings. All temporary traffic control facilities shall comply with the guidelines set in SA Road Traffic Signs Manual, Volume 2, Chapter 13: Roadworks Signing, (SARTSM, June 1999, obtainable from the Government Printer, Pretoria).”

(b) Road signs and barricades

Add the following:

“All the temporary road signs are to be mounted on posts as specified in section 5600 of the specifications. Provision shall be made for the supply and erection of the signs and the maintenance of the signs during the construction period. Provisions shall also be made for the removal of the temporary road signs on completion of the construction work when such signs are no longer required.

Temporary road signs and channelization devices shall be manufactured in accordance with the latest edition of the South African Road Traffic Signs Manual (June 1999) and placed as shown on the drawings and in Road Signs Note 13. Delineators shall be manufactured from a non-metal material and shall be mounted on a base section also manufactured of non-metal material. Single as well as back-to-back mounted delineators are required.

The obligation to arrange safe passage of traffic shall always be vested with the contractor regardless what is indicated on the drawings of the engineer.”

(c) Channelization devices and barricades

Add the following:

“Drums shall not be used as channelization devices.

TW 401 and TW 402 delineators shall comply with the following requirements:

- a) It shall be manufactured from a flexible material and shall comply with SABS 1555. The blade portion of the delineator shall be positively affixed to a base unit which in turn shall be stable on its own or be stabilized by means of sandbags when used on the road.
- ii) The blade shall be retro-reflectorised, with class 1 yellow sheeting on the side facing oncoming traffic..
- iii) It shall nominally be 1000mm high x 250mm wide and the bottom edge of the delineator shall not be more than 200mm above the road surface.
- iv) It shall be subject to the approval of the Engineer.

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The maximum spacing between centres of delineators shall be as shown on the drawings or as directed by the Engineer.”

(e) Warning devices

Add the following:

“It is a requirement of this contract that all construction vehicles and plant used on the works will be equipped with rotating amber flashing lights and warning boards as specified in the standard specifications. Construction vehicles travelling outside the limits of construction areas shall however, not operate the warning lights.

The warning lights shall have a base diameter of at least 170mm and the amber bulb cover a height of a least 150mm high. It shall be a requirement that the contractor also provides the engineer’s site personnel with warning lights for their vehicles (a maximum of two lights are required) without any payment applicable.

B1514 TEMPORARY FENCING AND GATES

Replace the contents of this clause with the following:

“Where temporary fencing is ordered by the engineer, it shall be paid for under item 55.06 of the standard specifications. The temporary fencing shall be new fencing material, which shall subsequently be dismantled and removed and erected at an alternative position as directed by the engineer. When ordered by the engineer, temporary fences and gates shall be moved to new locations or either left in place or when no longer required be dismantled and removed from site if so directed. Allowance is made in the bill of quantities for moving existing fences and gates.”

Add the following clause:

B1517 RETRO-REFLECTIVE MATERIAL

“Retro-reflective material for temporary signs shall comply with the requirements of SABS 1519-1 for weathered material. Tests shall be carried out with a field retro-reflectometer and the testing procedure and classification are described in Clause B 8118. The value of the coefficient of Retro-Reflection shall be at least 60% of the values indicated in Table B 8118/1.”

B1518 MEASUREMENT AND PAYMENT

Renumber item 15.01 as B15.01 and add the following:

“The tendered rate shall also include for all measures necessary to safeguard traffic on temporary deviations during blasting operations as well as all temporary traffic-control facilities for temporary deviations.”

Delete all references to half width construction under payment item 15.01. Half width construction will be measured under payment item 15.10.

Renumber item 15.03 as B15.03 and add the following

“This sections provides only for additional traffic-control facilities as and when required on instruction by the Engineer and does not provide for facilities already included under payment item B15.01”

Add the following sub-item:

“ITEM	UNIT
B15.02 Temporary traffic control facilities	
(n) Provision of high visibility safety jackets and safety hats	number (No)

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The unit of measurement shall be the number of safety jackets supplied to the supervisory staff.

The tendered rate shall include full compensation for providing and maintaining hats and the jackets equipped with high visibility retro-reflective and/or fluorescent panels in red, yellow and white for the duration of the contract”.

SECTION 1700: CLEARING AND GRUBBING**B1702 DESCRIPTION OF WORK****a) Clearing**

Add the following:

“Clearing shall include the removal of material to a thickness of up to 150mm in-situ material as ordered by the engineer. No payment shall be made for temporary stockpiling of topsoil material in the case where this material is applied as topsoil after completion of road side slopes.

Should the required depth exceed 150mm, the total volume of material removed shall either be classified as “temporary stockpiling of topsoil” or “unsuitable roadbed material” or “cut to spoil” whichever is applicable as allowed for in the standard specifications. In these cases no payment shall be made for clearing and grubbing.

Clearing as described shall in all cases be undertaken in such a manner that the topsoil is preserved and not contaminated with other debris or rubbish. Cross-sections for the determination of earthworks quantities shall be taken after clearing (topsoil or unsuitable roadbed material) and roadbed preparation if applicable.

Payment for gabion boxes and mattresses which have to be removed and the material sorted and stacked shall be made under section 5200”

B1703 EXECUTION OF WORK**(a) Areas to be cleared and grubbed**

Add the following:

“Apart from normal clearing and grubbing, the fill embankments of the existing roads are also to be cleared and grubbed over the areas where the new horizontal alignment coincides with the alignment of the existing road, or where repairs are required to the fill embankments of the approaches of bridges. Provision is made for separate payment for clearing and grubbing of the existing fill embankments where conventional machinery might be suitable to undertake the work due to the steep side slopes of the embankments. An additional pay-item is allowed for in the bill of quantities for this type of clearing and grubbing which may have to be undertaken by hand or similar manner.”

B1704 MEASUREMENT AND PAYMENT

Change item 17.01 to read as follows:

ITEM	UNIT
B17.01 Clearing and grubbing of:	
Clearing and grubbing	hectare (ha)

Measurement and payment for item B17.01 shall be as specified for item 17.01 of the standard specifications.

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING**SECTION 1800 : DAYWORK SCHEDULE**

Note: This is a new section added to the Standard Specifications.

Add the following:

B1801 SCOPE

This section covers the listing of daywork items for use in determining payment for work which cannot be quantified in specific pay item "units" in the bill of quantities or work ordered by the engineer during the construction period which was not foreseen at tender stage for which no applicable rate exists in the schedule or for work of a special or different character warranting special payment as decided by the engineer.

B1802 ORDERING OF DAYWORK

No daywork shall be undertaken unless specific written authorisation is obtained from the engineer.

B1803 MEASUREMENT AND PAYMENT

The engineer may order the following daywork items:

ITEM	DESCRIPTION	UNIT
B18.01	(a) Normal hours of duty of:	
	(i) Unskilled	Hour (h)
	(ii) Semi-skilled	Hour (h)
	(iii) Skilled	Hour (h)
	(iv) Foreman	Hour (h)
B18.02	Hire of construction equipment	
	(a) Excavator 22 –30 ton	Hour (h)
	(b) TL Backactor	Hour (h)
	(c) Front end loader	Hour (h)
	(d) Platform truck	Hour (h)
	(e) Tip truck	Hour (h)
	(f) Grader (CAT 140G or similar)	Hour (h)
	(g) Walk behind roller (<i>Bomag BW90 or similar</i>)	Hour (h)
	(h) Mechanical Broom	Hour (h)
	(i) D6 Dozer	Hour (h)
	(j) Compressor	Hour (h)
	(k) Submersible dewatering pump	Hour (h)

The unit of measurement shall be the actual number of hours worked by labourers or foremen or an item of plant.

The tendered rates shall include full compensation for all cost items including overheads, head-office expenses and profits as described in sub-clause 6.5 of the general conditions of contract and shall be subject to contract price adjustment as provided for in the contract.

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The mark-ups on daywork items in accordance with the Appendix to the Tender shall not be applicable on daywork items listed in the bill of quantities in terms of the above specifications. In the event of new daywork rates being requested for items not appearing in the bill of quantities, then the provisions of the general conditions of contract and the Appendix to the Tender shall apply.

Prior to the commencement of any work by the labourers described under item B18.01, the contractor must obtain written consent from the engineer regarding the classification and composition of all labourers in terms of “unskilled” and “skilled” labourers required for the work as ordered by the engineer.”

SECTION 2100 : DRAINS**B2103 BANKS AND DYKES**

Add the following:

“Mitre banks at culvert inlets should be considered at such a skew angle that it guides the water into the inlet with a minimum loss of velocity (energy).”

B2104 SUBSOIL DRAINAGE**(a) Materials****(i) Pipes**

Delete the last sentence of the fifth paragraph and substitute it with the following:

“Perforation for 100mm pipes shall be spaced in two rows, one on each side of the vertical centre line of the pipe, and at one third of the circumference. The perforation for the 150mm pipes shall be spaced in four rows, two as described for 100mm pipes, and the other two rows at two thirds of the circumference.”

(ii) Synthetic-fibre filter fabric

Add the following:

“All filter fabric shall be a non-woven needle punched type material and must be approved by the engineer. Filter fabrics shall have a minimum co-efficient of permeability of 3×10^{-3} m per second.”

B2107 MEASUREMENT AND PAYMENT

Add the following new items:

“ITEM	UNIT
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B21.20 Galvanised wire mesh 250 x 250mm, at the outlets of subsoil drainage systems. Mesh 10mm x 2,5mm wire diameter	Number (No)
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The unit of measurement shall be the number of 250mm x 200mm pieces of wire mesh, with a 10mm x 10mm mesh and 2,5mm wire diameter built into the subsurface drain outlet structure as shown on the drawings.

The tendered rate shall include for procuring, furnishing and installing the material, cutting, waste and keeping the mesh in the pipe opening clean during installation.

ITEM	UNIT
-------------	-------------

B21.21 Subsoil drainage markers	Number (No)
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Measurement and payment shall be as specified for item 22.24 in the standard specifications.”

SECTION 2200 : PREFABRICATED CULVERTS**B2201 SCOPE**

Add the following:

“All rectangular culverts with spans from 0,9m up to and including 2,4m shall be constructed with precast units.

The attention of the contractor is drawn to the fact that information given on the plans, longitudinal sections or drainage schedules may have to be altered to suit actual site conditions and, therefore, the contractor shall only construct these culverts after the engineer has verified the information on the drawings from detail surveys taken on site by the contractor as directed by the engineer.

Precast units shall be ordered by the contractor from actual measurements of length acquired on the site and not from lengths stated in the drainage schedule or from the bill of quantities.

No precast units shall be ordered until the engineer has satisfied himself that the proposed units have been manufactured to the required tolerances and loading standards. The engineer must be given the opportunity to load test units if he considers this necessary”.

B2203 MATERIALS**(f) Skewed Ends**

Delete the second and third paragraphs and substitute with the following:

“Precast portal and rectangular culverts placed on a skew shall be supplied with cast in situ skewed ends as shown on the drawings. In situ skew ends are to be constructed simultaneously with the wingwalls and headwalls”.

B2204 CONSTRUCTION METHODS

Add the following:

“In all cases where soft founding materials is classified as suitable for culvert bedding construction, the in situ material shall be ripped, moistened and compacted to 90% or 93% modified AASHTO density. The depth of preparation and compaction of founding material shall be as indicated on the drawings or as specified by the engineer. Allowance for measurement and payment for this work is made in the bill of quantities under this section.”

(c) Excavation by hand

Where circumstances prevent the use of mechanical excavators and material can be removed only by hand tools, the engineer shall authorise the supplementary payment to the contractor for such work at the tendered rates for excavation by hand should he be satisfied that the contractor had been unable to prevent the necessity for excavation by hand by proper planning and precautionary measures. The supplementary rate for excavation by hand shall not apply to minor finishing or clearing jobs in excavations which are otherwise being done by mass excavation plant.

Payment for hand excavation shall be an "extra over" payment to normal excavation as allowed for in item 22.01.”

B2205 EXCAVATION FOR CONSTRUCTION BY TRENCH METHOD

Add the following subclauses:

"(c) Excavation by hand

Where circumstances prevent the use of mechanical excavators and material can be removed only by hand tools, the engineer shall authorise the supplementary payment to the contractor for such work at the tendered rates for excavation by hand should he be satisfied that the contractor

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had been unable to prevent the necessity for excavation by hand by proper planning and precautionary measures. The supplementary rate for excavation by hand shall not apply to minor finishing or clearing jobs in excavations which are otherwise being done by mass excavation plant.

Payment for hand excavation shall be an "extra over" payment to normal excavation as allowed for in item 22.01.

(d) Drainage of excavations

The contractor shall apply suitable, effective drainage and dewatering methods for preventing the ingress of water into the excavation and to keep them dry.

Drainage measures, with the exception of pumping, shall be maintained until the backfilling has been completed. Between various construction stages, pumping may be interrupted in consultation with the engineer.

Any draining or pumping of water shall be done in a manner as will preclude the concrete or materials or any part thereof from being carried away.

Allowance for measurement and payment for dewatering and keeping dry of culvert excavations is made in the schedule in this section".

B2210 LAYING AND BEDDING OF PREFABRICATED CULVERTS**B2210(b)(i) Cast in situ invert slabs**

Replace with the following:

"In accordance with the drawings, transverse construction joints are required in cast in situ concrete invert slabs for portal culverts. In addition, longitudinal construction joints as shown on the drawings between the invert slabs of each of the barrels of multiple culverts are required. Allowance for measurement and payment for a Class F1 surface finish and soft board in these joints is made in the bill of quantities. No payment shall be made for formwork on the outside edges of invert slabs (closest to excavated face).

All culverts (precast as well as in situ) shall be constructed with an in situ reinforced concrete floor laid on a 75mm concrete screed".

Delete subclause B.2210(b)(ii) : "Prefabricated floor slabs."

B2211 BACKFILLING OF PREFABRICATED CULVERTS

Change the last sentence in the fourth paragraph to read "90% or 93% as shown on the drawings or as directed by the engineer."

B2212 INLET AND OUTLET STRUCTURES, CATCHPITS AND MANHOLES**(b) Concrete work**

Add the following:

"The type of surface finish for in situ concrete in the culverts shall be as indicated on the drawings. Generally all exposed faces shall be of Class F2 formwork and faces covered by backfill shall be Class F1. The top of parapet walls and wingwalls shall be finished to a Class U2 surface finish."

(h) Prefabricated inlet and outlet structures

Add the following:

"The use of precast concrete inlets and outlets as described in clause 2212(h), shall not be allowed under any circumstances. Cast in situ concrete wingwall type inlets and outlets shall be constructed as indicated on the drawings and shall be in accordance with section 6000 of the Standard Specifications. Allowance for measurement and payment for wingwall type inlets and outlets is made in the schedule in this section."

B2218 MEASUREMENTS AND PAYMENT

Add the following to pay item 22.05:

"In addition to the requirements for measuring concrete backfill to rectangular culverts as specified for item 22.08, the following shall apply:

Concrete backfill shall be measured to the actual dimensions of the precast units, i.e. actual volumes between ribs and haunches shall be taken into account. For the purpose of calculating concrete backfill quantities, the horizontal dimensions of the concrete backfill on the outside of the culvert(s) (closest to excavated face), shall be taken as 100mm maximum irrespective of what type or make of precast portal is used or the actual width of the excavation.

The width of the concrete backfill between portals in the case of multiple culverts, shall be taken as 80mm for precast units with a leg height of 1500mm and 100mm for precast units with a leg height exceeding 1500mm. The vertical dimensions, in both cases, shall be equal to the height of the portal".

SECTION 2300 : CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES AND CONCRETE LININGS FOR OPEN DRAINS**B2301 SCOPE**

Add the following:

“The position and length of the following types of concrete kerbs and channels are indicated on the geometric layout plans, typical drawings and on the drainage plans.

- Type A : In situ concrete channel, 0,8m wide on fills
Type B : Precast concrete kerbing, semi-mountable (SABS 927-1969)
Type C : In situ concrete kerbing at intersections
Edge beam : In situ concrete kerbing at farm access and bus stops
Type E, F1 & F2 : In situ concrete “V”-shaped channels in side drains and open drains.”

B2302 MATERIAL

Add the following new sub-clauses:

(e) Metal pipes

“Metal pipes down side slopes shall comply with the requirements of clause 2203 of the standard specifications.”

B2304 CONSTRUCTION**(d) Slip form kerbing**

Add the following:

“Slip-form kerbing shall under no circumstances be allowed.”

(e) Cast in situ kerbs and channels

Add the following:

“Forming and templates used to form joints between alternate sections shall be of steel plate of which the thickness shall not be less than 5mm.”

Add the following new sub-clauses:

(i) Construction sequence

Replace paragraphs (i), (ii) and (iii) with the following:

“In all cases where kerbing and/or channelling adjoin the bituminous surface of the road, the kerbing and/or channelling may only be constructed after the bituminous surface has been completed.

Before commencing with the kerbing and/or channelling, the surfacing and the base, shall be accurately cut to line with a mechanical saw to a minimum depth of 75mm. After excavation the concrete shall then be cast against the cut surface without formwork. All material outside the cut line must be carefully removed to the required thickness of concrete without damaging the edge before commencing with the casting of the concrete. No payment shall be made for repair work as instructed by the engineer to damage caused by the cutting/excavating process of surfacing and base layers. Any concrete spilt onto the surfacing shall immediately be removed and cleaned. Where so required by the engineer, the contractor shall, without any additional compensation, paint emulsion over the stained surface.

Add the following sub-clause:

(k) Formwork and finish

“Formwork and finish of concrete kerbs shall comply with the requirements of section 6200. All visible edges on the sides or at joints of cast in situ concrete kerbs or channels shall be rounded with a rounding tool.”

SECTION 3100 : BORROW MATERIALS**B3102 NEGOTIATIONS WITH OWNERS AND AUTHORITIES**

Add the following to sub-clause 3102(a):

“Arrangements regarding to access to borrow pits and the alignment of haul roads shall be made between the contractor and the owners of the land on which borrow pits are situated. The engineer’s representative on site shall be present at all such negotiations, which shall be confirmed in writing by the contractor. All costs involved with such negotiations as well as the requirements contained in clause 3102 and clause 1225 of the specifications shall be borne entirely by the contractor.”

B3103 OBTAINING BORROW MATERIALS**(a) General**

Add the following:

“The expropriation and compensation for land from which borrow materials is obtained shall be negotiated and paid for by the employer.”

(b) Use of borrow materials

Add the following to the second paragraph of this sub-clause:

“Compensation to owners and arrangements with owners for taking material from alternative borrow pits proposed by the contractor shall be the contractor’s responsibility and entirely at his own expenses.”

B3104 OPENING AND WORKING BORROW PITS AND HAUL ROADS**(c) Excess overburden**

Add the following:

“All excess overburden removed at borrow pits shall be replaced over the entire area of the borrow pit after initial shaping has been undertaken in an even layer. Payment for this requirement shall be deemed to be included in pay item 31.01

(f) Protecting borrow pits

Add the following:

"It is a requirement of the contract that each borrow pit or pits shall be provided with fencing around the perimeters, including a access gate, of the borrow areas, including the supply of danger warning signage fixed to the fencing, visible at all sides approaching the borrow pit area. The fencing shall be erected prior to entering the land for borrowing purposes and shall on final finishing of the borrow areas as specified by the employer, be dismantled and removed or left in-place as instructed by the employer. Payment for fencing around borrow pits shall be made in accordance with the stipulations of section 5500 in these specifications."

In addition to fencing, Security Guards shall be supply on a 24 hour, 7 days a week basis, with full time communication to the Site Manager or site camp for the duration of the contract and activities at the borrow pits.”

Add the following new sub-clause:

“(h) Haul roads

Haul roads to designated borrow pits along the road shall be constructed along alignments as instructed by the engineer and shall be maintained at the contractor’s own cost to the satisfaction

of the engineer."

B3105 FINISHING-OFF BORROW AREAS AND HAUL ROADS

Add the following to this clause:

"Should the employer, engineer or any other authority approved by the engineer, require a higher standard of shaping and finishing off of borrow pits than specified in the standard specifications, measurement and payment for such extra work shall be made using daywork items as scheduled under this section."

B3108 MEASUREMENT AND PAYMENT

Change item 31.01 to read as follows:

"ITEM	UNIT
B31.01 Excess overburden :	
(a) Depth up to and including 0,5m	cubic meter (m ³)
(b) Depth exceeding 0,5m and up to 1,0m	cubic meter (m ³)

Measurement and payment shall be as specified for item 31.01 of the standard specifications with the abovementioned depth ranges applicable."

Add the following new item:

SECTION 3300 : MASS EARTHWORKS**B3305 TREATING THE ROADBED****(a) Removing unsuitable material**

Add the following to the third paragraph:

"For the purpose of this contract, excavation and removal of in-situ clayey material over areas where the road is in a fill condition, shall be classified as removal of unsuitable material, irrespective of the stability or moisture condition of the in-situ material".

(c) Preparing and compacting the roadbed

Delete the last sentence of the first paragraph "If necessary, roadbed.....depth of compaction" and replace as follows:

"Where demarcated by the engineer, prior to the roadbed being scarified, the excess in situ material forming part of the present roadway, and within the limits of the roadbed, and in close proximity of the layer works, but falling within the limits of the layerworks, shall be bladed to controlled level in order to achieve the required level and necessary depth of compaction."

B3307 FILLS**(c) Constructing a pioneer layer**

Add the following to the first paragraph:

"For the purpose of this contract, pioneer layers shall be completed by means of eight-pass roller compaction using vibratory rollers as specified in sub-clause 3304(b) of the standard specifications."

(d) Benching

Add the following:

"Benching of fill and pavement layer material is required to be undertaken into the existing fill embankments and pavement layers. No additional payment shall be made over and above the normal pay items applicable to earthworks and pavement layers where benching is required for widening of the existing road formation. Benching shall be undertaken as shown on the drawings.

It is a requirement that benching shall always be started at the bottom of the existing fill progressing to the top of the formation. The dimensions and details of benching are shown on the drawings."

B3308 FINISHING THE SLOPES**(d) General**

Add the following:

"Where existing cut and fill slopes are excessively eroded or where slippages occurred in slopes, the slopes are to be reinstated by means of backfilling with suitable gravel material. All loose material and vegetation shall first be removed from the eroded cut and fill slopes before backfilling may commence from the bottom of the cut or fill. The backfill material shall be benched into the existing slopes and compacted to 90% of modified AASHTO density, using suitable small compaction equipment e.g. Bomag walk-behind rollers or hand-held compaction tools. Benching shall be executed to the dimensions shown on the drawings. Upon completion of the backfilling operation the cut and fill slopes shall be neatly finished as specified."

SECTION 3400 : PAVEMENT LAYERS OF GRAVEL MATERIAL**B3402 MATERIALS****(a) General**

Add the following:

"Material requirements for gravel pavement layers are in accordance with TRH4 and shall be indicated on the drawings."

B3405 CONSTRUCTION TOLERANCES**(e) Cross-section**

Delete the second paragraph and replace with the following:

"The normal crossfall of the road wearing course where the road is in a straight horizontal alignment, is specified as 3% as shown on the drawings."

At any cross-section the measured crossfall between any two points shall at least be 2,8% and not more than 3,5%. At any cross-section the actual level at any point shall not be higher than 10mm above the computed level from the cross-section as specified and the actual level, if lower than the computed level, shall not be lower by more than that derived from the specifications for longitudinal grade and crossfall deviations."

(f) Surface regularity

Add the following:

"Where transverse construction joints in base layers are made between newly and previously constructed sections, the contractor shall exercise level control at such joints by installing level poles at 5m intervals on either side of the joint of the layer covering at least a 30m length into the newly constructed section."

B3406 QUALITY OF MATERIALS AND WORKMANSHIP

Add the following:

"Test results and measurements shall be assessed by the engineer according to the provisions of Section 8300 of the standard specifications".

SECTION 3500 : STABILISATION**B3503 CHEMICAL STABILISATION****(a) Preparing the layer**

Add the following:

Breaking-down and removal of oversize material and addition of material to make to required thickness shall be completed before stabilising agent shall be added."

(h) Curing the stabilised work

Add the following:

"It is the intention of this contract that curing of chemically stabilised layers shall be undertaken in accordance to protection method (ii) as specified. Any other method of curing shall only be allowed in special circumstances as decided upon by the engineer, but no additional payment whatsoever over and above that allowed for in item 35.05 will be made."

(i) Construction limitations

In table 3503/1, replace "8 hours" with "6 hours."

B3506 TOLERANCES**(b) Uniformity of mix (chemical stabilisation)**

Add the following:

"All pavement layers, especially layers which are to be chemically stabilised, shall, apart from the application of other mixing equipment, include at least two motor grader blade mixing operations to the full depth of the layer.

The in-place mixing of chemical stabilising agents with gravel materials shall be executed in such a manner that the coefficient of variation in the uniformity of the mix shall not exceed 30% when the stabilised layer is subjected to the chemical titration test, TMH1 method A15d. For plant-mixed stabilised materials the coefficient of variation shall not exceed 20%.

The coefficient of variation, C_v , is calculated by the formula:

$$C_v = \frac{S_n}{X_n} \times 100 \text{ where,}$$

S_n = standard deviation of n determinations of stabilising agent content

X_n = mean percentage of n determinations of stabilising agent content with n = 4 minimum."

B3509 QUALITY OF MATERIALS AND WORKMANSHIP

Add the following:

"The preparation of chemically stabilised material for the determination of the modified AASHTO density of the material shall be executed in accordance with TMH1 test method A16T and compaction thereof in accordance with TMH1 test method A7."

SECTION 5200 : GABIONS**B5201 SCOPE**

Add the following paragraph

“This section also covers the removal, dismantling and stacking of existing gabion work, and the reuse of these materials where authorised by the engineer.”

B5203 CONSTRUCTION OF GABION CAGES**(a) General**

Add the following new sub-clause:

“(iii) Reno mattresses or similar may be used as alternative to gabion boxes. These Reno mattresses are to be manufactured of 80mm x 100mm mesh (2,5mm diameter wires, diaphragm spacing 0,6m).

B5204 CONSTRUCTING GABIONS**(c) Assembly**

Delete and substitute with:

(c) Assembly, erection and stretching**(i) Assembly**

“Prior to assembly, the gabion material shall be opened out flat on the ground and stretched to remove any kinks and bends. The gabion boxes shall then be assembled individually by raising the sides, ends and diaphragms ensuring that all creases are in the correct position and that the tops of all four sides are even. The four corners of the gabion boxes shall be laced first followed by the edges of internal diaphragms to the sides. In all cases lacing shall commence at the top of the box by twisting the end of the lacing wire around the selvages. It shall then be passed round two edges being joined, through each mesh in turn and securely tied off at the bottom. The ends of all lacing wire shall be turned to the inside of the box on completion of each lacing operation.

(ii) Erection

Only assembled boxes, or groups of boxes, shall be positioned in the structure. The side, or end, from which work is to proceed, shall be secured to either completed work or by rods or stakes driven into the ground at the corners. These must be secured and reach at least to the top of the gabion box. Further gabions shall then be positioned in the structure as required, each being securely laced to the preceding one at all corners and diaphragm points.

(iii) Stretching

On completion of erection of a suitable length of gabion, the gabion boxes shall be stretched using a wire strainer or winch of at least one ton capacity firmly secured to the free end of the assembled gabion boxes.

Whilst under tension the gabion boxes shall be securely laced along edges (top, bottom and sides) and at diaphragm points, to all adjacent boxes and shall thereafter be filled.”

(d) Rock filling

Add the following new sub-sub-clause:

(iii) General

“Filling shall be carried out only whilst gabion boxes are under tension. Filling material shall consist of rock of size not less than 120mm and not greater than 250mm so placed to produce a neat face and line with a minimum of voids.

Internal horizontal bracing wire shall be provided at 500mm vertical centres or such spacing to

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ensure a ratio of four to every 1m³ of filling. These bracing wires shall be wrapped around two mesh wires and extended from front to back so positioned to ensure a neat face and line free of excessive bulges and depressions. Gabion boxes shall be filled in stages and horizontal bracing wires inserted as filling is brought up.

Similar bracing wires used vertically shall be provided in 0,5mm deep gabions at 330mm horizontal centres where water falls directly onto gabions or where a neat face is required.

Tension on the gabion boxes shall be released only when sufficiently full to prevent the mesh from slackening.

Gabion boxes shall be overfilled by 20 to 50mm above their tops to allow subsequent settlement of the filling."

Add the following new sub-clauses:

(e) Final wiring

"Closing and wiring down of lids shall proceed as soon as possible after filling operations and certainly in the likelihood of storms or floods during construction. The wiring down shall consist of wrapping around wire at such intervals as required or specified.

Lids shall be stretched tight over the filling with bars and wired down securely through each mesh along all edges, ends and diaphragms. The ends of all tying and bracing wires shall be turned into the gabion box on completion of all lacing operations.

Tightness of mesh, well packed filling and secure lacing is essential in all structures."

(f) Removal, dismantling and stacking of gabions

"Existing gabions, either damaged or not, that require to be removed or moved to a new location shall be dismantled. Material not required for re-assembly or unsuitable for re-use shall be neatly stacked at approved locations in accordance with the engineer's instructions. Payment will be made only for gabions removed in accordance with the written instruction of the engineer.

Where gabions require moving, or as declared suitable by the engineer are re-usable, the contractor shall re-use all the material, plus supply such new materials as may be required to re-assemble the gabion again to the standard specification for new gabions."

SECTION 5600 : ROAD SIGNS**B5601 SCOPE**

“This section also covers the supply and erection of permanent danger plates at culverts and bridges at the locations indicated on the drawings or as directed by the engineer.”

B5603 MANUFACTURING OF ROAD SIGN BOARDS AND SUPPORTS**(a) Road signboards**

Add the following:

“The contractor shall make every effort to ensure that signboards are correct in all respect and before dispatching the boards from the manufacturer’s factory shall provide the Engineer with a 100mm x 150mm colour photograph of each sign face for approval of the correctness of the legend. Such approval will not imply final acceptance of the board. If the Contractor is in any doubt as to the correctness of the sign detail, the sign designer shall be contacted for verification.”

(a) (ii) Steel profile road signboards

Add the following:

“Where the letter or legends cross the horizontal joints of the sign panels, the letter shall be cut on the joint and both ends folded around the radius.

Retro-reflective material to adjoining Chromadek panels on a sign shall be practical visual match of the specified colour.”

B5604 ROAD SIGN FACES AND PAINTING

Add the following new subclause:

“(e) Application of retro-reflective material

All sign faces shall be faced with diamond grade retro-reflective material. Painted front sign faces shall not be used.

Where applied to Chromadek sections, retro-reflective material shall be applied as specified for aluminium section in Clause 5603(d) of the Standard Specification, and of Clause B5603(a)(ii) of this project Specification.”

B5605 STORAGE AND HANDLING

Add the following:

“The following shall not be allowed on the sign face:

Drilling of holes, except for the fastening of overlays

Application of any form of adhesive

Cleaning with any chemicals that are not specifically approved by the manufacturer of the retro-reflective material

Covering the sign face with an impermeable material that does not allow free circulation of air.”

B5606 ERECTING ROAD SIGNS**(c) Erection**

Add the following:

“After erection the signboard shall be thoroughly cleaned with a cleaning agent approved by the retro-reflective material’s manufacturer.

All vegetation obstructing the new or replaced sign board shall be removed and disposed of as instructed by the Engineer.”

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B5608 DISMANTLING, STORING AND RE-ERECTING EXISTING ROAD SIGNS

Add the following:

“Existing overhead and ground mounted road signs that are being replaced by new signs shall be dismantled and disposed of by the Contractor. Where possible the dismantling of the signs shall not be before the replacement sign is erected and displayed. Where dismantling of the sign is required before erection of the replacement sign, the dismantling shall not take place until immediately before work is to commence on the replacement, and the replacement shall be completed and the new sign displayed as soon as possible thereafter (within 72 hours).

Dismantling shall include sign panels and ground mounted sign supports.

Ground mounted sign supports shall be cut off just below ground level. Material excavated for removal of buried poles shall be replaced, and any depression made good using excess material from excavation for new signs.

Pay items are provided in the Bill of Quantities. Payment will differentiate between different types of sign panels.”

B5609 MEASUREMENT AND PAYMENT

ITEM		UNIT
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B56.01	Road sign boards with painted or coloured semi-matt background. Symbols, lettering, and borders in diamond grade retro-reflective material, where the sign board is constructed from:	
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Amend the last two lines of the second paragraph to read:

“completion, delivery, installation of the road sign board complete as specified, and the removal and disposal of all vegetation obstructing the motorists’ view of the new or replaced sign board. Add the following pay items:

“ITEM		UNIT
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B56.10 Danger plates at culverts/structures

	(a) Type A at stormwater culverts (size indicated)	number (No.)
	(b) Type B at bridges (size indicated)	number (No.)

The unit of measurement shall be the number of danger plates provided and erected in accordance with the drawings.

The tendered rate shall include full compensation for all labour and material, painting, posts, excavation, backfilling with soil etc., as may be necessary for completing the work in accordance with the details shown on the drawings.”

SECTION 5700 : ROAD MARKINGS**B5706 SETTING OUT THE ROAD MARKINGS**

Add the following:

“Where road markings are to be replaced after milling/overlay seal, it is essential that all existing barrier lines and other road marking lines be accurately referenced before commencement of milling or other operations which will obliterate the existing road markings. The position of barrier lines shall be re-assessed on site by the Engineer before the Contractor commences with the road marking.”

B5707 APPLYING THE PAINT

Add the following:

“The Contractor’s establishment on site and general obligation shall be deemed to fully include the establishment of the road-marking team, irrespective of the number of times the road-marking team is required to be onsite or is required to move within the site.”

B5711 GENERAL

Insert the following into the last sentence of the last paragraph between “black paint” and “or chemical paint remover”:

“, bituminous emulsion, slurry”

Add the following to the last paragraph:

“Where black paint is used, it shall be matt.”

Add the following new clause:

“B5715 REMOVAL OF EXISTING ROAD STUDS

The existing road studs shall be removed from the road surface prior to milling.”

B5714 MEASUREMENT AND PAYMENT**ITEM****UNIT**

B57.06 Setting out and pre-marking the lines (excluding traffic island markings, lettering and symbols)

Add the following:

“Referencing of existing barrier lines and other road marking lines prior to milling and other operations, shall be included in the tendered rate for setting out and pre-marking.”

Add the following item:

Item**Unit**

B57.07 Establishment of painting unit during the construction period

Lump sum

The unit of measurement shall be the lump sum to compensate the contractor for the establishment and removal of the painting unit after the retention period.

The tendered lump sum shall include full compensation for the establishment on site and for the removal of all equipment, personnel, etc. as may be required for the application of the road marking.

SECTION 5900 : FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS

B5902 FINISHING THE ROAD AND ROAD RESERVE

Add the following to the first paragraph:

“The contractor shall pay special attention to the collection and removal of all waste materials originating from the construction activities. All materials trimmed or excavated from the road shall be collected and removed from the road reserve to the satisfaction of the engineer.

This requirement shall be deemed to be incorporated in the tendered rates for item 59.01 of the bill of quantities or such other items as the contractor may decide upon.

The engineer may order additional finishing of the road reserve which will entail the collection and disposal of loose rocks etc. Payment for this work will be made under daywork items included in section 5900 of the bill of quantities as described in section 1800 of these project specifications.”

SECTION 6100 : FOUNDATIONS FOR STRUCTURES**B6102 MATERIAL****(b) Rock (for rock fill)**

Replace this section with the following:

“Stones/rock shall be hard, angular veld or quarry stones or rock fragments of such quality that they will not disintegrate on exposure to water or weathering. The stones/rock shall be free from soil, shale or organic material.

The size of the stone/rock fragments must be uniform, with a maximum largest stone/rock dimension of 250mm, and at least 85% of the rocks shall have an average least dimension of 100mm. Neither the breadth or the thickness of a single stone shall be less than one-third its length.”

(c) Crushed stone

Replace this section with the following:

“Crushed stone used for construction of crushed stone foundation fill shall be 20mm stone used and approved for concrete works.”

B6105 EXCAVATION**(d) Classification of excavated material**

Delete clause (i) and substitute it with the following:

“(i) Hard Material

“Boulders which the longest dimension exceeds 1,5m or which the volume exceeds 0,75m³ shall be classified as hard material;

or

material which cannot be excavated except by drilling and blasting or by using pneumatic tools or mechanical breakers shall be classified as hard material.”

B6108 BACKFILL AND FILL NEAR STRUCTURES**(a) General**

Add the following:

- (iv) "During backfilling within 1,0m of any concrete structure, or as directed by the Engineer, only hand operated mechanical compaction equipment shall be used to achieve the required density."

B6109 FOUNDATION FILL

Add the following after the 3rd paragraph:

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"Granular foundation fill shall be constructed from approved granular material of at least gravel subbase quality."

Add the following after the 6th paragraph:

"Concrete screeds shall extend 200mm beyond the horizontal dimensions of all footings to facilitate the placing of formwork, unless otherwise directed by the engineer.

In the case of structures where excessive ground water is encountered, the screed shall extend over the full plan area of the base of the excavation. Payment shall be made for the quantity of concrete calculated as the product of the specified thickness of the screed and the actual area of screed specified by the engineer up to a maximum area of the product of the neat footing length plus 1m and the neat footing width plus 1m."

B6115 MEASUREMENT AND PAYMENT

Add the following note immediately after B6115 Measurement and Payment clause heading:

"Note:

The Contractor shall note that, notwithstanding the fact that various payment items indicate that haul, overhaul and all associated terms will be paid for separately, this shall not apply to Section 6100."

ITEM	UNIT
B61.02 Excavation	cubic metre (m ³)

Delete the following words in the second last paragraph:

"the hauling of excavated material for the free-haul distance of 1,0 km,"

Add the following sentence at the end of the same paragraph:

"The haulage and disposal of excavated material to an approved spoil site shall be deemed to be included in the tendered rates, irrespective of the hauling distance."

ITEM	UNIT
B61.03 Access and Drainage	
(a) Access	lump sum

Add the following to the payment paragraph:

"The tendered lump sum shall also include for all draining by pumping or in any other way and for any other work necessary for keeping the excavations dry or for working in the dry."

ITEM	UNIT
B61.04 Backfill to excavation utilising	cubic metre (m ³)

Delete the following words in the last paragraph:

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... "transporting the material within the free-haul distance of 1,0 km," ...

Add the following sentence at the end of the same paragraph:

"The transportation of backfill material shall be deemed to be included in the tendered rates, irrespective of the hauling distance."

ITEM		UNIT
B61.08	Foundation fill consisting of:	
	(a) Rock fill	cubic metre (m ³)
	(b) Crushed-stone fill	cubic metre (m ³)

Add the following to the payment paragraph:

"The tendered rates for rock fill and crushed stone fill shall also include full compensation for procuring the material from commercial sources and all transporting and stockpiling costs."

SECTION 6200 : FALSEWORK, FORMWORK AND CONCRETE FINISH**B6205 CONSTRUCTION****(b) Formwork****(i) General**

Add the following:

“Formwork to faces of structures with a gradient equal to or greater than ten vertical to one horizontal shall be classified as vertical formwork.

Formwork to faces of structures with a gradient of less than ten vertical to one horizontal, or equal to or greater than one vertical to ten horizontal, shall be classified as inclined formwork.

Formwork to faces of structures with a gradient of less than one vertical to ten horizontal shall be classified as horizontal formwork.”

B6206 REMOVING THE FALSEWORK AND FORMWORK

Replace the second and third sentences in the first paragraph with:

“The minimum period for the falsework and formwork for the deck/roof slabs to remain in place shall be:

- At Structure B1 a period of 21 days.
- At structure B2 a period of 14 days.

and on condition that the deck (or roof slab) concrete attained 80% of its specified strength by that time.”

B6210 MEASUREMENT AND PAYMENT

Delete the heading "Note" and the subsequent paragraph after item 62.04.

SECTION 6300: STEEL REINFORCEMENT FOR STRUCTURES**B6302 MATERIALS****(a) Steel bars**

Replace the first and second paragraph with the following:

"Steel reinforcing bars shall comply with the requirements of SANS 920. For each consignment of steel reinforcement delivered on site, the contractor shall submit a certificate by a recognised testing authority to confirm that the steel complies with the specified requirements. The reinforcement may only be used on approval by the engineer.

Cold-worked reinforcing bars shall not be used.

The type of bar required shall be indicated on the drawings by the symbols R, Y or Z in accordance with SANS 282."

B6306 PLACING AND FIXING

Delete the second and third paragraph and replace with the following:

"The concrete cover for all structural concrete shall be within the acceptance ranges as per section 6803(f). Prior to fixing the steel, samples of the proposed cover and spacer blocks shall be submitted to the Engineer along with a written method statement for in-situ manufacture, if applicable, for approval."

B6307 COVER AND SUPPORT

Add the following to the end of the fifth paragraph:

"No plastic or wood cover blocks will be permitted. Only semi-spherical concrete cover blocks shall be used. Where fixing wire is inserted into cover blocks, it shall be galvanised. Concrete cover and spacer blocks can be sourced from approved commercial source or can be manufactured on site. All cover blocks regardless if manufactured on site or obtained commercially shall not be visible on exposed concrete surfaces."

If cover blocks are manufactured on site, it must also have approved semi-spherical shape, and must be made using the same cement and aggregate type as the main concrete with the same water/cement ratio so that differences in shrinkage, thermal movements and strain are minimised. Cover blocks shall be water cured by submersion for a minimum of 7 days and thereafter kept submerged in water until immediately before fixing onto reinforcing steel."

SECTION 6400 : CONCRETE FOR STRUCTURES**B6402 MATERIALS****(a) Cement**

Replace the colon at the end of the first paragraph with a comma, and add the following:

“taking into account the adoption of the new SANS 50197-1:2000 code for cements: (refer to C&CI website www.cnci.org.za)”

Add the following paragraphs:

“The type of cement to be used in any concrete element shall take into account the environmental conditions and durability requirements at the location of the site of the works, and shall be selected according to Table B6402/1 below, subject to the approval of the engineer.

With the exception of the standard SANS approved cement blends supplied by the primary cement producers, the blending of CEM1 and extenders shall not be permitted unless specifically approved by the engineer on the basis of an acceptable quality assurance procedure. In the case of the major culverts and bridges to be constructed in terms of this contract, the applicable condition of exposure in Table B6402/1 for **the selection of the type of cement shall be “2. SEVERE”**

Table B6402/1: SELECTION OF CEMENT TYPE

Condition of Exposure	Placing Temperature of Concrete	Type of Cement***
1. MODERATE Concrete surfaces above ground level and protected against alternately wet and dry conditions caused by water, rain and sea-water spray	< 20°C	CEM I CEM II A – S CEM II B – S
	20°C - 30°C	CEM I CEM II A – S CEM II B – S CEM II A – V CEM II B – V
2. SEVERE Concrete surfaces exposed to hard rain and alternatively wet and dry conditions	< 20°C	CEM I CEM II A – S CEM II B – S
	20°C - 30°C	CEM I CEM II A – S CEM II B – S CEM II A – V CEM II B – V
3. VERY SEVERE	< 20°C	CEM II B – S CEM II B – V

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Concrete surfaces exposed to aggressive water, sea-water spray or a saline atmosphere	20°C - 30°C	CEM II B – S CEM II B – V
4. EXTREME Concrete surfaces exposed to the abrasive action of sea water or very aggressive water	< 20°C	CEM II B – S
	20°C - 30°C	CEM II B – S

*** Notes to Table B6402/1:

1. Where the effective final composition of the cement as used in the manufacture of the concrete falls within the CEM I category, such concrete shall be used only in environments where the concrete is not prone to chloride attack, i.e., in inland drier environments.
2. Where a strength class of 42,5 or greater is required, and the placing temperature of concrete is between 20°C and 30°C, a set and hydration retarding admixture shall be used where required so as not to exacerbate bleeding.

b) Aggregates

Delete the remainder of the sentence after “exceed” in sub-clause (i)(1) and replace with the following:

“150% of that of the reference norite aggregate or any of the other three reference aggregates”

Delete the remainder of the sentence after “exceed” in sub--clause (i)(2) and replace with the following:

“200% and of the coarse aggregate 175% of that of the reference norite aggregate or any of the other three reference aggregates”

Delete the remainder of the sentence after “exceed” in the first paragraph of sub-clause (i)(3) and replace with the following:

“235% of that of the reference norite aggregate or any of the other three reference aggregates”

Delete the entire last paragraph of sub-sub-sub-clause (i)(3) commencing with “The drying shrinkage of concrete...”

Replace subclause B6402(b)(iv) with the following:

"The particular combination of aggregate and cement shall be tested for potential alkali aggregate reactivity in accordance with the test method as described in subclause 8105(f) and, where the results point to such reaction, either the aggregate or the cement, or both shall be replaced so that an acceptable combination may be obtained."

Add the following subclauses:

"(vi) The maximum chloride ion content of fine aggregate shall be 0,03% by mass of aggregate as measured by SANS 1083:2006. Where concrete is situated in a chloride environment, the value shall be reduced from 0,03% to 0,01%.

(vii) In addition to SANS 1083:2006 grading requirements for fine aggregates, the grading of the approved sand shall be such that between 25% and 35% by mass shall pass the 300 µm sieve. Sands that do not comply with this requirement will have to be blended with an approved fine sand in order to achieve the requirement.

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(viii) The aggregate shall have a wet 10% FACT value of at least 75% of that of the determined dry value (SANS 1083)."

d) Water

Add the following:

"Water for concrete other than prestressed concrete, shall not contain chlorides, calculated as sodium chloride, in excess of three thousand parts per million (3000ppm) nor sulphates, calculated as sodium sulphate, in excess of two thousand parts per million (2000ppm).

Water for curing concrete shall not contain impurities in sufficient amount to cause discolouration of the concrete or produce etching of the surface.

No water containing salts shall be used.

No water shall be added on site to ready mix concrete prior to placing to improve workability. All concrete delivered to site shall be checked for workability using the slump cone test and slump measured outside of the limit set from the design mix shall be rejected."

e) Admixtures

Add the following sub-sub-clauses:

"(v) Admixtures, which have a retarding effect on the rate of hydration of the cement, may not be used when the concrete temperature is below 20°C.

(vi) A retarding admixture shall be used if the temperatures of concrete mixes using cements of strength class 42.5 or higher is between 20 to 30°C or where the ambient temperature is between 20 to 30°C."

Add the following:

"Note: Only admixtures of the type that do not increase the water content of the mix will be considered by the Engineer. In addition, no admixtures shall be added on site to ready mix concrete prior to placing to improve workability."

B6404 CONCRETE QUALITY**(b) Strength concrete**

Add the following paragraph:

"The cement content for any class of structural concrete or mass concrete used in structures shall not be less than 300kg/m³ of concrete.

The contractor must provide the engineer with complete mix designs and materials test results for strength concrete at least four (4) weeks before the first concrete is cast on the project" on Colto Form D2 complete with all required test results for stone, sand and water. The minimum target design strengths for concrete mix designs must be at least 15% higher than the specified concrete cube strength (Characteristic cube compressive strength)

The following information/tests on the stone are also required and to be completed on form D2:

- Rock type from which sourced
- Flakiness index,

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- ACV(%)
- 10% FACT (kN)
- Alkali reaction (y/n)
- Voids content
- Water absorption

The following information/tests on the sand are also required and to be completed on form D2:

- Rock type originally from
- Organic impurities/materials (y/n)
- Sugar detection
- pH
- Soluble deleterious impurities (Soluble salts (%), Soluble sulfates (%), Deleterious clay content, etc)
- Chloride content
- Sand equivalent value
- Shell content
- Alkali Reaction (y/n)

The following information/tests on the water that will be used to manufacture concrete are also required and to be completed on form D2 (also refer to Table 8116/1 in Colto):

- pH
- Sulphates
- Chlorides
- Conductivity
- Total dissolved solids
- Alkali carbonates and bicarbonates
- Sugar
- Organic impurities

The cost of obtaining concrete mix designs in the prescribed format, and the cost of all above tests must be included in the Contractor's rates for concrete."

B6405 MEASURING THE MATERIALS**(c) Aggregates**

Add the following:

"All concrete for structures shall be manufactured by mechanical mass batching on site. Volume batching will not be allowed."

B6406 MIXING**(a) General**

Add the following:

"The Contractor must include in his rates to establish a concrete batching plant on site. The Contractor must establish on site a 750 litre minimum size, calibrated mechanical mass batch-mixer and also a standby mixer of at least 400 litre minimum size, calibrated mechanical mass batch-mixer"

(e) Standby mixer

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Add the following:

"The Contractor must include in his rates to establish a concrete batching plant on site. The Contractor must establish on site also a standby mixer of at least 400 litre minimum size, calibrated mechanical mass batch-mixer"

(f) Ready-mixed Concrete

Replace the paragraph with the following:

"Commercial ready-mixed concrete will not be allowed on this project, to maximise local labour content on the project"

B6407 PLACING AND COMPACTING

(a) General

Add the following after the third paragraph:

"Concrete shall only be placed up to 20:00 at the latest. Under exceptional circumstances the Engineer may allow night work on condition that proper lighting arrangements can be made and a new and rested shift for night work is provided and ambient temperatures are such as to not adversely affect the setting of the concrete."

Add the following paragraphs to the end of subclause 6407(a):

"The concreting operations for all major culvert and bridge elements shall require careful planning, and sufficient concrete product and concreting resources such as labour, tools, equipment and plant shall be made available on each day of concreting to ensure that the concrete construction planned for that day is successfully achieved.

One month before the programmed date for the first element of box culvert or bridge concreting, the contractor shall be required to submit to the engineer for his approval a detailed method statement fully covering the proposed concreting operations required to construct the box culvert or bridge. The method statement shall, inter alia, include details of labour and supervision, tools and equipment (wheel barrows, spades, poker vibrators, hoists, baffled chutes, downpipes, flexible drop chutes, etc.), plant (batching plant, concrete dumpers, cranes, pumps, etc. including back-up plant and equipment), production rates, ready-mixed concrete supplier details and proposed schedule of concrete delivery times (if ready-mixed concrete is to be used), sequence of construction, curing method to be used, contingency plans and health and safety obligations. Box culvert and bridge concrete shall only be placed once the engineer is satisfied that every reasonable effort has been made by the contractor to ensure the success of the concrete placing operation. The approved method statement shall then apply to all other major culvert and bridge concreting operations of similar nature, and any amendments required to the approved method statement shall also be approved by the engineer prior to implementation."

B6408 CONSTRUCTION JOINTS

(a) General

Add the following:

"No construction joints other than those indicated on the drawings will be permitted without the written approval of the engineer".

B6409 CURING AND PROTECTING

Add the following:

Any vertical faces where formwork is removed before 7 days must be treated with an approved **wax-based** curing compound

The surface area of bridge footings, culvert floor slabs and culvert roof slabs shall be cured as follows:

- (i) The area of freshly cast and finished concrete surface shall be immediately covered and cured as specified in clause 6409 (c) and (e), or
- (ii) After the concrete has set sufficiently the entire area shall be treated with an approved **wax-based** curing compound as specified in clause 6409(f).

The surface area of bridge decks, which will be surfaced with asphalt, shall be cured as follows:

- (i) The area of freshly cast and finished concrete surface shall be immediately covered and cured as specified in clause 6409 (c) and (e), or
- (ii) After the concrete has set sufficiently the entire area shall be treated with an approved **resin-based** curing compound as specified in clause 6409(f)."

B6414 QUALITY OF MATERIALS AND WORKMANSHIP

(a) Criteria for compliance with the requirements

Add the following:

"Quality control shall be carried out by the engineer as specified in Section 8200 : Quality Control (Scheme 1)."

B6416 MEASUREMENT AND PAYMENT

ITEM	UNIT
B64.01 Cast in situ concrete:	cubic metre (m ³)

Add the following after the first paragraph:

"Where foundation slabs are set directly against the face of excavations, the volume of concrete measured for payment shall include the total volumes of concrete placed, allowing for up to a maximum over the neat footing dimensions of 200mm where in the opinion of the engineer accurate excavation to neat lines and levels indicated on the drawings is not possible. (No formwork to the footing shall be measured when the concrete is cast against the face of the excavations)."

SECTION 6600 : NO-FINES CONCRETE, JOINTS, BEARINGS, BOLT GROUPS FOR ELECTRIFICATION, PARAPETS AND DRAINAGE FOR STRUCTURE

B6606 DRAINAGE FOR STRUCTURES

(c) Synthetic-fibre filter fabric

Add the following:

"The synthetic-fibre filter fabric used in conjunction with crushed stone in drainage strips shall be Bidim Grade A4 or an approved equivalent material. An overlap of 300 mm shall be provided at joints."

SECTION 7300: CONCRETE BLOCK PAVING FOR ROADS

B7304 MEASUREMENT AND PAYMENT

Add the following before the items:

"No additional or extra over payment will be made for work in restricted or confined areas."

"Item Unit

B73.03 Provision of approved herbicide/fungicide and ant poison:

Remove and replace "... ant poison and herbicide and ..." with "... ant poison, herbicide and fungicide and ...".

Add the following payment items:

"Item Unit

B73.04 Concrete bollards:

(a) Standard 250 mm diameter bollardnumber (no)

(b) Standard 150 mm diameter bollardnumber (no)

The unit of measurement shall be the number of concrete bollards installed.

The tendered rate shall include full compensation for the furnishing of all materials and equipment, work in restricted areas and all transport and finishing necessary to install the concrete bollards as indicated on the drawings to the satisfaction of the Employer’s Agent.

"Item Unit

B73.05

Removing and stacking existing all types and sizes of paving on restricted areas where NMT facilities are to be

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constructed, including transport where necessary.....m²

The unit of measurement shall be the square metre of paving removed on restricted areas where instructed by the Employer's Representative or where specified on the drawings.

The tendered rate shall include full compensation for all work necessary for removing undesired paving, including transportation, disposing or storage.

C3.4.3 PROJECT SPECIFICATIONS: ADDITIONAL SPECIFICATIONS

CONTENTS

- C3.4.3.1 REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT REGULATIONS
- C3.4.3.2 ENVIRONMENTAL MANAGEMENT PLAN
- C3.4.3.3 PROVISION OF STRUCTURED TRAINING
- C3.4.3.4 PROVISION OF THE TEMPORARY WORKFORCE

C3.4.3.1 OCCUPATIONAL HEALTH AND SAFETY ACT 1993 : HEALTH AND SAFETY SPECIFICATION**CONTENTS**

C3.4.3.1.1 INTRODUCTION

C3.4.3.1.2 SCOPE

C3.4.3.1.3 GENERAL OCCUPATIONAL HEALTH AND SAFETY PROVISIONS

C3.4.3.1.4 OPERATIONAL CONTROL

ANNEXURE 1: MEASURING INJURY EXPERIENCE

ANNEXURE 2: EXECUTIVE SHE RISK MANAGEMENT REPORT

ANNEXURE 3: LIST OF RISK ASSESSMENTS

C3.4.3.1.1 Introduction

In terms of the Construction Regulation 4(1) (a) of the Occupational Health and Safety Act, No. 85 of 1993, Molemole Local Municipality, as the Client, is required to compile a Health & Safety Specification for any intended project and provide such specification to any prospective tenderer.

The Client's further duties are as in C3.5.1.3.1.1. below and in the Construction Regulations, 2003.

This specification has as objective to ensure that Principal Contractors entering into a Contract with the Molemole Local Municipality achieve an acceptable level of OH&S performance. This document forms an integral part of the Contract and Principal and other Contractors should make it part of any Contracts that they may have with Contractors and/or Suppliers.

Compliance with this document does not absolve the Principal Contractor from complying with minimum legal requirements and the Principal Contractor remains responsible for the health & safety of his employees and those of his Mandataries.

C3.4.3.1.2 Scope

Development of a health & safety specification that addresses all aspects of occupational health and safety as affected by the abovementioned contract work.

The specification will provide the requirements that Principal Contractors and other Contractors will have to comply with in order to reduce the risks associated with the abovementioned contract work that may lead to incidents causing injury and/or ill health, to a level as low as reasonably practicable.

C3.4.3.1.3 General Occupational Health & Safety Provisions**(a) Hazard Identification & Risk Assessment (Construction Regulation 7)****(i) Risk Assessments**

Annexure 3 contains a list of Risk Assessment headings that have been identified by Molemole Local Municipality as possibly applicable to the abovementioned contract work. It is, by no means, exhaustive and is offered as an assistance to Contractors intending to tender.

Based on the Risk Assessments, the Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the OH&S aspects of the construction.

The Risk Assessments, together with the site-specific OH&S rules must be submitted to the Molemole Local Municipality before mobilisation on site commences.

Despite the Risk Assessments listed in Annexure 3, the Principal Contractor is required to conduct a baseline Risk Assessment and the aforesaid listed Risk Assessments must be incorporated into the base-line Risk Assessment. The baseline Risk Assessment must further include the Standard Working procedures (SWP) and the applicable Method Statements based on the Risk Assessments

All out-of-scope work must be associated with a Risk Assessment.

(ii) Review of Risk Assessments

The Principal Contractor is to review the Hazard Identification, Risk Assessments and SWP's at each Production Planning and Progress Report meeting as the Contract work develops and progresses and each time changes are made to the designs, plans and construction methods and processes.

The Principal Contractor must provide the Client, other Contractors and all other concerned-parties with copies of any changes, alterations or amendments as contemplated in above.

(b) Legal Requirements

All Contractors entering into a Contract with the Molemole Local Municipality shall, as a minimum, comply with the

- Occupational Health & Safety Act and Regulations (Act 85 of 1993). A current, up-to-date copy of the OHS Act must be available on site at all times
- Compensation for Occupational Injuries & Diseases Act (Act 130 of 1993). The principal Contractor will be required to submit a letter of Registration and "good-standing" from the Compensation Insurer before being awarded the Contract. A current, up-to-date copy of the COID Act must be available on site at all times.
- Where work is being carried out on mines' premises the Contractor will have to comply with the Mine Health & Safety Act and Regulations (Act. 29 of 19960 and any other OH&S requirements that the mine may specify. A current, up-to-date copy of the OHS Act must be available on site at all times.

(c) Structure and Responsibilities**(i) Overall Supervision and Responsibility for OH&S**

- * It is a requirement that the Principal Contractor, when he appoints Contractors (Sub-contractors) in terms of Construction Regulations 5(3), (5), (9), (10) and (12)

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he includes an OHS Act Section 37(2) agreement: "Agreement with Mandatary" in his agreement with such Contractors.

- * Any OH&S Act (85/1993), Section 16(2) appointee/s as detailed in his/her/their respective appointment forms

(ii) Further (Specific) Supervision Responsibilities for OH&S

The Contractor shall appoint designated competent employees and/or other competent persons as required by the Act and Regulations. Below is a list of identified appointments and may be used to select the appropriate appointments for the current contract:

	Ref. Section/Regulation in OHSAct
Batch Plant Supervisor	(Construction Regulation 6(1))
Construction Vehicles/Mobile Plant/Machinery Supervisor	(Construction Regulation 21)
Demolition Supervisor	(Construction Regulation 12)
Drivers/Operators of Construction Vehicles/Plant	(Construction Regulation 21)
Electrical Installation and Appliances Inspector	(Construction Regulation 22)
Emergency/Security/Fire Coordinator	(Construction Regulation 27)
Excavation Supervisor	(Construction Regulation 11)
Explosive Powered Tool Supervisor	(Construction Regulation 19)
Fall Protection Supervisor	(Construction Regulation 8)
First Aider	(General Safety Regulation 3)
Fire Equipment Inspector	(Construction Regulation 27)
Formwork & Support work Supervisor	(Construction Regulation 10)
Hazardous Chemical Substances Supervisor	(HCS Regulations)
Incident Investigator	(General Admin Regulation 29)
Ladder Inspector	(General Safety Regulation 13A)
Lifting Equipment Inspector	(Construction Regulation 20)
Materials Hoist Inspector	(Construction Regulation 17)
OH&S Committee	(OHS Act Section 19)
OH&S Officer	(Construction Regulation 6(6))
OH&S Representatives	(OHS Act Section 17)
Person Responsible for Machinery	(General Machinery Regulation 2)
Scaffolding Supervisor	(Construction Regulation 14)
Stacking & Storage Supervisor	(Construction Regulation 26)
Structures Supervisor	(Construction Regulation 9)
Suspended Platform Supervisor	(Construction Regulation 15)
Tunneling Supervisor	(Construction Regulation 13)
Vessels under Pressure Supervisor	(Vessels under Pressure Regulations)
Working on/next to Water Supervisor	(Construction Regulation 24)
Welding Supervisor	(General Safety Regulation 9)

The appointments must be in writing and the responsibilities clearly stated together with the period for which the appointment is made. This information must be communicated and agreed with the appointees.

Copies of appointments must be submitted to the Molemole Local Municipality together with concise CV's of the appointees. All appointments must be officially approved by Molemole Local Municipality. Any changes in appointees or appointments must be communicated to Molemole Local Municipality forthwith.

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The Principal Contractor must, furthermore, provide Molemole Local Municipality with an organogram of all Contractors that he/she has appointed or intends to appoint and keep this list updated on a weekly basis.

In addition Molemole Local Municipality may require that a Traffic Safety Officer be appointed for any project.

(iii) Designation of OH&S Representatives (Section 18 of the OHS Act)

OH&S Representatives have to be designated in writing and the designation must include the area of responsibility of the person and term of the designation.

(iv) Duties and Functions of the OH&S Representatives (Section 19 of the OHS Act)

The Principal Contractor must ensure that the designated OH&S Representatives conduct a minimum monthly inspection of their respective areas of responsibility using a checklist and report thereon to the Principal Contractor

OH&S representatives must be included in accident/incident investigations

OH&S representatives must attend all OH&S committee meetings.

(v) Appointment of OH&S Committee (Section 20 of the OHS Act)

The Principal Contractor must establish an OH&S Committee consisting of all the designated OH&S Representatives together with a number of management representatives that are not allowed to exceed the number of OH&S representatives on the committee and a representative of the Client who shall act as the chairman without a vote. The members of the OH&S committee must be appointed in writing.

The OH&S Committee must meet minimum monthly and consider, at least, the following Agenda:

1. Opening & Welcome
2. Present/Apologies/Absent
3. Minutes of previous Meeting
4. Matters Arising from the previous Minutes
5. OH&S Reps Reports
6. Incident Reports & Investigations
7. Incident/Injury Statistics
8. Other Matters
9. Endorsement of Registers and other statutory documents by a representative of the Principal Contractor
10. Close/Next Meeting

(d) Administrative Controls and the Occupational Health & Safety File

(i) The OH&S File (Construction Regulation 5 (7))

As required by Construction Regulation 5(7), the Principal Contractor and other Contractors will each keep an OH&S File on site containing the following documents as a minimum:

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- * Notification of Construction Work (Construction Regulation 3.)
- * Copy of OH&S Act (updated) (General Administrative Regulation 4.)
- * Proof of Registration and good standing with a COID Insurer (Construction Regulation 4 (g))
- * OH&S Programme agreed with the Client including the underpinning Risk Assessment/s & Method Statements (Construction regulation 5 (1))
- * Copies of OH&S Committee and other relevant Minutes
- * Designs/drawings (Construction Regulation 5 (8))
- * A list of Contractors (Sub-Contractors) including copies of the agreements between the parties and the type of work being done by each Contractor (Construction Regulation 9)
- * Appointment/Designation forms as per (a)(i) & (ii) above.
- * Registers as follows:
 - * Accident/Incident Register (Annexure 1 of the General Administrative Regulations)
 - * OH&S Representatives Inspection Register
 - * Asbestos Demolition & Stripping Register
 - * Batch Plant Inspections
 - * Construction Vehicles & Mobile Plant Inspections by Controller
 - * Daily Inspection of Vehicles, Plant and other Equipment by the Operator/Driver/User
 - * Demolition Inspection Register
 - * Designer's Inspection of Structures Record
 - * Electrical Installations, -Equipment & -Appliances (including Portable Electrical Tools)
 - * Excavations Inspection
 - * Explosive Powered Tool Inspection, Maintenance, Issue & Returns Register (incl. cartridges & nails)
 - * Fall Protection Inspection Register
 - * First Aid Box Contents
 - * Fire Equipment Inspection & Maintenance
 - * Formwork & Support work Inspections
 - * Hazardous Chemical Substances Record
 - * Ladder Inspections
 - * Lifting Equipment Register
 - * Materials Hoist Inspection Register
 - * Machinery Safety Inspection Register (incl. machine guards, lock-outs etc.)
 - * Scaffolding Inspections

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- * Stacking & Storage Inspection
- * Inspection of Structures
- * Inspection of Suspended Platforms
- * Inspection of Tunnelling Operations
- * Inspection of Vessels under Pressure
- * Welding Equipment Inspections
- * Inspection of Work conducted on or Near Water
- * All other applicable records

Molemole Local Municipality will conduct an audit on the OH&S file of the Principal Contractor from time-to-time.

- (e) OH&S Goals & Objectives & Arrangements for Monitoring & Review of OH&S Performance

The Principal Contractor is required to maintain a CIFR of at least 8 (See Annexure 1. to this document: "Measuring Injury Experience) and report on this to Molemole Local Municipality on a monthly basis

- (f) Notification of Construction Work (Construction Regulation 3.)

The Principal Contractor must, where the Contract meets the requirements laid down in Construction Regulation 3, within 5 working days, notify the Department of Labour of the intention to carry out construction work and use the form (Annexure A in the Construction Regulations) for the purpose. A copy must be held on the OH&S File and a copy must be forwarded to Molemole Local Municipality for record keeping purposes.

- (g) Training, Awareness and Competence

The contents and syllabi of all training required by the Act and Regulations are to be included in the Principal Contractor's OH&S Plan.

- (i) General Induction Training

All members of Contractor's Site management as well as all the persons appointed as responsible for OH&S in terms of the Construction and other Regulations will be required to attend a general induction session by the Client

All employees of the Principal and other Contractors to be in possession of proof of General Induction training.

- (ii) Site Specific Induction Training

The Principal Contractor will be required to develop Contract work project specific induction training based on the Risk Assessments for the Contract work and train all employees and other Contractors and their employees in this.

All employees of the Principal and other Contractors to be in possession of proof of Site Specific OH&S Induction training at all times.

- (iii) Other Training

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All operators, drivers and users of construction vehicles, mobile plant and other equipment to be in possession of valid proof of training.

All employees in jobs requiring training in terms of the Act and Regulations to be in possession of valid proof of training as follows:

OH&S Training Requirements: (as required by the Construction Regulations and as indicated by the OH&S Specification & the Risk Assessment/s):

- * General Induction (Section 8 of the Act)
- * Site/Job Specific Induction (also visitors) (Sections 8 & 9 of the Act)
- * Site/Project Manager
- * Construction Supervisor
- * OH&S Representatives (Section 18 (3) of the Act)
- * Training of the Appointees indicated above
- * Operators & Drivers of Construction Vehicles & Mobile Plant (Construction Regulation 21)
- * Basic Fire Prevention & Protection (Environmental Regulations 9 and Construction regulation 27)
- * Basic First Aid (General Safety Regulations 3)
- * Storekeeping Methods & Safe Stacking (Construction Regulation 26)
- * Emergency, Security and Fire Co-coordinator

(iv) Awareness & Promotion

The Principal Contractor is required to have a promotion and awareness scheme in place to create an OH&S culture in employees. The following are some of the methods that may be used:

- Toolbox Talks
- OH&S Posters
- Videos
- Competitions
- Suggestion schemes
- Participative activities such as OH&S Safety circles.

(v) Competence

The Principal Contractor shall ensure that his and other Contractors personnel appointed are competent and that all training required to do the work safely and without risk to health, has been completed before work commences

The Principal Contractor shall ensure that follow-up and refresher training is conducted as the contract work progresses and the work situation changes.

Records of all training must be kept on the OH&S File for auditing purposes.

(h) Consultation, Communication and Liaison

OH&S Liaison between the Client, the principal Contractor, the other Contractors, the Designer and other concerned parties will be through the OH&S committee as contemplated in above.

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In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.

Consultation with the workforce on OH&S matters will be through their Supervisors, OH&S Representatives, the OH&S committee and their elected Trade Union Representatives, if any.

The Principal Contractor will be responsible for the dissemination of all relevant OH&S information to the other Contractors e.g. design changes agreed with the Client and the Designer, instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/ situations etc.

The Principal Contractor will be required to do Site Safety Walks with Molemole Local Municipality at least on a basis to be determined between the two parties.

The Principal and other Contractors will be required to conduct Toolbox Talks with their employees on a weekly basis and records of these must be kept on the OH&S File. Employees must acknowledge the receipt of Toolbox Talks which record must, likewise be kept on the OH&S File.

The Principal Contractors most senior manager on site will be required to attend all Molemole Local Municipality OH&S meetings and

a list of dates, times and venues will be provided to the Principal Contractor by Molemole Local Municipality.

(i) Checking, Reporting and Corrective Actions

(i) Monthly Audit by Client (Construction Regulation 1(d))

Molemole Local Municipality will be conducting a Monthly Audit to comply with Construction Regulation 4(1)(d) to ensure that the principal Contractor has implemented and is maintaining the agreed and approved OH&S Plan.

(ii) Other Audits and Inspections by Molemole Local Municipality:

Molemole Local Municipality reserves the right to conduct other ad hoc audits and inspections as deemed necessary. This will include Site Safety Walks.

(iii) Conducting an Audit

A representative of the Principal Contractor must accompany Molemole Local Municipality on all Audits and Inspections and may conduct his/her own audit/inspection at the same time. Each party will, however, take responsibility for the results of his/her own audit/inspection results.

(iv) Contractor's Audits and Inspections

The Principal Contractor is to conduct his own monthly internal audits to verify compliance with his own OH&S Management system as well as of with this specification.

(v) Inspections by OH&S Representative's and other Appointees

OH&S Representatives must conduct weekly inspections of their areas of responsibility and report thereon to their foreman or supervisor whilst other appointees must conduct inspections and report thereon as specified in their appointments e.g. vehicle, plant and machinery drivers, operators and users must conduct daily inspections before start-up.

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(vi) Recording and Review of Inspection Results

All the results of the abovementioned inspections to be in writing, reviewed at OH&S committee meetings, endorsed by the chairman of the meeting and placed on the OH&S File.

(vii) Reporting of Inspection Results

The Principal Contractor is required to provide the Client with a monthly report in the format as per the attached Annexure 2: "SHE Risk Management Report"

(j) Incident Reporting and Investigation

Reporting of Accidents and Incidents (Section 24 and General Administrative Regulation 8 of the OHS Act)

The Principal Contractor must report all incidents where an employee is injured on duty to the extent that he/she:

- * dies
- * becomes unconscious
- * loses a limb or part of a limb
- * is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

OR where:

- * a major incident occurred
- * the health or safety of any person was endangered
- * where a dangerous substance was spilled
- * the uncontrolled release of any substance under pressure took place
- * machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- * machinery ran out of control

to Molemole Local Municipality within two days and to the Provincial Director of the Department of Labour within seven days (Section 24 of the Act & General Administrative Regulation 8.) EXCEPT that, where a person has died, has become unconscious for any reason or has lost a limb or part of a limb or may die or suffer a permanent physical defect, the incident must be reported to both Molemole Local Municipality and the Provincial Director of the Department of Labour forthwith by telephone, telefax or E-mail.

The Principal Contractor is required to provide Molemole Local Municipality with copies of all statutory reports required in terms of the Act within 7 days of the incident occurring.

The Principal Contractor is required to provide Molemole Local Municipality with copies of all internal and external accident/incident investigation reports including the reports contemplated below within 7 days of the incident occurring.

Accident and Incident Investigation (General Administrative Regulation 9)

The Principal Contractor is responsible for the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to be referred for medical treatment by a doctor, hospital or clinic

The results of the investigation to be entered into the Accident/Incident Register listed in above.

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The Principal Contractor is responsible for the investigation of all minor and non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Molemole Local Municipality reserves the right to hold its own investigation into an incident or call for an independent external investigation.

C3.4.3.1.4 Operational Control**(a) Emergency Preparedness, Contingency Planning and Response**

The Principal Contractor must appoint a competent person to act as Emergency Controller/Coordinator.

The Principal Contractor must conduct an emergency identification exercise and establish what emergencies could possibly develop. He/she must then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that Molemole Local Municipality may have in place.

The Principal Contractor and the other Contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarise employees with them.

(b) First Aid (General Safety Regulation 3)

The Principal Contractor must provide First Aid equipment (including a stretcher) and have qualified First Aider/s as required by General Safety Regulation 3 of the OHS Act.

The Contingency Plan of the Principal Contractor must include the arrangements for speedily and timeously transporting injured/ill person/s to a medical facility or of getting emergency medical aid to person/s that may require it.

The Principal Contractor must have firm arrangements with his other Contractors in place regarding the responsibility of the other Contractors injured/ill employees

(c) Security

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must include the rule that non-employees will not be allowed on site unaccompanied.

The Principal Contractor must develop a set of Security rules and procedures and maintain these throughout the construction period

(d) Fall Protection (Working in Elevated Positions (Construction regulation 8.))

A pre-emptive Risk Assessment will be required for any work to be carried out above two metres from the ground or any floor level and will be classified as "Work in Elevated Positions".

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING

As far as is practicable, any person working in an elevated position will work from a platform, ladder or other device that is at least as safe as if he/she is working at ground level and whilst working in this position be wearing a single belt with lanyard that will be worn to prevent the person falling from the platform, ladder or other device utilised. This safety belt will be, as far as is possible, secured to a point away from the edge over which the person might fall and the lanyard must be of such a length that the person will not be able to move over the edge.

Alternatively any platform, slab, deck or surface forming an edge over which a person may fall may be fitted with guard rails at two different heights as prescribed in SABS 085: Code of Practice for the Design, Erection, Use and Inspection of Access Scaffolding.

Where the requirement in is not practicable, the person will be provided with a full body harness that will be worn and attached above the wearer's head at all times and the lanyard must be fitted with a shock absorbing device OR the person must be attached to an approved, by Molemole Local Municipality, fall arrest system.

Where the requirements are not practicable, a suitable catch net must be erected.

Workers working in elevated positions must be trained to do this safely and without risk to health

Where work on roofs is carried out, the Risk Assessment must take into account the possibility of persons falling through fragile material. Skylights and openings in the roof.

C3.4.3.1.5 Measurement and Payment

Payment for the contractor's obligations in respect of the Occupational Health and Safety act and Construction Regulations shall be made through three payment items described below. The three payment items together shall include full compensation for all personnel (including a dedicated full time Construction Safety Officer), cost and incidentals in respect of compliance with the enforcement of the Health and Safety Specifications, which shall include for the compilation, presentation, implementation and maintenance of the Health and Safety Plan as contemplated. In tendering rates for the three items the contractor shall ensure that the sum of the amounts for the three items shall not be less than one percent (1%) of the Tender Amount.

Item	Unit
B1.1 Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Lump Sum

The full amount will be paid in one instalment only once:-

- (a) The contractor has notified the Provincial Director of the Department of Labour in writing of the project.
- (b) The contractor has made the required initial appointments of employees and sub-contractors.
- (c) The client has approved the contractor's Health and Safety Plan.
- (d) The contractor has set up his Health and Safety File.

Item	Unit
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B1.2 Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations

Month

The tendered monthly amount shall represent full compensation for that part of the contractor's general obligations in terms of the Occupational Health and Safety Act and the Construction Regulations which are mainly a function of time. This includes inter alia payment of all costs for the appointment of all staff contemplated in the construction regulations and the transport of employees on site. Payment will be monthly only after payment for Item **B1.1** has been made.

Item**Unit****B1.3 Submission of the Health and Safety File**

Lump Sum

The tendered lump sum shall represent full compensation for the contractor meeting all his obligations in respect of the Occupational Health and Safety Act and the Construction Regulations and for the preparation and submission of his Health and Safety File complete as envisaged on this specification to the Client's satisfaction.

This amount will be paid only once the contractor has met all his obligations in respect of the Occupational Health and Safety Act and the Construction Regulations and has submitted his Health and Safety File complete as envisaged on this specification to the Client's satisfaction.

C3.4.3.1.6 Project/Site Specific Requirements

See Annexure 3

Annexure 1: Measuring Injury Experience

Annexure 2: SHE Risk Management Report

Annexure 3. List of Risk Assessments

ANNEXURE 1: MEASURING INJURY EXPERIENCE

Injury experience has traditionally been measured by the use of a disabling injury frequency rate, the so-called “DIFR”. The DIFR is calculated by multiplying the number of disabling injuries by 1 million and dividing by the number of man-hours worked.

Lately the DIFR has been replaced internationally with a DIIR: disabling injury incidence rate. The only difference between the two rates are that the 10 million in the calculation is replaced with 200 000. (200 000 purported to be the number of hours and average person works in a lifetime.)

The use of the two rates above has proved to be somewhat problematical as they are open to manipulation and disabling injuries are often “hidden” by returning the injured employee to the workplace so as not to lose a shift and therefore having to register a disabling injury.

The Construction Industry recently decided to promote the use of a new frequency rate based on the number of compensation injury claims as these are more difficult to hide or manipulate because the reporting of compensable injuries is a legal requirement.

The industry is hoping that adoption of this new measurement of injury experience will enable the industry to monitor itself as far as work related injuries are concerned.

Below follows an explanation of this new rating system.

COMPENSATION INCIDENCE FREQUENCY RATE (CIFR)**FORMULA**

No. of Compensation Claims X 200 000 /

*220 man hours X No. of Employees

DEFINITIONS

No. of Compensation

Claims: **The number of claims lodged with the COID insurer for the period under review**

200 000: The fixed factor to align the rate with other rates used internationally

Manhours Worked

Include: * Hourly Paid Employees
 * Sub-contactors (No. of Employees X *220 each)
 * Staff (No. of Employees X *220 hours each)

220 manhours: The *average number of hours worked by one employee in one month in the Construction industry.

* Overtime, absence on leave or sick leave, unrecorded after hours time worked by senior and middle management factored into this average.

No. of Employees: The actual or average number of employees employed
for the period under review.

2002/03CIFRSystem

ANNEXURE 2: EXECUTIVE SHE RISK MANAGEMENT REPORT

The SAFCEC OH&S committee recently developed the following report in an attempt to standardise on reporting and assist contractors in obtaining a clear picture of their SHE Risk Management performance. It is hoped that clients will also accept this standardised report. Your comments/suggestions for improvement is invited.

EXAMPLE ONLY: ALL INFORMATION IS FICTITIOUS

XYZ construction

*SHE RISK MANAGEMENT REPORT

PERIOD JANUARY TO MARCH 2002

*(SHE = Safety, Health & Environment)

1. Introduction

We hope that this new format of quarterly SHE Risk Management reporting will provide a clear picture of the company's performance as far as occupational health & safety is concerned.

The first quarter of 2002 generally reflected an improvement in injury experience and shows a decline in the number of injuries. Although Building was the only division where there was an increase in compensation claims, figures are still well down from the average 2001 figures. A sub-contractor experienced one fatality.

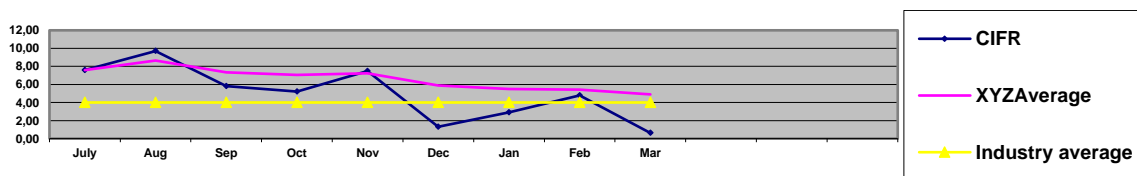
All divisions are eagerly awaiting the final implementation in May of the new electronic SHE Management system that will make the tools to implement the SHE programme available to all management and supervisory staff.

2. Incident Statistics

Compensation Incident Frequency Rate (CIFR)

CIFR = Total No. of Claims against the Workmen's Compensation Fund X 200 000

Manhours worked

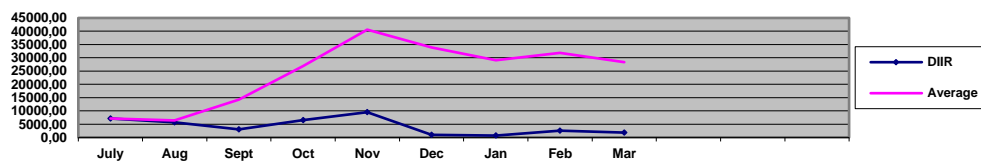


2.2.

Disabling Injury Incidence Rate (DIIR)

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DIIR = $\frac{\text{No. Disabling Injuries X 200 000}}{\text{Manhours worked}}$



2.3. Other Major Incidents

Three other major incidents were experienced in the period under review:

- 2.3.1. A major trench collapsed at Job. 00123: XYZ Head Office, Bochum: No personnel injured, extensive damage to foundations: 3 days delay.
- 2.3.2. A concrete dumper ran away when its brakes failed. It smashed into the glass façade of the building on Job 00332: McDonalds, Polokwane. The driver jumped off and was not injured. Cost of damage to façade: R45 000.
- 2.3.3. A storage hut on Job 00567: BP Petrol Station, Swartruggens was demolished by fire when the night watchman made a fire inside the storage hut which contained concrete vibrators and levelling machines. Cost of replacing the hut and machines: R30 000

3. RISK AREAS

The following items of concern need priority consideration by management:

- 3.1. New employees must undergo pre-employment medical examinations to:
 - protect XYZ from claims at a later stage
 - ensure that only healthy persons are employed
 - prevent injuries and illness in the workplace
 - enhance XYZ image
- 3.2. Vehicle drivers and plant operators must be instructed to inspect their vehicles daily before start-up using the prescribed checklists to ensure that these are safe to operate and in good condition.

4. AUDITS

Three SHE audits were conducted in February and March:

- | | | | |
|------|------------|----------------------|-----------------------|
| 4.1. | Job 00432: | Gillooly's Mall | Compliance: 56%(*) |
| | Job 00786: | Cullinan Head Office | Compliance: 83%(****) |
| | Job 00589: | Cleveland Station | Compliance: 76%(***) |

5. TRAINING

One hundred and forty two employees, representing 7% of employees, attended nine training courses. *Our objective is to train 5,5% of employees quarterly.

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Month	No. of Employees Trained	Course	Source
January	26 15 3	Induction OH&S Reps Crane Drivers	Internal Consultant External
February	23 17	Induction OH&S Reps	Internal Consultant
March	43 9 3 3	Induction OH&S Reps Bomag Rollers First Aiders	Internal Consultant Supplier St. John's

6. LEGAL ISSUES

- 6.1. An inspector of the Department of Labour issued an improvement notice on Job 00987: Gillooly's Mall. The notice requires that all scaffolding comply with the SABS standards for the Erection and Maintenance of Access Scaffolding (SABS 085). This is currently being attended to and the inspector will return on 15 April 2002 to ascertain if the notice has been complied with.

8. OCCUPATIONAL AIND OTHER HEALTH MATTERS**8.1. HIV Aids**

The proposed SAFCEC clinic will soon be operational and we will then be able to send our employees who have tested positive to the clinic for counselling and eventual treatment when necessary

The mobile clinic saw and tested fifty employee volunteers at 3 sites this month. Eighteen of them tested positive.

8.2. Tuberculosis

The mobile clinic will be calling at Gillooly's Mall and Cleveland Station on 15 and 16 October respectively to screen employees for TB.

8.3. Noise

All suspected noise pollution areas have been tested and the results are awaited. Employees working in areas testing over 85dBa will be issued with suitable hearing protectors.

9. ENVIRONMENTAL MEASURES

Inspectors from the Botswana Department of the Environment visited Djwaneng and inspected the site and yard. They gave it a "clean bill of health" and advised that we should increase the dust control measures by spraying roads three times per day instead of the present twice per day.

10. ACHIEVEMENTS/AWARDS

- 10.1. The client at Djwaneng (Job 00786) awarded the XYZ site first position in the housekeeping competition conducted bi-monthly by the client's SHE managers. The project manager and his team are to be congratulated for this sterling effort.

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10.2. Job 0987: Refurbishment of Pretoria Main Railway Station has just completed 1million compensation claim free days. This was no easy achievement if we consider the conditions being worked under after the extensive fire that caused major damage.

SHE Risk Manager

2002.09.27

ANNEXURE 3: LIST OF RISK ASSESSMENTS

- * Clearing & Grubbing of the Area/Site
- * Site Establishment including:
 - Office/s
 - Secure/safe storage for materials, plant & equipment
 - Ablutions
 - Sheltered eating area
 - Maintenance workshop
 - Vehicle access to the site
- * Dealing with existing structures
- * Location of existing services
- * Installation and maintenance of temporary construction electrical supply, lighting and equipment
- * Adjacent land uses/surrounding property exposures
- * Boundary and access control/Public Liability Exposures (NB: the Employer is also responsible for the OH&S of non-employees affected by his/her work activities.)
- * Health risks arising from neighbouring as well as own activities and from the environment e.g. threats by dogs, bees, snakes, lightning etc.
- * Exposure to noise
- * Exposure to vibration
- * Protection against dehydration and heat exhaustion
- * Protection from wet & cold conditions
- * Dealing with HIV/Aids and other diseases
- * Use of Portable Electrical Equipment including
 - Angle grinder
 - Electrical drilling machine
 - Skill saw
- * Excavations including
 - Ground/soil conditions
 - Trenching
 - Shoring
 - Drainage of trench
- * Welding including
 - Arc Welding
 - Gas welding
 - Flame cutting
 - Use of LP gas torches and appliances
- * Loading & offloading of trucks
- * Aggregate/sand and other materials delivery
- * Manual and mechanical handling
- * Lifting and lowering operations
- * Driving & operation of construction vehicles and mobile plant including
 - Trenching machine
 - Excavator
 - Bomag roller
 - Plate compactor
 - Front end loader
 - Mobile cranes and the ancillary lifting tackle
 - Parking of vehicles & mobile plant

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- Towing of vehicles & mobile plant
- * Use and storage of flammable liquids and other hazardous substances
- * Layering and bedding
- * Installation of pipes in trenches
- * Pressure testing of pipelines
- * Backfilling of trenches
- * Protection against flooding
- * Gabion work
- * Use of explosives
- * Protection from overhead power lines
- * As discovered by the Principal Contractor's hazard identification exercise
- * As discovered from any inspections and audits conducted by the Client or by the Principal Contractor or any other Contractor on site
- * As discovered from any accident/incident investigation.

C3.4.3.2 ENVIRONMENTAL MANAGEMENT PLAN

CONTENTS

- C3.4.3.2.1 SCOPE
- C3.4.3.2.2 DEFINITIONS
- C3.4.3.2.3 IDENTIFICATION OF ENVIRONMENTAL ASPECTS AND IMPACTS
- C3.4.3.2.4 LEGAL REQUIREMENTS
- C3.4.3.2.5 ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS
- C3.4.3.2.6 TRAINING
- C3.4.3.2.7 ACTIVITIES/ASPECTS CAUSING IMPACTS
- C3.4.3.2.8 ENVIRONMENTAL MANAGEMENT OF CONSTRUCTION ACTIVITIES
- C3.4.3.2.9 RECORD KEEPING
- C3.4.3.2.10 COMPLIANCE AND PENALTIES
- C3.4.3.2.11 MEASUREMENT AND PAYMENT

C3.4.3.2.1. SCOPE

This environmental management programme (EMP) sets out the methods by which proper environmental controls are to be implemented by the contractor. The duration over which the contractor's controls shall be in place cover the construction period of the project as well as the limited time after contract completion defined by the General Conditions of Contract, and the project specifications, as the defects notification period (maintenance period).

The provisions of this EMP are binding on the contractor during the life of the contract. They are to be read in conjunction with all the documents that comprise the suite of documents for this contract. In the event that any conflict occurs between the terms of the EMP and the project specifications or Record of Decision, the terms herein shall be subordinate.

The EMP is a dynamic document subject to similar influences and changes as are brought by variations to the provisions of the project specification. Any substantial changes shall be submitted to the Molemole Local Municipality in writing for approval.

The EMP identifies the following:

Construction activities that will impact on the environment.

Specifications with which the contractor shall comply in order to protect the environment from the identified impacts.

Actions that shall be taken in the event of non-compliance.

C3.4.3.2.2. DEFINITIONS

Alien Vegetation: alien vegetation is defined as undesirable plant growth which shall include, but not be limited to, all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable.

Construction Activity: a construction activity is any action taken by the contractor, his subcontractors, suppliers or personnel during the construction process as defined in the South African National Roads Agency Limited and National Roads Act, 1998 (Act No. 7, 1998)

Environment: environment means the surroundings within which humans exist and that could be made up of -

- the land, water and atmosphere of the earth;
- micro-organisms, plant and animal life;
- any part or combination of (i) and (ii) and the interrelationships among and between them; and
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Environmental Aspect: an environmental aspect is any component of a contractor's construction activity that is likely to interact with the environment.

Environmental Impact: an impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity. An impact may be the direct or indirect consequence of a construction activity.

Record of Decision: a record of decision is a written statement from the Limpopo Department of Economic Development, Environment and Tourism, that records its approval of a planned undertaking to improve, upgrade or rehabilitate a section of road and the mitigating measures required to prevent or reduce the effects of environmental impacts during the life of a contract.

Road Reserve: the road reserve is a corridor of land, defined by co-ordinates and proclamation, within which the road, including access intersections or interchanges, is situated. A road reserve may, or may not, be bounded by a fence.

Road Width: for the purposes of the EMP, the road width is defined as the area within the road reserve i.e. fence line to fence line, but also includes all areas beyond the road reserve that are affected by the continuous presence of the road, e.g. a reach of a water course.

C3.4.3.2.3. IDENTIFICATION OF ENVIRONMENTAL ASPECTS AND IMPACTS

The contractor shall identify likely aspects before commencing with any construction activity. Examples of environment aspects include:

- waste generation
- stormwater discharge
- emission of pollutants into the atmosphere
- chemical use operations
- energy use operations
- water use operations
- use of natural resources
- noise generation

Thereafter the contractor shall programme his work in such a way that each cause and effect of a construction activity is also identified and the activity planned so as to prevent any impact from happening. If prevention is not practicable, or in the event of mishap or misapplication, the contractor shall provide plans and measures for the engineer's approval, which will limit and contain the magnitude, duration and intensity of the impact. The contractor shall demonstrate that he/she is capable of carrying out any repair and reinstatement of the damaged environment. These requirements shall be concurrent with the time constraints to produce an approved construction programme according to subclause 8.3 as amended by Particular Condition of the general conditions of contract and clause B1204 of these project specifications.

Listed below are some environmental impacts that could adversely alter an aspect of the environment through usual construction activities:

Pollution of atmosphere, soil or water

Destruction or removal of fauna and flora and effect on biological diversity

Deformation of the landscape

Soil erosion

Destruction of historical/heritage sites

Effect on the built environment

Effect on agricultural land and wetlands

General good construction practice will play an important role in avoiding the occurrence of an Impact. The contractor's attention is drawn, in this regard, to C1008. Environmental Management of Construction Activities

C3.4.3.2.4. LEGAL REQUIREMENTS

a) General

Construction will be according to the best industry practices, as identified in the project documents. This EMP, which forms an integral part of the contract documents, informs the contractor as to his duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction activities associated with the project. The contractor should note that obligations imposed by the EMP are legally binding in terms of environmental statutory legislation and in terms of the additional conditions to the general conditions of contract that pertain to this project. In the event that any rights and obligations contained in this document contradict those specified in the standard or project specifications then the latter shall prevail.

b) Statutory and other applicable legislation

The contractor is deemed to have made himself conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract.

C3.4.3.2.5. ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

a) Appointment of a Designated Environmental Officer (DEO)

For the purposes of implementing the conditions contained herein, the contractor shall submit to the engineer for approval the appointment of a nominated representative of the contractor as the DEO for the contract. The request shall be given, in writing, at least fourteen days before the start of any work clearly setting out reasons for the nomination, and with sufficient detail to enable the engineer to make a decision. The engineer will, within seven days of receiving the request, approve, reject or call for more information on the nomination. Once a nominated representative of the contractor has been approved he/she shall be the DEO and shall be the responsible person for ensuring that the provisions of the EMP are complied with during the life of the contract. The engineer will be responsible for issuing instructions to the contractor where environmental

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING

considerations call for action to be taken. The DEO shall submit regular written reports to the engineer, but not less frequently than once a month.

The engineer shall have the authority to instruct the contractor to replace the DEO if, in the engineer's opinion, the appointed officer is not fulfilling his/her duties in terms of the requirements of the EMP or this specification. Such instruction will be in writing and shall clearly set out the reasons why a replacement is required.

There shall be an approved DEO on the site at all times.

b) Administration

Before the contractor begins each construction activity the DEO shall give to the engineer a written statement setting out the following:

The type of construction activity.

Locality where the activity will take place.

Identification of the environmental aspects and impacts that might result from the activity.

Methodology for impact prevention for each activity or aspect.

Methodology for impact containment for each activity or aspect.

Emergency/disaster incident and reaction procedures.

Treatment and continued maintenance of impacted environment.

The contractor may provide such information in advance of any or all construction activities provided that new submissions shall be given to the engineer whenever there is a change or variation to the original.

The engineer may provide comment on the methodology and procedures proposed by the DEO, but he shall not be responsible for the contractor's chosen measures of impact mitigation and emergency/disaster management systems. However, the contractor shall demonstrate at inception and at least once during the contract that the approved measures and procedures function properly.

c) Good Housekeeping

The Contractor shall undertake "good housekeeping" practices during construction as stated in clause 1217 of the COLTO Standard Specifications for Roads and Bridges and subclauses 4.3.1 and 4.3.2 of the General Conditions of Contract. This will help avoid disputes on responsibility and allow for the smooth running of the contract as a whole. Good housekeeping extends beyond the wise practice of construction methods that leaves production in a safe state from the ravages of weather to include the care for and preservation of the environment within which the site is situated.

C3.4.3.2.6. TRAINING

The designated environmental officer (DEO) must be conversant with all legislation pertaining to the environment applicable to this contract and must be appropriately trained in environmental management and must possess the skills necessary to impart environmental management skills to all personnel involved in the contract.

The contractor shall ensure that adequate environmental training takes place. All employees shall have been given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees. The environmental training should, as a minimum, include the following:

- The importance of conformance with all environmental policies
- The environmental impacts, actual or potential, of their work activities;
- The environmental benefits of improved personal performance;

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- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirement of the Agency's environmental management systems, including emergency preparedness and response requirements;
- The potential consequences of departure from specified operating procedures;
- The mitigation measures required to be implemented when carrying out their work activities.

In the case of permanent staff the contractor shall provide evidence that such induction courses have been presented. In the case of new staff (including contract labour) the contractor shall inform the engineer when and how he/she intends concluding his environmental training obligations.

C3.4.3.2.7. ACTIVITIES/ASPECTS CAUSING IMPACTS

A list of possible causes of environmental impacts that occur during construction activities is given in Table 7/1: Aspects or Activities that Cause Environmental Impacts during Construction Activities, which is to be found at the end of this part. This list is not exhaustive, and shall be used for guideline purposes only.

C3.4.3.2.8. ENVIRONMENTAL MANAGEMENT OF CONSTRUCTION ACTIVITIES

a) Site Establishment

i) Site Plan

The contractor shall establish his construction camps, offices, workshops, staff accommodation and testing facilities on the site in a manner that does not adversely affect the environment. However, before construction can begin, the contractor shall submit to the engineer for his approval, plans of the exact location, extent and construction details of these facilities and the impact mitigation measures the contractor proposes to put in place.

The plans shall detail the locality as well as the layout of the waste treatment facilities for litter, kitchen refuse, sewage and workshop-derived effluents. The site offices should not be sited in close proximity to steep areas, as this will increase soil erosion. Preferred locations would be flat areas along the route. If the route traverses water courses, streams and rivers, it is recommended that the offices, and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles are located as far away as possible from any water course as possible. Regardless of the chosen site, the contractor's intended mitigation measures shall be indicated on the plan. The site plan shall be submitted not later than the first site meeting. Detailed, electronic colour photographs shall be taken of the proposed site before any clearing may commence. These records are to be kept by the engineer for consultation during rehabilitation of the site. Read with COLTO Specification 1302(a), 1402 (e).

ii) Vegetation

The contractor has a responsibility to inform his staff of the need to be vigilant against any practice that will have a harmful effect on vegetation.

The natural vegetation encountered on the site is to be conserved and left as intact as possible. Vegetation planted at the site shall be indigenous and in accordance with instructions issued by the engineer. Only trees and shrubs directly affected by the works, and such others as may be indicated by the engineer in writing, may be felled or cleared. In wooded areas where natural vegetation has been cleared out of necessity, the same species of indigenous trees as were occurring, shall be re-established.

The project specification for the rehabilitation of the grass cover shall be strictly adhered to. Any proclaimed weed or alien species that propagates during the contract period shall be cleared by hand before seeding. (Read in conjunction with COLTO Specification 5801(b), 5802(b), (c), (d) and (e), 5804, 5805, 5806 and 5807). Fires shall only be allowed in facilities or equipment specially constructed for this purpose. A firebreak shall be cleared and maintained around the perimeter of the camp and office sites.

iii) Rehabilitation

The area where the site offices were erected will require rehabilitation at the end of the contract. All construction material, including concrete slabs and braai areas shall be removed from the site on completion of the contract.

iv) Water for human consumption

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Water for human consumption shall be available at the site offices and at other convenient locations on site.

All effluent water from the camp / office sites shall be disposed of in a properly designed and constructed system, situated so as not to adversely affect water sources (streams, rivers, pans dams etc). Only domestic type wastewater shall be allowed to enter this drain.

v) Heating and Cooking fuel

The contractor shall provide adequate facilities for his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. The contractor shall ensure that energy sources are available at all times for construction and supervision personnel for heating and cooking purposes.

b) Sewage treatment

Particular reference in the site establishment plan shall be given to the treatment of sewage generated at the site offices, site laboratory and staff accommodation and at all localities on the site where there will be a concentration of labour. Sanitary arrangements should be to the satisfaction of project management, the local authorities and legal requirements.

Safe and effective sewage treatment will require one of the following sewage handling methods: septic tanks and soak-aways, dry-composting toilets such as “enviro loos”, or the use of chemical toilets which are supplied and maintained by a subcontractor. The type of sewage treatment will depend on the geology of the area selected, the duration of the contract and proximity (availability) of providers of chemical toilets. Should a soak-away system be used, it shall not be closer than 800 metres from any natural water course or water retention system. The waste material generated from these facilities shall be serviced on a regular basis. The positioning of the chemical toilets shall be done in consultation with the engineer. Read with COLTO Specifications 1402(g) and 1404(a).

Toilets and latrines shall be easily accessible and shall be positioned within walking distance from wherever employees are employed on the works. Use of the veld for this purpose shall not, under any circumstances, be allowed.

Outside toilets shall be provided with locks and doors and shall be secured to prevent them from blowing over. The toilets shall also be placed outside areas susceptible to flooding. The contractor shall arrange for regular emptying of toilets and shall be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the engineer.

c) Waste Management

The contractor’s intended methods for waste management and waste minimisation shall be implemented at the outset of the contract. All personnel shall be instructed to dispose of all waste in the proper manner.

i) Solid Waste

Solid waste shall be stored in an appointed area in covered, tip proof metal drums for collection and disposal. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the engineer. Disposal of solid waste shall be at a Department of Water Affairs and Forestry (DWAF) licensed landfill site or at a site approved by DWAF in the event that an existing operating landfill site is not within reasonable distance from the site offices and staff accommodation. No waste shall be burned or buried at or near the site offices, nor anywhere else on the site, including the approved solid waste disposal site. Read with COLTO Specification 1404(a).

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ii) Litter

No littering by construction workers shall be allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition and the site shall be kept free of litter.

Measures shall be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse. At all places of work the contractor shall provide litter collection facilities for later safe disposal at approved sites. (Read with COLTO Specification 1302(b)).

iii) Hazardous waste

Hazardous waste such as bitumen, tar, oils etc. shall be disposed of in a Department of Water Affairs and Forestry approved landfill site. Special care shall be taken to avoid spillage of tar or bitumen products such as binders or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating water.

Under no circumstances shall the spoiling of tar or bituminous products on the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected tar or bituminous products shall be returned to the supplier's production plant. Any spillage of tar or bituminous products shall be attended to immediately and affected areas shall be promptly reinstated to the satisfaction of the engineer.

d) Control at the workshop

The contractor's management and maintenance of his plant and machinery will be strictly monitored according to the criteria given below, regardless whether it is serviced on the site (i.e. at the place of construction activity or at a formalised workshop).

i) Safety

All the necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the contractor to, and used or worn by, the staff whose duty it is to manage and maintain the contractor's and his subcontractor's and supplier's plant, machinery and equipment.

ii) Hazardous Material Storage

Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions. All hazardous materials e.g. tar or bitumen binders shall be stored in a secured, appointed area that is fenced and has restricted entry. Storage of tar or bituminous products shall only take place using suitable containers to the approval of the engineer.

The contractor shall provide proof to the engineer that relevant authorisation to store such substances has been obtained from the relevant authority. In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or containment structure. Before containment or storage facilities can be erected the contractor shall furnish the engineer with details of the preventative measures he proposes to install in order to mitigate against pollution of the surrounding environment from leaks or spillage. The preferred method shall be a concrete floor that is bunded. Any deviation from the method will require proof from the relevant authority that the alternative method proposed is acceptable to that authority. The proposals shall also indicate the emergency procedures in the event of misuse or spillage that will negatively affect an individual or the environment.

iii) Fuel and Gas Storage

Fuel shall be stored in a secure area in a steel tank supplied and maintained by the fuel suppliers.. An adequate bund wall, 110% of volume, shall be provided for fuel and diesel areas to accommodate any leakage spillage or overflow of these substances. The area inside the bund

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wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil. Any leakage, spillage or overflow of fuel shall be attended to without delay.

Gas welding cylinders and LPG cylinders shall be stored in a secure, well-ventilated area.

iv) Oil and Lubricant Waste

Used oil, lubricants and cleaning materials from the maintenance of vehicles and machinery shall be collected in a holding tank and sent back to the supplier. Water and oil should be separated in an oil trap. Oils collected in this manner, shall be retained in a safe holding tank and removed from site by a specialist oil recycling company for disposal at approved waste disposal sites for toxic/hazardous materials. Oil collected by a mobile servicing unit shall be stored in the service unit's sludge tank and discharged into the safe holding tank for collection by the specialist oil recycling company.

All used filter materials shall be stored in a secure bin for disposal off site. Any contaminated soil shall be removed and replaced. Soils contaminated by oils and lubricants shall be collected and disposed of at a facility designated by the local authority to accept contaminated materials.

e) Clearing the Site

In all areas where the contractor intends to, or is required to clear the natural vegetation and soil, either within the road reserve, or at designated or instructed areas outside the road reserve, a plan of action shall first be submitted to the engineer for his approval.

The plan shall contain a photographic record and chainage/land reference of the areas to be disturbed. This shall be submitted to the engineer for his records before any disturbance/stockpiling may occur. The record shall be comprehensive and clear, allowing for easy identification during subsequent inspections.

The contractor shall be responsible for the re-establishment of grass within the road reserve boundaries for all areas disturbed during road construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise within the road reserve, or at designated or instructed areas outside the road reserve. This responsibility shall extend until expiry of the defects notification period.

f) Soil Management

i) Topsoil

Topsoil shall be removed from all areas where physical disturbance of the surface will occur and shall be stored and adequately protected. The contract will provide for the stripping and stockpiling of topsoil from the site for later re-use. Topsoil is considered to be the natural soil covering, including all the vegetation and organic matter. Depth may vary at each site. The areas to be cleared of topsoil shall include the storage areas. All topsoil stockpiles and windrows shall be maintained throughout the contract period in a weed-free condition. Weeds appearing on the stockpiled or windrowed topsoil shall be removed by hand. Soils contaminated by hazardous substances shall be disposed of at an approved Department of Water Affairs and Forestry waste disposal site. (Read with COLTO Specifications 3104(a), 5802(a), (g), 5804(a), (b) and (c)). The topsoil stockpiles shall be stored, shaped and sited in such a way that they do not interfere with the flow of water to cause damming or erosion, or itself be eroded by the action of water. Stockpiles of topsoil shall not exceed a height of 2m, and if they are to be left for longer than 6 months, shall be analysed, and if necessary, upgraded before replacement. Stockpiles shall be protected against infestation by weeds.

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The contractor shall ensure that no topsoil is lost due to erosion – either by wind or water. Areas to be topsoiled and grassed shall be done so systematically to allow for quick cover and reduction in the chance of heavy topsoil losses due to unusual weather patterns. The contractor's programme shall clearly show the proposed rate of progress of the application of topsoil and grassing. The contractor shall be held responsible for the replacement, at his own cost, for any unnecessary loss of topsoil due to his failure to work according to the progress plan approved by the engineer. The contractor's responsibility shall also extend to the clearing of drainage or water systems within and beyond the boundaries of the road reserve that may have been affected by such negligence.

ii) Subsoil

The subsoil is the layer of soil immediately beneath the topsoil. It shall be removed, to a depth instructed by the engineer, and stored separately from the topsoil if not used for road building. This soil shall be replaced in the excavation in the original order it was removed for rehabilitation purposes.

g) Drainage

The quality, quantity and flow direction of any surface water runoff shall be established prior to disturbing any area for construction purposes. Cognisance shall be taken of these aspects and incorporated into the planning of all construction activities. Before a site is developed or expanded, it shall be established how this development or expansion will affect the drainage pattern. Recognised water users / receivers shall not be adversely affected by the expansion or re-development. No water source shall be polluted in any way due to proposed changes.

Streams, rivers, pans, wetlands, dams, and their catchments shall be protected from erosion and from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous or tar products.

The contractor shall submit to the engineer his proposals for prevention, containment and rehabilitation measures against environmental damage of the identified water and drainage systems that occur on the site. Consideration shall be given to the placement of sedimentation ponds or barriers where the soils are of a dispersive nature or where toxic fluids are used in the construction process. The sedimentation ponds must be large enough to contain runoff so that they function properly under heavy rain conditions.

h) Earthworks and Layerworks

This section includes all construction activities that involve the mining of all materials, and their subsequent placement, stockpile, spoil, treatment or batching, for use in the permanent works, or temporary works in the case of deviations. Before any stripping prior to the commencement of construction, the contractor shall have complied with the requirements of sections C1008 (e) and C1008 (g). In addition, the contractor shall take cognisance of the requirements set out below.

i) Quarries and borrow pits

The contractor's attention is drawn to the requirement of the Department of Minerals and Energy, that before entry into any quarry or borrow pit, an EMP for the establishment, operation and closure of the quarry or borrow pit shall have been approved by the Department. It is the responsibility of the contractor to ensure that he is in possession of the approved EMP or a copy thereof, prior to entry into the quarry or borrow pit. The conditions imposed by the relevant EMP are legally binding on the contractor and may be more extensive and explicit than the requirements of this specification. In the event of any conflict occurring between the requirements of the specific EMP and these specifications the former shall apply. The cost of complying with the requirements shall be deemed to be included in existing rates in the Bill of Quantities. (Read with COLTO Specification 3100 and 3200).

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ii) Excavation, hauling and placement

The contractor shall provide the engineer with detailed plans of his intended construction processes prior to starting any cut or fill or layer. The plans shall detail the number of personnel and plant to be used and the measures by which the impacts of pollution (noise, dust, litter, fuel, oil, sewage), erosion, vegetation destruction and deformation of landscape will be prevented, contained and rehabilitated. Particular attention shall also be given to the impact that such activities will have on the adjacent built environment. The contractor shall demonstrate his "good housekeeping", particularly with respect to closure at the end of every day so that the site is left in a safe condition from rainfall overnight or over periods when there is no construction activity. (Read with COLTO Standard Specification clauses 1217 and 3309)

iii) Spoil sites

The contractor shall be responsible for the safe siting, operation, maintenance and closure of any spoil site he uses during the contract period, including the defects notification period. This shall include existing spoil sites that are being re-entered. Before spoil sites may be used proposals for their locality, intended method of operation, maintenance and rehabilitation shall be given to the engineer for his approval. The location of these spoil sites shall have signed approval from the affected landowner before submission to the engineer. No spoil site shall be located within 500m of any watercourse. A photographic record shall be kept of all spoil sites for monitoring purposes. This includes before the site is used and after re-vegetation.

The use of approved spoil sites for the disposal of hazardous or toxic wastes shall be prohibited unless special measures are taken to prevent leaching of the toxins into the surrounding environment. Such special measures shall require the approval of the relevant provincial or national authority. The same shall apply for the disposal of solid waste generated from the various camp establishments. The engineer will assist the contractor in obtaining the necessary approval if requested by the contractor.

Spoil sites will be shaped to fit the natural topography. These sites shall receive a minimum of 75mm topsoil and be grassed with the recommended seed mixture. Slopes shall not exceed a vertical: horizontal ratio of 1:3. Only under exceptional circumstances will approval be given to exceed this ratio. Appropriate grassing measures to minimise soil erosion shall be undertaken by the contractor. This will include both strip and full sodding. The contractor may motivate to the engineer for other acceptable stabilising methods. The engineer may only approve a completed spoil site at the end of the defects notification period upon receipt from the contractor of a landowner's clearance notice and an engineer's certificate certifying slope stability (Read with COLTO standard Specifications clause 1214). The contractor's costs incurred in obtaining the necessary certification for opening and closing of spoil sites shall be deemed to be included in the tendered rates for spoiling.

iv) Stockpiles

The contractor shall plan his activities so that materials excavated from borrow pits and cuttings, in so far as possible, can be transported direct to and placed at the point where it is to be used. However, should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material shall be indicated and demarcated on the site plan submitted in writing to the engineer for his approval, together with the contractor's proposed measures for prevention, containment and rehabilitation against environmental damage.

The areas chosen shall have no naturally occurring indigenous trees and shrubs present that may be damaged during operations. Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. During the life of the stockpiles the contractor shall at all times ensure that they are:

- Positioned and sloped to create the least visual impact;
- Constructed and maintained so as to avoid erosion of the material and contamination of surrounding environment; and
- Kept free from all alien/undesirable vegetation.

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After the stockpiled material has been removed, the site shall be re-instated to its original condition. No foreign material generated / deposited during construction shall remain on site. Areas affected by stockpiling shall be landscaped, top soiled, grassed and maintained at the contractor's cost until clearance from the engineer and the relevant Authority is received.

Material milled from the existing road surface that is temporarily stockpiled in areas approved by the engineer within the road reserve, shall be subject to the same condition as other stockpiled materials. Excess materials from windrows, in-situ milling or any detritus of material from road construction activities may not be swept off the road and left unless specifically instructed to do so in the contract drawing or under instruction from the engineer

In all cases, the engineer shall approve the areas for stockpiling and disposal of construction rubble before any operation commences and shall approve their clause only when they have been satisfactorily rehabilitated. (Read with COLTO Specification 3203 and 4306).

v) Blasting activities

Wherever blasting activity is required on the site (including quarries and/or borrow pits) the contractor shall rigorously adhere to the relevant statutes and regulations that control the use of explosives. In addition, the contractor shall, prior to any drilling of holes in preparation for blasting, supply the engineer with a locality plan of the blast site on which shall be shown the zones of influence of the ground and air shock-waves and expected limits of fly-rock. The plan shall show each dwelling, structure and service within the zones of influence and record all details of the dwellings/structures/services including existing positions, lengths and widths of cracks, as well as the condition of doors, windows, roofing, wells, boreholes etc. The contractor, alone, shall be responsible for any costs that can be attributed to blasting activities, including the collection of fly-rock from adjacent lands and fields. The submission of such a plan shall not in any way absolve the contractor from his responsibilities in this regard. The contractor shall also indicate to the engineer the manner in which he intends to advertise to the adjacent communities and/or road users the times and delays to be expected for each individual blast.

i) Batching sites

Asphalt plants are considered scheduled processes listed in the second schedule to the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965). Should the use of an asphalt plant be considered on site, the contractor shall be responsible to obtain the necessary permit from the Department of Environmental Affairs and Tourism, regardless of where they are sited.

Crushing plants and concrete batching plants, whether sited inside or outside of defined quarry or borrow pit areas, shall be subject to the requirements of the Department of Minerals and Energy legislation as well as the applicable industrial legislation that governs gas and dust emissions into the atmosphere. Such sites will be the subject of regular inspections by the relative authorities during the life of the project. In addition, the selection, entry onto, operation, maintenance, closure and rehabilitation of such sites shall be the same as for those under section C1008(h)(iii), with the exception that the contractor shall provide additional measures to prevent, contain and rehabilitate against environmental damage from toxic/hazardous substances. In this regard the contractor shall provide plans that take into account such additional measures as concrete floors, bunded storage facilities, linings to drainage channels and settlement dams. Ultimate approval of these measures shall be from the relevant national authority, as shall approval of closure. The engineer will assist the contractor in his submissions to the relevant authority.

Effluent from concrete batch plants and crusher plants shall be treated in a suitable designated sedimentation dam to the legally required standards to prevent surface and groundwater pollution. The designs of such a facility should be submitted to the engineer for approval.

The contractor shall invite the relevant department to inspect the site within 2 months after any plant is commissioned and at regular intervals thereafter, not exceeding 12 months apart

j) Spillages

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Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and tar or bituminous products. In the event of a spillage, the contractor shall be liable to arrange for professional service providers to clear the affected area.

Responsibility for spill treatment lies with the contractor. The individual responsible for, or who discovers a hazardous waste spill must report the incident to his/her DEO or to the engineer. The Designated Environmental Officer will assess the situation in consultation with the engineer and act as required. In all cases, the immediate response shall be to contain the spill. The exact treatment of polluted soil / water shall be determined by the contractor in consultation with the DEO and the engineer. Areas cleared of hazardous waste shall be re-vegetated according to the engineer's instructions

Should water downstream of the spill be polluted, and fauna and flora show signs of deterioration or death, specialist hydrological or ecological advice will be sought for appropriate treatment and remedial procedures to be followed. The requirement for such input shall be agreed with the engineer. The costs of containment and rehabilitation shall be for the contractor's account, including the costs of specialist input.

k) Areas of Specific Importance

Any area, as determined and identified within the project document as sensitive or of special interest within the site shall be treated according to the express instructions contained in these specifications or the approved EMP. The contractor may offer alternative solutions to the engineer in writing should he consider that construction will be affected in any way by the hindrance of the designated sensitive area or feature. However, the overriding principle is that such defined areas requiring protection shall not be changed. Every effort to identify such areas within the site will have been made prior to the project going out to tender. The discovery of other sites with archaeological or historical interest that have not been identified shall require ad hoc treatment.

i) Archaeological Sites

If an artefact on site is uncovered, work in the immediate vicinity shall be stopped immediately. The contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the engineer of such discovery. The South African Heritage Research Agency (SAHRA) is to be contacted who will appoint an archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist. (Read with COLTO General Condition of Contract Subclause 4.24 as amended by Particular Condition).

ii) Graves and middens

If a grave or midden is uncovered on site, or discovered before the commencement of work, then all work in the immediate vicinity of the graves/middens shall be stopped and the engineer informed of the discovery. SAHRA should be contacted and in the case of graves, arrangements made for an undertaker to carry out exhumation and reburial. The Employer will be responsible for attempts to contact family of the deceased and for the site where the exhumed remains can be re-interred. (Read with COLTO General Conditions of Contract Sub-clause 4.24 as amended by Particular Condition).

l) Noise Control

The contractor shall endeavour to keep noise generating activities to a minimum. Noises that could cause a major disturbance, for instance blasting and crushing activities, should only be carried out during daylight hours. Compliance with the appropriate legislation with respect to noise, shall be mandatory.

Should noise generating activities have to occur at night the people in the vicinity of the drilling shall be warned about the noise well in advance and the activities kept to a minimum.

m) Dust Control

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Dust caused by strong winds shall be controlled by means of water spray vehicles. Dust omission from batching plants shall be subject to the relevant legislation and shall be the subject of inspection by the relevant office of the Department of Minerals and Energy.

n) **Alien Vegetation**

The contractor shall be held responsible for the removal of alien vegetation within the road reserve disturbed during road construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for or from road construction has been stored temporarily or otherwise within the road reserve. This responsibility shall extend for the duration of the defects notification period.

C3.4.3.2.9. RECORD KEEPING

The engineer and the DEO will continuously monitor the contractor's adherence to the approved impact prevention procedures and the engineer shall issue to the contractor a notice of non-compliance whenever transgressions are observed. The DEO should document the nature and magnitude of the non-compliance in a designated register, the action taken to discontinue the non-compliance, the action taken to mitigate its effects and the results of the actions. The non-compliance shall be documented and reported to the engineer in the monthly report.

Copies of any record of decision or EMP's for specific borrow pits or quarries used on the project shall be kept on site and made available for inspection by visiting officials from the employer or relevant environmental departments.

C3.4.3.2.10. COMPLIANCE AND PENALTIES

The contractor shall act immediately when such notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a dedicated register and the response noted with the date and action taken. This record shall be submitted with the monthly reports and a verbal report given at the monthly site meetings.

Any avoidable non-compliance with the above-mentioned measures shall be considered sufficient ground for the imposition of a penalty

The following penalties shall apply for environmental violations:

a) Unnecessary removal or damage to trees

- | | | |
|---|---|------------------|
| • 2600mm girth or less | : | R 5 000 per tree |
| • Greater than 2600mm, but less than 6180mm girth | : | R10 000 per tree |
| • Greater than 6180mm girth | : | R30 000 per tree |

b) Serious violations:

- | | | |
|--|---|-------------------------------|
| • Hazardous chemical/oil spill and/or dumping in non-approved sites. | : | R10 000 per incident |
| • General damage to sensitive environments. | : | R 5 000 per incident |
| • Damage to cultural and historical sites. | : | R 5 000 per incident |
| • Uncontrolled/unmanaged erosion (plus rehabilitation at contractor's cost). | : | R1 000 to R5 000 per incident |
| • Unauthorised blasting activities. | : | R 5 000 per incident |
| • Pollution of water sources. | : | R 10 000 per incident |

The engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final.

c) Less serious violations:

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• Littering on site.	:	R1 000 per incident
• Lighting of illegal fires on site.	:	R1 000 per incident
• Persistent or un-repaired fuel and oil leaks.	:	R1 000 per incident
• Excess dust or excess noise emanating from site.	:	R1 000 per incident
• Dumping of milled material in side drains or on grassed areas:	:	R1 000 per incident
• Possession or use of intoxicating substances on site. :	:	R 500 per incident
• Any vehicles being driven in excess of designated speed limits.	:	R 500 per incident
• Removal and/or damage to flora or cultural or heritage objects on site, and/or killing of wildlife.	:	R2 000 per incident
• Illegal hunting.	:	R2 000 per incident
• Urination and defecation anywhere except in designated areas.	:	R 500 per incident

The engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final. The calculation shall include allied construction activities in the same way as the calculation of reduced payments under section 8200. The imposition of such a penalty shall not preclude the relevant provincial or national authority from applying an additional penalty in accordance with its statutory powers. Any non-compliance with the agreed procedures of the EMP is a transgression of the various statutes and laws that define the manner by which the environment is managed.

Failure to redress the cause shall be reported to the relevant authority for them to deal with the transgression, as it deems fit.

C3.4.3.2.11. MEASUREMENT AND PAYMENT

The cost of complying to this specification shall be deemed to be included in the rates tendered for this project.

Item	Unit
B100.01	Penalty for unnecessary removal or damage to trees for the following diameter sizes
(a) 2600mm girth or less	number (No)
(b) Greater than 2600mm, but less than 6180mm girth	number (No)
(c) Greater than 6180mm girth	number (No)

The unit of measurement shall be the number of trees by diameter size removed unnecessary or damaged. The penalty rates applied shall be those stated in clause C3.5.2.10.

Item	Unit
B100.02	Penalty for serious violations
(a) Hazardous chemical/oil spill and/or dumping in non-approved sites	number (No)
(b) General damage to sensitive environments	
(c) Damage to cultural and historical sites	number (No)
(d) Pollution of water sources	number (No)
(e) Unauthorised blasting activities	number (No)
(f) Uncontrolled/unmanaged erosion per incident, depending on environment impacts, plus rehabilitation at contractor's cost)	number (No)

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The unit of measurement for B100.02 (a) to (f) shall be the number of serious violation incidents. The penalty rates to be applied shall be those stated in clause C3.5.2.10.

Item	Unit
B100.03	
Penalty for less serious violations	
• Littering on site	number (No)
• Lighting of illegal fires on site	number (No)
• Persistent or un-repaired fuel and oil leaks	number (No)
• Excess dust or excess noise emanating from site	number (No)
• Dumping of milled material in side drains or on grassed areas	number (No)
• Possession or use of intoxicating substances on site	number (No)
• Any vehicles being driven in excess of designated speed limits	number (No)
• Removal and/or damage to flora or cultural or heritage objects on site, and/or killing of wildlife	number (No)
• Illegal hunting	number (No)
• Urination and defecation anywhere except in designated areas	number (No)

The unit of measurement shall be the number of less serious violation incidents. The penalty rates applied shall be those stated in clause C3.5.2.10.

The engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final. The calculation shall include allied construction activities in the same way as the calculation of reduced payments under section 8200. The imposition of such a penalty shall not preclude the relevant provincial or national authority from applying an additional penalty in accordance with its statutory powers. Any non-compliance with the agreed procedures of the EMP is a transgression of the various statutes and laws that define the manner by which the environment is managed.

Failure to redress the cause shall be reported to the relevant authority for them to deal with the transgression, as it deems fit.

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

Table 1: Mechanisms that Cause Environmental Impacts during Construction Activities

SECTION	CONTENTS	ENVIRONMENTAL IMPACTS					SENSITIVE AREAS (to be completed by compiler)
		POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION		
1300	Camp Establishment	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds		
1400	Housing, Offices and laboratories	Waste treatment Hazardous waste Water supply Spillage Storage Noise/lights	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds		
1500	Accommodation of Traffic	Waste treatment Hazardous waste Water supply Spillage Storage Noise/lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas Maintenance of windrows	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds		
1600	Overhaul	Spillage Storage Noise/lights Dust control Exhaust fumes Washing waste	Turning circles Parking areas	Restrict access to sensitive areas	Protection of indigenous vegetation Preserve topsoil		

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING

SECTION	CONTENTS	ENVIRONMENTAL IMPACTS				SENSITIVE AREAS (to be completed by compiler)
		POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	
1700	Clearing and grubbing	Waste treatment Hazardous waste Water supply Noise /lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Protection of indigenous vegetation Preserve topsoil	
2100 2400	- Drainage	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
3100	Borrow pits	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
3200	Stockpiling	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
3300	Mass Earthworks	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
3400 3900	- Pavement layers	Waste treatment Hazardous waste	Selection of site Preserve indigenous	Selection of site	Preserve indigenous vegetation	

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING

SECTION	CONTENTS	ENVIRONMENTAL IMPACTS					SENSITIVE AREAS (to be completed by compiler)
		POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION		
		Water supply Spillage Storage Noise / lights Dust control	vegetation Preserve topsoil Demarcate sensitive areas Maintenance of windrows	Preserve indigenous vegetation Preserve topsoil	Preserve topsoil Management of weeds		
4100	Asphalt works / sealing operations	Waste treatment Hazardous waste Water supply Spillage Storage Noise / lights Dust control Smoke control Storage of materials	Selection of site Preserve indigenous vegetation Preserve topsoil Turning circles Parking areas	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil		
5000	Ancillary roadworks	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds		
6000	Structures	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds		
7000	Concrete pavements etc	Waste treatment Hazardous waste Water supply	Selection of site Preserve indigenous vegetation	Selection of site Preserve indigenous vegetation	Preserve indigenous vegetation Preserve topsoil		

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING

SECTION	CONTENTS	ENVIRONMENTAL IMPACTS				SENSITIVE AREAS (to be completed by compiler)
		POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	
		Spillage Storage	Preserve topsoil	Preserve topsoil	Management of weeds	

C3.4.3.3 PROVISION OF STRUCTURED TRAINING

CONTENTS

- C3.4.3.3.1 SCOPE
- C3.4.3.3.2 GENERIC TRAINING
- C3.4.3.3.3 ENTREPRENEURIAL SKILLS TRAINING
- C3.4.3.3.4 MEASUREMENT AND PAYMENT

C3.4.3.3.1 SCOPE

This specification covers the requirements for the provision of structured training to be arranged by the contractor over the period of this contract.

C3.4.3.3.2 GENERIC TRAINING

C3.4.3.3.2.1 The contractor shall, from the commencement of the contract, implement a structured progressive training programme.

C3.4.3.3.2.2 Training shall be at or by an approved accredited organisation and shall be delivered by suitably qualified and experienced trainers.

C3.4.3.3.2.3 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).

C3.4.3.3.2.4 Generic training courses shall commence within one month of possession of site and be completed before the end of the contract period. The Training Schedule should form part of the section 12 programme to be approved by the Engineer at the start of the project.

C3.4.3.3.2.5 The contractor's training programme shall be subject to the approval of Molemole Local Municipality and the contractor shall if so instructed by Molemole Local Municipality alter or amend the programme and course content if a need is identified once the contract commences.

C3.4.3.3.2.6 The contractor shall keep comprehensive records of the training given to each student and whenever required shall provide copies of such records to the engineer. 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.

In addition to the above, a monthly return shall be submitted by the contractor. An example of the form is illustrated in Part C5 of this document (form RDP 11 (E))

C3.4.3.3.3 ENTREPRENEURIAL SKILLS TRAINING

C3.4.3.3.3.1 Small contractors, subcontractors and the Project Steering Committee (PSC) will be entitled to receive a structured training programme, which will comprise both management skills as well as business development skills.

C3.4.3.3.3.2 The contractor shall closely monitor the performance of all small subcontractors in the execution of their contracts and shall identify all such subcontractors who, in his opinion, display the potential to benefit from structured training as may be provided for

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING

in the contract and where required by the engineer, shall make recommendations in this regard. The final list of candidates will be decided between the contractor and the engineer.

C3.4.3.3.3.3 The training will be delivered by trainers who are accredited by the Civil Engineering Training Scheme (CEITS) or other institutions recognised by the Department of Labour. Accredited training refers to both the trainers as well as to the training material.

C3.4.3.3.3.4 The contractor shall facilitate in the delivery thereof, by instructing and motivating the subcontractor regarding attendance and participation therein.

C3.4.3.3.3.5 The contractor shall further make all reasonable efforts to co-ordinate the programming of the subcontractor's work with that of the delivery of the structured training.

C3.4.3.3.3.7 The contractor shall be responsible for the provision of everything necessary for the delivery of the entrepreneurial training programme, including the following:

- (a) A suitably furnished venue (if required) with lighting and power.
- (b) All necessary consumables, stationery and study material.
- (c) Transport of the subcontractors (as necessary).

C3.4.3.3.3.7 All entrepreneurial training shall take place within normal working hours.

C3.4.3.3.3.8 The contractor's training programme shall be subject to the approval of Molemole Local Municipality and the contractor shall if so instructed by Molemole Local Municipality alter or amend the programme and course content if a need is identified once the contract commences.

C3.4.3.3.3.10 The contractor shall keep comprehensive records of the training given to each subcontractor and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each subcontractor shall be issued with a certificate indicating the course contents as proof of attendance and completion.

In addition to the above, a monthly return shall be submitted by the contractor. An example of the form to be used is illustrated in Part C5 of this document, (form RDP 12 (E)).

C3.4.3.3.4 MEASUREMENT AND PAYMENT

<u>ITEM</u>	<u>UNIT</u>
C12.05 Provision for accredited training	
(a) Generic skills	Provisional sum
(b) Entrepreneurial skills	Provisional sum
(c) Handling cost and profit in respect of sub-item C12.05(a) and (b) above	percentage (%)
(d) Training venue (only if required)	lump sum

The prime cost sums are provided to cover the actual costs (including wages and the daily PSC reimbursement) for attendance of accredited training courses as agreed with the engineer and shall be expended in accordance with the provisions of sub-clause 48(2) of the general conditions of contract. The tendered percentage in sub-item C12.05 (c) is a percentage of the amount actually spent under sub-items C12.05(a) and (b) which shall include full compensation for the contractor's handling cost, profit, mentoring, record keeping, reporting and all other costs in connection therewith.

The lump sum tendered for C12.05(d) shall include full compensation for the provision of the training venue, for all necessary lighting, power, furniture, stationery, consumables and study material and for transportation of the students to and from the training venue.

Payment of the lump sum will be made after the provision of all the accredit training, issuing of all certificates and submission of all records as specified in the document.

C3.4.3.4 PROVISION OF THE TEMPORARY WORKFORCE

CONTENTS

C3.4.3.4.1 SCOPE

C3.4.3.4.2 INTERPRETATIONS

C3.4.3.4.3 PERMITTED SOURCES OF TEMPORARY WORKERS

C3.4.3.4.4 EMPLOYMENT RECORDS TO BE PROVIDED

C3.4.3.4.5 VARIATIONS IN WORKER PRODUCTION RATES

C3.4.3.4.6 TRAINING OF THE TEMPORARY WORKFORCE

C3.4.3.4.7 RECRUITMENT AND SELECTION PROCEDURES

C3.4.3.4.8 TERMS AND CONDITIONS PERTAINING TO THE EMPLOYMENT OF THE
TEMPORARY WORKFORCE

C3.4.3.4.9 LABOUR RELATIONS AND WORKER GRIEVANCE PROCEDURES

C3.4.3.4.10 THE SUBCONTRACTORS' WORKFORCES

C3.4.3.4.11 MEASUREMENT AND PAYMENT

C3.4.3.4.1 SCOPE

This Specification covers the provisions and requirements relating to the provision of the temporary workforce. Reference is also made to the Basic Conditions of Employment Act (Act 75 of 1997) with specific reference to the Sectoral Determination 2: Civil Engineering Sector

C3.4.3.4.2 INTERPRETATIONS

C3.4.3.4.2.1 Supporting documents

The Tender Rules, Conditions of Contract, Standard and Project Specifications, Drawings and statutory minimum requirements relating to the employment and remuneration of labour shall *inter alia* be read in conjunction with this Specification.

C3.4.3.4.2.1.2 Definitions and abbreviations

For the purposes of this specification, the definitions given in the Conditions of Contract, the Standard Specifications and the Project Specifications, together with the following additional definitions shall, unless the context dictates otherwise, apply:

- (a) "Key Personnel" means all contracts managers, site agents, materials and survey technicians, trainers, supervisors, foremen, skilled plant operators, artisans and the like, and all other personnel in the permanent employ of the Contractor or Subcontractor who possess special skills and/or who play key roles in the Contractor's or Subcontractor's operation
- (b) "Project Committee" means a committee consisting of the Employer, the Engineer, the Contractor, (or their nominated representatives) as well as representatives of the temporary workforce, which is convened from time to time at the discretion of the Engineer, for the purposes of acting as an avenue for effective communication and liaison between all the parties referred to, in all matters pertaining to the Contract

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

- (c) "Subcontractor" means any person or group of persons in association, or firm, or body corporate (whether formally constituted or otherwise) not being the Contractor, to whom specific portions or aspects of the Works are sublet or subcontracted by the Contractor in accordance with the provisions of the Contract
- (d) "Worker" for the purposes of this Specification means any person, not being one of the Contractor's key personnel, nor any key personnel of any Subcontractor, who is engaged by the Contractor, a Subcontractor or the Employer to participate in the execution of any part of the Contract Works and shall include unskilled labour, semi-skilled and skilled labour, clerical workers and the like
- (e) "Workforce" means the aggregate body comprising all workers and shall, unless the context dictates otherwise, include the workforces of the Contractor and all Subcontractors
- (f) "Project Steering Committee (PSC)" means a committee comprising mainly of representatives (to a maximum of 10) of the affected communities with additional members from Molemole Local Municipality, the Contractor, Consultants and the Municipality. The PSC convenes at least once a month as well as when the need so dictates, for the purpose of recruiting labour for the project, to address community issues and for acting as an avenue for effective communication and liaison between all the parties.
- (g) "Liaison Officer" means a local representative of the temporary workforce, duly appointed through the PSC processes, to act on behalf of the workers and through whom all matters pertaining to the temporary workforce can be channelled.

C3.4.3.4.2.1.3 Status

Where any provisions or requirements of this Specification are in conflict with anything elsewhere set out in the Contract, the provisions and requirements of this Specification shall take precedence and prevail.

C3.4.3.4.3 PERMITTED SOURCES OF TEMPORARY WORKERS

The Contractor shall as far as possible make optimum use of the human resources outside his own workforce and the workforces of all subcontractors. The temporary workforce that is to be used in the execution of the Works in terms of Part C3 may consist of the workers of local communities, and shall not be bound to one particular community.

C3.4.3.4.4 EMPLOYMENT RECORDS TO BE PROVIDED

- (a) The Contractor shall maintain accurate and comprehensive records of all workers engaged on the Contract and shall provide the Engineer at monthly intervals from the commencement of the Contract, with interim records substantiating the actual numbers of employment opportunities that shall have been generated to date and the amounts actually paid in respect thereof. Such interim records shall be in a Molemole Local Municipality approved format. An example of the forms to be used is illustrated in Part C5 of this document, (forms RDP 9 and 10 (E)).
- (b) The Contractor shall, on completion of the Contract, and as a pre-requisite event to the release of any retention money in terms of the Conditions of Contract, provide the Engineer with copies of the Terms of Employment as well as independently audited documentary evidence of the total number of temporary and permanent employment opportunities actually generated during the Contract.

C3.4.3.4.5 VARIATIONS IN WORKER PRODUCTION RATES

Notwithstanding anything to the contrary as may be stated in or inferred from any other provision of this Contract, the Contractor shall not be entitled to any additional payment or compensation whatever, in respect of any differences as may result between the production rates actually

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING

achieved by workers in the course of the execution of the Contract Works and those production rates on which he has based his tender.

C3.4.3.4.6 TRAINING OF THE TEMPORARY WORKFORCE

- (a) Selected members of the workforce are to be provided with structured training in accordance with the provisions of Part C3.4.3.3.
- (b) The Contractor shall make all necessary allowances in his programme of work to accommodate and facilitate the delivery of such structured training and shall comply fully with the requirements of Part C3.4.3.3.
- (c) The provision of structured training as described in Part C3.4.3.3. shall not relieve the Contractor of any of his obligations in terms of the Conditions of Contract and the Contractor shall remain fully liable for the provision, at his own cost, of all training of the workforce, additional to that as provided for in Part C3.4.3.3, as may be necessary to achieve the execution and completion of the works strictly in accordance with the provisions of the Contract.

C3.4.3.4.7 RECRUITMENT AND SELECTION PROCEDURES

C3.4.3.4.7.1 The Project Steering Committee, through the assistance of the Social Facilitator and the Contractor, shall be responsible for the recruitment and selection of the Community Liaison Officer and the workers to constitute the temporary workforce.

C3.4.3.4.7.2 The Contractor shall advise the Engineer in writing of the numbers of each category of temporary worker which he requires, together with the personal attributes which he considers desirable that each category of worker shall possess (taking due cognisance of the provisions of the Contract relating to training).

C3.4.3.4.7.3 The Social Facilitator shall take the necessary actions to advertise within the affected local communities comprising the personnel resources, the fact that temporary employment opportunities exist and the time and place where recruiting will occur

C3.4.3.4.7.4 The Social Facilitator shall record in writing, the details of all persons applying for employment, including *inter alia*:

- (a) Name, Identity Number, Date of Birth, age and sex
- (b) Marital status and number of dependants
- (c) Qualifications and previous work experience (whether substantiated or not)
- (d) On the job training programmes attended
- (e) Period since last economically active
- (f) Preference for type of work or task.

C3.4.3.4.7.5 The selection of workers from amongst the applicants should take into cognizance the Contractor's requirements for the workforce and the provisions of the contract in regard to the provision of training to the workforce and in accordance with the following principle:

- (a) No potential temporary worker shall be precluded from being employed by the Contractor on the execution of the Works, by virtue of his lack of skill in any suitable operation forming part of the Works, unless -
 - (i) all available vacancies have been or can be filled by temporary workers who already possess suitable skills, or
 - (ii) the Time for Completion allowed in the Contract, or the remaining portion of the Contract Period (as the case may be) is insufficient to facilitate the creation of the necessary skills.

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

- (b) Preference shall be given to the unemployed and single heads of households.
- (c) The Contractor shall, in so far as is reasonably practicable, give priority to accommodating the applicants' expressed preferences regarding the types of work for which they are selected.
- (d) The selection process shall not be prejudicial to youth (over the age of fifteen years) and women. The Contractor should strive to achieve the participation target for employment set for this project which is 60% female and 20% youth.

C3.4.3.4.7.6 After making the selection, the Social Facilitator shall forward the list in writing and without undue delay, to the Engineer for record keeping.

C3.4.3.4.7.7 The provisions of this clause shall apply *mutatis mutandis* in respect of the selection of additional or replacement members of the workforce as may be necessary from time to time during the Contract.

C3.4.3.4.7.8 The Contractor shall, after appointing his temporary workforce, arrange at his own cost for the appointment of the Liaison Officer as representative of the workforce to act on their behalf with regards to all matters pertaining to the workforce.

C3.4.3.4.8 TERMS AND CONDITIONS PERTAINING TO THE EMPLOYMENT OF THE TEMPORARY WORKFORCE

C3.4.3.4.8.1 All temporary workers engaged in accordance with the provisions of Part A of the Project Specifications, shall be employed on the terms and conditions of employment as are consistent with those as set out in this Contract. The Contractor shall implement and adhere strictly to such terms and conditions relating to the employment of the temporary workforce, and subject only to the provisions of this Contract, shall not employ any temporary worker on terms and conditions which are less favourable to the worker or inconsistent with the standards and norms generally applicable to temporary workers in the Civil Engineering Industry and applicable to the particular area. Refer to the Contract of Employment drafted/published by Department of Labour.

C3.4.3.4.8.2 **RATE OF REMUNERATION.** The Contractor shall pay to all workers engaged in terms of the contract, not less than the applicable gazetted minimum rate of remuneration in terms of the Sectorial Determination 2: Civil Engineering Sector.

The remuneration of the CLO shall be paid monthly at the rate equivalent to Task Grade 3 in accordance with the provisions of the Basic Conditions of Employment Act, No. 75 of 1997, Amendment i.t.o Sectorial Determination 2: Civil Engineering Sector, South Africa

Compensation for transport for the members of the Project Steering Committee shall be made at a rate of R75 / month. This will cover for transport cost to and from the PSC meeting, site meeting and any other meeting deemed necessary to fulfil their obligations.

C3.4.3.4.8.3 **NON-PAYMENT OF LABOURERS.** Under this contract it is expected of the Main Contractor to ensure that all labourers are paid in time on a monthly basis, whether they are employed by him/her directly or by any of his/her subcontractors. In the event of non-compliance, the employer reserves the right to use any remedies available at its disposal.

C3.4.3.4.9 LABOUR RELATIONS AND WORKER GRIEVANCE PROCEDURES

C3.4.3.4.9.1 The Contractor, as the Employer of the workforce, shall be fully responsible for the establishment and maintenance at his own cost, of satisfactory labour relations on site and the resolution of all grievances of temporary workers as may occur. Refer to Disciplinary Procedures for Small Business drafted/published by Department of Labour.

C3.4.3.4.9.2 The Contractor shall at all times adhere to the accepted norms and standards of labour relations prevailing generally in the Civil Engineering Construction Industry and shall conduct himself in a fair and reasonable manner, within the constraints as may be imposed upon him by the terms of the Contract.

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING

C3.4.3.4.9.3 In the event of any temporary worker engaged by the Contractor in terms of the Contract, being aggrieved with regard to his Terms of Employment, working conditions and

training, he shall have the right, at his discretion, to be supported in any inquiry or disciplinary hearing or investigation instituted by the Contractor in terms of Subclause C3.4.3.4.9.2 above, by one member of the temporary workforce and one member of the Project Committee, which persons shall be nominated by the worker.

C3.4.3.4.9.4 In the event of any grievance not being satisfactorily resolved through the application of normal dispute resolution procedures in accordance with Sub clauses C3.4.3.4.9.2 and C3.4.3.4.9.3, then either the Contractor or the worker concerned may require that the matter be referred to the Project Committee for further consideration, with a view to facilitate the resolution thereof.

C3.4.3.4.10 THE SUBCONTRACTORS' WORKFORCES

C3.4.3.4.10.1 The provisions of this Part C shall apply *mutatis mutandis* to the workforces employed by all subcontractors engaged by the Contractor and the Contractor shall be fully responsible for ensuring, at his own cost, that the terms of every subcontract agreement entered into are such as to facilitate the application of these provisions in respect of the workforces of all subcontractors.

C3.4.3.4.10.2 The Contractor shall at his own cost and to the extent necessary, assist and monitor all subcontractors in the application of the provisions of this Specification, and shall, in terms of the Conditions of Contract, remain fully liable in respect of the acts, omissions and neglects of all subcontractors, in respect of the application of the provisions of this Specification.

C3.4.3.4.11 MEASUREMENT AND PAYMENT

The Contractor will not be separately reimbursed or compensated in respect of the provision of the workforce and creation of temporary employment opportunities and all the Contractor's costs associated with compliance with the provisions of this part of the Project Specifications shall, except to the extent provided for in Part C3.4.3.3. as relevant, be deemed to be included in the rates tendered for the various items of work listed in the Schedule of Quantities.

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

C3.5 MANAGEMENT**C3.5.1 MANAGEMENT MEETINGS**

The following meetings will be required as minimum for the management of the contract.

- (a) Monthly client site meeting (using standard agenda for management control).
- (b) Technical meetings as required for each phase of the work.
- (c) Monthly safety meetings in terms of the OHS requirements.
- (d) Weekly progress meetings

C3.5.2 QUALITY CONTROL

Contractor to supply details of quality plan and procedures. These shall include:

- Accommodation of traffic.
- Inspection and test plans.
- Approval process.
- Hold-points.
- Milestones.



**MAUPYE UPGRADING OF 3.1KM INTERNAL STREETS FROM GRAVEL TO SURFACING –
(MULTI-YEARS).**

PART C4: SITE INFORMATION

C4.1	SITE INFORMATION.....	C.203
C4.2	LOCALITY PLAN.....	C.205

C4.1 SITE INFORMATION**C4.1.1 General**

The project is located 70 km North of Polokwane and about 8.8 km west of R521 Road to Vivo. The project area falls within the Molemole Municipality under the Capricorn District Municipality.

C4.1.2 Climate and Weather

The temperature in Dendron region can get as high as 30°C in the month of November and as low 15°C in winter. Figure 2.5 below shows the average daily temperatures for each month from data collected for the last 30 years. From the figure, the average maximum daily temperature ranges from 20°C to 27°C, the average temperature daily ranges from 20°C to 22°C and the average minimum daily ranges from 10°C to 22°C.

C4.1.3 Topography

The area is generally flat and slightly dipping towards the eastern direction, with altitude ranging from 1044m to 1058m above mean sea level. The average slope of the area is between 0.8% and 1.5%.

C4.1.4 Material site investigation

The laboratory results of the of the test pit conducted are as follows:

- The laboratory test results for the test pits indicate that test pit 4 and test pit 10 display G5 material class as per the COLTO, 1998, with plastic limit (PI) of 7 and 9; and test pit 1, 6,7 and 8 indicates G6 class with a PI ranging from None plastic to 9. The materials are suitable to be used as subbase and base for road layer works.

C4.1.5 Pavement and layerworks design

- Roadbed (G7, 150mm thick, compacted to 93% Mod AASHTO)
- Cement Stabilized SubBase (C3, 150mm thick, compacted to 97% Mod AASHTO)
- Base (150mm G2 Granular Compacted to 100% Mod AASHTO)
- 30mm AC Surfacing

C4.1.6 Structures

N/A

C4.1.6 Services

Water Pipelines and Sewerlines:

Water pipelines have not been observed in the alignment; however, the Water Service Authority in the area is Capricorn District Municipality. Should the need arise that the water pipelines are encountered on site, the Maintenance Satellite Office either in Bochum or Soekmekaar will be contacted.

Electricity Lines:

Electrical power lines and poles have been observed on various locations along the proposed streets. side of the road reserve. These lines and poles will be relocated during the construction stage of the project to allow space for the newly constructed streets.

Fences:

The road will follow the existing alignment and fences along the streets will not be affected.

Telkom lines

There are no Telkom lines along the proposed alignment of the streets.

C4.2 LOCALITY PLAN





**MAUPYE UPGRADING OF 3.1KM INTERNAL STREETS FROM GRAVEL TO SURFACING
– (MULTI-YEARS).**

PART C5: ANNEXURES

C5.1 CONTRACT DRAWINGSC.207

C5.1 CONTRACT DRAWINGS

The following is a list of contract drawings

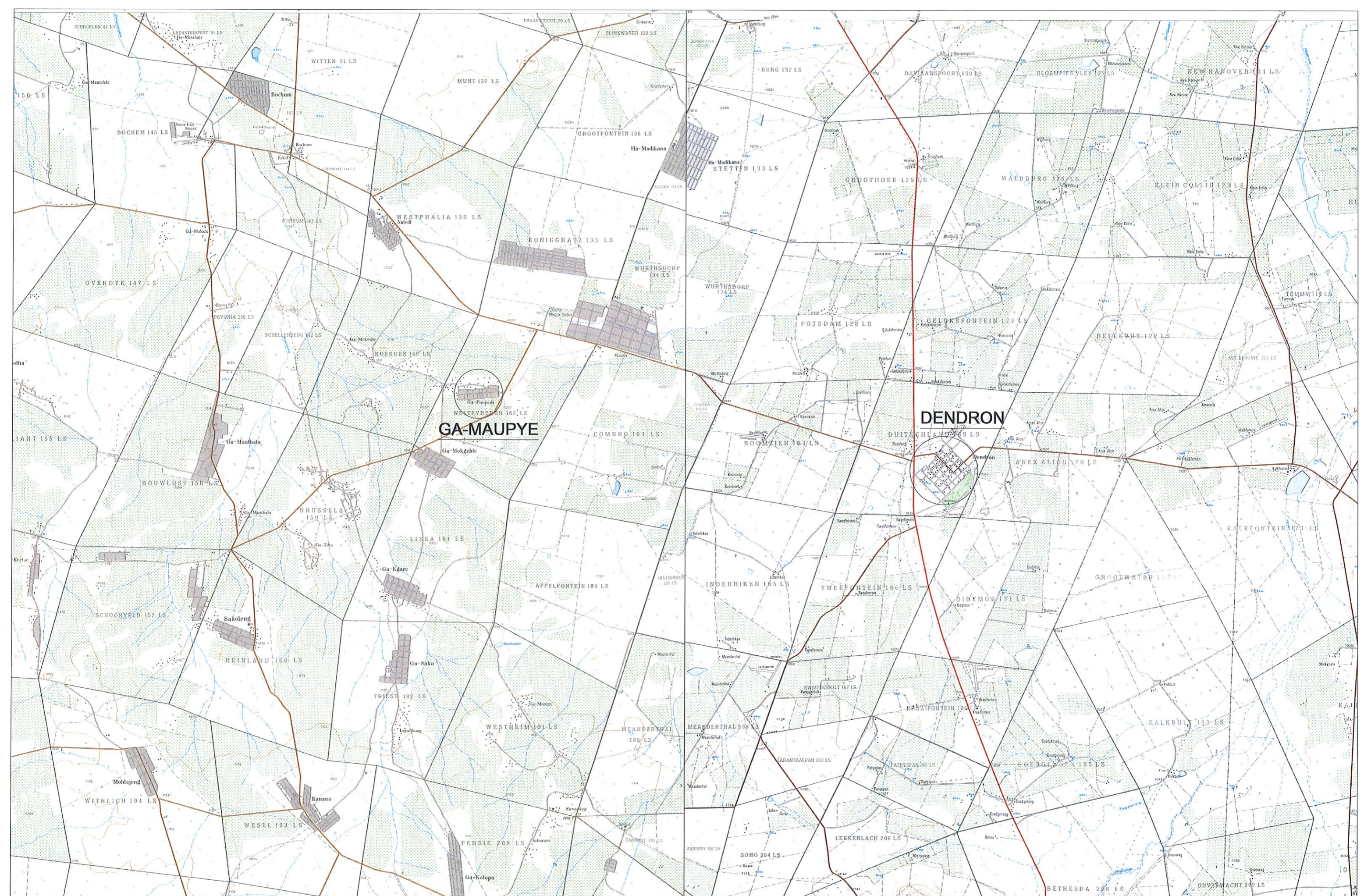
Item	Description	Drawing No
1.	LOCALITY MAP	MONT/MLM/RDS/01/2022/LMD01
2.	ROAD1 KEY PLAN	MONT/MLM/RDS/01/2022/KEY01
3.	ROAD 1 PLAN, LONGSECTION AND CROSS SECTIONS-1 OF 2	MONT/MLM/RDS/01/2019/PLC01
4.	ROAD 1 PLAN, LONGSECTION AND CROSS SECTIONS-2 OF 2	MONT/MLM/RDS/01/2019/PLC01
5.	ROAD 2 PLAN, LONGSECTION AND CROSS SECTIONS-1 OF 2	MONT/MLM/RDS/01/2019/PLC02
6.	ROAD 2 PLAN, LONGSECTION AND CROSS SECTIONS-2 OF 2	MONT/MLM/RDS/01/2019/PLC02
7.	ROAD 3 PLAN, LONGSECTION AND CROSS SECTIONS-1 OF 2	MONT/MLM/RDS/01/2019/PLC03
8.	ROAD 5 PLAN, LONGSECTION AND CROSS SECTIONS-1 OF 2	MONT/MLM/RDS/01/2019/PLC05
9.	ROAD 6 PLAN, LONGSECTION AND CROSS SECTIONS-1 OF 2	MONT/MLM/RDS/01/2019/PLC06
10.	ROAD 7 PLAN, LONGSECTION AND CROSS SECTIONS-1 OF 2	MONT/MLM/RDS/01/2019/PLC07
11.	STANDARD DRAWINGS GUARDRAIL ELEMENT AND MOUNTING DETAILS	MONT/MLM/RDS/01/2019/TPC01
12.	STANDARD DRAWINGS GUARDRAIL ELEMENT AND MOUNTING DETAILS	MONT/MLM/RDS/01/2019/TPC02
13.	STANDARD DRAWING TYPICAL ROAD SIGNS DETAILS	MONT/MLM/RDS/01/2019/TPC03
14.	STANDARD DRAWING TYPICAL ROAD SIGN SUPPORT DETAILS	MONT/MLM/RDS/01/2019/TPC04
15.	STANDARD DRAWING TYPICAL ROAD MARKING DETAILS	MONT/MLM/RDS/01/2019/TPC05
16.	STANDARD DRAWING TYPICAL SUB-SURFACE DRAINAGE DETAILS	MONT/MLM/RDS/01/2019/TPC06

MAUPYE UPGRADING 3.1 KM OF INTERNAL STREETS FROM GRAVEL TO SURFACING

17.	STANDARD DRAWING TYPICAL SURFACE SIGN DRAINAGE DETAILS	MONT/MLM/RDS/01/2019/TPC07
18.	STANDARD DRAWING CHUTE DETAILS	MONT/MLM/RDS/01/2019/TPC08
19.	STANDARD DRAWING TYPICAL TYPE 'A' KERB INLET DETAILS	MONT/MAKH/RDS/01/2019/TPC09
20.	STANDARD DRAWING TYPICAL TYPE 'B' KERB INLET DETAILS	MONT/MAKH/RDS/01/2019/TPC10
21.	STANDARD DRAWING TYPICAL INLET FOR SIDE DRAINS AND LOW POINTS DETAILS	MONT/MAKH/RDS/01/2019/TPC11
22.	STANDARD DRAWING TYPICAL INLET FOR SIDE DRAINS AND LOW POINTS DETAILS	MONT/MAKH/RDS/01/2019/TPC12
23.	STANDARD DRAWING TYPICAL TYPE 'A' KERB INLET DETAILS	MONT/MAKH/RDS/01/2019/TPC09
24.	STANDARD DRAWING INFORMATION BOARD	MONT/MLM/RDS/01/2019/TPC13
25.	STANDARD DRAWING TYPICAL CROSS SECTION	MONT/MLM/RDS/01/2019/TPC14
26.	STANDARD DRAWING TYPICAL BUS STOP DETAILS FOR SURFACED ROADS	MONT/MLM/RDS/01/2019/TPC15
27.	STANDARD DRAWING TYPICAL SPEED HUMP	MONT/MLM/RDS/01/2019/TPC16
28.	TYPICAL DETAIL: PIPE BEDDINGS AND CAST IN SITU FLOOR SLABS FOR PRECAST BOX CULVERTS	RDS/01/2016/CTp01
29.	TYPICAL DETAIL: PIPE CULVERTS 90° (450 TO 1200 DIA. PIPES) CONCRETE DETAILS	RDS/01/2016/CTp02
30.	TYPICAL DETAIL: PIPE CULVERTS SKEW TO THE ROAD (450 TO 1200 DIA. PIPES) CONCRETE DETAILS	RDS/01/2016/CTp03
31.	TYPICAL DETAIL: PIPE CULVERTS - 90° & SKEW TO ROAD (450 TO 900 DIA. PIPES) REINFORCEMENT DETAILS	RDS/01/2016/CTp04
32.	TYPICAL DETAIL: PIPE CULVERTS - 90° & SKEW TO ROAD (450 TO 900 DIA. PIPES) REINFORCEMENT DETAILS	RDS/01/2016/CTp05
33.	TYPICAL DETAIL: CULVERT INLET AND OUTLET STRUCTURES TYPES 1 AND 1A	RDS/01/2016/CTp06
34.	TYPICAL DETAIL: MANHOLES AND KERB INLETS	RDS/01/2016/CTp07

MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

35.	TYPICAL DETAIL: CONCRETE SIDE AND MEDIAN DRAINS, CONCRETE SIDE DRAIN OUTLETS, CATCHWATER BANKS AND MITRE BANKS	RDS/01/2016/CTp08
36.	TYPICAL DETAIL: CONCRETE SIDE AND MEDIAN DRAINS, CONCRETE SIDE DRAIN OUTLETS, CATCHWATER BANKS AND MITRE BANKS 2 & 2A INLETS	RDS/01/2016/CTp09
37.	TYPICAL DETAIL: CATCHWATER & DOWN CHUTE WITH TYPE 4 & 4A INLETS	RDS/01/2016/CTp10
38.	TYPICAL DETAIL: SUBSURFACE DRAINAGE	RDS/01/2016/CTp11
39.	TYPICAL DETAIL: DOWN CHUTE ON HIGH FILLS	RDS/01/2016/CTp12
40.	TYPICAL DETAIL: MANHOLES AND CATCHPITS FOR LARGE PIPE AND BOX CULVERTS	RDS/01/2016/CTp13




No	DATE	REVISION	CONTR. NO.	DR.


DESIGNED BY	T.MOSHA
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DRAWN BY	S.B.Z. RAKHANA
CHECKED BY	TE.MUNWAGO



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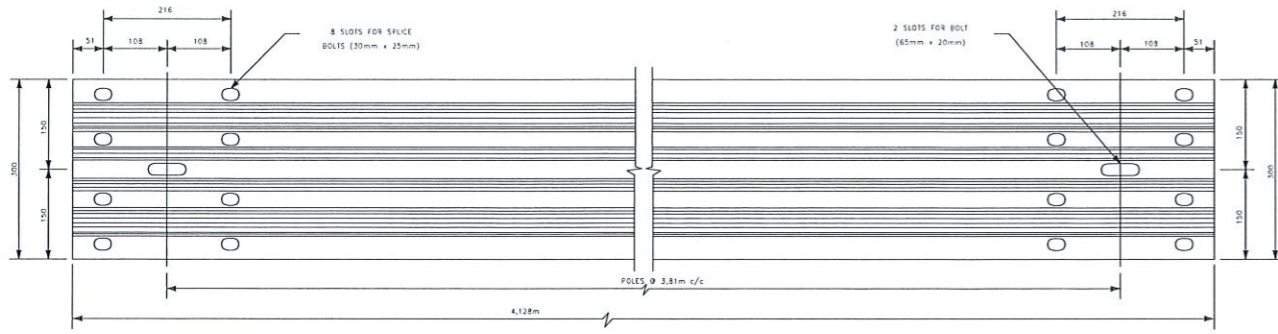
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MEMBER OF


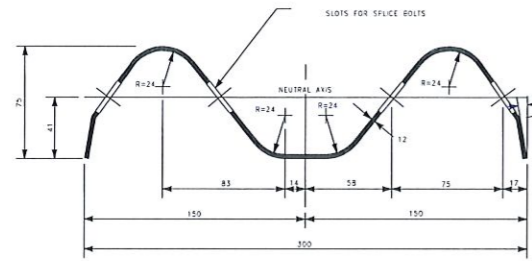
PROJECT	GA MAUPYE UPGRADING OF INTERNAL STREETS FROM GRAVEL TO SURFACING TENDER NO.: TECH/003/2022/23
TITLE	LOCALITY MAP

ISSUED FOR APPROVAL	FOR Molemole Municipality	23/11/22
SCALE	AS SHOWN	
PAPER SIZE	A1	
REVISION		
DRAWING NO.	MONT/MLM/RDS/01/2022/STD01	00

GUARDRAIL ELEMENTS AND MOUNTING DETAILS



TYPICAL GUARDRAIL SECTION
SCALE 1:5

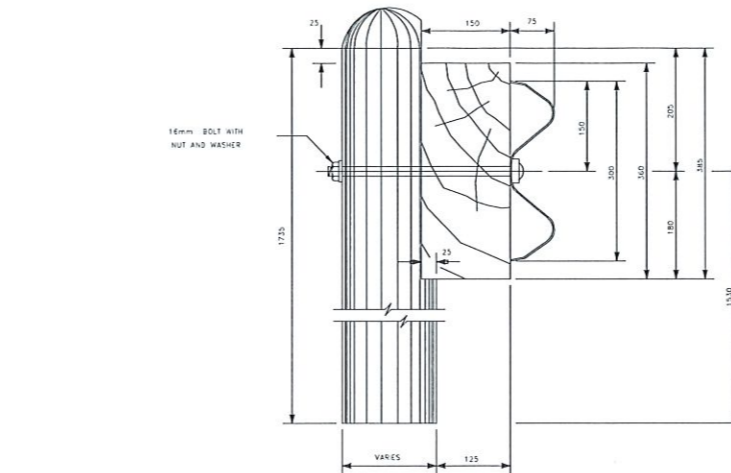


SECTION THROUGH GUARDRAIL

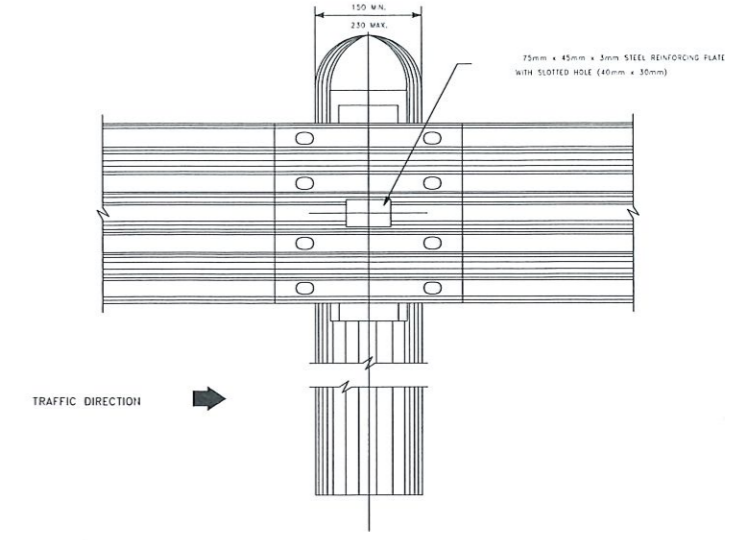
NOTE:
1. GUARDRAILS WILL ONLY BE PLACED WHERE REQUIRED BY THE ENGINEER
2. ALL GUARDRAILS MUST BE GALVANIZED AS SPECIFIED (NOT PAINTED).

SPECIFICATIONS

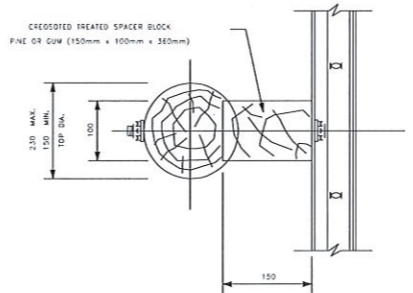
- BOLT:**
HIGH TENSILE STEEL 16mm
- WASHERS:**
3mm THICK
- SPACER BLOCK:**
PINE OR GUM, PRESSURE IMPREGNATED WITH CREOSOTE WHICH COMPLES WITH SABS 528 OR 539
- POSTS:**
150mm W.V. - 250mm MAX, PINE OR GUM, PRESSURE IMPREGNATED WITH CREOSOTE WHICH COMPLES WITH SABS 528 OR 539.
- GALVANIZING:**
GUARDRAILS/SABS 763/TYPE AT ARTICLES. BOLTS AND WASHERS: SABS 763 TYPE C1 ARTICLES
- TIMBER POSTS:**
POSTS SHALL COMPLY WITH THE REQUIREMENTS OF SABS AND SHALL CARRY THE SABS MARK.
- CREOSOTE TREATMENT:**
TIMBER POSTS AND SPACER BLOCKS SHALL BE TREATED IN ACCORDANCE WITH SABS 05 WITH CREOSOTE WHICH COMPLES WITH SABS 528 OR 539.
- REFLECTIVE PLATES:**
THE OUTER SURFACES SHALL BE COATED WITH ENGINEER'S GRADE RETRO-REFLECTIVE MATERIAL WHICH COMPLES WITH THE PROVISIONS OF C/S 191 IN THE COLOURS SHOWN ON THIS DRAWING.



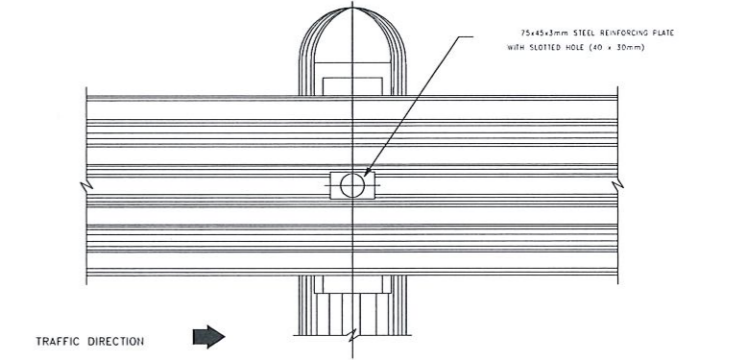
ELEVATION OF GUARDRAIL
SCALE 1:5



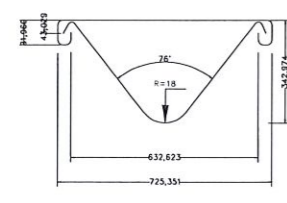
DETAIL A: FRONT ELEVATION
NORMAL SPACING OF POSTS
SCALE 1:5



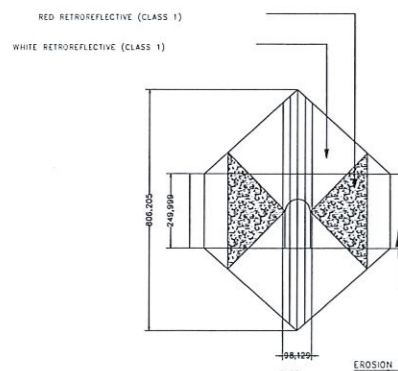
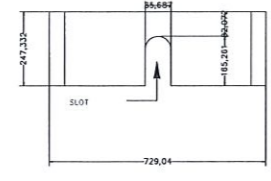
PLAN
SCALE 1:5



DETAIL B: FRONT ELEVATION
HALF SPACING OF POSTS
SCALE 1:5



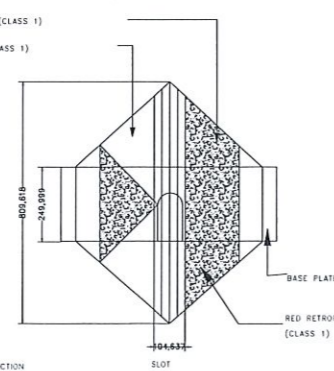
SECTION PLAN



EROSION PROTECTION:

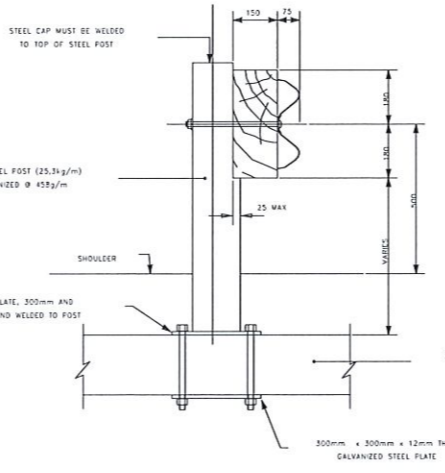
- 2.0 x 1.0 x 1.0m GABION BOXES.
- 6.0m X 2.0m X 0.3m GABION MATTRESSES.
- STONE PITCHING

ABOVEMENTIONED AS INSTRUCTED BY ENGINEER ON SITE.

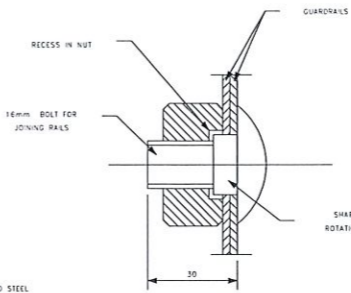


PLAN OF STRUCTURE
SCALE 1:100

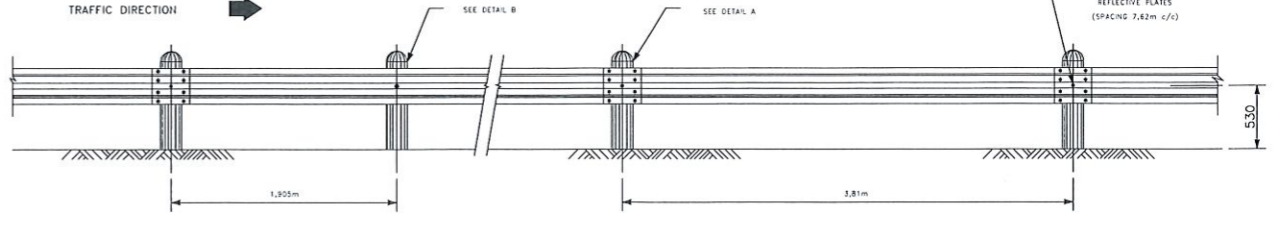
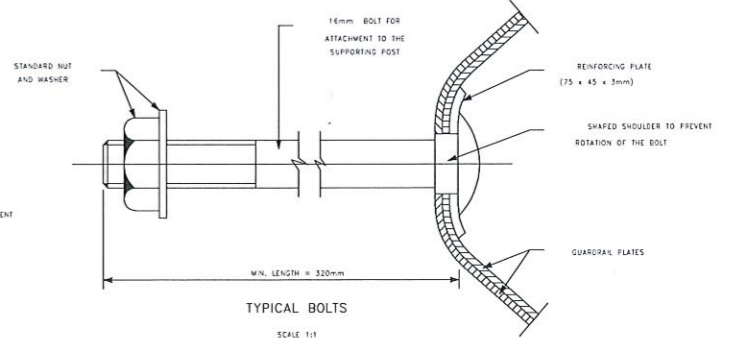
NOTE:
V-SHAPED REFLECTIVE PLATES ATTACHED TO EACH ALTERNATIVE POST - 7.62m c/c.



DETAIL OF STEEL GUARDRAIL POST
SCALE 1:10



TYPICAL BOLTS
SCALE 1:1



SPACING OF POSTS AND POSITION OF REFLECTIVE PLATES
SCALE 1:25

NO.	DATE	REVISION	CONTRACT NO.	D.R.

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PROJECT
GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

TENDER NO. TECH/003/2022/23

TITLE
STANDARD DRAWING
GUARDRAIL ELEMENT AND MOUNTING DETAILS

ISSUED FOR TENDER	SCALE	SHEET 01 OF 01
For Molemole Municipality	NOT TO SCALE	
For Mont Consulting Engineers	PAPER SIZE	A1
DRAWING NO. MONT/MLMRDS/01/2019/TPC02	REVISION	00

NOTES

1. THESE NOTES APPLY FOR ALL SUB-SERIES IN THE ROADWORKS SIGNS AND DETOURS "SP-R" STANDARD PLAN SERIES. ADDITIONAL SPECIFIC INTRODUCTORY NOTES MAY BE GIVEN AT THE BEGINNING OF THE SUB-SERIES. THE CURRENT LIST OF SUB-SERIES IS GIVEN BELOW. OTHER STANDARD PLAN SERIES WHICH DEAL WITH SPECIFIC TYPES OF ROAD TRAFFIC SIGNS ARE -

- (a) "SP-J" ROAD MARKINGS AND ROADSTUDES
- (b) "SP-S" ROAD SIGNS.

2. THE STRUCTURAL AND MOUNTING ASPECTS OF ROAD TRAFFIC SIGNS ARE COVERED BY STANDARD PLAN SERIES "SP-B".

3. THE SIGNS DETAILED IN SUB-SERIES "SP-R-1" ARE SIGNS WHICH HAVE GENERAL APPLICATIONS AT ROADWORKS SITES.

4. ALMOST ALL REGULATORY AND WARNING SIGNS MAY BE USED IN A TEMPORARY FORM AT ROADWORKS SITES. DETAILS OF THE CLASSIFICATION OF THESE SIGNS ARE GIVEN OPPOSITE. THERE IS NO TEMPORARY COLOUR CODE FOR CONTROL REGULATORY SIGNS AND THEY SHALL ONLY BE USED IN THEIR PERMANENT FORM. A LIMITED SELECTION OF PERMANENT SIGNS ARE FREQUENTLY REQUIRED AT THE END OF ROADWORKS SITES. THE COMMAND, PROHIBITION AND COMPREHENSIVE REGULATORY SIGNS ILLUSTRATED, ARE REPRESENTATIVE ONLY - THE MAJORITY OF OTHER SIGNS IN THESE CATEGORIES MAY ALSO BE USED IN A TEMPORARY FORM. A TEMPORARY VERSION OF SIGN R401 SHOULD NOT BE USED. SIMILARLY WARNING SIGNS MARKED * ARE REPRESENTATIVE. BOTH NUMBERS ARE INDICATED FOR WARNING SIGNS WHICH HAVE A "HANDED" VERSION.

5. TEMPORARY ROUTE MARKER AND DIRECTION GUIDANCE SIGNS MAY ALSO BE SPECIFIED. LIMITED EXAMPLES ARE SHOWN OPPOSITE.

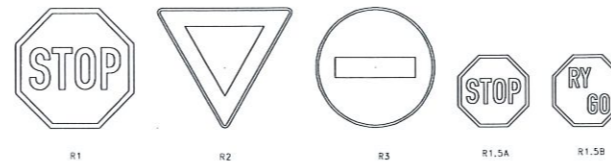
6. SUB-SERIES "SP-R-2" COVERS DETAILS OF ALL TEMPORARY DIAGRAMMATIC GUIDANCE SIGNS. GENERAL NOTES ON THE USE OF DIAGRAMMATIC SIGNS ARE GIVEN ON THE FIRST DRAWING IN THE SUB-SERIES AND ALL AVAILABLE SIGNS ARE INDICATED ON A NUMBER OF KEY SHEETS. THESE KEY SHEETS ARE DESIGNED TO BE USED FOR SIGN ORDERING PURPOSES AND PROVIDE INFORMATION TO ENABLE SIGN QUANTITIES TO BE DETERMINED. DETAILS OF PERMANENT DIAGRAMMATIC SIGNS ARE COVERED IN SUB-SERIES "SP-S-7". THE DRAWINGS ARE GROUPED WITHIN THE SUB-SERIES "SP-R-2" AS FOLLOWS -

- (a) TRAFFIC FLOW OBSTRUCTIONS
- (b) LANE USE REGULATION
- (c) LANES MERGE
- (d) HEAVY VEHICLE GUIDANCE
- (e) OVERHEAD EXAMPLES.

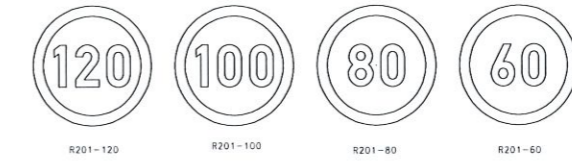
EACH DRAWING GIVES DIMENSIONAL DETAILS FOR A NUMBER OF SIMILAR SIGN DESIGNS FOR THE THREE STANDARD SIGN SIZES. CARE MUST BE TAKEN TO SEE THAT THE CORRECTLY HANDED SIGNS ARE ORDERED.

PERMANENT SIGNS

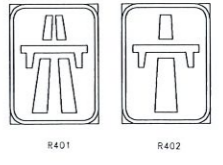
CONTROL REGULATORY SIGNS



PROHIBITION REGULATORY SIGNS



COMPREHENSIVE REGULATORY SIGNS

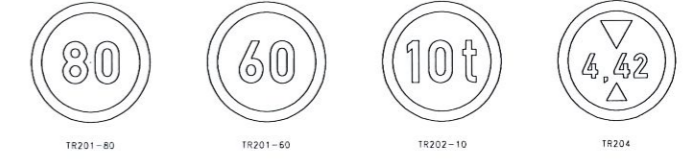


TEMPORARY SIGNS

COMMAND REGULATORY SIGNS



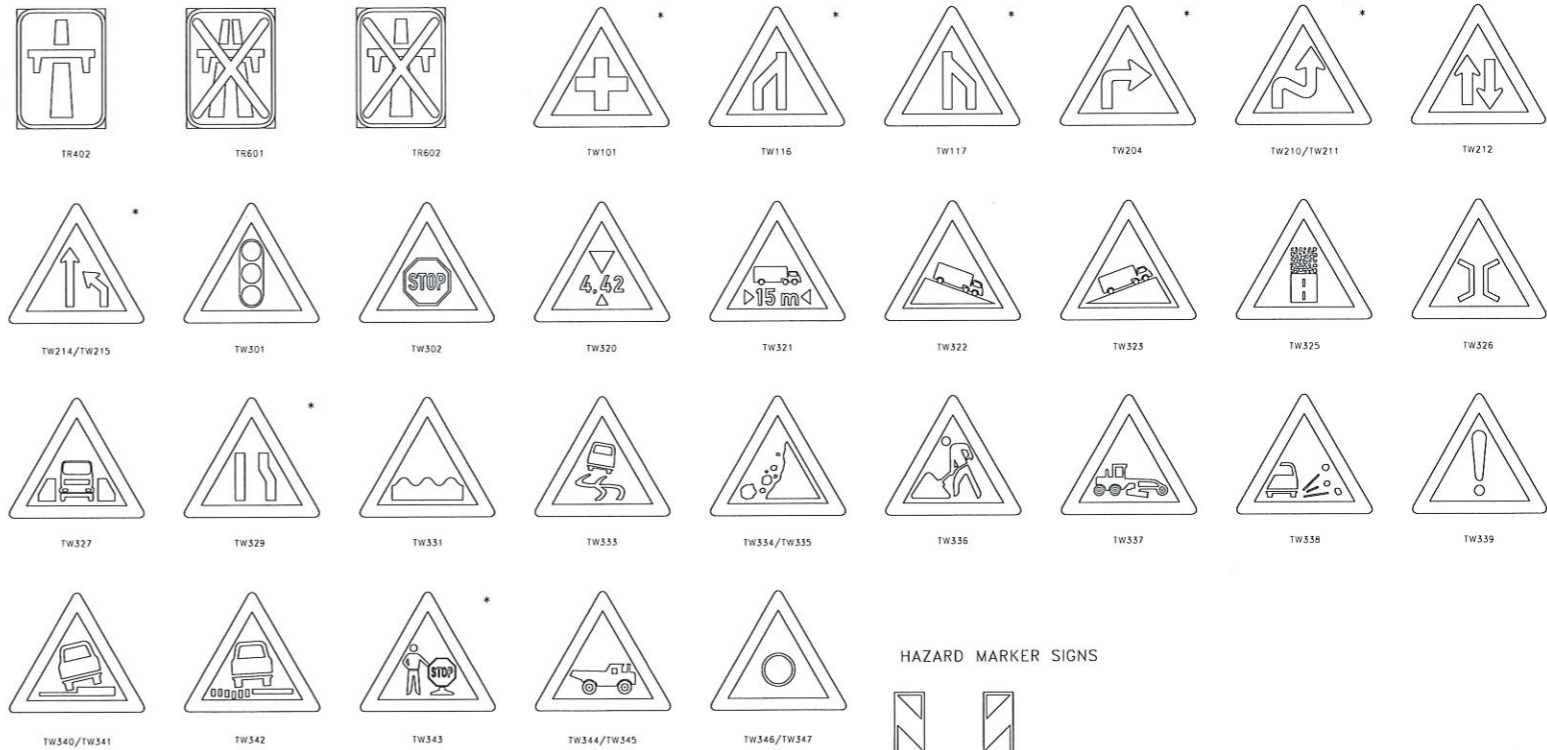
PROHIBITION REGULATORY SIGNS



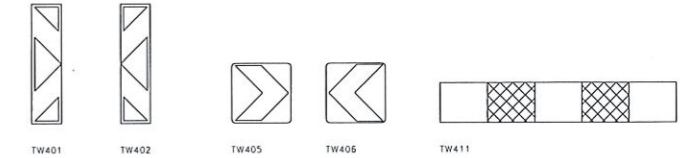
COMPREHENSIVE/DERESTRICTION REGULATORY SIGNS



ADVANCE WARNING SIGNS



HAZARD MARKER SIGNS



GUIDANCE SIGNS



SUB-SERIES IN THE ROADWORKS SIGNS AND DETOURS SERIES "SP-R"	
GENERAL SIGN DETAILS	"SP-R-1"
TEMPORARY	"SP-R-2"
DIAGRAMMATIC SIGNS	"SP-R-3"
TYPICAL LAYOUTS	"SP-R-3"

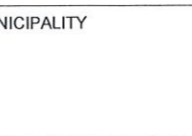
KEY	
	RED
	WHITE
	YELLOW
	BLUE
	BLACK
	GREEN
	BROWN

NO.	DATE	REVISION	CONSULT	DR.

DESIGNED BY	SZB KHANSA
CHECKED BY	PXANLOVU
DRAWN BY	TA NQISA
CHECKED BY	TE MUVHANGO



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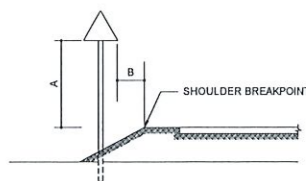


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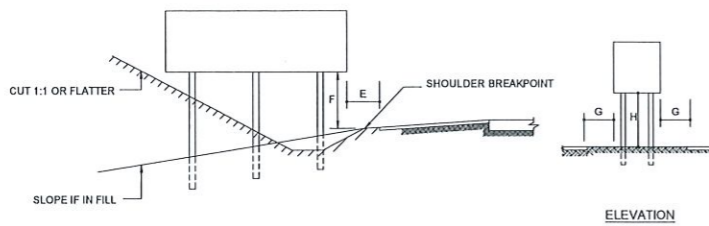
PROJECT: GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING
 TENDER NO. TECH/003/2022/23
 TITLE: STANDARD DRAWING TYPICAL ROAD SIGNS DETAILS
 DRAWING NO: MONT/MLMRDS/01/2019/TPC03

ISSUED FOR TENDER		MEET 01 OF 01
For Molemole Municipality	DATE: / /	SCALE: NOT TO SCALE
For Mont Consulting Engineers	DATE: / /	PAPER SIZE: A1
DRAWING NO: MONT/MLMRDS/01/2019/TPC03	REVISION:	00



SHOULDER (ON KERB LINE)

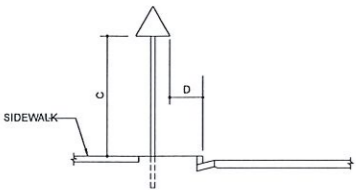
PERMANENT SIGN PLACEMENT			
	MAXIMUM	PREFERRED	MINIMUM
A	2500	2100	600
B	2000	1500	1200
C	3000	2500	2100
D	-	750	500



ELEVATION

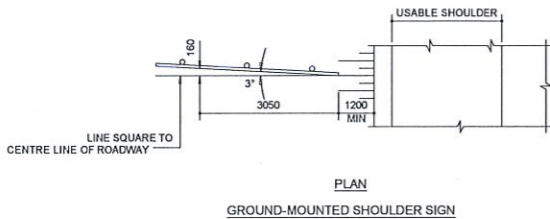
PERMANENT SIGN PLACEMENT			
	MAXIMUM	PREFERRED	MINIMUM
E	-	2500	1500
F	2400	2000	1600

PERMANENT SIGN PLACEMENT			
	MAXIMUM	PREFERRED	MINIMUM
G	2000	1500	1200
H	1600	1200	800



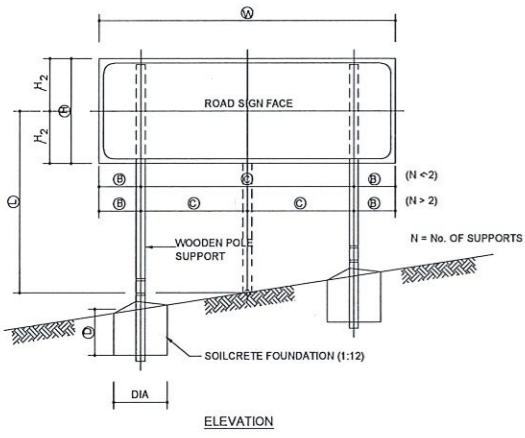
KERB

GENERAL CASES

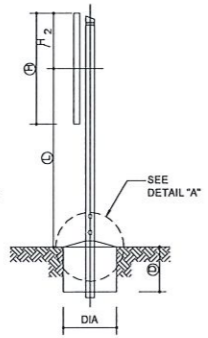


GROUND-MOUNTED SHOULDER SIGN

CLEARANCE



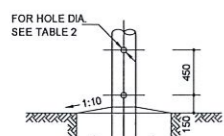
ELEVATION



TYPICAL SECTION

FREE STANDING SUPPORT

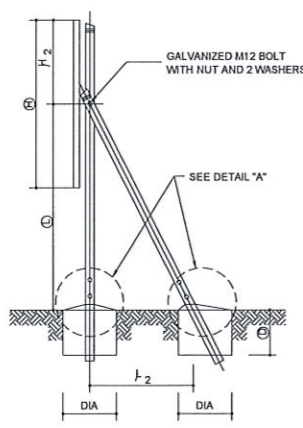
WIDTH OF SIGN W	No. OF SUPPORTS N	DIMENSIONS	
		B	C
1,2m OR LESS	1	$W/2$	-
1,2m - 4,0m	2	$W/5$	$3W/5$
4,0m - 7,2m	3	-	-
7,2m - 9,6m	4	$W/2N$	W/N
9,6m - 12,0m	5	-	-



DETAIL "A"

POLE DIA * (mm)	HOLE DIA (mm)
< 140	NONE
141 - 170	40
171 - 200	50
201 - 225	65

* AT GROUND LEVEL



TYPICAL SECTION

BRACED SUPPORT

NOTE:
INFORMATION SHOWN ON THIS DRAWING IS REPRODUCED FROM "THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL"

- NOTES
- THE ROAD SIGN FACES SHALL BE MANUFACTURED AND ERECTED IN ACCORDANCE WITH THE RELEVANT CLAUSES OF SECTION 5600 OF STANDARD SPECIFICATIONS AS WELL AS THE FOLLOWING REQUIREMENTS:
 - SIGN FACES SHALL BE FOR TYPE "A" OR "B" EXPOSURE AS INDICATED ON THE ROAD SIGN DETAIL DRAWINGS OR AS DIRECTED BY THE PROJECT MANAGER. TYPE "A": ALL CASES OTHER THAN TYPE "B".
 - TYPE "B": SIGN FACES FOR USE IN MARINE OR CHEMICALLY POLLUTED CORROSIVE ENVIRONMENTS
 - THE COATING SYSTEMS FOR SIGN FACES TYPE "A" AND "B" ARE SPECIFIED
 - THE STANDARD SIGN PROFILE SHALL BE MADE IN ACCORDANCE WITH THE DETAILS.
 - A SIGN FACE THAT EXCEEDS 6m IN LENGTH MAY BE MANUFACTURED IN TWO SECTIONS. THE JOINT SHALL BE MADE IN ACCORDANCE WITH DETAILS
 - STRUCTURAL STEEL SECTIONS SHALL BE OF MILD STEEL CONFORMING TO THE REQUIREMENTS OF SECTION 6700 OF THE STANDARD SPECIFICATIONS
 - RECTANGULAR HOLLOW SECTIONS AND SPECIAL CHANNEL PROFILES MAY BE COLD FORMED OF COMMERCIAL QUALITY MILD STEEL
 - BOLTS, WASHERS AND NUTS SHALL BE AS FOLLOWS:
 - TYPE "A" SIGN FACES: GALVANIZED STEEL BOLTS COMPLYING WITH THE REQUIREMENTS OF CLAUSE 5602(b) OF THE STANDARD SPECIFICATIONS
 - TYPE "B" SIGN FACES: STAINLESS STEEL BOLTS GRADE 304 MANUFACTURED TO SABS 136
 - NUTS FOR BOTH TYPE "A" AND "B" SIGN FACES SHALL BE SELF-LOCKING "NYLOC" OR EQUAL APPROVED
 - BLIND RIVETS SHALL BE 4,8mm DIA CADMIUM PLATED MILD STEEL
 - ALL STEEL SECTIONS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH CLAUSE 7105(1) OF THE STANDARD SPECIFICATIONS AFTER MANUFACTURE.
 - REFERENCE MUST BE MADE TO THE RELEVANT ROAD SIGN DETAIL DRAWINGS FOR DETAILS OF THE SYMBOLS AND LEGEND FOR EACH INDIVIDUAL SIGN

GENERAL NOTES REFER ALSO TO SECTION 5600 OF THE STANDARD SPECIFICATIONS

POSITION
ROAD SIGNS SHALL BE ERECTED IN THE POSITIONS SHOWN ON THE DRAWINGS OR INDICATED BY THE PROJECT MANAGER, STANDARD CLEARANCES

EXCAVATION
EXCAVATION FOR FOUNDATIONS MUST BE MADE TO THE NEAT DIMENSIONS SPECIFIED. WHERE THE FOUNDATION DEPTH IS 1,5m OR GREATER, EXCAVATIONS MUST BE SUITABLE SHORED FOR THE PROTECTION OF WORKMEN.

TIMBER POLE SUPPORTS
TIMBER SUPPORTS SHALL BE ROUND POLES COMPLYING WITH REQUIREMENTS OF SABS 457.

LENGTH
WHEREVER POSSIBLE LENGTHS CORRESPONDING TO AVAILABLE NOMINAL LENGTHS SHALL BE USED

CUTTING
WHERE CUTTING TO LENGTH AFTER PRESERVATIVE TREATMENT IS UNAVOIDABLE, ONLY ONE CUT PER POLE SHALL BE ALLOWED, THE CUT SHALL BE NEAR THE TOP END OF THE POLE AND THE EXPOSED SURFACE SHALL BE TREATED WITH TWO COATS OF THE APPLICABLE PRESERVATIVE AND THE POLE Banded IN ACCORDANCE WITH SABS 457.

PRESERVATIVE TREATMENT
THE POLES SHALL BE TREATED WITH A MIXTURE OF COPPER-CHROMIUM-ARSENIC COMPOUNDS COMPLYING WITH THE REQUIREMENTS OF TYPE II OF SABS 673 (DICKSON'S "TANALITH C" OR EQUAL).

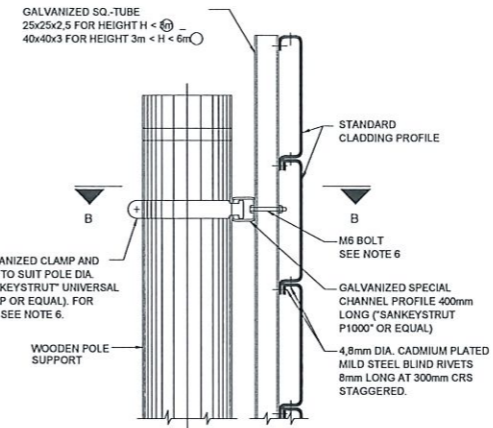
ERECTOR
POLES SHALL BE SELECTED FOR STRAIGHTNESS AND ERECTED AT AN ORIENTATION WHICH WILL PERMIT THE SIGN FACE TO BE FASTENED IN A VERTICAL PLANE WITHOUT UNDUE DISTORTION.

BREAKAWAY HOLES
ALL HOLES HAVING A DIAMETER > 140mm SHALL BE DRILLED WITH TWO HOLES PERPENDICULAR TO THE DIRECTION OF TRAFFIC AS SHOWN IN DETAIL "A". THE EXPOSED TIMBER SURFACES SHALL BE TREATED WITH TWO COATS OF THE APPLICABLE PRESERVATIVE.

SOILCRETE FOUNDATIONS
SOILCRETE SHALL CONSIST OF 12 PARTS APPROVED GRANULAR SOIL OR GRAVEL MIXED WITH 1 PART PORTLAND CEMENT AND ONLY SUFFICIENT WATER TO GIVE IT A CONSISTENCY THAT WILL PERMIT THE SOILCRETE TO BE VIBRATED OR TAMPED TO EXCLUDE VOIDS. TIMBER SUPPORTS POLES SHALL BE SET VERTICAL AND FIRMLY PROPPED IN POSITION PRIOR TO PLACING OF THE SOILCRETE. PROPS SHALL REMAIN IN POSITION FOR A MINIMUM OF 12 HOURS AFTER PLACING THE SOILCRETE. THE SURFACE OF THE SOILCRETE SHALL BE NEATLY FINISHED WITH SUFFICIENT FALL TO ENSURE PROPER DRAINAGE. CONCRETE SHALL NOT BE SUBSTITUTED FOR SOILCRETE.

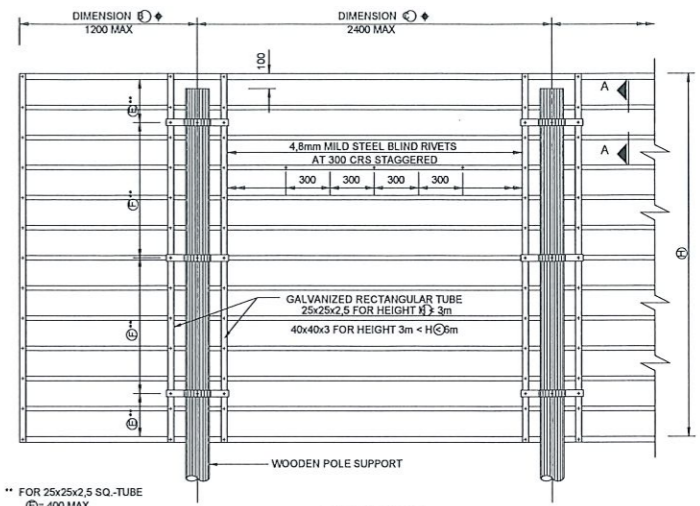
BOLTS, NUTS AND WASHERS
EXCEPT WHERE OTHERWISE SPECIFIED STEEL BOLTS AND NUTS SHALL CONFORM TO SABS 135 OR SABS 1143 AND ALL COMPONENTS SHALL HAVE A HOT-DIP (GALVANIZED) ZINC COATING THAT COMPLIES WITH THE REQUIREMENTS OF SABS 763 FOR COATINGS ON TYPE C1 ARTICLES

ROAD SIGN FACES
ROAD SIGN FACES SHALL BE MANUFACTURED STRICTLY IN ACCORDANCE WITH THE DETAILS SHOWN ON PLAN TYPICAL DETAIL. GROUND-MOUNTED ROAD TRAFFIC SIGNS TRANSPORTATION AND ERECTION OF SIGN FACES SHALL BE CARRIED OUT IN SUCH A WAY THAT DAMAGE TO THE SIGN IS PREVENTED. THE LOWER EDGE OF SIGN FACES SHALL BE HORIZONTAL AFTER COMPLETION OF ERECTION. THE MONTH AND YEAR OF ERECTION OF THE ROAD SIGN SHALL BE INDICATED BY MEANS OF WHITE PAINT ON THE BACK OF THE SIGN IN THE BOTTOM



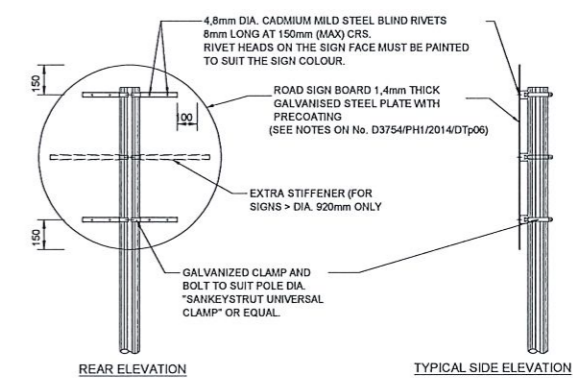
SECTION B-B SCALE 1:5

ELEVATION A-A SCALE 1:5



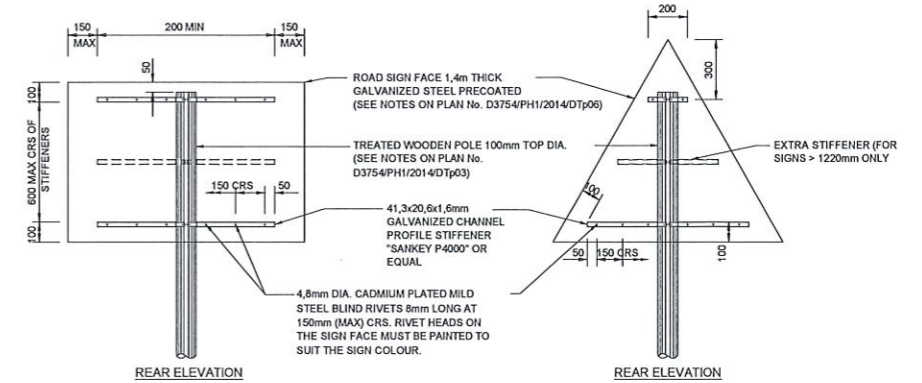
REAR ELEVATION SCALE 1:20

ROAD SIGN FACE



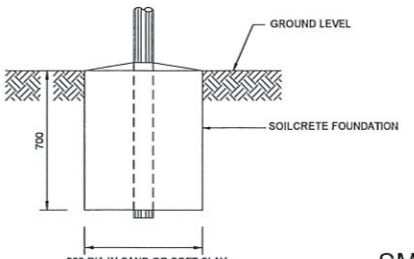
REAR ELEVATION

TYPICAL SIDE ELEVATION



REAR ELEVATION

REAR ELEVATION

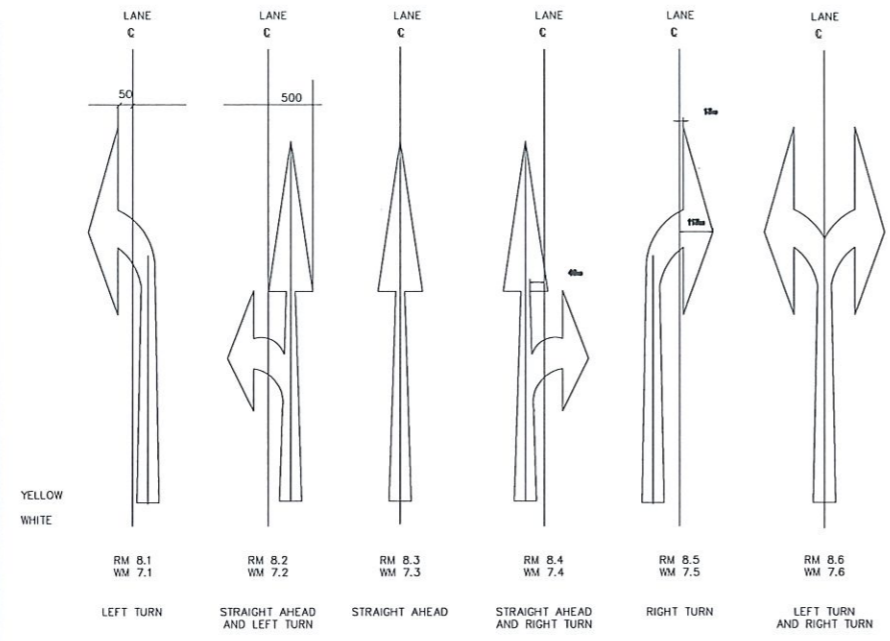
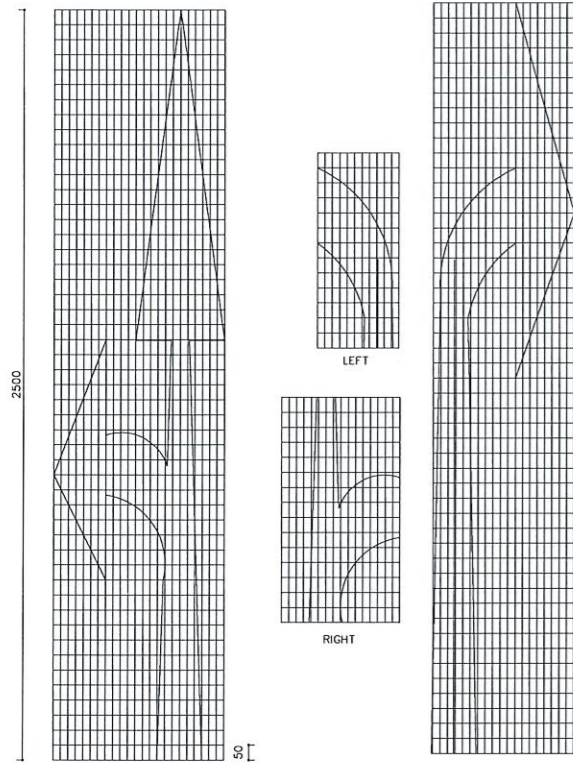


TYPICAL FOUNDATION

- NOTES:
- DETAILS ON THIS DRAWING ARE APPLICABLE TO ROAD SIGNS SMALLER THAN 1,5m² REQUIRING A SINGLE SUPPORT.
 - ALL RELEVANT NOTES ON PLANS No. SHALL APPLY TO THE SIGN FACES, FASTENINGS, CORROSION PROTECTION, SUPPORTS AND FOUNDATIONS SHOWN ON THIS DRAWING ON THIS DRAWING.

SMALLER ROAD SIGNS

SUPPORTS AND FOUNDATIONS GENERAL DETAILS

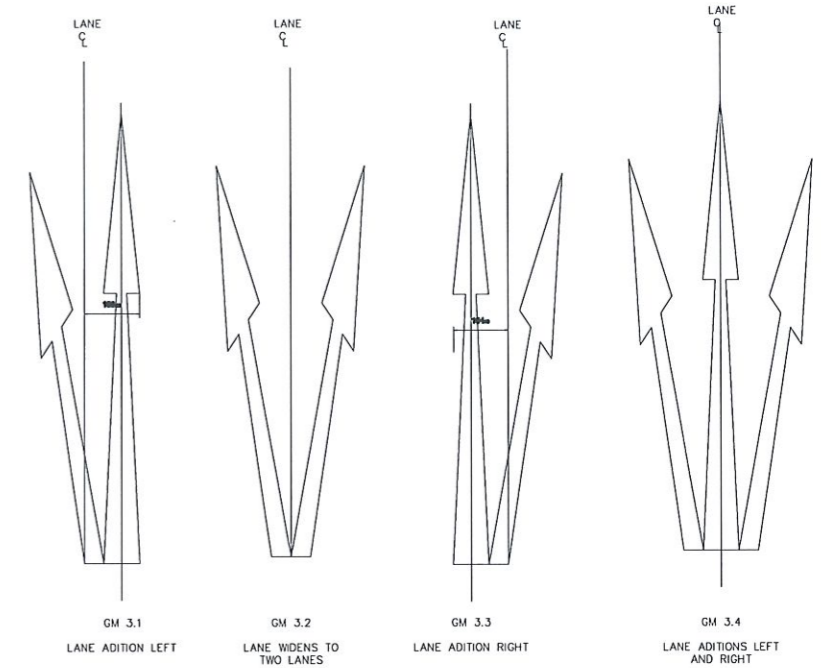
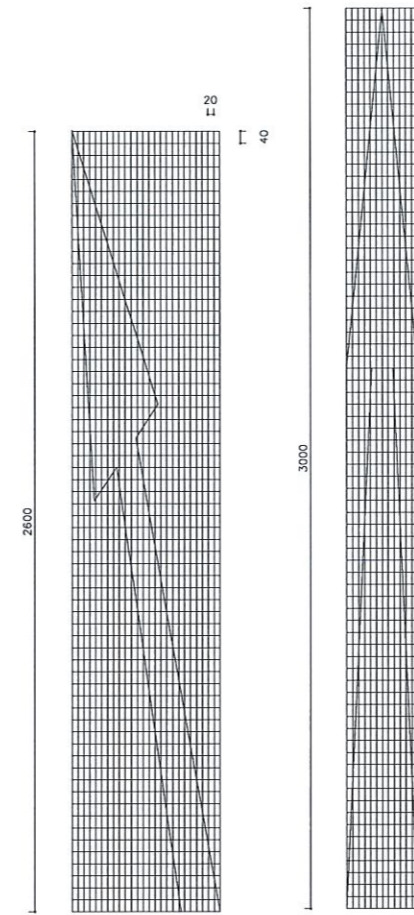


ARROW AREA/ (m)			
RM 8.1/RW 7.1	WM 7.1	RM 8.2/RW 7.2	WM 7.2
1.45	1.78	1.32	2.12

NOTES: MANDATORY DIRECTION ARROWS

1. THESE ARROWS MAY BE USED IN LANES TO INDICATE THAT DRIVERS SHALL PROCEED ONLY IN THE DIRECTION OR DIRECTIONS SHOWN. THEY SHOULD ONLY BE USED IF THE JUNCTION CONCERNED REQUIRE TURNING MOVEMENT CONTROL BY LANE.
2. THE FINAL ARROW NEAREST TO THE POINT OF TURN OR STRAIGHT ON MOVEMENT SHALL BE YELLOW. ANY ARROWS MARKED IN ADVANCE OF THIS POINT TO WARN DRIVERS OF MANDATORY MOVEMENT AHEAD SHALL BE WHITE.
3. A MANDATORY OR WARNING DIRECTION ARROW SHALL NOT BE USED IN ADVANCE OF A WIDENING OF THE ROADWAY TO A GREATER NUMBER OF LANES. THIS SHALL BE INDICATED IF NECESSARY, BY USING FURCATION ARROWS.

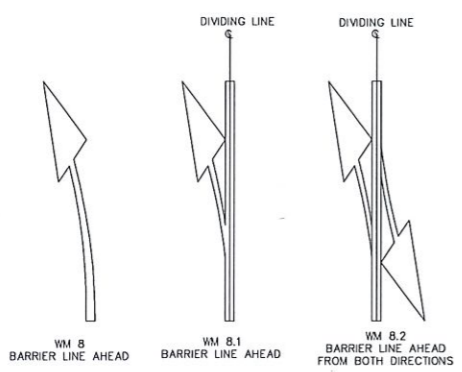
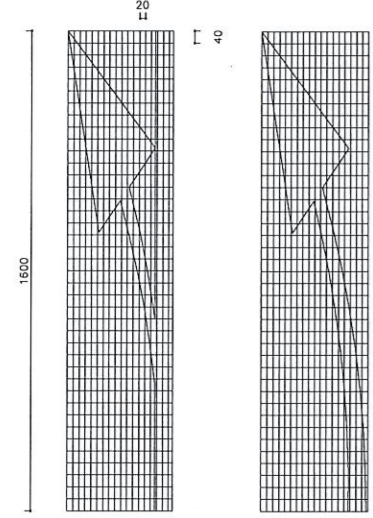
ARROW AREA/ (m)
PER ARROW
0.62



NOTES: FURCATION ARROWS

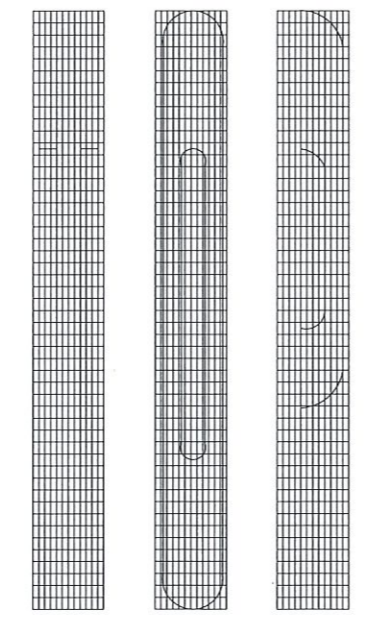
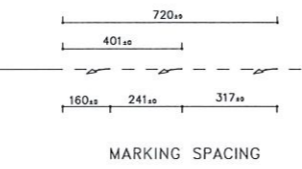
1. THESE ARROWS MAY BE USED TO INDICATE THAT THE NUMBER OF LANES IS INCREASING AHEAD. ONLY ONE SET OF ARROWS SHOULD BE USED UNLESS A LEFT AND RIGHT TURN LANE ARE ADDED TO MULTI-LANE ROADWAY AT THE SAME POINT WHERE TWO SETS MAY BE USED.
2. DIRECTION ARROWS MAY NOT BE USED TO INDICATE THE ADDITIONS OF LANES AHEAD.
3. AS A GENERAL RULE FURCATION ARROWS SHOULD BE LOCATED TWO TO THREE MARKING MODULES BEFORE THE START OF THE LANE GENERATING TAPER OR CURVE.

ARROW AREA/ (m)		
GM 3.1/GM 3.3	GM 3.2	GM 3.4
3.89	3.82	5.80

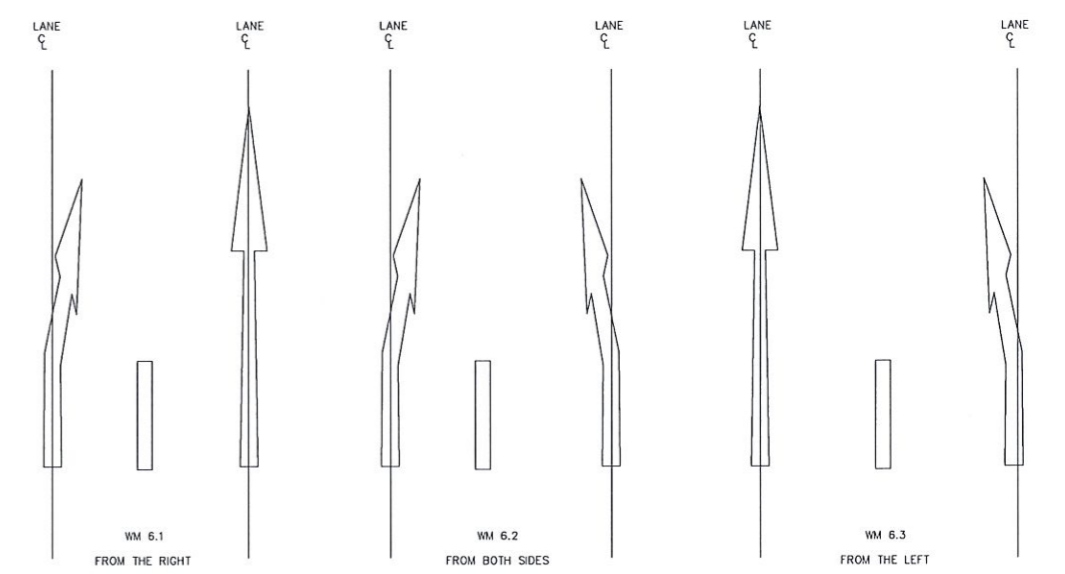
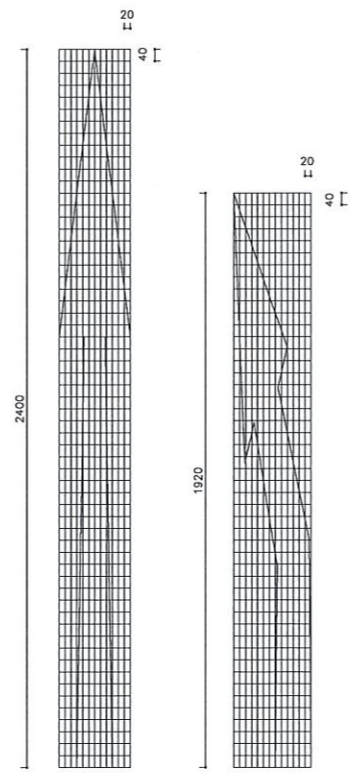


NOTES: BARRIER LINE AHEAD ARROWS

1. THESE ARROWS SHOULD BE USED IN MULTIPLES OF THREE (AT LEAST) IN ADVANCE IN THE START OF A SECTION OF NO OVERTAKING LINE, NO CROSSING LINE OR PAINTED ISLAND WHEN SUCH BARRIER LINES REPLACES A DIVIDING LINE.
2. THE ARROWS MAY BE MARKED ON TOP OF THE EXISTING DIVIDING LINE MARKINGS (IF THE EXISTING LINE IS A CENTRE LINE TO A 12m OR 7.2m MODULE THE POINT OF ARROW SHOULD BE LINED UP WITH THE FORWARD END OF THE LINE).
3. WHEN OVERTAKING SECTIONS ARE INTERSPERSED WITH NO OVERTAKING SECTIONS AND ARE SHORT IN LENGTH MARKING WM 8.2 MAY BE USED AT THE CENTRE OF THE OVERTAKING SECTION.



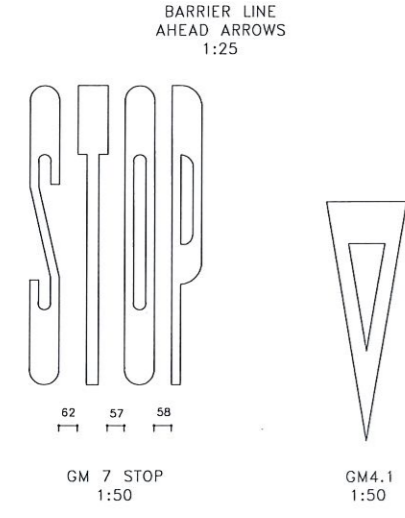
GM 7 1:25



NOTES: LANE REDUCTION ARROWS

1. IT IS RECOMMENDED THAT THE THREE SETS OF ARROWS BE USED IN HIGH SPEED ROADS, SPACED AT FOUR MODULE INTERVALS BEFORE THE END OF THE LANE LINE. SINGLE ARROWS MAY BE USED IN LOWER SPEED ROADS.
2. THE BEND ARROWS MAY BE USED IN ADDITION TO THE THREE-ARROW SETS ALONG THE LENGTH OF THE LANE REDUCTION TAPER.

ARROW AREA/ (m)	
WM 1.1/WM 6.3	WM 6.2
6.56	6.20



GM 7 STOP 1:50
GM4.1 1:50

No.	DATE	REVISION	CONSULT	DL

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CHECKED BY	FAA HOLOVU
DRAWN BY	TA MOISA
CHECKED BY	TE MUVANINGO

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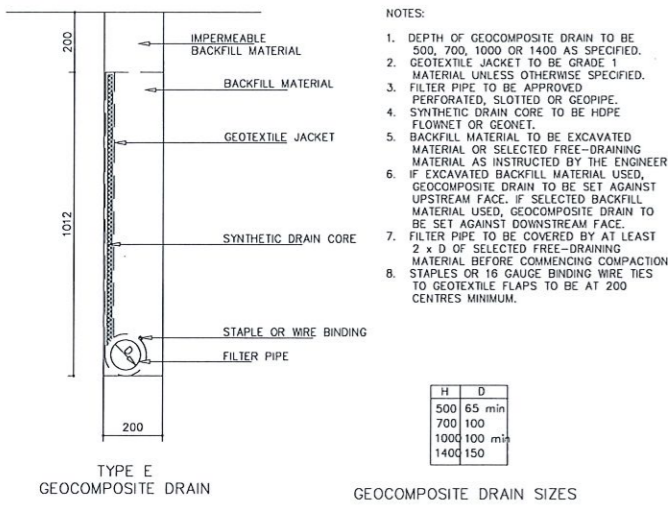
PROJECT
GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

TENDER NO. TECH/003/2022/23

MEMBER OF
CESA

STANDARD DRAWING
TYPICAL ROAD MARKING DETAILS

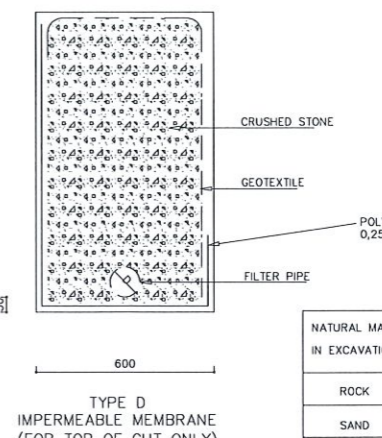
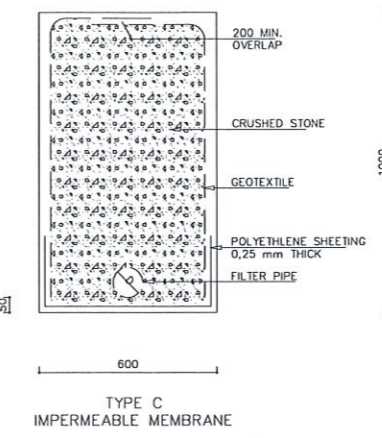
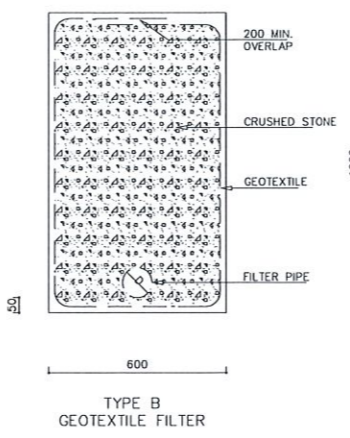
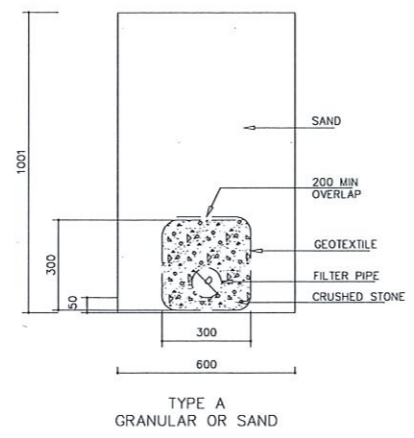
ISSUED FOR TENDER		SHEET #1 OF #1
For Municipality Approval		SCALE NOT TO SCALE
For Mont Consulting Engineers Approval		PAPER SIZE A1
DRAWN BY MONT/MLMRDS/01/2019/TPC05		REVISION 00



- NOTES:
1. DEPTH OF GEOCOMPOSITE DRAIN TO BE 500, 700, 1000 OR 1400 AS SPECIFIED.
 2. GEOTEXTILE JACKET TO BE GRADE 1 MATERIAL UNLESS OTHERWISE SPECIFIED.
 3. FILTER PIPE TO BE APPROVED PERFORATED, SLOTTED OR GEOPIPE.
 4. SYNTHETIC DRAIN CORE TO BE HDPE FLOWNET OR GEONET.
 5. BACKFILL MATERIAL TO BE EXCAVATED MATERIAL OR SELECTED FREE-DRAINING MATERIAL AS INSTRUCTED BY THE ENGINEER.
 6. IF EXCAVATED BACKFILL MATERIAL USED, GEOCOMPOSITE DRAIN TO BE SET AGAINST UPSTREAM FACE. IF SELECTED BACKFILL MATERIAL USED, GEOCOMPOSITE DRAIN TO BE SET AGAINST DOWNSTREAM FACE.
 7. FILTER PIPE TO BE COVERED BY AT LEAST 2 x D OF SELECTED FREE-DRAINING MATERIAL BEFORE COMMENCING COMPACTION.
 8. STAPLES OR 16 GAUGE BINDING WIRE TIES TO GEOTEXTILE FLAPS TO BE AT 200 CENTRES MINIMUM.

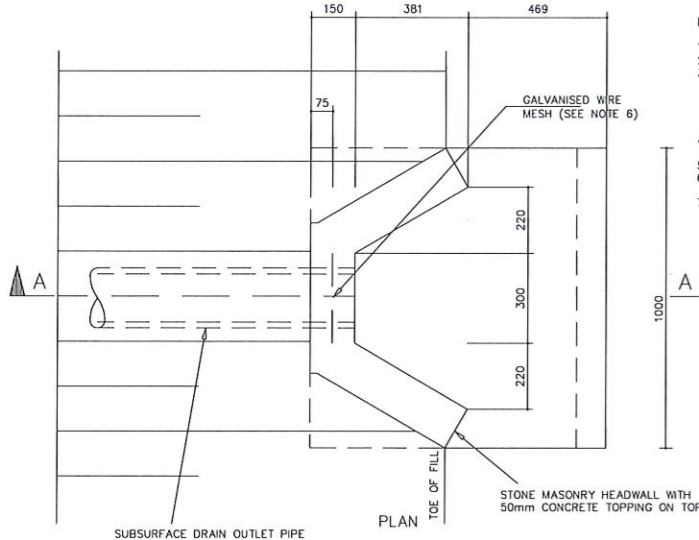
H	D
500	65 min
700	100
1000	100 min
1400	150

TYPE E GEOCOMPOSITE DRAIN
GEOCOMPOSITE DRAIN SIZES



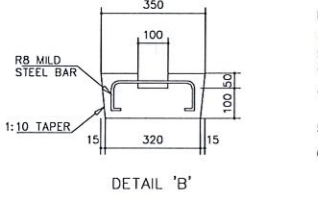
NATURAL MATERIAL IN EXCAVATION	SUBSOIL DRAIN TYPE	NATURAL PERMEABLE MATERIAL	
		CRUSHED STONE	SAND
ROCK	B or C	COARSE-GRADE OR 19mm	-
SAND	B or C	COARSE-GRADE OR 13.2mm	-
SOIL	A	MEDIUM-GRADE OR 9.5 mm	MEDIUM-GRADE (>2.0mm)
CLAY	A	MEDIUM-GRADE OR 9.5 mm	FINE-GRADE (>0.425mm)

SUBSOIL DRAINS
N.T.S.

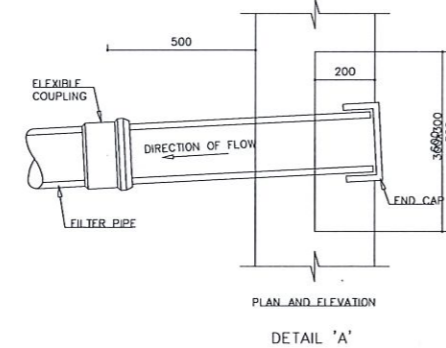
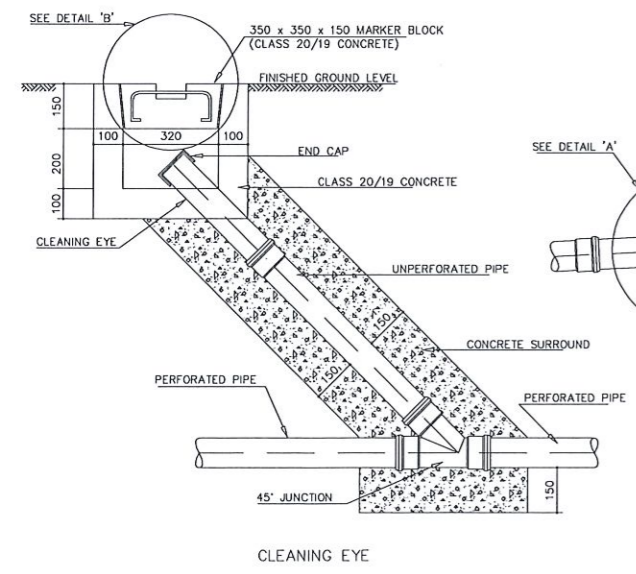


- NOTES:
1. ALL DIMENSIONS GIVEN ARE IN MILLIMETRES.
 2. CONCRETE TO BE CLASS 20/19.
 3. CONCRETE FINISHES TO BE: FORMED SURFACES - CLASS F1 (CONCEALED) - CLASS F2 (EXPOSED); UNFORMED SURFACES - CLASS U1 (CONCEALED) - CLASS U2 (EXPOSED).
 4. CONCRETE COVER TO REINFORCEMENT TO BE 40 mm MINIMUM.
 5. STEEL FABRIC TO BE REF 311.
 6. GALVANISED WIRE MESH TO BE 200 x 200 WITH MESH SIZE 10 x 10 x 2.5 mm DIAMETER.
 7. POSITION OF END STRUCTURE TO BE DETERMINED BY THE ENGINEER.

OUTLET STRUCTURE
1:10



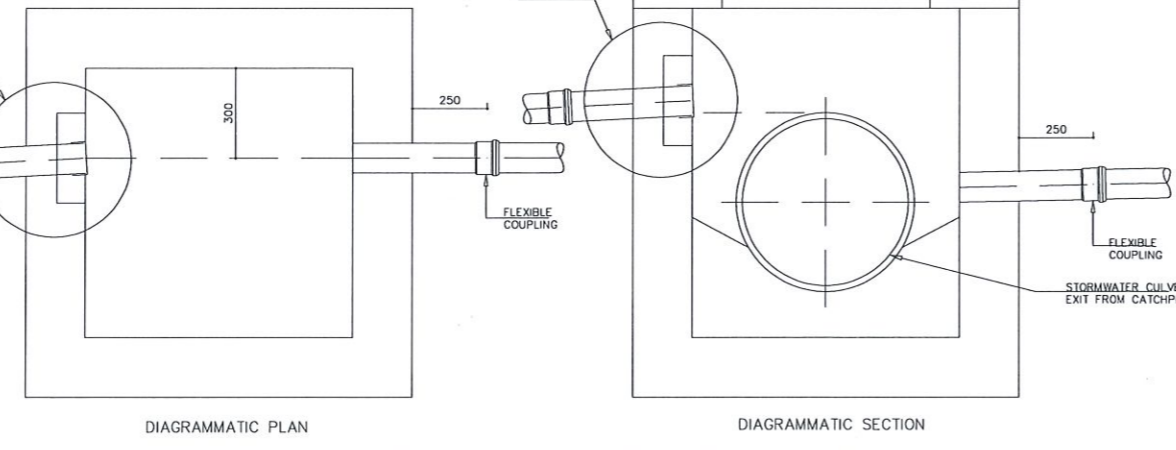
- NOTES:
1. ALL DIMENSIONS GIVEN ARE IN MILLIMETRES.
 2. ALL CONCRETE TO BE CLASS 20/19.
 3. EXPOSED SURFACES TO BE GIVEN A CLASS F2 CONCRETE FINISH.
 4. MARKER BLOCK UNIT TO BE POSITIONED SO THAT END CAP CAN BE EASILY REMOVED AND REPLACED.
 5. RB MILD STEEL BAR FOR MARKER BLOCK TO BE ZINC GALVANISED.
 6. POSITION AND SPACING OF CLEANING EYES TO BE DETERMINED BY THE ENGINEER.



PLAN AND ELEVATION
DETAIL 'A'

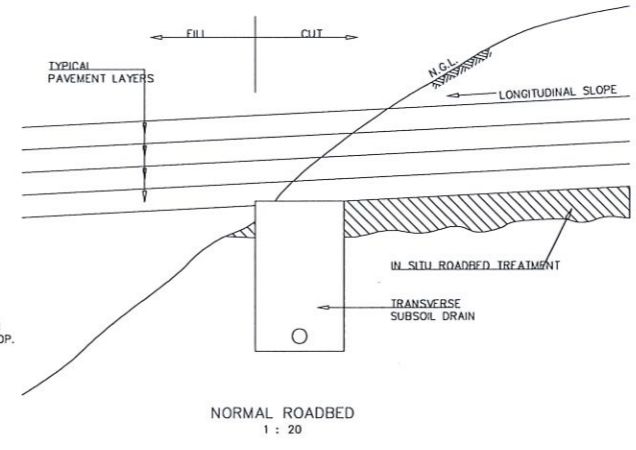
SECTION A - A
1:10

- NOTES:
1. INVERT OF SUBSOIL DRAIN INLET (RODDING/INSPECTION POINT) FROM CATCHPIT TO BE ABOVE SOFFIT OF LOWEST STORMWATER CULVERT.
 2. INVERT OF SUBSOIL DRAIN OUTLET INTO CATCHPIT TO BE ABOVE CENTRE OF LOWEST STORMWATER CULVERT.
 3. END CAP TO BE COMPATIBLE WITH FILTER PIPE.

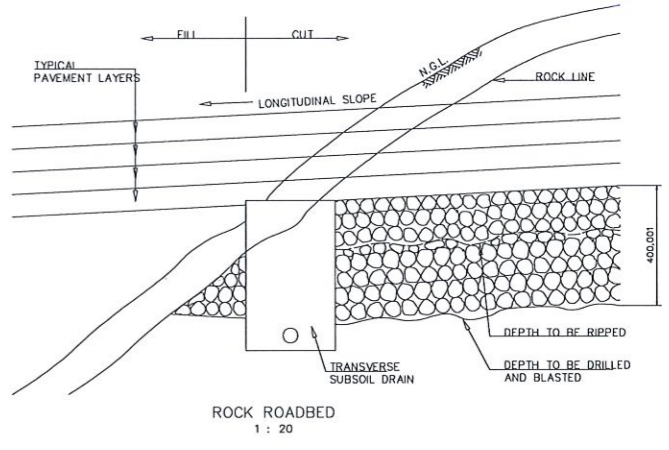


DIAGRAMMATIC PLAN
DIAGRAMMATIC SECTION
SUBSOIL DRAIN INLET AND OUTLET AT TYPICAL STORMWATER CATCHPIT
N.T.S.

SUBSOIL DRAIN INLETS AND OUTLETS

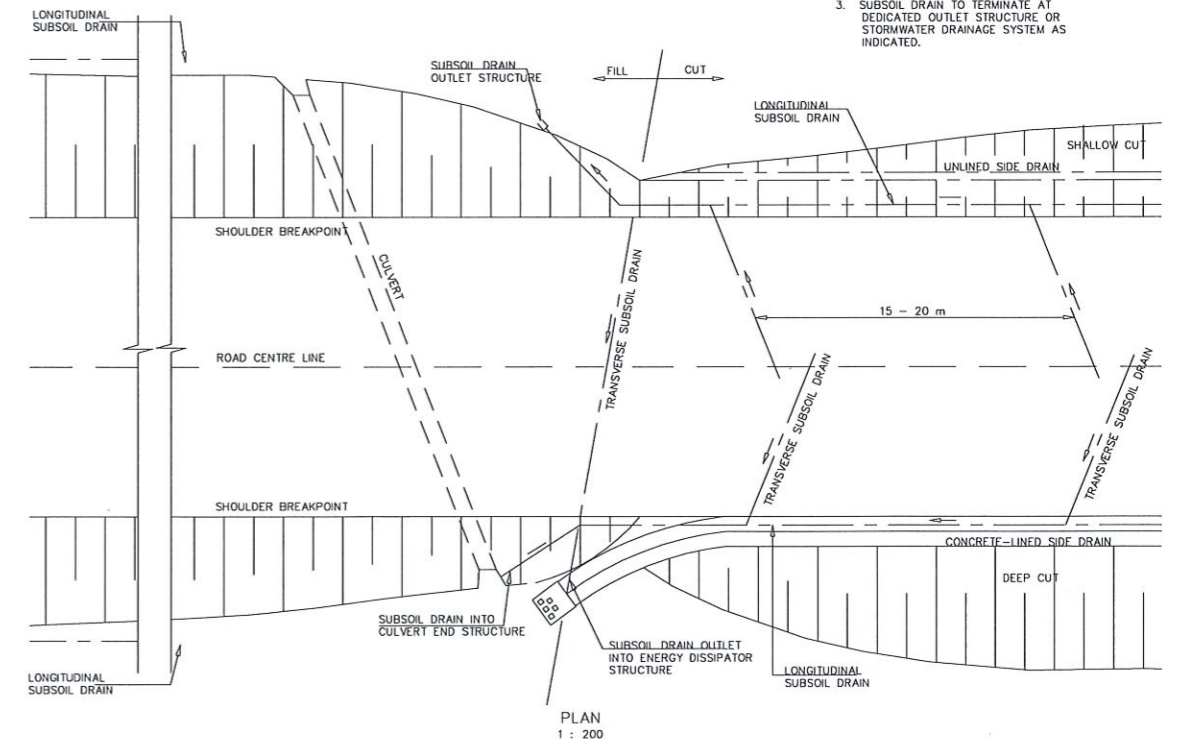


NORMAL ROADBED
1:20



ROCK ROADBED
1:20

- NOTE:
1. POSITION AND / OR ANGLE OF TRANSVERSE SUBSOIL DRAIN AT CUT TO FILL TO BE DETERMINED BY THE ENGINEER ON SITE.
 2. TRANSVERSE SUBSOIL DRAIN PIPE TO BE JOINED TO LONGITUDINAL SUBSOIL DRAIN PIPE USING A MATCHING JUNCTION FITTING.
 3. SUBSOIL DRAIN TO TERMINATE AT DEDICATED OUTLET STRUCTURE OR STORMWATER DRAINAGE SYSTEM AS INDICATED.



SUBSOIL DRAINS AT CUT TO FILL
N.T.S.

No.	DATE	REVISION	CONSULTANT	DR

DESIGNED BY	S2B RANGWA
CHECKED BY	PXA NDLOVU
DRAWN BY	TA MOKA
CHECKED BY	TE MUVHANGO



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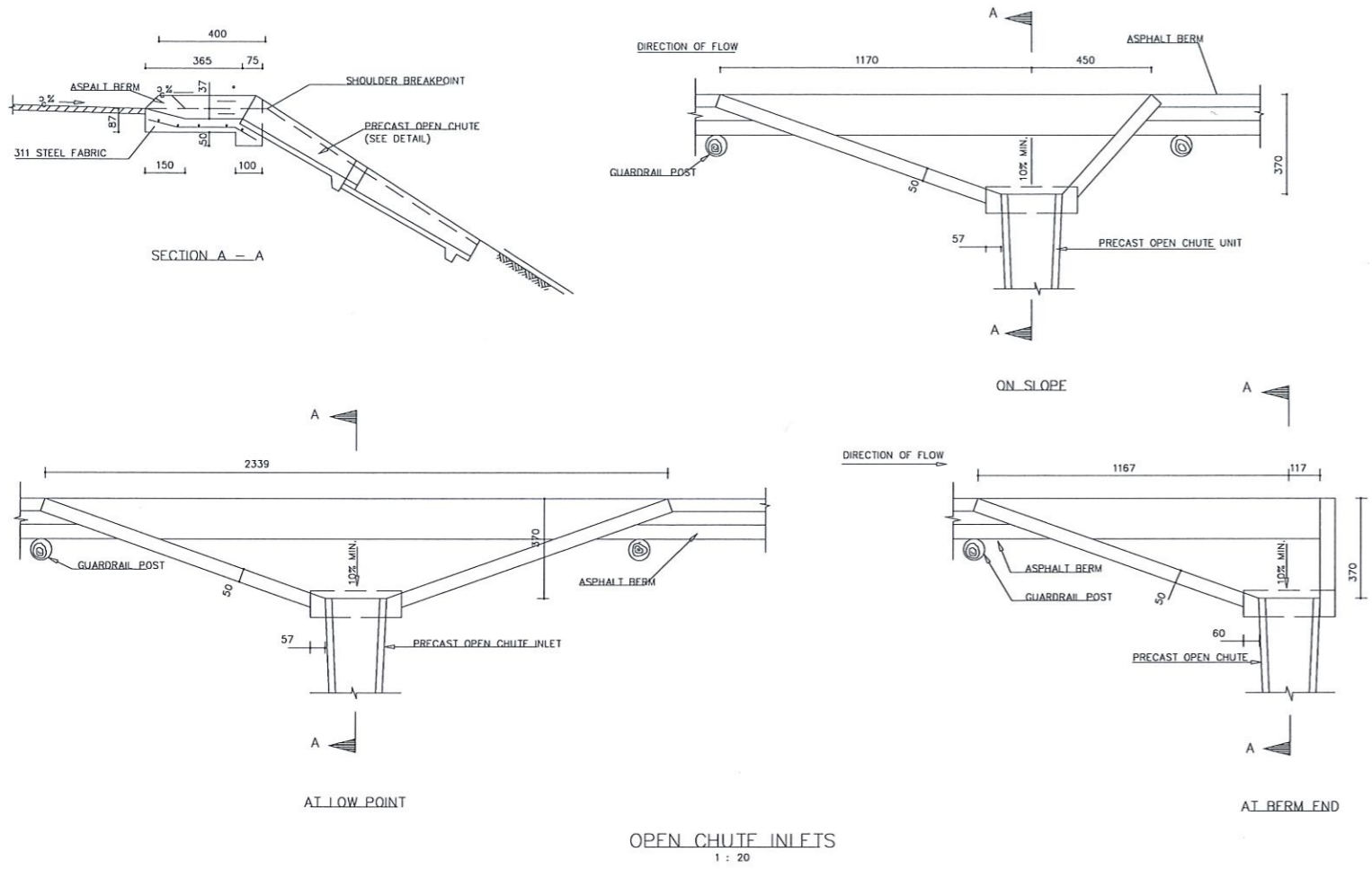


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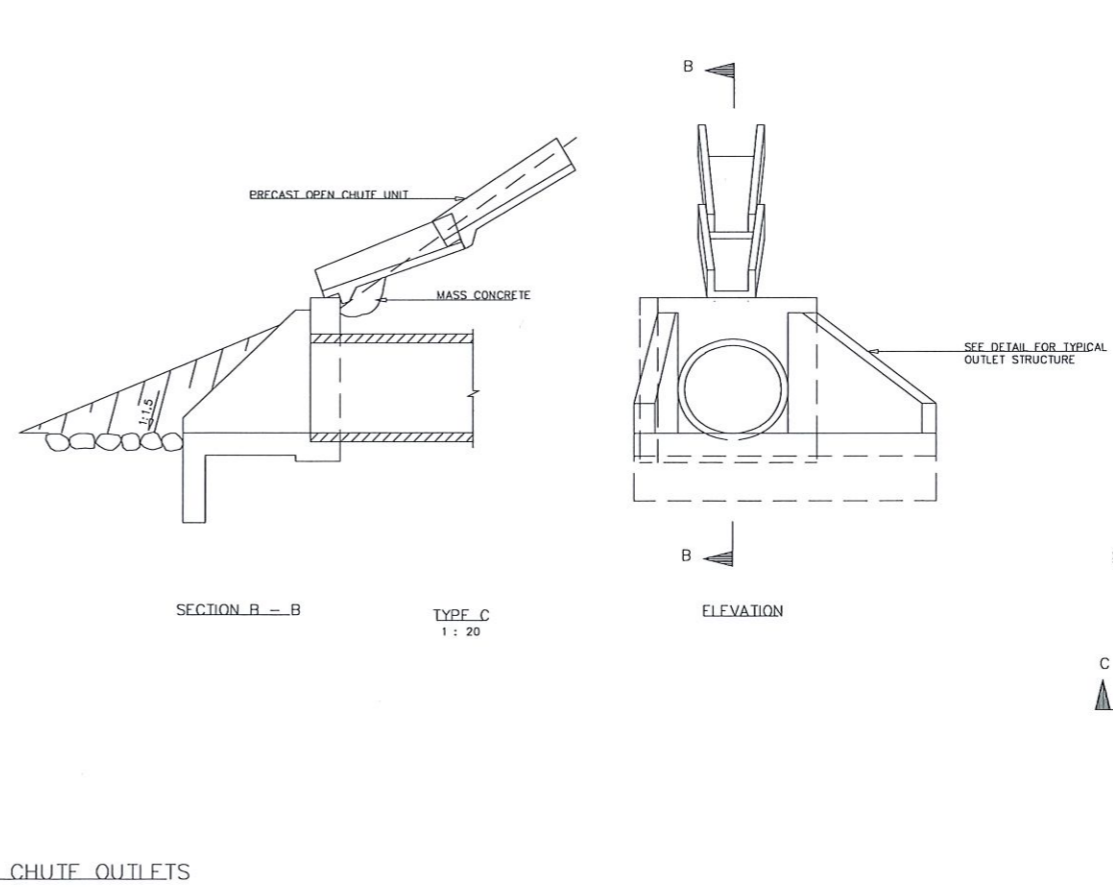
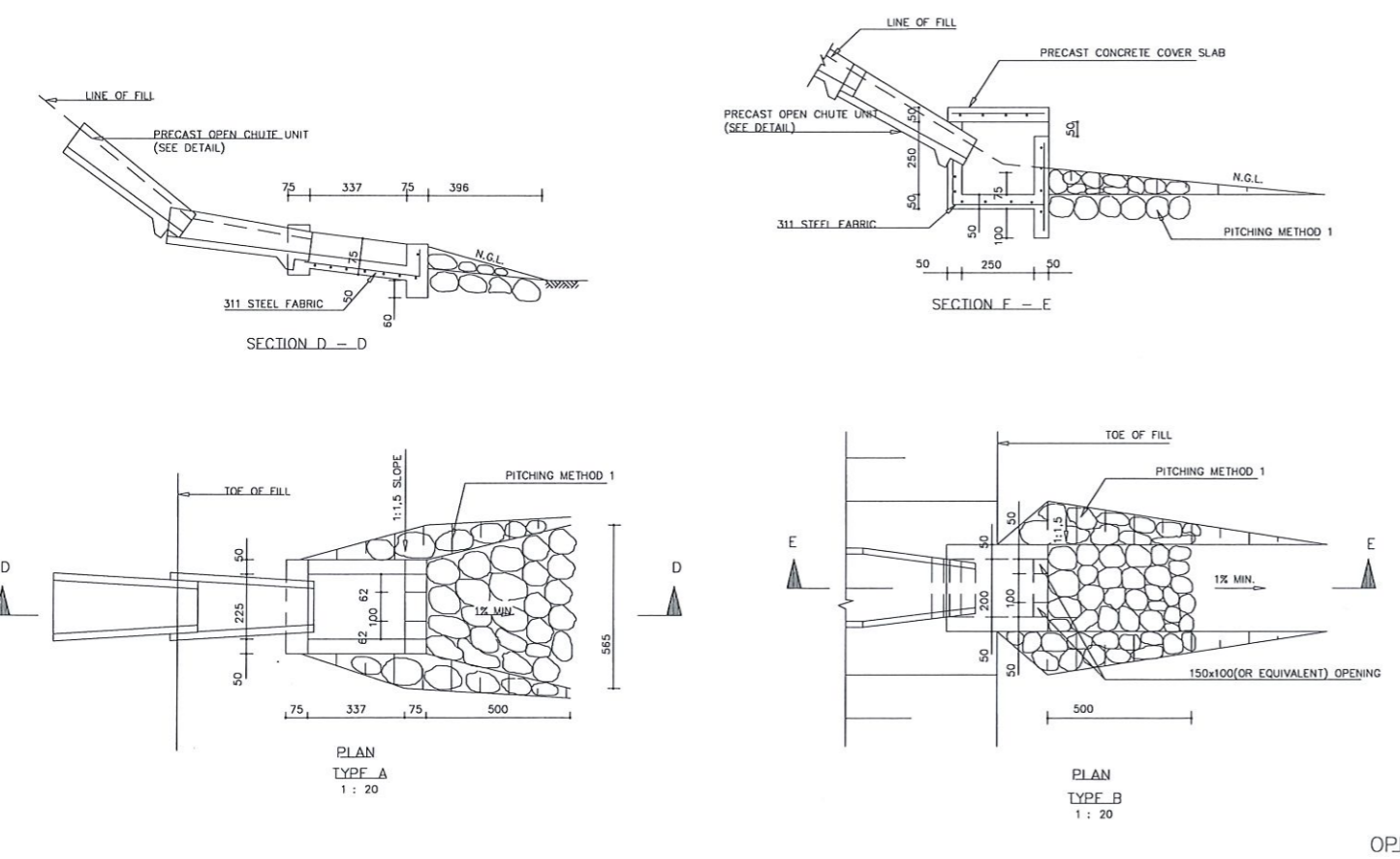
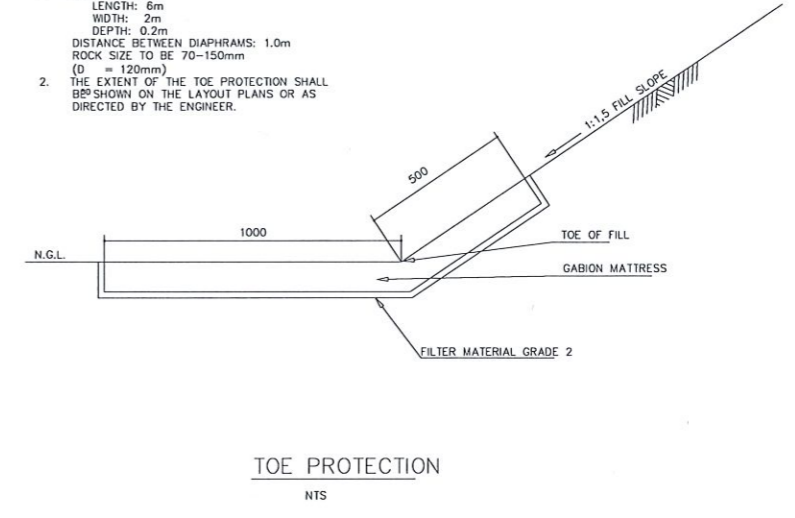
PROJECT: GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING
TENDER NO: TECH/003/2022/23
TITLE: STANDARD DRAWING TYPICAL SUB-SURFACE DRAINAGE DETAILS
DRAWN BY: MONT/MLMRDS/01/2019/TPC06

ISSUED FOR TENDER		SCALE	SHEET NO OF NO
For Molemole Municipality	J.L.L.	NOT TO SCALE	11
For MONT Consulting Engineers	J.L.L.	A1	11
REVISION			



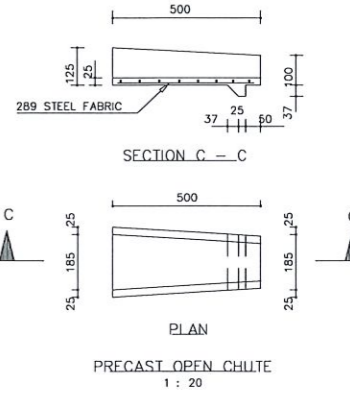
NOTES:

- MATRESS SIZE:
LENGTH: 6m
WIDTH: 2m
DEPTH: 0.2m
DISTANCE BETWEEN DIAPHRAGMS: 1.0m
ROCK SIZE TO BE 70-150mm
($\phi = 120\text{mm}$)
- THE EXTENT OF THE TOE PROTECTION SHALL BE SHOWN ON THE LAYOUT PLANS OR AS DIRECTED BY THE ENGINEER.



NOTES:

- ALL DIMENSIONS GIVEN ARE IN MILLIMETRES.
- CONCRETE CLASS TO BE:
25/19 FOR CHUTE INLETS AND OUTLETS
25/19 FOR PRECAST OPEN CHUTE UNITS
- CONCRETE FINISHES TO BE:
FORMED SURFACES - CLASS F1 (CONCEALED)
UNFORMED SURFACES - CLASS U1 (CONCEALED)
- CONCRETE COVER TO REINFORCEMENT TO BE:
40 MINIMUM FOR OPEN CHUTE OUTLETS
25 FOR PRECAST OPEN CHUTE UNITS
- THE ENGINEER MAY VARY THE TYPE AND/OR EXTENT OF PROTECTION TO SUIT SITE CONDITIONS.
- TYPE A CHUTE OUTLET TO BE USED WHEN THE FILL HEIGHT IS LESS THAN 5M AND/OR THE NATURAL GROUND MATERIAL IS NOT ERODABLE OR AS DECIDED BY THE ENGINEER.
- TYPE B CHUTE OUTLET TO BE USED WHEN THE FILL HEIGHT EXCEEDS 5m AND/OR THE NATURAL GROUND MATERIAL IS ERODABLE OR AS DECIDED BY THE ENGINEER.
- POSITIONS OF CHUTES ARE GIVEN ON THE LAYOUT DRAWINGS.



NO.	DATE	REVISION	DESIGNED BY	CHECKED BY	DRAWN BY	CHECKED BY

DESIGNED BY	SZB RANGANA
CHECKED BY	PXAN DOLOU
DRAWN BY	TA MOISA
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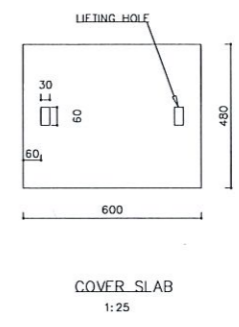
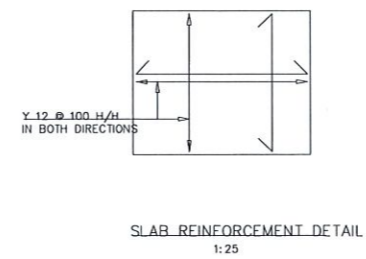
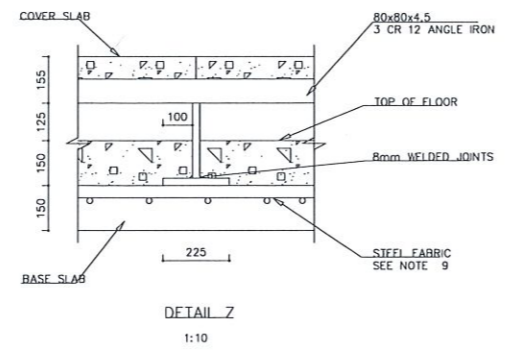
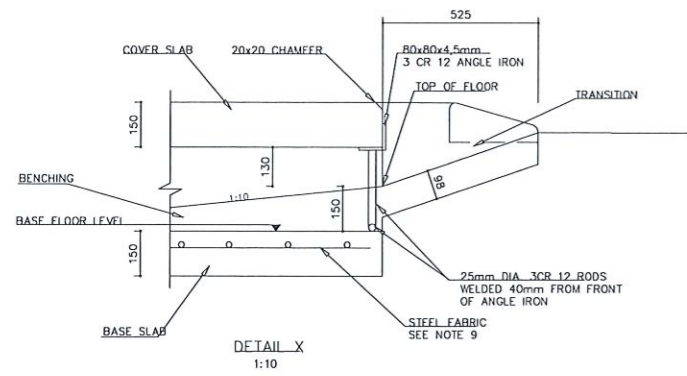
PROJECT: GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

TENDER NO: TECH/003/2022/23

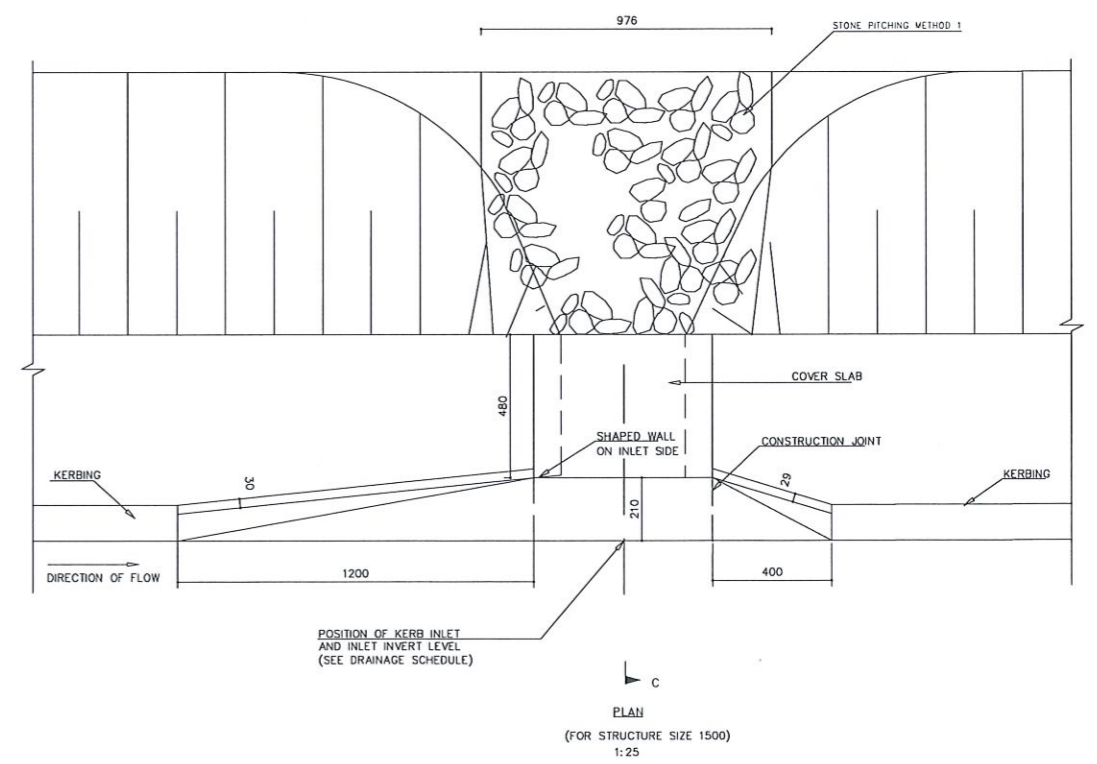
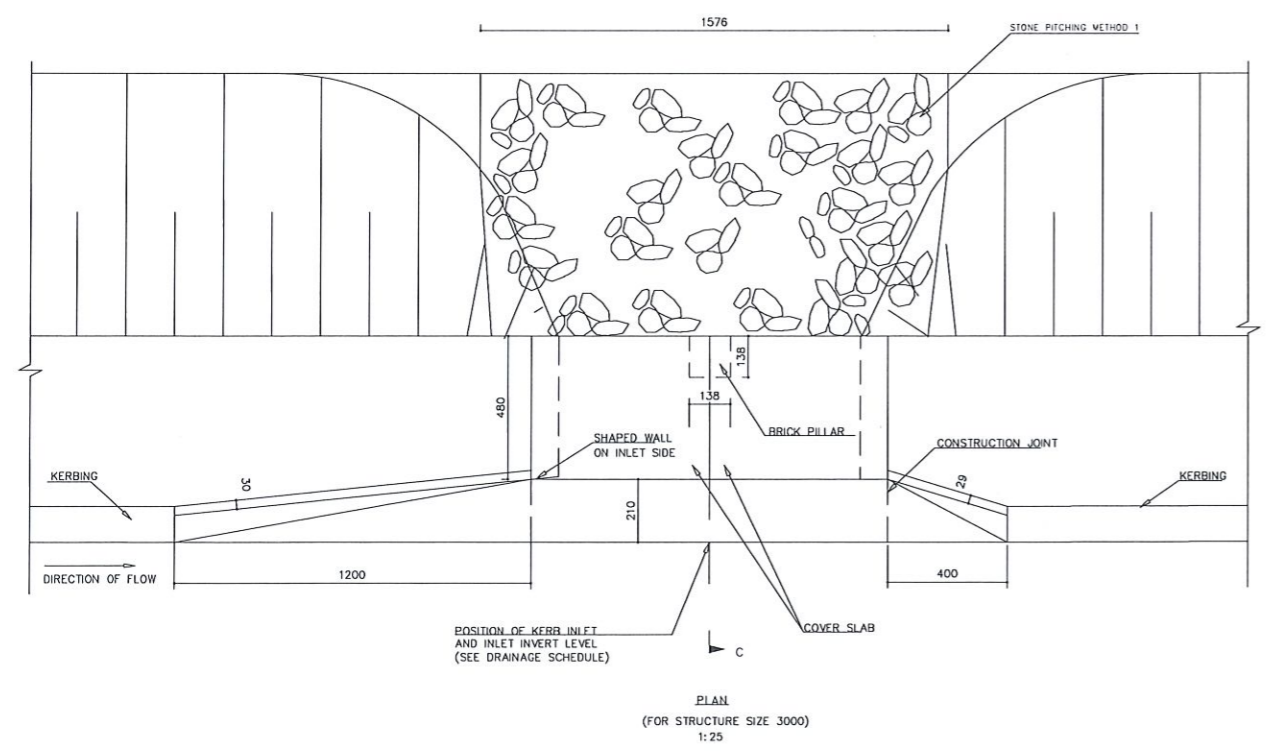
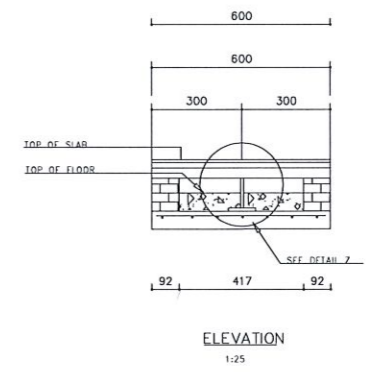
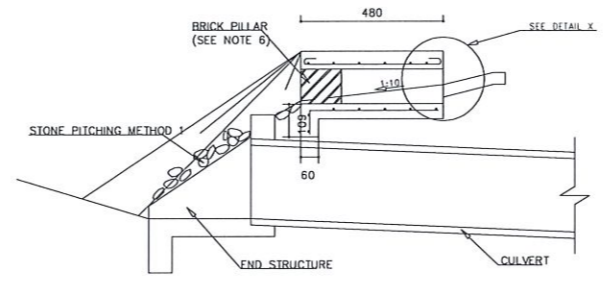
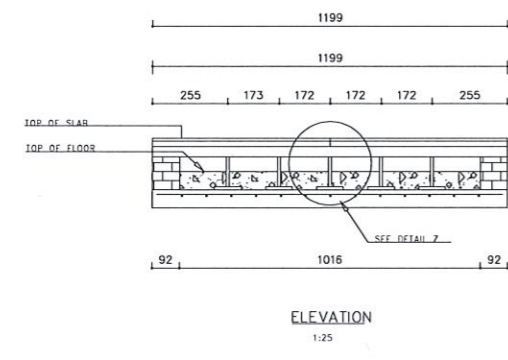
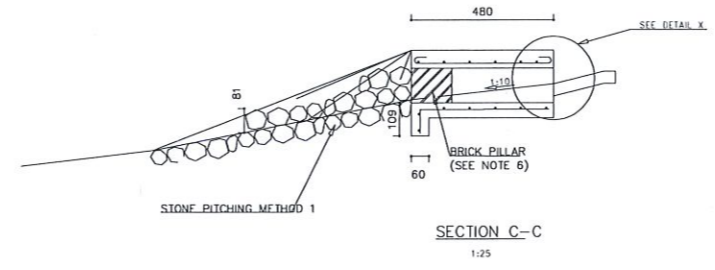
MEMBER OF CESA

STANDARD DRAWING
TYPICAL CHUTE DETAILS

ISSUED FOR TENDER	SCALE	SHEET 11 OF 11
For Molemole Municipality	NOT TO SCALE	
For Mont Consulting Engineers	PAPER SIZE	A1
DRAWING NO: MONT/MLMRDS/01/2019/TPC08	REVISION	00



- NOTES:
1. ALL DIMENSIONS GIVEN ARE IN MILLIMETRES.
 2. ALL EXPOSED SHARP CORNERS OF CONCRETE TO HAVE 20x20 CHAMFERS.
 3. CONCRETE CLASS:
 - 30/19 FOR COVER SLAB
 - 25/19 FOR BALANCE OF STRUCTURE
 - 20/19 FOR BENCHING
 4. CONCRETE COVER TO REINFORCEMENT TO BE 40 MINIMUM. NOTE RELATIVE POSITION OF REINFORCEMENT IN SLAB.
 5. CONCRETE FINISHES TO BE:
 - FORMED SURFACES - CLASS F1 (CONCEALED)
 - UNFORMED SURFACES - CLASS F2 (EXPOSED)
 6. BRICKS TO BE BURNT CLAY MASONARY UNITS CONFORMING TO SABS 227.
 7. KERB INLET STRUCTURE TO BE CONSTRUCTED ALONG SAME GRADIENT AS ROAD.
 8. POSITION OF KERB INLET AND INLET INVERT LEVEL GIVEN IN THE DRAINAGE SCHEDULE.
 9. STEEL FABRIC TO BE REF.617.
 10. INLET TRANSITION TO BE:
 - 3000 FOR KERB INLETS ON SLOPE
 - 2000 FOR KERB INLETS AT LOW POINT
 - END TRANSITION TO BE:
 - 1000 FOR KERB INLETS ON SLOPE
 - 2000 FOR KERB INLETS AT LOW POINT



KERB INLET-TYPE B

No.	DATE	REVISION	DESIGNED BY	CHECKED BY	DRAWN BY	CHECKED BY

DESIGNED BY	SZB RANGANA
CHECKED BY	PJA NDLOVU
DRAWN BY	TAMOSA
CHECKED BY	TE MUYHANGO

MOLEMOLE MUNICIPALITY



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MONT CONSULTING ENGINEERS



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FAX: 015 - 291 4218

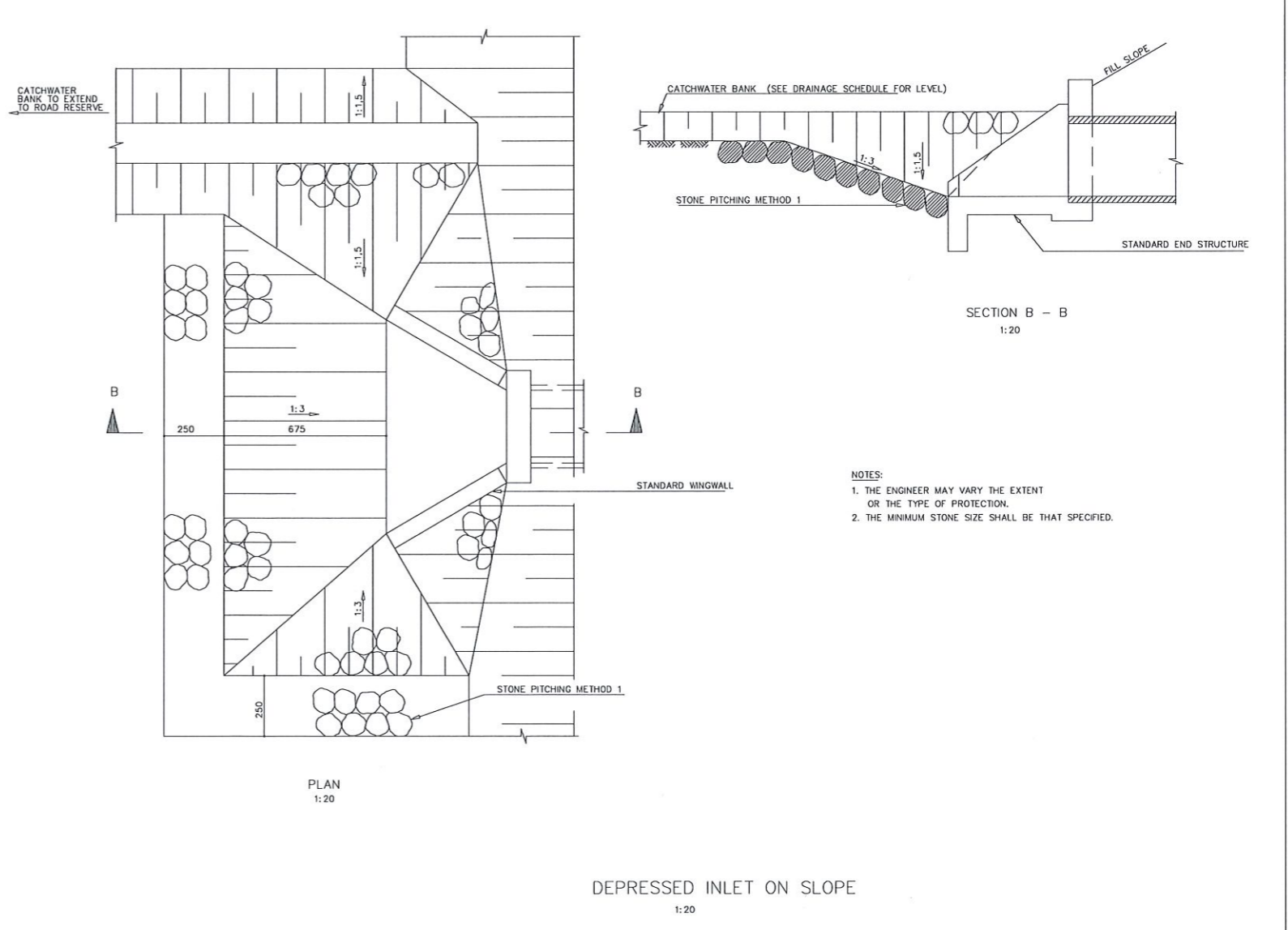
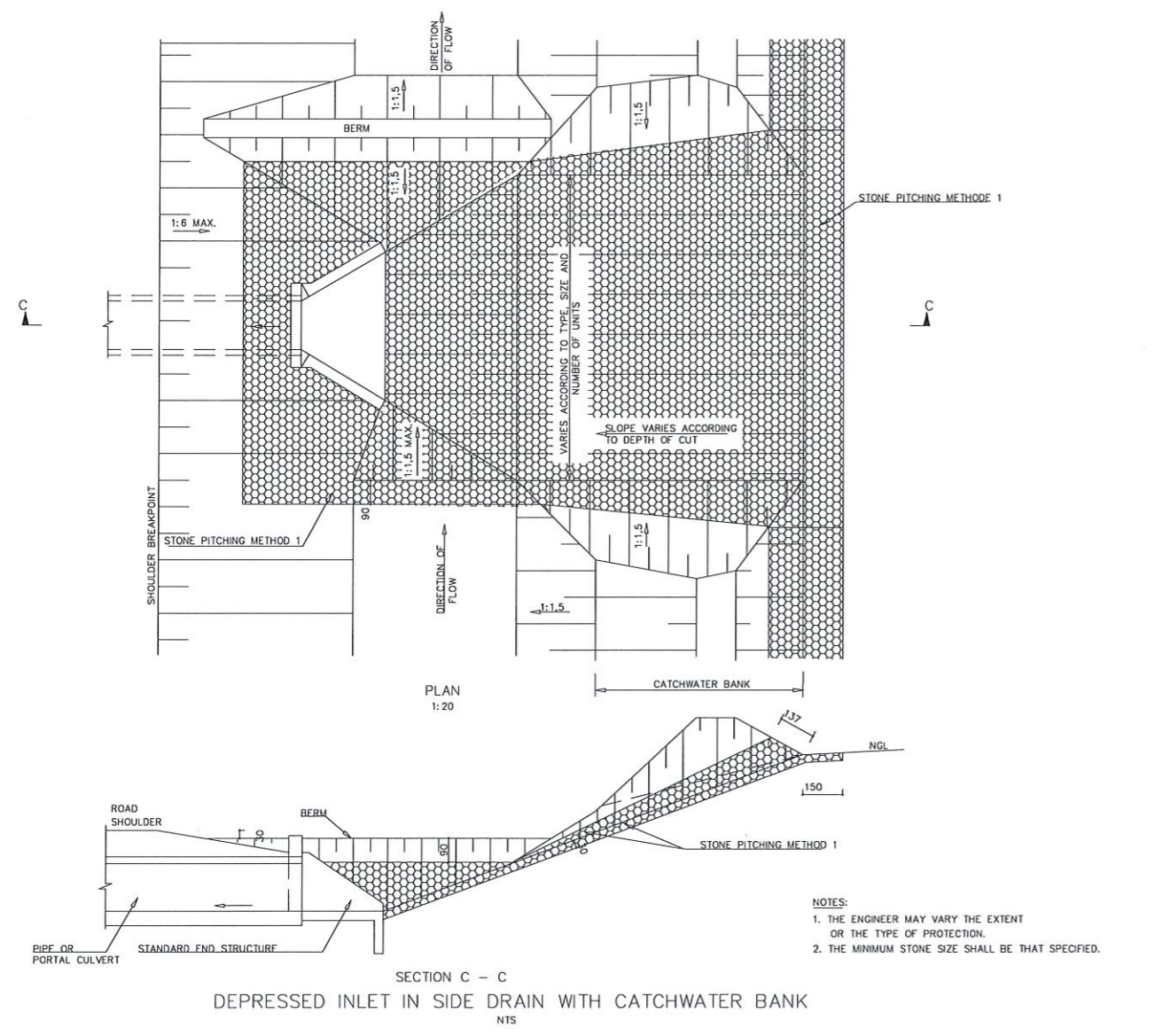
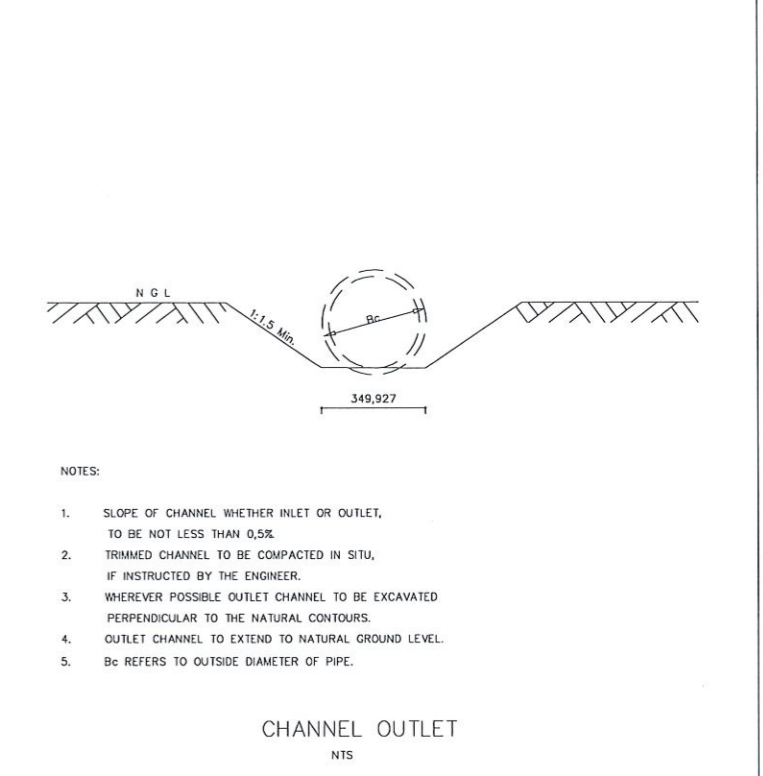
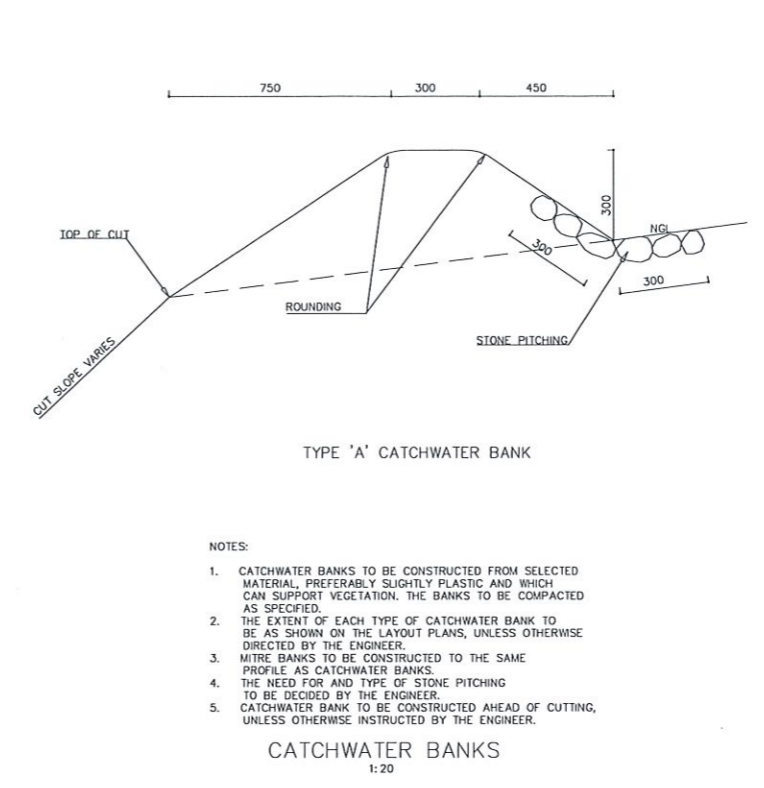
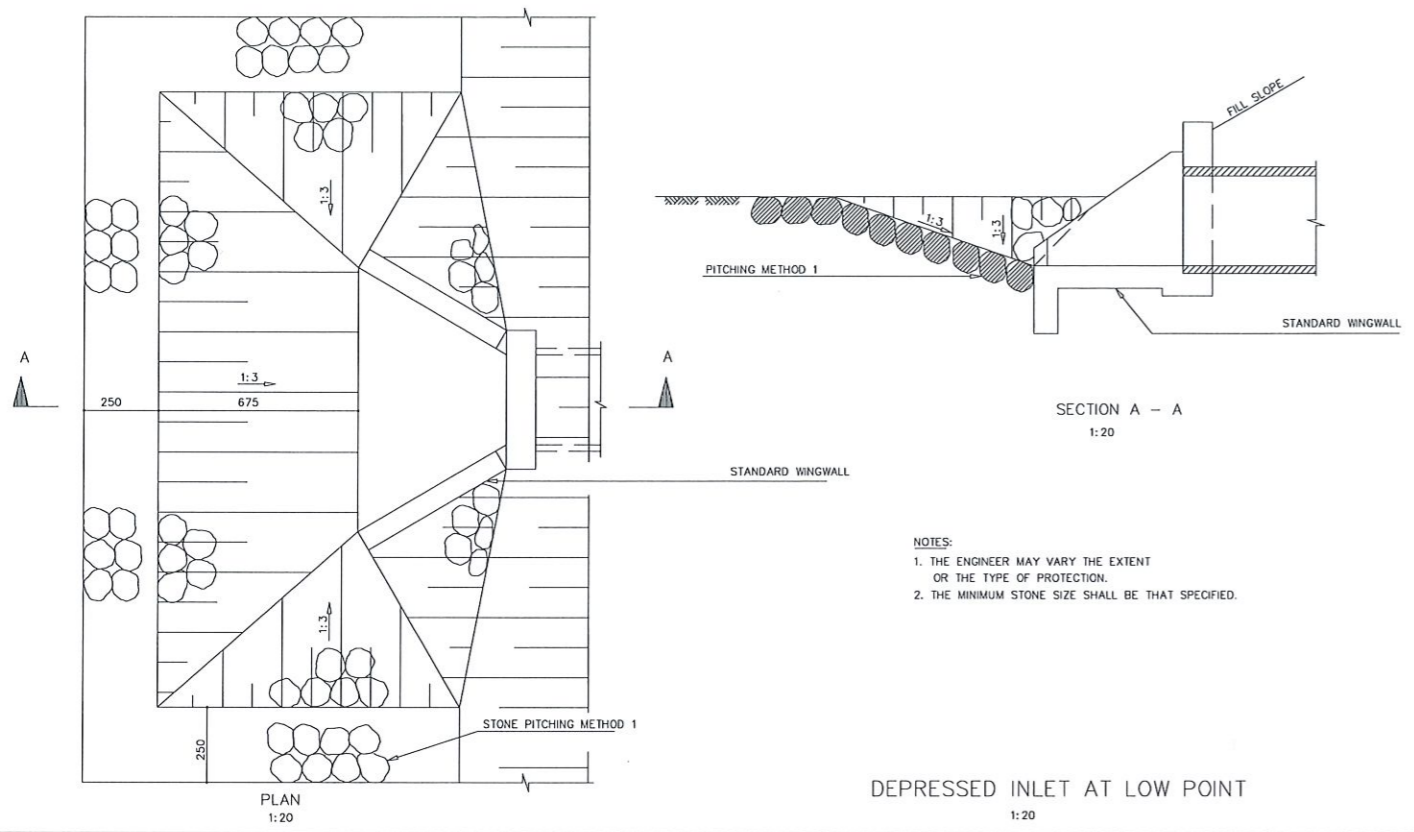
MEMBER OF
CESA

PROJECT
GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

TENDER NO: TECH/003/2022/23

TITLE
STANDARD DRAWING
TYPICAL TYPE 'B' KERB INLET DETAILS

ISSUED FOR TENDER		SCALE	SHEET NO OF NO
For Molemole Municipality		NOT TO SCALE	
For Mont Consulting Engineers		PAPER SIZE	A1
DATE		REVISION	00



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DRAWN BY	TAMISSA
CHECKED BY	TE MUWAWADO

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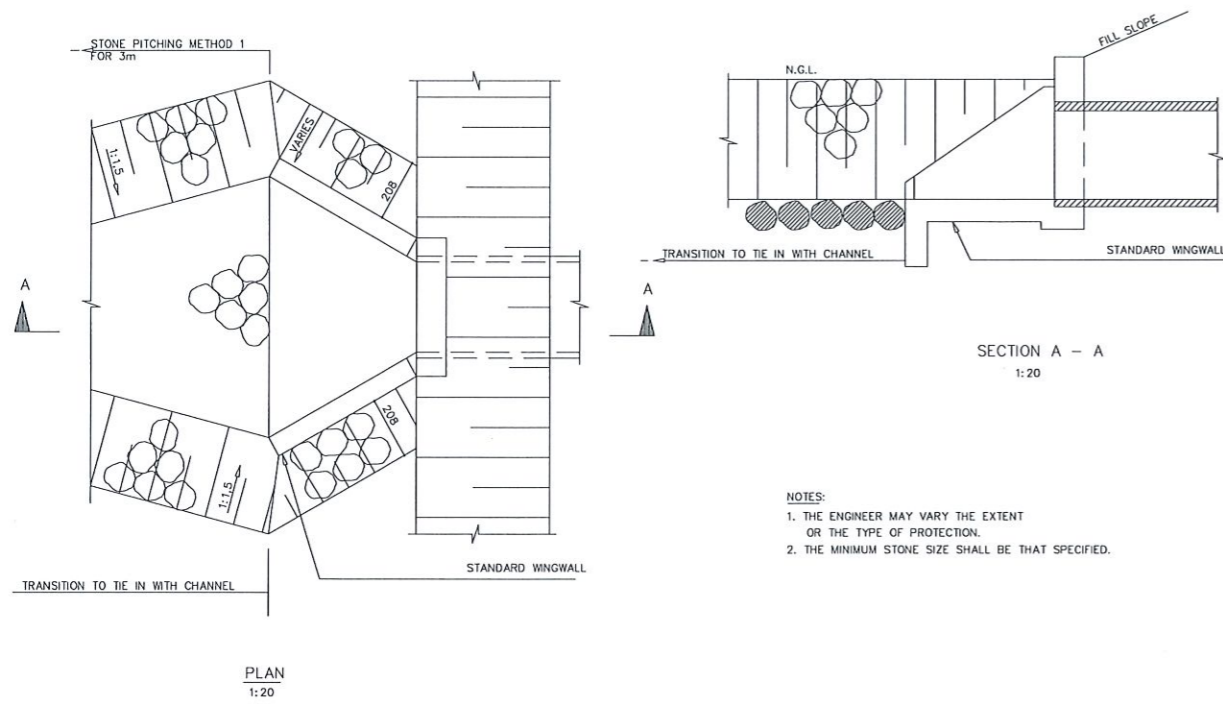
MEMBER OF CESA

PROJECT: GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

TENDER NO: TECH/003/2022/23

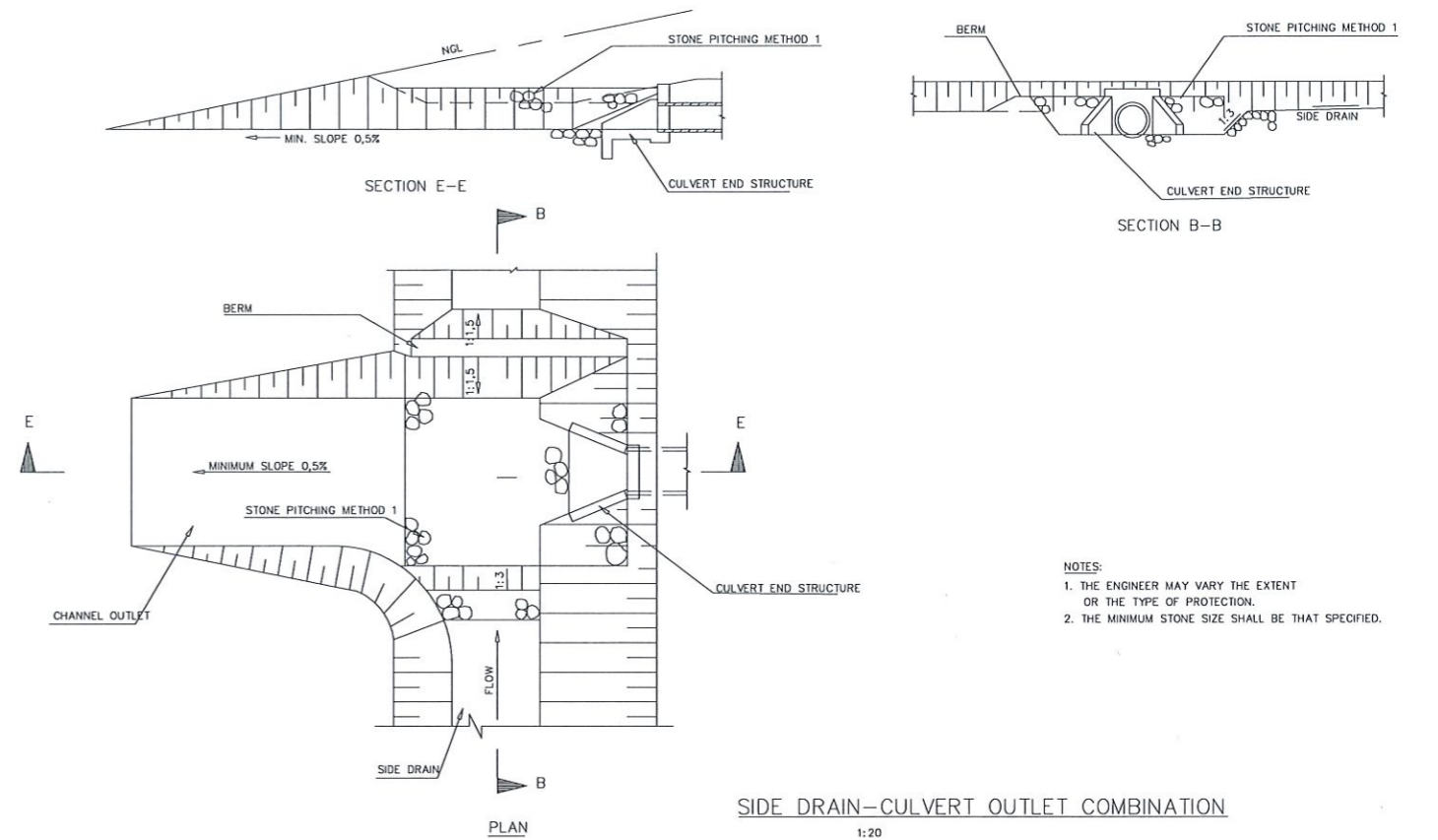
TITLE: STANDARD DRAWING TYPICAL INLET FOR SIDE DRAINS AND LOW POINTS DETAILS

ISSUED FOR TENDER	SCALE	SHEET 01 OF 01
For Municipality	NOT TO SCALE	PAPER SIZE A1
For Consulting Engineer	REVISION	00
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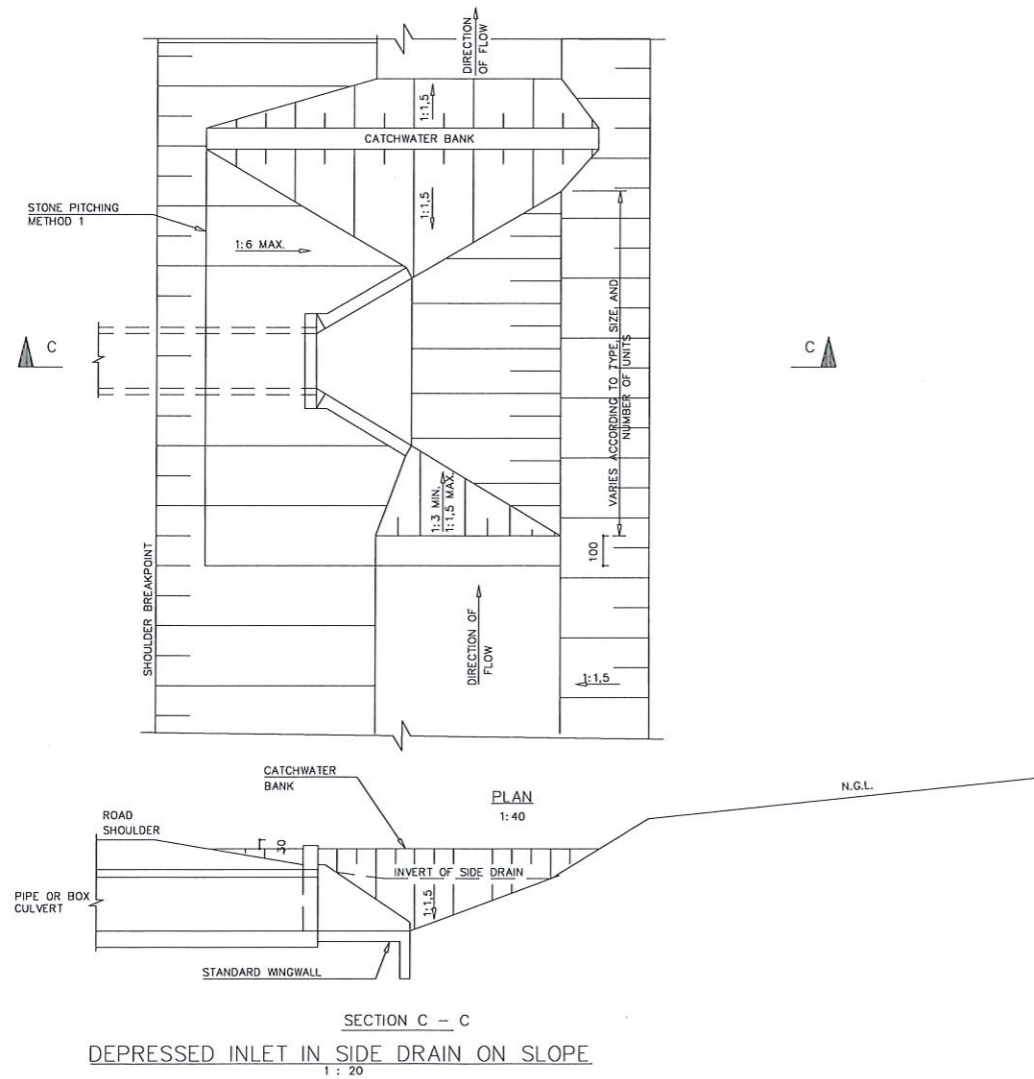
CHANNEL INLETS AND OUTLETS

1:20



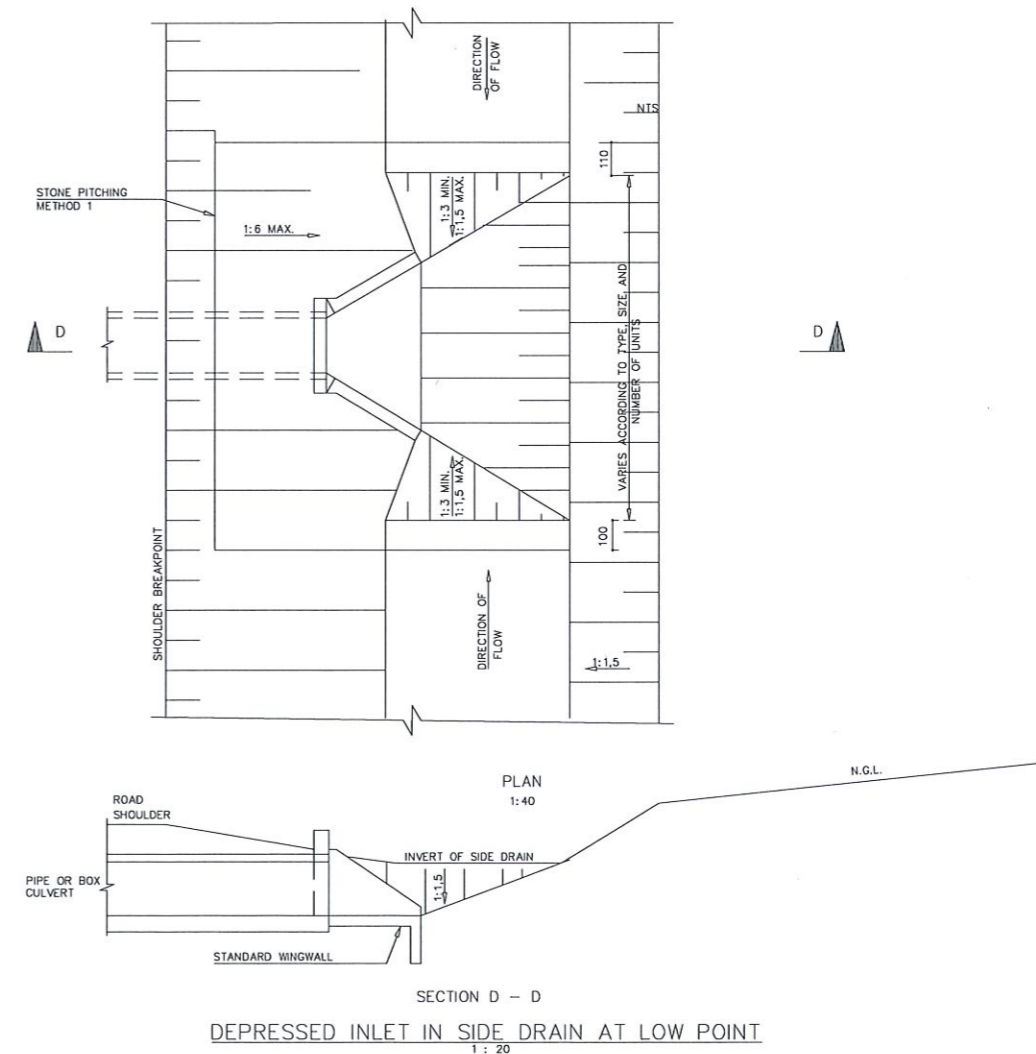
SIDE DRAIN-CULVERT OUTLET COMBINATION

1:20



DEPRESSED INLET IN SIDE DRAIN ON SLOPE

1:20



DEPRESSED INLET IN SIDE DRAIN AT LOW POINT

1:20

No.	DATE	REVISION	DESIGNED BY	DRAWN BY	CHECKED BY

DESIGNED BY	SZB RANGANA	 <p>MOLEMOLE MUNICIPALITY Private Bag X44 Mogwadi 0715 TEL: 015 - 501 0243 FAX: 015 - 501 0419</p>
CHECKED BY	PXA HOLOVU	
DRAWN BY	TA MOGA	
CHECKED BY	TE MUHAYIGO	

	PROJECT	GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING
	TENDER NO.	TECH/003/2022/23
MEMBER OF		TITLE
		STANDARD DRAWING
		TYPICAL INLET FOR SIDE DRAINS AND LOW POINTS DETAILS

ISSUED FOR TENDER	SCALE	BHEET #1 OF #1
For Molemole Municipality	NOT TO SCALE	
For Mont Consulting Engineers	PAPER SIZE	A1
DRAWING No.	REVISION	
MONT/MLMRDS/01/2019/TPC12	00	

MOLEMOLÉ MUNICIPALITY
 GA MAUPYE UPGRADING OF INTERNAL STREETS
 FROM GRAVEL TO SURFACING

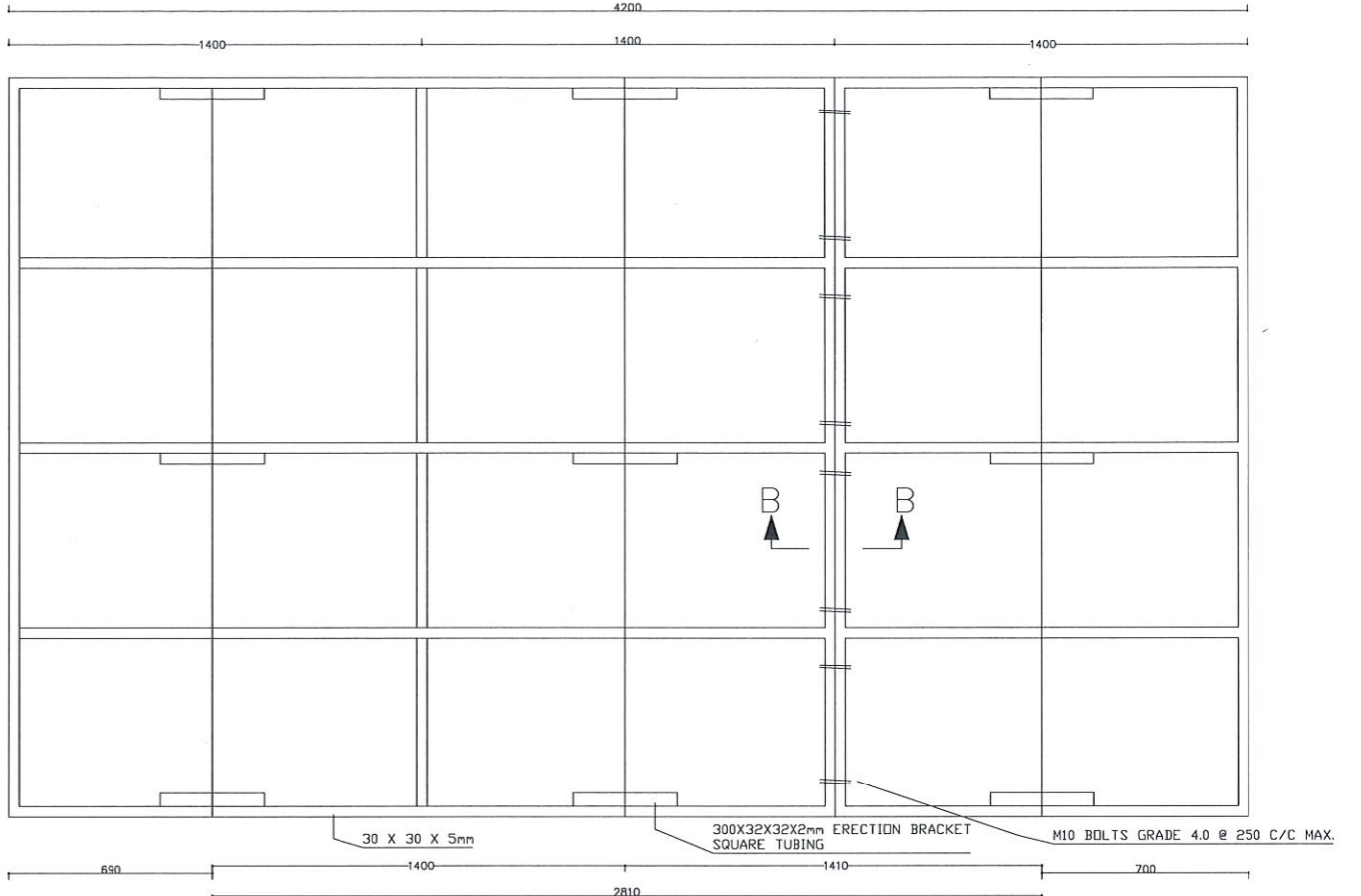
TENDER NO: TECH/003/2022/23

CONSULTING ENGINEERS : TEL 015 - 291 4173
 MONT CONSULTING ENGINEERS

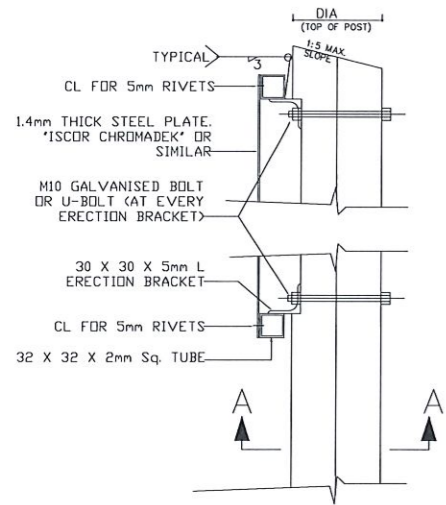
CONTRACTOR : TEL 073 - 268 1154
 CONTRACTOR NAME

mig Municipal Infrastructure Grant

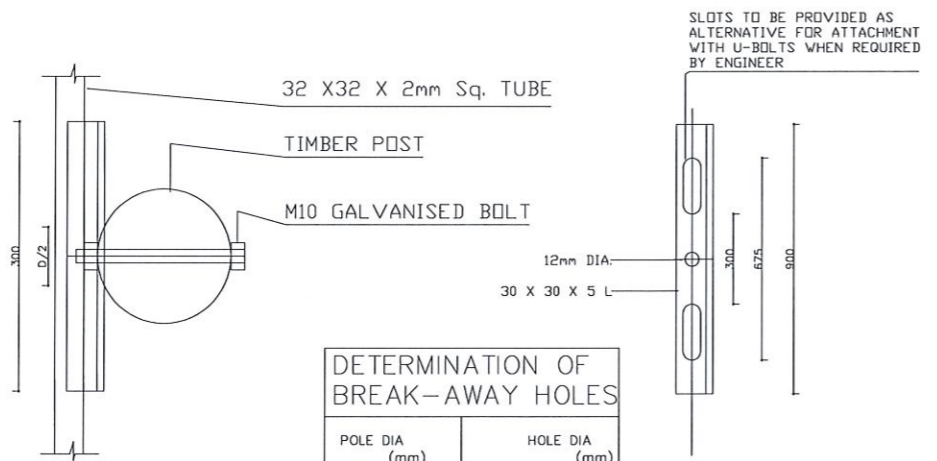
FRONT ELEVATION
1:10



REAR SIDE BRACING
1:10



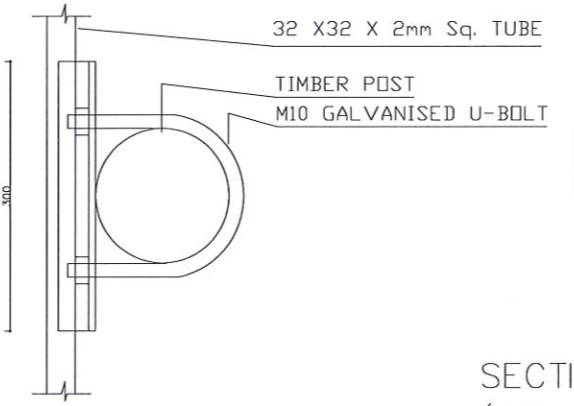
SIDE ELEVATION
NTS



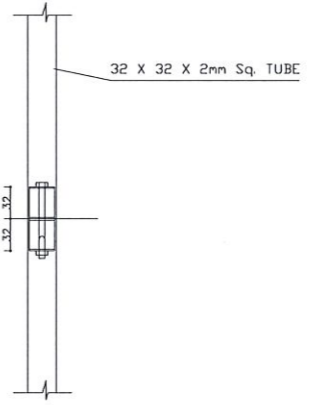
SECTION A-A
NTS

DETERMINATION OF BREAK-AWAY HOLES	
POLE DIA (mm)	HOLE DIA (mm)
< 140	NONE
141 - 170	40
171 - 200	50
201 - 225	65

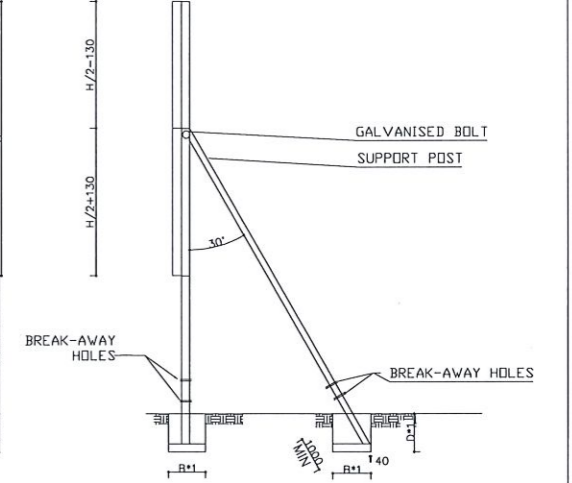
ELEVATION OF ERECTION BRACKET
NTS



SECTION A-A (WITH U-BOLT)
NTS



SECTION B-B (AT JOINT OF SIGN)
NTS



SIDE ELEVATION OF ROAD SIGN
NTS

TABLE 1: DETERMINATION OF POSTS AND FOOTINGS				
ERECTION DETAILS				
TYPE OF POST	UPRIGHT STAY D	B(DIA)		
TIMBER POST AND STAY	100mm	80mm	800mm	850mm
TIMBER POST	180mm	-	1000mm	1450mm
HOLLOW SECTION STEEL POST	100mm x 4mm	-	1000mm	1450mm

NOTES:

EMBLEM:
 1. ALL EMBLEMS TO BE DISPLAYED IN FULL COLOUR ON A SEMI MATT BACKGROUND.

LETTERS AND NUMBERS:
 2. DESCRIPTION: MATT-BLACK, SERIES DIN B LETTERS AND NUMBERS ON A SEMI MATT SMOKE-GREY BACKGROUND.

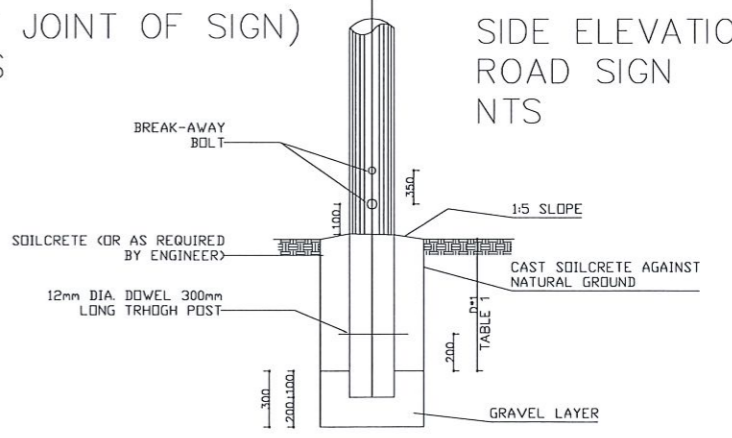
BORDERS:
 3. BORDER: GREEN NON REFLECTORIZED.

QUANTITY:
 4. TWO SIGN BOARDS, SHALL BE ERECTED AT POSITIONS AS DETERMINED BY THE ENGINEER.

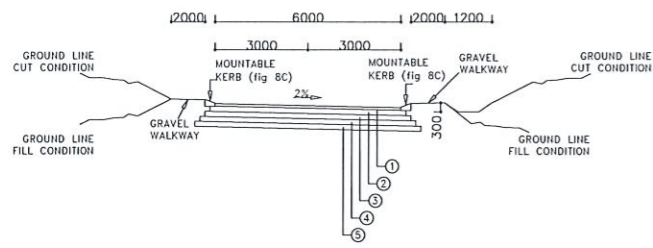
DESCRIPTION:
 5. DESCRIPTION OF WORK (NUMBER OF KILOMETRES AND TYPE OF WORK, eg. "13.5 km RECONSTRUCTION OF ROAD 2654," DESCRIPTION START CENTERED ON THE LEFT-HAND SIDE AND THE FIRST 105mm-DIMENSION BELOW "NORTHERN"

6. SAFCCE EMBLEM ONLY IF CONTRACTOR IS A MEMBER OTHERWISE BLANK.

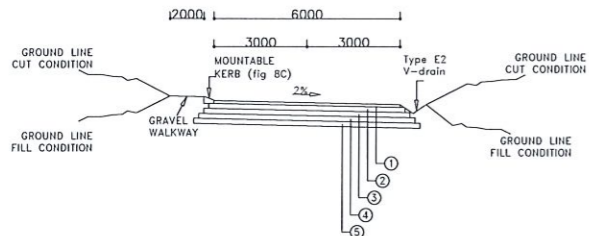
7. NEW SAACE LOGO TO BE OBTAINED FROM SAACE, JOHANNESBURG.



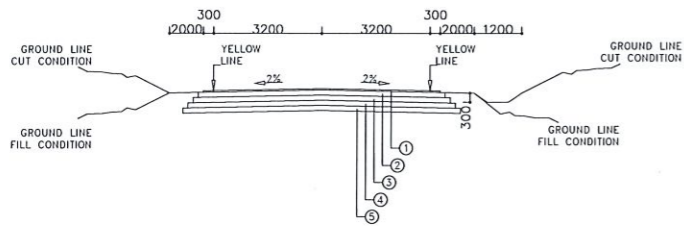
FOUNDATION DETAIL
NTS



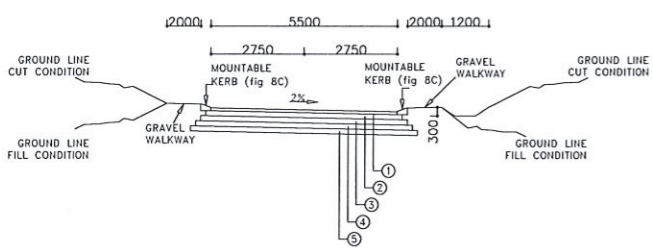
TYPICAL CROSS-SECTION CONDITION 1



TYPICAL CROSS-SECTION CONDITION 2



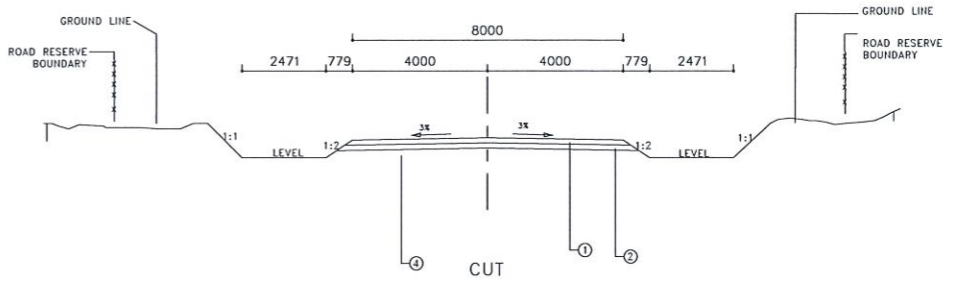
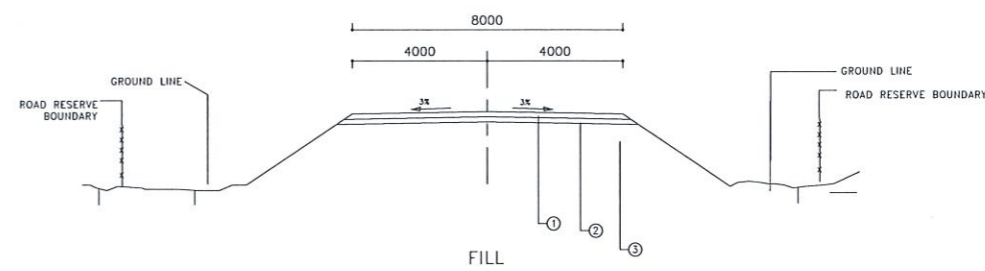
TYPICAL CROSS-SECTION CONDITION 3



TYPICAL CROSS-SECTION CONDITION 4

- NOTES: SUBSURFACE DRAINAGE
- ROAD PAVEMENT LAYERS AND SOE DRAIN PROFILES SHOWN, ARE TYPICAL ONLY.
 - TYPE, POSITION AND DIMENSIONS OF SUBSURFACE DRAIN TO BE DETERMINED BY THE ENGINEER.
 - GEOTEXTILE TO BE GRADE 1 UNLESS OTHERWISE SPECIFIED.
 - PLACING OF SUBSURFACE DRAIN OVER DRY AREAS TO BE AVOIDED. THIS IS TO BE DONE WITH AN UNPERFORATED PIPE AND NOT WITH A SUBSURFACE DRAIN.
 - DESIRABLE MINIMUM SLOPE OF LONGITUDINAL SUBSURFACE DRAIN PIPE TO BE 0.5% WITH AN ABSOLUTE MINIMUM OF 0.2%. THE MINIMUM SLOPE OF TRANSVERSE SUBSURFACE DRAIN PIPE TO BE 1.5%.
 - PERFORATIONS OR SLOTS OF SUBSURFACE DRAIN PIPE TO FACE DOWNWARDS.

TYPICAL CROSS-SECTION AND PAVEMENT DETAILS – TEMPORARY DEVIATION



CLASS 1: GRAVEL ACCESS ROAD
(8m FORMATION WIDTH)

MATERIAL REQUIREMENTS

LAYER NO.	DESCRIPTION	TRH 14 MATERIAL TYPE	SECTION OF SPECIFICATION	COMPACTION (% OF MOD AASHTO)	P.I. MAX	G.M. (MIN)	CBR @ % MOD AASHTO	UCS(kPa) @ % MOD AASHTO
1	125mm GRAVEL WEARING COURSE	G6	3400 / 1500	95%	MAX. 15	0.75	-	1500 @ 98%
2	125mm UPPER SELECTED LAYER	G7	3400	93%	3GM+10	0,75	-	1000 @ 95%
3	FILL	G10	1500	90%	-	-	-	-
4	ROADBED PREPARATION / TOP OF FILL	-	3300	90% OR ROLLER PASS	-	-	-	-

MATERIAL REQUIREMENTS

LAYER NO.	DESCRIPTION	TRH 14 MATERIAL TYPE	SECTION OF SPECIFICATION	COMPACTION (% OF MOD AASHTO)	P.I. MAX	G.M. (MIN)	CBR @ % MOD AASHTO	UCS(kPa) @ % MOD AASHTO
1	80mm PAVING BLOCKS							
2	150mm CHEMICALLY STABILIZED BASE COURSE	C4	3400 / 3500	97%	MAX. 6	1.75	-	1000 @ 100%
3	150mm CHEMICALLY STABILIZED SUBBASE	C4	3400 / 3500	97%	MAX. 6	1.75	-	750 @ 100%
4	ROADBED PREPARATION / TOP OF FILL	G9	3300	93%	MAX. 12	-	7 @ 93%	-
5	FILL	G10	3300	90%	-	-	3 @ 93%	-

NOTES:

- THE UPPER SELECTED LAYER IS ONLY TO BE PLACED WHERE POOR IN-SITU CONDITIONS ARE ENCOUNTERED AND AS INSTRUCTED BY ENGINEER.
- THE CONSTRUCTION OF THE GRAVEL DEVIATION ROAD TO ACCURATE LEVELS PER CALCULATED LONGITUDINAL SECTION CAN BE OMITTED AND CONSTRUCTED IN ACCORDANCE WITH THE METHOD DESCRIBED IN CLAUSE 1506 OF THE STANDARD SPECIFICATIONS
- ALL POINTS OF INTERSECTION WITH THE EXCEPTION OF THE CROWN OF THE ROAD, MUST BE ROUNDED TO A MIN. WIDTH OF 1,0m MEASURED HORIZONTALLY.

NO.	DATE	REVISION	CONSULTANT	DR.

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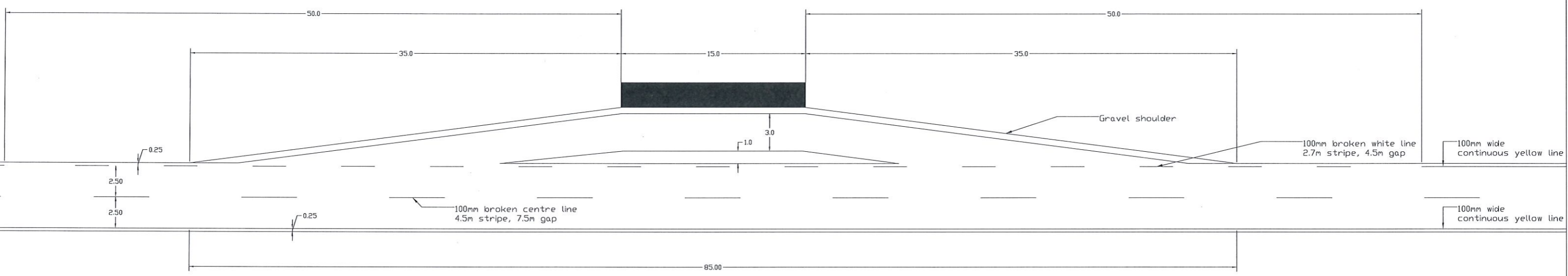


PROJECT: GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING

TENDER NO. TECH/003/2022/23

STANDARD DRAWING
TYPICAL CROSS SECTION

ISSUED FOR TENDER	SCALE: NOT TO SCALE	SHEET NO. OF 01
FOR THE CONSULTING ENGINEER	PAPER SIZE: A1	REVISION: 00
DRAWING NO. MONT/MLMRDS/01/2019/TPC14		



Typical layout of a bus stop
Concrete or bitumen surface

NO	DATE	REVISION	DESIGNED BY	CHECKED BY	DRAWN BY	CHECKED BY

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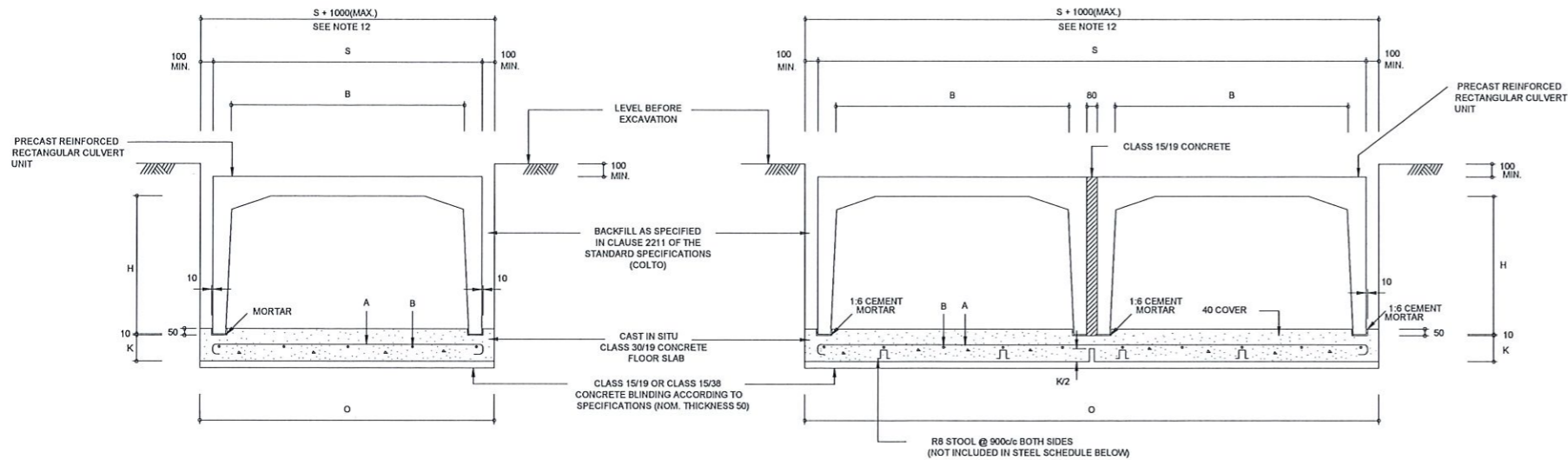


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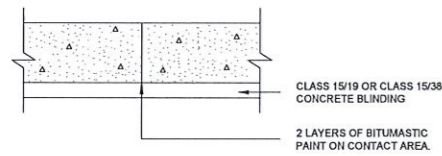
PROJECT	GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING
TENDER NO.	TECH/003/2022/23
TITLE	STANDARD DRAWING TYPICAL BUS STOP DETAILS FOR SURFACED ROADS

ISSUED FOR TENDER	SCALE	SHEET 01 OF 01
For Molemole Municipality	NOT TO SCALE	
For Mont Consulting Engineers	PAPER SIZE	A1
DRAWING NO.	REVISION	
MONT/MLM/RDS/01/2019/TPC15	00	



TYPICAL CROSS SECTION OF SINGLE UNIT

TYPICAL CROSS SECTION OF MULTIPLE UNITS



DETAIL OF SHRINKAGE JOINTS IN FLOOR SLABS
(SEE NOTE 11)

LOAD STATEMENT

- ALL PORTAL CULVERTS SHALL BE 150S-LOAD CLASS ACCORDING TO SABS 986 AND THE REQUIREMENTS OF TMH7 AND COLTO.
- MINIMUM AND MAXIMUM FILL ARE LIMITED (SEE NOTES 8 & 9)

NOTES (BOX CULVERTS):

- CLASS OF CONCRETE TO BE USED AS SHOWN.
- STEEL REINFORCING TO CONFORM TO SABS 920 TYPE C, CLASS 2, GRADE 1.
- CONCRETE COVER TO REINFORCING SHALL BE 40mm MIN.
- DESIGN MASS OF FILL IS 2000 kg/m³
- LOAD FACTOR FOR PROOF LOAD OF SABS 986 = 1,5.
- WORKING STRESS OF HIGH TENSILE (Y) REINFORCING = 210 MPa.
- PRECAST REINFORCED CULVERTS SHALL COMPLY WITH THE REQUIREMENTS OF SABS 986 & ADDITIONAL TEST LOADING AS SPECIFIED.
- DIMENSIONS AND REINFORCING DETAILS FOR IN SITU FLOOR SLABS ARE ONLY VALID IF:
 - THE HEIGHT OF FILL ABOVE THE CULVERT IS LESS THAN SPECIFIED BELOW.

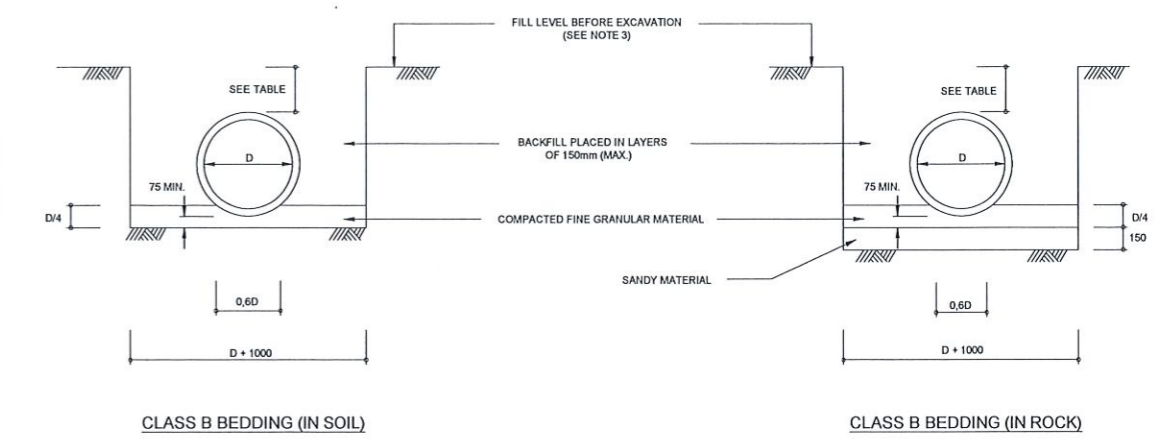
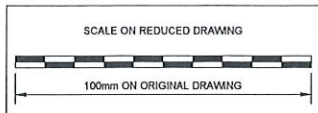
DIMENSION B	HEIGHT OF FILL
600mm	6,0m
900mm	4,0m
1200mm	3,0m
1500mm	2,5m
 - THE TYPE OF MATERIAL UNDER THE FLOOR SLAB IS NOT ROCK.
- THE FILL HEIGHT OVER CULVERT UNITS SHALL BE 300mm MIN. WHERE THIS CANNOT BE ACHIEVED, A 100mm REINFORCED CONCRETE SLAB (DETAIL AS SPECIFIED BY THE ENGINEER) SHALL BE CAST OVER THE CULVERT UNITS.
- THE DIMENSIONS IN THE TABLE MAY NOT CONFORM TO ALL MARKETED UNITS. IT MAY BECOME NECESSARY TO REVISE TABULATED DIMENSIONS.
- MAXIMUM SPACING OF SHRINKAGE JOINTS IN FLOOR SLABS IS 5m.
- THIS WIDTH MAY VARY, DEPENDING ON THE TYPE OF BACKFILL.
- FOR THE LOCATION, SIZE AND CLASS OF BOX CULVERTS, SEE LAYOUT PLANS GRP 13/26/01Dly - 11Dly, DRAINAGE SCHEDULES GRP 13/26/01CDs - 3CDs.
- WATERPROOFING OF PREFABRICATED CULVERT JOINTS SHALL BE WITH 450mm WIDE STRIPS OF BITUTHENE 3000 OR SIMILAR APPROVED BITUMEN IMPREGNATED TAPE.

** SEE NOTE 10

DIMENSIONS					REINFORCING *					
B	H	S **	O **	K	BAR A	L	CUT LENGTH	BENDING	BAR B	BENDING
1x1200	900	1420	1630	175	Y12-160	1550	1750		8Y10-200	
1x1200	900	1420	1630	175	Y12-160	1550	1750		8Y10-200	

THE HIGH TENSILE STEEL REINFORCING MAY BE REPLACED WITH MILD STEEL WITH THE APPROVAL OF THE ENGINEER AS FOLLOWS: Y10 REPLACED BY R12 AT SAME SPACING
Y12 REPLACED BY R16 AT SAME SPACING

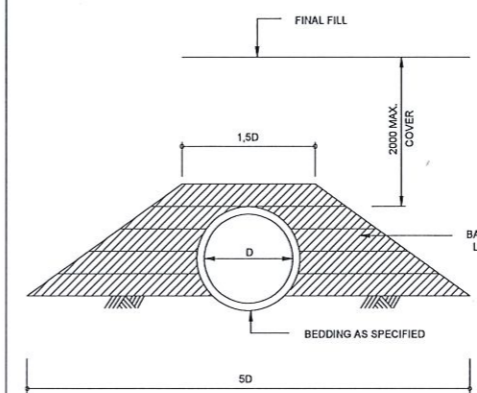
TYPICAL DETAIL OF CAST IN SITU CONCRETE FLOOR SLABS FOR
PRECAST BOX CULVERTS



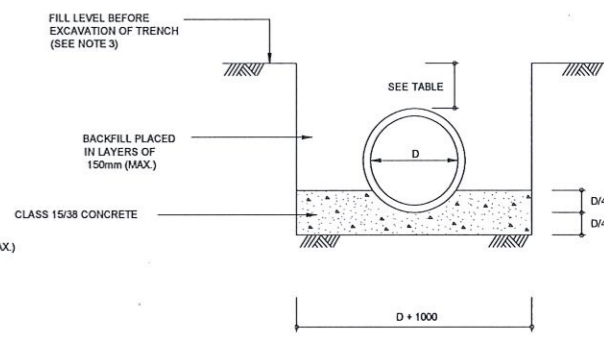
CLASS B BEDDING (IN SOIL)

CLASS B BEDDING (IN ROCK)

CLASS A BEDDING (CONCRETE)



EMBANKMENT METHOD
(ONLY WITH APPROVAL OF ENGINEER)

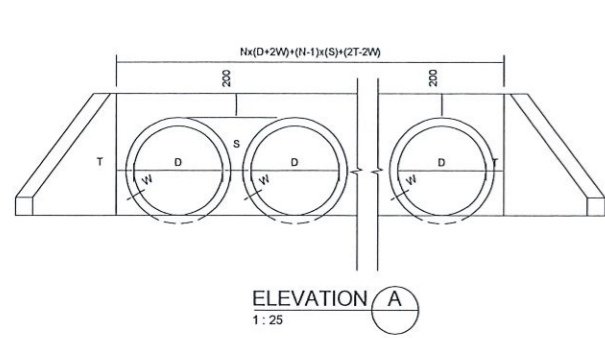


NOTES (PIPE CULVERTS):

- LOADING OF PIPE CULVERTS SHALL BE ACCORDING TO SABS 0102 AND THE GAUTRANS CODE OF PROCEDURE FOR STRUCTURES UP TO DATE.
- REINFORCED CONCRETE PIPES SHALL COMPLY WITH THE SPECIFICATIONS OF SABS 677.
- FOR PIPE CULVERTS CONSTRUCTED ACCORDING TO THE TRENCH METHOD, THE TRENCH SHALL NOT BE EXCAVATED BEFORE THE FILL HAS REACHED A LEVEL WHERE THE MINIMUM COVER HAS BEEN OBTAINED AS SHOWN IN THE TABLE.
- BACKFILL ALONGSIDE AND ABOVE PIPE CULVERTS SHALL BE CONSTRUCTED ACCORDING TO CLAUSE 2211 OF THE STANDARD SPECIFICATIONS (COLTO).
- WHERE TWO OR MORE PIPE CULVERTS ARE PLACED ALONGSIDE EACH OTHER, THE MINIMUM SPACING BETWEEN ADJACENT PIPES SHALL BE THE MAXIMUM OF 300mm OR D/2.
- FOR THE LOCATION, SIZE AND CLASS OF PIPE CULVERTS, SEE LAYOUT PLANS GRP13/26/01Dly - 12Dly, DRAINAGE SCHEDULES GRP13/26/01CDs - 2CDs.

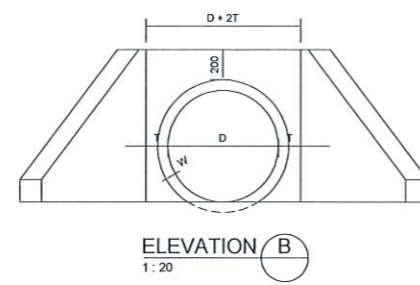
TABLE MINIMUM AND MAXIMUM COVER IN FINAL ROAD PROFILE							
NOMINAL DIAMETER (D)	COVER (mm)	CLASS 50D PIPE CLASS B BEDDING	CLASS 50D PIPE CLASS A BEDDING	CLASS 75D PIPE CLASS B BEDDING	CLASS 75D PIPE CLASS A BEDDING	CLASS 100D PIPE CLASS B BEDDING	CLASS 100D PIPE CLASS A BEDDING
600	MIN	—	—	300	200	300	200
	MAX	—	—	3500	4700	5800	7900
750	MIN	—	—	300	200	300	200
	MAX	—	—	3500	4800	5900	8000
900	MIN	300	200	300	200	300	200
	MAX	2200	3000	3700	5000	5900	8000
1050	MIN	300	200	300	200	300	200
	MAX	2200	3000	3700	5000	6000	8100
1200	MIN	300	200	300	200	300	200
	MAX	2300	3100	3800	5100	6000	8100
1500	MIN	300	200	300	200	300	200
	MAX	2300	3100	3800	5100	6000	8100

TYPICAL DETAIL OF PIPE BEDDINGS

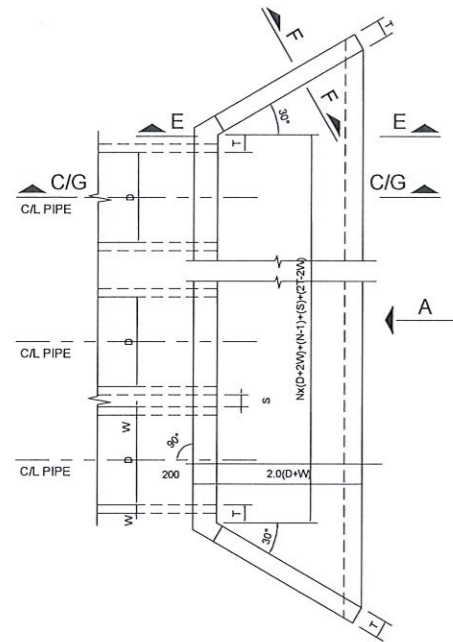


ELEVATION A
1:25

NOTE:
1. SPACING (S) BETWEEN PIPES TO BE 100mm ONLY IF SOILCRETE BACKFILLING IS USED.
2. N = NUMBER OF PIPES.



ELEVATION B
1:20

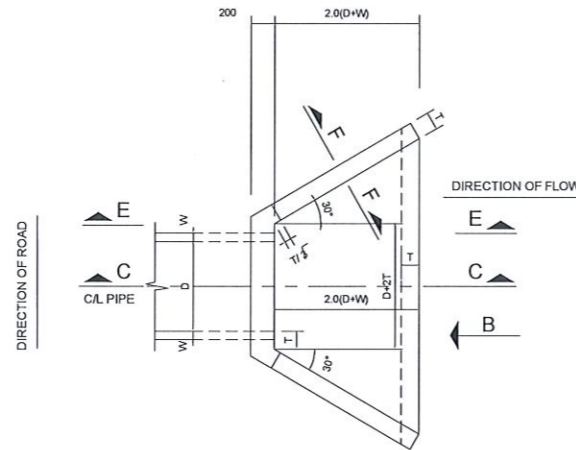
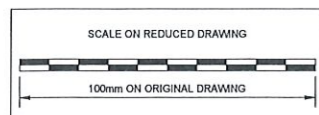


PLAN A
1:25

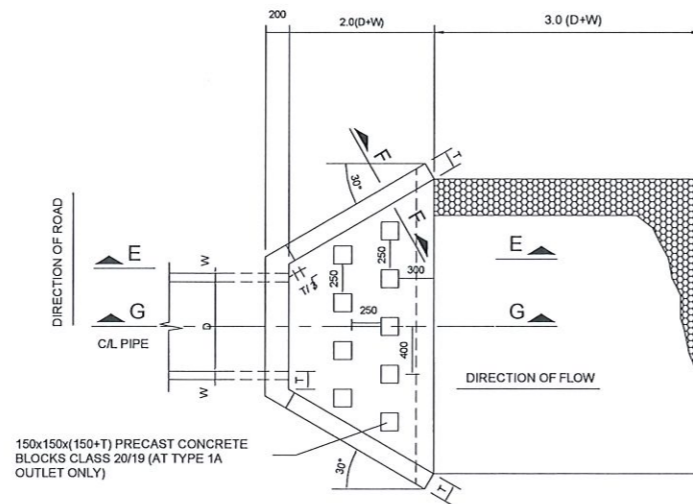
MULTIPLE PIPE CULVERT

NOTE:
1. SPACING (S) BETWEEN PIPES TO BE 100mm ONLY IF SOILCRETE BACKFILLING IS USED.
2. N = NUMBER OF PIPES.
3. EROSION PROTECTION AND ENERGY BREAKING BLOCKS FOR MULTIPLE PIPE CULVERT SIMILAR TO SINGLE PIPE CULVERT.

INSIDE DIA. PIPE (D)	T (mm)	S (mm)
450	150	300
600	150	300
750	150	375
900	175	450
1050	200	500
1200	200	500

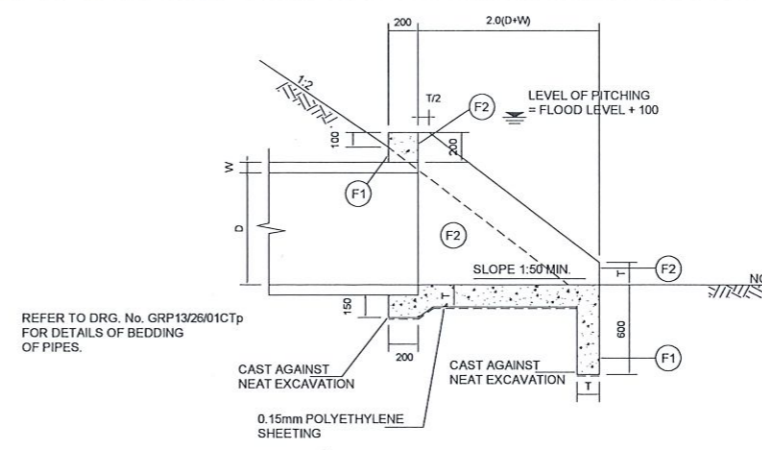


PLAN B
1:25
TYPE 1 INLET



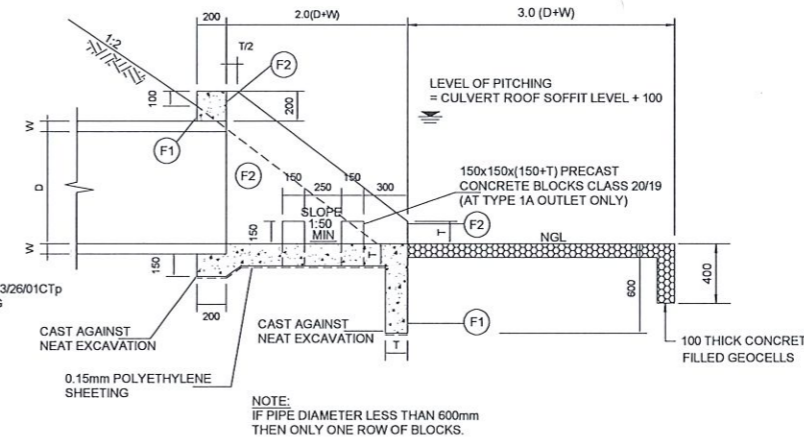
PLAN G
1:25
TYPE 1 AND TYPE 1A OUTLET

NOTE:
IF PIPE DIAMETER LESS THAN 600mm THEN ONLY ONE ROW OF BLOCKS.



SECTION C
1:20
(INLET)

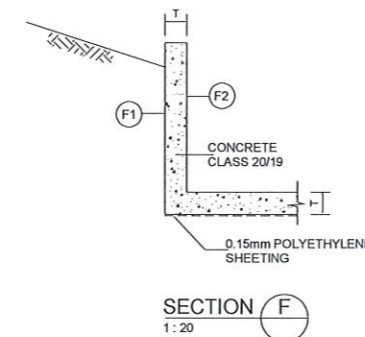
REFER TO DRG. No. GRP13/26/01CTp FOR DETAILS OF BEDDING OF PIPES.



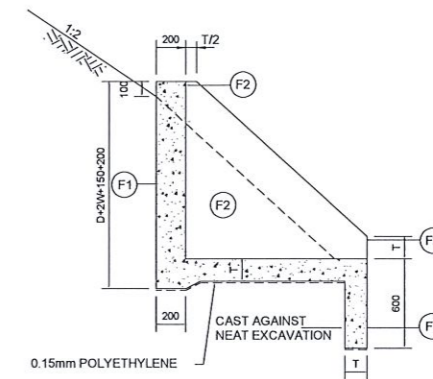
SECTION G
1:20
(OUTLET)

REFER TO DRG. No. GRP13/26/01CTp FOR DETAILS OF BEDDING OF PIPES.

NOTE:
IF PIPE DIAMETER LESS THAN 600mm THEN ONLY ONE ROW OF BLOCKS.



SECTION F
1:20



SECTION SEC
SCALE REF

NOTES:

CONSTRUCTION

- ALL EXPOSED CORNERS SHALL BE CHAMFERED 25 x 25
- CONCRETE COVER TO REINFORCEMENT - FLOOR SLAB & FOOTINGS = 50mm WINGWALLS = 40mm
- CONCRETE FINISH: CONCEALED SURFACES = F1 EXPOSED SURFACES = F2
- POLYETHYLENE SHEET 0.15mm THICK SHALL BE PLACED UNDER ALL WINGWALL FOOTINGS AND INLET SLAB
- THIS DRAWING TO BE READ IN CONJUNCTION WITH THE COLT TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE WORKS FOR STATE ROAD AUTHORITIES AS AMENDED TO DATE
- THE UPPER LEVEL OF THE FILL ALWAYS PASSES THROUGH A POINT 100mm BELOW THE TOP OF THE HEAD WALL
- THE MAXIMUM SLOPE OF EARTHWORKS SURROUNDING A CULVERT INLET OR OUTLET SHALL BE 1:2

MATERIAL SPECIFICATION:

- INLET/OUTLET CONCRETE SLABS AND WINGWALLS - CLASS 20/19 CHARACTERISTIC STRENGTH 20 MPa YOUNG'S MODULUS 28 000 MPa
- REINFORCEMENT (SABS 920 - 1985) YIELD STRENGTH TYPE: MILD STEEL BARS 250 MPa HIGH TENSILE STEEL BARS 450 MPa WELDED STEEL FABRIC 450 MPa
- REINFORCEMENT DETAILS: a) FOR 450, 600, 750 & 900 DIA. SEE DRG. No. GRP13/26/04CTp b) FOR 1050 & 1200 DIA. SEE DRG. No. GRP13/26/04CTp

DESIGN METHOD:

- LIMIT STATE DESIGN ACCORDING TO TMH7 PART 3 AS AMENDED 1989
- INLET AND OUTLET STRUCTURES ARE DESIGNED FOR LOADING SPECIFIED IN TMH7 PART 1 AND 2 AS AMENDED 1988 "CODE OF PRACTICE FOR THE DESIGN OF HIGHWAY BRIDGES AND CULVERTS IN S.A."
- TYPE OF REINFORCEMENT AND SPACING ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR MUST SUBMIT WORKING DRAWINGS AND BENDING SCHEDULES FOR APPROVAL

FOUNDING MATERIAL:

- MAX. CALCULATED GROUND PRESSURE - 100kPa
- FOUNDING LEVEL TO BE APPROVED BY THE PROJECT MANAGER.

HYDRAULIC INFORMATION:

- SEE DRAINAGE SCHEDULE FOR FLOOD LEVELS, OUTLET TYPE AND HYDRAULIC DATA FOR EACH CULVERT.

EROSION PROTECTION:

- TO BE PROVIDED WHERE OUTLET VELOCITIES AS INDICATED ON DRAINAGE SCHEDULE > 2m/s

FOR REINFORCING DETAILS REFER TO DRAWING No. RDS/01/2016/04CTp AND RDS/01/2016/05CTp

DESIGNED BY	SZB RAJAJANA
CHECKED BY	PXA NOLLOVA
DRAWN BY	TA MOSA
CHECKED BY	TE MULHANGO



MOLEMOLE MUNICIPALITY
Private Bag X44
Mogwadi
0715
TEL: 015 - 004 0243
FAX: 015 - 501 4219

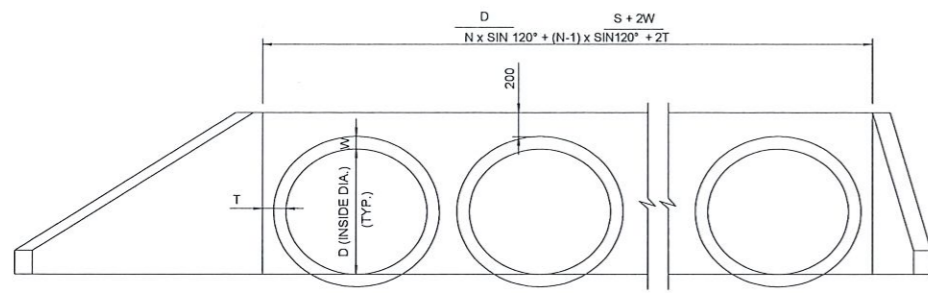


MONT CONSULTING ENGINEERS
P.O. BOX 1249
FAUNA PARK
0707
TEL: 015 - 291 4173
FAX: 015 - 291 4210

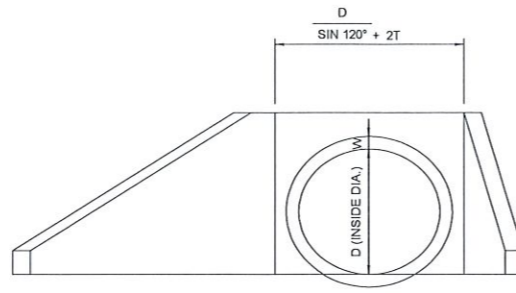


PROJECT
GA MAUPE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING
TENDER NO: TECH/003/2022/23
TITLE
TYPICAL DETAIL : PIPE CULVERTS 90° TO ROAD (450 TO 1200 DIA. PIPES) CONCRETE DETAILS

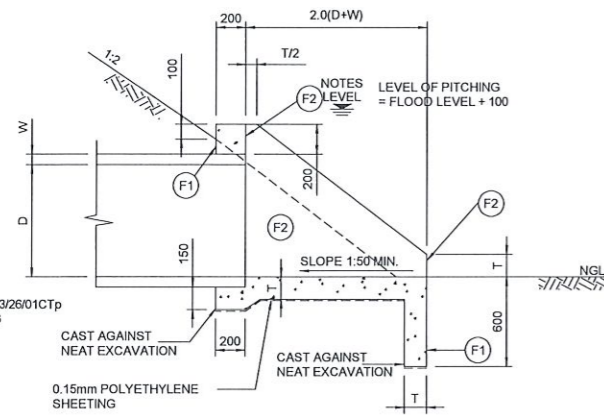
ISSUED FOR TENDER	SCALE	BY OF 01
For Molemole Municipality	AS SHOWN	
For Mont Consulting Engineers	PAPER SIZE	A1
DRAWING No.	REVISION	
RDS/01/2016/CTp02		00



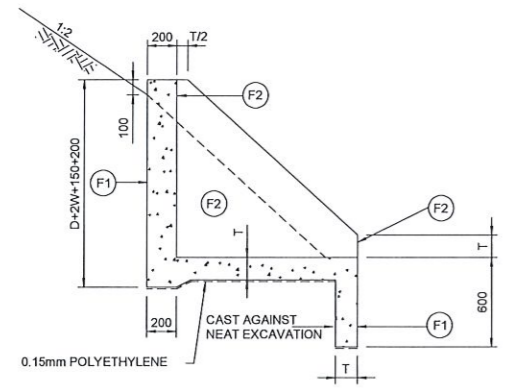
ELEVATION A
SCALE



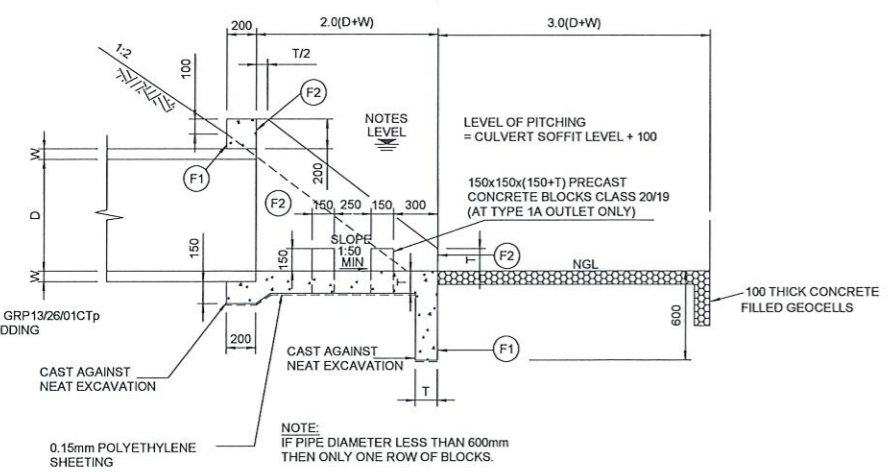
ELEVATION B
SCALE



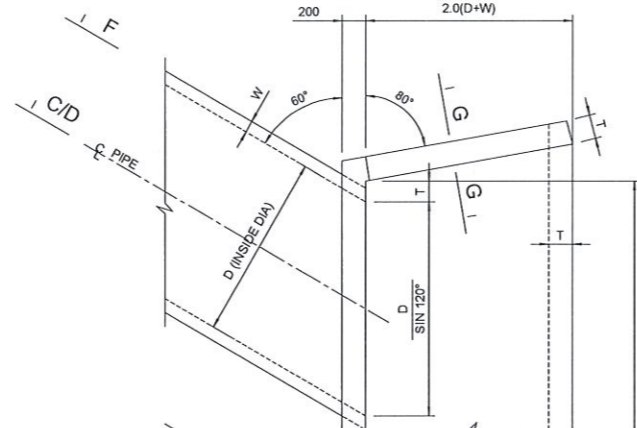
SECTION C
SCALE
(INLET)



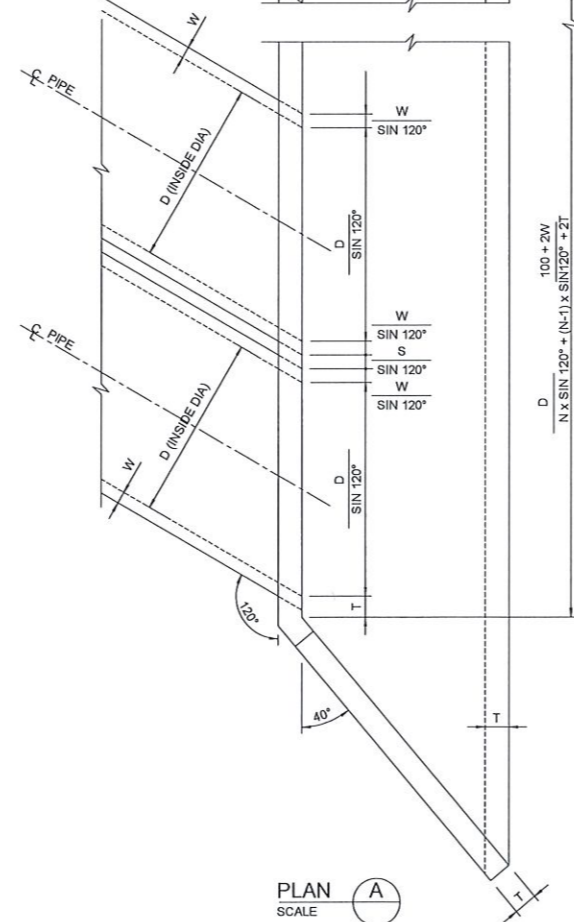
SECTION SEC
SCALE
REF



SECTION G
SCALE
(OUTLET)



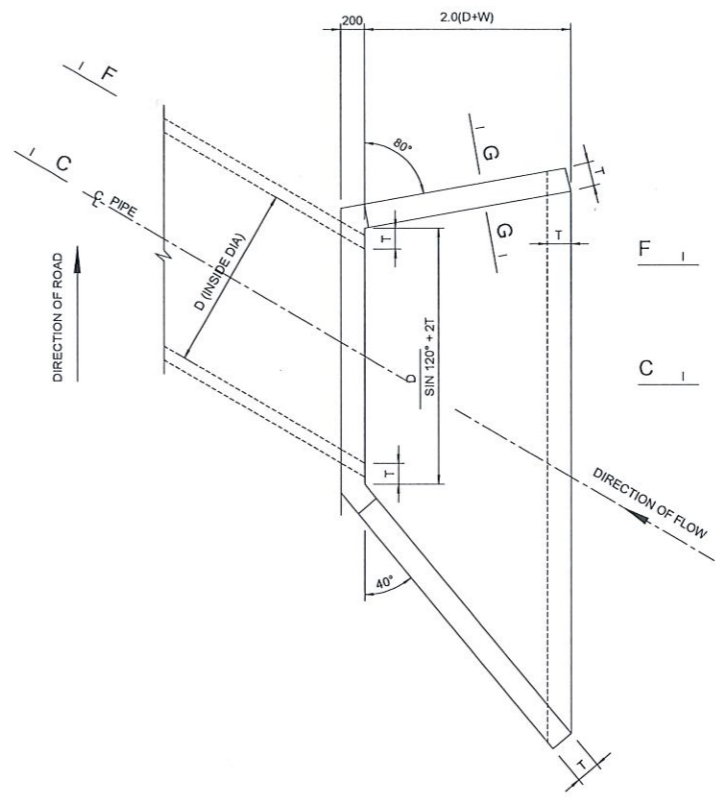
PLAN A
SCALE



PLAN B
SCALE

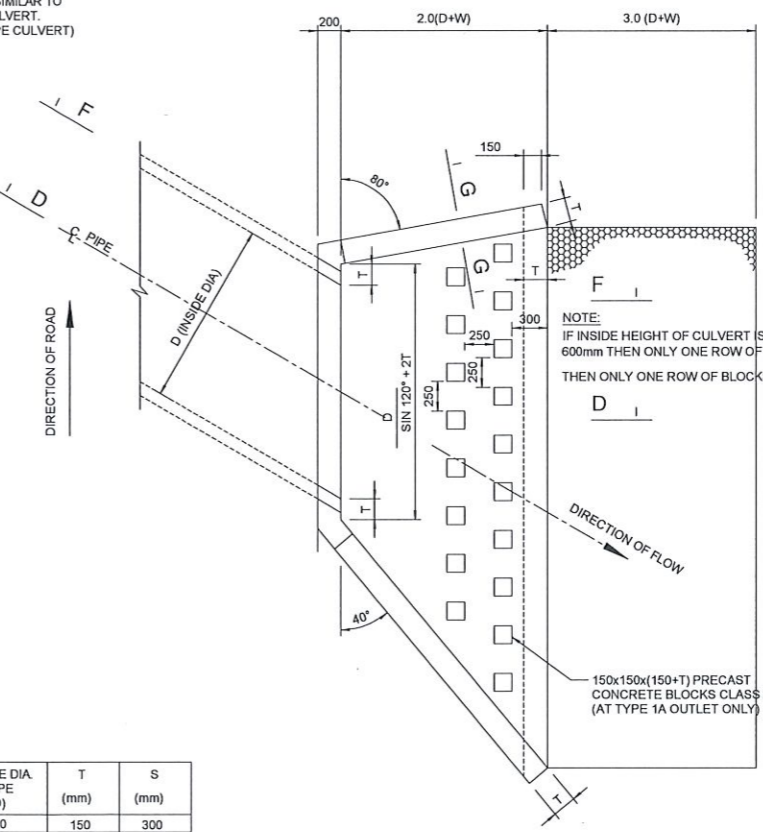
NOTE:
1. SPACING (S) BETWEEN PIPES TO BE 100mm ONLY IF SOILCRETE BACKFILLING IS USED.
2. N = NUMBER OF PIPES.
3. EROSION PROTECTION AND ENERGY BREAKING BLOCKS FOR MULTIPLE PIPE CULVERT SIMILAR TO SINGLE PIPE CULVERT. (SEE SINGLE PIPE CULVERT)

INSIDE DIA. PIPE (D)	T (mm)	S (mm)
450	150	300
600	150	300
750	150	375
900	175	450
1050	200	500
1200	200	500



PLAN B
SCALE

TYPE 1 INLET



PLAN B
SCALE

TYPE 1 AND TYPE 1A OUTLET

- NOTES:**
- CONSTRUCTION**
- ALL EXPOSED CORNERS SHALL BE CHAMFERED 25 x 25
 - CONCRETE COVER TO REINFORCEMENT:-
FLOOR SLAB & FOOTINGS = 50mm
WINGWALLS = 40mm
 - CONCRETE FINISH:
CONCEALED SURFACES = F1
EXPOSED SURFACES = F2
 - POLYETHYLENE SHEET 0.15mm THICK SHALL BE PLACED UNDER ALL WINGWALL FOOTINGS AND INLET SLAB
 - THIS DRAWING TO BE READ IN CONJUNCTION WITH THE COLTO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE WORKS FOR STATE ROAD AUTHORITIES AS AMENDED TO DATE
 - THE UPPER LEVEL OF THE FILL ALWAYS PASSES THROUGH A POINT 100mm BELOW THE TOP OF THE HEAD WALL
 - THE MAXIMUM SLOPE OF EARTHWORKS SURROUNDING A CULVERT INLET OR OUTLET SHALL BE 1 : 2

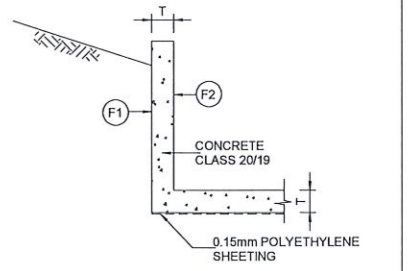
- MATERIAL SPECIFICATION:**
- INLET/OUTLET CONCRETE SLABS AND WINGWALLS - CLASS 20/19
CHARACTERISTIC STRENGTH 20 MPa
YOUNG'S MODULUS 28 000 MPa
 - REINFORCEMENT (SABS 920 - 1995)
YIELD STRENGTH TYPE:
MILD STEEL BARS = 250 MPa
HIGH TENSILE STEEL BARS = 450 MPa
WELDED STEEL FABRIC = 450 MPa
 - REINFORCEMENT DETAILS:
a) FOR 450, 600, 750 & 900 DIA. SEE DRG. No. GRP13/26/04CTp
b) FOR 1050 & 1200 DIA. SEE DRG. No. GRP13/26/05CTp

- DESIGN METHOD:**
- LIMIT STATE DESIGN ACCORDING TO TMH7 PART 3 AS AMENDED 1989
 - INLET AND OUTLET STRUCTURES ARE DESIGNED FOR LOADING SPECIFIED IN TMH7 PART 1 AND 2 AS AMENDED 1989 "CODE OF PRACTICE FOR THE DESIGN OF HIGHWAY BRIDGES AND CULVERTS IN S.A."
 - TYPE OF REINFORCEMENT AND SPACING ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR MUST SUBMIT WORKING DRAWINGS AND BENDING SCHEDULES FOR APPROVAL

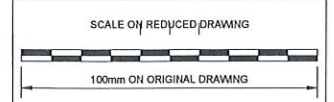
- FOUNDING MATERIAL:**
- MAX. CALCULATED GROUND PRESSURE - 100kPa
 - FOUNDING LEVEL TO BE APPROVED BY THE PROJECT MANAGER.

- HYDRAULIC INFORMATION:**
- SEE DRAINAGE SCHEDULE FOR FLOOD LEVELS, OUTLET TYPE AND HYDRAULIC DATA FOR EACH CULVERT.

- EROSION PROTECTION:**
- TO BE PROVIDED WHERE OUTLET VELOCITIES AS INDICATED ON DRAINAGE SCHEDULE > 2m/s



SECTION F
SCALE



FOR REINFORCING DETAILS REFER TO DRAWING No. RDS/01/2016/04CTp AND RDS/01/2016/05CTp

NO.	DATE	REVISION	CONTRACT NO.	DWG. NO.

DESIGNED BY	SZB RAJAGANA
CHECKED BY	PKA NLOLOU
DRAWN BY	TA MOSA
CHECKED BY	TE MUMHANGO

DESIGNED BY	SZB RAJAGANA
CHECKED BY	PKA NLOLOU
DRAWN BY	TA MOSA
CHECKED BY	TE MUMHANGO



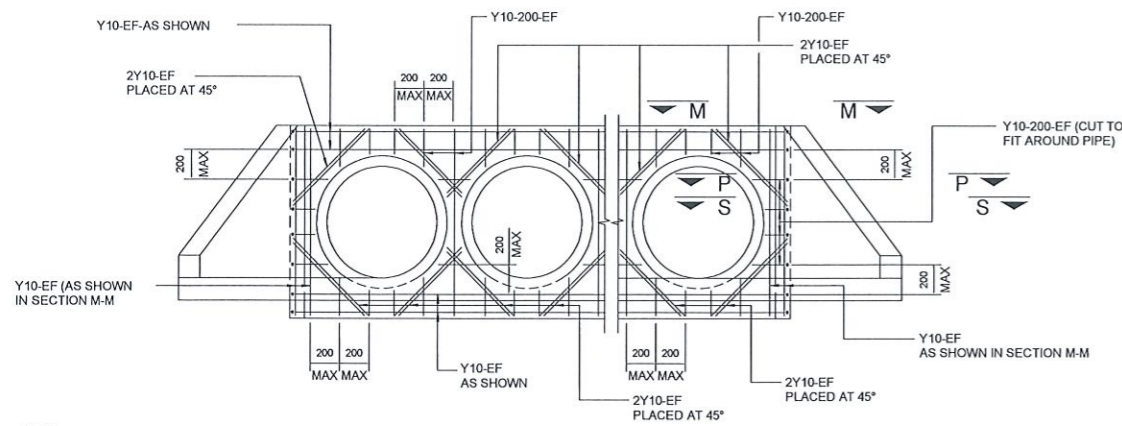
MOLEMOLE MUNICIPALITY
Private Bag X44
Mogwadi
0715
TEL: 015 - 004 0243
FAX: 015 - 501 0419



MONT CONSULTING ENGINEERS
PO BOX 1249
FAUNA PARK
0787
TEL: 015 - 291 4173
FAX: 015 - 291 4218

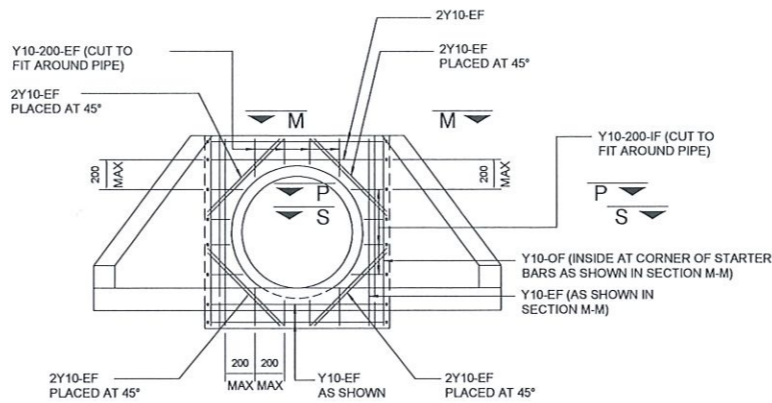
PROJECT
GA MAUPE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING
TENDER NO: TECH/003/2022/23
TITLE
TYPICAL DETAIL : PIPE CULVERTS SKEWO TO THE ROAD (450 TO 1200 DIA. PIPES) CONCRETE DETAILS

ISSUED FOR TENDER	SCALE	BHEET 01 OF 01
For Molemole Municipality	AS SHOWN	
For Mont Consulting Engineers	PAPER SIZE	A1
DRAWING NO.	REVISION	
RDS/01/2016/CTp03		00



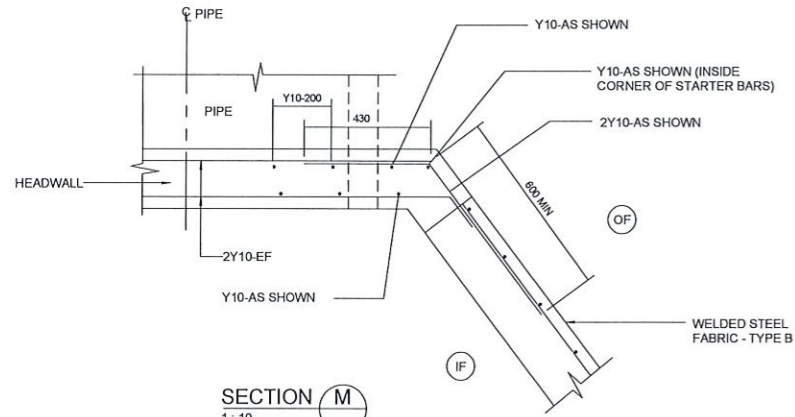
NOTE:
 1. STEEL IN WINGWALL AND STARTER BARS NOT SHOWN FOR CLARITY
 2. SKEW PIPE CULVERTS SIMILAR
 3. COVER TO REINFORCEMENT 40mm

ELEVATION C
1:20

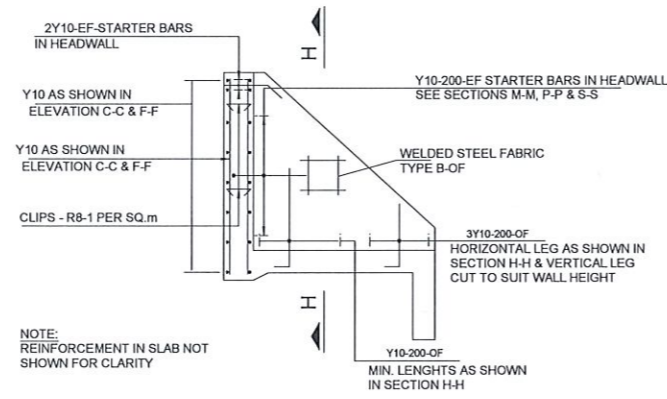


NOTE:
 1. STEEL IN WINGWALL AND STARTER BARS NOT SHOWN FOR CLARITY
 2. SKEW PIPE CULVERTS SIMILAR
 3. COVER TO REINFORCEMENT 40mm

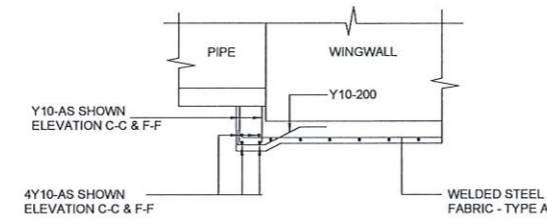
ELEVATION F
1:20



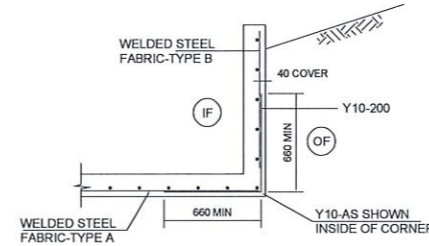
SECTION M
1:10



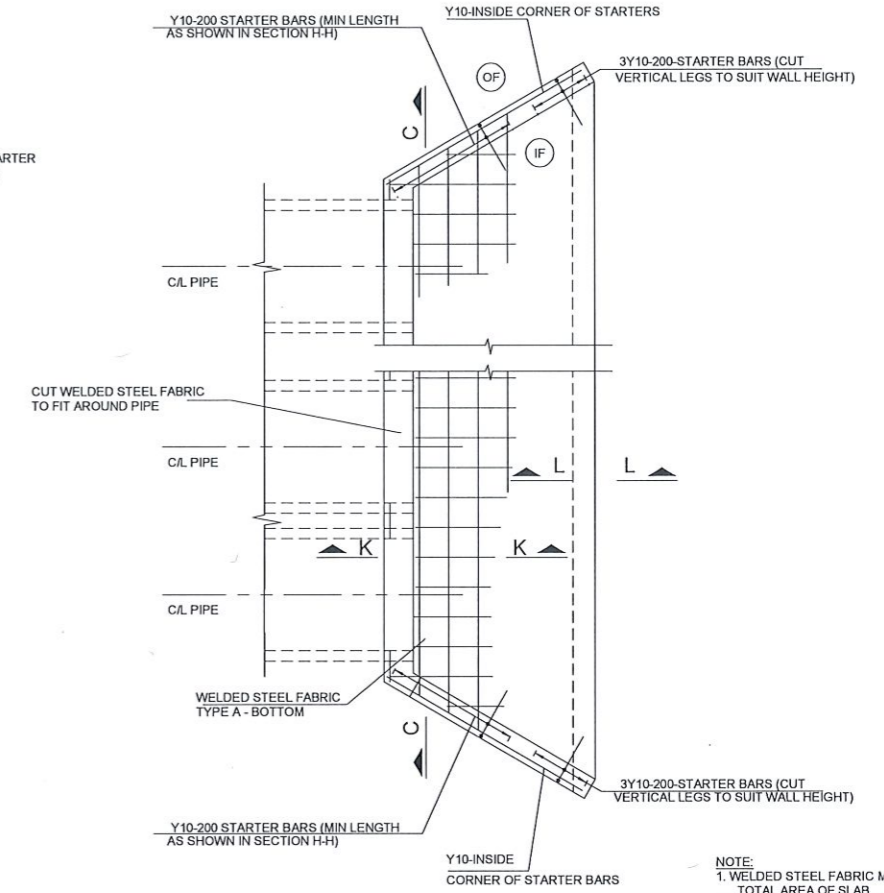
TYPICAL WINGWALL ELEVATION
1:20



SECTION K
1:20

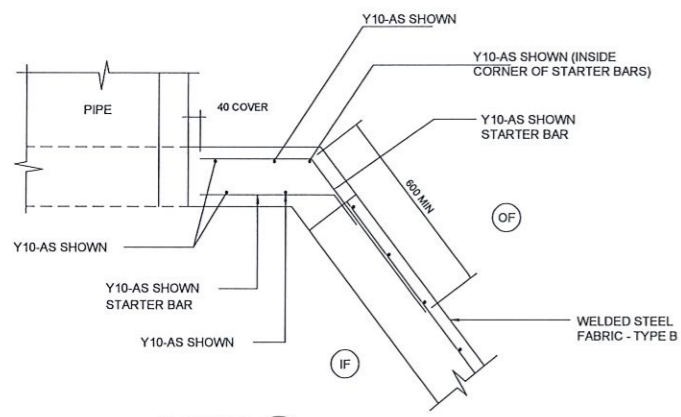


SECTION H
1:20

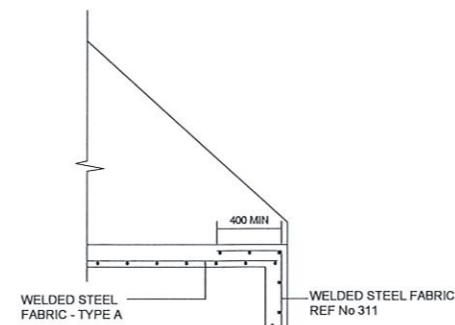


PLAN A
1:20

FLOOR SLAB - MULTIPLE PIPE CULVERT



SECTION P
1:10



SECTION L
1:20

INSIDE DIA. PIPE (D)	T	WELDED FABRIC REF No	
		TYPE A	TYPE B
450	150	245	245
600	150	245	245
750	150	395	245
900	175	395	245

LEGEND

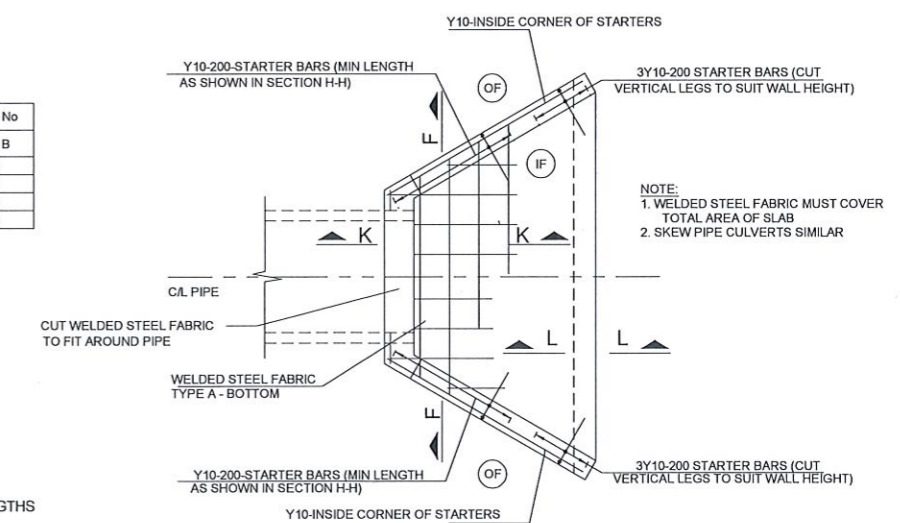
EF = EACH FACE
 OF = OUTSIDE FACE
 IF = INSIDE FACE

20MPa CONCRETE - BAR LAP LENGTHS

BAR DIA.	10	12
LAP LENGTH	550	660

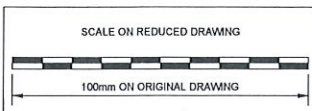
20MPa CONCRETE - MESH LAP LENGTHS

WELDED STEEL FABRIC REF. No.	245	311	395	500	617
MIN LAP LENGTH	450	500	600	650	750



PLAN B
1:20

FLOOR SLAB - SINGLE PIPE CULVERT



SECTION S
1:10

NO	DATE	REVISION	CONSULTANT	DR

DESIGNED BY	SZB RAVIYANA
CHECKED BY	PKA NLOUJ
DRAWN BY	TA MOSA
CHECKED BY	TE MUXWANGO



MOLEMOLE MUNICIPALITY
 Private Bag X44
 Mogwadi
 0715
 TEL: 015 - 004 0243
 FAX: 015 - 501 0419

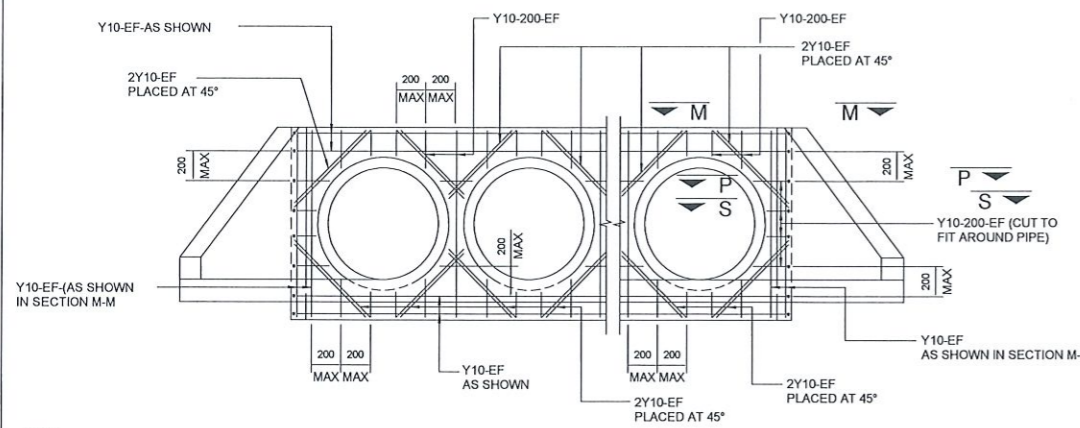


MONT CONSULTING ENGINEERS
 PO BOX 1249
 FAUNA PARK
 0787
 TEL: 015 - 291 4173
 FAX: 015 - 291 4218



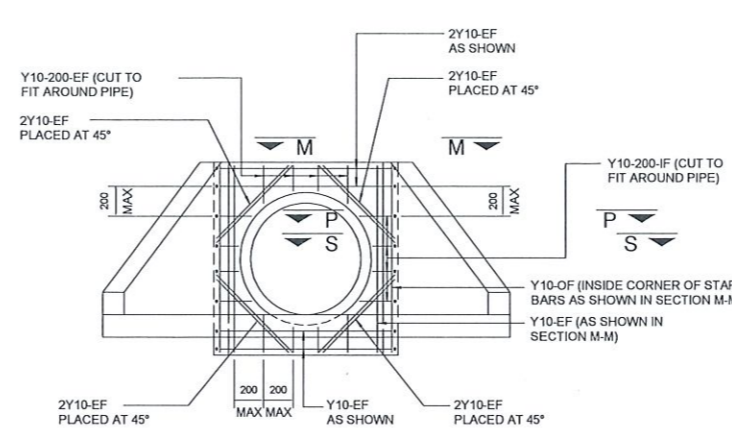
PROJECT
 GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING
 TENDER NO: TECH/003/2022/23
 TITLE
 TYPICAL DETAIL : PIPE CULVERTS - 90° & SKEW TO ROAD (450 TO 900 DIA. PIPES) REINFORCEMENT DETAILS

ISSUED FOR TENDER	BEST OF 01
For Molemole Municipality	SCALE: AS SHOWN
For Mont Consulting Engineers	PAPER SIZE: A1
DRAWING NO: RDS/01/2016/CTp04	REVISION: 00



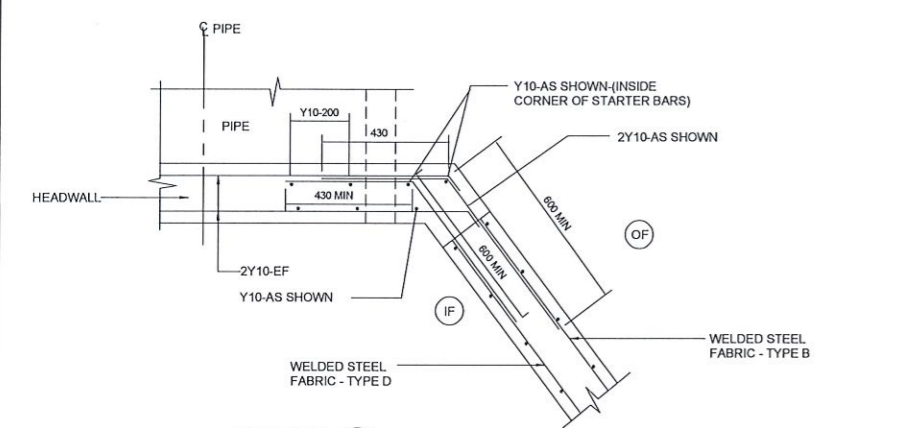
NOTE:
 1. STEEL IN WINGWALL AND STARTER BARS NOT SHOWN FOR CLARITY
 2. SKEW PIPE CULVERTS SIMILAR
 3. COVER TO REINFORCEMENT 40mm

ELEVATION C
 1:20

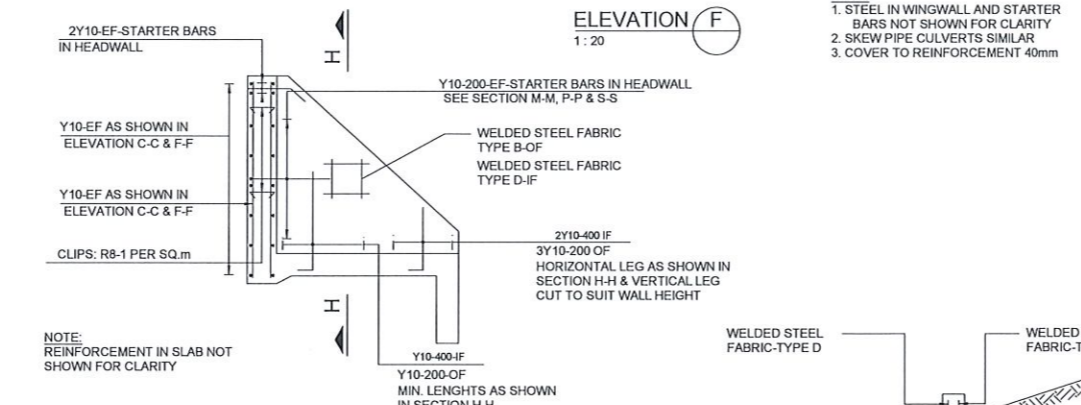


NOTE:
 1. STEEL IN WINGWALL AND STARTER BARS NOT SHOWN FOR CLARITY
 2. SKEW PIPE CULVERTS SIMILAR
 3. COVER TO REINFORCEMENT 40mm

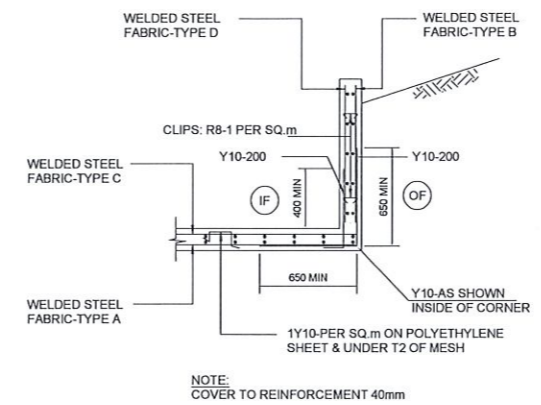
ELEVATION F
 1:20



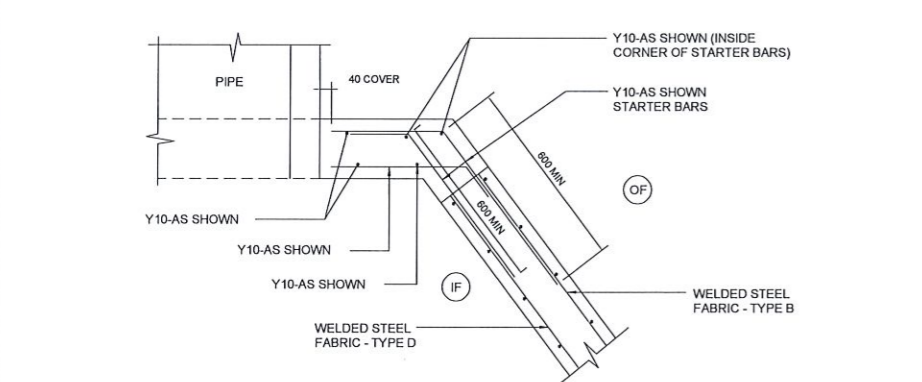
SECTION M
 1:10



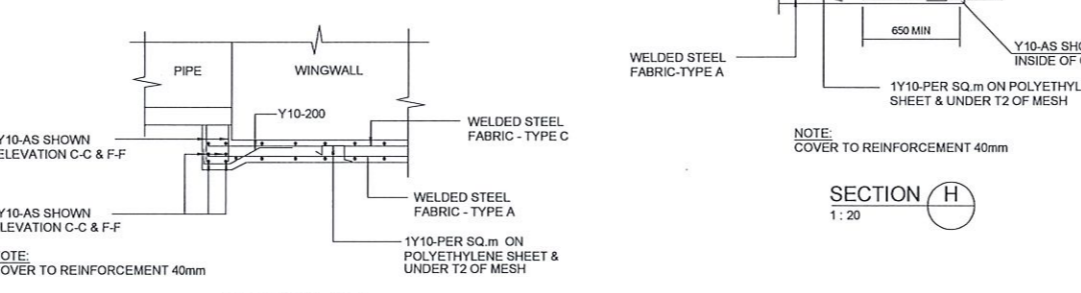
TYPICAL WINGWALL ELEVATION
 1:20



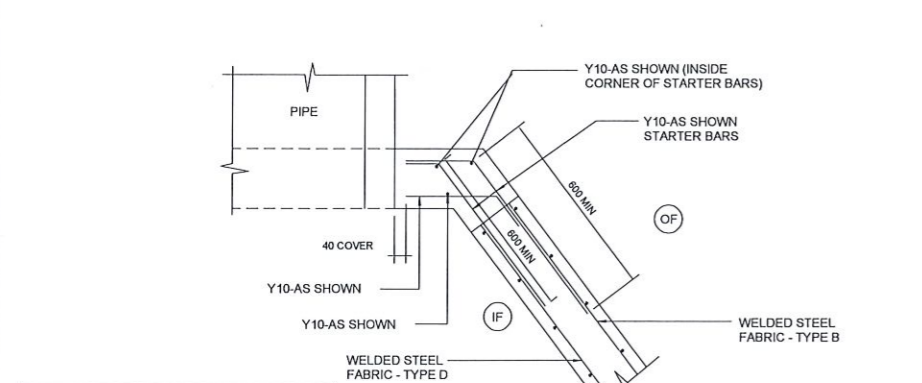
SECTION H
 1:20



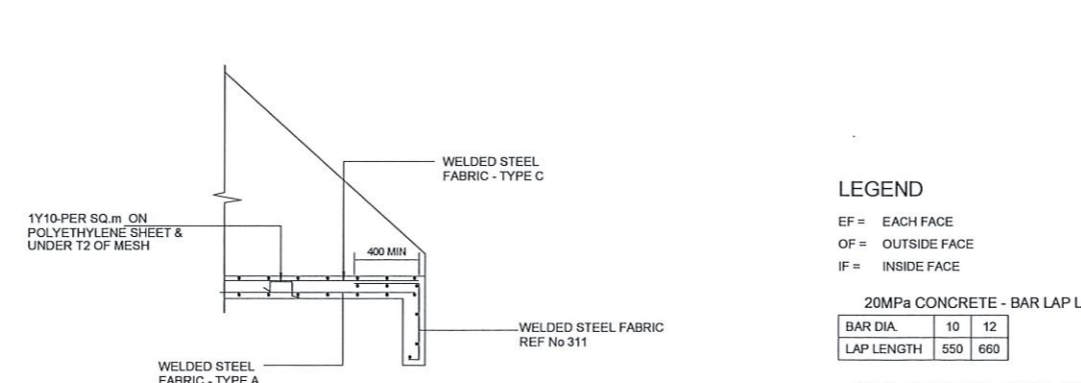
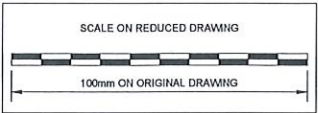
SECTION P
 1:10



SECTION K
 1:20



SECTION S
 1:10



SECTION L
 1:20

INSIDE DIA. PIPE (D)	T	WELDED FABRIC REF No			
		TYPE A	TYPE B	TYPE C	TYPE D
1050	200	500	311	245	245
1200	200	617	311	245	245

LEGEND

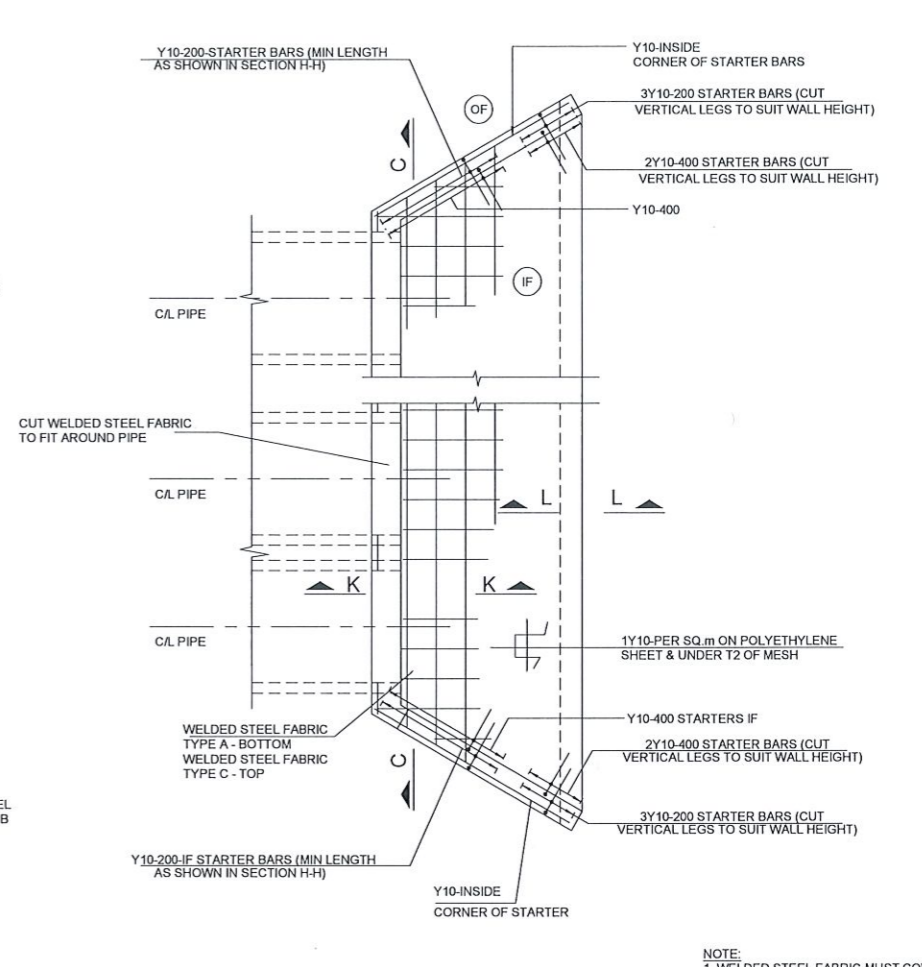
EF = EACH FACE
 OF = OUTSIDE FACE
 IF = INSIDE FACE

20MPa CONCRETE - BAR LAP LENGTHS

BAR DIA.	10	12
LAP LENGTH	550	660

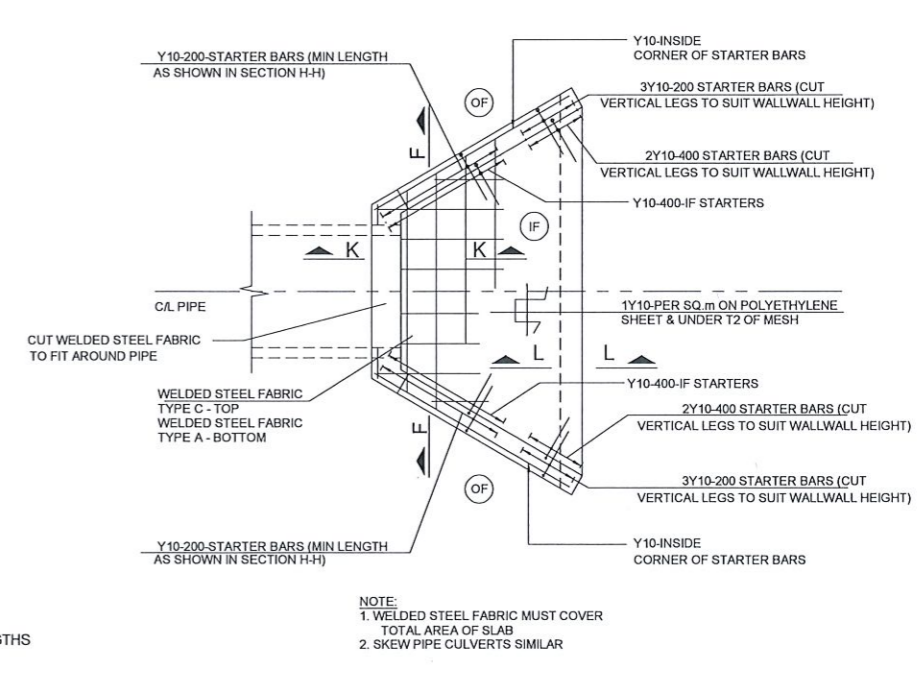
20MPa CONCRETE - MESH LAP LENGTHS

WELDED STEEL FABRIC REF. No.	245	311	395	500	617
MIN LAP LENGTH	450	500	600	650	750



PLAN A
 1:20

FLOOR SLAB - MULTIPLE PIPE CULVERT



PLAN PLN
 SCALE REF

FLOOR SLAB - SINGLE PIPE CULVERT

No.	DATE	REVISION	CONTRACT NO.	DIA.

DESIGNED BY	SZB RANGANA
CHECKED BY	FXA NLOLOU
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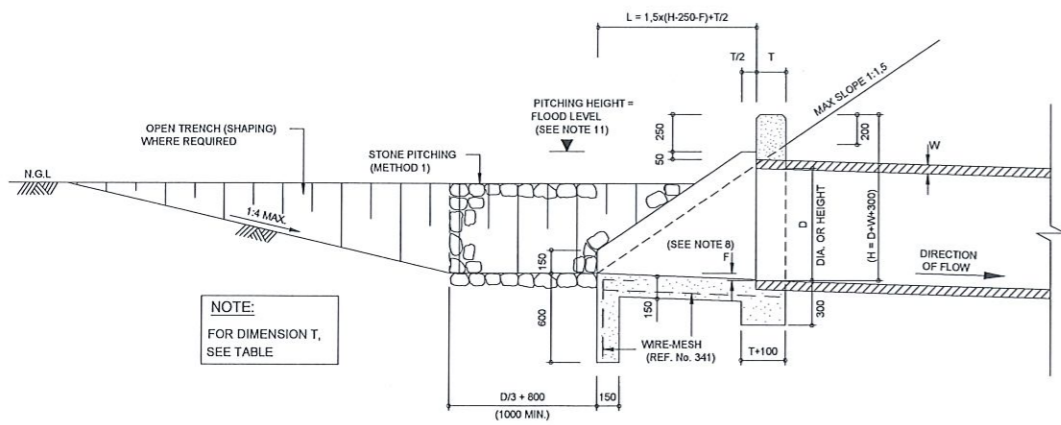


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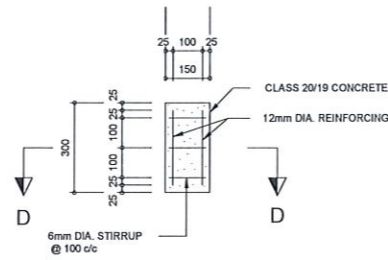
PROJECT
 GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING
 TENDER NO: TECH/003/2022/23
 TITLE
 TYPICAL DETAIL : PIPE CULVERTS - 90° & SKEW TO ROAD (450 TO 900 DIA. PIPES) REINFORCEMENT DETAILS

ISSUED FOR TENDER	SCALE AS SHOWN	SHEET 05 OF 01
For Molemole Municipality		
For Mont Consulting Engineers	PAPER SIZE A1	
DRAWING No. RDS/01/2016/CTp05	REVISION	00

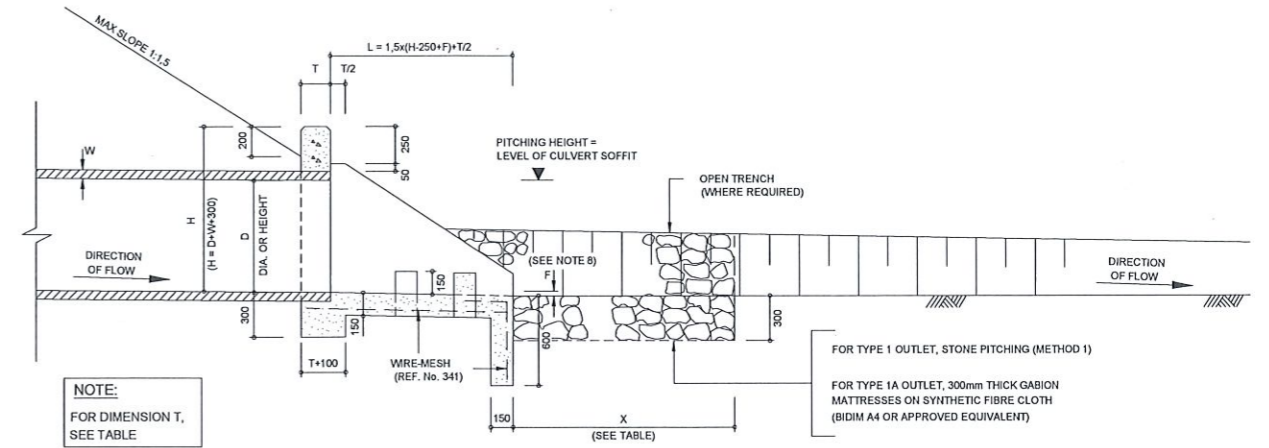


SECTION A-A (SHOWN FOR O=90°)
SCALE 1:20

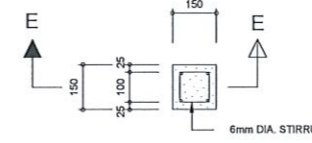
TABLE			
CULVERT HEIGHT OR DIA.	X	Y	T
450	1000	150	150
600	1200	150	150
750	1500	200	200
900	1800	200	200
1050	2100	250	250
1200	2400	250	250
1500	3000	250	250



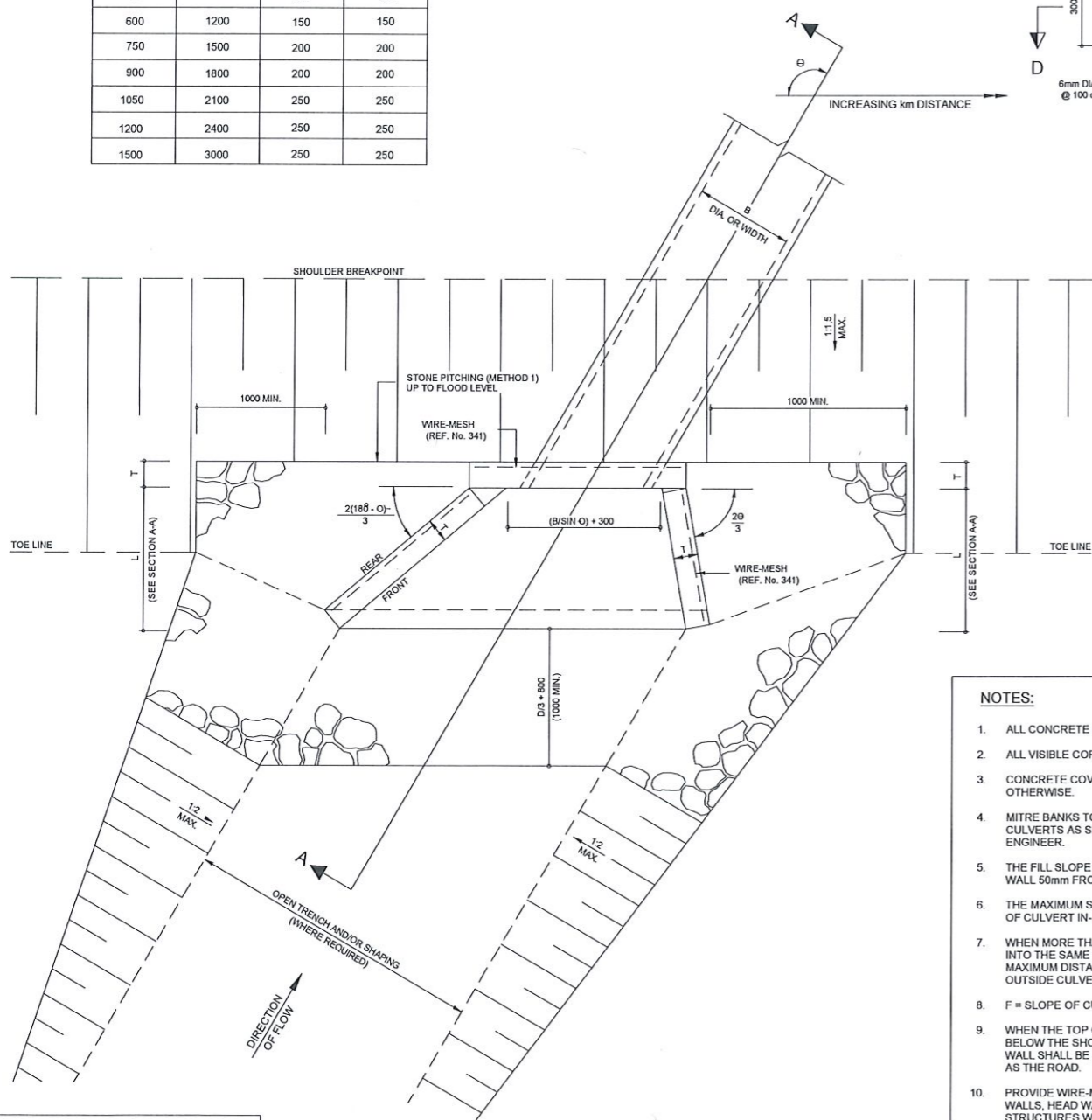
SECTION E-E
SCALE 1:10
DETAIL OF PRECAST CONCRETE BLOCKS
SCALE 1:10



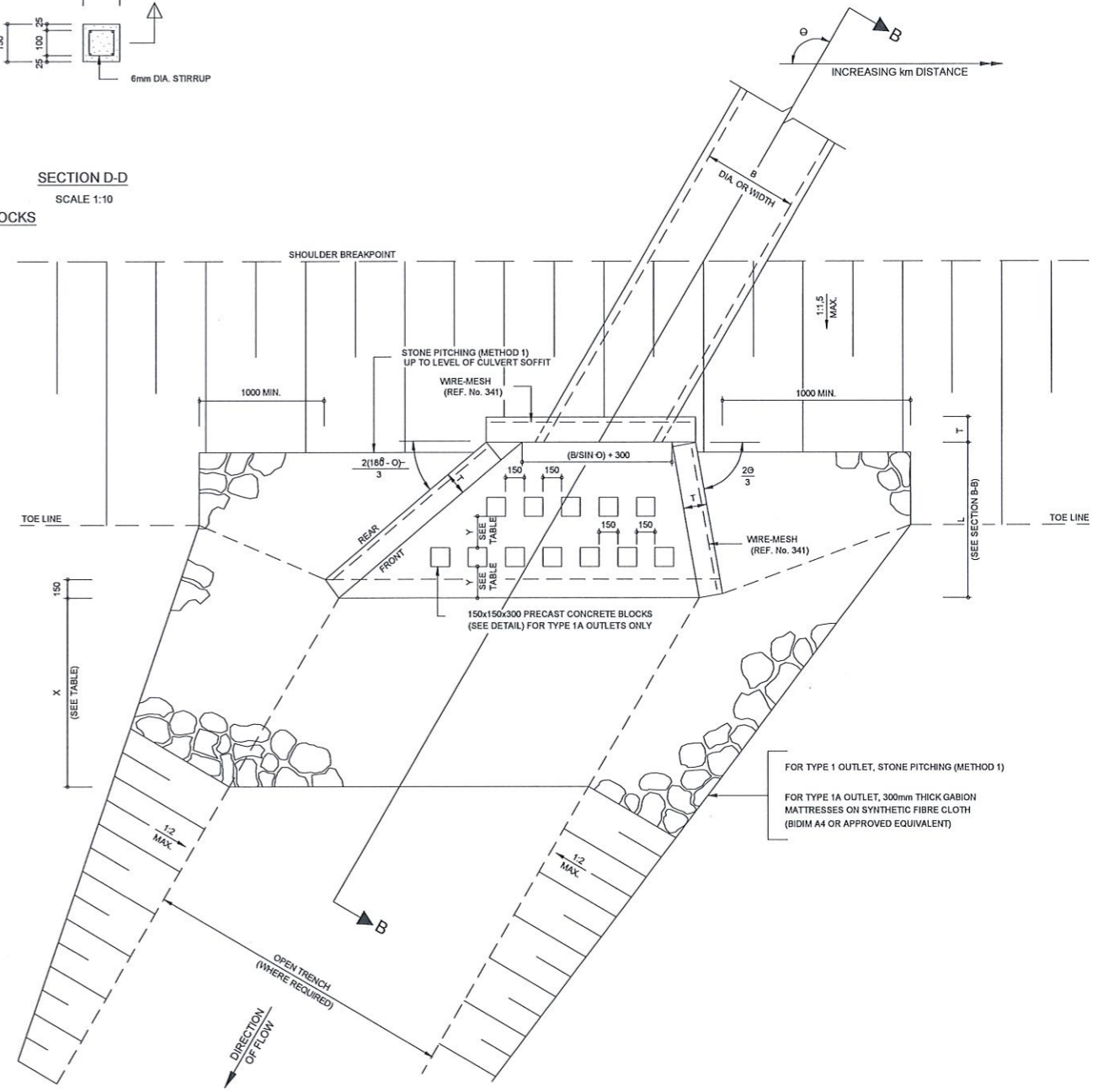
SECTION B-B (SHOWN FOR O=90°)
SCALE 1:20



SECTION D-D
SCALE 1:10

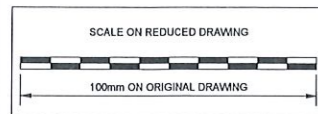


PLAN : TYPE 1 INLET
SCALE 1:20



PLAN : TYPE 1 & TYPE 1A OUTLETS
SCALE 1:20

- NOTES:**
- ALL CONCRETE SHALL BE CLASS 30/19.
 - ALL VISIBLE CORNERS SHALL BE 20mm CHAMFERED.
 - CONCRETE COVER TO REINFORCING IS 40mm, UNLESS SPECIFIED OTHERWISE.
 - MITRE BANKS TO BE CONSTRUCTED ON DOWNSTREAM SIDE OF CULVERTS AS SHOWN ON PLANS OR INSTRUCTED BY THE ENGINEER.
 - THE FILL SLOPE SHALL ALWAYS INTERSECT THE CULVERT HEAD WALL 50mm FROM ITS TOP.
 - THE MAXIMUM SLOPE OF ANY EARTHWORKS IN THE PROXIMITY OF CULVERT IN- AND OUTLETS SHALL BE 1:1.5.
 - WHEN MORE THAN ONE PIPE- OR BOX CULVERTS ARE BUILT INTO THE SAME HEAD WALL, DIMENSION B SHALL BE THE MAXIMUM DISTANCE BETWEEN THE INNER WALLS OF THE OUTSIDE CULVERTS.
 - F = SLOPE OF CULVERT x 1.5 x (D+W).
 - WHEN THE TOP OF THE HEAD WALL IS LESS THAN 500mm BELOW THE SHOULDER BREAKPOINT, THE TOP OF THE HEAD WALL SHALL BE BUILT AT THE SAME LONGITUDINAL SLOPE AS THE ROAD.
 - PROVIDE WIRE-MESH REINFORCING (REF. No. 341) IN WING WALLS, HEAD WALLS AND FLOOR SLABS OF IN- AND OUTLET STRUCTURES WITH 400mm LAP TO SHEETS AND 300mm WRAPPED AROUND VERTICAL CORNERS WHERE APPLICABLE.
 - FOR THE LOCATION, TYPE AND FLOOD LEVELS AT CULVERT IN- AND OUTLETS, SEE LAYOUT PLANS GRP13/26/01Dly - 11Dly AND DRAINAGE SCHEDULES GRP13/26/01CDs - 02CDs



NO.	DATE	REVISION	DESIGNED BY	CHECKED BY	DATE

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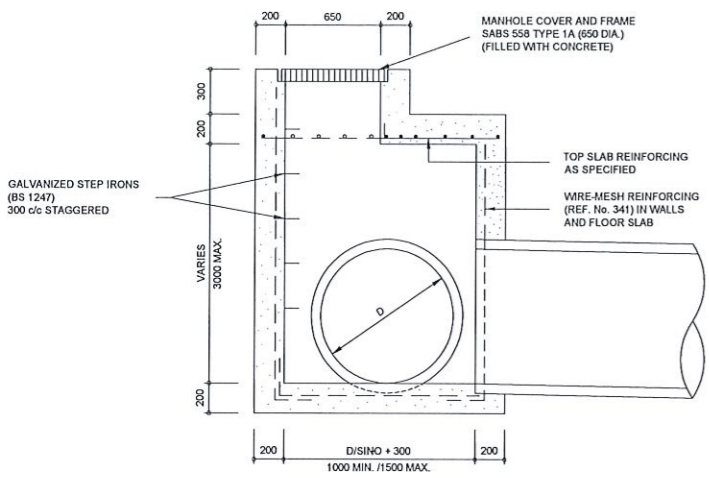


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PROJECT: GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING
TENDER NO: TECH/003/2022/23
TITLE: TYPICAL DETAIL : CULVERT INLET AND OUTLET STRUCTURES TYPES 1 AND 1A

ISSUED FOR TENDER
For Molemole Municipality
For Mont Consulting Engineers
RDS/01/2016/CTp06
BHEET 01 OF 01
SCALE: AS SHOWN
PAPER SIZE: A1
REVISION: 00

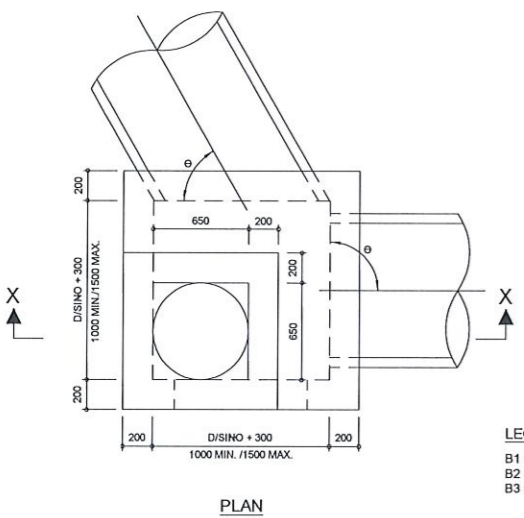


SECTION X-X

- NOTES (MANHOLES):**
1. ALL CAST IN SITU CONCRETE SHALL BE CLASS 30/19.
 2. MINIMUM COVER TO REINFORCING SHALL BE 40mm.
 3. ALL VISIBLE CORNERS SHALL BE 20mm CHAMFERED.
 4. MANHOLE IS DESIGNED FOR A 80kN WHEEL LOAD WITH 25% ALLOWABLE OVERSTRESS.
 5. REINFORCING AS SHOWN IN BENDING SCHEDULE IS FOR A MANHOLE WITH MAXIMUM DIMENSIONS. NUMBER AND LENGTH OF BARS SHALL BE REDUCED TO SUIT SMALLER STRUCTURES.
 6. WIRE-MESH REINFORCING IN WALLS AND FLOOR SLABS SHALL HAVE 400mm LAP TO SHEETS AND 300mm WRAPPED AROUND VERTICAL CORNERS.
 7. MANHOLES WITH LARGER DIMENSIONS SHALL BE CONSTRUCTED ACCORDING TO THE DETAIL ON PLAN GRP07/49/13CTp.
 8. FOR THE LOCATION OF STORMWATER MANHOLES, SEE LAYOUT PLANS GRP13/26/01DLy - 11DLy.

MARK	TYPE	NUMBER	LENGTH	BENDING	Y12	Y16
A1	Y16	4	1970	1820		7,9
A2	Y12	10	1970	1820	19,7	
A3	Y12	10	1120	970	11,2	
A4	Y12	3	1400	1400	4,2	
TOTAL LENGTH (m)					35,1	7,9
TOTAL MASS (kg)					31,2	12,5

BENDING SCHEDULE

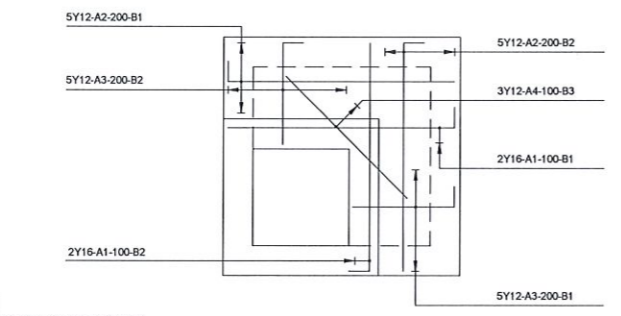


PLAN

TYPICAL DETAIL OF STORMWATER MANHOLE

SCALE 1:20

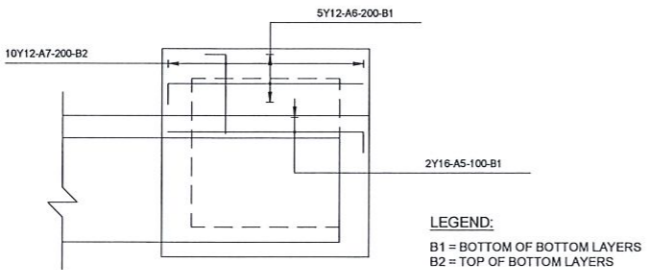
LEGEND:
 B1 = BOTTOM OF BOTTOM LAYERS
 B2 = CENTRE OF BOTTOM LAYERS
 B3 = TOP OF BOTTOM LAYERS



REINFORCING (TOP SLAB)

MARK	TYPE	NUMBER	LENGTH	BENDING	Y12	Y16
A5	Y16	2	1970	1820		3,9
A6	Y12	5	1970	1820	9,9	
A7	Y12	10	1270	1120	12,7	
TOTAL LENGTH (m)					22,6	3,9
TOTAL MASS (kg)					20,1	6,2

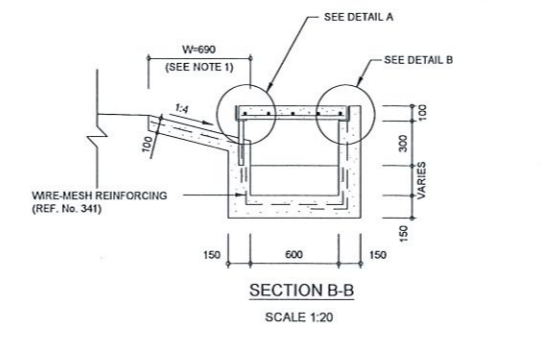
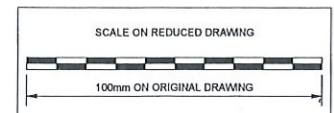
BENDING SCHEDULE



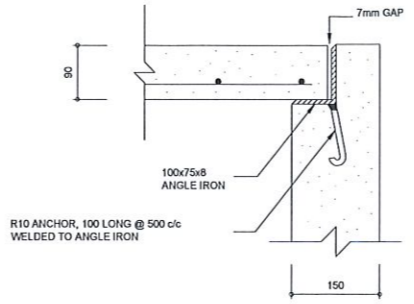
REINFORCING (MANHOLE TOP SLAB)

SCALE 1:20

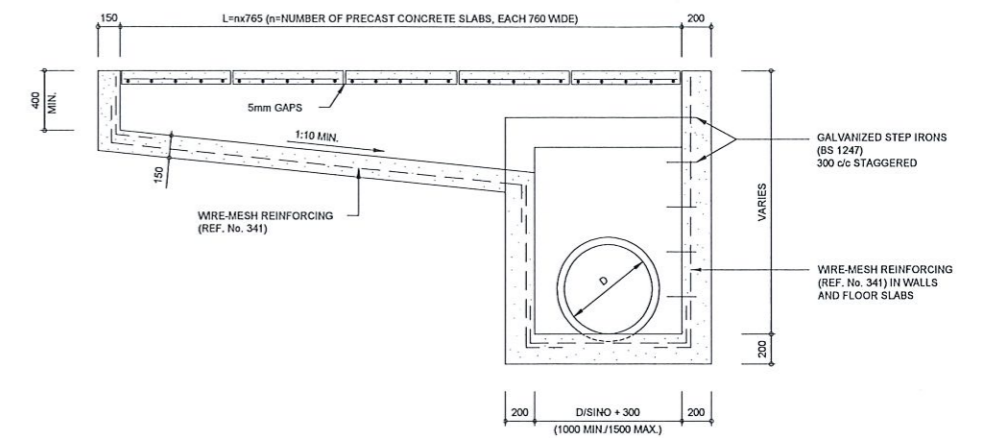
LEGEND:
 B1 = BOTTOM OF BOTTOM LAYERS
 B2 = TOP OF BOTTOM LAYERS



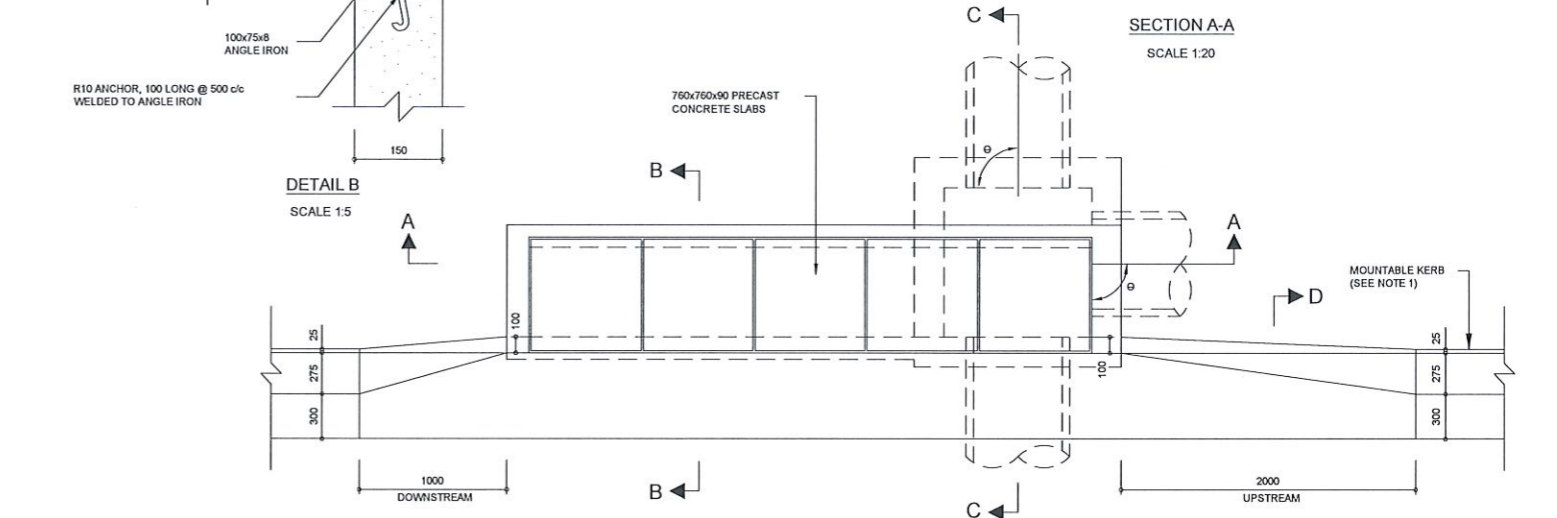
SECTION B-B
SCALE 1:20



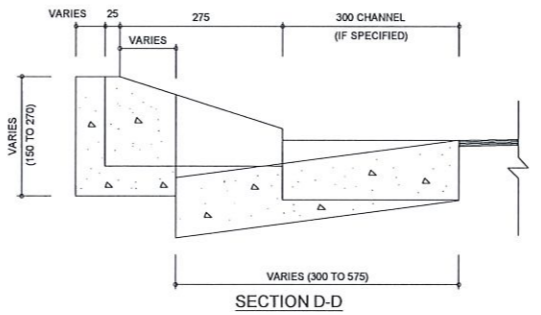
DETAIL B
SCALE 1:5



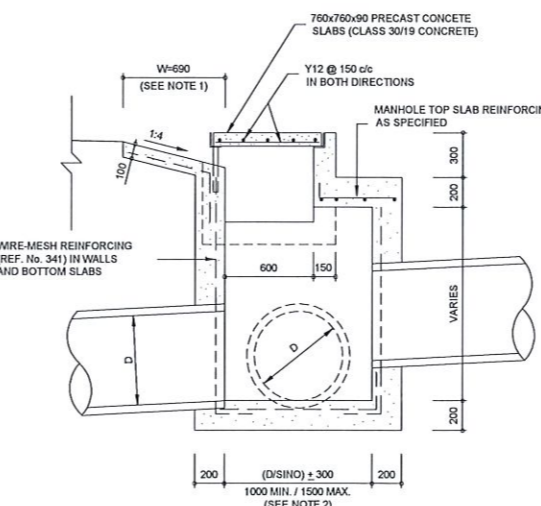
SECTION A-A
SCALE 1:20



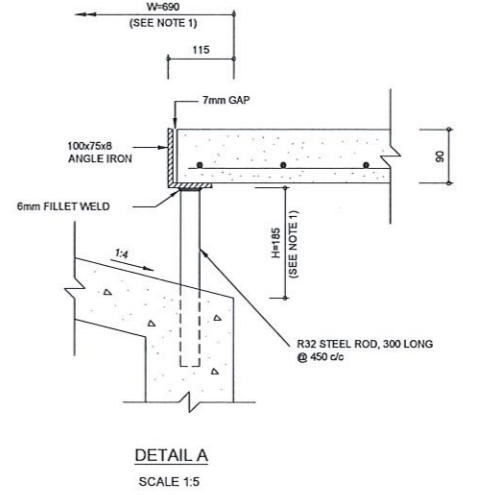
PLAN
SCALE 1:20



SECTION D-D
SCALE 1:5



SECTION C-C
SCALE 1:20



DETAIL A
SCALE 1:5

TYPICAL DETAIL OF KERB INLET

- NOTES (KERB INLETS):**
1. KERB INLET AS SHOWN IS FOR A MOUNTABLE KERB. FOR A BATTERED KERB, DIMENSION W=520, H=240 AND TRANSITION SECTIONS SIMILAR.
 2. THIS DIMENSION MAY BE REDUCED TO 600mm MIN. FOR SHALLOW KERB INLETS WITH NO CULVERTS ON THE APPLICABLE SIDES.
 3. ALL CONCRETE SHALL BE CLASS 30/19, EXCEPT FOR PRECAST CONCRETE SLABS WHERE CLASS 30/19 CONCRETE SHALL BE USED.
 4. MINIMUM COVER TO REINFORCING IS 40mm.
 5. NUMBER OF PRECAST CONCRETE SLABS FOR EACH KERB INLET ACCORDING TO SPECIFIED LENGTH OF KERB INLET AS SHOWN ON DRAINAGE SCHEDULES, PLANS GRP 13/26/01CDs - 3CDs.
 6. ALL VISIBLE CORNERS SHALL BE 20mm CHAMFERED.
 7. KERB INLET IS DESIGNED FOR A 80kN WHEEL LOAD WITH 25% ALLOWABLE OVERSTRESS.
 8. ALL STRUCTURAL STEEL SHALL COMPLY WITH THE SPECIFICATIONS OF BS 4360 AND ALL WELDING WITH THE SPECIFICATIONS OF SABS 044.
 9. ALL STRUCTURAL STEEL SHALL BE PAINTED AS SPECIFIED IN SECTION 8400 OF THE STANDARD SPECIFICATIONS (COLTO).
 10. REINFORCING AS SHOWN IN BENDING SCHEDULE IS FOR A MANHOLE WITH MAXIMUM DIMENSIONS. NUMBER AND LENGTH OF BARS SHALL BE REDUCED TO SUIT SMALLER STRUCTURES.
 11. WIRE-MESH REINFORCING IN WALLS AND FLOOR SLABS SHALL HAVE 400mm LAP TO SHEETS AND 300mm WRAPPED AROUND VERTICAL CORNERS.
 12. FOR LOCATION OF KERB INLETS, SEE LAYOUT PLANS GRP13/26/01DLy - 12DLy.

NO.	DATE	REVISION	CONTR.	DR.

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DRAWN BY	TA MOSIA
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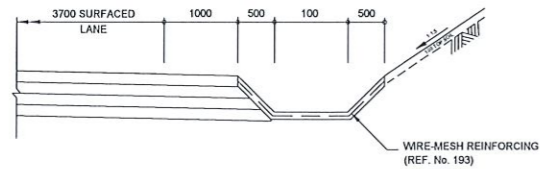
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PROJECT
 GA MAUPE UPGRADING OF 3.1 KM INTERNAL STREETS
 FROM GRAVEL TO SURFACING
 TENDER NO: TECH/003/2022/23
 TITLE
 TYPICAL DETAIL : MANHOLES AND KERB INLETS

ISSUED FOR TENDER		SHEET # OF #
For Molemole Municipality		SCALE
For Mont Consulting Engineers		PAPER SIZE
DRAWING NO:	RDS/01/2016/CTp07	REVISION

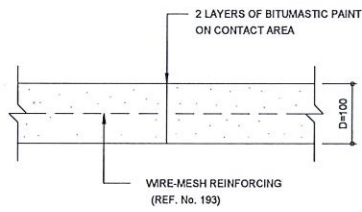


DETAIL OF CONCRETE SIDE DRAIN

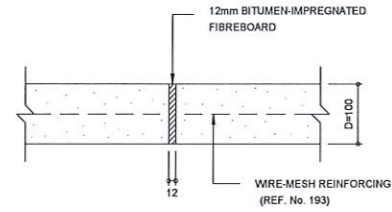
SCALE 1:40

NOTES (SIDE DRAINS):

1. ALL CONCRETE SHALL BE CLASS 30/19.
2. SHRINKAGE JOINTS SHALL BE PROVIDED EVERY 2m AND EXPANSION JOINTS EVERY 20m.



SHRINKAGE JOINT



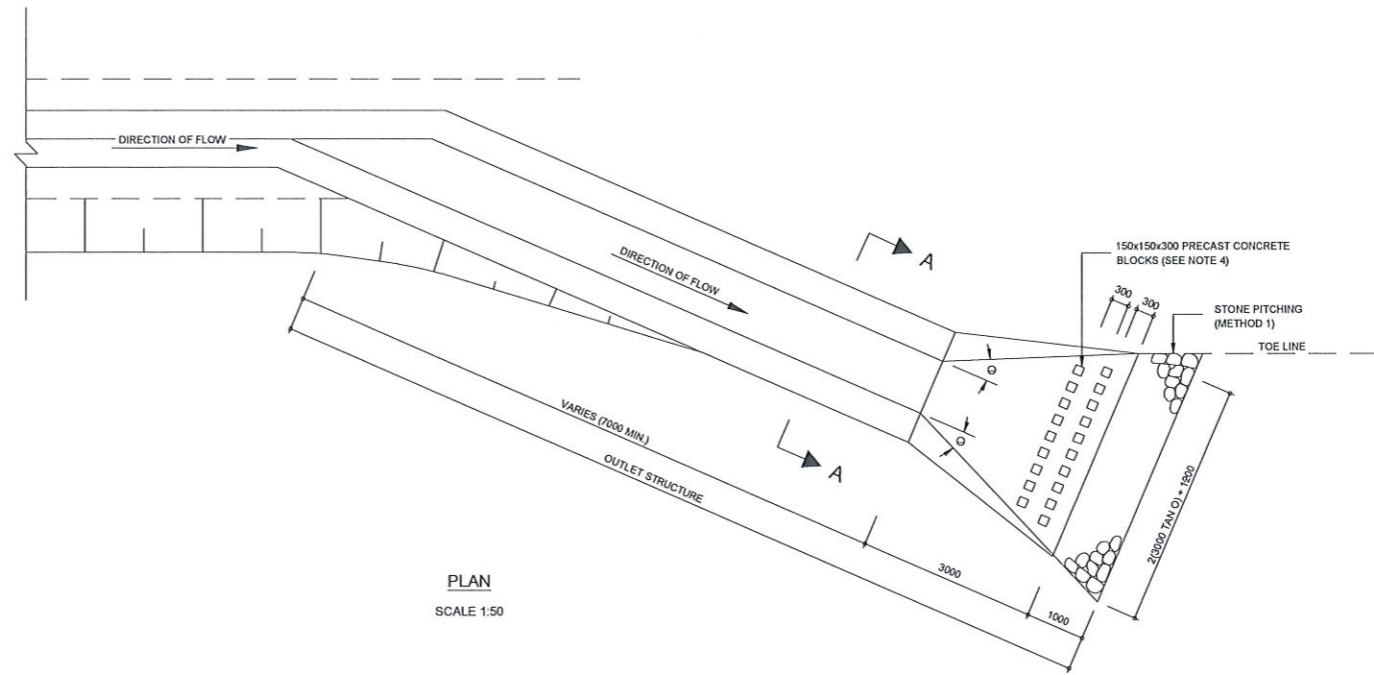
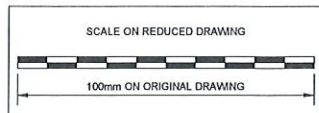
EXPANSION JOINT

DETAIL OF JOINTS

SCALE 1:5

CONCRETE SIDE DRAINS					
ROAD	LEFT		RIGHT		WIDTH
	FROM	TO	FROM	TO	

CONCRETE SIDE DRAINS

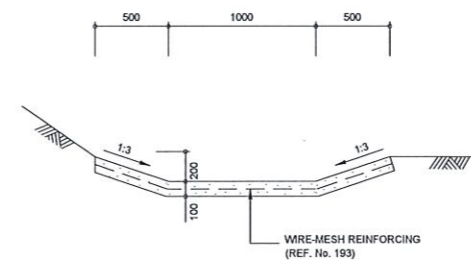


PLAN
SCALE 1:50

CONCRETE SIDE DRAIN OUTLETS		
ROAD	km DIST.	SIDE

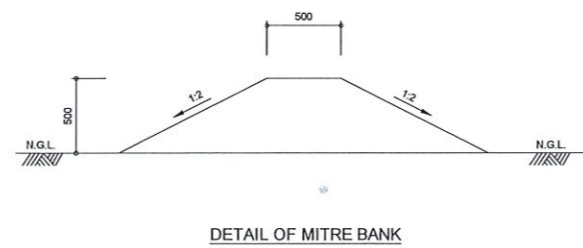
NOTES (SIDE DRAIN OUTLET):

1. OUTLET STRUCTURES MUST BE CONSTRUCTED TO FIT IN WITH SURROUNDING TOPOGRAPHY.
2. ALL CONCRETE SHALL BE CLASS 30/19.
3. SHRINKAGE JOINTS SHALL BE PROVIDED EVERY 2m AND EXPANSION JOINTS EVERY 20m.



SECTION A-A
SCALE 1:20

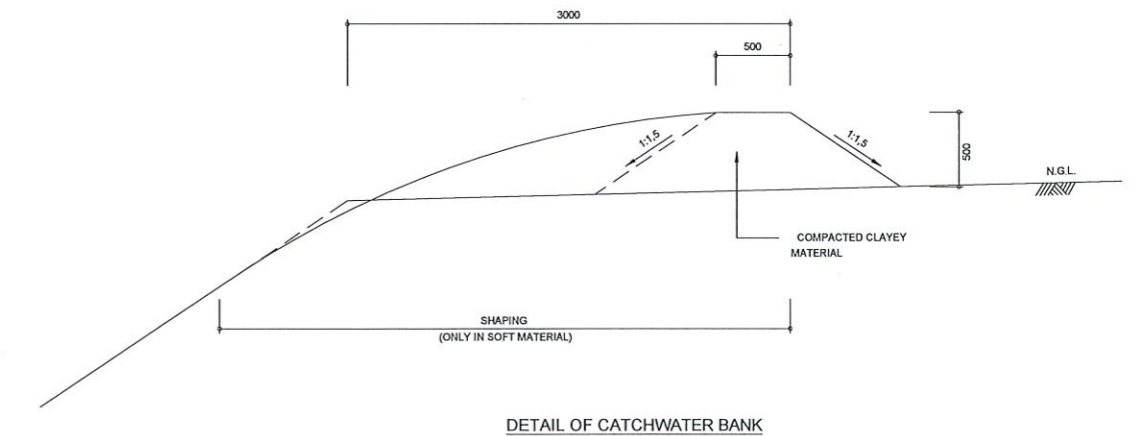
CONCRETE SIDE DRAIN OUTLET



DETAIL OF MITRE BANK

NOTES (CATCHWATER BANKS AND MITRE BANKS):

1. MINIMUM LONGITUDINAL SLOPE BEHIND CATCHWATER BANKS SHALL BE 0.5%. IF NECESSARY, A CHANNEL BEHIND THE CATCHWATER BANK SHALL BE FORMED TO OBTAIN THIS SLOPE.



DETAIL OF CATCHWATER BANK

CATCHWATER BANKS AND MITRE BANKS

SCALE 1:20

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PROJECT
GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING
TENDER NO: TECH/003/2022/23
TITLE
TYPICAL DETAIL : CONCRETE SIDE AND MEDIAN DRAINS, CONCRETE SIDE DRAIN OUTLETS, CATCHWATER BANKS AND MITRE BANKS

ISSUED FOR TENDER	
For Molemole Municipality	
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DRAWINGS	
RDS/01/2016/CTp08	

BEST OF OF 01	
SCALE	AS SHOWN
PAPER SIZE	A1
REVISION	00

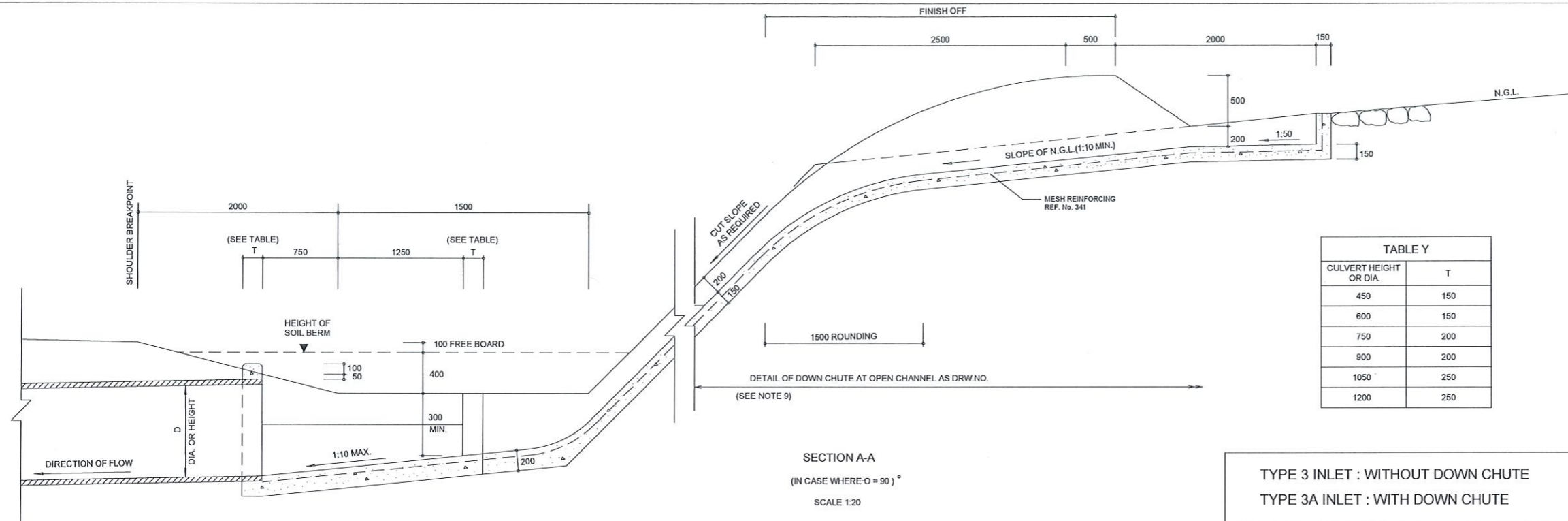
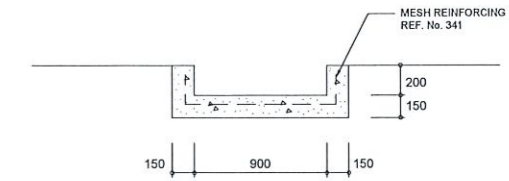
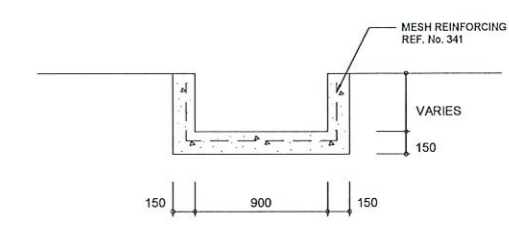


TABLE Y

CULVERT HEIGHT OR DIA.	T
450	150
600	150
750	200
900	200
1050	250
1200	250

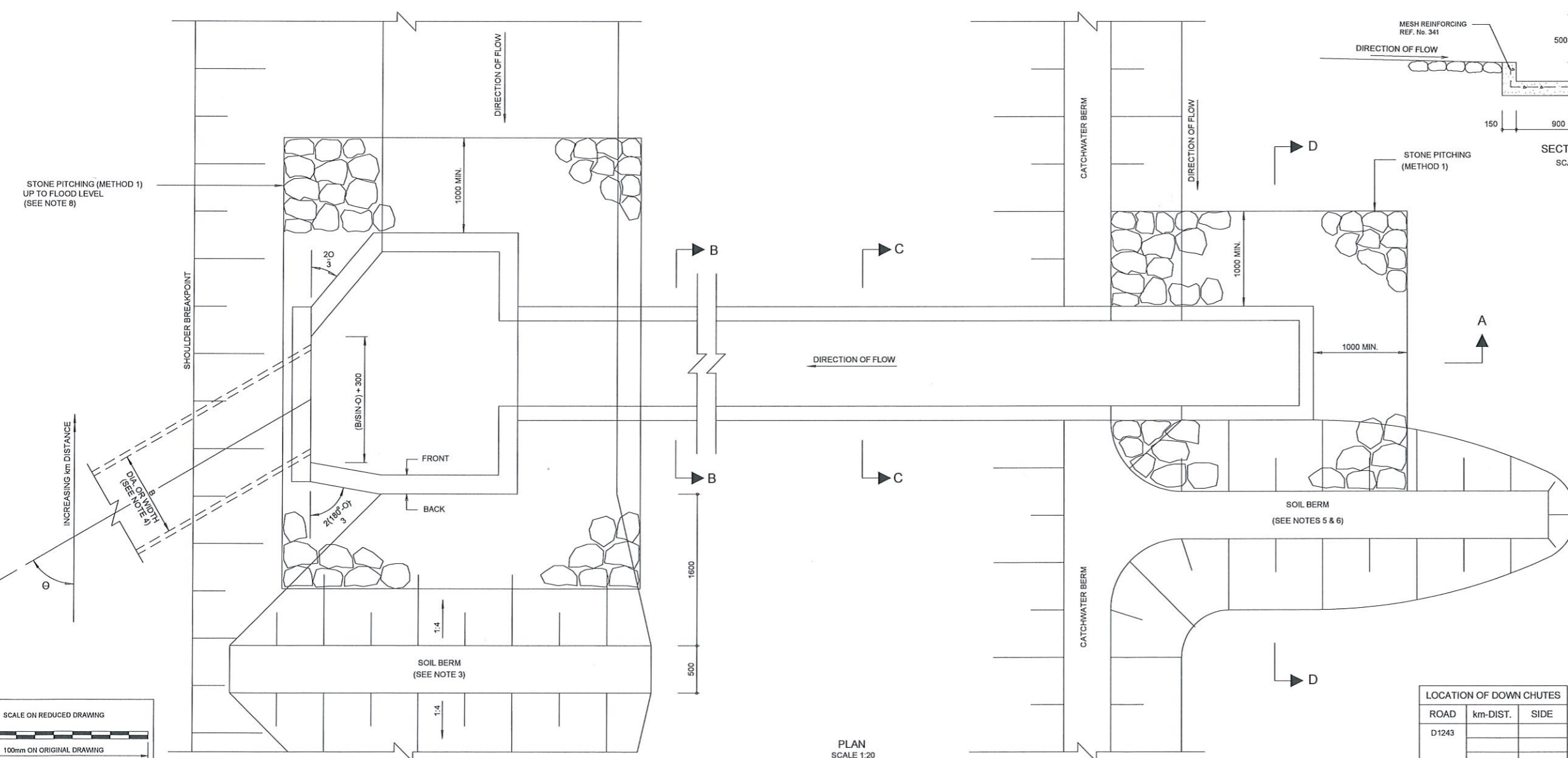


SECTION B-B
SCALE 1:20

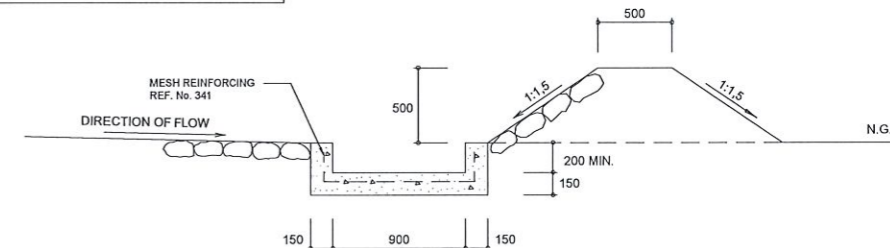


SECTION C-C
SCALE 1:20

TYPE 3 INLET : WITHOUT DOWN CHUTE
TYPE 3A INLET : WITH DOWN CHUTE



PLAN
SCALE 1:20

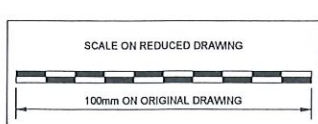


SECTION D-D
SCALE 1:20

- NOTES:**
- ALL CONCRETE TO BE CLASS 30/19.
 - ALL VISIBLE CORNERS SHOULD BE TAPERED 25mm.
 - WHEN THE SIDE DRAIN INLET IS PLACED AT A LOW POINT, THE BERM FALLS AWAY.
 - WHEN MORE THAN ONE CULVERT IS BUILT INTO THE SAME HEADWALL, THE MEASUREMENT 'B' SHOULD BE THE MAXIMUM DISTANCE BETWEEN THE INNER WALLS OF THE OUTSIDE CULVERTS.
 - THE LENGTH OF THE SOIL BERM BY THE INLET AT THE BACK OF THE CATCH-WATER BERM ADJUSTS TO THE SLOPE OF THE NATURAL GROUNDLINE.
 - WHEN THE INLET BEHIND THE CATCH-WATER BERM IS AT A LOW POINT, THE SOIL BERM FALLS AWAY.
 - FOR THE LOCATION OF THE TYPES 3 & 3A INLETS, SEE THE DRAINAGE SCHEDULES PLANS GRP 13/26/01CDs - 02CDs.
 - FOR THE FLOOD LEVELS AT EVERY INLET, SEE THE DRAINAGE SCHEDULES.
 - THE DOWN CHUTE AS DRAWN IS FOR THE CASE WHERE A CATCH-WATER BERM IS ABOVE THE CUT. WHEN AN OPEN CHANNEL IS ABOVE THE CUT. SEE PLANS GRP13/26/01DLy - 11DLy
 - REINFORCING IN WALLS OF INLET STRUCTURES WHEN D > 850:
AT FRONT : No.245(6,30-200x200)
AT BACK : No.395(8,00-200x200)
WITH 600mm LENGTH IN FLOOR SLABS FOR BOTH CASES.
 - MINIMUM CONCRETE COVER FOR REINFORCING IS 40mm

LOCATION OF DOWN CHUTES

ROAD	km-DIST.	SIDE
D1243		



No.	DATE	REVISION	CONTR.	DL

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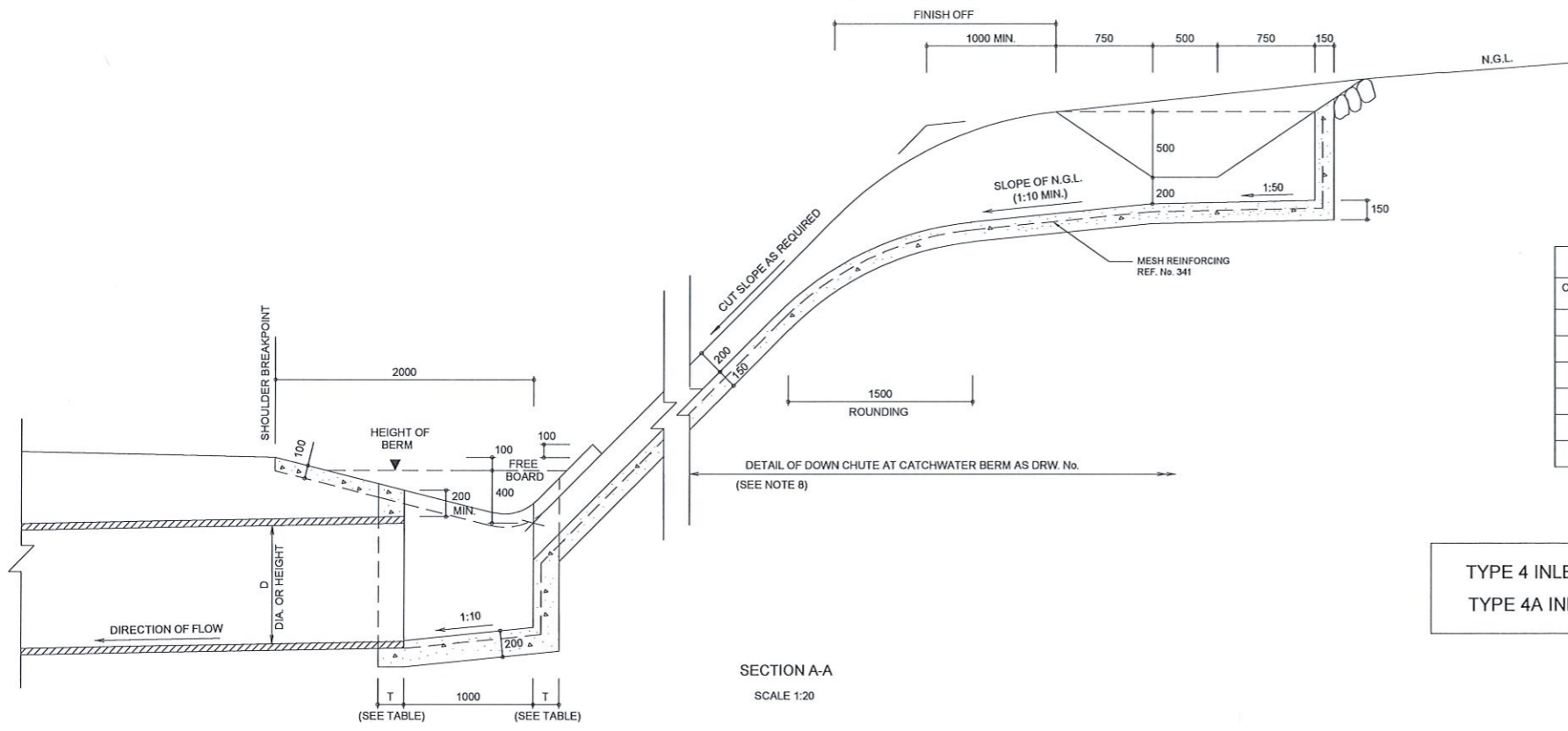


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PROJECT: GA MAUPYE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING
TENDER NO: TECH/003/2022/23
TITLE: TYPICAL DETAIL : CONCRETE SIDE AND MEDIAN DRAINS, CONCRETE SIDE DRAIN OUTLETS, CATCHWATER BANKS AND MITRE BANKS 2 & 2A INLETS

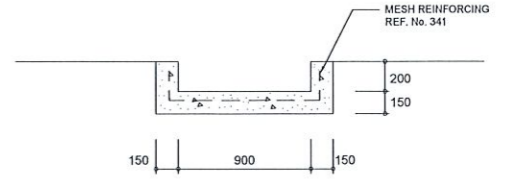
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For Molemole Local Municipality
For Mont Consulting Engineers
DRAWING NO: RDS/01/2016/CTp09
SCALE: AS SHOWN
PAPER SIZE: A1
REVISION: 00



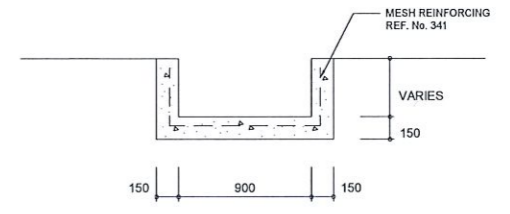
SECTION A-A
SCALE 1:20

TABLE	
CULVERT HEIGHT OR DIA.	T
450	150
600	150
750	200
900	200
1050	250
1200	250

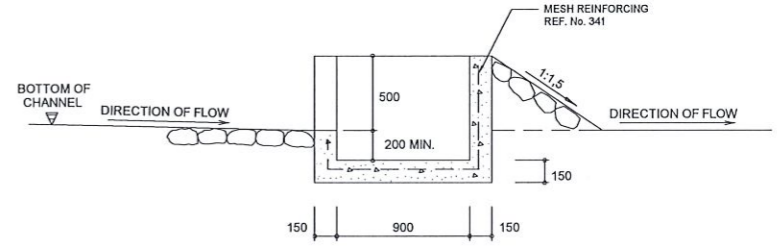
TYPE 4 INLET : WITHOUT DOWN CHUTE
TYPE 4A INLET : WITH DOWN SCHUTE



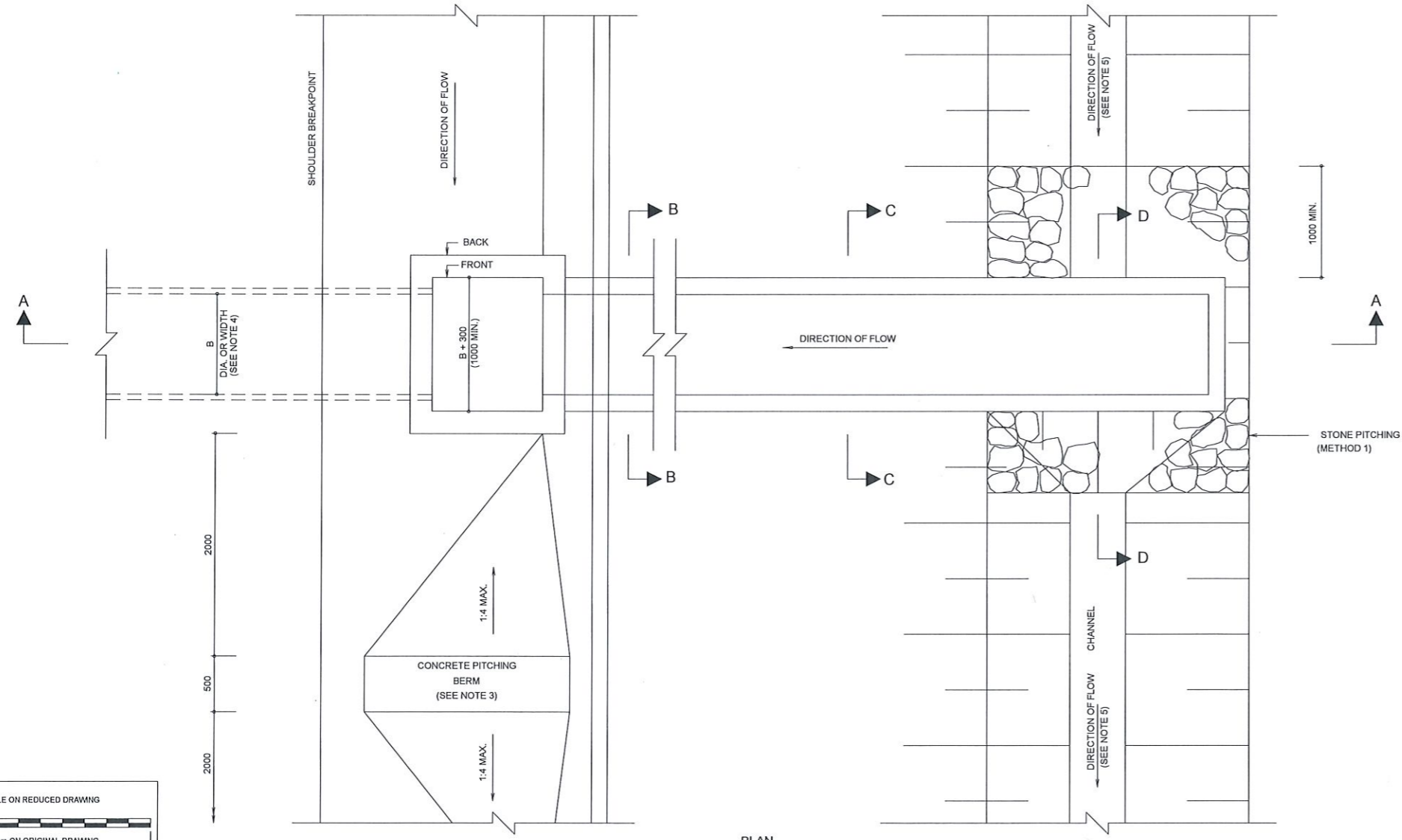
SECTION B-B
SCALE 1:20



SECTION D-D
SCALE 1:20

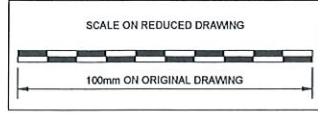


SECTION D-D
SCALE 1:20



PLAN
SCALE 1:20

- NOTES:**
- ALL CONCRETE TO BE CLASS 30/19.
 - ALL VISIBLE CORNERS SHOULD BE TAPERED 25mm.
 - WHEN THE SIDE DRAIN INLET IS PLACED AT A LOW POINT, THE BERM FALLS AWAY.
 - WHEN MORE THAN ONE CULVERT IS BUILT INTO THE SAME HEADWALL, THE MEASUREMENT 'B' SHOULD BE THE MAXIMUM DISTANCE BETWEEN THE INNER WALLS OF THE OUTSIDE CULVERTS.
 - WHEN THE INLET BEHIND THE CATCHWATER BERM IS AT A LOW POINT, THE INLET STRUCTURE IS SYMMETRICAL FOR THE FLOW FROM BOTH SIDES.
 - FOR THE LOCATION OF THE TYPES 4 & 4A INLETS, SEE THE DRAINAGE SCHEDULES.
 - FOR THE FLOOD LEVELS AT EVERY INLET, SEE THE DRAINAGE SCHEDULES PLANS GRP13/26/01CDs - 03CDs.
 - THE DOWN CHUTE AS DRAWN, IS FOR THE CASE WHERE AN
 - REINFORCING IN WALLS OF INLET STRUCTURES WHEN D > 850.
AT FRONT : No.245(6,3x-200x200)
AT REAR : No.395(8,0x-200x200)
WITH 600mm LENGTH IN FLOOR SLABS FOR BOTH CASES.
 - MINIMUM CONCRETE COVER FOR REINFORCING IS 40mm



No	DATE	REVISION	CONTRACT	DIR

DESIGNED BY: SZB RAVJANA
CHECKED BY: PKA NDLOVU
DRAWN BY: TAMOSA
CHECKED BY: TEMUHWANGO



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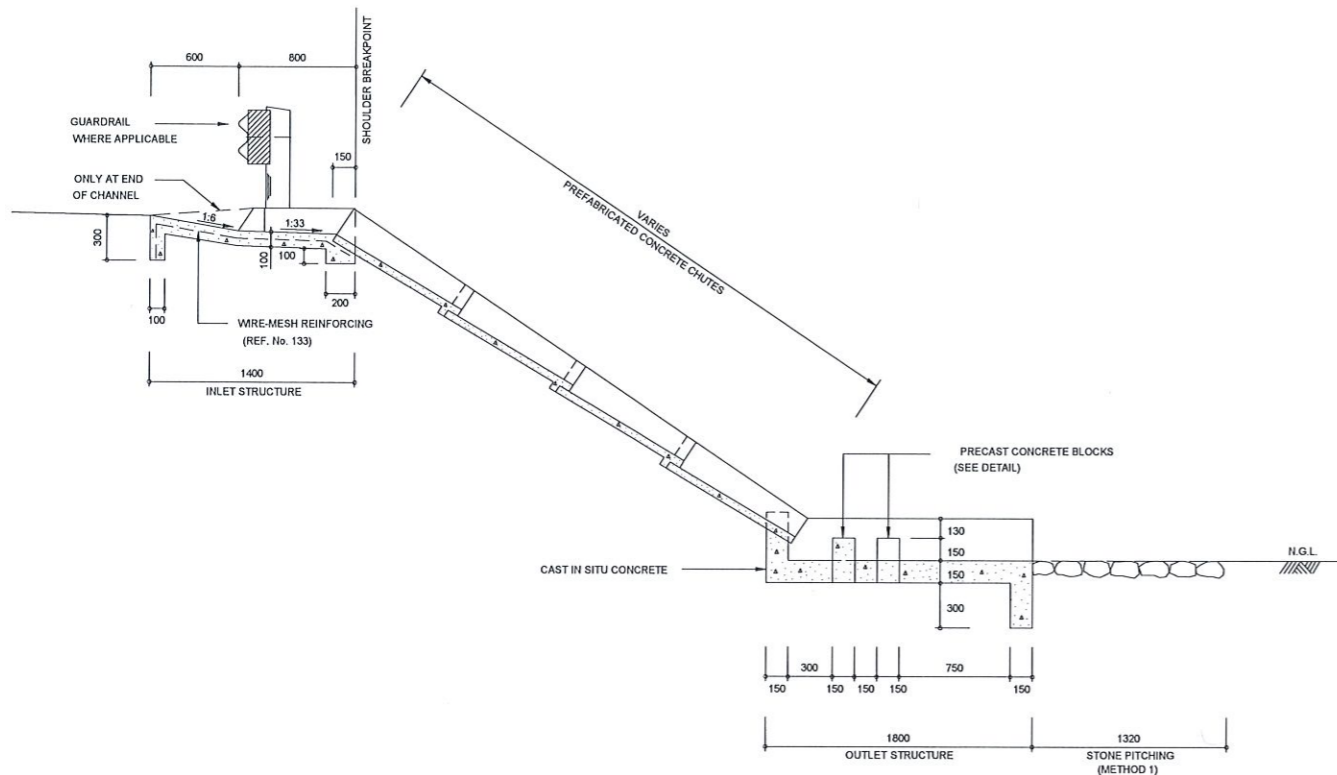


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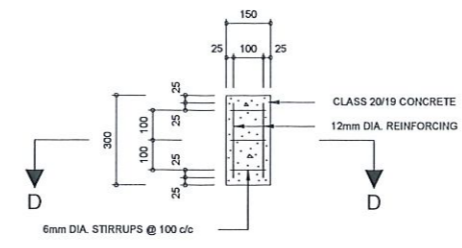


PROJECT: GA MAUPE UPGRADING OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING
TENDER NO: TECH/003/2022/23
TITLE: TYPICAL DETAIL : CATCHWATER & DOWN CHUTE WITH TYPE 4 & 4A INLETS

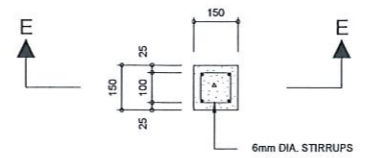
ISSUED FOR TENDER		SCALE	BY
For Molemole Municipality		AS SHOWN	
For Mont Consulting Engineers		PAPER SIZE	A1
		REVISION	00



SECTION A-A
SCALE 1:20



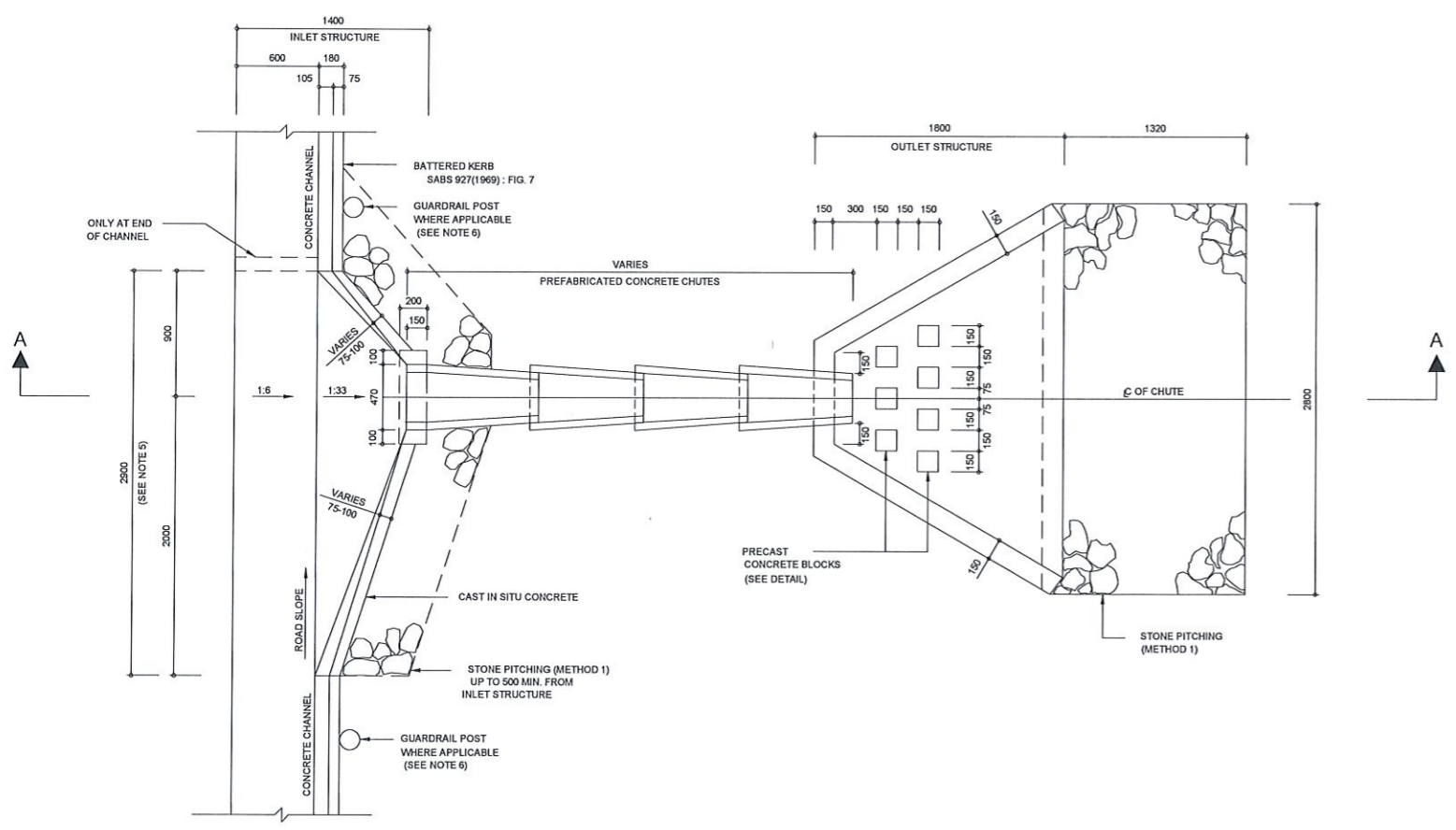
SECTION E-E



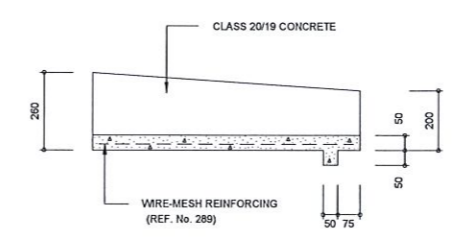
SECTION D-D

DETAIL OF PRECAST CONCRETE BLOCKS
SCALE 1:10

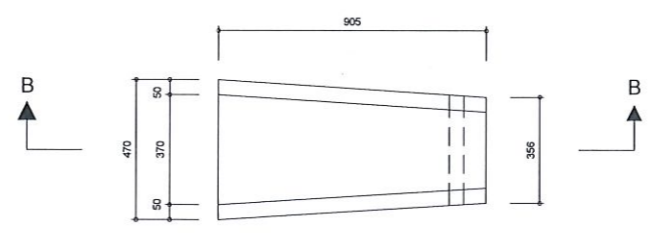
- NOTES:**
1. ALL CAST IN SITU CONCRETE SHALL BE CLASS 30/19.
 2. ALL VISIBLE CORNERS SHALL BE 20mm CHAMFERED.
 3. WIRE-MESH REINFORCING SHALL COMPLY WITH THE SPECIFICATIONS OF SABS 1024.
 4. OUTLETS OF CHUTES SHALL BE COMBINED WITH CULVERT IN- AND OUTLETS WHERE POSSIBLE.
 5. AT LOW POINTS, THE TOTAL LENGTH OF THE INLET IS 3600mm AND SHALL BE SYMMETRICAL AROUND THE CENTRE LINE OF THE CHUTE.
 6. THE LOCATION OF CHUTES SHALL BE ADJUSTED (IF NECESSARY) TO CONSTRUCT THE INLET BETWEEN THE TWO NEAREST GUARDRAIL POSTS. ALTERNATIVELY, GUARDRAIL POSTS SHALL FIT IN WITH THE SPECIFIED LOCATION OF CHUTE INLETS.



PLAN: CHUTE ON FILL
SCALE 1:20

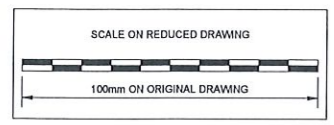


SECTION B-B

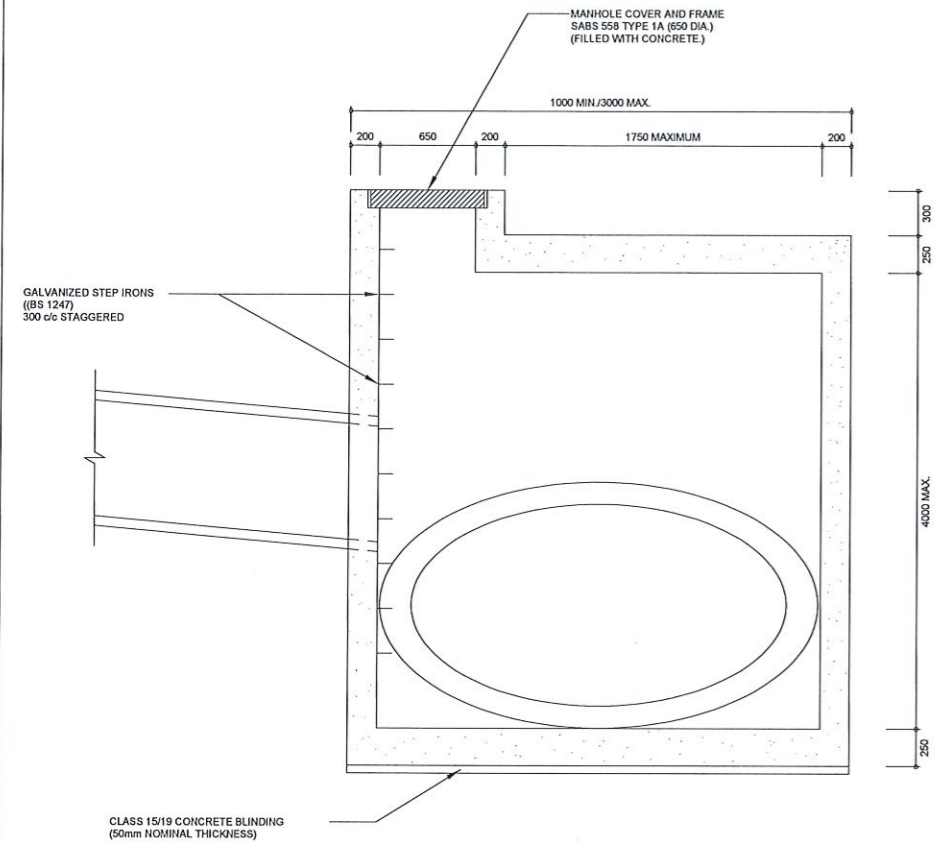


PLAN

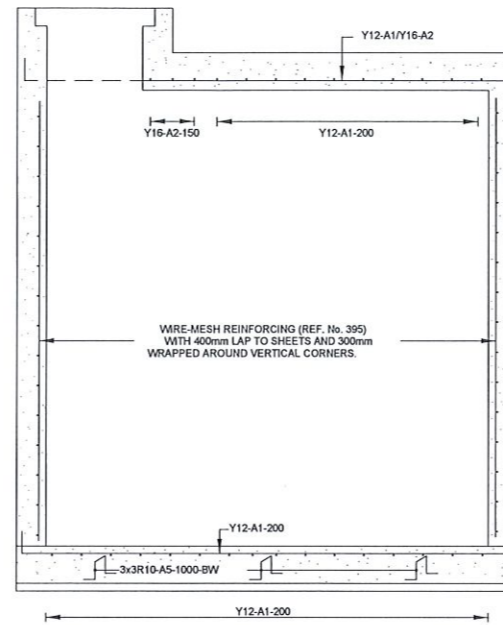
DETAIL OF PREFABRICATED CONCRETE CHUTE
SCALE 1:10



DESIGNED BY: RZB RANGANA CHECKED BY: PFA HLOVU DRAWN BY: TA MOSA CHECKED BY: TE MUAHANGO		MOLEMOLE MUNICIPALITY Private Bag X44 Mogwadi 0715 TEL: 015 - 004 0243 FAX: 015 - 501 0419		MONT CONSULTING ENGINEERS PO BOX 1249 FAUNA PARK 0787 TEL: 015 - 291 4173 FAX: 015 - 291 4218		PROJECT: GA MAUPEY UPGRADE OF 3.1 KM INTERNAL STREETS FROM GRAVEL TO SURFACING TENDER NO: TECH/003/2022/23 TITLE: TYPICAL DETAIL : DOWN CHUTES ON HIGH FILLS		ISSUED FOR TENDER For Molemole Municipality For Mole Consulting Engineers RDS/01/2016/CTp12		SHEET 01 OF 01 SCALE: AS SHOWN PAPER SIZE: A1 REVISION: 00	
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SECTION A-A



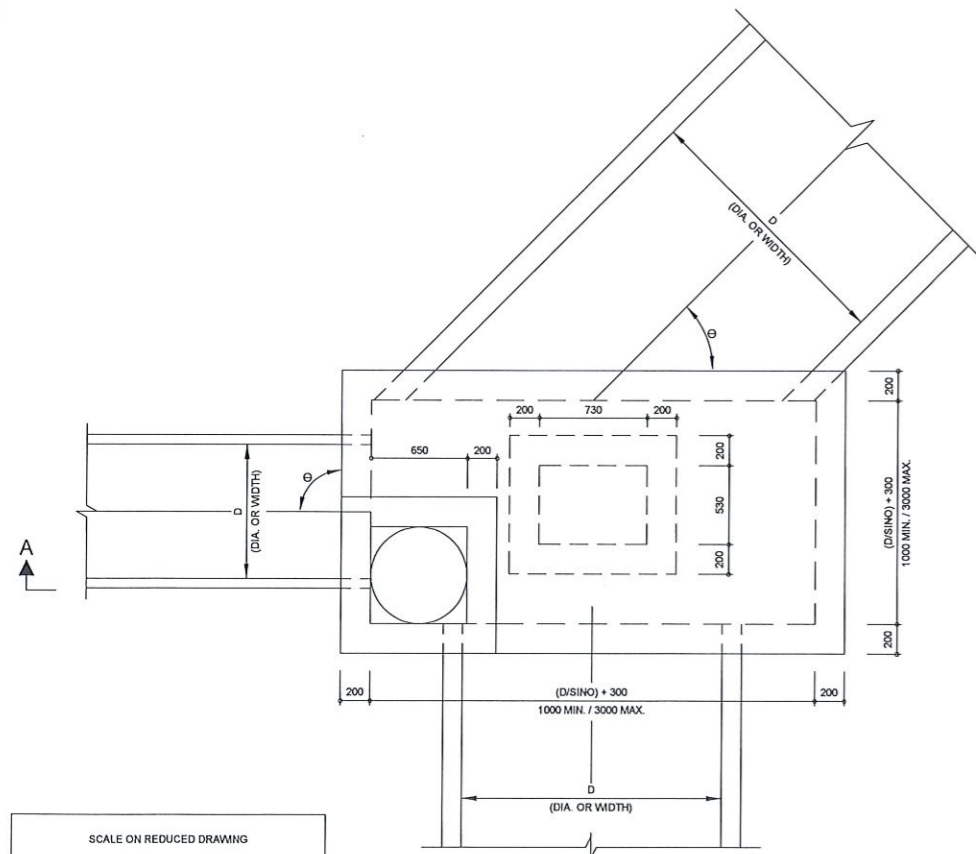
REINFORCING (SECTION A-A)

MARK	TYPE	NUMBER	LENGTH	BENDING	R10/Y10	Y12	Y16	
A1	Y12	52	3450			179,4		
A2	Y16	6	3450				20,7	
A3	Y12	4	1800			7,2		
A4	Y10	8	2550		20,4			
A5	R10	12	900		10,8			
TOTAL LENGTH (m)						31,2	186,6	20,7
TOTAL MASS (kg)						19,2	165,7	32,7

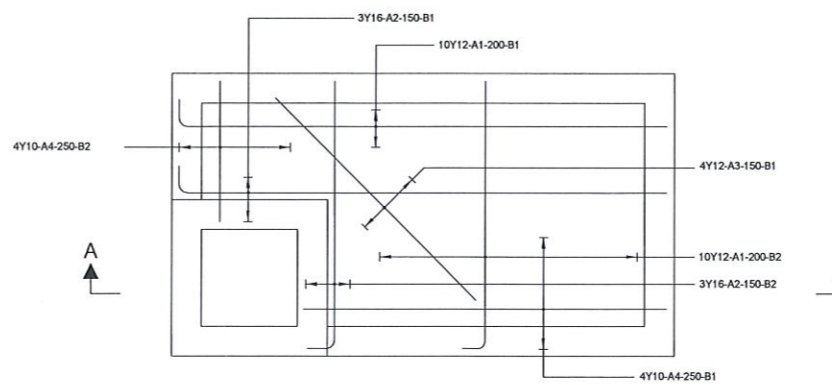
BENDING SCHEDULE

NOTES:

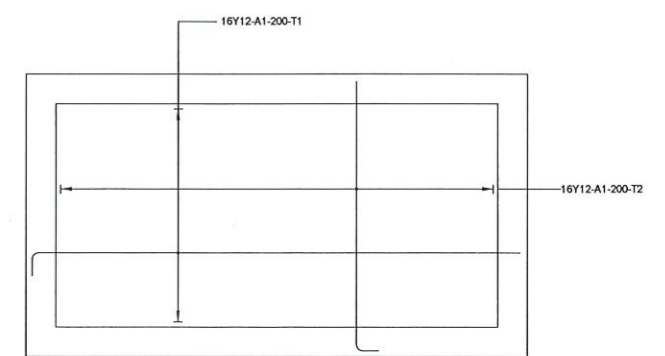
- ALL CAST IN SITU CONCRETE SHALL BE CLASS 30/19.
- MINIMUM COVER TO REINFORCING SHALL BE 50mm.
- ALL VISIBLE CORNERS SHALL BE 20mm CHAMFERED.
- MANHOLE/CATCHPIT IS DESIGNED FOR A 80kN WHEEL LOAD WITH 25% ALLOWABLE OVERSTRESS.
- A MANHOLE IS SHOWN ON DRAWING WITH COVER LOCATED IN ONE CORNER. THE INLET GRID FOR CATCHPITS MAY BE LOCATED IN THE CENTRE OF THE STRUCTURE AS SHOWN IN DOTTED LINES ON PLAN. IN WHICH CASE REINFORCING BARS A2 SHALL BE PLACED ON ALL SIDES AND REINFORCING BARS A3 ON ALL CORNERS.
- REINFORCING AS SHOWN IN BENDING SCHEDULE IS FOR A MANHOLE/CATCHPIT WITH MAXIMUM DIMENSIONS. NUMBER AND LENGTH OF BARS SHALL BE REDUCED TO SUIT SMALLER STRUCTURES.
- REINFORCING BARS A1 AND A2 SHALL BE PLACED WITH HOOKS STAGGERED.
- FOR THE LOCATION OF MANHOLES AND CATCHPITS, SEE LAYOUT PLANS GRP13/26/01DLY - 12DLY.



PLAN



REINFORCING (TOP SLAB)



REINFORCING (BOTTOM SLAB)

No	DATE	REVISION	CONTR	DR

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MONT CONSULTING ENGINEERS

MEMBER OF CESA

PROJECT
GA MAUPEY UPGRADING OF INTERNAL STREETS FROM GRAVEL TO SURFACING
TENDER NO: TECH/003/2022/23

TITLE
TYPICAL DETAIL : MANHOLES AND CATCHPITS FOR LARGE PIPE AND BOX CULVERTS

ISSUED FOR TENDER	SCALE	SHEET NO OF NO
For Molemole Municipality	AS SHOWN	
For Mont Consulting Engineers		A1
DRAWING NO: RDS/01/2016/CTp13	REVISION	00