

EPHRAIM MOGALE LOCAL MUNICIPALITY



TENDER NO: EPMLM/8/3/544

FOR

CONSTRUCTION OF RATHOKE BUS ROUTE

CIDB GRADING: 6 CE OR HIGHER

EPHRAIM MOGALE LOCAL MUNICIPALITY MUNICIPAL MANAGER EPHRAIM MOGALE LOCAL MUNICIPALITY Private Bag x 111 MARBLE HALL 0450 Tel: (013) 261 8400 Fax: (013) 261 2985		CONSULTANTS PRINCIPAL AGENT MONT CONSULTING ENGINEERS 29 BENDOR DRIVE PROPARK- PRO ARCH BUILDING BENDOR- EXTENSION 8 POLOKWANE 0699 CONTACT PERSON: MR T.E. MUVHANGO TEL: (015) 291 4173 Email: admin@montce.co.za	
Name of Bidder:			
Bid Amount (VAT Incl.):			
CSD Number:			
CIDB Number:			
Email Address:			
Contact numbers:	Tel:	Cell:	Fax:
 EXPANDED PUBLIC WORKS PROGRAMME			

EPHRAIM MOGALE LOCAL MUNICIPALITY



PROJECT NAME: CONSTRUCTION OF RATHOKE BUS- ROUTE

TENDER NO: EPMLM/8/3/544

Contents

Number | Heading

The Tender

Part T1: Tendering procedures

- T1.1 | Tender Notice and Invitation to Tender
- T1.2 | Tender Data
- T1.3 | Standard Conditions of Tender

Part T2: Returnable schedules

- T2.1 | List of Returnable Documents
- T2.2 | Returnable Schedules to be completed by tenderer

The Contract

Part C1: Agreements and Contract Data

- C1.1 | Form of Offer and Acceptance
- C1.2 | Contract Data
- C1.3 | Form of Guarantee
- C1.4 | Agreement with Adjudicator
- C1.5 | Agreement in Terms of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993

Part C2: Pricing data

- C2.1 | Pricing Instructions
- C2.2 | Bill of Quantities

Part C3: Scope of Work

- C3.1 | Standard Specifications
- C3.2 | Project Specifications
- C3.3 | Particular Specifications

Part C4: Site information

- C4.1 | Locality Plan
- C4.2 | Conditions On Site
- C4.3 | Tender Drawings

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PART T1: BIDDING PROCEDURES

TABLE OF CONTENTS		Page
T1.1:	BID NOTICE AND INVITATION TO BID	T.2
T1.2:	BID DATA	T.6
T1.3:	STANDARD CONDITIONS OF BID	T.12

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



EPHRAIM MOGALE LOCAL MUNICIPALITY
CONSTRUCTION OF RATHOKE BUS ROUTE
BID NUMBER: EPMLM/8/3/544

VERY IMPORTANT NOTICE ON DISQUALIFICATIONS:

A bid not complying with the peremptory requirements stated hereunder will be regarded as not being an "Acceptable bid", and as such will be rejected.

The municipality shall adjudicate and award Bids in accordance with the Preferential Procurement Policy Framework Act 5/2000 and revised Preferential Procurement Regulation November 2022 on 100 points functionality and on a 80/20 points system, where 20 points are for the price and 20 points for specific goals according to the said legislation and approved policy. Bids are required to submit the following:

1. Valid Registration with CSD
2. If any pages have been removed from the bid document, and have therefore not been submitted, or a copy of the original bid document has been submitted. Failure to complete the schedule of quantities as required, i.e. only lump sums provided.
3. Scratching out, writing over or painting out rates, without initialling next to the amended rates or information, affecting the evaluation of the bid.
4. The use of correction fluid (i.e. tippex) or any erasable ink, e.g. pencil.
5. Non-attendance of mandatory/compulsory:
 - Site inspections or;
 - Information/Clarification meetings
6. The Bid has not been properly signed by a party having the authority to do so, according to the example of "Authority for Signatory".
7. No authority for signatory submitted – See example, where it is stated that a duly signed and dated original or certified copy of the company's relevant resolution (**for each specific bid**) of their members or their board of directors, must be submitted.
8. Particulars required in respect of the bid, the bidders Specific goals have not been completed, the bid will not be disqualified.
9. **Very important notice** Bidders must note that only information filled in at the spaces provided therefore in the bid document will be considered for evaluation purposes unless additional space is required and then only if the location of the additional information in the attachments is properly referred to by page number and section heading. Information supplied anywhere else will be disregarded which **may** lead to the rejection of the bid. **The attachment or inclusion of information not specifically asked for is not desirable and lead to delays in the awarding of bids.**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

10. Bidders should also note that all tables and forms should be filled even if the information is attached in the annexures. Bidder should not write refer to as it will lead to disqualifications.
11. The bidder attempts to influence or has in fact influenced the evaluation and/or awarding of the contract.
12. The bid has been submitted either in the wrong bid box or after the relevant closing date and time.
13. Bidders will be disqualified if any municipal rates and taxes or municipal service charges owed by the bidder and any of its directors to the municipality, or to any other municipality or municipal entity or are in arrears for more than three months.
14. If any bidder 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 written notice was given to that bidder that performance was unsatisfactory.
15. The accounting officer must ensure that irrespective of the procurement process followed, no award may be given to a person –
 - (a) who is in the service of the state, or.
 - (b) 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.
 - (c) who is an advisor or consultant contracted with the municipality in respect of contract that would cause a conflict of interest.
16. Failure to provide: A copy of valid registration with the CIDB, in an appropriate contractor grading designation (category), as required in the bid documentation (or in the case of a joint venture, of all the partners in the joint venture).
17. Bid offers will be rejected if the bidder or any of his 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.
18. Bid offers will be rejected if the bidder has abused the EPMLM's Supply Chain Management System and action was taken in terms of paragraph 38 of the EPMLM SCM Policy.
19. If at any time 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.
20. Form of offer not completed and signed by the authorised signatory.
21. The letter of intent to issue guaranteed must completed and the letter of guarantee attached
22. All the attachments with certification should not be older than 6 months were required
23. No submission of financial statements or audited financial statements required, unless if the bid amount is above R 10m.
24. Complete all questionnaires; spaces or Spaces, if the item is not applicable to you, mark it, not applicable.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

T1.1: BID NOTICE AND INVITATION TO BID
BID NUMBER: EPMLM/8/3/544

Bidders with grade **6CE or higher** are hereby invited to bid for the **Construction of Rathoke Bus Route in Ephraim Mogale Local Municipality in the Sekhukhune District of the Limpopo Province. The Employer is** the Ephraim Mogale Local Municipality represented by the Municipal Manager.

Tender documents containing the Conditions of Tender as well as the procurement policy will be available as from 09 April 2026 during working hours [08:00 to 15:30 (Monday to Friday)] from the Finance Department of the Ephraim Mogale Local Municipality Offices, No: 2nd Ficus Street in Marble Hall Town.

A non-refundable tender deposit of **R1870.00** will be charged for each set of documents issued. All payments and deposits are to be made in the currency of the Republic of South Africa. The bid document can also be downloaded for free on etender.

A Compulsory clarification meeting (briefing session) will take place at Marble Hall Townhall, Ephraim Mogale Local Municipality, No: 2 Ficus Street in Marble Hall on the **14 April 2026**.

Complete tender documents, fully priced and signed, must be sealed in an envelope marked TENDER NUMBER: **EPMLM/8/3/544 PROJECT DESCRIPTION: CONSTRUCTION OF RATHOKE BUS ROUTE**

The closing time for the receipt of tenders is on **07 May 2026 at 12H00** and should be deposited in the tender box at the Ephraim Mogale Local Municipality Offices No: 2 Ficus Street in Marble Hall.

The Municipality shall adjudicate and award tenders in accordance with Municipality's Supply Chain Management Policy, the Preferential Procurement Policy Framework Act, 5/2000 and Preferential Procurement Regulations 2022 on an 80/20-point system where 80 points are for Price and 20 points for Specific goals. Tenders will remain valid for 90 (Ninety) days.

The functionality criteria are as follows.

	TARGETED GOALS:	POINTS
Points for functionality	Company's Experience	40
	Specific Personnel Knowledge	30
	Plant & equipment	20
	Financial status	10

NB: The bidders must score a minimum of 75 points or more to be evaluated further.

Enquiries related to this tender should be addressed to J. Madisha (013) 261 8450 or jmadisha@emogalelm.gov.za and S Marima for technical enquiries at Telephone. (013) 261 8471 or smarima@emogalelm.gov.za.

ME MOROPA
MUNICIPAL MANAGER
13 FICUS STREET
MARBLEHALL
0450

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

T1.2: BID DATA

The conditions of the tender are the standard conditions as contained in Annexure F of the CIDB standard for uniformity in construction procurement. The tender data is reproduced from the CIDB best practice guideline # A7 first edition 2005, document 1035.

The standard conditions of the tender make provision for several references to the tender data for details that apply specifically to this tender. The tender data shall have precedence in the interpretation of an ambiguity or inconsistency between it and the CIDB standard conditions of tender.

Each item of bid Data given below is cross-referenced to the relevant clause in the standard Conditions of BID.

Clause Number	Tender Data
3.1	The Employer is: Ephraim Mogale Local Municipality The Employer's domiciliumcitandi et executandi (permanent physical business address) is: 13 Ficus Street MARBLEHALL 0450 The Employer's address for communication relating to this project is: P.O. Box 111 MARBLEHALL 0450
3.2	The tender documents issued by the Employer comprise: THE TENDER Part T1 Tendering procedures T1.1 Tender Notice and Invitation to Tender T1.2 Tender Data Part T2 Returnable documents T2.1 List of returnable documents T2.2 Returnable schedules THE CONTRACT Part C1 Agreements and Contract Data C1.1 Form of Offer and Acceptance C1.2 Contract Data C1.3 Form of Guarantee C1.4 CIDB Adjudicator's appointment Part C2 Pricing Data C2.1 Pricing Instructions C2.2 Bill of Quantities Part C3 Scope of Work

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Clause Number	Tender Data
	C3.1 Project Scope of Work C3.2 Tender Drawings Part C4 Site Information C4.1 Extract from Transport Infrastructure Act 2001 (Act No 8 of 2001) C4.2 Locality Plan Part C5 Annexures C5.1 Annex I – Environmental Management Plan C5.2 Annex II – Abstracts of the Mine Health and Safety Act No 29 of 1996 and Amendment Act No 72 of 1997 C5.3 Annex III – Borrow Pit Guarantee C5.4 Annex IV – Health and Safety Specification
3.4	The Employer's Agent is: a) Principal Agent Mont Consulting Engineers <u>Physical Address:</u> 29 Bendor Drive Pro-Park, Pro Arch Building Bendor, Polokwane 0699 Tel.: (015) 291 4173 E-mail: admin@montce.co.za <u>Postal Address:</u> PostNet Suite 040 Private Bag X 9676 Bendor, Polokwane 0699 Fax: (015) 291 4218
3.4	The language for communications is: English
4.1.1	Only those tenderers who satisfy the following eligibility criteria are eligible to submit tenders: Only those tenderers who score the minimum score in respect of the quality criteria stated in 5.11.9 of this Tender Data shall be considered responsive and have their tenders evaluated further. a) CIDB registration The following tenderers who are registered with the CIDB, or are capable of being so registered prior to the evaluation of submissions, are eligible to have their tenders evaluated: (i) Contractors who have a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations, for a (insert correct grading) class of construction work; and (ii) Contractors registered as potentially emerging enterprises with the CIDB who are registered in one contractor grading designation lower than that required in terms of (a) above and who satisfy the following criteria: (1) the Employer is satisfied that such a contractor has the potential to develop and qualify to be registered in that higher grade as determined in accordance with the provisions of the <i>CIDB Specification for Social and Economic Deliverables in Construction Works</i>

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Clause Number	Tender Data
	<i>Contracts; and</i>
4.1.1	(2) the Employer agrees to provide the financial, management or other support that is considered appropriate to enable the Contractor to successfully execute that Contract. Joint ventures are eligible to submit Tenders provided that: (1) every member of the joint venture is registered with the CIDB; (2) the lead partner has a contractor grading designation in the (Civil Engineering) class of construction work; and (3) the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 6CE or higher class of construction work or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations. b) National Treasury Central Supplier Database Tenderers who are not registered on the National Treasury Central Supplier Database at close of tender, shall submit a copy of their application of registration, with their tender submission. Tenders received from such tenderers who have not submitted proof of their registration within 21 days after the closing date for tender submissions, will not be considered. c) Local content (Form C5) Only locally produced or locally manufactured products and components for construction with a minimum threshold for local content and production as stipulated in Form C5 will be considered. d)Key Personnel In order to be considered for an appointment in terms of this tender, the tenderer must have in its permanent employment key personnel who will be the single point accountability and responsibility for the management of the construction works. Individuals must be identified, and their names listed in Form D3 for each of the key personnel listed below. Where the key personnel are no longer available to undertake the necessary work after the award of the tender, the contractor shall, within a period of 14 working days, replace the key personnel listed in Form D3 with personnel with equivalent competencies, subject to approval by the Employer. Such approval shall not be unreasonably withheld. Tenderers who can demonstrate that they will have in their employ during the contract period the necessary personnel satisfying the requirements of the Scope of Work for labor-intensive competencies for management and supervisory personnel. e) financial viability Tenderers who are under business rescue or liquidation.
4.1.2	It is an absolute requirement that the taxes of the successful tenderer <u>must</u> be in order, or that suitable arrangements have been made with the Receiver of Revenue to satisfy them.
4.1.2	If the Tax Clearance Certificate is found to be incorrect, Ephraim Mogale Local Municipality may, in

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Clause Number	Tender Data
	addition to any other remedy it may have: - Recover from the Contractor all costs, losses or damages incurred or sustained by the State because of the award of the contract; and/or Cancel the contract and claim any damages which the State may suffer by having to make less favorable arrangements after such cancellation; and/or Each party to a Consortium / Joint Venture / Sub-Contractors must attach their original Tax Clearance Certificate from the Receiver of Revenue.
4.5.2	Tenderers are hereby earnestly warned that, in terms of section 23(1) of the Roads Ordinance of Transvaal (Ordinance No. 22 of 1957, as amended), it is essential that the owners of property be advised accordingly. Unless the provisions of this section are strictly adhered to, the acquisition of material may be illegal and could result in a claim by the owner, inter alia that the property be restored to its original condition by the Contractor.
4.5.3	Where reference is made to the standard specifications in the contract documents, it shall mean the COLTO Standard Specifications for Road and Bridge Works (1998).
4.6	Failure to apply instructions contained in addenda may render a tenderer's offer non-responsive in terms of Condition of Tender 5.8.
4.7	The arrangements for a compulsory clarification meeting are as specified in the Tender Notice and Invitation to Tender. The onus rests with the tenderer to ensure that the person attending the clarification meeting on his behalf is appropriately qualified to understand all directives and clarifications given at that meeting. Tenderers shall sign the attendance list in the name of the tendering entity. Addenda will be issued to and tenders will be received only from those tendering entities appearing on the attendance list. The arrangements for the compulsory site inspection visit and clarification meeting are as follows: Location: Ephraim Mogale Municipality in Marble Hall, 2 Ficus Street, from where they will be accompanied to the site. Date: 07 May 2026 starting time: 12H00 Enquiries regarding the meeting and site inspection may be directed to: Name: S Marima Tel.: 013 261 8471 Fax: 013 261 8800 E-mail.: smarima@emogalelm.gov.za
4.8	Request clarifications at least 7 working days before the closing time.
4.10	Tenderers are required to state the rates and currencies in Rand.
4.11.2	<u>Tenders submitted in accordance with these tender documents shall not have any qualifications.</u> Any point of difficulty of interpretation shall be cleared with the Employer's Agent as early as possible

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Clause Number	Tender Data
	before submission of a tender. Should any query be found to be of significance, all tenderers will be informed accordingly by the Employer's Agent as early as possible. <u>Tenders shall not be qualified by the conditions of tender of the tenderer himself.</u> Failure to comply with this requirement may cause the tender to become invalid. Should the tenderer, notwithstanding the above, wish to make any amendment or qualification of the tender documents, such amendment or qualification shall be set out explicitly in full details on Form A4. Any qualification or amendment not set out on the prescribed form will not have any force and effect despite the fact that it may be contained elsewhere in the tender documents or in the covering letter to the tender. Any qualification or amendment appearing in or to be inferred from a program and submitted with any tender will not have any force and effect unless set out in writing in accordance with the above requirements.
4.12	If a tenderer wishes to submit an alternative tender offer, the tenderer shall in addition to the conforming Tender submit a separate complete set of Tender Documents clearly marked as an "Alternative Tender" in order to distinguish it from the unqualified Tender. The only criteria permitted for such alternative tender offer is that it demonstrably satisfies the Employer's standards and requirements, the details of which may be obtained from the Employer's Agent. Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative tender offer to enable the Employer to evaluate if the efficacy of the alternative complies with the Employer's standards and requirements and its principal elements, to take a view on the degree to which the alternative and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal. Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the Contract for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements. The modified Pricing Data must include an amount equal to 5% of the amount tendered for the alternative offer to cover the Employer's costs of confirming the acceptability of the detailed design before it is constructed.
4.13.2	Parts of each tender offer communicated on paper shall be submitted as an original, plus NIL copies.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Clause Number	Tender Data
4.13.4	The tenderer is required to submit the following: The tenderer is required to submit the following with his tender (1) an original valid Tax Clearance Certificate issued by the South African Revenue Services; and (2) Proof of Contractor Registration drawn from the Construction Industry Development Board website should be attached to Returnable Schedule Form A12; (3) Evidence of registration and proof of good standing with a compensation insurer who is approved by the Department of Labour in terms of Section 80 of the Compensation for Occupational Injuries and Diseases Act (Act No 130 of 1993)(COID). The tenderer is required to disclose all inspections, investigations and their outcomes conducted by the Department of Labour into the conduct of the tenderer at a time during the 36 months preceding the date of this Tender; (4) Proof of Registration in respect of each partner, where a tenderer satisfied the CIDB contractor grading designation requirements through the formation of a joint venture; (5) Submit their Broad-Based Black Economic Empowerment status level certificate or certified copy thereof issued by a registered verification agency in accordance with the Preferential Procurement Policy Framework Act, 2000; Preferential Procurement Regulations, 2017. Joint ventures/consortiums will qualify for preference points, provided that the entity submits the relevant certificate/score card in terms of Preferential Procurement Regulations, 2017. Note that in the case of unincorporated entities, a verified score card must be submitted with the Tender. (6) A tender submitted jointly by two companies shall be accompanied by a copy of the document establishing the joint venture, registered and authenticated by an official who is authorized to witness sworn statements. The document shall clearly state the reason for the amalgamation, its period of validity and the persons who will represent it, how their assets will be legally obligated, and any further information that will explain the functions of the joint venture.
4.13.5	Submit only the signed "Original" Tender offer.
4.13.6	Place and seal the printed and completed tender document in an envelope clearly marked "TENDER" and bearing the Employer's name, the contract number and description, the tenderer's authorized representative's name, the tenderer's postal address and contact telephone numbers. Telephonic, facsimile or emailed tender offers will not be accepted.
4.13.7	The Ephraim Mogale Local Municipality is not bound to accept the lowest or any tender and reserves the right to accept the whole or any part of a tender.
4.13 4.15	The Employer's address for the delivery of tender offers and identification details to be shown on each tender offer package are: Location of tender box: Finance and Infrastructure Building, Marble Hall Physical address: Ephraim Mogale Local Municipality 13 Ficus Street Marble Hall 0450 Identification details: Place the signed original tender offer in a package marked "BID No. EPMLM/8/3/544 for the CONSTRUCTION OF RATHOKE BUS ROUTE" Tenders must be submitted during office hours (08:00 to 16:00 hrs) Monday to Friday at the Employer's address.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Clause Number	Tender Data
4.15	The closing time for submission of tender offers is 12:00 on Thursday 07 May 2026
4.16.1	The tender offer validity period is 90 days calculated from the tender closure date.
4.16.2	Where a tenderer, at any time after the opening of his tender offer but prior to entering into a contract based on his tender offer: (a) withdraws his tender; (b) gives notice of his inability to execute the contract in terms of his tender; or such tenderer shall be barred from tendering on any of the Employer's future tenders for a period to be determined by the Employer, but not less than six (6) months, from the date of tender closure. The Employer may fully or partly exempt a tenderer from the provisions of this condition if he is of the opinion that the circumstances justify the exemption.
4.18	Any additional information requested under this clause must be provided within 5 working days of the date of request. The tenderer shall, when requested by the Employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the labor-intensive portion of the Works together with satisfactory evidence that such staff members satisfy the eligibility requirements.
4.19	No access for tests and inspections are required during the tendering period.
4.20	The tenderer must submit to the Employer the names of all management and supervisory staff that will be employed to supervise the labor-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirement
	The Employer's right to accept or reject any bid offer. <i>The Employer is not obliged to accept the lowest or any bid offer.</i>
5.1	The Employer shall respond to clarifications received up to 7 working days before the tender closing time.
5.4	The time and location for the opening of tender offers are: 12:00 on Thursday, 07 May 2026
	Location: Ephraim Mogale Local Municipality 13 Ficus Street Marble Hall 0450
5.5	The two-envelope system will not be followed for this Tender.
5.7	In the event of disqualification, the Employer may, at his sole discretion, impose a specified period during which tender offers will not be accepted from the offending tenderer and report same to the CIDB and National Treasury.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Clause Number	Tender Data															
5.11.7	The value of $W1$ is: 90 where the financial value, inclusive of VAT, of all responsive tender offers received has a value in excess of R50 000 000,00; or 80 where the financial value, inclusive of VAT, of one or more responsive tender offers has a value that equals or is less than R50 000 000,00. The value of A will be calculated utilizing the following formula: $A=(1-(P-P_m)/P_m)$ Where P is the comparative offer of the tender offer under consideration and P_m is the comparative offer of the most favorable comparative offer In the event that the calculated value is negative, the allocated score shall be 0. In terms of Regulation 3, the Department must stipulate the preference point system applicable to a tender or price quotation. There are, however, instances where it is uncertain to determine the preferential point system applicable during preparation of invitation of tender. If there is uncertainty on the preferential point system to be applied, institution must advertise the tender indicating that the tender will be evaluated on either 80/20 or 90/10 preference system. Once the tender is received, the lowest acceptable tender must be used to determine the preference point system to be used for the evaluation of tenders															
5.11.8	A maximum of 20 points (80/20) preference points system), may be allocated. Bidder may score preference points based on company ownership. If an organ of state applies ownership as specific goal, the department may advertise the tender with a specific tendering preferential procurement requirement that in order for a tenderer to claim 20 points for specific goals, a tendering company must have the following ownership: <table><tr><th>The specific goals allocated points in terms of this tender</th><th>Means of Verification</th><th>Number of points allocated (80/20 system) (To be completed by the organ of state)</th></tr><tr><td>At least 51% Black ownership</td><td>Identification documents / CSD Report / CIPC Certificate</td><td>10</td></tr><tr><td>At least 51% Women Ownership</td><td>Identification document / CSD Report / CIPC Certificate</td><td>5</td></tr><tr><td>At least 51% People with Disability</td><td>Medical Report indicating disability</td><td>3</td></tr><tr><td>At least 51% Youth ownership (18 to 35 Years of age)</td><td>Identification document / CSD Report / CIPC Certificate</td><td>2</td></tr></table>	The specific goals allocated points in terms of this tender	Means of Verification	Number of points allocated (80/20 system) (To be completed by the organ of state)	At least 51% Black ownership	Identification documents / CSD Report / CIPC Certificate	10	At least 51% Women Ownership	Identification document / CSD Report / CIPC Certificate	5	At least 51% People with Disability	Medical Report indicating disability	3	At least 51% Youth ownership (18 to 35 Years of age)	Identification document / CSD Report / CIPC Certificate	2
The specific goals allocated points in terms of this tender	Means of Verification	Number of points allocated (80/20 system) (To be completed by the organ of state)														
At least 51% Black ownership	Identification documents / CSD Report / CIPC Certificate	10														
At least 51% Women Ownership	Identification document / CSD Report / CIPC Certificate	5														
At least 51% People with Disability	Medical Report indicating disability	3														
At least 51% Youth ownership (18 to 35 Years of age)	Identification document / CSD Report / CIPC Certificate	2														

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Clause Number	Tender Data
5.11.9	EVALUATION OF TENDER OFFERS Evaluation of bid Offers Bidders will be evaluated on quality, price and preference. It is important that the relevant information is included to enable the Technical Proposal to be evaluated in accordance with the procedure outlined below. All information must be submitted in a separate file. Tampering with the original Bid document will render the Bid non-responsive. Failure to comply with the above requirements will result in the Bid being disqualified. The Bid evaluation will be conducted as follows: (a) First Bid documents that have been disassembled and copies of the Bid documents will be disqualified outright. (b) Second Bidders will be checked for compliance with Bid Conditions and administrative responsiveness. Non-compliance with any of the requirements will render the Bid non-responsive and it will not be carried forward to the next stage. (c) Third The Bidder's experience, staffing and methodology will be evaluated. Each Bid will be assessed and awarded points for Functionality. Failure to achieve 75 points out of the 100 for Functionality will render the Bid non-responsive. Only Bidders that score the specified minimum number of points for Functionality will be deemed to be acceptable and carried forward to the next stage. The rest will be disqualified. The points for functionality will not be carried forward to the remainder of the evaluation. (Refer to 2(b) below) (d) Fourth Points will be calculated for price on the relevant prices in accordance with the preference point system, 80/20. (refer to 2(c) below) (e) Fifth Points for Specific Goals will be awarded in accordance with the status level of contribution. Refer to 2(d) below) (f) Final The Bid will be awarded to the short-listed Bidder who has scored the highest points for price and Specific Goals, unless there are justifiable, objective reasons to award the Bid to another Bidder. However, the Employer retains the right not to accept any or the lowest Bid. Refer to (2e) below) (a) Compliance with Bid Conditions and other Requirements The Bid will be checked to ensure that they comply with the Bid Conditions and all other requirements of the project document. In particular, the following documentation must be completed, signed and included in the Bid:

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Clause Number	Tender Data																							
	a) Form A – Certificate of attendance at site inspection, to be signed in the Bid document or Signature onsite inspection attendance register. b) Form B – Certificate of Authority for Signature. For JV's a JV Agreement shall be provided (if applicable) c) Form F – Record of addenda to Bid documents. d) Form I – Certificate of non- collusive Bid. e) Form J – Compliance with Occupational Health and Safety Act f) Form Q – Declaration of good standing regarding tax g) Form N – Financial details, statements and bank references. h) Form U– Declaration of bidder's past supply chain management practices. i) Form R – Declaration of interest j) Form W – Construction industries development board registration. k) Form C1.1 – Form of Offer and Acceptance l) Contract Data Section 2: Data provided by the contractor. Failure to comply with the Bid Conditions or to supply the necessary information at Bid closure WILL result in the Bid being rejected. Non submission of any of the forms listed above will result in the Bid being rejected as non-responsive. (b) Second Stage in Evaluation: Quality or Functionality: Points System It is important that the Bidder provides information as requested as this information will be used for functionality in which a minimum of 75 points must be scored to move to the next stage of evaluation. <table border="1"> <thead> <tr> <th colspan="3">Functionality for Contractor</th> <th>Points Allocation</th> </tr> </thead> <tbody> <tr> <td colspan="3"> Company Experience for Construction Service in Roads Projects [attach Appointment Letters and Completion Certificates] <table border="1"> <thead> <tr> <th>No.</th> <th>List reference with details</th> <th>Maximum points (40)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Completed projects with value of above R20m</td> <td>8 points each project</td> </tr> <tr> <td>2.</td> <td>Completed projects with value of R10m to R20m</td> <td>6 points each project</td> </tr> <tr> <td>3.</td> <td>Completed projects with value of R5m to R9.9m</td> <td>4 points each project</td> </tr> <tr> <td>4.</td> <td>Completed projects with value of less than R5m</td> <td>2 points each project</td> </tr> </tbody> </table> The tenderer to attach 5 largest appointment letters & their respective completion certificates. Failure to submit the required Appointment Letter and Completion Certificates for each project signed by all parties namely: The Employer, the Contractor, and the Engineer, will result in the bidder getting zero points. </td> <td>40</td> </tr> </tbody> </table>	Functionality for Contractor			Points Allocation	Company Experience for Construction Service in Roads Projects [attach Appointment Letters and Completion Certificates] <table border="1"> <thead> <tr> <th>No.</th> <th>List reference with details</th> <th>Maximum points (40)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Completed projects with value of above R20m</td> <td>8 points each project</td> </tr> <tr> <td>2.</td> <td>Completed projects with value of R10m to R20m</td> <td>6 points each project</td> </tr> <tr> <td>3.</td> <td>Completed projects with value of R5m to R9.9m</td> <td>4 points each project</td> </tr> <tr> <td>4.</td> <td>Completed projects with value of less than R5m</td> <td>2 points each project</td> </tr> </tbody> </table> The tenderer to attach 5 largest appointment letters & their respective completion certificates. Failure to submit the required Appointment Letter and Completion Certificates for each project signed by all parties namely: The Employer, the Contractor, and the Engineer, will result in the bidder getting zero points.			No.	List reference with details	Maximum points (40)	1.	Completed projects with value of above R20m	8 points each project	2.	Completed projects with value of R10m to R20m	6 points each project	3.	Completed projects with value of R5m to R9.9m	4 points each project	4.	Completed projects with value of less than R5m	2 points each project	40
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Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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30

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Clause Number	Tender Data																																																		
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Bidders must score a minimum of 75 percentage points out of the 100 percentage to qualify for further adjudication.

Clause Number	Tender Data
5.13	In addition to the requirements of the Condition of Tender, offers will only be accepted if: - The tenderer has in his or her possession an original valid Tax Clearance Certificate issued by the South African Revenue Services or has made arrangements to meet outstanding tax obligations; - The tenderer is registered with the Construction Industry Development Board with an appropriate contractor grading designation.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Clause Number	Tender Data
	- The tenderer or any of its directors 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. - The tenderer has not abused the Employer's supply chain management system; - The tenderer has not failed to perform on any previous contract and has not been given a written notice to this effect; - The tenderer is registered on the National Treasury Central Supplier Database; - To attend a compulsory briefing session and site inspection. Signing the briefing and site inspection attendance register is mandatory;
5.17	The number of paper copies of the signed contract to be provided by the Employer is 1.
5.19	All requests shall be in writing.
ADDITIONAL CONDITIONS OF TENDER CLAUSES:	
3.7	Jurisdiction Unless stated otherwise in the tender data, each tenderer and the Employer undertake to accept the jurisdiction of the law courts of the Republic of South Africa.

T1.3: STANDARD CONDITIONS OF BID

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

(As contained in Annexure F of the CIDB Standard for Uniformity in Construction Procurement)

F.1 General

F.1.1 Actions

The employer and each bidder submitting a bid offer shall comply with these conditions of bid. 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, and transparently.

F.1.2 Bid Documents

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

F.1.3 Interpretation

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

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

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

- a) **Comparative offer** means the bidder's financial offer after the factors of non-firm prices, all unconditional discounts and any other bided 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 bid process; and
- c) **Fraudulent practice** means the misrepresentation of the facts in order to influence the bid process or the award of a contract arising from a bid offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels
- d) **Quality (functionality)** means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs

F.1.4 Communication and employer's agent

Each communication between the employer and a bidder shall be to or from the employer's agent only, and in a form that can be read, copied and recorded. Writing shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a bidder. The name and contact details of the employer's agent are stated in the bid data.

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

F.1.5.1 The employer may accept or reject any variation, deviation, bid offer, or alternative bid offer, and may cancel the bid process and reject all bid offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a bidder 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 bid process or the rejection of all responsive bid offers re-issue a bid covering substantially the same scope of work within a period of six months unless only one bid was received and such bid was returned unopened to the bidder.

F.2 Bidder's obligations

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

F.2.1 Eligibility

Submit a bid offer only if the bidder complies with the criteria stated in the bid data and the bidder, or any of his principals, is not under any restriction to do business with employer.

F.2.2 Cost of bidding

Accept that the employer will not compensate the bidder for any costs incurred in the preparation and submission of a bid offer, including the costs of any testing necessary to demonstrate that aspects of the offer satisfy requirements.

F.2.3 Check documents

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

F.2.4 Confidentiality and copyright of documents

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

F.2.5 Reference documents

Obtain, as necessary for submitting a bid 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 bid documents by reference.

F.2.6 Acknowledge addenda

Acknowledge receipt of addenda to the bid documents, which the employer may issue, and if necessary apply for an extension to the closing time stated in the bid data, in order to take the addenda into account.

F.2.7 Clarification meeting

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

F.2.8 Seek clarification

Request clarification of the bid documents, if necessary, by notifying the employer at least five working days before the closing time stated in the bid data.

F.2.9 Insurance

Be aware that the extent of insurance to be provided by the employer (if any) may not be for the full cover required in terms of the conditions of contract identified in the contract data. The bidder is advised to seek qualified advice regarding insurance.

F.2.10 Pricing the bid offer

F.2.10.1 Include in the rates, prices, and the bided total of the prices (if any) all duties, taxes (except Value Added Tax (VAT)), and other levies payable by the successful bidder, such duties, taxes and levies being those applicable 14 days before the closing time stated in the bid data.

F2.10.2 Show VAT payable by the employer separately as an addition to the bidder's total of the Prices.

F.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

adjustment except as provided for in the conditions of contract identified in the contract data.

F.2.10.4 State the rates and prices in Rand unless instructed otherwise in the bid data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

F.2.11 Alterations to documents

Not make any alterations or additions to the bid documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the bidder. All signatories to the bid offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.

F.2.12 Alternative bid offers

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

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

F.2.13 Submitting a bid offer

F.2.13.1 Submit a bid 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 bid data.

F.2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing in black ink.

F.2.13.3 Submit the parts of the bid offer communicated on paper as an original plus the number of copies stated in the bid data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.

F.2.13.4 Sign the original and all copies of the bid offer where required in terms of the bid data. The Employer will hold all authorized signatories liable on behalf of the bidder. Signatories for bidders 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 bid offer.

F.2.13.5 Seal the original and each copy of the bid offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the bid data, as well as the bidder's name and contact address.

F.2.13.6 Where a two-envelope system is required in terms of the bid data, place and seal the returnable documents listed in the bid data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the bid data, as well as the bidder's name and contact address.

F.2.13.7 Seal the original bid offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the bid data.

F.2.13.8 Accept that the employer shall not assume any responsibility for the misplacement or premature opening of the bid 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 bid offers, which do not provide all the data or information requested completely and in the form

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

required, may be regarded by the employer as non-responsive.

F.2.15 Closing time

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

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

F.2.16 Bid offer validity

F.2.16.1 Hold the bid offer(s) valid for acceptance by the employer at any time during the validity period stated in the bid data after the closing time stated in the bid data.

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

F.2.17 Clarification of bid offer after submission

Provide clarification of a bid offer in response to a request to do so from the employer during the evaluation of bid 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 total of the prices or substance of the bid offer is sought, offered, or permitted. The total of the prices stated by the bidder shall be binding upon the bidder.

Note: Sub-clause F.2.17 does not preclude the negotiation of the final terms of the contract with a preferred bidder 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 bid offer, the bidder's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the bidder 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 bid offer as non-responsive.

F.2.18.2 Dispose of samples of materials provided for evaluation by the employer, where required.

F.2.19 Inspections, tests and analysis

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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

issue the contract.

F.2.22 Return of other bid documents

If so instructed by the employer, return all retained bid documents within 28 days after the expiry of the validity period stated in the bid data.

F.2.23 Certificates

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

F.3 The employer's undertakings

F.3.1 Respond to clarification

Respond to a request for clarification received up to five working days prior to the bid closing time stated in the Bid Data and notify all bidders who drew procurement documents.

F.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the bid documents to each bidder during the period from the date of the Bid Notice until seven days before the bid closing time stated in the Bid Data. If, as a result a bidder applies for an extension to the closing time stated in the Bid Data, the Employer may grant such extension and, will then notify it to all bidders who drew documents.

F.3.3 Return late bid offers

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

F.3.4 Opening of bid submissions

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

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

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

F.3.5 Two-envelope system

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

F.3.5.2 Evaluate the quality of the technical proposals offered by bidders, then advise bidders 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 bidders, who score in the quality evaluation above the minimum number of points for quality stated in the bid data, and announce the score obtained for the technical proposals and the total price and any preferences claimed. Return unopened financial proposals to bidders whose technical proposals failed to achieve the minimum number of points for quality.

F.3.6 Non-disclosure

Not disclose to bidders, or to any other person not officially concerned with such processes, information

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

relating to the evaluation and comparison of bid offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful bidder.

F.3.7 Grounds for rejection and disqualification

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

F.3.8 Test for responsiveness

Determine, on opening and before detailed evaluation, whether each bid offer properly received:

- a) Meets the requirements of these Conditions of Bid,
- b) Has been properly and fully completed and signed, and
- c) is responsive to the other requirements of the bid documents.

A responsive bid is one that conforms to all the terms, conditions, and specifications of the bid documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

- Detrimentially affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- change the Employer's or the bidder's risks and responsibilities under the contract, or
- affect the competitive position of other bidders presenting responsive bids, if it were to be rectified.

Reject a non-responsive bid offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

F.3.9 Arithmetical errors

Check responsive bid offers for arithmetical errors, correcting them in the following manner:

- Where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern.
- If a bill 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 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 will be corrected.
- Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the bidder's addition of prices, the total of the prices shall govern and the bidder will be asked to revise selected item prices (and their rates if a bills of quantities applies) to achieve the bided total of the prices.

Consider the rejection of a bid offer if the bidder does not correct or accept the correction of his arithmetical errors in the manner described above.

F.3.10 Clarification of a bid offer

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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

F.3.11 Evaluation of bid offers

F3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive bid offer to a comparative offer and evaluate it using the bid evaluation method that is indicated in the Bid Data and described below:

Method 1: Financial offer	1) Rank bid offers from the most favorable to the least favorable comparative offer. 2) Recommend highest ranked bidder for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 2: Financial offer and preferences	1) Score bid evaluation points for financial offer. 2) Confirm that bidders are eligible for the preferences claimed and if so, score bid evaluation points for preferencing. 3) Calculate total bid evaluation points. 4) Rank bid offers from the highest number of bid evaluation points to the lowest. 5) Recommend bidder with the highest number of bid evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 3: Financial offer and quality	1) Score quality, rejecting all bid offers that fail to score the minimum number of points for quality stated in the Bid data. 2) Score bid evaluation points for financial offer. 3) Calculate total bid evaluation points. 4) Rank bid offers from the highest number of bid evaluation points to the lowest. 5) Recommend bidder with the highest number of bid evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 4: Financial offer, quality and preferences	1) Score quality, rejecting all bid offers that fail to score the minimum number of points for quality stated in the Bid data. 2) Score bid evaluation points for financial offer. 3) Confirm that bidders are eligible for the preferences claimed, and if so, score bid evaluation points for Preferencing. 4) Calculate total bid evaluation points. 5) Rank bid offers from the highest number of bid evaluation points to the lowest. 6) Recommend bidder with the highest number of bid evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

Score financial offers, preferences and quality, as relevant, to two decimal places.

F.3.11.2 Scoring Financial Offers

Score the financial offers of remaining responsive bid offers using either formulas 1 or 2 below as stated in the Bid Data:

Formula	Basis for comparison	Option 1	Option 2
1	Highest price or discount	$(1 + \frac{(P - P_m)}{P_m})$	P/P_m
2	Lowest price or percentage commission/fee	$(1 - \frac{(P - P_m)}{P_m})$	P_m/P

where:

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

P_m = the comparative offer of the most favorable bid offer.
P = the comparative offer of bid offer under consideration.

F.3.11.3 Scoring quality (functionality)

Score quality in each of the categories stated in the Bid Data and calculate total score for quality.

F.3.12 Insurance provided by the employer

If requested by the proposed successful bidder, submit for the bidder's information the policies and / or certificates of insurance which the conditions of contract identified in the contract data, require the employer to provide.

F.3.13 Acceptance of bid offer

F.3.13.1 Accept bid offer only if the bidder satisfies the legal requirements stated in the Bid Data.

F.3.13.2 Notify the successful bidder of the employer's acceptance of his bid offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the bid 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 contract between the employer and the successful bidder as described in the form of offer and acceptance.

F.3.14 Notice to unsuccessful bidders

After the successful bidder has acknowledged the employer's notice of acceptance, notify other bidders that their bid offers have not been accepted.

F.3.15. Prepare contract documents

If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the bid documents to take account of:

- a) Addenda issued during the bid period,
- b) Inclusion of some of the returnable documents,
- c) Other revisions agreed between the employer and the successful bidder, and
- d) The schedule of deviations attached to the form of offer and acceptance, if any.

F.3.16 Issue final contract

Prepare and issue the final draft of contract documents to the successful bidder for acceptance as soon as possible 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 bid require the bidder to submit, after acceptance by the employer, shall be included.

F.3.17 Complete adjudicator's contract

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

F.3.18 Provide copies of the contracts

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


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

PART T2: LIST OF RETURNABLE SCHEDULES

	Page
T2.1: LIST OF RETURNABLE DOCUMENTS.....	T.26
T2.2: RETURNABLE SCHEDULES TO BE COMPLETED BY TENDERER	T.27

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

T2.1: LIST OF RETURNABLE DOCUMENTS

The tenderer must complete the following returnable documents:

1 Returnable Schedules required only for tender evaluation purposes

- A. Certificate of attendance at site clarification meeting
- B. Certificate of authority of signatory
- C. Schedule of proposed subcontractors
- D. Schedule of plant and equipment
- E. Schedule of the tenderer's experience
- F. Record of addenda to tender documents
- G. Deviations or qualifications by the tenderer
- H. Contractor's establishment on site
- I. Certificate of non-collusive tender 1 in the case of a single construction concern: i/we certify that this is a bona fide tender.
- J. Compliance with occupational health and safety act, 1993 and construction regulations, 2014
- K. Requirements in terms of government's reconstruction and development programme
- L. Form of intent to provide a demand guarantee.
- M. Financial information of bidder
- N. Certificate for municipal services and payments
- O. Tax clearance certificate requirements
- P. Declaration of interest
- Q. Declaration for procurement above R10 million (all applicable taxes included)
- R. Preference points claim form in terms of the preferential procurement regulations 2011
- S. Declaration of bidder's past supply chain management practices
- T. Certificate of independent bid determination

NB: Mandatory documents will also be used for the evaluation

2. Other documents required only for bid evaluation purposes

- U. Original Bank Rating Letter
- V. CSD Report
- Y. Day work schedule
- Z. Preference Schedule
- AA. Organogram and curriculum vitae of key personnel
- BB. Project programme and method statement
- CC. Schedule of estimated monthly expenditure
- DD. Rates for special materials

TENDERERS ARE INSTRUCTED TO COMPLETE ALL THE SCHEDULES ATTACHED HEREIN. FAILURE TO COMPLETE ANY OF THE SCHEDULES MAY RESULT IN AUTOMATIC DISQUALIFICATION OF THE TENDER AS THE TENDER WILL BE CONSIDERED NOT RESPONSIVE. IF THE SCHEDULE IS NOT APPLICABLE TENDERERS ARE INSTRUCTED TO INDICATE NOT APPLICABLE AND SIGN THE SCHEDULE

3 The offer portion

Part C1 Agreements and Contract Data

Part C2 Pricing Data

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

T2.2 RETURNABLE SCHEDULES

A. CERTIFICATE OF ATTENDANCE AT SITE CLARIFICATION MEETING

This is to certify that:

..... (Bidder)

of (Address)

.....

was represented by the person(s) named below at the compulsory meeting held for all bidders at

.....(location) on (date), starting at

We acknowledge that the purpose of the meeting was to acquaint ourselves with the Site of the Works and/or matters incidental to doing the work specified in the bid documents in order for us to take account of everything necessary when compiling our entire bid submission.

Particulars of person(s) attending the meeting:

Name Signature

Capacity.....

Name Signature

Capacity.....

Note: All particulars above this horizontal divide line to be filled in by the Bidder **prior to** signature by Employer's representative.

Attendance of the above persons at the meeting is confirmed by the representative of namely:

Name Signature

Capacity..... Date Time

Note to the tenderer: Tenderers must attend the clarification meeting. And they must ensure that suitably qualified or experienced personnel attend the meeting.

Tenderers must ensure that those who attend the meeting on their behalf complete the official attendance register. Attendees must fill in the tenderers' names and contact details and they must sign the register. If they do not, the offers of the tenderers they represent at the meeting will be considered non-responsive.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B. CERTIFICATE OF AUTHORITY OF SIGNATORY

Indicate the status of the bidder by ticking the appropriate box hereunder. The bidder must complete the certificate set out below for the relevant category and also attach confirmation on **your company letterhead**

A Company	B Partnership	C Joint Venture	D Sole Proprietor	E Close Corporation

A. Certificate for company (To be printed and attached on original letterhead)

I, ..., chairperson of the board of directors of, hereby confirm that by resolution of the board (copy attached) taken on 20..., Mr/Mrs.....acting in the capacity of....., was authorised to sign all documents in connection with this bid and any contract resulting from it on behalf of the company.

As witness

1.....
Chairman
2.....
Date

B. Certificate of partnership

We, the undersigned, being the key partners in the business trading as hereby authorise Mr/Mrs....., acting in the capacity of..... to sign all documents in connection with the bid for Contract..... and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

NOTE: This certificate is to be completed and signed by all of the key partners upon whom rests the direction of the affairs of the Partnership as a whole.

Employer
 Witness 1
 Witness 2
 Contractor
 Witness 1
 Witness 2

C. Certificate for Joint Venture (Lead partner should be filled in first)

We, the undersigned, are submitting this bid offer in Joint Venture and hereby authorise Mr/Mrs....., authorised signatory of the company,

acting in the capacity of lead partner, to sign all documents in connection with the bid offer for Contract.....and any other contract resulting from it on our behalf.

This authorisation is evidenced by the attached power of attorney signed by legally authorised signatories of all the partners to the Joint Venture.

NAME OF FIRM	ADDRESS	AUTHORISING SIGNATURE, NAME & CAPACITY

D. Certificate for sole proprietor

I, ..., hereby confirm that I am the sole owner of the business trading as.....

As Witness:

1.....
Signature: Sole owner

2.....
Date

E. Certificate for Close Corporation

We, the undersigned, being the key members in the business trading as.....hereby authorize Mr/Mrs.....

Acting in the capacity of....., to sign all documents in connection with the bid for Contract.....and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

NOTE: This certificate is to be complete and signed by all the key members upon whom rests the direction of the affairs of the Close Corporation as a whole

The signatory for the tenderer shall confirm his/her authority thereto by attaching on the tendering company's letterhead a duly signed and dated copy of the relevant resolution of the board of directors/partners.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C. SCHEDULE OF PROPOSED SUBCONTRACTORS

We notify you that it is our intention to employ the following subcontractors for work in this contract.

If we are awarded a contract, we agree that this notification does not change the requirement for us to submit the name of proposed subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us.

	Name and address of proposed Subcontractor	Company Registration Number & CIDB Classification	Description of Work to be executed by Subcontractor
1.			
2.			
3.			
4.			
5.			
6			
7			
8			
9			
10			
11			
12			
13			

Signed.....

Date.....

Name.....

Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

[illegible]

Bidder.....

Witness 2

The following is a statement of similar work successfully executed by myself/ourselves in the last five years:

[illegible]

Bidder

Witness 2

FORM 2.1.2 SIZE OF ENTERPRISE AND CURRENT WORKLOAD

What was your turnover in the previous financial year? R _____

What is the estimated turnover for your current financial year? R _____

Physical facilities:

Provide information on offices, factories, yards and warehouses occupied by your enterprise (attach details if the space provided is not enough)

Description	Address	Area (m ²)

List your current contracts and obligations:

Description	Value (R)	Start date	Duration	Expected date completed

Do you have the capacity to supply the goods and services described in this bid, should the contract be awarded to you?

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

FORM 2.1.3 STAFFING PROFILE

Provide information on the staff that you have available to execute this contract (attach a separate list if the space provided is insufficient)

Own staff: gender and race	Number of staff
Staff to be employed for the project: gender and race	Number of staff

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

FORM 2.1.4 PROPOSED KEY PERSONNEL

The Bidder shall list below the key personnel (including first nominee and the second choice alternate), whom he proposes to employ on the project should his Bid be accepted, both at his headquarters and on the Site, to direct and for the execution of the work, together with their qualifications, experience, positions held and their nationalities.

DESIGNATION	NAME OF	NATIONALITY:	SUMMARY OF		HDI Status Yes/No	Qualification on Certified Yes/No
	(i) NOMINEE (ii) ALTERNATE		QUALIFICATIONS	EXPERIENCE AND PRESENT OCCUPATION		
<u>HEADQUARTERS</u> Partner/director						
Project Manager						
<u>CONSTRUCTION MONITORING</u>						
Site Agent						
Site Foreman						
Safety Officer						

****The above stated incumbents should be the same during project implementation, any change must be subjected to approval process by the Municipality.

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

F. RECORD OF ADDENDA TO BID DOCUMENTS

We confirm that the following communications received from the Employer before the submission of this bid offer, amending the bid documents, have been taken into account in this bid offer:			
	Date	Title or Details	
1.			
2.			
3.			
4.			
5.			
6.			
Attach additional pages if more space is required.			
Signed		Date	
Name		Position	
Bidder			

Note: If any addenda has been issued; the information of the addenda must filled on the table above and the signed copy of the issued addendum be attached in the document as an annexure.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

G. DEVIATIONS OR QUALIFICATIONS BY THE BIDDER

Note: Bidders will be declared to be non-responsive should any proposed deviation or qualification, save for where alternative bid offers are permitted in terms of the Bid Data, in the employer's opinion:

- a) Detrimently affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) Change the employer's or the bidders risks and responsibilities under the contract, or
- c) Affect the competitive position of other bidders presenting responsive bids, if it were to be rectified.

PAGE	DESCRIPTION

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

H. CONTRACTOR'S ESTABLISHMENT ON SITE

Should the combined, extended total have bided for Item 13.01 The contractor's general obligations:

- (a) Fixed obligations
- (b) Value-related obligations
- (c) Time-related obligations

exceed a maximum of 15 % of the bid sum (excluding VAT), the bidder shall clearly set out his reasons for bidding in this manner in a letter attached to this page.

Total bided for Item B13.01 expressed as a percentage of the bid sum (excluding VAT):%
(insert percentage).

ESTABLISHMENT OVER AND ABOVE ITEM 13.01 (see item B13.01)		
ITEM	PORTION OF RATE OR SUM (R)	VALUE (RANDS)
TOTAL VALUE		

Note to Bidder:

If the bidder should require additional compensation for his obligations under section 1300 (over and above the total bided for item 13.01) by including such additional compensation in the bided rates and/or lump sum of items in the bill of quantities, these items and the value of such additional compensation shall also be set out in a letter attached to this form.

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

I. CERTIFICATE OF NON-COLLUSIVE TENDER 1 IN THE CASE OF A SINGLE CONSTRUCTION CONCERN:

I/We certify that this is a bona fide bid.

I/We also certify that I/We have not done and I/We undertake not to do any of the following at any time before the hour and date specified for the closure of submission of bids for this contract.

- a) Fix or adjust the amount of this bid by or under or in accordance with any agreement or arrangement with any other person;
- b) communicate to a person other than the person calling for these bids the amount or approximate amount of the proposed bid, except when the confidential disclosure of the approximate amount of the bid is necessary to obtain the insurance-premium quotations required for preparation of the bid;
- c) Cause or induce any other person to communicate to me/us the amount or approximate amount of any rival bid for this contract;
- d) enter into any agreement or arrangement with any other person to induce him to refrain from bidding for this contract, or to influence the amount of any bid or the conditions of any bid to be submitted, nor cause or induce any other person to enter into any such agreement or arrangement;
- e) offer or pay or give or agree to pay or to give any sum of money or valuable consideration directly or indirectly to any person for doing or having done or causing or having caused to be done in relation to any bid or proposed bid for this contract, any action similar to those described above.

In this certificate the term "person" includes any persons, body of persons or association, whether corporate or not, and the term "agreement or arrangement" includes any agreement or arrangement, whether formal or informal and whether legally binding or not.

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

CERTIFICATE OF NON-COLLUSIVE BID (continued)

2 IN THE CASE OF A CONSORTIUM OF CONSTRUCTION CONCERNS:

We certify that this is a bona fide bid.

We also certify that we have not done and we undertake not to do any of the following at any time before the hour and date specified for the closure of submission of bids for this contract:

- a) Fix or adjust the amount of this bid by or under or in accordance with any agreement or arrangement with any person outside this consortium;
- b) communicate to a person outside this consortium other than the person calling for these bids, the amount or approximate amount of the proposed bid, except when the confidential disclosure of the approximate amount of the bid is necessary to obtain insurance premium quotations required for preparation of the bid;
- c) cause or induce any person outside this consortium to communicate to us the amount or approximate amount of any rival bid for this contract.
- d) enter into any agreement or arrangement with any person outside this consortium to induce him to refrain from bidding for this contract, or to influence the amount of any bid or the conditions of any bid to be submitted, nor cause or induce any person outside this consortium to enter into any such agreement or arrangement;
- e) offer or pay or give or agree to give any sum of money or valuable consideration directly or indirectly to any person outside this consortium for doing or having done or causing or having caused to be done in relation to any bid or proposed bid for this contract, any action similar to those described above.

In this certificate the term "person" includes any persons, body of persons or association, whether corporate or not, the term "agreement or arrangement" includes any agreement or arrangement, whether formal or informal and whether legally binding or not, and the term "person outside this consortium" means, when the consortium is a partnership, a person other than a partner or an employee of a partner or the partnership, or when the consortium is a company, a person other than a person or company holdings shares in the consortium, or any employee of such a person, company or the consortium.

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

J. COMPLIANCE WITH OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 AND CONSTRUCTION REGULATIONS, 2014

The bidder shall attach to this Form evidence that he is registered and in good standing with a compensation insurer who is approved by Department of Labour in terms of section 80 of the Compensation for Injury and Disease Act (COID) (Act 130 of 1993).

The bidder is required to disclose, by also attaching documentary evidence to this form, all inspections, investigations and their outcomes conducted by the Department of Labour into the conduct of the bidder at any time during the 36 months preceding the date of this bid.

Note to bidder:

Discovery that the bidder has failed to make proper disclosure may result in EPHRAIM MOGALE LOCAL MUNICIPALITY terminating a contract that flows from this bid on the ground that it has been rendered invalid by the bidder's misrepresentation.

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

K. REQUIREMENTS IN TERMS OF GOVERNMENT'S RECONSTRUCTION AND DEVELOPMENT PROGRAMME

K1 General

The employer requires the active participation of the contractor in this aspect of the contract. Forms RDP 1 (E) to RDP 4 (E) apply to this section and must be completed and submitted with the bid.

The bidder's submissions under this item will be taken into consideration when evaluating bids received.

K2 Definitions

K2.1 Contract Participation Goal (CPG)

The value of goods, services and works, excluding VAT, for which the contractor proposes to engage labour or ABEs .

K2.2 Affirmable Business Enterprise (ABE)

A business which adheres to statutory labour practices, is a legal entity, registered with the South African Revenue Service and a continuing and independent enterprise for profit, providing a commercially useful function and

- a) which is at least 51 % Owned by one or more Previously Disadvantaged Individuals (PDI) or in the case of a company, at least 51 % of the shares are owned by one or more Previously Disadvantaged Individuals (PDI) and
- b) whose management and daily business operations are under the control of one or more of the Previously Disadvantaged Individuals (PDI) who effectively own it provided, however, that, during the period for which the business has been operating or the previous three financial years, whichever period is the lesser, the average annual turnover of the business (excluding VAT and any turnover generated in respect of work performed by other parties in a joint venture or a consortium) does not exceed:
 - 1) R10 million in respect of contractors who mainly perform Civil Engineering Services.
 - 2) R2,5 million in respect of labour-only subcontractors
 - 3) R10 million in respect of Manufacturers
 - 4) R15 million in respect of Suppliers
 - 5) R2,5 million, exclusive of any turnover generated in respect of out-sourced activities which the enterprise does not have the in-house competence and expertise to perform, in respect of professional service providers, and
 - 6) R2, 5 million in respect of other service providers, e.g., transport; and that the sum of the average annual turnovers over the same period of all the business concerns which are under the control of Previously Disadvantaged Individuals (PDI) within the business entity and Affiliated Entities does not exceed one and a half (1,5) times the maximum allowable annual average turnover for the particular category of enterprise as set out in (b) above, seeking ABE status.

K2.3 "Historically Disadvantaged Individuals (HDIs)" means all South African Citizens

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

1. who had no franchise in national elections prior to the introduction of the 1983 and 1993 constitutions;
2. women, or
3. disabled persons

Persons who obtained South African Citizenship after the first democratic election in April 1994, cannot qualify for preference as an HDI.

K2.4 Target values

(a) The values of the following items (excluding VAT) expressed as percentages of the Bid Sum, (excluding VAT) as proposed by the bidder in his bid. The monetary total of these values shall be the CPG. The values of the targets (including VAT) are expressed as follows:

- At Bid stage: As a percentage of the Bid Sum (i.e. excluding Contingencies, CPA and Rise and Fall, but inclusive of VAT) as proposed by the bidder in his bid
- After Award: As a percentage of the certified work done (i.e. excluding savings, but inclusive of variation orders and VAT)

In this contract the minimum target values shall be as follows:

Labour Maximisation (wages)	:	10%
SMME's	:	30%
ABE/s support	:	10%

The value of target values, ***the bid of a bidder whose proposed target values are below the minimum set by the employer may be disqualified.***

(b) The following item expressed as a percentage of the total number of supervisory staff employed on the contract, as proposed by the bidder in his bid. In this contract the minimum target value shall be:

HDI Supervisory Staff: 10%

The bid of a bidder whose proposed target values are below the minimum set by the employer may be disqualified.

The maximum target values for each category will be the highest of all values submitted in the bids short-listed for detailed evaluation.

K2.5 Labour Maximisation

It is a requirement of this contract that participation in the contract must be granted to labour in order to maximize job creation as well as to maximize expenditure towards the unemployed.

The specified target value for labour expenditure is **30%** of the contract value. This labour content shall be from the LOCAL COMMUNITY where Local Community means those in the immediate vicinity of the project. Labour is defined as hourly paid personnel including the CLO.

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.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Penalties: The penalties for not reaching the required labour target values will be calculated at **30%** 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 **30%** of the planned accumulative monthly figures. No bonuses for achieving the set target values are applicable. In the event that penalties are reversed, no interest will be claimable on the value of the penalty.

K2.6 SMME

SMME (According to the National Small Business Amendment Act, No. 29 of 2004):

Definition: A "Small [business] Enterprise" means a separate and distinct business entity, together with its branches or subsidiaries, if any, including co-operative enterprises [and non-governmental organisations], managed by one owner or more [which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or subsector of the economy, which can be classified as a micro-, a very small, a small or a medium enterprise by satisfying the criteria mentioned in columns 2, 3 and 4 of the Schedule opposite the smallest relevant size or class as mentioned in column 1 of the Schedule for the Construction category below:

Size of class	Total full time equivalent of paid employees	Total annual turnover	Total gross asset value(fixed property excluded)
Medium	200	R26m	R5m
Small	50	R6m	R1m
Very Small	20	R3m	R0,5m
Micro	5	R0,2m	R0,1m

It is a requirement of this contract that participation in the contract must be granted to local SMME companies. Local is defined as "having their head office within the Limpopo Province boundaries." A SMME company should be a registered company, but not necessarily be registered with CIDB, although it is preferred. The minimum target for participation is thirty percent (30%) of the total contract value and this can be achieved through one or more sub-contractors. EPMLM reserves the right to terminate the contract should the contractor fail to honour the commitment as stipulated by the contractor on this page

Information in this regard needs to be provided by the contractor on Forms RDP 2 (E), RDP 2 (E1), RDP 2 (E2), etc. Commitment to these goals will be a condition of award.

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.

K2.7 Broad-Based Black Economic Empowerment (B-BBEE)

As assigned in the Codes of Good Practice, B-BBEE means the economic empowerment of all Black People through diverse but integrated socio-economic strategies that include, but not limited to:

- increasing the number of Black People that manage, own and control enterprises and productive assets;
- facilitating ownership and management of enterprises and productive assets by communities, workers, co-operatives and other collective enterprises;
- human resources and skills development;
- achieving equitable representation in all occupational categories and levels in the workforce;
- investment in enterprises that are owned or managed by Black People.


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

K3 Contract Participation Performance (CPP)

K3.1 The Contractor's Participation Performance will be measured monthly in order to monitor the extent to which he is striving to reach the Contract Participation Goal (CPG) he proposed in his bid. Failure to reach the CPG will make him liable for a penalty as prescribed in Section C3.3.1.5 of the Preferential Procurement Point System Policy.

K3.2 Monitoring of CPG

Regular returns will be required from the contractor, to be submitted with each payment certificate.

Examples of the forms to be used are illustrated under Annexure C5.1 of this document.

K4 Training

Provision is made in the PROJECT SPECIFICATIONS for structured training to be provided by the contractor to PDI'S and ABE'S.


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

RDP 1 (E) SCHEDULE OF LABOUR CONTENT

The Bidder must complete the table below to reflect the labour force anticipated to be employed on this contract, including labour employed by sub-contractors. The specified target value is 10%.

Note: A minimum of 5% target value should be obtained from Local Labour content

Type of Labour	Man-days	Minimum Wage Rate per Unit	Total Wage Cost (Excl VAT)
Permanent Labour			
Temporary Labour			
SMME/HDI's Labour			
		TOTAL	
		PERCENTAGE	

Notes to Bidder:

- (1) Labour is defined as hourly paid personnel or personnel paid per task.
(2) The penalty for non-compliance during the contract or for fraudulent disclosure is discussed in Section C3.3.1.5.

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

RDP 2 (E) EMPLOYMENT OF ABE'S

Target values of work to be executed by and goods & services to be procured from ABEs shall be 10%.

Schedule Item No	Name of ABE	Item Description/ Goods & Services to be provided	Value	
			Rand (Excl VAT)	% of Bid Sum (Excl VAT)
TOTAL				

Notes to bidder:

1. Regardless whether the bidder fits the classification of an SMME/PDI, as defined in Section 3.3 of this specification, the bidder nevertheless retains the obligation to commit to the target values prescribed under Form T2.1 K, item K2.4.
2. Bidders shall insert "unknown" if an SMME/PDI has not been selected prior to bid closing date.
3. The penalty for non-compliance during the contract or for fraudulent disclosure is discussed in Section C3.3.1.5.

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

RDP 3 (E) HDI EQUITY IN PROJECT

The bidder shall complete the table below

Company Name (In Case of Joint Venture, all JV Partner Names)	Other HDI Equity Share %	Female Equity Share %	Total HDI Equity Share %

Notes to bidder:

The bidder may be required to provide audited proof of equity distribution. In the case of public listed companies the ratios of equity shareholding are to be replaced by the ratio of HDI and female representation at directorship level.

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

RDP 4 (E) HDI SUPERVISORY STAFF

The minimum value of HDI supervisory staff expressed as a percentage of the total number of staff be 50%. Refer Form T2.1 K, item 2.4(b).

It is proposed to employ the following salaried personnel on this contract as supervisory staff:

(Note: The Curriculum Vitae of each staff member proposed to be attached to Section T2.3 A)

Staff Category Number per Category HDI Status (Yes or No)

Staff Category	Number per Category	HDI Status (Yes or No)
TOTALS		

HDI as percentage of total %

Notes to bidder:

1. If personnel are hourly paid they cannot be classified as supervisory staff, regardless the nature of their duties.
2. The bidder may be required to provide audited proof that the stated personnel are salaried members of staff or contracted on a monthly fee.
3. Examples of relevant personnel are: Site agent, assistant site agent, senior materials technician, senior surveyors and clerks.

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

RDP 5 (E) ABE DECLARATION AFFIDAVIT

It is understood and agreed that should this contract be awarded to me an ABE Declaration Affidavit will be completed by each and every ABE employed by me on this contract and will be submitted to the Employer immediately upon demand by the Employer.

ESTENDER

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

RDP 6 (E) ENTREPRENEURIAL TRAINING

Name of Training Institution:

Name of Programme:

Trainer's Name	Qualification	Subject

Notes to bidder:

Provide details here, or attach hereto, the subjects to be covered and the manner in which the training is to be delivered.

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

RDP 7 (E) ENGINEERING SKILLS TRAINING

Name of Training Institution:

Name of Programme:

Trainer's Name	Qualification	Subject

Notes to bidder:

Provide details here, or attach hereto, the subjects to be covered and the manner in which the training is to be delivered.

Signed..... Date

Name..... Position.....

Bidder.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

L. FORM OF INTENT TO PROVIDE A DEMAND GUARANTEE

NB: Bidder to complete this form and attach proof

If my/our bid is accepted, I/we will, when required and within the time stipulated, provide a guarantee of

(*) Insurance Company (name)

(of address)

.....

(*) Commercial Bank (Name)

(Branch)

(of address)

.....

to be approved by you, the Employer, for the amount stipulated.

(*) : delete whichever is not applicable.

I/we understand that failure to produce an acceptable Demand Guarantee within the stipulated period is a fundamental breach of Contract, entitling the Employer to:

- (i) withhold all payments which may be due to the Contractor pending compliance with the stipulated requirements to produce an acceptable Demand Guarantee.
- (ii) instruct the Contractor to cease all work pending provision of the Demand Guarantee, and
- (iii) cancel the Contract.

Signed Date

Print Name Position

Bidder

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

M. FINANCIAL INFORMATION OF BIDDER

This information sheet has to be filled in by the financier of the Bidder, duly signed and stamped on behalf of the financial institution he represents.

Bidder Details

Bid Description :

Contract Period :

Name of Bidder :

Bank Account Number :

Bank rating(s) :

Bided Amount :

Demand Guarantee will be provided by this Bank: YES ☐ NO ☐

If yes, state amount of Demand Guarantee: R

Financial Institution

Name of Commercial Bank :

Branch :

Name of Bank Manager :

Telephone Number :

I / We acting on behalf of the above Commercial Bank confirm that

..... (Bidder)

has operated an account with us for the last years.

Note: Bidder to include a Letter from the bank. The letter should clearly indicate the project Number; description and the bank rating(s)

.....
Employer

.....
Witness 1

.....
Witness 2

.....
Contractor

.....
Witness 1

.....
Witness 2

N. DECLARATION WITH REGARDS TO MUNICIPAL SERVICES, RATES AND TAXES

I _____ the undersigned, declare on

behalf of (Name of Bidder) _____ that; the bidder and (or) any of its director(s) does not owe any municipal services, rates and taxes to the municipality or any other municipality or municipal entity any amount which could be in arrears for an period for a period more than three months.

In the event that this declaration is found to be false, the bid will be rejected and found to be nonresponsive.

1. COMPANY		
NAME OF MUNICIPALITY	ACCOUNT NUMBER	ACCOUNT HOLDER / OWNER
2. DIRECTOR(S)		
NAME OF MUNICIPALITY	ACCOUNT NUMBER	ACCOUNT HOLDER / OWNER

N.B: Tenderer to submit a COPY OF A MUNICIPAL ACCOUNT of the company and that of its directors not in arrears for more than 90 days and not older than three (03) months; or

In the event that the bidder or director is leasing, a lease agreement along with the Municipal account of the lessor should be attached; or

A confirmation letter in the name of the bidder and director from the local municipality not older than three months confirming that services are not charged/levied and the bidder does not owe

Signed.....Date.....

Name.....Position.....

Tenderer.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

MBD 1

PART A
INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE EPHRAIM MOGALE LOCAL MUNICIPALITY

BID NUMBER:	EPMLM/8/3/544	CLOSING DATE:	07 MAY 2026	CLOSING TIME:	12:00

DESCRIPTION CONSTRUCTION OF RATHOKE BUS- ROUTE

THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).

BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN
THE BID BOX SITUATED AT;

EPHRAIM MOGALE LOCAL MUNICIPALITY (BUDGET & TREASURY AND TECHNICAL BUILDING)
NO. 2 FICUS STREET
MARBLE HALL
0450

NOTE: THE BID BOX IS ONLY ACCESSIBLE MONDAY - FRIDAY DURING OFFICE HOURS (08:00 TO 16:30)

SUPPLIER INFORMATION

NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
TAX COMPLIANCE STATUS	TCS PIN:		OR	CSD No:	MAAA.....
SIGNATURE OF BIDDER			DATE		
CAPACITY UNDER WHICH THIS BID IS SIGNED					

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO: TECHNICAL INFORMATION MAY BE DIRECTED TO:

DEPARTMENT	SCM	CONTACT PERSON	SOLOMON MARIMA
CONTACT PERSON	JOSEPH MADISHA	TELEPHONE NUMBER	013 261 8400/8471
TELEPHONE NUMBER	013 261 8450/ 8462	FACSIMILE NUMBER	013 261 8800
FACSIMILE NUMBER	013 261 2985	E-MAIL ADDRESS	smarima@emogalelm.gov.za
E-MAIL ADDRESS	jmadisha@emogalelm.gov.za		

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PART B
TERMS AND CONDITIONS FOR BIDDING

NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID. NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.

1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. **ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED– (NOT TO BE RE-TYPED) OR ONLINE**
- 1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.

2. TAX COMPLIANCE REQUIREMENTS

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.
- 2.3 APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA.
- 2.4 FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3.
- 2.5 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
- 2.6 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
- 2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.

3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

- 3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? ☐ YES ☐ NO
 - 3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA? ☐ YES ☐ NO
 - 3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA? ☐ YES ☐ NO
 - 3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? ☐ YES ☐ NO
 - 3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION? ☐ YES ☐ NO
- IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.**

SIGNATURE OF BIDDER.....

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

DATE:

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

MBD 4

O. DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state¹.
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 and submitted with the bid. Also select the applicable answers ☒**

3.1. Full Name of bidder or his or her representative:

3.2. Identity Number:

3.3. Position occupied in the Company (director, trustee, shareholder²):

3.4. Company Registration Number:

3.5. Tax Reference Number:

3.6. VAT Registration Number:

3.7. The names of all directors / trustees / shareholders / members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.

3.8. Are you presently in the service of the state* **YES ☐ / NO ☐**

3.8.1 If yes, furnish particulars.

.....
.....

¹MSCM 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) 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 an employee of Parliament or a provincial legislature.
- (f) 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);

²"Shareholder" means a person who owns shares in the company and is actively involved in the management of the company or business and exercises control over the enterprise.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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

3.9.1 If yes, furnish particulars.

.....
.....

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

3.10.1 If yes, furnish particulars.

.....
.....

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

3.11.1 If yes, furnish particulars.

.....
.....

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

3.12.1 If yes, furnish particulars

.....
.....

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

3.13.1 If yes, furnish particulars

.....
.....

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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

contract?

YES ☐ / NO ☐

3.14.1 If yes furnish particulars:

.....

.....

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

Full Name	Identity Number	Employee Number

5. 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

.....
Name of Bidder

.....
Capacity

.....
Employer

.....
Witness 1

.....
Witness 2

.....
Contractor

.....
Witness 1

.....
Witness 2

P. 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?

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.

.....
.....

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, provide particulars.

.....
.....

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 ☐

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

4.1 If yes, furnish particulars

.....

.....

* Delete if not applicable

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

.....
Name of Bidder

.....
Capacity

.....
Employer

.....
Witness 1

.....
Witness 2

.....
Contractor

.....
Witness 1

.....
Witness 2

MBD 6.1

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

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

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

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2

- a) The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the **80/20** preference point system shall be applicable; or
- b) Either the 80/20 or 90/10 preference point system will be applicable to this tender

1.3 Points for this bid shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

1.4 The maximum points for this bid are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and Specific Goals	100

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed

1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

2. DEFINITIONS

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

3. POINTS AWARDED FOR PRICE

3.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

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

80/20	or	90/10
$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$	or	$P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$

Where

- P_s = Points scored for price of bid under consideration
 P_t = Price of bid under consideration
 $P_{\min}$ = Price of lowest acceptable bid

4. POINTS AWARDED FOR SPECIFIC GOALS

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

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

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

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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The specific goals allocated points in terms of this tender	Means of Verification	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (80/20 system) (To be completed by the tenderer)
At least 51% Black ownership	Identification documents / CSD Report / CIPC Certificate	10	
At least 51% Women Ownership	Identification document / CSD Report / CIPC Certificate	5	
At least 51% People with Disability	Medical Report indicating disability	3	
At least 51% Youth ownership (18 to 35 Years of age)	Identification document / CSD Report / CIPC Certificate	2	

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

5.1 Name of company/firm:.....

5.2 VAT registration number:.....

5.3 Company registration number:.....

5.4 **TYPE OF COMPANY/ FIRM**

- ☐ Partnership/Joint Venture / Consortium
☐ One person business/sole propriety
☐ Close corporation
☐ Company
☐ (Pty) Limited
 [TICK APPLICABLE BOX]

5.5 **DESCRIBE PRINCIPAL BUSINESS ACTIVITIES**

.....

.....

.....

.....

5.6 **COMPANY CLASSIFICATION**

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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

5.7 MUNICIPAL INFORMATION

Municipality where business is situated:

Registered Account Number:

Stand Number:.....

5.8 Total number of years the company/firm has been in business:

.....

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

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
 - (a) disqualify the person from the bidding process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution.

WITNESSES

1.

2.

.....
SIGNATURE(S) OF BIDDERS(S)

DATE:

ADDRESS

.....

.....

.....
Employer

.....
Witness 1

.....
Witness 2

.....
Contractor

.....
Witness 1

.....
Witness 2

R. DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

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

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied). The Database of Restricted Suppliers now resides on the National Treasury's website (www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Bid Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? The Register for Bid Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		

Employer
Witness 1
Witness 2
Contractor
Witness 1
Witness 2

4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
4.3.1	If so, furnish particulars:		
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.7.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM TRUE AND CORRECT. I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

MBD 9

S. CERTIFICATE OF INDEPENDENT BID DETERMINATION

- 1 This Municipal Bidding Procedure Document (MBD) must form part of all Bidders¹ invited.
- 2 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 Procedure (or Bid rigging).² Collusive Bidding Procedure is a *per se* prohibition meaning that it cannot be justified under any grounds.
- 3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. take all reasonable steps to prevent such abuse;
 - b. reject the Bid of any Bidder if that Bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the Bidding Procedure process or the execution of the contract.
- 4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when Bidders are considered, reasonable steps are taken to prevent any form of Bid-rigging.
- 5 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 Bidders, limited Bidders and proposals.

² Bid rigging (or collusive Bidding Procedure) 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 Procedure process. Bid rigging is, therefore, an agreement between competitors not to compete.

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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

CERTIFICATE OF INDEPENDENT BID DETERMINATION (CONTINUE)

I, the undersigned, in submitting the accompanying Bid:

..... **TENDER NO: EPMLM/8/3/544 CONSTRUCTION OF RATHOKE BUS ROUTE.**

(Bid Number and Description)

in response to the invitation for the Bid made by:

..... **EPHRAIM MOGALE LOCAL MUNICIPALITY**

(Name of Municipality / Municipal Entity)

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

I certify, on behalf of: _____ that:

(Name of Bidder)

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:
 - (a) has been requested to submit a Bid in response to this Bid invitation;
 - (b) could potentially submit a Bid in response to this Bid invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the 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 Procedure.
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;
 - (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;

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

or

(f) Bidding Procedure 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.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to Bidders and contracts, Bidders 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.

.....
Signature Date

.....
Position Name of Bidder

.....
Employer

.....
Witness 1

.....
Witness 2

.....
Contractor

.....
Witness 1

.....
Witness 2

T. B-BBEE VERIFICATION CERTIFICATE

Attach the company's B-BBEE certificate in this page.

ESTENDER

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

U. ORIGINAL BANK RATING LETTER

Attach to this page a company’s original letter stating the Bank rating.

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

V. CSD REPORT

Attach to this page a CSD report of the company

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

W. DAY WORK SCHEDULE

This Day work Schedule shall be used for the valuation of any additional or substituted work which cannot conveniently be valued at the rates and prices submitted in the schedule of quantities.

In respect of labour and materials used in the additional or substituted work not covered in the Day work Schedule the Contractor shall be paid the actual cost plus the percentage allowance stated in the schedule of quantities.

The Bidder shall quote hereunder rates which shall apply for payment purposes if the Engineer orders additional or substituted work to be carried out on a day work basis and shall therefore be in accordance with the requirements of clause 37(2) of the General Conditions of Contract.

1. LABOUR AND MATERIALS

Rates and prices entered in the schedule shall be held to allow for net cost of labour and materials delivered to site respectively with the percentage allowances stated in the schedule of quantities.

2. PLANT AND EQUIPMENT

The Bidders shall list all major items of plant and equipment to be used on the works and which may be required for use on day works. The proposed hire rates of these items shall be entered against each type of machine, such rates to include for all relevant costs of plant hire inclusive of fuels and lubricants but exclusive of labour charges for the operators, which will be paid for under sub-clause (1) above.

The rates for plant items not listed in the schedule will be the ruling plant hire rates, inclusive of fuels and lubricants but exclusive of labour charges for the operators, inclusive of a 7,5% handling charge. It is therefore in the Bidders interest to ensure that the list is complete.

Should there be insufficient space on the pages provided; the Bidder shall add further pages as required.

THE RATES FOR THE PLANT AND EQUIPMENT MENTIONED IN THE SCHEDULE SHALL BE FILLED IN FOR THE ITEMS REQUESTED. SHOULD AN ITEM BE OMITTED IT SHALL BE DEEMED TO HAVE BEEN INCLUDED IN THE OTHER DAYWORKS RATES.

A. LABOUR

DESIGNATION		RATE	
		R	C
Foreman	per hour		
Plant Operators	per hour		
Truck Drivers	per hour		
Labour - unskilled	per hour		
- semi-skilled	per hour		
- skilled	per hour		

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B. MATERIALS

DESIGNATION		RATE	
		R	C
Cement	per 50 kg pocket delivered		
Concrete Sand	per m ³ delivered		
Concrete Aggregate	per m ³ delivered		

C. TRANSPORT

DESIGNATION	RATE	
	R	C
Per cubic metre kilometre		

D. PLANT AND EQUIPMENT

ITEM	DESCRIPTION	NON WORKING RATE*		OPERATING RATE		PER
		R	c	R	C	UNIT
	TLB					
	Water cart					
	LDV					
	Compactor					
	Vibrating Roller					
	Concrete mixer (litres specified)					
	Tractor & Trailer					
	Excavator					
	Front-end loaders					
	Trucks (m ³ specified)					
	Water truck (litres specified)					
	Grader					

*Only applicable on authority of the Engineer

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

X. PREFERENCE SCHEDULE

Acceptable Bids will be evaluated using a system that awards points on the basis of Bid price and the meeting of specific goals. **Failure on the part of a Bidder to sign this form will be interpreted to mean that point preference is not being claimed.**

The acceptable Bidder obtaining the highest number of points will be awarded the contract. For Bids with a Bid amount equal to or below R 1 000 000 a maximum of 80 points is allocated for price and a maximum of 20 points for B-BBEE. For Bids with a Bid amount above R 1 000 000 a maximum of 90 points is allocated for price and a maximum of 10 points for B-BBEE.

The points for the meeting of specific goals may only be awarded to an enterprise which is a legal entity, registered as an income tax payer with the South African Revenue Services, and which is an independent and operating enterprise which performs commercially useful functions as set out below. Points can be denied where an enterprise subcontract more than 25% of the value of the contract (excluding SMME's and emerging contractors and materials) at the time of award, exclusive of all VAT, allowances for contingencies, escalation and provisional sums, to other entities.

DEFINITIONS

"Acceptable Bid" means any Bid which, in all respects, complies with the conditions of Bid and specifications as set out in the Bid document, including conditions as specified in the Preferential Procurement Policy Framework Act (Act 5 of 2000) and related legislation.

"Council" refers to the EPHRAIM LOCAL Municipality.

"Equity ownership" refers to the percentage ownership and control, exercised by individuals within an enterprise.

"SMME's" (small, medium and micro enterprises) refers to separate and distinct business entities, including co-operative enterprises and NGOs, managed by one owner or more, as defined in the National Small Business (Act 102 of 1996).

Penalties

The Ephraim Mogale Local Municipality will if upon investigation it is found that a preference in terms of the Act and these regulations has been obtained on a fraudulent basis, or any specified goals are not attained in the performance of the contract, on discretion of the Departmental Head, one or more of the following penalties will be imposed:

- Cancel the contract and recover all losses or damages incurred or sustained from the Bidder.
- Impose a financial penalty of twice the theoretical financial preference associated with the claim, which was made in the Bid.
- Restrict the contractor, its shareholders and directors on obtaining any business from the Ephraim Local Municipality for a period of 5 years.
-

1. List all shareholders by name, identity number, citizenship, status, ownership, as relevant

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Name	ID Number	Date obtained South African citizenship	HDI status				Youth Yes/No	Percentage equity ownership, or in the case of a joint venture, the percentage of the contract to be managed or executed by targeted persons (%)
			No franchise in national elections (black persons)		Women	Disabled person		
			PPG (African)	Coloured, Indian				

8.1.1 How long has the entity been in existence?

8.1.2 Describe principal business activities:

.....

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the bidder confirms that he / she understands the conditions under which such preferences are granted and confirms that the bidder satisfies the conditions pertaining to the granting of bid preferences.

Signature:

Name:

Duly authorised to sign on behalf of :

Telephone:

Fax:

Date:

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Y. ORGANOGRAM AND CURRICULUM VITAE OF KEY PERSONNEL

Bidder to supply an organigram for the management of the contract and include curricula vitae of key personnel. These curricula vitae shall provide evidence of relevant experience of the key staff in the organigram. The personnel included here shall be used on the project unless otherwise agreed by the engineer.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Z. PROJECT PROGRAMME AND METHOD STATEMENT

Bidder to supply project programme, using acceptable software, in sufficient detail to cover the various facets of the work.

This programme is to be supported by a method statement indicating the bidder's proposed work plan for the construction of the works.

.....

Signature

.....

Date

.....

Position

.....

Name of Bidder

AA. SCHEDULE OF ESTIMATED MONTHLY EXPENDITURE

The bidder shall state his estimated value of the work to be completed every month, based on his preliminary programme and his bided unit rates, in the table below. The amounts for contingencies and contract price adjustment shall not be included.

MONTH	VALUE (INCLUDING VAT)
1	R
2	R
3	R
4	R
5	R
6	R
7	R
8 (FINAL)	R
TOTAL: R.....	
(EXCLUDING CONTINGENCIES AND CONTRACT PRICE ADJUSTMENT)	

.....
Signature Date

.....
Position Name of Bidder

.....
Employer

.....
Witness 1

.....
Witness 2

.....
Contractor

.....
Witness 1

.....
Witness 2

BB. RATES FOR SPECIAL MATERIALS

Bitumen products will be dealt with as a special material in terms of sub clause 46.3 of the General Conditions of Contract. **All bitumen products as indicated in the contract data must be stated in the list below.**

The rates and prices for the special materials shall be furnished by the contractor, which rates and prices shall exclude VAT but shall include all other obligatory taxes and levies.

Base Month: **April 2026**

SPECIAL MATERIALS	UNIT *	RATE OR PRICE FOR THE BASE MONTH

* Indicate whether the material will be delivered in bulk or in containers. Cement and steel will not be accepted as a special material

When called upon to do so, the contractor shall substantiate the above rates or prices with acceptable documentary evidence from the applicable refinery supplying the bitumen.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

.....
Employer

.....
Witness 1

.....
Witness 2

.....
Contractor

.....
Witness 1

.....
Witness 2

THE CONTRACT

PART C1: AGREEMENTS AND CONTRACT DATA

PART C2: PRICING DATA

PART C3: SCOPE OF WORK

PART C4: SITE INFORMATION


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

EPHRAIM MOGALE LOCAL MUNICIPALITY

TABLE OF CONTENTS

PART C1: AGREEMENTS AND CONTRACT DATA

C1.1: FORM OF OFFER AND ACCEPTANCE

C1.2: CONTRACT DATA

C1.2.1: CONDITIONS OF CONTRACT

C1.2.2: PART A: CONTRACT DATA PROVIDED BY THE EMPLOYER

PART B: CONTRACT DATA PROVIDED BY THE CONTRACTOR

C1.3: FORM OF GUARANTEE

C1.4: AGREEMENT WITH ADJUDICATOR

C1.5: AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT No 85 OF 1993

PART C2: PRICING DATA

C2.1: PRICING INSTRUCTIONS

C2.2: BILL OF QUANTITIES

PART C3: SCOPE OF WORK

C3.1: STANDARD SPECIFICATIONS

C3.2: PROJECT SPECIFICATIONS

C3.3: PARTICULAR SPECIFICATIONS

PART C4: SITE INFORMATION

C4.1: LOCALITY PLAN

C4.2: CONDITIONS ON SITE: GEOTECHNICAL REPORT

C4.3: BID DRAWINGS


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

C1.1 Form of Offer and Acceptance

Offer

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

Contract No EPMLM/8/3/544

Project Name: CONSTRUCTION OF RATHOKE BUS ROUTE

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

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

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

.....

..... Rand (in words);

R (in figures)

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

Signature Block: Bidder	
Signature	Date
Name	
Capacity	
Name of organization.	
Address of organization	
.....	
Signature of witness	Date
Name of witness	


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

Acceptance

By signing this part of this form of offer and acceptance, the employer identified below accepts the bidder'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 bidder's offer shall form an agreement between the employer and the bidder 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 bid data and any addenda thereto as listed in the bid schedules as well as any changes to the terms of the offer agreed by the bidder and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

The bidder 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) for delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfill any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

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

Signature Block: Employer	
Signature	Date
Name	
Capacity	
For the Employer:	Municipal Manager Ephraim Mogale Local Municipality
Signature of witness	Date
Name of witness	


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

Schedule of Deviations

1 Subject	
Details	
	
2 Subject	
Details	
	
3 Subject	
Details	
	
4 Subject	
Details	
	

By the duly authorized representatives signing this agreement, the employer and the bidder agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the bid data and addenda thereto as listed in the bid schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the bidder 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 bid documents and the receipt by the bidder of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

For the Bidder:

Signature(s)	_____	_____
Name(s)	_____	_____
Capacity	_____	_____

	(Name and address of organization)	

Name & Signature of Witness	_____	_____

For the Employer:

Signature(s)	_____	_____
Name(s)	_____	_____
Capacity	_____	_____

	(Name and address of organization)	

Name & Signature of Witness	_____	_____

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

Ephraim Mogale Local Municipality

C1.2 Contract Data

Section 1.01 The General Conditions of Contract for Construction Works (3rd edition 2015) published by the South African Institution of Civil Engineering, is applicable to this contract. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel: 011-805 5947).

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

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

If for some reason that "The General Conditions of Contract for Construction Works (3rd edition 2015)" does not address, "The COLTO General Conditions of Contract 1998 for Road and Bridge Works" will be referred to.

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

Ephraim Mogale Local Municipality

C1.2.1: CONDITIONS OF CONTRACT

GENERAL CONDITIONS OF CONTRACT

SPECIAL CONDITIONS OF CONTRACT

1. **GENERAL**
2. **AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT**
3. **TRANSFER OF RIGHTS**


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

C1.2.1 CONDITIONS OF CONTRACT

GENERAL CONDITIONS OF CONTRACT

This Contract will be based on the "General Conditions of Contract for Construction Works - (3rd edition 2015)", issued by the South African Institution of Civil Engineering (Short title: "**General Conditions of Contract 2015**") and can be obtained from:

SAICE

Waterfall Park
Howick Gardens
Vorna Valley Half way House
Becker Street
MIDRAND
1685
Gauteng Province
Tel: (011) 805-5947/8
Fax: (011) 805-5971.

It is agreed that the only variations from the General Conditions of Contract 2015 are those set out hereafter under "Special Conditions of Contract".

SPECIAL CONDITIONS OF CONTRACT

1. GENERAL

These Special Conditions of Contract (SCC) form an integral part of the Contract. The Special Conditions shall amplify, modify or supersede, as the case may be, the General Conditions of Contract 2015 to the extent specified below, and shall take precedence and shall govern.

The clauses of the Special Conditions hereafter are numbered "SCC" followed in each case by the number of the applicable clause or sub clause in the General Conditions of Contract 2015, and the applicable heading, or (where a new special condition that has no relation to the existing clauses is introduced) by a number that follows after the last clause number in the General Conditions, and an appropriate heading.

2. ADDITIONAL SPECIAL CONDITIONS OR AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT

2.1 General

The following clauses add to, vary or otherwise amend the General Conditions of Contract:

2.1.1 Cession (CL 2.5.1)

Delete the words "without the written consent of the other".

2.1.2 Contractor's Superintendence (CL 4.12)

Add the following sub-clause 4.12.4 to Clause 4.12:

"Where a form is included in the Appendix to the Contract Data for this purpose, the Bidder shall fill in the name of the person he proposes to entrust with the post of Contractor's Site Agent on this Contract in the space provided therefor. Previous experience of this person on work of a similar nature during the past five (5) years is to be entered in the list.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The Contractor's Site Agent shall be on Site at all times when work is being performed.

The person as approved of by the Engineer in writing shall not be replaced or removed from Site without the written approval of the Engineer."

2.1.3 Programme (CL 5.6)

Add the following sub-clause 5.6.6 to Clause 5.6:

"Failure on the part of the Contractor to deliver to the Engineer, the

- programme of the Works in terms of Clause 5.6.1 and
- supporting documents in terms of Clause 5.6.2

Within the period stated in the Contract Data, shall be sufficient cause for the Engineer to retain 25 per centum of the value of the Fixed Charge and Value-related items in assessment of amounts due to the Contractor, until the Contractor has submitted aforementioned first Programme of the Works and Supporting Documents".

2.1.4 Contractor's Designs and Drawings (CL 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"

2.1.5 Suspension of the Works (CL 5.11)

Add the following sub-clause 5.11.4 to Clause 5.11:

"If the Contractor does not receive from the Employer the amount due under an Interim Payment Certificate within 28 days after expiry of the time stated in sub-clause 6.10.4 within which payment is to be made (except for deductions in accordance with sub-clauses 6.10.1.6 and 6.10.1.7), the Contractor may, after giving 14 days' notice to the Employer, suspend the progress of the Works.

The Contractor's action shall not prejudice his entitlements to a claim in terms of Clause 10.1 and to cancellation of the Contract in terms of Clause 9.3.

If the Contractor subsequently receives full payment of the amount due under such Interim Payment Certificate before giving a notice of cancellation of the Contract, the Contractor shall resume normal working as soon as is reasonably practicable."

2.1.6 Extension of Time Arising from Abnormal Rainfall (CL 5.12)

Add the following to sub-clause 5.12.2.2 :

"The extension of time to be allowed due to abnormal rainfall shall be calculated separately for each calendar month or part thereof in accordance with the following formula :

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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

V	=	Extension of time in calendar days for the calendar month under consideration
Nw	=	Actual number of days during the calendar month on which a rainfall of 10 mm or more has been recorded
Nn	=	Average number of days for the calendar month on which a rainfall of 10 mm or more has been recorded, as derived from existing rainfall records
Rw	=	Actual recorded rainfall for the calendar month
Rn	=	Average rainfall for the calendar month, as derived from existing rainfall records
x	=	20

The rainfall records which shall provisionally be accepted for calculation purposes are:

Years of record: 2023-2024

Month	Average rainfall for calendar month Rn	Average number of days for calendar month on which a rainfall of 10 mm or more were recorded Nn
	(mm)	(days)
January	120	7
February	125	6
March	78	5
April	54	4
May	17	2
June	10	1
July	6	0
August	8	1
September	23	1
October	54	6
November	100	8
December	123	7

The factor (Nw - Nn) shall be considered to represent a fair allowance for days during which rainfall exceeds 10 mm and the factor (Rw - Rn)/x shall be considered to represent a fair allowance for those days when rainfall does not exceed 10 mm but wet conditions prevent or disrupt work.

The total extension of time shall be the algebraic sum of all monthly totals for the contract period, but if the algebraic sum is negative the time for completion shall not be reduced due to subnormal rainfall. Extensions of time for a part of a month shall be calculated using pro rata values of Nn and Rn."

2.1.7 Guarantee (Security) (CL 6.1)

Delete the contents of the first paragraph of Clause 6.2 and insert:

"The Contractor shall deliver to the Employer within such time as may be stated in the Contract Data a Demand Guarantee, of Insurance Company registered in terms of the Short-term Insurance Act (Act 53 of 1998) or registered Commercial Bank, in a sum equal to the amount stated in the Contract Data. The Demand Guarantee shall be issued by an entity approved by the Employer, and shall conform in all respects to the format contained in the Appendix to the Contract Data.

Wherever a joint venture constitutes the contracting party, the Demand Guarantee shall be issued on behalf of the joint venture.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Failure to produce an acceptable Demand Guarantee within the period stated in Clause 2.2.8 of the Contract Data is a fundamental breach of Contract, entitling the Employer to cancel the Contract by due notice in terms of Clause 9.2 with specific reference to sub-clause 9.2.2.5 as amended in the Special Conditions of Contract.”

2.1.8 Variations (CL 6.3)

Omit the words “Provided that” under Clause 6.3.2 and omit Clause 6.3.2.1.

2.1.9 Interim Payments (CL 6.10.1)

Add to the end of Clause 6.10.1 the following paragraph:

“The Contractor shall complete the ‘Contractor’s Monthly Report Schedule’, which pro forma documentation is obtainable from the Engineer. Pursuant to Sub-Clause (1), these, duly signed by all concerned, together with the Contractor’s statement and a VAT invoice in original format are to be submitted to the Engineer. Issue by the Engineer to the Employer and Contractor of any signed payment certificate is conditional to this information being fully endorsed, accurately and timeously submitted to the Engineer”.

Add to the end of Clause 6.10.1.5 the following paragraph:

“All documentary evidence of such materials shall be unambiguous with respect to ownership having fully passed to the Contractor on or before the date of submittal of the Contractor’s monthly statement.

Should the Contractor fail to supply unambiguous documentary evidence, he shall, prior to submittal of his monthly statement, deliver to the Employer a Guarantor Guarantee in the form contained in the Appendices to the Contract Data.”

2.1.10 Variations Exceeding 15 Per Cent (CL 6.11)

In sub-clause 6.11.1.3 omit the words “15 per cent” and replace with “20 per cent”.

2.1.11 Insurances (CL 8.6)

2.1.11.1 Contractor to produce proof of payment

Delete sub-clause 8.6.6 and substitute with:

“The Contractor shall before commencement of the Works produce to the Engineer:

8.6.6.1 The policies by which the insurances are effected,

8.6.6.2 Proof that due payment of all premiums there under, covering the full required period has been made, and

8.6.6.3 Proof of continuity of the policies for the required period.

Should, during the currency of the Contract, the required period of insurance be extended for any reason, the Contractor shall timeously extend (so as to maintain) the said insurances for the full extended duration.

The Engineer shall be empowered to withhold all payment certificates until the Contractor has complied with his obligations in terms of this Clause 8.6.”

2.1.11.2 Remedy of Contractor’s failure to insure


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

Delete sub-clause 8.6.7 and substitute with:

"Failure on the part of the Contractor to effect and keep in force any of the insurances referred to in Clause 8.6.1 and its sub-clauses, is a fundamental breach of Contract, entitling the Employer to cancel the Contract by due notice in terms of Clause 9.2 and with specific reference to sub-clause 9.2.2.5, as amended, in the Special Conditions of Contract."

2.1.12 Termination of the Contract (CL 9.1)

Alter the numbering of:

Clause 9.1.5 to 9.1.6,
Clause 9.1.6 to 9.1.7 and

insert the following new clause 9.1.5:

"The Employer shall be entitled to cancel the Contract, at any time for the Employer's convenience, by giving written notice of such cancellation to the Contractor. The termination shall take effect 28 days after the later of the dates which the Contractor receives this written notice or the Employer returns the Demand Guarantee. The Employer shall not cancel the Contract under this sub-clause in order to execute the Works himself or to arrange for the Works to be executed by another contractor.

This restriction on the Employer shall lapse 18 months after the date of receipt by the Contractor of cancellation in terms of this sub-clause".

2.1.13 Termination by Employer (CL 9.2)

Delete the contents of Clause 9.2 and substitute with:

"9.2.1 The Employer may terminate the Contract by written notice to the Contractor if:

9.2.1.1 Sequestration of the Contractor's estate is ordered by a Court with due jurisdiction, or

9.2.1.2 The Contractor publishes a notice of surrender or presents a petition for the surrender of his estate as insolvent, or makes a compromise with his creditors, or assigns in favour of his creditors, or agrees to carry out the Contract under the supervision of a committee representing his creditors, or (being a company) goes into liquidation, whether provisionally or finally (other than a voluntary liquidation for the purpose of amalgamation or reconstruction), or if the Contractor assigns the Contract without having first obtained the Employer's consent in writing, or if execution is levied on his goods, or

9.2.1.3 The Contractor, or anyone on his behalf, or in his employ, offers to any person in the employ of the Employer or the Engineer, a gratuity or reward or commission, or

9.2.1.4 The Contractor furnished materially inaccurate information in his Bid, which had a bearing on the award of the Contract, or

9.2.1.5 The Contractor has abandoned the Contract

9.2.2 If the Contractor:

9.2.2.1 Has failed to commence the Works in terms of Clause 5.3 hereof, or has suspended the progress of the Works for fourteen (14) days after receiving from the Engineer written notice to proceed, or

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- 9.2.2.2 Has failed to provide the Guarantee in terms of Clause 6.2 within the time stipulated in the Contract Data, or
- 9.2.2.3 Has failed to proceed with the Works with due diligence, or
- 9.2.2.4 Has failed to remove materials from the Site or to pull down and replace work within fourteen (14) days after receiving from the Engineer written notice that the said materials or work have been condemned and rejected by the Engineer in terms of these conditions, or
- 9.2.2.5 Is not executing the Works in accordance with the Contract, or is neglecting to carry out his obligations under the Contract, or
- 9.2.2.6 Has, to the detriment of good workmanship or in defiance of the Engineer's instructions to the contrary, sublet any part of the Contract, or
- 9.2.2.7 Has assigned the Contract or any part thereof without the Employer's consent in writing, then the Employer may give the Contractor 14 days' notice to rectify the default, and if the Contractor fails to rectify the default in said 14 days, then, without further notice, notify the Contractor in writing of the termination of the Contract and expel the Contractor and order the Contractor to vacate the site within 24 hours of issue of the Notice of Termination and to hand the Site over to the Employer, and the Employer may then enter upon the Site and the Works without affecting the rights and powers conferred on the Employer or the Engineer by the Contract and the Employer may himself complete the Works or may employ another contractor to complete the Works, and the Employer or such other contractor may use for such completion so much of the Construction Equipment, Temporary Works and materials brought onto the Site by the Contractor as the Employer may think proper, and the Employer may at any time sell any of the said Construction Equipment, Temporary Works and unused materials and apply the proceeds of sale towards payment of any sums that may be due or become due to the Employer by the Contractor under the Contract. In such circumstances the Contractor shall forthwith vacate the Site and shall not be entitled to remain on the Site on the grounds that he is entitled to do so on a right of retention until amounts due to him have been paid, neither will the Contractor be entitled to any further payments in terms of this Contract.
- 9.2.3 If the Contractor, having been given notice to rectify a default in terms of 55.2 above, rectifies said default, but later repeats the same or substantially the same default, then the Employer may notify the Contractor of the immediate termination of the Contract, and proceed as stated in the paragraph following the word "writing" in Clause 55.2.7 above.
- 9.2.4 Should the amounts the Employer must pay to complete the Works exceed the sum that would have been payable to the Contractor on due completion by him, then the Contractor shall upon demand pay to the Employer the difference, and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly. Provided that should the Contractor on demand not pay the amount of such excess to the Employer, such sum may be determined and deducted by the Employer from any sum due to or that may become due to the Contractor under this or any previous or subsequent contract between the Contractor and the Employer."

2.1.14 Termination by the Contractor (CL 9.3)

Add the following paragraph as Clause 9.3.5:

"In addition to, or as an alternative to the rights to termination contained in this Clause 9.3, the Contractor may notify the default to the Employer, with a copy to the Engineer, and if the default is not rectified within 10 days the Contractor may suspend progress of the works until a date 7 days after the default is rectified. The Contractor shall be entitled to extension of time to the extent of delay caused by or resulting from such suspension, and to payment of additional costs caused by or resulting from the suspension. Such extension

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

of time and additional costs shall be promptly ascertained by the Engineer, who shall then grant the extension of time and include the additional costs in all future payment certificates. Such suspension, extension of time and/or payment of additional costs, shall not prejudice the Contractor's rights to cancel the contract."

3. **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.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

4. TRANSFER OF RIGHTS

TRANSFER OF RIGHTS AND INDEMNITY (To be completed during construction by successful Bidder only)

Claim for materials on site, Payment Certificate No. Date:

Contract No: for (contract title)

I, the undersigned (name of signatory) in my capacity as
..... of (name of Contractor)

duly authorized hereto on behalf of the Contractor hereby transfer, cede and assign all the Contractor's rights, title and interest in and to the materials and goods, for which evidence of bona fide ownership is attached hereto, unto and in favor of (name of Employer) insofar as the Contractor retains actual control of the materials and goods, the right of ownership thereof passes to the Employer by *constitutum possessorium*.

I herewith indemnify the Employer against any claim to and in respect of said materials by reason of the Contractor's sequestration or liquidation or of any defect in the Contractor's title to the materials and agree that no payment for materials on site will be made by the Employer until such time as I have submitted documentary proof of bona fide ownership of the said materials and goods.

This transfer shall become effective upon conclusion of the Contractor receiving payment from the Employer or from any other person on behalf of the Employer for the materials and goods as Materials on Site, payment of retention money thereon excluded.

I further confirm that I am fully responsible for all materials and goods listed under this Transfer of Rights and that they have been insured adequately against all risks and will remain insured until they are built into or used in the permanent works and taken over by the Employer.

This certificate of Transfer of Rights applies only to the materials and goods as listed in the following table:

Description of Item	Unit	Quantity	Rate	Amount	Supplier
Total Value of Materials and goods					

Signed by: Date:
for and on behalf of the Contractor.

Witnessed by: Date:

NOTE: This form, together with the documentary proof of ownership or proof of payment by the Contractor to the supplier, shall accompany the Contractor's claim for payment for materials on site in terms of **Clause 6.10.1.5 of the General Conditions of Contract 2015**.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C1.2.2 PART A: CONTRACT DATA PROVIDED BY THE EMPLOYER

The following contract specific data are applicable to this contract.

REFERENCE CONTRACT SPECIFIC DATA BY THE EMPLOYER

Clause 1.1.15: **Name of Employer: Ephraim Mogale Local Municipality** represented by **Head of Department: Department of Infrastructure Services**

Clause 1.2.1: **Address of Employer:**

Physical:

Postal:

The Employer's address for receipt of communications is

13 Ficus street
Marble Hall
0450

P.O.Box 111
Marble Hall
0450

Telephone No: 013 261 8400

Fax No: 013 261 2985

Clause 1.1.16: **Name of Engineer: Mont Consulting Engineers**

'Engineer' means any Director, Associate or Professional Engineer appointed by a Director of Mont Consulting Engineers cc to fulfil the functions of the Engineer in terms of the Contract Data.

Clause 1.2.1: **Address of Engineer:**

Physical:

Postal:

The Engineer's address for receipt of communications is:

29 Bendor Drive
Propark,Pro Arch Building
Polokwane
0699

Postnet Suite 040
Private Bag X 9676
Bendor, Polokwane
0699

Telephone No: 015 291 4173

Fax No: 015 291 4218

Clause 3.13: The Engineer is required to obtain the specific approval of the Employer for the following:

- a) Nominating the Engineer's Representative in terms of CI 3.2.1.
- b) Delegation of Engineer's authority in terms of CI 3.2.4.
- c) The issuing of instructions for dealing with fossils and the like in terms of CI 4.7.1
- d) The issuing of an instruction to accelerate progress in terms of CI 5.7.3.
- e) Granting permission to work during non-working times in terms of CI 5.8.1.
- f) The issuing of further drawings or instructions in terms of CI 5.9.1.
- g) Suspend the progress of the works in terms of CI 5.11.1.
- h) The reduction of a penalty for delay in terms of CI 5.13.2.
- i) The issuing of a variation order in terms of CI 6.3.2.
- j) Issuing of instructions to carry out work on a daywork basis in terms of CI 6.4.1.4.
- k) The determination of additional or reduced costs arising from changes in legislation in terms of CI 6.8.4.
- l) The agreeing of the adjustment of the sums for general items in terms of CI 6.11.
- m) Authorizing the Contractor to repair and make good excepted risks in terms of CI 8.2.2.


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

- n) The giving of a ruling on a contractor's claim in terms of CI 10.1.5.
- o) The agreeing of an extension to the 28 period in terms of CI 10.1.5.1.
- p) The inclusion of credits in the next payment certificate in terms of CI 10.1.5.2.

Clause 6.2: The Guarantee shall be delivered within 14 days after receiptable of the Acceptance document from the Employer.

Clause 6.2: The Liability of the Guarantee shall be for 10.0% of the Accepted Bid Sum.

Clause 5.3: The contractor shall commence executing the work within 14 days of the Commencement date.

Clause 5.6.1 & 5.6.2: The Contractor shall deliver to the Engineer, within 14 days calculated from the Commencement Date, a realistic programme in terms of Clause 5.6.1 and supporting documents in terms of Clause 5.6.2.

Clause 8.6.1.1.3: The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is NIL

Clause 8.6.1.2: Special risk insurance issued by SASRIA is required.

Clause 8.6.1.3: The limit of indemnity for liability insurance required should not be less than the contract amount.

Clause 5.13.1: The penalty for failing to complete the works is **R5 000.00** of the Total Bid Sum per Calendar Day

Clause 6.8.2: The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values:

Contract Price Adjustment Factor = $(1 - x) \left[\frac{aL_t}{L_o} + \frac{bP_t}{P_o} + \frac{cM_t}{M_o} + \frac{dF_t}{F_o} - 1 \right]$ rounded off to the fourth decimal place.

Coefficients for calculating Contract price Adjustment Factor shall be:
Value of x is 0.10

a = 0.15 b = 0.20 c = 0.55 d = 0.10

L is the "Labour Index" and shall be the "Consumer Price Index – for Polokwane Area" In Release P 0141.1 Table 21

The base month is: "the month prior to the closing of the Bid"

No Contract price Adjustment will be done if contract period is less than 12 months.

Clause 6.83: Price adjustments for variations in the costs of special materials are not allowed.

Clause 6.10.1.5: The percentage advance on materials not yet built into the Permanent Works is: 80%

Clause 6.10.3: The percentage retention on the amounts due to the Contractor is 5 %, excluding contract price adjustment, contingencies and VAT, and limited to 10% of the contract amount, excluding contract price adjustment, contingencies and VAT.

Clause 6.10.5: A Retention money guarantee will be not permitted.

Clause 7.8.1: The Defects Liability Period is 12 months measured from the date of the Certificate of Completion.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Clause 10.7.1 Dispute resolution shall be by Adjudication.

Clause 10.7.1: Dispute Resolution shall be by Adjudication.

ESTENDER

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C1.2.2: PART B: CONTRACT DATA PROVIDED BY THE CONTRACTOR

The following contract specific data are applicable to this contract:

REFERENCE CONTRACT SPECIFIC DATA BY THE CONTRACTOR

Clause 1.1.9: **Name of Contractor:**

Clause 1.2.1: **Address of the Contractor:**

The Contractor's address for receipt of communication is:

Physical:

Postal:

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

E-Mail:

Telephone No: Fax No:

Clause 5.5 The works shall be completed within months (including special non-working days and the yearend break).

Clause 6.8.3: The variation in cost of all special materials is to be provided in the table SM 1 for special materials.
The rates and prices for the special materials shall be furnished by the Bidder, which rates and prices shall not include VAT but shall include all other obligatory taxes and levies. The quoted price is the ruling price on the Month prior to close of bid.

TABLE: SM1

Special Materials*	Unit	Rate or Price for the base month
Bitumen (specify type)		
.....		
.....		
.....		
.....		

*Contractor to indicate the type, unit and rate of special material to be listed. The Contractor shall substantiate the above rates or prices with acceptable documentary evidence. Contractor to provide any other Special Materials if deemed necessary.

N.B. Diesel, reinforcing steel, and cement will not be accepted as special material.

.....
Employer

.....
Witness 1

.....
Witness 2

.....
Contractor

.....
Witness 1

.....
Witness 2

C1.3 Form of Guarantee - Pro Forma

Contract No

WHEREAS **The Ephraim Mogale Local Municipality** (hereinafter referred to as the Employer") entered into, a Contract with:

.....
(Hereinafter called "the Contactor") on the day of 20.....

for
in the **Ephraim Mogale Local Municipality** of the Limpopo Province.

AND WHEREAS it is provided by such Contract that the Contractor shall provide the Employer with security by way of a guarantee for the due and faithful fulfillment of such Contract by the Contractor;

AND WHEREAS has / have at the request of the Contractor, agreed to give such guarantee;

NOW THEREFORE WE do hereby guarantee and bind ourselves jointly and severally as Guarantor and Co-principal Debtors to the Employer under renunciation of the benefits of division and execution for the due and faithful performance by the Contractor of all the terms and conditions of the said Contract, subject to the following conditions:

1. The Employer shall, without reference and / or notice to us, have complete liberty of action to act in any manner authorized and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the completion date of the works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alterations of the completion date which the Employer may make, give, concede or agree to under the said Contract.
2. This guarantee shall be limited to the payment of a sum of money.
3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor.
4. This guarantee shall remain in full force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.
5. Our total liability hereunder shall not exceed the Guaranteed Sum of:
.....
.....Rand (in words);
R. (in figures)
6. The Guarantor reserves the right to withdraw from this guarantee by depositing the Guaranteed Sum with the beneficiary, whereupon our liability hereunder shall cease.
7. We hereby choose our address for the serving of all notices for all purposes arising here from as
.....
.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

IN WITNESS WHEREOF this guarantee has been executed by us at

on this day of 20

Signature

Duly authorized to sign on behalf of

Address
.....
.....

As witnesses:

1

2


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

C1.4: 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 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.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

SIGNED by:

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

Name: Name: Name:

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

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

the **Adjudicator** in the
presence of

Witness:

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

Name: Name: Name:

Address: Address: Address:

.....

.....

Date: Date: Date:

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C1.5: Agreement in Terms of Section 37(2) Of the Occupational Health And Safety Act No 85 Of 1993

THIS AGREEMENT is made between The EPHRAIM MOGALE Local Municipality represented by Head of Department: Technical Services.

(hereinafter called the EMPLOYER of the one part, herein represented by:

.....
in his capacity as:

AND:

(hereinafter called the CONTRACTOR) of the other part, herein represented by

.....
in his capacity as:

duly authorized to sign on behalf of the Contractor.

WHEREAS the CONTRACTOR is the Mandatory of the EMPLOYER in consequence of an agreement between the CONTRACTOR and the EMPLOYER in respect of

CONTRACT:
in the Ephraim Mogale Local Municipality of the Limpopo Province

AND WHEREAS the EMPLOYER and the CONTRACTOR have agreed to enter into an agreement in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993, as amended by OHSA Amendment Act No 181/1993 (hereinafter referred to as the ACT);

NOW THEREFORE the parties agree as follows:

1. The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.
2. The CONTRACTOR undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations: Provided that should the EMPLOYER have prescribed certain arrangements and procedures that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
3. The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the ACT and Regulations, and the CONTRACTOR expressly absolves the EMPLOYER and the Employer's CONSULTING ENGINEERS from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.
4. The CONTRACTOR agrees that any duly authorized officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the CONTRACTOR has complied with his undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the CONTRACTOR, or to take such steps it may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.
5. The CONTRACTOR shall be obliged to report forthwith to the EMPLOYER any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the ACT and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

.....
Employer

.....
Witness 1

.....
Witness 2

.....
Contractor

.....
Witness 1

.....
Witness 2

Thus signed at for and on behalf of the **CONTRACTOR**

on this the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

Thus signed at for and on behalf of the **EMPLOYER** on this

the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C2.1: PRICING INSTRUCTIONS

1. GENERAL

The pricing instructions describe the criteria and assumptions which will be assumed in the Contract that the Bidder has taken into account when developing his prices. The Bills of Quantities record the Contractor's rates for providing supplies, services, engineering and construction works in accordance with the Scope of Work.

The terms of payment and the provisions for price adjustment, if applicable, are established in the Contract Data. These items are not described in the Pricing Data.

The Bidder's obligations in pricing the Bid offer and the Employer's undertakings in the checking and correction of arithmetical errors are dealt with in the Standard Conditions of Bid contained in Annexure F of SANS 294, as amended in and read in conjunction with the Bid Data.

2. DOCUMENTS MUTUALLY EXPLANATORY

The documents forming the Contract are to be taken as mutually explanatory of one another. The Bill of Quantities forms an integral part of the Contract Documents and shall be read in conjunction with the Bid Data, Contract Data, Scope of Work, Site Information General and Special Conditions of Contract, the Specifications and the Drawings.

3. DEFINITIONS

For the purpose of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:

Unit	:	The unit of measurement for each item of work as defined in the COLTO Standard Specification for Road and Bridge Works for State Authorities (1998 edition).
Quantity	:	The number of units of work for each item
Rate	:	The payment per unit of measurement at which the Bidder Bids to do the work.
Amount	:	The product of the quantity and the rate Bided for an item
Sum	:	An amount Bided for an item, the extent of which is described in the Schedule of Quantities, the specifications or elsewhere but the quantity of work of which is not measured in any units.
Prime Cost (or PC item)	:	A sum fixed by the Engineer and entered in the Schedule of Quantities as the net sum provided to cover the cost of specific goods or materials to be supplied under the contract, or the net sum to be paid by the Contractor to merchants or others for such articles or materials. ¹
Provisional Sum	:	A sum of money fixed by the Engineer and entered in the Schedule of Quantities to provide for work not defined at the Bid stage and includes any allowance specifically made for unforeseen contingencies. ¹
Extra Over (or EO)	:	Qualifies an operation (or combination of operations) which is common in a varying degree to a number of other operations and which is scheduled once as "extra over" those other operations in order to avoid a multiplicity of items each reflecting the degree to which the common operations applies. The term "extra over" invariably

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

denoted double measurement, no deduction being made from one on account of the other.¹

4. DESCRIPTIONS

Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification, or the Scope of Work, conflict with the terms of the Bill, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.

5. REFERENCES

The general conditions of contract, the special conditions of contract (if any), the specifications (including the project specification) and the drawings are to be read in conjunction with the schedule of quantities.

Descriptions in the schedule of quantities are abbreviated, and the schedule has been drawn up generally in accordance with the COLTO Standard Specification for Road and Bridge Works for State Authorities (1998 edition) as amended in the Scope of Works. Should any requirement of the measurement and payment clause of the applicable standardized specification², or the project specification², or the particular specification(s)² conflict with the terms of the schedule or, when relevant, COLTO¹, the requirement of the standardized, project or particular specification, as applicable, shall prevail.

Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made for waste.

The prices and rates to be inserted in the schedule of quantities are to be the full inclusive prices to the Employer for the work described under the several items, value added tax excluded. Such prices shall cover all costs and expenses that may be required in and for the construction of the work described, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the quotation is based.

A price or rate is to be entered against each item in the schedule of quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the schedule

6. UNITS OF MEASUREMENT

The units of measurement indicated in the Bill of Quantities are metric units.

The following abbreviations are used in the Bill of Quantities:

%	=	per cent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimetre
MN	=	meganewton
MN-m	=	meganewton-metre

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

MPa	=	megapascal
kPa	=	kilopascal
m ²	=	square metre
m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre
m ² -pass	=	square metre-pass
no	=	number
PC sum	=	Prime Cost sum
Prov Sum	=	Provisional Sum
sum	=	lump sum
t	=	ton (1 000 kg)
R/only	=	Rate only
W/day	=	Work day

7. NET MEASUREMENTS

Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for off-cuts and waste.

8. QUANTITIES

The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bills of Quantities.

The Contract Amount to be determined in accordance with the conditions of contract identified in the Contract Data shall be computed from the actual quantities of authorized work done, value at rates determined in terms of the Contract Data, against the respective items in the Bill of Quantities.

The item numbers appearing in the Bills of Quantities refer to the corresponding item numbers in the COLTO Standard Specification for Road and Bridge Works for State Road Authorities (1998 edition).

9. CURRENCY

All rates and sums of money quoted in the Bill of Quantities shall be in Rand and whole cents. Fractions of a cent shall be discounted.

10. VALUE ADDED TAX

Value Added Tax shall be excluded from the rates and sums contracted for the various items of work included in the Bill of Quantities. VAT will be added as a single entry to the summary.

11. RATES AND PRICES

11.1 General

- a) The Contractor must price each item in the Bill of Quantities in BLACK INK. Reproduced computer printouts of the Bills of Quantities will not be acceptable.
- b) The rates and prices to be inserted in the Bill of Quantities shall cover all the services and incidentals for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Bid is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.

- c) Where the Contractor is required to furnish detailed drawings and designs or other information in terms of the Contract Data, all costs thereof shall be deemed to have been provided for and included in the unit rates and sum amounts contracted for the items scheduled in the Bill of Quantities. Separate additional payments will not be made.
- d) A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bill. The Contractor will not be paid for items against which no rate or lump sum has been entered in the Bill of Quantities.
- e) Should the Contractor group a number of items and contract one lump sum for such group of items, this single lump sum shall apply to that group of items and not to each individual item.
- f) Should the Contractor indicate against any item that compensation for such item is included in another item; the rate for the item included in another item shall be deemed nil.
- g) A submission may be regarded as non-responsive if any rates or lump sums in the Bill of Quantities are, in the opinion of the Employer, unreasonable or out of proportion.

11.2 "Rate only" items

The Contractor shall fill in a rate (in the rate column) against all items where the words "rate only" appear in the Amount column, which rate will constitute payment for work which may be done in terms of this item. Such "rate-only" items are used where it is estimated that little or no work will be required under the item or where the item is to be considered as an alternative to another item for which a quantity is given.

11.3 Arithmetic

Excepting where Sum Amounts are required or where Provisional Sums have been indicated, the Contractor shall enter an applicable rate in the Rate Column of the Bill of Quantities for each scheduled item. He shall also enter an appropriate sum in the Amount column for each scheduled item, by determining in the applicable line item the product of the Quantity and the Unit Rate.

If there is an error in the line item resulting from the product of the unit rate and the quantity, the rate shall be binding and the error of extension as entered in the Bid offer will be corrected by the Employer in determining the Contract Price.

Where there is an error in addition, either as a result of other corrections required by this checking process or in the Bidder's addition of prices, such error will be corrected by the Employer in determining the Contract Price.

12. VARIATION IN TEXT

No alteration, erasure or addition is to be made in the text of the Bill of Quantities. Should any alteration, erasure or addition be made, it will not be recognized; the original wording of the Bill of Quantities will be adhered to.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

BID No. EPMLM/8/3/544

C2.2 Bill of Quantities

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

SCHEDULE A : ROADWORKS

1200	General requirements and provisions	C.1
1300	Contractor's establishment and provisions	C.2
1400	Housing, offices and laboratories for the engineer's personnel.....	C.3
1500	Accommodation of traffic	C.4
1700	Clearing and Grubbing	C.5
1800	Daywork and hire of construction equipment	C.6
2100	Drains	C.7
2200	Prefabricated Culverts	C.8
2300	Concrete Kerbing, Concrete Channelling, Chutes and Downpipes, and Concrete Linings for Open Drains	C.9
3100	Borrow Material	C.10
3300	Mass Earthworks	C.11
3400	Pavement Layers of Gravel Material	C.12
3500	Stabilization.....	C.13
4100	Prime Coat.....	C.14
4200	Asphalt Base and Surfacing	C.15
5100	Pitching, Stonework and Protection Against Erosion	C.16
5400	Guardrails	C.17
5600	Road Signs	C.18
5700	Road Markings	C.19
5900	Finishing the Road and Road Reserve and Treating Old Roads.....	C.20
7300	Concrete Block Paving	C.21
8100	Testing Materials and Workmanship	C.22

SCHEDULE B : STRUCTURES

5200	Gabions	C.23
6100	Foundation for Structures	C.24
6200	Falsework, Formwork and Concrete Finish	C.25
6300	Steel Reinforcement for Structures.....	C.26
6400	Concrete for Structure	C.27
6600	No Fines Concrete, Joints, Bearings, Parapets and Drainage for Structures	C.28

SUMMARY OF BILL OF QUANTITIES..... C.29

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

EPHRAIM MOGALE LOCAL MUNICIPALITY
 BID NO: EPMLM/8/3/544
 CONSTRUCTION OF RATHOKE BUS ROUTE
 SCHEDULE A : ROADWORKS

SECTION 1200

ITEM	PAYM. REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1200		GENERAL REQUIREMENTS AND PROVISIONS				
12,01		Protection, removal, realignment and replacement of services				
		(a) Utility services				
		(i) Relocation of services	Prov Sum	Lump	Sum	R 20 000,00
12,03		Employment of Community Liaison Officer (CLO) for the duration of the contract @R 5500.00 pm	Prov Sum	8	R 6 000,00	R 48 000,00
12,04		Provisional sum for payment of contract notice board as instructed by Engineer	Prov Sum	1	R 15 000,00	R 15 000,00
12,05		Provision for attending steering committee meetings	Prov Sum	1	R 24 000,00	R 24 000,00
12,07		Percentage for charges and profit on the provisional sums for contractor's cost and profit (12.01 to B12.06)	%	R 107 000,00		
1200		TOTAL CARRIED FORWARD TO SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1300	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS				
B13.01	Contractor's general obligations				
	(a) Fixed obligations	Lump Sum	1		
	(b) Value-related obligations	Lump Sum	1		
	(c) Time-related obligations	Month	8		
	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	8		
13/E13.01	Contractors' initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	-	lump	sum	
13/E13.02	Contractors' time related obligations in in respect of the Occupational Health and Safety Act and Construction Regulations (incl full time construction Safety Officer)	month	8		
13/E13.03	Submission of the Health and Safety File	-	lump	sum	
	NB The combined total tendered for Items E13.01, E13.02, E13.03 shall not be less than 1,0% of the Tender Sum.				
1300	TOTAL CARRIED FORWARD TO SUMMARY				

EPHRAIM MOGALE LOCAL MUNICIPALITY
 BID NO: EPMLM/8/3/544
 CONSTRUCTION OF RATHOKE BUS ROUTE
 SCHEDULE A : ROADWORKS

SECTION 1400

ITEM	PAYM. REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1400		HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL				
14,01		Office and laboratory accommodation: The provision of accommodation as specified, including roof, external and internal walls, windows complete with glazing, doors with locks and fittings, burglar proofing, painting, floors, fencing, the provision of a 220/250 volt electrical installation wiring, switchboards, etc water and sewerage installation and stores complete in accordance to drawing				
		(a) Offices (interior floor space only)	m ²	24		
		(b) Ablution units	No	4		
		(c) Stores	m ²	12		
14,02		Office furniture:				
		(a) Chairs	No	15		
		(b) Desks complete with drawers and locks	No	3		
		(c) Conference Table	No	1		
14,03		Office and laboratory fittings, installations and equipment:				
		(a) Items measured by number:				
		(i) 220/250 volt power points	No	3		
		(ii) Double 80 watt fluorescent light fittings, complete with ballast and tubes	No	3		
		(iii) Single incandescent light fittings, complete with 100 watt globes	No	2		
		(iv) Wash hand basins complete with tap and drains	No	2		
		(v) Air-conditioning units with 2,2 kW minimum capacity, mounted and with own power connection	No	2		
		(vi) General-purpose steel cupboards with shelves	No	1		
		(vii) Voltage stabilisers	No	1		
		(viii) Rain Gauge	No	1		
14,04		Car ports, as specified, at offices and laboratory buildings	No	6		
14,08		Services:				
		(a) Services at offices and laboratories:				
		(i) Fixed Cost	—	Lump	Sum	
		(ii) Running costs	Month	8		
14,10		Photostat and Fax Facilities:				
		Provision of photostat and faxing facilities	Month	8		
14,12		Supply of Survey Equipment, Computer and Printers				
		(a) Computers	-	Prov	Sum	25 000,00
		(b) Printers	-	Prov	Sum	10 000,00
		(d) Contractor's handling costs, profit and all other charges in respect of subitems B14.12 a,b and c	%	R 35 000,00		
B 14.12		Provision and erection of security fencing (including gate)	m	120		
1400		TOTAL CARRIED FORWARD TO SUMMARY				

ITEM	PAYM. REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1500		ACCOMMODATION OF TRAFFIC				
15.01		Accommodating traffic and maintaining deviation	km	1,00		
B 15.02		Earthworks for temporary deviations				
		(a) Shaping of deviations	km	1,00		
		(b) Cut and borrow to fill	m ³	2340,00		
		(c) Cut to spoil	m ³	Rate Only		Rate Only
15.03		Temporary traffic-control facilities:				
	LI	(a) Flagpersons	man-day	120		
		(b) Portable STOP and GO-RY signs	No.	8,00		
		(c) Temporary traffic-control signals as specified or shown on the drawing	No	Rate Only		Rate Only
		(d) Road signs, R- and TR- series;				
		(i) 900mm	No.	6,00		
		(e) Road signs, TW- series, dia. 900				
		(i) 1500mm	No.	6,00		
		(f) Delineators DTG50J, size indicated:				
		(i) Single	No.	50,00		
		(ii) Movable barricade/road sign combination, size 1800 x 300 and 900 dia.	No.	Rate Only		Rate Only
		(g) Two-way communication devices	No	Rate only		Rate only
15.05		Gravelling and repairs of deviation	m ³	780,00		
15.06		Watering of deviations	kl	200,00		
15.07		Blading of by-passes and existing roads used as deviations by grader	km-pass	24,00		
15.12		Temporary culverts:				
		(a) Provision and laying of temporary prefabricated culverts complete:				
		(1) 900mm dia	m	36,00		
15/16.01		Overhaul of materials hauled in excess of a freehaul distance of 0.5 km for haul through 1.0 km (restricted overhaul)	m ³	Rate only		Rate only
15/16.02		Overhaul of materials hauled in excess of 1 km (ordinary overhaul)	m ³ -km	Rate only		Rate only
1500		TOTAL CARRIED FORWARD TO SUMMARY				

ITEM	PAYM. REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
17.01		Clearing and Grubbing	ha	2		
17.02		Removal and grubbing of large trees and tree stumps:				
	LI	(a) Girth larger than 1m up to and including 2m	No.	10		
	LI	(b) Girth larger than 2m up to and including 3m	No.	Rate Only		Rate Only
	LI	(c) Girth larger than 3m up to and including 4m	No.	Rate Only		Rate Only
1700		TOTAL CARRIED FORWARD TO SUMMARY				R 0,00

EPHRAIM MOGALE LOCAL MUNICIPALITY
 BID NO: EPMLM/8/3/544
 CONSTRUCTION OF RATHOKE BUS ROUTE
 SCHEDULE A : ROADWORKS

SECTION 1800

ITEM	PAYM. REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1800		DAYWORKS				
B18.01		(a) Normal working hours:				
		(i) Team Leader	hour	Rate Only		Rate Only
		(ii) Semi-Skilled Labourer	hour	Rate Only		Rate Only
		(iii) Labourer	hour	Rate Only		Rate Only
		(b) Overtime and Saturdays				
		(i) Team Leader	hour	Rate Only		Rate Only
		(ii) Semi-Skilled Labourer	hour	Rate Only		Rate Only
		(iii) Labourer	hour	Rate Only		Rate Only
B18.02		Hire of construction equipment				
		1) Tip truck or dumper with:				
		(i) 5 m ³ capacity	hour	Rate Only		Rate Only
		(ii) 10m ³ capacity	hour	Rate Only		Rate Only
		2) TLB	hour	Rate Only		Rate Only
		3) 13500 litre water tanker	hour	Rate Only		Rate Only
		4) Bomag 65	daily	Rate Only		Rate Only
		5) Excavator	hour	Rate Only		Rate Only
		6) Water pump	daily	Rate Only		Rate Only
		7) Generator	hour	Rate Only		Rate Only
		8) Flatwheel roller (steel drums) 10 20 tons	hour	Rate Only		Rate Only
		9) Pneumatic tyred roller with 10 to 25 tons	hour	Rate Only		Rate Only
1800		TOTAL CARRIED FORWARD TO SUMMARY				

EPHRAIM MOGALE LOCAL MUNICIPALITY
 BID NO: EPMLM/8/3/544
 CONSTRUCTION OF RATHOKE BUS ROUTE
 SCHEDULE A : ROADWORKS

SECTION 2100

ITEM NO	PAYM. REF	DESCRIPTION	UNIT	QUANTITY	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	300,00		
		(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 Material in subsoil drainage system (crushed stone):				
		(b) crushed stone obtained from commercial sources (Coarse grade 19mm)	m ³	Rate Only		Rate Only
21.08		Pipes in subsoil drainage systems:				
		(c) High density type polyethylene pressure pipes and	m	Rate Only		Rate Only
21.09		Polyethylene sheeting 0.15 mm thick, or similar approved material, for lining subsoil drainage system	m ²	Rate Only		Rate Only
21.10		Synthetic fibre filter fabric				
		(a) Kaytech Grade A2	m ²	Rate Only		Rate Only
21.12		Concrete outlet structures, manhole boxes, Junction boxes, and cleaning eyes for subsoil drainage systems	No	Rate Only		Rate Only
		(a) Outlet Structures	No	Rate Only		Rate Only
		(b) Cleaning eyes	No	Rate Only		Rate Only
21.18		Excavation for cleaning of existing drainage systems				
		a) Manhole inlet and outlet structure	m ³	Rate Only		Rate Only
		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				

EPHRAIM MOGALE LOCAL MUNICIPALITY

BID NO: EPMLM/8/3/544
 CONSTRUCTION OF RATHOKE BUS ROUTE
 SCHEDULE A : ROADWORKS

SECTION 2200

ITEM	PAYM. REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
2200		PREFABRICATED CULVERTS				
22.01		Excavation				
		(a) Excavating soft material situated within the following depth ranges below the surface level:				
	LI	(i) 0 m up to 1,5 m	m³	55,00		
		(ii) 1,5 m up to 3,0 m	m³	20,00		
		(iii) 3,0 m up to 4.5 m	m³	Rate Only		Rate Only
		(iv) Exceeding 4,5 m and up to 6,0 m	m³	Rate Only		Rate Only
		(b) Extra over subitem 21.01(a) for excavation in hard material irrespective of depth	m³	20,00		
		(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	m³	Rate Only		Rate Only
22.02	LI	Backfilling:				
		(a) Using the excavated material	m3	66,00		
		(b) Using imported selected material	m3	15,00		
		(c) Extra over subitems 22.02(a) and (b) for soil cement backfilling with 5% cement	m3	Rate Only		Rate Only
22.03		Concrete pipe culverts:				
		(a) On class B bedding				
		(i) 600mm dia. Class 100D	m	30,00		
		(ii) 900mm dia. Class 100D	m	Rate Only		Rate Only
		(iii) 1200mm dia. Class 100D	m	Rate Only		Rate Only
2200		TOTAL CARRIED FORWARD TO SUMMARY				

ITEM	PAYM. REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
2300		CONCRETE KERBING, CONCRETE CHANNELING, OPEN CHUTES AND CONCRETE LININGS FOR OPEN DRAINS				
23.01		(a) Precast Concrete kerbing as shown on the drawings				
	LI	(i) Non -mountable vertical kerb (Figure 3)	m	80		
	LI	(ii) Mountable kerb (Figure 8C)	m	Rate Only		Rate Only
23.01		(C) Class 30/19 cast in-situ concrete edge beams including excavation, formwork, etc				
23.01	LI	(i) Straight Sections				
		(i) Size 300x300mm Thick	m	Rate Only		Rate Only
	LI	(ii) Circular Sections				
		(i) Size 300x300mm Thick	m	Rate Only		Rate Only
23.02		Concrete kerbing-channelling combination:				
		(a) Prefabricated battered concrete kerb, SABS 927 Fig 3, & C900, with cast in situ class 30/19 concrete channel:				
		(i) 300mm wide	m	Rate Only		Rate Only
23.02		Concrete kerbing-channelling combination:				
		(a) Prefabricated battered concrete kerb, SABS 927 Fig 3, & C900, with cast in situ class 30/19 concrete channel:				
		(i) 300mm wide	m	Rate Only		Rate only
23.07		Trimming of excavations for concrete- lined open drains:				
	LI	(a) In soft material	m ²	Rate Only		Rate Only
	LI	(b) In hard material	m ²	Rate Only		Rate Only
23.08		Concrete lining for open drains:				
	LI	(a) Cast in situ concrete using 25/19 concrete Type E2 with reinforcement MESH 1kg/m ²	m ³	Rate Only		Rate Only
	LI	(b) Class U2 surface finish to cast in situ concrete drains Type E2	m ²	Rate Only		Rate Only
23.09		Formwork to cast in situ concrete lining for open drains (class F2 surface finish)				
		(b) To sides with formwork on both internal and external faces	m ²	Rate Only		Rate Only
		(c) To ends of slabs	m ²	Rate Only		Rate Only
23.4	LI	Cutting bituminous surfacing and pavement layers for concrete kerbing, channelling or concrete-lined drains	m	Rate Only		Rate Only
2300		TOTAL CARRIED FORWARD TO SUMMARY				

EPHRAIM MOGALE LOCAL MUNICIPALITY
 BID NO: EPMLM/8/3/544
 CONSTRUCTION OF RATHOKE BUS ROUTE
 SCHEDULE A : ROADWORKS

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
3100,00	BORROW MATERIALS				
B31.01	Excess overburden				
	(a) Depth up to and including 0.5m	m³	500		
	(b) Depth exceeding 0.5m and up to 1.0m	m³	1 350		
31,03	Finishing-off borrow areas in:				
	(a) Hard material	ha	2		
	(b) Intermediate material	ha	2		
	(c) Soft material	ha	1		
3100	TOTAL CARRIED TO SUMMARY				

ITEM	PAYM. REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3300		MASS EARTHWORKS				
33.01		Cut and borrow to fill, including free-haul up to 1,0km: (a) Material in compacted layer thickness of 200mm and less:				
		(i) Compacted to 90% of modified AASHTO density	m³	14600		
33.04		Cut to spoil, including free haul up to 0.5 km. Material obtained from :				
		(a) Soft excavation	m³	4550		
		(b) Intermediate excavation	m³	455		
		(c) Hard excavation	m³	50		
		(e) Boulder excavation Class A	m³	Rate Only		Rate Only
33.07		Removal of unsuitable material (including free-haul of 1 km)				
		(a) In layer thickness of 200mm and less				
		(i) Stable material	m³	100		
		(ii) Unstable material	m³	Rate Only		Rate Only
33.10		Roadbed preparation and the compaction of material (b) Compaction to 93% of modified AASHTO density	m³	2 076		
33.12		In situ treatment of roadbed:				
		(a) In situ treatment by ripping	m³	100		
33.13		Finishing-off cut and fill slopes, medians and interchange areas:				
		(a) Cut slopes	m²	1920		
		(b) Fill slopes	m²	7770		
B33.14		Extra over item 33.01 for excavating material from the pavements and fills of existing roads:				
		(a) Non-cemented material	m³	Rate Only		Rate Only
		(b) Cemented material	m³	Rate Only		Rate Only
		OVERHAUL				
33/16.02		Overhaul (extra over items 33.01 on material hauled in excess of the free-haul distance of 1km (ordinary overhaul)	m³-km	51705		
33/32.06		Stockpiling of material	m³	Rate Only		Rate Only
3300		TOTAL CARRIED FORWARD TO SUMMARY				

SECTION 3400

[illegible]

ITEM	PAYM. REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3500		STABILIZATION				
3500		STABILIZATION				
35.01		Chemical stabilization 150mm layer thickness extra over unstabilized compacted layers (base and subbase layer)	m ³	3 613		
35.02		Chemical stabilizing agent:				
		(a) CEM II/B-L 32.5 N Cement	t	285		
35.04		Provision and application of water for curing	kl	1100		
35.05		Curing by covering with subsequent layer	m ²	Rate only		Rate only
3500		TOTAL CARRIED FORWARD TO SUMMARY				

ITEM	PAYM. REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
4100		PRIME COAT				
41.01		Prime coat: (c) Polo Prime (0.8l/m ²)	litre	6019		
41.02		Aggregate for blinding	m ²	Rate Only		Rate Only
41.03		Extra over item 41.01 for applying the prime coat in areas accessible only to hand held equipment	litre	250		
4100		TOTAL CARRIED FORWARD TO SUMMARY				

ITEM	PAYM. REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
4200		ASPHALT BASE AND SURFACING				
42.02		Asphalt surfacing : layer of 30mm thick using B8 road grade bitumen (60/70 penetration grade bitumen) :				
		(a) Continuously graded , medium grade	m ²	7524		
42.04		Tack coat of 30% stable-grade emulsion	litre	2257,2		
42.05		Binder Variations (state type):				
		(a) Road grade bitumens (penetration-grade bitumens)	t	Rate Only		Rate Only
42.06		Variation in active filler content:				
		(a) Cement	t	Rate Only		Rate Only
42.08		100mm cores in asphalt paving	no	8		
42.13		Placing and compacting asphalt in restricted areas				
		(a) extra over item 42.02	m ²	Rate Only		Rate Only
42.14		Extra over item 42.04 for applying tack coat in restricted areas	litre	Rate Only		Rate Only
4200		TOTAL CARRIED FORWARD TO SUMMARY				

ITEM	PAYM. REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5100		PITCHING, STONework AND PROTECTION AGAINST EROSION				
51.01	LI	Stone pitching				
		(b) Grouted stone pitching	m ²	80		
5100		TOTAL CARRIED FORWARD TO SUMMARY				

ITEM NO		DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5400		GUARDRAILS				
54.01		Provision for the supply, fabrication, delivery and installation of steel guardrails complete, comprising 100x100x8 mm SHS posts welded to 250x250x10 mm thick mild steel base plates, 60x5 mm steel pipe top and bottom rails, 38x3 mm steel pipe vertical infill members at 200 mm centres, including holding down bolts, welding, cutting, drilling, grouting, fixing to concrete, surface preparation, corrosion protection and all necessary accessories, complete in accordance with the Engineer's details.	-	prov	sum	R250 000,00
		(b) Charge on provisional sum for overheads and profits	%	R 250 000,00		
5400		TOTAL CARRIED TO SUMMARY				

ITEM	PAYM. REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5600		ROAD SIGNS				
B56.01	LI	Road sign boards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class 1 retroreflective material, where the sign board is constructed from:				
		(c) Prepainted galvanized steel plate (Chromadek 1.6mm Thick or Approved equivalent)				
		(i) Area not exceeding 2m ²	m ²	25		
		(ii) Area exceeding 2m ² but not 10 m2	m ²	Rate Only		Rate Only
56.02		Extra over B56.01 for using:				
		(a) Background of retro-reflective material :				
		(iii) Class III	m ²	25		
		(b) Lettering, symbols, numbers, arrows, emblems				
		(ii) Class III	m ²	50		
56.03	LI	Road sign supports (overhead road sign structures excluded)				
		(a) Steel tubing (wall thickness 3mm)				
		(ii) 100mm	t	4		
56.05	LI	Excavation and backfilling for road sign supports (not applicable to kilometre posts)	m ³	25		
56.06	LI	Extra over item 56.05 for cement-treated soil backfill	m ³	15		
56.07		Extra over item 56.05 for rock excavation	m ³	Rate Only		Rate Only
B56.10	LI	Hazard plates:				
		(a) 200mm*800mm	No	4		
5600		TOTAL CARRIED FORWARD TO SUMMARY				

ITEM	PAYM. REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5700		ROAD MARKINGS				
57,01		Road marking paint:				
		(g) Kerb markings - any colour	m	Rate Only		Rate Only
57.02		Retro-reflective road-marking paint:				
		(a) White lines (broken or unbroken):				
		(i) 100 mm wide	km	1,00		
		(b) Yellow lines (broken or unbroken):				
		(i) 100 mm wide	km	2,00		
		(d) White lettering and symbols	m ²	120,00		
		(e) Yellow lettering and symbols	m ²	Rate Only		Rate Only
		(f) Transverse lines, painted islands and arrestor bed markings (any colour)	m ²	Rate Only		Rate Only
57,04		Variations in rate of application:				
		(a) White paint	litre	Rate Only		Rate Only
		(b) Yellow paint	litre	Rate Only		Rate Only
		(d) Retro-reflective beads	kg	Rate Only		Rate Only
57.06		Setting out and premarking the lines (excluding traffic island markings, lettering and symbols)	km	1,00		
57,07		Re-establishing the painting unit at the end of the maintenance period	L/Sum	1,00		
5700		TOTAL CARRIED FORWARD TO SUMMARY				

ITEM	PAYM. REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5900		FINISHING THE ROAD AND ROAD RESERVE				
59.01		Finishing the road and road reserve:				
		(b) Single carriageway road	km	1		
59.02		Treatment of old roads and temporary diversions	km	1		
5900		TOTAL CARRIED FORWARD TO SUMMARY				

EPHRAIM MOGALE LOCAL MUNICIPALITY
 BID NO: EPMLM/8/3/544
 CONSTRUCTION OF RATHOKE BUS ROUTE
 SCHEDULE A : ROADWORKS

SECTION 7300

ITEM	PAYM. REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
7300		CONCRETE BLOCK PAVING				
73.01		(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	m2	165		
73.02		Cast insitu concrete edge and intermediate beams. Concrete class 30/19	m3	10		
73.03		Provision of approved herbicide and anti poison				
		a) Provision of materials	PC Sum		PC Sum	15 000,00
		(b) Handling cost and profit in respect of subitem 73.03 (a)	%	R 15 000,00		
7300		TOTAL CARRIED FORWARD TO SUMMARY				

ITEM	PAYM. REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
8100		TESTING MATERIALS AND WORKMANSHIP				
81.02		Special Test				
		(a) Special Test	PC Sum	1	R 120 000,00	R 120 000,00
		(b) Charge on provisional sum for overheads and profits	%	R 120 000,00		
8100		TOTAL CARRIED FORWARD TO SUMMARY				

EPHRAIM MOGALE LOCAL MUNICIPALITY
 BID NO: EPMLM/8/3/544
 CONSTRUCTION OF RATHOKE BUS ROUTE

SCHEDULE B : STRUCTURES

PART 1 : BRIDGE B1 - SECTION 5200

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5200	<u>GABIONS</u>				
1/52.01	Foundation trench excavation and backfilling:				
	(b) In all other classes of material	m ³	150		
1/52.02	Surface preparation for bedding the gabions	m ²	321		
1/52.03	Gabions:				
	(a) Galvanised gabion boxes:				
	(iii) 2,0 m x 1,0 m x 1,0 m with mesh type 80 2,7mm dia class A galvanised wire	m ³	85		
	(b) Galvanized reno mattresses, 0,3 m deep with mesh type 60 and 2,2mm dia class A galvanised wires, and diaphragms at 1,0 centres	m ³	67		
1/52.04	Filter fabric				
	(a) Bidim grade A4 or approved equivalent	m ²	321		
5200	TOTAL CARRIED TO SUMMARY -SCHEDULE B : PART 1				

EPHRAIM MOGALE LOCAL MUNICIPALITY
 BID NO: EPMLM/8/3/544
 CONSTRUCTION OF RATHOKE BUS ROUTE

SCHEDULE B : STRUCTURES

PART 1 : BRIDGE B1 - SECTION 6100

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
6100	<u>FOUNDATIONS FOR STRUCTURES</u>				
1/61.01	Additional foundation investigations	-	prov	sum	150 000,00
1/B61.02	Excavation:				
	(a) Excavating soft material situated within the following successive depth ranges:				
	(i) 0 m up to 2 m	m ³	480		
	(ii) Exceeding 2 m and up to 4 m	m ³	480		
	(iii) Exceeding 4 m and up to 6 m	m ³	174		
	(b) Extra-over subitem 61.02(a) for excavation in hard material irrespective of depth	m ³	113		
	(c) Extra over subitem 61.02(a) for additional excavation required by the Engineer after the excavation has been completed	m ³	100		
	(e) Extra-over subitem 61.02(a) for excavation in rock fill to construct cut-off beams.	m ³	50		
1/B61.03	Access and drainage				
	(a) Access	-	lump		
1/61.04	Backfill to excavation utilising:				
	(a) Material from excavation (Rockfill at cut-off beams)	m ³	50		
	(b) Imported material (G7 material)	m ³	100		
1/61.05	Fill within a restricted area (extra over item 33.01)	m ³	390		
1/B61.08	Foundation fill consisting of:				
	(a) Rock fill	m ³	240		
	(b) Crushed-stone fill	m ³	36		
	(d) Mass concrete, class 15/38	m ³	48		
	(e) Concrete screed, 75 mm thick, class 15/20 concrete	m ³	18		
1/61.14	Foundation lining, 0,15mm polyethylene sheeting	m ²	240		
6100	TOTAL CARRIED TO SUMMARY -SCHEDULE B : PART 1				

EPHRAIM MOGALE LOCAL MUNICIPALITY
BID NO: EPMLM/8/3/544
CONSTRUCTION OF RATHOKE BUS ROUTE

SCHEDULE B : STRUCTURES

PART 1 : BRIDGE B1 - SECTION 6200

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
6200	<u>FALSEWORK, FORMWORK AND CONCRETE FINISH</u>				
1/62.02	Vertical formwork to provide:				
	(a) Class F1 surface finish to:				
	(i) Cell structure	m ²	70		
	(ii) Floor slab cut-off beams	m ²	250		
	(iii) Approach slabs	m ²	100		
	(iv) Wing walls and wing wall foundations	m ²	88		
	(iv) Kerb and sidewalk on deck	m ³	30		
	(b) Class F2 surface finish to:				
	(i) Cell structure	m ²	350		
	(ii) Wing walls	m ²	50		
1/62.03	Horizontal formwork to provide:				
	(b) Class F2 surface finish to:				
	(i) Cell structure	m ²	300		
1/62.04	Inclined formwork to provide:				
	(b) Class F2 surface finish to:				
	(i) Cell structure	m ²	Rate Only		Rate Only
	(c) Class F3 surface finish to:				
	(i) Kerb	m ²	Rate Only		Rate Only
6200	TOTAL CARRIED TO SUMMARY -SCHEDULE B : PART 1				

EPHRAIM MOGALE LOCAL MUNICIPALITY
 BID NO: EPMLM/8/3/544
 CONSTRUCTION OF RATHOKE BUS ROUTE

SCHEDULE B : STRUCTURES

PART 1 : BRIDGE B1 - SECTION 6300

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
6300	<u>STEEL REINFORCEMENT FOR STRUCTURES</u>				
1/63.01	Steel reinforcement for:				
	(a) Barriers and end-blocks				
	(ii) High-yield-stress-steel hot-rolled bars	t	Rate Only		Rate Only
	(b) Structure				
	(i) Mild-steel bars	t	Rate Only		Rate Only
	(ii) High-yield-stress-steel hot-rolled bars	t	37		
	(iii) Mesh Ref 257	kg	320		
	<u>ADDITIONAL WORK:</u>				
	500 c/c	no.	20		
6300	TOTAL CARRIED TO SUMMARY -SCHEDULE B : PART 1				

EPHRAIM MOGALE LOCAL MUNICIPALITY
 BID NO: EPMLM/8/3/544
 CONSTRUCTION OF RATHOKE BUS ROUTE

SCHEDULE B : STRUCTURES

PART 1 : BRIDGE B1 - SECTION 6400

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
6400	<u>CONCRETE FOR STRUCTURES</u>				
1/B64.01	Cast in situ concrete				
	(a) Class 30/19 in:				
	(i) Cell structure	m ³	377		
	(ii) Approach slabs	m ³	47		
	(iii) Wing walls	m ³	52		
	(b) Class 25/19 in:				
	(i) Inlet/Outlet Structure Floor slab	m ³	37		
	(ii) Cut-off beams	m ³	31		
	(c) Class 15/19 in:				
	(i) Blinding (75mm)	m ³	19		
1/64.06	Demolishing of existing concrete:				
	(b) Reinforced concrete in old/existing structure on current bypass	m ³	15		
6400	TOTAL CARRIED TO SUMMARY -SCHEDULE B : PART 1				

EPHRAIM MOGALE LOCAL MUNICIPALITY
 BID NO: EPMLM/8/3/544
 CONSTRUCTION OF RATHOKE BUS ROUTE

SCHEDULE B : STRUCTURES

PART 1 : BRIDGE B1 - SECTION 6600

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
6600	<u>NO FINES CONCRETE, JOINTS, BEARINGS, PARAPETS AND DRAINAGE FOR STRUCTURES</u>				
1/66.05	Expansion joints:				
	(a) 500 x 20 Thorma joint	m	10		
1/66.06	Filled joints:				
	(a) Joints measured per square metre:				
	(i) 20 mm thick bitumen impregnated fibreboard	m ²	35		
	(ii) 20mm thick expanded polystyrene	m ²	35		
66.08	Sealing joints with:				
	(a) Sealant:				
	(i) Approved highway Silicon Sealant, 20 x 15 mm (ABE Dow Corning DC888)	m	10		
1/66.13	Bearing strips, three layers of 3-ply roofing felt	m ²	20		
1/66.19	Drainage pipes and weep holes:				
	(a) Drainage pipes:				
	(i) 60 mm dia uPVC in decks	m	50		
	(b) Weep holes:				
	(i) 50 mm dia PVC pipes	m	25		
1/66.21	Synthetic-fibre filter fabric, Bidim Grade A4 or approved equivalent	m ²	63		
1/66.23	Crushed stone in drainage strips	m ³	4		
6600	TOTAL CARRIED TO SUMMARY -SCHEDULE B : PART 1				

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	PREFABRICATED CULVERTS	
2300	CONCRETE KERBING, CONCRETE, CHANNELING, OPEN CHUTES AND CONCRETE LININGS FOR OPEN DRAINES	
3100	BORROW MATERIAL	
3300	MASS EARTHWORKS	
3400	PAVEMENT LAYERS OF GRAVEL MATERIAL	
3500	STABILIZATION	
4100	PRIME COAT	
4200	ASPHALT BASE AND SURFACING	
5100	PITCHING, STONEMWORK AND PROTECTION AGAINST EROSION	
5400	GUARD RAIL	
5600	ROAD SIGNS	
5700	ROAD MARKINGS	
5900	FINISHING THE ROAD AND ROAD RESERVE AND TREATMENT OF OLD ROADS	
7300	CONCRETE BLOCK PAVING	
8100	TESTING MATERIALS AND WORKMANSHIP	
TOTAL OF SCHEDULE A : ROADWORKS		
SCHEDULE B: STRUCTURES		
PART 1 : BRIDGE B1 AT CH 607		
SECTION	DESCRIPTION	AMOUNT
5200	GABIONS	
6100	FOUNDATIONS FOR STRUCTURES	
6200	FALSEWORK, FORMWORK AND CONCRETE FINISH	
6300	STEEL REINFORCEMENT FOR STRUCTURE	
6400	CONCRETE FOR STRUCTURE	
6600	NO FINES CONCRETE, JOINTS,BEARINGS,PARAPETS AND DRAINAGE FOR STRUCTURES	
TOTAL FOR SCHEDULE B (BRIDGE B1)		

CALCULATION OF TENDER SUM	
ITEM	AMOUNT
TOTAL SCHEDULE A: ROADWORKS	
TOTAL SCHEDULE B: STRUCTURES	
TENDER (CONTRACT) SUM	
CONTINGENCIES (Add 10% of Tender Sum) 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)	
SUB-TOTAL (1)	
Add VAT @ 15%	
TENDER (CONTRACT) PRICE CARRIED TO FORM OF OFFER AND ACCEPTANCE (Page 88)	

E-TENDER

EXTENDER

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3: SCOPE OF WORK

Table of Contents:

C3.1 STANDARD SPECIFICATIONS

C3.2 PROJECT SPECIFICATIONS

PART A: GENERAL

PS-1	Project Description
PS-2	Description of the Site and Access
PS-3	Details of the Works
PS-4	Construction Management Requirements
PS-5	Expanded Public Works Programme (EPWP) labour intensive specification

C3.3 PARTICULAR SPECIFICATIONS

SECTION EMP: ENVIRONMENTAL MANAGEMENT SPECIFICATION

1. General
2. Training and Induction of Employees
3. Complaints Register and Environmental Incident Book
4. Site Cleanliness and Neatness
5. Access
6. Borrow Pits
7. Dust Control / Air Quality
8. Fauna
9. Fire Prevention and Control
10. Grave Sites
11. Materials Handling and Spills Management
12. Noise
13. Pollution Control
14. Rivers and Streams
15. Safety
16. Soil Management
17. Worker Conduct
18. Traffic Disturbances and Diversions
19. Vegetation
20. Waste Management

SECTION DWK: DAYWORKS

1. Scope
2. Type of Work
3. Materials
4. Construction Plant Hire
5. Salaries and Wages of Workmen
6. Measurement and Payment

SECTION OHS: PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION

1. Introduction and Background
2. Pre-construction Health and Safety specification
 - 2.1 Scope
 - 2.2 Interpretations
 - 2.3 Minimum Administrative requirements
 - 2.4 Health and Safety Induction, Training and Equipment
 - 2.5 Preliminary Hazard Identification and Risk Assessment
 - 2.6 Permits

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- 2.7 Incentives and Penalties
- 2.8 Specific Project Requirements
- 3. Financial Provision for Health and Safety
- 4. Guidelines for the preparation of a Typical OH&S Plan

ESTENDER

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.1 STANDARD SPECIFICATIONS

- The following ECSA guidelines are applicable standards for the professional engineering consultant.

The Engineering Council of South Africa, under Section 34(2) of the Engineering Profession Act. 2000 (Act No. 46 of 2000), guideline scope of services and tariff of fees in the Schedule

- The following SANS specifications are also referred to in this document and the Contractor is advised to obtain them from Standards South Africa (a division of SABS) in Pretoria.

SANS 10396: 2003: Implementing Preferential Construction Procurement Policies using Targeted Procurement Procedures

SANS 1914-1 to 6 (2002): Targeted Construction Procurement

SANS 1921 – 1 (2004): Construction and Management Requirements for Works Contracts
Part 1: General Engineering and Construction Works

SANS 1921-5 (2004): Generic Labour Intensive Specification
Part 5: Earthworks.

and where accommodation of traffic is involved:

SANS 1921-2 (2004): Construction and Management Requirements for Works Contracts
Part 2: Accommodation of Traffic on Public Roads Occupied by the Contractor.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.2: PROJECT SPECIFICATIONS

STATUS

The Project Specification, consisting of two parts, forms an integral part of the contract and supplements the Standard Specifications.

Part A contains a general description of the works, the site and the requirements to be met.

In the event of any discrepancy between a part or parts of the Standardized or Particular Specifications and the Project Specification, the Project Specification shall take precedence. In the event of a discrepancy between the Specifications, (including the Project Specifications) and the drawings and / or the Bill of Quantities, the discrepancy shall be resolved by the Engineer before the execution of the work under the relevant item.

The standard specifications which form part of this contract have been written to cover all phases of work normally required for road contracts, and they may therefore cover items not applicable to this particular contract.

PART A: GENERAL

PS-1 PROJECT DESCRIPTION

The work envisaged under the contract is the upgrading of the Rathoke Bus Route. This road falls within the Ephraim Mogale Local Municipality in Limpopo Province. The project entails upgrading of the gravel access road to bitumen surfacing for a stretch of approximately 1 km long and an average width of 6.6 m. There is inadequate maintenance of these roads done by the relevant authorities. Most roads in the jurisdiction are gravel or dirt.

This upgrade will result in the implementation of a proper road stormwater drainage system.

Extent of Works

Construction of 1 km long road and stormwater control including but not limited to the following:

The works shall consist of the following main items to be upgraded under the contract:

- Contractor's Establishment on Site
- Compliance With Emp and OHS Act Requirements
- Provisions of Temporary Workforce (Abe)
- Housing, Offices, and Laboratories for the Engineer's Personnel
- Setting out of the road;
- Site Clearance;
- Accommodation of traffic (establishment of detours);
- Locating and protection of the existing services;
- Mass Earthworks;
- Construction of layerworks (Subgrade, Lower Selected, Upper Selected, Subbase, and Base) for approximately.
- Provide erosion protection by means of gabions,
- Installation of road signs and road markings;
- 30mm Continuously Graded Medium Hot Asphalt (AC) for 1.0 km;
- Finishing off the road and road reserve.
- Clearing of Site on Completion.

a) Major Drainage Structures

Structure B2 at chainage 1408:

The construction of a new reinforced concrete cell structure (major culvert) that comprises the following:

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

- An in-situ reinforced concrete cell structure, with five 4m spans, and opening height of 2,5m (5/4000 x 2500 in-situ reinforced concrete major culvert). Length of the major culvert is 23,0m
- A road formation width of 10 m, which will accommodate 2 x 3.0 m lanes + 2 x 1,5 m sidewalks).
- A structural system consisting of a five-cell closed concrete frame.
- Foundation improvement by means of an imported 1,0 m thick foundation fill (rock fill).
- The construction of reinforced concrete in-and outlet slabs, wing walls, and cut-off beams.
- Guardrails along sidewalk edges.
- Erosion protection by means of gabions in the riverbed and on fill slopes.

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

PS-2 DESCRIPTION OF THE SITE AND ACCESS

2.1 Location of site

The study area for this investigation is seen to fall within the far southern extent of the Limpopo Province of South Africa- under the jurisdiction of the Ephraim Mogale Local Municipality of the Sekhukhune District Municipality. On a more localised scale, the study area is located roughly 20 km west of Marble Hall.

The area falls between the villages of Matlerekeng (to the south) and Rathoke to the north, with the gravel road in question- known as the District Road 2664 (D2664)- forming the primary link between these rural areas. Furthermore, these villages are generally accessible via the district road in question, with mobility across the villages' footprints aided by internal networks of both gravel and sealed roads- the condition of which was seen to fluctuate.

The co-ordinates of the project are as follows:

Start project: Latitude: 24°57'52.94"S ; Longitude: 29° 3'32.45"E

End project: Latitude: 24°57'25.66"S ; Longitude: 29° 3'15.25"E

2.2 Access to site

The site is easily accessible off Road D2919, which is the main access road to **Rathoke Village** from **Matlerekeng Village**.

The contractor shall be responsible for the maintenance and reinstatement of damage caused by him or his agents/deliveries to vehicular access tracks and rights of way. No damage to fauna and flora located outside the limits of the road reserve will be permitted on the contract.

The contractor shall take cognizance of the aforementioned items concerning roads and tracks and allow for any costs in his Bid under the relevant section in the Bill of Quantities.

PS-3 DETAILS OF THE WORKS

A brief detail of the works for which this specification is applicable is as follows:

3.6 Climatic conditions

According to Kappen and Geiger climate classification, the climate is classified as Arid Climate (BSh) and Temperate Interior (SANS 204-2, 2008).

Climate determines the mode and rate of weathering. The effect of climate on the weathering process (i.e., soil formation) is determined by the climatic N-value defined by Weinert, 1980. The N-value is calculated as 12 times the January evaporation divided by the annual precipitation and indicates whether an area is predominantly moisture-surplus ($N < 5$) or moisture-deficit ($N > 5$).

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The Climatic N-Value (Weinert, 1980) for the area is deemed to be between 3 and 4; therefore, chemical disintegration of the parent rocks in the regional setting is deemed the principal mode of weathering. This mode of weathering promotes the breakdown of the primary minerals within the parent rock resulting in the formation of secondary minerals such as clays and sesquioxides.

Consequently, the climatic region favours the development of fine-grained soils, rather than an abundance of rocky fragments. Physical/mechanical weathering of the parent rock will take place but on a lower scale.

Temperature:

Furthermore, the average midday temperature in the summer month of January is approximately 29.4°C, dropping to 21.5°C in June.

Rainfall:

The site is anticipated to exhibit a similar climatic regime to the town of Marble Hall. The town received approximately 473 mm of rainfall per year with the majority of precipitation events occurring during the summer months. The wettest month is December which experiences about 89mm of rainfall on average while June experiences the least amount of precipitation events.

3.7

Labour recruitment conditions

A Project Steering Committee (PSC) will be established and is a vital means of communication between all parties involved with the project. The composition of the PSC comprises representation by the Employer, the Engineer and formal structures within the community (at least 4 people).

The contractor shall make use of these communication channels, and shall appoint from amongst his site personnel a responsible person to participate in the affairs of the PSC, and this representative may be also required to attend the monthly PSC meetings.

It is mandatory that the Contractor shall interact with the community via proactive project liaison and project participation by its leaders and constituted organizations and forums, as well as through the employment of its people, and these activities shall constitute essential facets of the project.

Local labour is to be used and the employment of such labour is to be done in conjunction with the PSC.

The Municipality shall appoint a Community liaison officer (C.L.O.) (which shall be remunerated under the contract) who shall be in full time employ of the contract. The duties of the C.L.O. shall consist inter alia of the following:

- To be available on site daily between the hour 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 17:00 in the afternoon.
- To communicate daily with regard to number and skills, to facilitate in labour disputes and to assist in their resolution.
- His/her remuneration shall be **R7500** per Month.
- The labour/General worker rate shall be a minimum of **R28.79** per hour as determined by the Municipality and in accordance with the minimum wage act no 9 of 2018.
- To attend all meetings in which the community and/or labour are present or are required to be represented.
- To attend all PSC meeting to report on labour.
- To assist in the identification and screening of laborers from the community in accordance with the contractor's requirements.
- To advise and inform temporary laborers of their conditions of employment and to inform temporary laborers as early as possible when their period of employment will be terminated.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- To attend disciplinary proceedings to ensure that hearings are fair and reasonable.
- To keep a daily written record of his interviews and community liaison, labour force etc.
- To attend monthly site meetings and report in writing on labour and contract matters.
- Keeping a data base of available labour.
- All such other duties as agreed upon between all parties concerned.
- Compile a list of available skills in the area (skills audit).

4.11 Construction in confined Areas

It may be necessary for the Contractor to work within confined areas. Except where provided for in the specifications, no additional payment shall be made for work done in restricted areas. In certain places the width of the fill material and pavement layers may decrease to zero and the working space may be confined. The method of construction in these confined areas largely depends on the Contractor's constructional plant.

However, the Contractor shall note that, unless provided for in terms of the scheduled payment items in the COLTO Standard Specifications or these project specifications, measurement and payment shall be in accordance with the specified cross sections and dimensions only, irrespective of the method used for achieving these cross sections and dimensions, and that the Bided rates and amounts shall include full compensation for all special equipment and construction methods and for all difficulties encountered when working in confined areas and narrow widths, and at or around obstructions, and that no extra payment shall be made nor shall any claim for additional payment be considered in such cases.

PS-4 CONSTRUCTION AND MANAGEMENT REQUIREMENTS

4.1 General

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

Certain aspects however require further attention as described hereafter.

4.2 Drawings (Read with SANS 1921 – 1: 2004 clauses 4.1.7; 4.1.11 and 4.1.12)

The reduced drawings which form part of the Bid documents shall be used for Bidding purposes only and is attached at the back of this document under section C4.3.

The contractor shall be supplied with three complete paper copies of the construction drawings free of charge. The Contractor shall at his own expense re-produce further paper prints required for the construction of the work.

At the completion of the Contract, the Contractor shall return to the Engineer all drawings, provided or made, during the contract period.

Any information which the Contractor has control over and which is required by the Resident Engineer to complete the as-built drawings shall be made available to the Resident Engineer before the Certificate of Completion is issued.

Only written dimensions may be used. Dimensions are not to be scaled from drawings unless ordered by the Engineer. The Engineer will supply all figures / dimensions which are not shown on the drawings. The levels or dimensions given on the drawings are subject to confirmation on site. The Contractor shall submit all levels and dimensions to the Engineer for confirmation before he commences with any structural construction work. The Contractor shall also check all clearances which are given on the drawings and inform the Engineer of any conflicting dimensions.

Any destination names on road signs which may be indicated on the drawings are subject to confirmation by the Engineer before these signs are manufactured.

4.3 Responsibilities for design and construction (Read with SANS 1921 – 1:2004 Clause 4.2)

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

- 4.3.1** The responsibility strategy followed in this contract shall be A.
- 4.3.2** The structural engineer responsible for the design in accordance with the specification is: Dolmen Engineers.

4.4 Planning, Programme and Method Statements (Read with SANS1921-1:2004 clause 4.3)

4.4.1 Preliminary programme

The Contractor shall include with his Bid a preliminary programme on the prescribed form to be completed by all Bidders. The programme shall be in the form of a simplified bar chart with sufficient details to show clearly how the works will be performed within the time for completion as stated in the Contract Data.

Bidders may submit Bids for an alternative Time for Completion in addition to a Bid based on the specified Time for Completion. Each such alternative Bid shall include a preliminary programme similar to the programme above for the execution of the works, and shall motivate his proposal clearly by stating all the financial implications of the alternative completion time.

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

The following constraints shall be taken into account in preparing the preliminary construction programme which must be submitted with the Bid. These same constraints shall apply to the final construction programme.

- a) The Contract will be as Bided by the contractor. Plant and personnel requirements to complete the project must be incorporated in the Bid and shown on the programme.
- b) A high standard of traffic accommodation
- c) The relocation of services
- d) Ancillary works by Emerging Contractors

4.4.2 Programme in terms of Clause 5.6 of the General Conditions of Contract

It is essential that the construction programme, which shall conform in all respects to Clause 5.6 of the General Conditions of Contract, be furnished within the time stated in the Contract Data. The preliminary programme to be submitted with the Bid shall be used as basis for this programme..

The following must be stated on the programme:

- (a) 2 weeks must be allocated at the start of the project for the setting out and confirmation of survey benchmarks. No work will be allowed prior to the survey confirmation process being completed.
- (b) The quantity of work applicable to each bar item as well as the rate at which the work will be completed.
- (c) A budget of the value of completed work, month by month, for the full contract period.
- (d) The critical path.
- (e) Work to be undertaken by Local Contractor (if applicable)
- (f) Training Courses
- (g) Schedule of plant and recourses to be utilized

The Contractor's attention is also drawn to clause 5.7 of the General Conditions of Contract 2015.

4.4.3 Time for Completion

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

The Time for Completion shall be taken as Eight (8) Months as indicated under section C1.2. Contract Data.

4.4.4 Delay in Completion

The Contractor shall organise the Works in such a manner that no delays occur. Delays due to faulty organisation or lack or shortage of materials or labour or co-operation with other parties or to any other cause within the control of the Contractor will not be counted and full power is reserved by the Engineer to order the Contractor to expedite the work should the work, in the opinion of the Engineer, not progress in a satisfactory way.

4.5 Quality Assurance (QA) (Read with SANS 1921 – 1: 2004 clause 4.4)

The Contractor will be solely responsible for the production of work that complies with the Specifications to the satisfaction of the Engineer. To this end it will be the full responsibility of the Contractor to institute an appropriate Quality Assurance (QA) system on site. The Engineer will audit the Contractor's quality assurance (QA) system on a regular basis to verify that adequate independent checks and tests are being carried out and to ensure that the Contractor's own control is sufficient to identify any possible quality problems which could cause a delay or failure.

The Contractor shall ensure that efficient supervisory staff, the required transport, instruments, equipment and tools are available to control the quality of his own workmanship in accordance with his QA-system. His attention is drawn to the fact that it is not the duty of the Engineer or the Engineer's representative to act as foreman or surveyor.

4.6 Management and disposal of water (Read with SANS 1921 – 1 : 2004 clause 4.6)

The Contractor shall pay special attention to the management and disposal of water and storm water on the site. It is essential that all completed works or parts thereof are kept dry and properly drained.

Claims for delay and for repair of damage caused to the works as a result of the Contractor's failure to properly manage rain and surface water, will not be considered.

4.7 Earthworks (Read with SANS 1921 – 1 : 2004 clause 4.10)

4.7.1 Borrow pits and spoil areas

The borrow pits to be used for this contract shall be pointed out at the Site Inspection. The Contractor shall be permitted to use only those borrow pits approved by the Engineer.

The spoil sites shall be determined on site in conjunction with the Engineer, the PSC, and the local communities. The Contractor shall be permitted to use only those spoil areas approved by the Engineer.

Should the Contractor wish to use any other spoil area for the disposal of soil, rubble, vegetation, etc, its use shall be subject to the approval of the Engineer and the landowner.

4.8 Testing (Read with SANS 1921 – 1 : 2004 clause 4.11)

4.8.1 Process control

The Contractor shall arrange for his own process control tests. The Contractor may establish his own laboratory on site for this purpose, or he may employ the services of an independent commercial laboratory. Whatever method is used, the Contractor must submit the results of tests carried out on materials and workmanship when submitting work for acceptance by the Engineer. The costs for these tests shall be deemed to be included in the relevant rates and no additional payment will be made for testing as required.

4.8.2 Acceptance control


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

The process control test results submitted by the Contractor for approval of materials and workmanship may be used by the Engineer for acceptance control. However, before accepting any work, the Engineer shall have his own acceptance control tests carried out by the dedicated site laboratory as approved by the client. The cost of acceptance testing shall be to the account of the client.

4.9 Site Establishment *(Read with SANS 1921 – 1 : 2004 clause 4.14)*

4.9.1 Contractor's camp site and depot

The Contractor is responsible to provide a suitable site for his camp and to provide accommodation for his personnel and laborers. If the Employer can make any specific site available to the Contractor, such site will be pointed out to the Contractor.

The chosen site shall be subject to the approval of the Engineer and the Project Steering Committee (PSC). Possible locations for a campsite shall be pointed out at the Site inspection. The Contractor shall conform to all local authority, environmental and industrial regulations.

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

The Contractor shall provide security watchmen for the contract as he deems fit at no extra cost for the Employer. The Contractor must ensure that all his employees as well as the employees of his subcontractors are able to identify themselves as members of the construction team.

4.9.2 Accommodation of Employees

No employees except for security guards will be allowed to sleep or be accommodated on the site in urban areas.

No housing is available for the Contractor's employees and the Contractor shall make his own arrangements to house his employees and to transport them to site. No informal housing or squatting will be allowed.

The Contractor shall provide the necessary ablution facilities at his camp site and the site of the works for the use of his employees. Chemical toilets will only be allowed where temporary facilities have to be provided.

4.10 Survey beacons *(Read with SANS 1921 – 1 : 2004 clause 4.15)*

The Contractor shall take special precautions to protect all permanent survey beacons or pegs such as bench-marks, stand boundary pegs and trigonometrical beacons, regardless whether such beacons or pegs were placed before or during the execution of the Contract. If any such beacons or pegs have been disturbed by the Contractor or his employees, the Contractor shall have them replaced by a registered land surveyor at his own cost.

4.11 Existing Services *(Read with SANS 1921 – 1: 2004 clause 4.17)*

The Contractor shall make himself acquainted with the position of all existing services before any excavation or other work likely to affect the existing services is commenced. It is the contractors responsibility to identified services that will interact with the construction work. The contractor will be responsible to do the application and negotiation on the relocation of the sifting of services.

The Contractor will be held responsible for any damage to known existing services caused by or arising out of his operations and any damage shall be made good at his own expense. Damage to unknown services shall be repaired as soon as possible and liability shall be determined on site when such damage should occur.

Services belonging to the following service owners will be encountered.

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

SERVICE OWNER	TYPE OF SERVICE
Eskom	Electrical/Power lines
Telkom	Telephone lines
Greater Sekhukhune Local Municipality	Waterlines and reticulation within the rural area
Department of Water and Sanitation	Bulk water lines
Tribal Authority	Land owner, graves
Private owners	Fence line

A provisional amount is included in the bill of quantities for the protection and/or shifting of services.

Two weeks prior to commencing construction activities in a particular area, the Contractor shall also diligently enquire of local landowners as to whether there are any other known services which have not been shown on the drawings but which may be affected by the construction activities in that area, and any such services shall be brought to the attention of the Engineer immediately. The contractor shall make provision in his programme for the location and/or shifting of services.

The Contractor shall take note of the requirements of clause 1202 of the standard specifications with regard to services.

4.12 Health and Safety *(Read with SANS 1921 - 1: 2004 clause 4.18)*

4.12.1 General statement

It is a requirement of this contract that the Contractor shall provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons, who may be directly affected by his activities, are not exposed to hazards to their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety Act (OHSA) No 85 and Amendment Act No 181 of 1993, and the OHSA 1993 Construction Regulations 2014 issued on 7 February 2014 by the Department of Labour.

For the purpose of this contract the Contractor is required to confirm his status as mandatory and employer in his own right for the execution of the contract by entering into an agreement with the Employer in terms of the Occupational Health and Safety Act in the form as included in section C1.5.

4.12.2 Health and Safety Specifications and Plans

(a) Employer's Health and Safety Specification

The Employer's Health and Safety Specification is included in Section C3.3, of the Bid documents as part of the Particular Specifications.

(b) Bidder's Health and Safety Plan

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

- (i) a proper risk assessment of the works, risk items, work methods and procedures in terms of Regulations 9 to 30;
- (ii) pro-active identification of potential hazards and unsafe working conditions;
- (iii) provision of a safe working environment and equipment;
- (iv) statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas (*Regulation 7*);
- (v) monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- (vi) details of the Construction Supervisor, the Construction Safety Officers and other competent persons he intends to appoint for the construction works in terms of Regulation 8 and other

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- applicable regulations; and
- (vii) details of methods to ensure that his Health and Safety Plan is carried out effectively in accordance with the Construction Regulations 2014.

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

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

4.12.3 Cost of compliance with the OHSA Construction Regulations

The rates and prices Bided by the Contractor shall be deemed to include all costs for conforming to the requirements of the Act, the Construction Regulations and the Employer's Health and Safety Specification as applicable to this contract.

Should the Contractor fail to comply with the provisions of the Construction Regulations, he will be liable for penalties as provided in the Construction Regulations and in the Employer's Health and Safety Specification.

4.13 Requirements for Accommodation of Traffic *(Read with SANS 1921 - 2 : 2004)*

4.13.1 General

The Contractor will be responsible for the safe and easy passage of public traffic past and on sections of roads of which he has occupation or where work has to be done near traffic.

The travelling public shall have the right of way on public roads, and the Contractor shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road.

Accommodation of traffic, where applicable shall comply with SANS 1921-2: 2004: Construction and Management Requirements for Works Contracts, Part 2: Accommodation of Traffic on Public Roads occupied by the Contractor. The Contractor shall obtain this specification from Standards South Africa if accommodation of traffic will be involved on any part of the construction works.

4.13.2 Basic Requirements

The travelling public shall have the right of way on public roads, and the Contractor shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road.

The Contractor shall ensure that all road signs, barricades, delineators, flagmen and speed controls are effective and that courtesy is extended to the public at all times.

Failure to maintain road signs, warning signs or flicker lights, etc, in a good condition shall constitute ample reason for the Engineer to suspend the work until the road signs, etc, have been repaired to his satisfaction.

The Contractor may not commence constructional activities affecting existing roads 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.

The Contractor shall construct and maintain all temporary drainage works necessary for temporary deviations.

The Contractor shall provide and grant access to persons whose properties fall within or adjoin the area in which he is working.

4.13.3 Payment

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The Contractor's Bided rates for the relevant items in the Bill of Quantities shall include full compensation for all possible additional costs which may arise from this, and no claims for extra payment due to inconvenience as a result of the modus operandi will be considered.

4.14 Management of the environment (Read with SANS 1921 - 1 : 2004 clause 4.19)

Respect for the environment is an important aspect of this contract and the Contractor shall pay special attention to the following:

4.14.1 Natural Vegetation

The Contractor shall confine his operation to the limits of the road reserve for the purpose of constructing the works and where applicable detours, shall be sited in consultation with the Engineer and the local communities.

Only those trees and shrubs directly affected by the works and such others as the Engineer may direct I writing shall be cut down and stumped. The natural vegetation, grassing and other plants shall not be disturbed other than in areas where it is essential for the execution of the work or where directed by the Engineer.

4.14.2 Fires

The Contractor shall comply with the statutory and local fire regulations. He shall also take all necessary precautions to prevent any fires. In the event of fire the Contractor shall take active steps to limit and extinguish the fire and shall accept full responsibility for damages and claims resulting from such fires which may have been caused by him or his employees.

4.14.3 Environmental Management Plan

In addition to the above all requirements according to the Environmental Management Plan as detailed in C3.3, Particular Specifications, will be adhered to.

PS-5 Expanded Public Works Programme (EPWP) labour intensive specification

5.1. Labour Regulations

5.1.1 Payment for the labour-intensive component of the works

Payment for works identified 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.

5.1.2 Applicable labour laws

The Ministerial Determination for Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice N° R347 of 4 May 2012, as reproduced below, shall apply to works described in the scope of work as being labour.

5.1.3 Introduction

This document contains the standard terms and conditions for workers employed in elementary occupations on a Special Public Works Programme (EPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of a EPWP.

In this document –

- (a) "department" means any department of the State, implementing agent or contractor;
- (b) "employer" means any department, implementing agency or contractor that hires workers to work in elementary occupations on a EPWP;

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- (c) “worker” means any person working in an elementary occupation on a EPWP;
- (d) “elementary occupation” means any occupation involving unskilled or semi-skilled work;
- (e) “management” means any person employed by a department or implementing agency to administer or execute an EPWP;
- (f) “task” means a fixed quantity of work;
- (g) “task-based work” means work in which a worker is paid a fixed rate for performing a task;
- (h) “task-rated worker” means a worker paid on the basis of the number of tasks completed;
- (i) “time-rated worker” means a worker paid on the basis of the length of time worked.

5.1.4 Terms of Work

5.1.4.1 Workers on a EPWP are employed on a temporary basis or Contract Basis.

5.1.5 Normal Hours of Work

5.1.5.1 An employer may not set tasks or hours of work that require a worker to work—

- (a) more than forty hours in any week
- (b) on more than five days in any week; and
- (c) for more than eight hours on any day.

5.1.5.2 An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.

5.1.5.3 A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

5.1.6 Meal Breaks

5.1.6.1 A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.

5.1.6.2 An employer and worker may agree on longer meal breaks.

5.1.6.3 A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.

5.1.6.4 A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

5.1.7 Special Conditions for Security Guards

5.1.7.1 A security guard may work up to 55 hours per week and up to eleven hours per day.

5.1.7.2 A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

5.1.8 Daily Rest Period

Every worker is entitled to a daily rest period of at least eight consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

5.1.9 Weekly Rest Period

Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work ("emergency work").

5.1.10 Sick Leave

- 5.1.10.1 Only workers who work four or more days per week have the right to claim sick-pay in terms of this clause.
- 5.1.10.2 A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.
- 5.1.10.3 A worker may accumulate a maximum of twelve days' sick leave in a year.
- 5.1.10.4 Accumulated sick-leave may not be transferred from one contract to another contract.
- 5.1.10.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
- 5.1.10.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.
- 5.1.10.7 An employer must pay a worker sick pay on the worker's usual payday.
- 5.1.10.8 Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
- (a) absent from work for more than two consecutive days; or
 - (b) absent from work on more than two occasions in any eight-week period.
- 5.1.10.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
- 5.1.10.10 A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

5.1.11 Maternity Leave

- 5.1.11.1 A worker may take up to four consecutive months' unpaid maternity leave.
- 5.1.11.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.
- 5.1.11.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- 5.1.11.4 A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- 5.1.11.5 A worker may begin maternity leave –
- (a) four weeks before the expected date of birth; or
 - (b) on an earlier date –
 - (i) if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
 - (ii) if agreed to between employer and worker; or
 - (c) on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
- 5.1.11.6 A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

5.1.12 Family responsibility leave

- 5.1.12.1 Workers, who work for at least four days per week, are entitled to three days paid family responsibility

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

leave each year in the following circumstances -

- (a) when the employee's child is born;
- (b) when the employee's child is sick;
- (c) in the event of a death of –
 - (i) the employee's spouse or life partner;
 - (ii) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

5.1.13 Statement of Conditions

5.1.13.1 An employer must give a worker a statement containing the following details at the start of employment –

- (a) the employer's name and address and the name of the EPWP;
- (b) the tasks or job that the worker is to perform; and
- (c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
- (d) the worker's rate of pay and how this is to be calculated;
- (e) the training that the worker will receive during the EPWP.

5.1.13.2 An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.

5.1.13.3 An employer must supply each worker with a copy of these conditions of employment.

5.1.14 Keeping Records

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

- (a) the worker's name and position;
- (b) in the case of a task-rated worker, the number of tasks completed by the worker;
- (c) in the case of a time-rated worker, the time worked by the worker;
- (d) payments made to each worker.

5.1.14.2 The employer must keep this record for a period of at least three years after the completion of the EPWP.

5.1.15 Payment

5.1.15.1 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.

5.1.15.2 a worker may not be paid less than the minimum EPWP wage rate of **R28.79** per hour. This will be adjusted annually in accordance with the minimum wage act no 9 of 2018.

5.1.15.3 A task-rated worker will only be paid for tasks that have been completed.

5.1.15.4 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.

5.1.15.5 A time-rated worker will be paid at the end of each month.

5.1.15.6 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.

5.1.15.7 Payment in cash or by cheque must take place –

- (a) at the workplace or at a place agreed to by the worker;
- (b) during the worker's working hours or within fifteen minutes of the start or finish of work;
- (c) in a sealed envelope which becomes the property of the worker.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- 5.1.15.8 An employer must give a worker the following information in writing –
- (a) the period for which payment is made;
 - (b) the numbers of tasks completed or hours worked;
 - (c) the worker's earnings;
 - (d) any money deducted from the payment;
 - (e) the actual amount paid to the worker.
- 5.1.15.9 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it
- 5.1.15.10 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

5.1.16 Deductions

- 5.1.16.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law. i.e UIF
- 5.1.16.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
- 5.1.16.3 An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.
- 5.1.16.4 An employer may not require or allow a worker to –
- (a) repay any payment except an overpayment previously made by the employer by mistake;
 - (b) state that the worker received a greater amount of money than the employer actually paid to the worker; or
 - (c) pay the employer or any other person for having been employed.

5.1.17 Health and Safety

- 5.1.17.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.
- 5.1.17.2 A worker must –
- (a) work in a way that does not endanger his/her health and safety or that of any other person;
 - (b) obey any health and safety instruction;
 - (c) obey all health and safety rules of the EPWP;
 - (d) use any personal protective equipment or clothing issued by the employer;
 - (e) report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

5.1.18 Compensation for Injuries and Diseases

- 5.1.18.1 it is the responsibility of the contractor to arrange for all persons employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- 5.1.18.2 A worker must report any work-related injury or occupational disease to their employer or manager.
- 5.1.18.3 The employer must report the accident or disease to the Compensation Commissioner.
- 5.1.18.4 An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

5.1.19 Termination

- 5.1.15.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- 5.1.19.2 A worker will not receive severance pay on termination.
- 5.1.19.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.
- 5.1.19.4 A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.
- 5.1.19.5 A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

5.1.20 Certificate of Service

5.1.20.1 On termination of employment, a worker is entitled to a certificate stating –

- (a) the worker's full name;
- (b) the name and address of the employer;
- (c) the EPWP on which the worker worked;
- (d) the work performed by the worker;
- (e) any training received by the worker as part of the EPWP;
- (f) the period for which the worker worked on the EPWP;
- (g) any other information agreed on by the employer and worker.

5.1.21 Contractor's default in payment to Labourers and Employees

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.

5.1.22 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.

5.1.23 Reporting

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

- Signed Muster rolls/pay sheets of temporary workers and permanent staff detailing the number, category, gender, rate of pay and daily attendance.
- Plant utilization returns
- Progress report detailing production output compared to the programme of works intensive and which are undertaken by unskilled or semi-skilled workers.

9.2 Labour intensive competencies of supervisory and management staff

Contractors having a CIDB contractor grading designation of 3CE and higher shall only engage supervisory and management staff in labour intensive works who have either completed, or for the period 1 April 2004 to 30 June 2006, are registered for training towards, the skills programme outlined in Table 1.

The managing principal of the contractor, namely, a sole proprietor, the senior partner, the managing director or managing member of a close corporation, as relevant, having a contractor grading designation of 1GB, 2 GB, 3 GB and 4 GB shall have personally completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for the NQF level 2. All other site supervisory staff in the employ of such contractors must have completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for, the NQF level 2 unit standards or NQF level 4 unit standards.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Table 1: Skills programme for supervisory and management staff

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

5.2 Employment of unskilled and semi-skilled workers in labour-intensive works – According to SANS 1914-5.

5.2.1 Requirements for the sourcing and engagement of labour.

5.2.1.1 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.

5.2.1.2 The rate of pay set for the EPWP per hour is **R 28.79** as set out by the Ephraim Mogale Local Municipality in conjunction with minimum wage act no 9 of 2018.

5.2.1.3 Tasks established by the contractor must be such that:

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

5.2.1.4 The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 5.2.1.3.

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

- a) where the head of the household has less than a primary school education;

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- b) that has less than one full time person earning an income;
- c) where subsistence agriculture is the source of income.
- d) those that are not in receipt of any social security pension income

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

- a) 55 % women;
- b) 40% youth who are between the ages of 18 and 35; and
- c) 2% on persons with disabilities.

5.3 Specific provisions pertaining to SANS 1914-5

5.3.1 Definitions

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

5.3.2 Contract participation goals

- 5.3.2.1 There is no specified contract participation goal for the contract. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.
- 5.3.2.2 The wages and allowances used to calculate the contract participation goal shall, with respect to both time-rated and task rated workers, comprise all wages paid and any training allowance paid in respect of agreed training programmes.

5.3.3 Terms and conditions for the engagement of targeted labour

Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

5.3.4 Variations to SANS 1914-5

- 5.3.4.1 The definition for net amount shall be amended as follows:
Financial value of the contract upon completion, exclusive of any value added tax or sales tax which the law requires the employer to pay the contractor.
- 5.3.4.2 The schedule referred to in 5.2 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of days of formal training provided to targeted labour.

5.3.5 Training of targeted labour

- 5.3.5.1 The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.
- 5.3.5.2 The cost of the formal training of targeted labour will be funded by the provincial office of the Department of Labour. This training should take place as close to the project site as practically possible. The contractor, must access this training by informing the relevant provincial office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The employer must be furnished with a copy of this request.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- 5.3.5.3 A copy of this training request made by the contractor to the DOL provincial office must also be faxed to the EPWP Training Director in the Department of Public Works– Cinderella Makunike, Fax Number 012 328 6820 or email cinderella.makunike@dpw.gov.za Tel: 083 677 4026.
- 5.3.5.4 The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he she is employed for 4 months or more.
- 5.3.5.5 The contractor shall do nothing to dissuade targeted labour from participating in training programmes.
- 5.3.5.6 An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of 5.3.5.1 to 5.3.5.5 above.
- 5.3.5.7 Proof of compliance with the requirements of 5.3.5.1 to 5.3.5.5 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

C3.3 PARTICULAR SPECIFICATIONS

In addition to the Standardized and Project Specifications the following Particular Specifications shall apply to this contract and are bound in hereafter.

SECTION EMP	ENVIRONMENTAL MANAGEMENT SPECIFICATION
SECTION DWK	DAY WORKS
SECTION OHS	OHSA 1993 SAFETY SPECIFICATION

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

SECTION EMP: ENVIRONMENTAL MANAGEMENT SPECIFICATION

EMP.1 General

In order to ensure that the construction works is carried out in an environmentally sensitive matter, strict compliance to the Environmental Management Plan (EMP) guidelines is required. The EMP is bounded to this document under Part C4: **Site Information**. The purpose of the EMP is to:

- Encourage good management practices through planning and commitment to environmental issues,
- Provide rational and practical environmental guidelines to:
 - i. Minimize disturbance of the natural environment,
 - ii. Prevent pollution of land, air and water,
 - iii. Prevent soil erosion and facilitate re-vegetation.
- Adopt the best practicable means available to prevent or minimize adverse environmental impact,
- Develop waste management practices based on prevention, minimization, recycling, treatment or disposal of wastes,
- Train employees and contractors with regard to environmental obligations.

EMP.2 Training and Induction of Employees

- The Contractor has a responsibility to ensure that all those people involved in the project are aware of and familiar with the environmental requirements for the project (this includes sub-contractors, casual labour, etc.). The EMP shall be part of the terms of reference for all contractors, sub-contractors and suppliers.

a) EMP.3 Complaints Register and Environmental Incident Book

b)

Any complaints received by the project team from the public will be recorded. The complaint should be brought to the attention of the site manager, who will respond.

The following information must be recorded:

- Time, date and nature of the complaint,
- Type of communication (telephone, letter etc),
- Name, contact address and telephone number of the complainant,
- Response and investigation undertaken and
- Actions taken and by whom.

All complaints received will be investigated and a response given to the complainant within 14 days.

All environmental incidents occurring on the site will be recorded. The following information will be provided:

- Time, date, location and nature of the incident,
- Actions taken and by whom.

EMP.4 Site Cleanliness and Neatness

- Location of a construction camp is to be approved by the Engineer and is to be restored to its previous condition after completion of construction.
- The construction camp should preferably be fenced with a 1.8m bonnox fence or similar approved.
- All materials, equipment, plant and vehicles must be stored within the construction camp.
- A dedicated area must be made available for construction staff to change and store their personal belongings.

EMP.5 Access

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- Access to existing roads, schools, buildings, shops and residential properties must not be impeded during construction.
- Access roads utilised by the Contractor must be maintained in good condition.

EMP.6 Borrow Pits

- Mining authorizations (permits) for borrow pits must be obtained from the Department of Minerals and Energy (DME) in consultation with the Department of Water Affairs and Forestry (DWAF).
- Spoil dumps resulting from borrow pits must not interfere with any natural surface drainage.
- Borrow pits must be rehabilitated after use in accordance with the requirements of DME and DWAF.
- Borrow pits will be fenced and the necessary warning signs will be erected.

EMP.7 Dust Control / Air Quality

- Dust suppression measures must be implemented during construction by ensuring that all surfaces prone to dust generation are kept damp (e.g. use of water tanker).
- Ensure that vehicles and equipment are in good working conditions and that emissions are not excessive.
- Ensure that vehicles and equipment are in good working conditions and that emissions are not excessive.
- Special care must be taken in areas where the route passes close to schools and residential areas.
- The speed of construction vehicles must be reduced.

EMP.8 Fauna

- Contractor staff may not chase, catch or kill animals encountered during construction.

EMP.9 Fire Prevention and Control

- Smoking is prohibited in the vicinity of flammable substances.
- The contractor must ensure that fire-fighting equipment is available on site, particularly where flammable substances are being stored or used, and that construction staff are aware of where it is kept and how it is operated.
- Fires started for comfort (warmth) are prohibited, due to the risk of veld fires and risk to adjacent property owner's lands.

EMP.10 Grave Sites

- Gravesites in close proximity to the road must not be disturbed during construction.

EMP.11 Materials Handling and Spills Management

- Any hazardous materials to be used during construction (e.g. lime, fuel, paint, etc) are to be stored in a designated area at the campsite.
- The storage containers/facilities (including any diesel/petrol tanks) must be placed on an impermeable surface and surrounded by a bund wall, in order to ensure that accidental spillage does not pollute the environment.
- Workers must at all times be made aware of the health and safety risks associated with any hazardous substances used (e.g. smoking near fuel tanks), and must be provided with appropriate protective clothing/equipment in case of spillages or accidents.
- Ensure all staff and contractors undergo relevant training in the maintenance of equipment to prevent the accidental discharge or spill of fuel, oil, lubricants and other chemicals.
- Any spill of potentially hazardous materials must be cleaned up immediately (Potentially hazardous materials on site include paint, oil, grease, fuel, turpentine, etc).

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- The area of contaminated soil or spill must be deposited into the hazardous waste container(s).
- The contractor should keep Peat, Sorb or a similar absorbent on site to clean up any spills. The absorbent must be stored in a designated area and be available for inspection.
- All spills are to be recorded in the environmental incident book.

EMP.12 Noise

- Noise generating activities must be restricted to between 07:00 and 17:00 Monday to Friday, unless otherwise approved by the appropriate competent person in consultation with adjacent landowners/affected persons.
- All equipment, vehicles and machinery must be in good working condition and be equipped with sound mufflers if necessary.
- Construction staff must be trained and made aware of not creating unnecessary noise such as hooting and shouting.

EMP.13 Pollution Control

- Soil and water pollution through usage of fuel, oil, paint, bitumen or other hazardous substances must be avoided.
- All construction vehicles are to be maintained in good working order so as to prevent soil or water pollution from oil, fuel or other leaks, and to reduce noise pollution.

EMP.14 Rivers and Streams

- During construction of bridge structures, there must be no obstruction of the water flow of rivers and streams.
- Excavated material must not be stockpiled on or near riverbanks, in order to prevent sedimentation occurring.
- Erosion control measures must be employed both during and after construction.
- No impediments to natural surface water flow, other than approved erosion control measures, must occur.

EMP.15 Safety

- Safety measures, such as detour signs, must be implemented during construction to ensure the safety of workers, pedestrians and drivers/passengers in vehicles in the vicinity of construction work.
- Special care must be taken in the vicinity of schools to ensure the safety of children wishing to cross the road under construction.
- The relevant signage (e.g. speed control signs) must be erected alongside the road during the operation phase in order to control traffic.
- Accommodation must be made for pedestrian pathways alongside the road during the construction and operation phases.

EMP.16 Soil Management

- Stormwater drainage pipes must be installed alongside the road in all areas susceptible to soil erosion.
- Erosion should be minimized by the construction of meadow drains and the planting of indigenous vegetation on the side slopes and drains to reduce flow velocity of stormwater.
- Spoil from cuts may be used in existing erosion galleys.
- Stone pitching and gabions should be constructed at pipe culvert outlets.
- Accidental spills of contaminants onto the ground e.g. oil, concrete, fuel and chemicals should be removed together with the contaminated soil.
- If necessary, an absorbent such as Peat Sorb should be used the aid in cleaning up the spill. The contaminated soil should be disposed of in an appropriate container, depending on its classification.
- Servicing and re-fuelling of vehicles must only be carried out at construction camp.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

EMP.17 Worker Conduct

Code of Conduct for Construction Personnel:

- Do not leave the construction site untidy and strewn with rubbish which will attract animal pests.
- Do not set fires.
- Do not cause any unnecessary, disturbing noise at the construction camp/site or at any designated worker collection/drop off points.
- Do not drive a construction-related vehicle under the influence of alcohol.
- Do not exceed the national speed limits on public roads or exceed the recommended speed limits on the site.
- Do not drive a vehicle which is generating excessive noise or gaseous pollution (noisy vehicles must be reported and repaired as soon as possible).
- Do not litter along the roadsides, including both the public and private roads.
- Do not pollute any water bodies (whether flowing or not).
- No member of the construction team is allowed to enter the areas outside the construction site.

EMP.18 Traffic Disturbances and Diversions

- Any traffic diversions must be undertaken with the approval of all relevant authorities and in accordance with all relevant legislation.
- Wherever possible, traffic diversion must only take place on existing disturbed areas and remain within the existing road reserve.
- Traffic diversion routes must be rehabilitated after use.

EMP.19 Vegetation

- Only vegetation falling directly on the route must be removed where necessary.
- Alien vegetation within the road reserve must be eradicated, and management measures must be implemented for future control of these species.
- Vegetation that has been removed from large areas (e.g. on traffic diversion routes) during construction must be replaced with indigenous vegetation after construction has been completed.

EMP.20 Waste Management

- All general, non-hazardous waste must be placed in a skip container and disposed of at a registered waste disposal site.
- The contractor is to ensure that the portable toilet facilities at the campsite are properly maintained and in working order.
- No disposal, or leakage, of sewage must occur on or near the site.
- All hazardous waste (e.g. oil, paint, empty lime bags, contaminated wash water, etc) must be stored in leak proof containers and disposed of at a registered hazardous waste disposal site.
- The contents of waste storage containers must, under no circumstances, be emptied to the surrounding area. In general, littering, discarding or burying of any materials is not allowed on site or along the route.
- Adequate waste receptacles must be available at strategic points around the construction camp and site for all domestic refuse and to minimize the occurrence of littering.
- Concrete rubble must be collected and disposed of as directed by the Project Manager.
- Each working area must be cleared of litter and building waste (e.g. rubble, wood, concrete packets etc) on completion of the day's work.
- Any spill around the container(s) should be treated as per Section EMP11 and EMP16.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

SECTION DWK: DAY WORKS

This part of the Project Specifications deals with the provision for Day works in the Schedule of Quantities. Rates for Day works shall be entered in Section 1800 of the Schedule of Quantities in accordance with the following specifications.

DWK. 1 SCOPE

According to clause 37.2 of the General Conditions of Contract for construction works (GCC) 2015 edition, certain work may be carried out using rates tendered in the day work schedule. A schedule of personnel, plant and equipment which may be necessary to perform work on a day work basis is included in the schedule of quantities. The quantities used in the schedule are for tender evaluation purposes only and the use or not of these items shall not constitute a variation in terms of Clause 37 of the General Conditions of Contract 2015 edition.

No work will be paid for as Day works without the written instruction or approval of the Engineer.

DWK. 2 TYPE OF WORK

The Engineer may order day work in certain cases where it is necessary to vary or to extend the works due to new or unforeseen circumstances to such an extent that the tendered rates for specific items of work are no longer applicable, or where no suitable combination of tendered rates can be used to pay for such work.

As a general rule, applicable rates for additional work items will be agreed between the Contractor and the Engineer. Day works will only be used in exceptional circumstances.

DWK. 3 MATERIALS

Materials for use in works carried out under Day work shall be purchased by the Contractor who shall also arrange for delivery to site, and shall be responsible for any other requirements associated with specific materials. A Provisional Sum has been allowed in Section 1800 for Day work materials. The Contractor shall enter a tendered percentage in the schedule to cover his handling costs and profit, as per other provisional and prime cost sums in this Contract.

Materials shall be paid for using the method described in the Pricing Data. No contract price adjustment will be applicable to materials.

The Contractor shall submit proof of ownership for any materials used in Day works with his day works claim to the Engineer. Further, if specific materials are required for Day works, quotations will be called for as per Clause 37.2.4 of the General Conditions of Contract 2015 edition.

DWK. 4 CONSTRUCTION PLANT HIRE

Where daywork is ordered, the tendered rates for plant hire in Section 1800 shall be used in calculating the payment due for any plant required to execute the daywork. If no rate is included in the schedule for a particular piece of equipment, and where no other rate or combination of rates would provide suitable compensation, then the daywork method of payment described in Clause 37.2.3 of the General Conditions of Contract 2015 edition will be used.

The tendered rates for each item of constructional plant shall include for all operating costs associated with the said item of plant. Such costs are deemed to include fuel, re-fuelling costs, lubrication and routine servicing / maintenance, breakdowns and spares, all overhead costs, site management costs and administration costs. The tendered rates shall also include the plant operator and the general supervision of the plant while it is engaged in the day works.

DWK. 5 SALARIES AND WAGES OF WORKMEN

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

The salaries and wages of workmen executing daywork shall be paid for using the tendered rates in Section 1800. The tendered rates shall include for all costs associated with the employment of personnel, including salaries, wages, allowances, workmen's compensation, medical aid and pension contributions, government levies and taxes, training costs and any costs associated with living on the site. The tendered rates shall also include for the transportation of the workmen to the site of the day works.

All overhead costs, administration costs, site management costs and the Contractor's profit are deemed to be covered by the DAY WORKS rates and no additions or mark ups will be made to the tendered rates.

The tendered rates shall also include any hand tools normally associated with the workmen's job description e.g. picks, shovels, hammers, saws, spirit levels, etc. The tendered rate for labourers shall also include for the casual supervision by a gang boss or foreman. Only when specifically called for by the Engineer, will payment be made for the use of a gang boss or foreman supervising on a continuous basis.

DWK. 6 MEASUREMENT AND PAYMENT

The following principles shall also apply to the measurement and payment of day works.

The unit of measurement for plant shall be the number of vibroclock hours worked and each item of plant shall be fitted with a vibroclock, the cost of which shall be included in the rates. Excessive non-productive time when the engine is idling will not be paid for. Where there is ambiguity between the flywheel horsepower and mass of the machine, the flywheel horsepower shall govern the measurement category. Where width and mass are specified, mass shall govern the measurement category.

The Contractor's attention is drawn to the requirements of Sub-clauses 37.2.5 and 37.2.6 of the General Condition of Contract 2015 edition with regard to the submission of day works claims.

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

PART C5ANNEXURES

(For Information Purposes Only)

SECTION CONTENTS

C5.1 Annex I - Environmental Management Plan

C5.2 Annex II - Abstracts of the Mine Health and Safety Act No. 29 of 1996 and Amendment Act No. 72 of 1997

C5.3 Annex III - Borrow Pit Guarantee

C5.4 Annex IV - Health and Safety Specification


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

C5.1 PART G: Annex I ENVIRONMENTAL MANAGEMENT PLAN

CONTENTS

G 01 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 liability 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 Employer 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.

G 02 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.

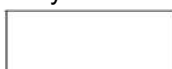
Environmental Aspect: an environmental aspect is any component of a contractor's construction activity that is likely to interact with the environment.

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 National Department of Environmental Affairs and Tourism, (NDEAT), 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.


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

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.

Listed in the table below are some of the references in the COLTO Standard Specifications to environmental related issues.

Description	Reference
Establishment of site offices	1302(a), 1402(e).
Vegetation	5801(b), 5802(b), (c), (d), and (e), 5804, 5805, 5806 and 5807.
Rehabilitation	1302(a) and Sections 5800 and 5900 of the Standard and Project Specifications
Sewage treatment	1402(g) and 1404(a) and Part B of the Project Specifications, clause B1302(a).
Litter	1302(b).
Removal of solid waste	1404(a).
Soil management	3104(a), 5802(a), (g), 5804(a), (b), and (c).
Borrow/Quarry material	3100. (The cost of complying with the requirements shall be deemed to be included in existing rates in the Bill of Quantities.)
Discovery of archaeological sites, artefacts or graves	Clause 4.7 of the GCC 2015 General Conditions of Contract.
Graves	
Stockpiled material	3202 and 4306.
Pollution prevention	Sub clause 8.1.2 of the GCC 2015 General Conditions of Contract.

G 03 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 sub clause 5.6 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:

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

- Pollution of atmosphere, soil or water
- Destruction or removal of fauna and flora and effect on biological diversity
- Deformation of the landscapes 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 G 08. Environmental Management of Construction Activities.

G 04 LEGAL REQUIREMENTS

G04.01 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.

G04.02 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.

G 05 ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

G 05.01 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 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.

G 05.02 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.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- 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.

G 05.03 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. 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.

G 06 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;
- 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.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

G 07 ACTIVITIES/ASPECTS CAUSING IMPACTS

A list of possible causes of environmental impacts that occur during construction activities is given in Table 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.

G 08 ENVIRONMENTAL MANAGEMENT OF CONSTRUCTION ACTIVITIES

G 08.01 Site Establishment

G 08.01.01 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).

G 08.01.02 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.

G 08.01.03 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.

Employer

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Contractor

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G 08.01.04 Water for human consumption

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.

G 08.01.05 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.

G 08.02 Sewage treatment (impose penalties on solid waste non-conformance)

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-away, 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. Monthly proof of safe disposal must be filed on site by the contractor.

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.

G 08.03 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.

Monthly proof of safe disposal for all waste must be filed on site.

Waste disposal

- Suitable covered receptacles shall be available at all times and conveniently placed for the disposal of waste.
- All used oils, grease or hydraulic fluids shall be placed therein and these receptacles will be removed from the site on a regular basis for disposal at a registered or licensed disposal facility.
- All spills should be cleaned up immediately to the satisfaction of the ECO by removing the spillage together with the polluted soil and by disposing of them at a recognised facility.

G 08.03.01 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 DWS licensed landfill site or at a site approved by DWS in the event that an existing operating landfill site is not within

Employer

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Contractor

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Witness 2

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).

G 08.03.02 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)).

G 08.03.03 Hazardous waste

Hazardous waste such as bitumen, tar, oils etc. shall be disposed of in a DWS 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.

G 08.04 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)

G 08.04.01 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.

G 08.04.02 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.

G 08.04.03 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 walls, 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 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.

Employer

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Contractor

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Witness 2

G 08.04.04 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.

G 08.05 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. Contractor to communicate with an appointed ECO before clearing any area on site.

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 liability period.

G 08.06 Soil Management

G 08.06.01 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 and Sanitation 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.

The Contractor shall ensure that no topsoil is lost due to erosion – either by wind or water. Areas to be top soiled 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.

G 08.06.02 Subsoil

The subsoil is the layer of soil immediately beneath the topsoil. It shall be removed, to a depth

Employer

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Contractor

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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 08.07 **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.

G 08.08 **Earthworks and Layer works**

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 G 08.05 and G 08.07. In addition, the Contractor shall take cognisance of the requirements set out below.

G 08.08.01 **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). An approval from DMR with all the conditions which need to be adhered to by the contractor will be given to the appointed contractor.

Demarcating the Borrow pit/Quarrying Area

- The mining/Quarrying area must be clearly demarcated by means of beacons at its corners, and along its boundaries if there is no visibility between the corner beacons.
- Permanent beacons as indicated on the layout plan or as prescribed must be firmly erected and maintained in their correct position throughout the life of the operation.
- Mining/ Quarrying and resultant operations shall only take place within this demarcated area.

RESTRICTIONS ON MINING/Quarrying Area

- On assessment of the application, the Regional Manager may prohibit the conducting of mining or Quarrying operations in vegetated areas or over portions of these areas
- In the case of areas that are excluded from mining, no operations shall be conducted within 5 m of these areas.

Employer

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Contractor

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Witness 2

RESPONSIBILITY

- The environment affected by the mining operations shall be rehabilitated by the holder, as far as is practicable, to its natural state or to a predetermined and agreed to standard or land use which conforms with the concept of sustainable development. The affected environment shall be maintained in a stable condition that will not be detrimental to the safety and health of humans and animals and that will not pollute the environment or lead to the degradation thereof.
- It is the responsibility of the holder of the mining permit to ensure that the manager on the site and the employees are capable of complying with all the statutory requirements which must be met in order to mine, which includes the implementation of this EMP.

Maintenance of access roads

- In the case of dual or multiple use of access roads by other users, arrangements for multiple responsibility must be made with the other users. If not, the maintenance of access roads will be the responsibility of the holder of the mining permit/ prospecting right.
- Newly constructed access roads shall be adequately maintained so as to minimise dust, erosion or undue surface damage.

Dust control on the access and haul roads

- The liberation of dust into the surrounding environment shall be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents. The speed of haul trucks and other vehicles must be strictly controlled to avoid dangerous conditions; excessive dust or excessive deterioration of the road being used.

1) Rehabilitation of access roads

- Whenever a mining permit is suspended, cancelled or abandoned or if it lapses and the holder does not wish to renew the permit or right, any access road or portions thereof, constructed by the holder and which will no longer be required by the landowner/tenant, shall be removed and/or rehabilitated to the satisfaction of the Regional Manager.
- Any gate or fence erected by the holder which is not required by the landowner/tenant, shall be removed and the situation restored to the pre-mining/ prospecting situation.
- Roads shall be ripped or ploughed, and if necessary, appropriately fertilised (based on a soil analysis) to ensure the regrowth of vegetation. Imported road construction materials which may hamper regrowth of vegetation must be removed and disposed of in an approved manner prior to rehabilitation.

Toilet facilities, waste water and refuse disposal

- As a minimum requirement, the holder of a mining permit shall, at least, provide pit latrines for employees and proper hygiene measures shall be established.
- Chemical toilet facilities or other approved toilet facilities such as a septic drain shall preferably be used and sited on the camp site in such a way that they do not cause water or other pollution.
- The use of existing facilities must take place in consultation with the landowner/tenant.
- In cases where facilities are linked to existing sewerage structures, all necessary regulatory requirements concerning construction and maintenance should be adhered to.

LIMITATIONS ON BORROW PITS AND QUARRYING AREA

- The mining of shall take place only within the approved demarcated mining or prospecting area.
- Mining may be limited to the areas indicated on assessment.
- The holder of the mining permit/ shall ensure that operations take place only in the demarcated areas.

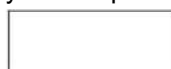
G 08.08.02 Excavation, hauling and placement

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

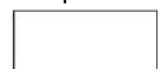

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and plant to be used and the measures by which the impacts of pollution (noise, dust, litter, fuel, oil, sewage), erosion, vegetation destruction and deformation of landscape will be prevented, contained and rehabilitated. Particular attention shall 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)

G 08.08.03 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 liability 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 liability 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.

G 08.08.04 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.

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

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

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).

G 08.08.05 **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.

G 08.09 **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 G 08.08.03, 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

G 08.10 **Spillages**

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

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

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.

G 08.11 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.

G 08.11.01 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 National Monuments Council 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 Sub clause 4.7.1 of the General Conditions of Contract).

G 08.11.02 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. The National Monuments Council should be contacted and in the case of graves, arrangements made for an undertaker to carry out exhumation and reburial. The undertaker will, together with the National Monuments Council, be responsible for attempts to contact family of the deceased and for the site where the exhumed remains can be re-interred. (Read with Sub clause 4.7.1 of the General Conditions of Contract).

G 08.12 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.

G 08.13 Dust Control

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.

G 08.14 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 liability period.

G 09 RECORD KEEPING

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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.

G 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:

G10.01 Unnecessary removal or damage to trees:

• 2600mm girth or less:	R5 000 per tree
• Greater than 2600mm, but less than 6180mm girth:	R10 000 per tree
• Greater than 6180mm girth:	R30 000 per tree

G 10.02 Serious violations:

• Hazardous chemical/oil spill and/or dumping in non-approved sites:	R10 000 per incident
• General damage to sensitive environments:	R5 000 per incident
• Damage to cultural and historical sites:	R5 000 per incident
• Uncontrolled/unmanaged erosion(plus rehabilitation at the Contractor's cost):	R1 000 to R5 000 per incident
• Unauthorised blasting activities:	R5 000 per incident
• Pollution of water sources:	R10 000 per incident

The Engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

G 10.03 Less serious violations:

- 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: R500 per incident
- Any vehicles being driven in excess of designated speed limits: R500 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: R500 per incident

The Engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final. 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.

G 11 MEASUREMENT AND PAYMENT

Unit

G 11.01 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 G 10.01.

Unit

G 11.02 Penalty for serious violations:

- (a) Hazardous chemical/oil spill and/or dumping in non-approved sites number (No)
- (b) General damage to sensitive environments number (No)
- (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 the Contractor's cost) number (No)

The unit of measurement for G 11.02(a) to (f) shall be the number of serious violation incidents. The penalty rates to be applied shall be those stated in clause G 10.02.

The relevant sections of Mineral and Petroleum Resources Development Act and its supporting Regulations are summarised below for the information of applicants. The onus is on the applicant to familiarise him/herself with the provisions of the full version of the Mineral and Petroleum Resources Development Act and its Regulations.

Section of Act	Legislated Activity/ Instruction/ Responsibility or failure to comply				Penalty in terms of Section 99	
	Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

5(4)	No person may prospect, mine, or undertake reconnaissance operations or any other activity without an approved EMP, right, permit or permission or without notifying land owner	R100 000 or two years imprisonment or both
19	Holder of a Prospecting right must: lodge right with Mining Titles Office within 30 days; commence with prospecting within 120 days, comply with terms and conditions of prospecting right, continuously and actively conduct prospecting operations; comply with requirements of approved EMP, pay prospecting fees and royalties	R100 000 or two years imprisonment or both
20(2)	Holder of prospecting right must obtain Minister's permission to remove any mineral or bulk samples	R100 000 or two years imprisonment or both
26(3)	A person who intends to beneficiate any mineral mined in SA outside the borders of SA may only do so after notifying the Minister in writing and after consultation with the Minister.	R500 000 for each day of contravention
28	Holder of a mining right or permit must keep records of operations and financial records AND must submit to the DG: monthly returns, annual financial report and a report detailing compliance with social & labour plan and charter	R100 000 or two years imprisonment or both
29	Minister may direct owner of land or holder/applicant of permit/right to submit data or information	R10 000
38(1)(c)	Holder of permission/permit/right MUST manage environmental impacts according to EMP and as ongoing part of the operations	R500 000 or ten years imprisonment or both.
42(1)	Residue stockpiles must be managed in prescribed manner on a site demarcated in the EMP	A fine or imprisonment of up to six months or both
42(2)	No person may temporarily or permanently deposit residue on any other site than that demarcated and indicated in the EMP	A fine or imprisonment of up to six months or both
44	When any permit/right/permission lapses, the holder may not remove or demolish buildings, which may not be demolished in terms of any other law, which has been identified by the Minister or which is to be retained by agreement with the landowner.	Penalty that may be imposed by Magistrate's Court for similar offence
92	Authorised persons may enter mining sites and require holder of permit to produce documents/ reports/ or any material deemed necessary for inspection	Penalty as may be imposed for perjury
94	No person may obstruct or hinder an authorised person in the performance of their duties or powers under the Act.	Penalty as may be imposed for perjury
95	Holder of a permit/right may not subject employees to occupational detriment on account of employee disclosing evidence or information to authorised person (official)	Penalty as may be imposed for perjury
All sections	Inaccurate, incorrect or misleading information	A fine or imprisonment of up to six months or both
All sections	Failure to comply with any directive, notice, suspension, order, instruction, or condition issued	A fine or imprisonment of up to six months or both

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Item	Unit

G 11.03 Penalty for less serious violations:

(a) Littering on site.....	number (No)
(b) Lighting of illegal fires on site.....	number (No)
(c) Persistent or un-repaired fuel and oil leaks.....	number (No)
(d) Excess dust or excess noise emanating from site.....	number (No)
(e) Dumping of milled material in side drains or on grassed areas	number (No)
(f) Possession or use of intoxicating substances on site.....	number (No)
(g) Any vehicles being driven in excess of designated speed limits	number (No)
(h) Removal and/or damage to flora or cultural or heritage objects on site, and/or killing of wildlife	number (No)
(i) Illegal hunting	number (No)
(j) 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 G 10.03.

The Engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final. 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.

Item	Unit

G 11.04 Contractor's time related obligations in respect of

Environmental management plans and specifications monthly

The tendered monthly amount shall represent full compensation for that part of the Contractor's general obligations in terms of the environmental management plans and specifications which are mainly a function of time. This includes inter alia payment of all costs of the approved designated environmental office (DEO) and other staff contemplated in the administration of the environmental obligations, including the transport of employees on site. Payment will be monthly. The following obligations will be directed by the Audit reports to be compiled by the Environmental control officer and that report will give a clue on the basis of contractor's compliance on the below obligations:

Below is the list of time related obligations in respect of EMP specifications but not limited to:

- Servicing of Toilets on site & Submission of proof of safe disposal
- Dust Suppression
- Cleaning of spillages on site
- Methods statement for all the activities
- Waste disposal and proof of safe disposal (Registered landfill site)
- Designated Environmental officer (Full time on site)
- Administration for all the required documents for Environmental Compliance
- Maintenance of site camp standard
- Provision of all the Covid-19 requirements

Contractor's initial obligations in respect of Environmental Management Plans

Specifications.....Lump Sum

- Site Establishment
- Fencing of Borrow pits & Quarrying Area
- Provision of Toilets on site, Quarrying and Borrow pit
- Provision of Waste Bins on sites for waste separations
- Legal Requirements in terms of NEMA
- Mining Requirements as per the Mine regulations and Bylaws.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- Methods statement for all the activities
- Waste management plan
- All necessary Signage's to be posted on site
- Provision of PPE

ESTENDER

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Table 1: Mechanisms that Cause Environmental Impacts during Construction Activities

CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS
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	High Sensitivity
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	Moderate Sensitivity
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	Moderate
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	Moderate
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	Moderate

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS
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	Moderate
Borrow pits/Quarrying	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	High Sensitivity
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	Moderate/Low
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	Low-Moderate
Pavement layers	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	Low
Asphalt works / sealing operations	Waste treatment Hazardous waste Water supply	Selection of site Preserve indigenous vegetation	Selection of site Preserve indigenous vegetation	Preserve indigenous vegetation Preserve topsoil	High Sensitivity

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS
	Spillage Storage Noise / lights Dust control Smoke control Storage of materials	Preserve topsoil Turning circles Parking areas	Preserve topsoil		
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	Low-Moderate
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	Low-Moderate
Concrete/Cement	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	Moderate to High

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

BANK OR GUARANTOR'S LETTER HEAD)

(Reference number)

(Guarantee number)

**The Regional Manager
The Department of Mineral and Energy
POLOKWANE**

Dear Sir/ Madam

FINANCIAL GUARANTEE FOR THE REHABILITATION OF LAND DISTURBED BY MINING (EXECUTION OF ENVIRONMENTAL MANAGEMENT PROGRAMME)

- 1 Concerning the responsibility in terms of the Mineral and Petroleum Resources Development Act 28 of 2002, which is incumbent on

.....
.(hereinafter referred to as "the mine owner") to execute the environmental management programme approved in terms of the provisions of the said Act for the mine known as

.....
situated in the magisterial district of Province

....., I/We....., in my/our

Capacity/capacities of

and as duly authorized representative

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Employer

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Witness 1

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Witness 2

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Contractor

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Witness 1

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Witness 2

(Hereinafter referred to as "the guarantor") confirm that the amount of R.....

R..... (.....) is
available to you for the purpose of executing the said environmental management programme.

- 2 The guarantor, who hereby waives the advantages of the exceptions non numerate pecuniae non causa debiti executionis et divisionis the meaning and the consequences of which is known to the guarantor undertakes to pay to you the said sum of R (.....) upon receipt of a written claim from you to do so and the claim may be submitted by you, if (in your opinion and discretion) the mine owner fails or remains in default to execute the said environmental management programme, or if he ceases mining/prospecting operations, or if his estate is sequestrated, or if he should hand over his estate in terms of the Insolvency act which are applicable in the Republic of South Africa, or if the guarantor gives written notice to you in terms of clause 5 of this agreement. The said claim may be instituted by you at any stage commencing from the date of signature of this guarantee.
- 3 The said amount of R may be held by you on the condition that you, after having complied with all the provisions of the said environmental management programme, will give account to the guarantor of how the amount was appropriated and repay any inappropriate amount to the guarantor.
- 4 This undertaking is neither negotiable nor transferable, and –
- (a) must be returned to the guarantor when giving account to the guarantor in terms of clause 3 above,
 - (b) shall lapse on the granting of a closure certificate in terms of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002) and
 - (c) shall not be construed as placing any other responsibility on the guarantor other than the paying of the guaranteed amount.
- 5 The guarantor reserves the right to withdraw from this guarantee after having given you at least three months written notice in advance of his intention to do so.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Yours faithfully

.....

ADDRESS:

.....

.....

.....

DATE:

- PLEASE NOTE:**
- (1) No amendments and/or additions to the wording of this Guarantee will be accepted.
 - (2) The address of the guarantee must be stated clearly.
 - (3) This guarantee must be returned to:

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.....

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Employer

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Witness 1

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Witness 2

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Contractor

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Witness 1

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Witness 2

SECTION OHS : OHS 1993 HEALTH AND SAFETY SPECIFICATION

OHS.1 SCOPE

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2014, and all other safety codes and specifications referred to in the said Construction Regulations.

In terms of the OHS Agreement in Section C1.2.4 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHS 1993 and the Construction Regulations 2014.

This safety specification and the Contractor's own Safety Plan as well as the Construction Regulations 2014, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works.

The following are possible risks associated with this project:

- Working high above the ground on top and below the bridge, most of the time in a restricted environment with limited landings (working platforms)
- Working above a continuously flowing river and in an flood plain environment subject to flooding
- Lifting and lowering of materials and equipment from the ground to the bridge and vice versa, exposed to cross winds
- Steep and restricted access to the lower flood plain below the bridge
- Potentially dangerous existing services, i.e. gas lines, water and sewerage mains, electrical high voltage cables, on the bridge, buried and overhead
- Deep excavations in soils requiring shoring or reducing of slopes
- Blasting of hard rock or demolition of concrete
- High pressure during testing of the relocated pipe lines, which could result in potentially dangerous situations in the event of the pipeline or fittings failing
- Potentially harmful gasses when tying into the existing sewer mains
- Movement of construction vehicles on site, taking into consideration steep slopes, other traffic and existing services
- Exposure to possible injuries due to mishandling or failure of power and hand tools
- Falling debris, tools and materials from bridge
- Non-conformance to specifications with regards to fasteners and materials
- Risks related to general safety and security on site

Additional risks may arise from specific methods of construction selected by the Contractor which are not necessary covered in the above.

OHS.2 DEFINITIONS

For the purpose of this contract the following shall apply:

- (a) **Employer** where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract and it shall have the exact same meaning as **client** as defined in the Construction Regulations 2014. **Employer** and **client** is therefore interchangeable and shall be read in the context of the relevant document.
- (b) **Contractor** wherever used in the contract documents and in this specification, shall have the same meaning as **Contractor** as defined in the General Conditions of Contract.

In this specification the terms **principal contractor** and **contractor** are replaced with **Contractor** and **subcontractor** respectively.

For the purpose of this contract the **Contractor** will, in terms of OHS 1993, be the mandatory,

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

without derogating from his status as an employer in his own right.

- (c) “**Engineer**” where used in this specification, means the Engineer as defined in the General Conditions of Contract. In terms of the Construction Regulations the Engineer may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).

OHS.3 TENDERS

The Contractor shall submit the following with his tender:

- (a) a documented Health and Safety Plan as stipulated in Regulation 7 of the Construction Regulations. The Safety Plan must be based on the Construction Regulations 2014 and will be subject to approval by the Employer;
- (b) a declaration to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Construction Regulations 2014;
- (c) a declaration to the effect that he made provision in his tender for the cost of the health and safety measures envisaged in the Construction Regulations.
- (d) Failure to submit the foregoing with his tender, will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely in accordance with the Construction Regulations.

OHS.4 NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

After award of the contract, but before commencement of construction work, the Contractor shall, in terms of Regulation 4, notify the Provincial Director of the Department of Labour in writing if the following work is involved:

- (a) the demolition of structures and dismantling of fixed plant of height of 3,0m or more;
- (b) the use of explosives;
- (c) construction work that will exceed 30 days or 300 person-days;
- (e) excavation work deeper than 1,0m; or
- (f) working at a height greater than 3,0m above ground or landings.

The notification must be done in the form of the pro forma included under Section 9 (Forms to be Completed by Successful Tenderer) of the tender document.

A copy of the notification form must be kept on site, available for inspection by inspectors, Employer, Engineer, employees and persons on site.

OHS.5 RISK ASSESSMENT

Before commencement of any construction work during the construction period, the Contractor shall have a risk assessment performed and recorded in writing by a competent person. (Refer Regulation 9 of the Construction Regulations 2014).

The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified.

The risk assessment shall be available on site for inspection by inspectors, Employer, Engineer, subcontractors, employees, trade unions and health and safety committee members, and must be monitored and reviewed periodically by the Contractor.

OHS.6 APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

6.1 Health and Safety plan

The Contractor shall appoint his employees and any subcontractors to be employed on the contract, in

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

writing, and he shall provide them with a copy of his documented Health and Safety Plan, or relevant sections thereof. The Contractor shall ensure that all subcontractors and employees are committed to the implementation of his Safety Plan.

6.2 Health and safety induction training

The Contractor shall ensure that all employees under his control, including subcontractors and their employees, undergo a health and safety induction training course by a competent person before commencement of construction work. No visitor or other person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety training pertaining to hazards prevalent on site.

The Contractor shall ensure that every employee on site shall at all times be in possession of proof of the health and safety induction training issued by a competent person prior to commencement of construction work.

OHS.7 APPOINTMENT OF SAFETY PERSONNEL

7.1 Construction Supervisor

The Contractor shall appoint a full-time **Construction Supervisor** with the duty of supervising the performance of the construction work.

He may also have to appoint one or more competent employees to assist the construction supervisor where justified by the scope and complexity of the works.

7.2 Construction safety officer

Taking into consideration the size of the project and the hazards or dangers that can be expected, the Contractor shall appoint in writing a full-time or part-time **Construction Safety Officer** if so decided by the Inspector of the Department of Labour. The Safety Officer shall have the necessary competence and resources to perform his duties diligently.

Provision shall be made by the Contractor in his rates, to cover the cost of this dedicated construction safety officer appointed after award of the contract.

7.3 Health and safety representatives

In terms of **Section 17 and 18 of the Act (OHSA 1993)** the Contractor, being the employer in terms of the Act for the execution of the contract, shall appoint a **health and safety representative** whenever he has more than 20 employees in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 100 employees.

The function of health and safety representative(s) will be to review the effectiveness of health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery etc. on a regular base, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

7.4 Health and safety committee

In terms of Sections **17 and 18 of the Act (OHSA 1993)** the Contractor (as employer), shall establish one or more **health and safety committee(s)** where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals, but at least once every three months, to review the health and safety measures on the contract, to discuss incidents

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

related to health and safety with the Contractor and the inspector, and to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

7.5 Competent persons

In accordance with the Construction Regulations the Contractor has to appoint in writing **competent persons** responsible for supervising construction work on each of the following work situations that may be expected on the site of the works.

- (a) Risk assessment and induction training as described in Regulation 9 of the Construction Regulations;
- (b) Fall protection as described in Regulation 10;
- (c) Excavation work as described in Regulation 13;
- (d) Demolition work as described in Regulation 14;
- (e) Scaffolding work as described in Regulation 16;
- (f) Suspended platform operations as described in Regulation 17;
- (g) Material hoists as described in Regulation 19;
- (h) Bulk Mixing plant operations as described in Regulation 20;
- (i) Explosive actuated fastening device as described in Regulation 21;
- (j) Cranes as described in Regulation 22;
- (k) Construction vehicle and mobile plant inspections on a daily basis by a competent person as described in Regulation 23(1);
- (l) Control of all temporary electrical installation on the construction site as described in Regulation 24;
- (m) Stacking and storage on construction sites as described in Regulation 28; and
- (n) Fire precautions on construction sites as described in Regulation 29.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities to comply with **all** requirements of the Construction Regulations.

OHS.8 RECORDS AND REGISTERS

In accordance with the Construction Regulations the Contractor is bound to keep records and registers related to health and safety on site for periodic inspection by inspectors, the Engineer, the Employer, trade union officials and subcontractors and employees. The following records and registers must be kept on site and shall be available for inspection at all times.

- (a) A copy of the OHSA 1993 Construction Regulations 2014;
- (b) A copy of this Health and Safety Specification;
- (c) A copy of the Contractor's Health and Safety Plan (Regulation 7);
- (d) A copy of the Notification of Construction Work (Regulation 4);
- (e) A health and safety file in terms of Regulation 7(1b) with inputs by the Construction Safety Officer (Regulation 8(5));
- (f) A copy of the risk assessment described in Regulation 9;
- (g) A full protection plan and the corresponding records of evaluation and training of employees working from elevated positions as described in Regulation 10;
- (h) Drawings pertaining to the design of structures (Regulation 11(1c)) and temporary works (Regulation 10) must be kept on site;
- (i) Pronouncement of the safety of excavations must be recorded in a register to be kept on site (Regulation 13(2)(h));
- (j) A copy of the certificate of the system design for suspended platforms (Regulation 17(3));
- (k) A notice must be affixed around the base towers of material hoists to indicate the maximum mass load, which may be carried at any one time by material hoists (Regulation 11(2));
- (l) Maintenance records of material hoists and inspection results must be kept in a record book to be kept on site (Regulation 19(8));
- (m) A record of any repairs to or maintenance of a batch plant must be kept on site (Regulations 19(8));
- (n) A warning notice must be displayed in a conspicuous manner when and wherever an explosive powered tool is used (Regulation 21(2));

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- (o) A register for recording of findings by the competent person appointed to inspect construction vehicles and mobile plant (Regulation 23(1) (k)).

OHS.9 CONTRACTORS RESPONSIBILITIES

For this contract the Contractor will be the mandatory of the Employer (Client), as defined in the Act (OHSA 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHSA 1993) and the Construction Regulations 2014.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) to confirm his status as mandatory (employer) for the contract under consideration.

The Contractor's duties and responsibilities are clearly set out in the Construction Regulations 2014, and are not repeated in detail but some important aspects are highlighted hereafter, without relieving the Contractor of any of his duties and responsibilities in terms of the Construction Regulations.

(a) Contractor's position in relation to the Employer (Client) (Regulation 5)

In accordance with Section 4 of the Regulations, the Contractor shall liaise closely with the Employer or the Engineer on behalf of the Employer, to ensure that all requirements of the Act and the Regulations are met and complied with.

(b) The Principal Contractor and Contractor (Regulation 7)

The Contractor is in terms of the definition in Regulation 2(b) the equivalent of Principle Contractor as defined in the Construction Regulations, and he shall comply with all the provisions of Regulation 7.

Any subcontractors employed by the Contractor must be appointed in writing, setting out the terms of the appointment in respect of health and safety. An independent subcontractor shall however provide and demonstrate to the Contractor a suitable, acceptable and sufficiently documented health and safety plan before commencement of the subcontract. In the absence of such a health and safety plan the subcontractor shall undertake in writing that he will comply with the Contractor's safety plan, the health and safety specifications of the Employer and the Construction Regulations 2014.

(c) Management Supervision of construction work (Regulation 8)

The Contractor shall appoint the safety and other personnel and employees as required in terms of Regulation 8 and as set out in paragraph 7 above. Appointment of those personnel and employees does not relieve the Contractor from any of the obligations under Regulation 8.

(d) Risk assessment for construction works (Regulation 9)

The Contractor shall have the risk assessment made as set out in paragraph 3 above before commencement of the work and it must be available on site for inspection at all times. The Contractor shall consult with the health and safety committee or health and safety representative(s) etc. on a regular basis to ensure that all employees, including subcontractors under his control, are informed and trained by a competent person regarding health hazards and related work procedures.

No subcontractor, employee or visitor shall be allowed to enter the site of works without prior health and safety induction training, all as specified in Regulation 9.

(e) Fall protection (Regulation 10)

Fall protection, if applicable to this contract shall comply in all respects with Regulation 10 of the Construction Regulations.

(f) Structures (Regulation 11)

The Contractor will be liable for all claims arising from collapse or failure of structures if he failed to comply with all the specifications, project specifications and drawings related to the structures,

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

unless it can be proved that such collapse or failure can be attributed to faulty design or insufficient design standards on which the specifications and the drawings are based.
In addition the Contractor shall comply with all aspects of Regulation 11 of the Construction Regulations.

(g) Temporary works (Regulation 12)

The Contractor will be responsible for the adequate design of all formwork and support structures by a competent person.

All drawings pertaining to formwork shall be kept on site and all equipment and materials used in formwork, shall be carefully examined and checked for suitability by a competent person.

The provisions of Regulation 12 of the Construction Regulations shall be followed in every detail.

(h) Excavation (Regulation 13)

It is essential that the Contractor shall follow the instructions and precautions in the Standard Specifications and Project Specifications as well as the provisions of the Construction Regulations to the letter as unsafe excavations can be a major hazard on any construction site. The Contractor shall therefore ensure that all excavation work is carried out under the supervision of a competent person, that inspections are carried out by a Professional Engineer or Technologist, and that all work is done in such a manner that no hazards are created by unsafe excavations and working conditions.

Supervision by a competent person will not relieve the Contractor from any of his duties and responsibilities under Regulation 13 of the Construction Regulations.

(i) Demolition work (Regulation 14)

Whenever demolition work is included in a contract, the Contractor shall comply with all the requirements of Regulation 14 of the Construction Regulations. The fact that a competent person has to be appointed by the Contractor does not relieve the Contractor from any of his responsibilities in respect of safety of demolition work.

(j) Tunneling (Regulation 15)

The Contractor shall comply with Regulation 15 wherever tunneling of any kind is involved.

(k) Scaffolding (Regulation 16)

The Contractor shall ensure that all the provisions of Regulation 16 of the Construction Regulations are complied with. [Note: Reference in the Regulations to "Section 44 of the Act" should read "Section 43 of the Act"].

(l) Suspended platforms (Regulation 17)

Wherever suspended platforms will be necessary on any contract, the Contractor shall ensure that copies of the system design issued by a Professional Engineer are submitted to the Engineer for inspection and approval. The Contractor shall appoint competent persons as supervisors and competent scaffold erectors, operators and inspectors and ensure that all work related to suspended platforms are done in accordance with Regulation 17 of the Construction Regulations.

(m) Rope Access (Regulation 18)

Where rope access are required on the construction site, the Contractor shall comply with Regulation 18.

(n) Material Hoists (Regulation 19)

Wherever applicable, the Contractor shall comply with the provisions of Regulation 19 to the letter.

(o) Bulk Mixing plants (Regulation 20)

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Wherever applicable, the Contractor shall ensure that all lifting machines, lifting tackle, conveyors, etc. used in the operation of a batch plant shall comply with, and that all operators, supervisors and employees are strictly held to the provisions of Regulation 20. The Contractor shall ensure that the General Safety Regulations (Government Notice R1031 of 30 May 1986), the Driven Machinery Regulations (Government Notice R295 of 26/2/1988) and the Electrical Installation Regulations (Government Notice R2271 of 11/10/1995) are adhered to by all involved.

In terms of the Regulations, records of repairs and maintenance shall be kept on site.

(p) Explosive actuated fastening devices (Regulation 21)

The Contractor shall ensure that, wherever explosive-powered tools are required to be used, all safety provisions of Regulation 21 are complied with.

It is especially important that warning notices are displayed and that the issue and return of cartridges and spent cartridges be recorded in a register to be kept on site.

(q) Cranes (Regulation 22)

Wherever the use of tower cranes becomes necessary, the provisions of Regulation 22 shall be complied with.

(r) Construction vehicles And mobile plant (Regulation 23)

The Contractor shall ensure that all construction vehicles and plant are in good working condition and safe for use, and that they are used in accordance with their design and intended use. The vehicles and plant shall only be operated by workers or operators who have received appropriate training, all in accordance with all the requirements of Regulation 23.

All vehicles and plant must be inspected on a daily basis, prior to use, by a competent person and the findings must be recorded in a register to be kept on site.

(s) Electrical installation and machinery on construction sites (Regulation 24)

The Contractor shall comply with the Electrical Installation Regulations (Government Notice R2920 of 23 October 1992) and the Electrical Machinery Regulations (Government Notice R1953 of 12 August 1993). Before commencement of construction, the Contractor shall take adequate steps to ascertain the presence of, and guard against dangers and hazards due to electrical cables and apparatus under, over or on the site.

All temporary electrical installations on the site shall be under the control of a competent person, without relieving the Contractor of his responsibility for the health and safety of all workers and persons on site in terms of Regulation 24.

(t) Use of temporary storage of flammable liquids on construction sites (Regulation 25)

The Contractor shall comply with the provisions of the General Safety Regulations (Government Notice R1031 of 30 May 1986) and all the provisions of Regulation 25 of the Construction Regulations to ensure a safe and hazard-free environment to all workers and other persons on site.

(u) Water environments (Regulation 26)

Where construction work is done over or in close proximity to water, the provisions of Regulation 26 shall apply.

(v) Housekeeping and general safeguarding on construction sites (Regulation 27)

Housekeeping on all construction sites shall be in accordance with the provisions of the environment Regulations for workplaces (Government Notice R2281 of 16 October 1987) and all the provisions of Regulation 27 of the Construction Regulations.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

(w) Stacking and storage on construction sites (Regulation 28)

The provisions for the stacking of articles contained in the General Safety Regulations (Government Notice R1031 of 30 May 1986) as well as all the provisions Regulation 28 of the Construction Regulations shall apply.

(x) Fire precautions on construction sites (Regulation 29)

The provisions of the Environmental Regulations for Workplaces (Government Notice R2281 of 16 October 1987) shall apply.

In addition the necessary precautions shall be taken to prevent the incidence of fires, to provide adequate and sufficient fire protection equipment, sirens, escape routes etc. all in accordance with Regulation 29 of the Construction Regulations.

(y) Construction welfare facilities (Regulation 30)

The Contractor shall comply with the construction site provisions as in the Facilities Regulations (Government Notice R1593 of 12 August 1988) and the provisions of Regulation 30 of the Construction Regulations.

(z) Non-compliance with the Construction Regulations 2014

The foregoing is a summary of parts of the Construction Regulations applicable to all construction projects.

The Contractor, as employer for the execution of the contract, shall ensure that all provisions of the Construction Regulations applicable to the contract under consideration are complied with to the letter.

Should the Contractor fail to comply with the provisions of the Regulations 4 to 30 as listed in Regulation 33, he will be guilty of an offence and will be liable, upon conviction, to the fines or imprisonment as set out in Regulation 33.

The Contractor is advised in his own interest to make a careful study of the Act and the Construction Regulations as ignorance of the Act and the Regulations will not be accepted in any proceedings related to non-conformance to the Act and the Regulations.

OHS.10 MEASUREMENT AND PAYMENT

10.1 Principles

It is a condition of this contract that Contractors, who submit tenders for this contract, shall make provision in their tenders for the cost of all health and safety measures during the construction process. All associated activities and expenditure are deemed to be included in the Contractor's tendered rates and prices.

(a) Safety personnel

The Construction Supervisor, the Construction Safety Officer, Health and Safety Representatives, Health and Safety Committee and Competent Persons referred to in clauses 9.1 to 9.5 shall be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

(b) Records and Registers

The keeping of health and safety-related records and registers as described in 8 is regarded as a normal duty of the Contractor for which no additional payment will be considered, and which is deemed to be included in the Contractor's tendered rates and prices.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C5.4 Part H Annex IV - Health and Safety Specification

Project		CONSTRUCTION OF RATHOKE BUS- ROUTE	
Client		Department Of Public Works and Roads	
Prepared By		Complied By	Approved By
		DOCUMENT CHANGE RECORD	
Rev	Date	Section(s) change(d)	Description of Revision

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

H 1. Introduction

Construction regulation 7(1) states that a principal contractor shall provide and demonstrate to the client a suitable and sufficiently documented health and safety plan based on the client's documented health and safety specifications which shall be applied from the date of commencement of and for the duration of the construction work

This document therefore describes the health and safety specifications required by the client for any principal contractor who is making a bid for or who has been appointed to perform construction work on behalf of the client. [Ref. CR 5(1)(b)]. The specification is based on relevant legislation as a minimum requirement and any best practices the client subscribes to that will contribute to an improved health and safety performance

Principal contractors are requested to compile their Health and Safety Plans including risk assessments, based on the specifications detailed and referred to, in this document. In other words, the Health and Safety Plan must specify how the principal contractor will control and manage all health and safety aspects on the construction site. The importance of the plan cannot be emphasized enough, as it is the direct response to these specifications which is the minimum health and safety standard required by the contractor on site.

The Health and Safety Plan and all required documentation that are part of the health and safety file on site must be reviewed and approved by the client's agent prior to the principal contractor commencing work on site.

H 2. Reference Documents

The following Acts and Regulations are referred to in this document followed by their abbreviations in brackets. Note that this is not an exhaustive list and other documents may be referred to if necessary, in order to compile a Health and Safety Plan:

2.1. Occupational Health and Safety Act, (Act No. 85 of 1993) and Mining Health and Safety Act - [OHSA] and Regulations as follows:

- Construction Regulations [CR]
- General Admin Regulations [GAR]
- General Safety Regulations [GSR]
- Environmental Regulations for Workplaces [ERW]
- Hazardous Chemical Substances Regulations [HCSR]
- Lead Regulations [LR]
- Noise Induced Hearing Loss Regulations [NIHLR]
- General Machinery Regulations [GMR]
- Electrical Installation Regulations [EIR]
- Electrical Machinery Regulations [EMR]
- Pressure Equipment Regulations [PER]
- Basic Conditions of Employment Act (Act 75 of 1197)
- National Environmental Management Act no 107 of 1998
- 2.2. Compensation for Occupational Injury and Diseases Act – [COIDA]**
- 2.3. The Gauteng Noise Control regulation (GN 5479 of 1999)**
- 2.4. Standards applicable such as:**

- SANS10103 the Measurement and Rating of Environmental Noise with Respect to annoyance and to Speech Communication.

H 3. Definitions

The following definitions apply. (Abbreviations and legal references in brackets where applicable):

Construction Work [CR 1]:

Means any work in connection with –

- a) The erection, maintenance, alteration, renovation, repair, demolition or dismantling of or an addition to a building or any similar structure;
- b) The installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- c) The construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
- d) The moving of earth, clearing of land or making of an excavation or work on any similar type of work.

Hazard Identification, Risk Assessment and Risk Control (HIRA)

Means a documented plan, which identifies hazards, assesses the risks and detailing the control measures and safe working procedures, which are to be used to mitigate and control the occurrence of hazards and risks during construction or operation phases.

Site

Means the area in the possession of the Contractor for the construction of the works. Where there is no demarcated boundary it will include all adjacent areas, which are reasonably required for the activities for the Contractor, and approved for such use by the client.

Hazard

Means a source of or exposure to danger (source which may cause injury or damage to persons or property)

Risk

Means the probability or likelihood that a hazard can result in injury or damage.

Construction Manager [CR 8(1)]

Means a full time, competent employee appointed in writing by the Contractor to supervise construction work. The appointment, as required by the OHSA, shall stipulate health and safety responsibilities, area of responsibility and the proposed duration of the project.

Hazardous Chemical Substance (HCS)

Means any toxic, harmful, corrosive, irritant or asphyxiant substance, or a mixture or substances for which an occupational exposure limit is prescribed, or an occupational exposure limit is not prescribed, but which creates a hazard to health.

Construction Plant

Encompasses all types of plant including but not limited to, cranes, piling frames, boring machines, excavators, dewatering equipment and road vehicles with or without lifting equipment.

Contractor [CR 1]

Means an employer [OHSA 1] who performs construction work and includes principal contractors and sub-contractors

Health and Safety Plan (HSP) [CR 1]

Means a documented plan, which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified.
The plan shall be applied from the date of commencement of and for the duration of construction work [CR 7(1)]

Health and Safety File (HSF) [CR 1]

The file holding all documentation and records on health and safety for the project, which shall be available at all times for evaluation, and a copy of which will be forwarded to the client upon completion of the project.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Disabling Injury Frequency Rate (DIFR)

The number of disabling injuries (DI's) multiplied by a constant (man hours relative to period worked) divided by total man hours worked over a rolling period (usually 12 months, but can be less)

Disabling Injury Severity Rate (DISR)

The number of days lost due to DI's multiplied by a constant (man hours relative to period worked) divided by total man hours worked over a rolling period (usually 12 months, but can be less)

Confined Space

An enclosed, restricted or limited space in which, because of its construction, location or contents, or any work carried on therein, a hazardous substance may accumulate or an oxygen deficient atmosphere may occur, and includes any chamber, tunnel, pipe, pit, sewer, container, valve, machinery or object in which a dangerous liquid or dangerous concentration of gas, vapour, dust or fumes may be present.

H 4. Responsibilities of Contractors for Construction Work

H 4.1. Notification of Intention to Commence Construction Work [CR 4]

The principal contractor shall within 7 days notify the Provincial Director of the Department of Labour before any work commences, in accordance with the following requirements:

- The demolition of a structure exceeding a height of 3 meters; or The use of explosives to perform construction work; or
- The dismantling of fixed plant at a height greater than 3 meters; or
- The work exceeds 30 days or will involve more than 300 person days of construction work; and
- Includes excavation work deeper than 1 meter; or
- Includes working at a height greater than 3 meters above ground or a landing.

The notification must be done on a form similar to that shown in **Annexure** and a copy of the completed form kept in the HSF for inspection by an inspector, the client or an employee

H 4.2. Principal Contractor's Responsibilities [CR 7]

- a) Compile a HSP [CR 7(1)]
- b) Ensure co-operation between all contractors to comply to the Act
- c) Provide and demonstrate to the client a suitable, sufficiently documented and coherent site specific health and safety plan, based on this client's health and safety specifications of which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the principal contractor as work progresses.
- d) Ensure compliance to the Act in terms of
 - a) Provide relevant sections of these specifications to contractors as required
 - b) Appoint each contractor in (a) above in writing. Only contractors who have the necessary competencies and resources may be appointed
 - c) Ensure each contractor's HSP is implemented and maintained on site
 - d) Stop any contractor from work which is not in accordance with HSP's or which pose a threat to health and safety of persons
 - e) Sufficient information is provided to contractors where there are changes to design and construction
 - f) Ensure every contractor is registered and in good standing with the Compensation Commissioner
 - g) Ensure potential contractors have made provision for the cost of health and safety measures
- e) Negotiate and approve the HSP of each contractor
- f) All HSP's including the principal contractor's to be available on site
- g) All HSF's including the principal contractor's to be available on site
- h) A consolidated HSF to be handed over to the client on completion of construction including records of drawings, designs etc
- i) HSF to include updated list of all contractors, the agreements and their type of work

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

H 4.3. Contractor's Responsibilities (including sub-contractors)

- a) Provide their HSP to the principal contractor
- b) Where a contractor appoints another contractor (sub-contractor) it is the responsibility of that contractor to apply a) above as if he were the principal contractor.
- c) No contractor to appoint another contractor (sub-contractor) unless the latter has the necessary competency and resources to perform the required work.
- d) To provide any information which affects the health and safety of any persons at work to the principal contractor.

H 4.4. Supervision of Construction Work [CR 8]

The appointments embodied in this regulation are as follows:

- a) Construction Manager [CR 8(1)]
- b) Assistant construction manager [CR 8(2)]
- c) Safety officer [CR 8(5)], in terms of the nature of project such Safety Officer must be full-time on site and must avail him/herself whenever there is work at the Quarry. Registered with SACPCMP council.
- d) Construction Supervisor [CR 8(7)]

The detailed requirements of these appointments can be found under the relevant regulation. In terms of competence of these appointees, they are to be approved by the client's agent before being appointed for the project.

H 4.5. Legal Appointments

The principal contractor shall ensure copies of the appointment letters of all responsible persons appointed on site will be kept in the HSF. All legal appointments shall be conducted in accordance with the requirements set out in the OHSa and as per this specification. The appointment protocols for the CR and the OHSa are set out in the tables below. It should be noted that these represent complete lists and not all these appointments may be required:

H 4.5.1. Construction Regulations

Reg.	Appointment	Appointee	Appointed by	Represented by
CR 7(1 c)	Principal Contractor	16(2) for the company	Client	Project Manager
CR7 (3)	Contractor	Competent person	Principal Contractor	16(2)
CR 8 (1)	Construction Manager	Competent person	Principal Contractor	16(2)
CR 8 (2)	Assistant Construction Manager	Competent person	Principal Contractor	16(2)
CR 8 (5)	Safety Officer (SACPCMP registered)	Competent person	Principal Contractor	16(2)
CR 9 (1)	Risk Assessor	Competent person	Principal Contractor	16(2)
CR 10 (1a)	Fall Protection Planner	Competent person	Principal Contractor	16(2)
CR 11(2 a)	Structure Inspector	Competent person	Principal Contractor	16(2)
CR 12 (a)	Formwork & Support work Inspector	Competent person	Principal Contractor	16(2)
CR 13 (1)	Excavation Work Inspector	Competent person	Principal Contractor	16(2)

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

CR 14 (1)	Demolition Work Supervisor	Competent person	Principal Contractor	16(2)
CR 17	Suspended Platform Supervisor	Competent person	Principal Contractor	16(2)
CR 20	Batch Plant Supervisor	Competent person	Principal Contractor	16(2)
CR 21	Explosive power tool Controller	Competent person	Principal Contractor	16(2)
CR 22	Mobile Crane Operator	Competent person	Principal Contractor	16(2)
CR 23	Construction Vehicle Inspector	Competent person	Principal Contractor	16(2)
CR 24	Temporary Electrical Installation Inspector	Competent person	Principal Contractor	16(2)
CR 28	Stacking and Storage Supervisor	Competent person	Principal Contractor	16(2)
CR 29	Fire Equipment Inspector	Competent person	Principal Contractor	16(2)
CR 29	Fire Team Members	Competent person	Principal Contractor	16(2)

OHS Act

Reg.	Appointment	Appointee	Appointed by	Represented by
OHS 16 (1)	16 (1)	CEO	Board members	
OHS 16 (2)	16 (2)	Contract Manager	16(1)	CEO
OHS 17 (1)	Health & Safety Rep	Nominated employee	16(1)	CEO
OHS 8	Hand Tools Inspector	Competent person	Principal Contractor	16(2)
GAR 9 (2)	Incident Investigator	Competent person	Principal Contractor	16(2)
GSR 3 (4)	First Aider	Competent person	Principal Contractor	16(2)
GSR 13	Ladder Inspector	Competent person	Principal Contractor	16(2)
FR 9	Welfare Facilities Inspector	Competent person	Principal Contractor	16(2)
HCSR 3	Hazardous Chemical Substances Co-ordinator	Competent person	Principal Contractor	16(2)
DMR 18 (11)	Lifting Equipment Operator	Competent person	Principal Contractor	16(2)
DMR 18 (5)	Lifting Equipment Inspector	Competent person	Principal Contractor	16(2)

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PER 10	Portable Gas Bottle Inspector	Competent person	Principal Contractor	16(2)

The responsibilities of each appointment are detailed in the relevant written appointment form, which are signed by both the authorised person and the appointee and kept in the Health and Safety file.

H 5. Documentation and Procedures

All required documentation for the construction work, shall be kept in the HSF, which shall be available on site. The Construction Supervisor shall be responsible for the file on site and ensure that documentation is valid and up to date. The procedures to be used for the project are to be in accordance with contractor policy and as per the outcome of the HRA exercise. It is required that the documentation is filed in an orderly fashion for easy access. The following sections are suggested:

- Policies, permits etc
- Health & Safety plans, specifications
- Appointments
- Incident management
- Inspection checklists
- Risk assessments
- Training and Competency
- Procedures
- Hazardous Chemical Substances
- Environmental Risk Assessments and protocols

H 6. Application of COIDA and OHSA to Construction Work

H 6.1 Compensation of Occupational Injuries and Diseases Act, Act No. 130 of 1993 (COIDA)

Every contractor shall provide proof of registration and updated letter of good standing with the Compensation Commissioner.

H 6.2 Occupational Health and Safety Policy [OHSA 7] and copy of the Act [GAR 4]

Every contractor's OHS Policy statement should be available for scrutiny and as evidence of their commitment their employees' occupational health and safety. If the contractor has 5 or more employees on site, a copy of the OHS Act and regulations must be available on the site and ensure that such copies are displayed at visible areas such site offices, boardrooms and notice boards.

H 6.3 Health and Safety Training and Competency

Training of personnel is a necessity and a legal requirement when required. A record of all training shall be kept and provided on request.

H 6.3.1 Induction Training

The principal contractor shall be responsible for the induction of all personnel entering the site including visitors, inspectors etc. An identification card confirming induction training must be carried by all contract personnel and site security informed so that only contractors carrying a card may be admitted to the site. Contractors doing specific construction work shall be responsible for the induction of their employees with respect to that specific work.

H 6.3.2 Awareness Training

In addition, the client would favour awareness training to be carried out such as Toolbox Talks on relevant topics e.g. manual lifting, wearing PPE, safe use of portable electric tools etc.

H 6.3.3 Competency and CV's

Where applicable, valid copies of certificates of competency of appointed personnel to be provided and kept in the

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

HSF. Other training requirements such as those identified through the HIRA process, to be completed and proof of that training also kept in the HSF. Where competency is achieved through experience, a brief CV will be required.

H 6.3.4 Specific OHS training

Valid certificates of training from registered service providers preferably accredited by the appropriate SETA are required for First Aiders, H&S reps, Fire Marshals etc.

H 6.3.5 Medical Fitness

All employees will have entry and exit valid medical fitness certificate, certified by a HPCSA registered occupational medical practitioner to be fit for work. See the annexure 3A template

H 6.4 Hazards and Potentially Hazardous Situations [OHSA 13]

The principal contractor is responsible to ensure that all contractors and any visitors are warned of any hazardous or potentially hazardous situations, which may affect them on site and shall put any additional measures in place to assist in mitigating the risk of these hazards.

H 6.5 Health and Safety Reps [OHSA 17 and 18]

The principal contractor shall be responsible to ensure compliance to this section of the OHSA as required and to ensure similar compliance of all contractors. All contractors are required to have at least one OHS rep even if the minimum requirement of 20 employees is not met.

H 6.6 Health and Safety Committee [OHSA 19 and 20]

The principal contractor shall be responsible to ensure compliance to this section of the OHSA as required. A health and safety committee must be formed that will be chaired by the principal contractor's 16(2) and which will consist of all OHS reps from both the principal contractor and all contractors. They will meet at least once a month and a record kept of all meetings.

H 6.7 General Record Keeping

The principal contractor shall ensure that all Health and Safety records, required by OHSA and Regulations are kept for reference purposes and auditing.

H 6.7.1 Inspections

The principal contractor shall keep all records of inspections undertaken during the contract. The total list of inspections can be found under **Annexure 1 (at the bottom)**. An assessment will need to be made of what inspections are required and their frequency. The principal contractor is also responsible to ensure compliance to this requirement by all contractors.

H 6.7.2 Audits

The client's agent shall carry out regular audits on the principal contractor at least once per month. Similarly, principal contractors shall be responsible for carrying out regular audits on their contractors at least once per month. The results shall be tabled for action and discussed at the Health and Safety Committee meetings or the site meetings, as appropriate. Records of such meetings must be kept in the file, made available upon request by inspector, client or client's agent.

H 6.8 Incident management and emergency plans

The principal contractor shall create an Emergency Plan for the construction site. The plan shall be clearly laid out for all types of emergencies including responsibilities, evacuation routes, siren, emergency no.'s etc. The plan shall be fully explained to all personnel during the induction training. All contractors will become completely familiar with the requirements of the plan and will participate in any evacuation drills that may take place.

Employer

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Contractor

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Witness 2

H 6.8.1 First Aid [GSR 3]

The principal contractor shall be responsible to ensure compliance to this regulation as required. In particular, a first aid box with the minimum stock as specified in the regulation will be located at the site office and there will be signage to indicate the location of the box. Attention is drawn to GSR 3(4) for the requirement of trained first aiders. It is also suggested that a trained first aider be made responsible for the box in terms of the following:

- a) Security – the box should not be left open but it must be accessible in case of emergency (spare key availability)
- b) Injuries - a record of first aid box injuries treated and the stock issued (Dressing Register)
- c) Stock – a regular inspection to maintain stock levels and check expiry dates

In addition, the first aid requirements should be noted for high risk substances or hazardous chemical substances and if these are to be used, then it should be addressed in the HRA and the need for eye wash facilities assessed.

H 6.8.2 Incidents and Injuries

a) Incidents

The principal contractor shall provide evidence by means of a procedure or chart that he is fully aware of the “hierarchy” of incidents that can occur e.g. unsafe situations, near misses, first aid box injuries, medical cases, disabling injuries etc. He shall keep an incident register of all such incidents, investigate and apply corrective action where required. The client also reserves the right to request incident statistics from the principal contractor such as DI's, DIFR and DISR and it is advised that these are maintained.

b) Injuries

First aid box injuries have been addressed under 6.8.1 above. More serious injuries requiring transport of the injured person to the nearest hospital or doctor or the calling of an ambulance and paramedic personnel will be the responsibility of the principal contractor's appointed personnel such as the Construction Supervisor, First Aider and Safety Officer. It is advised that all required emergency numbers be on hand and prominently displayed.

As all contractors are registered and in good standing with the Compensation Commissioner, it will be the responsibility of the contractor whose employee has been injured, to make the necessary report and claims to the Commissioner.

H 6.8.3 Accident and Incident Reporting and Investigation [OHSA 24, GAR 8, 9 (1) & (2)]

Should an incident or accident investigation need to be conducted, a competent person shall be appointed to conduct the said investigation. The procedure to be followed will be in accordance with Annexure 1 of GAR 9 – “Recording and Investigation of incidents”. A copy of this annexure can be found under **Annexure 2 (at the bottom)** in this document

Particular attention is also drawn to OHSA 24, the reporting of certain incidents to an inspector of the Department of Labour

The principal contractor shall ensure that the investigations are kept for record purposes and he shall ensure that the outcome of the investigation is communicated to all affected parties as required i.e. the client and contractors

The client reserves the right to participate in all investigations into accidents or incidents and to conduct their own investigation if required.

H 6.8.4 Fire Precautions on Construction Site.

A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, ensure that:

- All appropriate measures are taken to avoid the risk of fire.
- A sufficient and well-functioning mobile fire alarm must be in place.
- Sufficient and suitable storage is provided for flammable liquids, solids and gases.
- Smoking is prohibited and notices in this regard are prominently displayed in all places containing readily combustible or flammable materials.

Employer

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Witness 2

- Combustible materials do not accumulate on the construction site; (welding, flame cutting and other hot work are done only after appropriate precautions have been taken to reduce the risk of fire.
 - Suitable and sufficient fire-extinguishing equipment is placed at strategic locations or as may be recommended by the Fire Chief or local authority concerned, and that such equipment is maintained in a good working order.
 - The fire equipment contemplated in paragraph (g) is inspected by a competent person, who has been appointed in writing for that purpose, in the manner indicated by the manufacturer thereof:
- (i) A sufficient number of workers are trained in the use of fire- extinguishing equipment;) where appropriate, suitable visual signs are provided to clearly indicate the escape routes in the case of a fire.
- The means of escape is kept clear at all times; there is an effective evacuation plan providing for all:
 - (i) Persons to be evacuated speedily without panic.
 - (ii) Persons to be accounted for at the Assembly point.

H 6.9 Contractors and suppliers [OHSA 37(2)]

The client shall enter into an “Agreement with Mandatory” in terms of Section 37(2) of the Occupational Health and Safety Act, 85 of 1993, with all appointed principal contractors, a copy of which can be found under **Annexure 3 (at the bottom)**. Likewise, all principal contractors shall enter into a similar agreement with all contractors, sub-contracted to them for the duration of their contract. Please note that if contractors hire any construction vehicles including operator, the companies from which the equipment is hired are subject to the requirements as “contractors” detailed in this document

The principal contractor shall ensure that all contractors are issued with this safety specification where reasonably practicable including any contractor pack for the project, should they not be contained in the safety specification. The principal contractor shall assist and ensure that contractors engaged comply with all of these requirements and adhere to the requirements set out in the OHSA. Contractors will be stopped from working in the event of unsafe conditions and activities being observed.

All contractors shall be subject to the requirements specified in the HSP and will be issued with a copy of the plan. If the contractor is not able to comply with the requirements set out in the plan, he shall not be appointed as contractor.

H 6.10 Personal Protective Equipment, Intoxication, Signage and Access Control [GSR 2]

H 6.10.1 Personal Protective Equipment (PPE) [GSR 2]

The principal contractor shall through the Risk Assessment process identify the specific PPE needs per activity. Contractors, as employers, will be responsible for the issue of the required PPE. Should PPE be lost or stolen, then the employee will be issued with new PPE. Should PPE be worn out or damaged, the user shall return the worn or damaged PPE and will be issued with a replacement. Contractor is required to issue PPE every after 6 months, whether worn out or damaged. Training in the use of this shall be provided. Visitors shall be informed of PPE requirements prior to their visit so that they may enter the site.

H 6.10.2 Intoxication [GSR 2A]

The principal contractor shall be responsible to ensure that no persons may enter or remain at the construction site if under or apparently under the influence of intoxicating liquor or drugs. Random breathalyser testing shall be carried out using the marked ping pong ball method. If anyone is found intoxicated such person must not allowed entry.

H 6.10.3 Display of signs [GSR 2B]

The principal contractor should make use of signage to assist in enforcing compliance to any requirement specified in this document or as required by law. Standard symbolic signs are acceptable for conveying these requirements where applicable.

H 6.10.4 Access control [GSR 2C]

Employer

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The principal contractor shall be responsible to ensure control of all persons entering the construction site by means of the biometric access control system and access registrar controlled by the security guard. The reasons for this are as follows:

- a) The principal contractor is the 'employer' on the site and for all intents and purposes is responsible for section 8 of OHSWA for employees and contractors and section 9 for any other person on site such as visitors and inspectors
- b) All persons entering the site must undergo induction training to inform them of the hazards present on the site. This includes contractors, visitors, inspectors etc
- c) The construction supervisor will be aware of who is on site and their function
- d) The construction supervisor will be able to control tasks that may impact on other work being carried out on the site by a permit to work system
- e) The number of people and their purpose on the site must be known in case of emergency and evacuation
- f) Security reasons.

The principal contractor shall post conspicuous notices at the site informing all those entering the site of these requirements.

H 6.11 Ladders [GSR 13A]

The following requirements shall be complied with regarding Ladders and Ladder work:

- a) A competent person shall be identified and appointed as the ladder inspector.
- b) Where aluminium ladders cannot be used, then wooden ladders shall be straight grained, unpainted to allow for proper inspection of the grain for cracking.
- c) Ladders shall be secured at the top and chocked at the base to prevent slipping.
- d) Where chocking of the base is not possible, then the user shall ensure that the ladder is held in position by another employee when ascending the ladder.
- e) Ladders shall be inspected a minimum once per month by the person appointed as the ladder inspector.
- f) Proper storage shall be provided for all ladders when not in use.

H 6.12 Ramps [GSR 13B]

The following requirements shall be complied with regarding Ramps:

- a) Is constructed in accordance with accepted standards
- b) Has a safety factor of at least 2 with respect to the load it is expected to carry
- c) Has an inclination to the horizontal of not more than 34°
- d) Every ramp steeper than 14° is provided with stepping laths at suitable intervals which may be interrupted to allow for wheel barrows
- e) All ramps higher than 2m must be provided on both sides with substantial handrails at least 900 mm and not more than 1000 mm in height and toe boards at least 150mm in height.

H 6.13 Pressure Equipment Regulations (Gas Bottles) [PER]

If gas bottle sets (Oxy-Acetylene for heating, cutting, welding) are used, these regulations, as required, shall be adhered to. Regular inspection of the sets shall be carried out. In particular:

- Only trained personnel shall operate such equipment.
- The Construction Supervisor shall ensure operation of the equipment is in accordance with the HIRA requirements and Safe Working Procedure (SWP) or method statement.
- All users shall undergo regular awareness training (toolbox talk) to ensure compliance.
- The Construction Supervisor shall ensure the required PPE is used.

H 6.14 Portable Electrical Tools [EMR 9]

This regulation shall be complied with as a minimum requirement. Regular inspections of all Portable Electrical Tools such as drills, angle grinders etc, and shall be carried out. In particular:

- Only trained personnel shall operate such equipment.


Employer


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Witness 2

- The Construction Supervisor shall ensure operation of the equipment is in accordance with the HIRA requirements and Safe Working Procedure (SWP).
- All users shall undergo regular awareness training (toolbox talk) to ensure compliance.
- The Construction Supervisor shall ensure the required PPE is used.

H 6.15 Permit to work (including hot work)

The principal contractor shall be responsible to ensure that:

- All work being carried out on the site has been approved through the necessary project control system
- Permits required from third parties such as town councils for utility and sewage services are in place
- If required, a permit system is operational so that work consisting of many tasks related to the construction on site, can be carried out without endangering the health and safety of personnel on site, neighbours and the public surrounding the site and/or causing damage to property.
- In particular, attention is drawn to GSR 9, which details the requirements for welding, flame cutting, soldering and similar operations (hot work).

H 6.16 Work in confined spaces [GSR 5]

The principal contractor shall be responsible to ensure that no work is carried out in a confined space unless it is safe to do so. All the requirements of this regulation shall be met. Attention is drawn to the fact that further precautions are required if hot work is to be carried out in a confined space as per GSR 5(5) and GSR 9(2). In addition, CR 11(3)(j) specifies that excavations are regarded as confined spaces and these precautions need to be applied.

H 6.17 Noise within the construction site [NIHL]

The principal contractor shall be responsible to ensure compliance with this regulation where applicable within the construction site.

H 6.18 Noise impacting the surrounding neighbourhood

The principal contractor shall be responsible to ensure compliance as follows:

H 6.18.1 The Noise Control regulation (GN 5479 of 1999) provides:

- A uniform minimum standard for noise regulation in the Province
- Accommodates the specific circumstances of different neighbourhoods and areas, and
- Creates new mechanisms for effective enforcement in neighbourhoods.

Section 9(m) prohibits the use any power tool or power equipment used for **construction work, drilling work or demolition work**, or allow it to be used, in or near a residential area if it may cause a noise nuisance. Noise nuisance is defined as any sound, which disturbs or impairs, or may disturb or impair the convenience or peace of any reasonable person considering time of day and environment.

The regulations define a “disturbing noise” as meaning, “...a noise level that causes the ambient noise level to rise above the designated zone level, or if no zone level has been designated, the typical rating levels for ambient noise in districts which can be obtained from the following code of practice below.

H 6.18.2 The South African National Standard SANS 10103:2008 - The Measurement and Rating of Environmental Noise with Respect to Annoyance and to Speech Communication provides guidance in defining noise impact criteria limits and standards and is also used by local authorities in the control of environmental noise

The code of practice should be referred to obtain typical noise rating levels for various land use types and expected community response that may be elicited should these levels be exceeded.

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H 6.19 Hazardous Chemical Substances [HCSR]

The principal contractor shall be responsible to ensure compliance with this regulation where applicable within the construction site. A hazardous chemical substance is any toxic, harmful, corrosive irritant or asphyxiant substance or mixture of such substances for which an occupational exposure limit is prescribed or which creates a hazard to health. For example cement is a hazardous chemical substance.

The principal contractor shall ensure that all hazardous chemicals brought to site have a Material Safety Data Sheet (MSDS) and the users are made aware of the important sections of the MSDS such as:

- Hazards
- First aid measures
- Fire-fighting measures Accidental release measures
- Handling and storage Exposure control especially PPE
- Disposal

First Aiders shall be made aware of the MSDS and how to treat HCS incidents appropriately. Copies of MSDS's will be available on site and in the HSF.

H 6.20 Traffic control

The principal contractor shall appoint a competent person to design and maintain a site specific traffic control management plan and have this plan approved and accepted by the local authorities and have a copy available in the file.

The Principal Contractor shall ensure that a fulltime traffic safety officer be appointed in writing, upon the commencement of construction activities.

The traffic safety officer shall be tasked with regular inspections and movement of road traffic signs as per the approved traffic accommodation plans and will report to the safety officer.

This document must indicate the potential risk to the public or environment posed by all vehicles travelling to and from the areas of construction for the purpose of the construction work, and proposes methods to eradicate or minimize these risks. Such a plan must include the following aspects:

- Design of Traffic Management Plan
- Site specific base line risk assessment
- Protection of employees
- Protection of pedestrians
- Specific signage and distances applicable
- Applicable training
- Appointments of road safety officers
- Management after hours/weekend/adverse weather conditions
- Setup and clearing of signage

The Principal Contractor will also put in place flagmen to control the entry and exit of vehicles to and from the site onto the public roads

The Principal Contractor must bear in mind that there are two villages within the proposed road. Therefore traffic safety should be strengthened and timeously monitored.

H 6.21. Public Health and Safety

The contractor shall ensure that each person working on or visiting a site, and the surrounding community shall be made aware of the dangers likely to arise from onsite activities and the precautions to be observed to avoid or minimize those dangers. Appropriate health and safety signage shall be posted at all times.

H 6.22. Borrow Pit usage

There are two identified borrow pits authorised to borrow materials from. Contractor shall safely fence both borrow pits with access lockable gates installed.

Each borrow pit must have all the warning signs and emergency contact board attached to it.

Employer

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Chemical toilets with toilet papers and hand-washing water shall be provided.

Contractor must ensure that each borrow as long as it is in use, it is stationed with a security guard and such security guard is provided with a guard-house at the gate.

Contractor must ensure that a safe excavation when borrowing material, it is adhered to and trucks are able to move around safely.

Ensure that excessive dust is controlled.

Material from the mine

The contractor will be required to collect material from the mine to be stockpiled in a designated area to be identified outside the mine.

All the loading plant will not be allowed to stay overnight at the mine and therefore the contractor will be required to make that arrangement on a daily basis to remove all the plant from the mine

Induction for all the personnel to enter the mine will be conducted timeously

Valid Medical fitness certificate will be required from a qualified Occupational Doctor

These requirements are in terms of the Mine Health and Safety Act, Act 29 of 1996.

- Every Borrow Pit must have a valid Mining Permit issued by the Department of Minerals and Energy.
- Adequately safeguard Borrow Pits to prevent unauthorized entry.
- Appropriate, conspicuous safety signs must be placed around the excavations.
- No undercutting or under mining may be allowed to take place in the Borrow Pit.
- All undesired material must be used to backfill the excavations made.
- Excavations to be sloped to a safe angel.
- All excavations must be design such that they will drain any water accumulated. Where this is impractical, means of protection must be provided.
- All operators must be appointed to work in Borrow Pits.
- All operators must be authorized to work with machinery in Borrow Pits.
- All vehicles working in Borrow Pits shall have reverse hooters, at least 3 mirrors for reversing and shall be fitted with a rotating light.
- All machinery working in the Borrow Pit shall have a certificate of compliance by a competent person.
- A monthly labour compliment report must be submitted of employees worked in a Borrow Pit.
- The contractor shall submit a Code of Practice on Trackless Mobile Machines to the Department of Minerals and Energy for approval.
- A Risk Assessment for each Borrow Pit must be submitted.

Note: Principal Contractor must note that road material will be collected from a mining area and such must be considered and ensure that the Mine health and safety act will be adhere to at all times.

H 7. Application of the Construction Regulations [CR]

H 7.1 Hazard Identification, Risk Assessment and Risk Control (HIRA) [CR 9]

The contractor shall prior to the commencement of any construction work perform a HIRA exercise, known as a Baseline Risk Assessment which will form part of the HSP for the project. An Issue Based Risk Assessment will be carried out during construction for any changes or variations to procedures or methods and Continuous Risk Assessments may be done during construction as a result of audit findings, inspections, hazard awareness etc. A copy of the HIRA shall be made available for viewing to the client's agent and shall be kept in the HSF the contractor shall ensure that the outcome of all HIRA exercises will be conveyed to all relevant employees with respect to the hazards and the related control measures before any work commences.

Below is a list of activities, which may be considered for the risk assessment. The list is not exhaustive but covers

Employer

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Witness 2

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Witness 2

the main activities applicable on site:

- Contractual appointments, agreements and notifications
- Traffic – restrictions, existing systems, site traffic
- Site security and access
- Existing services, overhead and underground
- Ground conditions / ground water
- Employees and visitors (all persons outside the construction site) safety and liaison
- Demolitions, excavations using explosives
- Tree felling
- Activities that affect adjacent sites and roads during construction
- Excavations in particular those adjacent to roads or sidewalks
- Construction Vehicles and mobile plant use
- Stacking, storage and good housekeeping
- Use and storage of flammable and hazardous chemicals such as petrol, diesel, etc
- Use of hand tools
- Use of portable electrical equipment (power tools)
- Use of flammable and hazardous chemical substances
- Waste management such as removal of excavation waste and debris
- Environmental restraints such as excessive dust
- General hazards to site personnel such as cleaning, noise and dust and correct issuing of PPE
- Welfare facilities such as toilets, change rooms and eating areas
- Emergency evacuation
- Temporary site accommodation
- Construction activities

H 7.2 Excavations [CR13]

Section 1 of this regulation states that this work must be carried out under the supervision of a competent person, who has been appointed in writing. All the requirements of CR 13 shall be met. For inspection of excavations, attention is drawn to section 3(h), the records of which must be available on site.

Contractor shall consider the safety and health of the surrounding livestock and ensure that excavations that can be closed immediately are closed and that those that cannot be closed are solidly barricaded with warning signs.

H 7.3 Demolition [CR14]

Section 1 of this regulation states that this work must be carried out under the supervision of a competent person.

Contractor must in terms of section 4 (d), where the stability of an adjoining building road is likely to be affected by the removal of the guardrails (demolition), take steps to ensure the stability of such road and safety of persons.

Contractor must also ensure that no material is dropped to any point, which falls outside the exterior walls of the structure, unless it is effectively protected.

H 7.4 Batch Plants [CR 20]

Contractor will be collecting stone materials from a quarry at a mining area, to an established batch plant, where the contractor will need to comply to such mines health and safety requirements.

In terms of section 1 Contractor must appoint a competent person, for supervising such batch plant in writing and such person must be aware of the dangers involved within the operation and ensure precautionary measures are taken in the interest of health and safety.

All requirements of CR 20 shall be met if applicable.

H 7.5 Explosive powered tools [CR 21]

Employer

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Section 2(b) of this regulation states that these tools must be cleaned and inspected daily before use by an appointed, competent person and a trained person (3b) can only operate them.

Contractor must bear in mind that there might be any live explosives buried under at the quarry and ensure that an effective risk assessment is taken into consideration prior any mining.

All the requirements of CR 21 shall be met.

H 7.6 Cranes [CR 22] including lifting machines and lifting tackle [GMR 18]

If applicable, the requirements of CR 22 shall be met. If a mobile crane or other mobile plant is hired, only approved hire companies shall be contracted to provide such equipment. The Construction Supervisor shall ensure compliance of the provider to these regulations. In particular attention is drawn to the competence and fitness of the operator [section 1(d)] and the inspection of the equipment [section 1(j)]. As far as GMR 18 is concerned, compliance to these requirements will be the responsibility of contractors using any lifting equipment and lifting tackle. Especially in lifting items such as mobile offices brought during site establishment.

H 7.7 Construction vehicles and mobile plant [CR 23]

It will be the responsibility of each contractor on site to ensure compliance of their construction vehicles and mobile plant to these regulations.

Each contractor will have to take into consideration the busyness of provincials roads and the public road users within, and make it a priority that such vehicles and plants are in perfect working conditions and road worthy in terms of the National Road Traffic Act, 1996 (Act No 93 of 1996).

Contractor must ensure that all the tipper trucks that will be loading rocks from the quarry are well guarded, to prevent loaded rocks from falling.

This includes vehicles to be used for transporting personnel to and from site, which will be subject to relevant requirements such as licensing and roadworthiness checks. In addition, the following will apply:

- Safe transport for personnel working on the project to and from the workplace, which shall include proper seating, side restraints and cover.
- Road safety principles shall be adhered to on and off site.

If a mobile crane or other mobile plant is hired, only approved hire companies shall be contracted to provide such equipment. The Construction Supervisor shall ensure compliance of the provider to these regulations. In particular attention is drawn to the competence and fitness of the operator [section 1(d)] and the inspection of the equipment [section 1(j)].

H 7.8 Electrical Installations [CR 24], including [EIR] and [EMR]

The requirements of these regulations shall be met as required, by the appointed electrical contractor. A competent person will be appointed for inspection and control of all temporary electrical installations as per CR 24(d) and (e) respectively.

H 7.9 Use and storage of flammable liquids [CR 25], and [GSR 4]

All the requirements of CR 25 shall be met and attention is drawn to the storage requirements of flammable liquids as specified in GSR 4.

H 7.10 Water Environments [CR 26]

All requirements of CR 26 shall be met if applicable.

H 7.11 Housekeeping [CR 27] including [ERW(6)]

All contractors shall ensure that housekeeping standards as per these regulations shall be maintained at all times. The principal contractor is responsible to ensure that building waste and debris is removed at regular intervals and not allowed to build up to any degree. The building's domestic and compactable waste removal systems may not be used for this purpose under any circumstances.

Employer

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Witness 2

H 7.12 Stacking of Materials [CR 28] including [GSR(8)]

All contractors shall ensure that materials are only stored in defined and allocated storage areas and that materials being stored are stacked in accordance with sound stacking principles as per these regulations.

H 7.13 Fire precautions [CR 29]

All contractors on site will comply fully with the requirements of this regulation. In particular, the principal contractor will be responsible for the evacuation plan (section (I)) the details of which will be imparted to contractors, visitors etc. through the site induction.

H 7.14 Construction welfare facilities [CR 30] including [FR 2- 9]

The principal contractor shall be responsible for implementing this regulation and shall ensure that adequate facilities are provided for the personnel on site in terms of the following:

- At least one shower for every 15 workers
- At least one sanitary facility for every 30 workers
- Changing facilities for each sex
- Sheltered eating areas
- Potable water.

On-site chemical toilets must be serviced daily.

No food preparation shall be conducted on site. Eating and drinking will only be permitted in the designated eating areas, which must be provided with adequate seating. Waste bins shall be strategically placed and cleared regularly.

B12.12 Contractor's initial obligations in respect of the Occupational Health And Safety act (OHS), General Safety Regulations 1986, Covid-19 Regulations and Construction regulations 2014 Lump Sum

The full amount will be paid in one instalment only once: -

- The contractor has notified the Provincial Director of the Department of Labour in writing of the project and to obtain construction permit.
- The contractor has made the required initial appointments of employees and sub-contractors and their entry medical fitness certificates are in place.
- The client has approved the contractor's Health and Safety Plan.
- Compliance with the Covid-19 Regulations
- The contractor has set up his Health and Safety File.
- All employees are provided with PPE
- Compliance with General Safety Regulations is met
- All general site posters and signage in terms of GSR is met

The tendered sum shall include full compensation to the Contractor for compliance with all the requirements of the OHS Act and Regulations (including the Construction Regulations, 2014) at all times for the full duration of the Contract, as described in clause B1228 of the project specifications. The successful Tenderer shall provide the Engineer with a complete breakdown of this tendered sum.

This sum will be paid to the Contractor in equal monthly amounts subject to proper and/or substantial compliance.

B12.13 Submission of the Health and Safety File.....Lump Sum

The tendered sum shall include full compensation to the Contractor for compliance with all the

Employer

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Witness 2

Contractor

Witness 1

Witness 2

requirements with regard to the Health and Safety File and Approval.

EXTENDER

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B1241 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING ITEMS:

Item		Unit
B12.01	Excavation	
(a)	Excavating material within the following depth ranges belowground level for the exposing of/or searching for services: 0m to 2.0m	
	(i) Soft Material	cubic metre (m ³)
	(ii) Hard Material	cubic metre (m ³)
(b)	Extra over for Item B12.01 (a) for excavation by means of hand tools such as picks, crowbars and pneumatic tools or mechanical breakers in close vicinity of services where no machine excavation is permitted	
	(i) Soft Material	cubic metre (m ³)
	(ii) Hard Material	cubic metre (m ³)
Measurement and payment shall be as specified for item 22.01 in the standard specifications.		

B12.02	Backfilling of excavations made for locating, protecting, adjusting or shifting existing services.	
(a)	Using the excavated materials	cubic metre (m ³)
(b)	Using imported selected materials	cubic metre (m ³)
Measurement and payment shall be as specified for item 22.02 in the standard specifications.		

B12.03	Overhaul of excavated and backfilled materials hauled in excess of the 1,0km free haul distance applicable to items B12.01 and B12.02 (excluding Portland Cement in the case of Stabilized backfill)	m ³ -km

The unit measure shall be a cubic meter of material hauled in excess of the 1,0km free haul distance multiplied by the overhauled distance

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

B12.05	Community Liaison Officer and PSC	PC Sums Prime Cost

The prime cost sums shall be paid in accordance with the provisions of the General Conditions of Contract

Handling Cost and Profit in respect of B12.05	% Percentage

 Employer

 Witness 1

 Witness 2

 Contractor

 Witness 1

 Witness 2

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. Specified Prime Cost Sum Payment of Community Liaison Officer and PSC shall be for the entire specified contract period, should the contract period be extended the Specified Prime Cost Sum Payment shall be adjusted. Should the contract period be exceeded without approval the payments due to Community Liaison Officer and PSC shall be paid by the contractor until the project has been commissioned.

B12.06/

62.01

64.01

Concrete Backfilling for encasing Services

Crossing the Roads (exposed or

unexposed)

- (a)

Class 30/19

cubic metre (m³)
- (b)

High-tensile Steel Bars

t
ton
- (c)

Formwork to Provide Surface Finish

square metre (m²)

The measurement and payment for concrete and formwork shall be as specified in sections 6200 and 6400, except those excavations, trimming and back filling shall not be measured and paid for separately, the cost of which shall be deemed to be included in the rates tendered for concrete.

The unit measurement for other components such as steel and formwork shall be ton and square meter respectively. The tendered rates shall include full compensation for procuring, furnishing and installing the components as specified.

B12.09

Maintenance of Cell Phone for the Engineer on Site and Accessories

PC Sums
Prime Cost

The prime cost sums shall be paid in accordance with the provisions of the General Conditions of Contract

B12.10

Handling Cost and Profit in respect of B12.09

%
Percentage

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. Specified Prime Cost Sum Payment of maintenance of cell phone for the engineer on site and accommodation shall be for the entire specified contract period, should the contract period be extended the specified Prime Cost Sum Payment shall be adjusted. Should the contract period be exceeded without approval the payments due to the maintenance of cell phone for the engineer on site and accommodation shall be paid by the contractor until the project has been commissioned.

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. All services must be approved by the Engineer.

B12.11

Supply and Erect of the Construction Name Board
[Dwg: ONB12/2023/NB]

No.
Number

The unit measure shall be a number of construction name boards supplied and installed.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Tender rates shall include full compensation for supply of all materials, labour, transport, loading and offloading and installation. 80% of the measured item for supply and installation will be paid upon completion of the work, then 20% will be released during the site-handover when the name board has been dissembled and removed form site.

B12.20 Training Lump Sums

(a)	Engineering Skills	Prov. Sums
(b)	Entrepreneurial Skills	Prov.Sums
(c)	Training Venue	Prov. Sums
(d)	Remuneration of Workers Undergoing Training	Prov. Sums

The provisional sums shall be paid in accordance with the provisions of the General Conditions of Contract

B12.21 Handling Cost and Profit in respect of B12.20 %
Percentage

The tendered percentage is a percentage of the amount spent under the provisional sums items, which shall include full compensation for the profit in connection with providing the specified service for Training

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B4 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 two (2) 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 for 24 hours per day. 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."

(c) Legal and contractual requirements and responsibility to the public

ADD THE FOLLOWING AS A SECOND PARAGRAPH:

"There has been recent legislation promulgated by Government that improve mutual obligations on the Employer and contractor in the performance of their duties to society and to the built and natural environment. To assist the contractor in understanding and assessing his obligations, and thus to make allowances for the cost of compliance with this legislation, the following additional specifications are included in the project specifications.

Section C of the Scope of Works contains the Environmental Management Plan for this project. Its provisions regulate the contractor's construction methods to ensure responsible conduct and treatment of the environment relevant to the project. No separate payment mechanism has been made available for the contractor to allow for his compliance with relevant environmental legislation. The contractor shall include such costs in the existing payment items under section B1303: Payment. However, non-compliance with the provisions of this section may lead to the imposition of penalties without written notice to the contractor.

Section D of the Scope of Works contains provisions that regulate the contractor's construction methods for compliance with Government's initiatives towards black economic empowerment. It also contains information on criteria used in the procurement process. No separate payment mechanism has been made available for the contractor to allow for his compliance with relevant black economic empowerment legislation. The contractor shall include such costs in the existing payment items under section B1303: Payment. However, non-compliance with the provisions of this section may lead to the imposition of penalties without written notice to the contractor.

Section E of the Scope of Works contains the specification that regulate the contractor's construction methods so far as to ensure Occupational health and safety of his employees and of the public. New pay item has been made available under this section to allow the contractor to make separate provision for the cost of health and safety regulations measures (including the OHS file which must be approved before any construction works can commence) during the construction process."

"(d) Contractor's ablution facilities

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The Contractor shall, at each construction section, provide sufficient portable chemical latrine units. Furthermore, the Contractor shall also provide a portable chemical latrine unit at each temporary traffic control facility. The latrine units shall be serviced daily and kept in a hygienic and orderly state to the approval of the Engineer. No separate payment shall be made for this requirement and the costs thereof shall be deemed to be included in the rates tendered for the Contractor's time-related obligations."

B1303 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING ITEMS:

**B13.01 Excavation for locating, protecting, or shifting
of existing services, protecting, or shifting of
existing services**

- (d) Compliance with OHS Act month
[COVID-19 Latest Regulation Included]

The tendered sum shall include full compensation to the Contractor for compliance with all the requirements of the OHS Act and Regulations (including the Construction Regulations, 2014) at all times for the full duration of the Contract, as described in the project specifications.

The successful Tenderer shall provide the Engineer with a complete breakdown of this tendered sum.

This sum will be paid to the Contractor in equal monthly amounts subject to proper and/or substantial compliance.

- (e) Compliance with OHS Act Regulations,
Construction Regulation 7(8)

Payment provisional sum for sub-item B13.00 (e) shall include full compensation for all the contractors' obligations relevant compliance with all OHS Act Regulations, Construction Regulation 7(8).

Handling Cost and Profit in respect of B13.01 (e) %
Percentage

The tendered percentage is a percentage of the amount actually spent under the provisional sum items, which shall include full compensation for the profit in connection with providing the specified service for OHS Act Regulations, Construction Regulation 7(8)

ADD THE FOLLOWING SUB-SUB-CLAUSE DEFINING 'THE CONTRACTOR'S GENERAL OBLIGATIONS':

"(iv) Complying with the requirements and conditions of the additional specifications relating to the Government's Broad Based Black Economic Empowerment and the Environmental Management Plan

Delete the third paragraph commencing "should the final value of the work".

Replace "clause 49" in the 4th, 8th and 10th paragraphs with "sub-clauses 13.7 and 13.8".

IN THE 11TH PARAGRAPH, THE FOLLOWING AMENDMENTS APPLY:

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Start the paragraph to read "The tendered rate per month for all time related pay items represent full compensation" and

Delete "received the letter of acceptance in terms of clause 12" and replace with "date of commencement in terms of clause 8.1"...

In the last line, change "clause 45" to read "clause 8.4".

ADD THE FOLLOWING AT THE END OF SUB-CLAUSE (B) OF THE 11TH PARAGRAPH:

"... Such limitations to payments shall occur whenever the ratio of time to expenditure varies by more than 10%. For example, if payment for completed scheduled work is 30% of total scheduled work but more than 40% of time has expired, this pay item shall cease to be active until the difference between the relevant ratios is less than 10%.

ADD THE FOLLOWING NEW PARAGRAPHS:

"Payment of the rate per month for sub item 13.01(d) shall include full compensation for all the contractor's obligations relevant to Occupational Health and Safety legislation.

Should the combined total tendered for sub items (a), (b), and (c) exceed 10% of the tender sum (excluding CPA and VAT), the tenderer shall state his reasons in writing for tendering in this manner no any other reason will be acceptable after the tender closing date or during construction, should the tenderer fail to give reasons during or at tender stage the Engineer shall reduce the combined total tendered for sub items (a), (b), (c) and (d) not exceed 10% of the tender sum (excluding CPA and VAT) at his discretion at any given stage. The tenderer's attention is drawn to Form B1: Contractor's Establishment on Site, (bound in this Volume), to be completed by the tenderer.

If the tenderer should require additional compensation for his obligations under section 1300 (over and above the total tendered for item B13.01) by including such additional compensation in the tendered rates and/or lump sum of items in the Pricing Schedule, these items and the value of such additional compensation shall also be indicated in writing in a letter attached to Form B1.

Payment for time related costs arising from extensions of time granted by the employer, where the contractor is fairly entitled to such compensation in terms of sub-clause 8.4 of the General Conditions of Contract, will be calculated by taking account only of pay items for which the unit of measurement is "month". All pay items for which the unit of measurement is "month" are deemed to be based on 23 working days per month."

INSERT THE FOLLOWING PARAGRAPHS:

The tendered rate shall apply in the same manner as pay sub item B13.01(c) but shall not form part of the calculation of the restrictions imposed by Condition of Tender F.3.8(c) and Form to Tender B1: Contractor's Establishment on Site. A contractor who tenders zero for this pay item shall not be relieved of his statutory obligations. A nil rate offered shall be deemed not as an omission but as deliberate notice that costs have been included in the tendered rates for individual items of work or in the other preliminary and general pay items.

ADD THE FOLLOWING AT THE END OF THIS PAY ITEM:

"The amount payable to the Contractor for time related costs arising from extensions of time granted by the Employer, where the Contractor is fairly entitled to such compensation in terms of Clause 45 of the General Conditions of Contract, shall be calculated as follows:

- i) Account shall be taken of all time related items scheduled in Section 1300, 1400 and 1500.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- ii) All pay items for which the unit of measurement is "month" shall be deemed to be based upon an average of 23 working days per month. Saturday considered a working day.
- iii) Payment will be made only for items for which the unit of measurement is "month"

ESTENDER

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B1402 OFFICES AND LABORATORIES

(a) General

ADD THE FOLLOWING:

"It is a requirement of the contract that the offices for the engineer's supervisory staff shall be supplied with approved burglar proofing, the cost of which shall be taken as included in the relevant tendered rates for the provision of the specified building. In addition, the offices and any living accommodation are to be separated by at least 100m.

(b) Offices

ADD THE FOLLOWING SUB-CLAUSES:

"(xv) Steel plan cabinets shall be able to accommodate 30 AO – sized drawings hanging vertically from approved holders.

(xvi) Refrigerators

(xvii) Provision of floodlights complete with 500W minimum globes and poles which are to be controlled by a photocell for security purposes at the offices and laboratory of the supervisory staff.

(xviii) White board (0.9 m x 1.2 m)

The prime cost items shall include for the cost of all cellular telephone calls in connection with the contract administration for the duration of the contract.

A complete telephone service together with fax equipment shall be provided. The prime cost shall also include for the cost of telephone calls, fax and internet transmissions in connection with contract administration."

(c) Laboratories

IN THE SECOND PARAGRAPH, SECOND LINE SUBSTITUTE "DRAWINGS" WITH "FIGURES INCLUDED IN THE PROJECT DOCUMENT"

Laboratory Apparatus Required for the Mix Design of Cement Stabilised Materials

Overview of Equipment Required

- (i) A moisture-curing room capable of maintaining a relative humidity of 95 to 100 % and a temperature of 22 to 25 °C or suitable plastic bags to hold specimens and carriers in an air-tight condition in a water-bath as described below.
- (ii) Water-bath with thermostatic control capable of maintaining a temperature of 22 to 25 °C.
- (iii) Compression testing machine capable of applying a rate of loading of 140 kPa/s and capable of measuring a load of 200 kN, accurate to 1 kN.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- (iv) Compaction moulds, two or three segment split type, 152.4 mm diameter and 152.4 mm high with a detachable collar and base plate and a 25.4 mm thick spacer plate fixed to the base plate, or
- (v) Compaction moulds 152.4 mm diameter and 152.4 mm high with a detachable collar and compaction base with a fixed 25.4 mm thick spacer plate with a suitable extrusion jack to extrude specimens from the mould. In both cases the base plate should be fixed to a concrete block at least 150 mm thick and weighing at least 200 kg.
- (vi) 4,536 g $\pm$ 20 g tamper with a 50.8 mm $\pm$ 1.0 mm diameter face with a sheath to give a 457.2 mm $\pm$ 2 mm drop.
- (vii) Steel straight-edge, about 300 mm in length and having one bevelled edge.
- (viii) Riffers.
- (ix) Balance to weigh up to 15 kg, accurate to 5 g.
- (x) Balance to weigh up to 2 kg, accurate to 0.1 g.
- (xi) Steel tamper or small laboratory crusher.
- (xii) Sieves: 0.075 mm to 37.5 mm.
- (xiii) Iron mortar and pestle and a rubber-tipped pestle.
- (xiv) Basins, approximately 350 mm in diameter.
- (xv) Mixing basin, approximately 500 mm in diameter.
- (xvi) Garden trowel.
- (xvii) Spatula.
- (xviii) Suitable containers to hold about 1 000 g of material for the determination of moisture contents. Drying oven, thermostatically controlled and capable of maintaining a temperature of 105 to 110 °C. Measuring cylinders, 1 000 ml and 500 ml capacity.
- (xix) Water spray or sprinkler.
- (xx) Filter paper, 150 rounds.
- (xxi) Galvanised iron mixing baths 450 mm x 650 mm x 200 mm deep (at least three).
- (xxii) Suitable carrier trays to hold specimens.
- (xxiii) Air-tight containers with lids, about 20 litre capacity (at least four)
- (xxiv) 180 mm x 180 mm glass plate approximately 7 mm thick.
- (xxv) Lubricating grease
- (xxvi) 5 ml pipette
- (xxvii) Thermometer measuring 0 to 50 °C

Comprehensive list

Table B1400/B				
Description	Dimensions	Quantity	Description	Quantity
37.5mm	450mm dia	1	(a) 400 litre	1

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Table B1400/B

Description	Dimensions	Quantity	Description	Quantity
19.0 mm	450mm dia	1	(b) 240	1
4.75 mm	450mm dia	1	(c) 40 litre	1
75.0 mm	300 mm dia	1	Additional Racks	
63.0 mm	300 mm dia	1	(a) 400 litre	3
53.0 mm	300 mm dia	1	(b) 240 litre	3
37.5 mm	300 mm dia	1	(C) 40 litre	3
26.5 mm	300 mm dia	1	Balance (Electronic)	
19.0 mm	300 mm dia	1	(a)8-12kg /+ 0.1 g	1
63.0 mm	200 mm dia	1	(b) 200-300 g /+ 0.01 g	1
53.0 mm	200 mm dia	1	(c) 20-30 kg /+ 1 g	1
37.5 mm	200 mm dia	1	Basins	
26.5 mm	200 mm dia	1	(a) 500 mm dia	10
19.0 mm	200 mm dia	1	(b)400 mm dia	10
13.2 mm	200 mm dia	1		
9.5 mm	200 mm dia	1	Pans	
4.75 mm	200 mm dia	1	(a)300 mmm square	10
2.36 mm	200 mm dia	1	(b) 250 mm round	10
2.0 mm	200 mm dia	1	(c) 350 x 250 mm (S/Steel)	10
0.425 mm	200 mm dia	1	Mortar – Iron (150mm)	1
0.075 mm	200 mm dia	1		
Pan	200 mm dia	1	Dial Gauge	
Lid	200 mm dia	1	(a) 0.01 mm divisions	
Mechanical Sieve shake		1	(b) 0.127 mm divisions	

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Table B1400/B				
Description	Dimensions	Quantity	Description	Quantity
			Copper or Brass Gauze Discs	
Rifflers			Measuring devices	
Riffler (37 mm openings)		1	Steel Ruler (300 mm)	2
Riffler Pans (37 mm openings)		3	Tape measure	
Riffler (25 mm openings)		1	(a) 3 m	1
Riffler Pans (25 mm openings)		3	(b) 30 m	1
Hotplate (Electrical)		2	Rake	2
Burner Gas+ Asbestos Plates		2	Shovel	2
Carboy (25 l: Distilled Water)		1	Spade	2
			Wire Scratch Brush (26 gauge)	

Table B14001/B	
Description	Quantity
Air-tight Containers	
(a) 20 litre (CBR)	20
(b) 10 litre	20
Refuse Bin	1(optional)
Wheel Barrow	1
Canvas Sheet (2 m x 2 m)	5
Brooms	
(a) Hard	2
(b) Soft	1
Gloves (Asbestos)	1

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

CBR Soaking Bath (1 m x 1 m x 0.5 m)	3
Moulds (Slipt: Complete)	3
Water Bath (Thermostatical)	1
Balance (Mechanical)	
(a) 2.610 g	2
(b) 20 kg	1

B1404 SERVICES

(b) Water electricity and gas

ADD THE FOLLOWING:

“The supply of electricity and water to the offices and laboratories of the engineer's supervisory staff shall be maintained 24 hours per day. The power supply shall be regulated by a suitable voltage regulator in order to maintain a constant current and voltage level at all times to prevent damage to the office and laboratory equipment and related machinery during power surges. Payment for the voltage regulator shall be deemed to be included in the rates tendered for the supply of power. In the event of damage to the office and laboratory equipment and related machinery because of a faulty voltage regulator, the contractor shall be liable for payment of all repair or replacement costs of such damaged items.”

B1406 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING SUBITEMS:

B14.03 Offices and Laboratory Fittings, Installations and Equipment

(a) Items measured by number

(xv) Steel Plan Cabinets

(xvi) Refrigerators

(xvii) Floodlights completed with poles and
500Watt minimum globes

(ivii) White board (0.8 x 12.m)

No.
Number
No.
Number
No.
Number

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The tendered rate for sub item B14.03 (a) (xvii) shall include for the operation of the lights from sunset to sunrise for the full duration of the contract.”

(b) **Prime cost items and items measured and paid for in a lump sum**

(ix) Provision of Cell phones costs, including pro-rata rentals, for calls in connection with contract administration	PC Sum Prime Cost Sums
(x) Handling costs and profit in respect of sub-item 14.03(b)(ix) above	% Percentage

The tendered percentage is a percentage of the amount actually spent under sub-item B14.03 (b)(ix) and B14.03(b)(x) which shall include full compensation for the handling costs of the cellular phone, telephone services and fax facility

ESTIMATED

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B1501 SCOPE

ADD THE FOLLOWING:

"It is a condition of this contract that traffic is accommodated taking into account the provisions of the latest edition of the South African Road Traffic Signs Manual (SARTSM). The latest version for use in the accommodation of traffic is volume 2, chapter 13 of the June 1999 edition. Copies of this publication are available from Government Printers –Tel: (012) 334 4507/8/9 or (012) 3344510 Fax: (012) 323 9574.

This section also covers the provision of additional information signs for motorists and the release of any notices to the media and public."

B1502 GENERAL REQUIREMENTS**(a) Safety**

ADD THE FOLLOWING:

"The contractor shall be responsible for maintaining the existing road surface both within the works area and the advance warning and termination areas in a safe and trafficable condition for the duration of the contract."

(f) Approval of temporary deviations

ADD THE FOLLOWING:

"If, after any temporary deviation has been constructed, any changes are considered necessary or desirable, the proposal shall be submitted to the engineer for his approval."

(i) Traffic Safety Officer

ADD THE FOLLOWING TO THE END OF THE SECOND PARAGRAPH:

"The contractor shall submit a CV of the candidate to the engineer for approval before the candidate is appointed as the traffic safety officer.

"Insert the following as the opening phrase to sub-sub-clause (i):

"make himself available to *discuss* road safety and traffic accommodation matter whenever required by the engineer and shall be responsible..."

ADD THE FOLLOWING AFTER SUB CLAUSE (III):

"(a) Record on neat and dimensioned sketches and submit to the engineer the position and sign reference number, where applicable, of each sign, barricade, delineator, cone, amber flicker light, guardrail and permanent or temporary painted road marking feature. The position of each shall be adequately referenced from the marker boards or other surveyed points on the site of the works.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

These records shall also show the date and time at which the recorded traffic accommodation features are certified correct by the traffic safety officer, and shall be signed by the traffic safety officer before being submitted to the engineer.

The records shall similarly account for whatever changes are made in the field. Such changes shall record the position of flagmen and stop/go control men and their associated traffic accommodation equipment wherever they are used.

(b) Personally inspect the position and condition of each traffic accommodation feature on the whole site of works twice each day by 9h30 and by 16h30, to record all irregularities discovered and the remedial action taken, and to sign off as correct and submit to the engineer such record sheets by midday of the next working day. The traffic safety officer shall keep a duplicate book for this specific purpose. The traffic safety officer shall also submit with this report the daily labour returns of flagmen, stop/go and traffic signal control men employed.”

ADD THE FOLLOWING SUB-SUB-CLAUSES:

“(ix) The traffic safety officer shall be equipped with a cellular telephone and shall have a vehicle and sufficient labour at his disposal 24 hours a day, including all prescribed non-working days, and shall not be utilised for other duties. He shall be directly answerable to the contractor’s site agent.

The traffic safety vehicle shall be a truck with a capacity of 3 tons and shall be equipped with a high visibility rear panel in accordance with the requirements of the SARTSM. The words TRAFFIC CONTROL shall be written on a warning sign in highly legible letters, not less than 200mm high, and the sign shall be mounted on the vehicle at least 1,5m above ground level. The proposed sign and letter dimensions shall be submitted to the engineer for his approval. The vehicle shall also be equipped with an amber-coloured flashing light of the rotating parabolic reflector type with a minimum intensity of 100. The warning light shall be switched on at all times and the sign shall be displayed when the vehicle is used on site.

The traffic safety officer shall have a direct line of communication at all times with the police and traffic officers responsible for the area within limits of the contract. The provision of the road safety vehicle, driver, labourers and the cost of the cellular telephone shall be deemed to be included in the rates tendered for the contractor’s establishment on site.

(x) Ensure that all obstructions related to the contractor’s activities be removed before nightfall where applicable as instructed by the engineer and that the roads are safe for night traffic.

(xi) The traffic safety officer shall, in addition to the duties listed in paragraph 1502(i), also be responsible for the removal of broken down vehicles off the roadway and implementing actions requested by the traffic authorities with regard to the work to be carried out, be responsible for the erection and maintenance of all traffic signs necessary for the accommodation of traffic.

(xii) In the advent of an accident the traffic officer shall record in a written report the details of the accident, record the position of all temporary road signs, barricades, delineators, flagmen and any other devices used for traffic accommodation. In addition the report shall include a neat dimensional sketch, photographs, identifiable permanent features, and any other relevant information.”

ADD THE FOLLOWING SUB-CLAUSES:

“(k) Site Personnel


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

The contractor shall ensure that all his personnel, including those who are permanently office bound, are equipped with reflective safety jackets and that these are worn at all times when working on or near to the travelled way. Any person found not wearing a reflective jacket under these circumstances shall be removed from the site until such time as he is in possession of and wearing a reflective jacket. Reflective safety jackets shall be kept in good condition and any jackets that are, in the opinion of the engineer, ineffective shall be immediately replaced by the contractor.

(l) Failure to comply with provisions

Failure or refusal on the part of the contractor to take the necessary steps to ensure the safety and convenience of the travelling public, accommodation of traffic, plant and personnel in accordance with these specifications or as required by statutory authorities or ordered by the engineer, shall be sufficient cause for the engineer to apply penalties as follows:

A fixed penalty of R20 000, 00 per occurrence shall be deducted for each and every occurrence of non-compliance with any of the requirements of section 1500 of the standard specifications and section B1500 of the project specifications.

In addition a time-related penalty of R5000, 00 per hour over and above the fixed penalty shall be deducted for non-compliance to rectify any defects in the accommodation of traffic within the allowable time after the engineer has given an instruction to this effect. The engineer's instruction shall state the allowable time, which shall be the time in hours for reinstatement of the defects. Should the contractor fail to adhere to this instruction, the time-related penalty shall be applied from the time the instruction was given."

(m) Proposed Construction Categories and Stages

The pricing schedule for accommodation of traffic is based on the postulated sequence of work described in Part C4: Site Information clause B4.1.1 (b). The tenderer must price according to this programme but when called upon to produce the contract programme may decide to apply a different sequence. However, any change will not entitle the contractor to rights of variation and the offered rates to the pay items of the pricing schedule shall stand unaltered.

An alternative method of accommodation the traffic may be offered at tender stage but will only be considered if the tender conditions pertaining to the pricing schedule have been fully satisfied.

B1503 TEMPORARY TRAFFIC-CONTROL FACILITIES

REPLACE THE FIRST SENTENCE OF THE FIRST PARAGRAPH WITH THE FOLLOWING:

"The contractor shall provide, erect and maintain the necessary traffic-control devices, road signs, channelization devices, barricades, warning devices and road markings (hereinafter referred to as traffic-control devices) in accordance with these special provisions and as shown on the drawings and in the SARTSM and remove them when no longer required. It shall be incumbent upon the contractor to see to it that the abovementioned traffic-control devices are present where required at all times and are functioning properly."

REPLACE THE THIRD PARAGRAPH WITH THE FOLLOWING:

"The type of construction, spacing and placement of traffic-control devices shall be in accordance with the SARTSM. The recommended arrangements of the traffic control devices illustrated and/or drawings issued by the engineer shall not be departed from without prior approval of the engineer. The arrangements expected to be most commonly used in the contract are given on the tender drawings.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The details shown for spacing and placement of traffic-control facilities may however, be revised at the discretion of the engineer where deemed necessary to accommodate local site geometry and traffic conditions.”

(a) Traffic control devices

ADD THE FOLLOWING AT THE END OF THE LAST PARAGRAPH:

“At each traffic control point, an all-weather shelter of at least three (3) square metres capable of accommodating two operators, with a clear window, a stable door, two chairs and a portable chemical toilet that shall be regularly maintained, shall be provided. Each control point shall have a generator and 3 No. 2 x 400w metal halide floodlights spaced 50m apart mounted onto 9m winched fibreglass poles bolted to a 1,5m buried galvanized stem to light up the traffic control point at night time when traffic signals are used.”

(b) Road signs and barricades

ADD THE FOLLOWING:

“The contractor shall be responsible for the protection and maintenance of all signs and delineators and shall at his own cost replace any that have been damaged, lost, or stolen. All temporary road signs required to remain in position for some time shall be pole mounted as shown on the drawings. All temporary road signs required to be moved more often shall be mounted on portable supports for the easy moving of signs to temporary positions. The only permitted method of ballasting the sign supports shall consist of durable sandbags filled with sand of adequate mass to prevent signs from being blown over by wind.

The cost of the sandbags shall be included in the tendered rates for the various types of temporary road signs. The covering of permanent road signs, if applicable, shall be by utilizing a hessian bag that shall be pulled over the sign in the form of a hood and fastened to the signposts. Plastic bags or other materials and fastened by means of adhesive tape shall not be permitted and shall constitute penalty. The cost of covering of permanent road signs shall be included in the tendered rates of items B15.01 and B15.10.”

(c) Channelization devices and barricades

ADD THE FOLLOWING:

“The use of drums as channelization devices shall not be permitted. Drums may however be used to set up barriers as provided for in sub-clause 1503(d).

Delineators shall:

(i) comply with the manufacturing and reflective requirements of the SARTSM and the blades shall be reversible with dimensions as indicated on the drawings;

(ii) have smooth and round edges and be mounted on a post and base. All components shall be of durable plastic material;

(iii) have the lower edge of the reflective part of the delineator mounted not be lower than 250mm above the road surface;

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

(iv) be capable of withstanding the movement of passing vehicles and gusting winds up to 60 km/h in typical working conditions without falling over. To achieve this, the base shall be at least 0,18m² and ballasted by sandbags with sand;

(vi) together with its mounting be designed such that it will collapse in a safe manner under traffic impact.

Traffic cones manufactured in a fluorescent red-orange or red plastic material may be used only at short term lane deviations during daylight. Cones shall not be used on their own, but shall be interspersed with delineators at a ratio not exceeding 3:1. Cones used on all deviations shall be 750mm high. Lane closures which continue into the night time shall be demarcated by delineators only."

(e) Warning devices

ADD THE FOLLOWING:

"All construction vehicles and plant used on the works shall be equipped with rotating amber flashing lights and warning boards as specified. All vehicles and plant before being allowed onto the site shall obtain a clearance permit from the engineer.

(i) Vehicle mounted flashing lights

Rotating lights shall have an amber lens of minimum height of 200mm and shall be mounted in such a way as to be highly visible from all directions.

The lights on construction vehicles shall not be switched on while vehicles are being operated on unrestricted sections of a public road, but shall be switched on while construction vehicles are operating within the accommodation of traffic area, as the vehicles decelerate to enter a construction area, and as the vehicles accelerate to the general speed when entering the road from a construction area. Lights on plant shall operate continuously while the plant is working alongside sections of road open to public traffic.

All LDV's and cars operating on site shall also be equipped with rotating amber flashing lights which shall be placed so as to be highly visible and operated continuously while the vehicles are manoeuvring in or out of traffic or are travelling or parked alongside roads open to public traffic. Rotating lights and the "construction vehicle" signs on the contractor's vehicles and plant shall not be paid for separately but shall be included in the rates covering the use of the vehicles.

The contractor shall apply and maintain lights together with temporary mounting brackets, to the approval of the engineer. Vehicles and plant that do not comply with these requirements shall be removed from the site.

(ii) Sign mounted flashing lights Two amber flashing lights (truck type LED flashing indicator lights or approved rotating lights operated from 12 volt vehicle batteries) shall be vertically mounted inside a yellow reflective backing board on top of each of the traffic signs at each end of each traffic accommodation section as shown on the drawings. The lights shall be operated during the hours of darkness. Temporary flashing lights operated with torch batteries shall not be allowed."

ADD THE FOLLOWING SUB-CLAUSES:

"(g) Other traffic control measures ordered by the engineer

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The engineer may instruct the contractor to provide any other road sign, reflective tape, etc not measured in standard pay items. Such road signs shall conform to the requirements of the SARTSM, or specification provided by the engineer. Similarly, in order to ensure that the travelling public is kept fully informed and warned on matters relating to the accommodation of traffic, construction sign posting and the effect of the construction on the free flow of traffic through the site, the engineer may arrange for advertising in the press and/or for other forms of publicity.

(h) Flagmen

Flagmen shall be provided where shown on the drawings or required by the specification. During the daytime, two flagmen shall be provided at each traffic control point in addition to the STOP/GO sign operator. One flagman shall be positioned near the 60 km/h sign placed 300 m before the stop/go area and a second roving flagman shall be positioned approximately 200 m before the end of traffic queue to indicate to the on-coming traffic to slow down and stop at the end of the queue.

At night time when traffic signals are used only one roving flagman equipped with a Stromberg Lightman xenon strobe, or similar approved, and a torch is required to be positioned approximately 200 m before the end of the traffic queue at each traffic control point. The traffic light operator at the stop/go point shall also be equipped with a Stromberg Lightman xenon strobe, or similar approved, and a torch. Where the shoulder of the road is closed to traffic, a flagman shall be provided at the leading end of the closure during daytime. This flagman shall be provided at the 80-km/h sign to warn the traffic about the closure.

No flagman shall be on duty for a period of more than 10 hours per day. Flagmen shall be adequately trained in the standard flagging techniques as described in the SARTSM (refer to figure 13.23 of detail 13.23.1) and be provided with conspicuous clothing such as safety jackets utilizing retro-reflective and/or fluorescent panels in red, yellow and/or white. Flagmen shall have in their possession, at all times, certification that they have attended and passed an accredited course in flagging techniques before being allowed onto the construction site.

Flags shall be made from bright red or red-orange material and shall be square with a minimum side length of 600mm. The flag shall be attached to a staff at least 1,0m in length. In terms of lateral clearance and safety, flagmen shall stand on the shoulder of the lane of traffic that is being controlled and under no circumstances shall flagmen be permitted to stand within the traffic lane. In order to obtain maximum visual impact for the travelling public, flagmen shall stand-alone at all times."

B1504 WIDTH AND LENGTH OF TEMPORARY DEVIATIONS

ADD THE FOLLOWING PARAGRAPH:

"Where road is constructed in half width, the length of temporary deviation shall not exceed 4km where traffic is accommodated along the R505(P13-4) and the existing half surfaced roadway is used for traffic accommodation."

B1513 ACCOMMODATION OF TRAFFIC WHERE THE ROAD IS CONSTRUCTED IN HALF WIDTHS

EDIT THE FIFTH PARAGRAPH AS FOLLOWS:

DELETE THE WORD "ENTIRE" AND REPLACE WITH "TRAFFICKED"

ADD THE FOLLOWING TO THE 6TH PARAGRAPH:

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

“Where the road is constructed in half width, during the night traffic shall be control using controlled temporary traffic lights unless or otherwise instructed by the Engineer in writing”.

B1510 EXISTING ROADS USED AS DEVIATIONS

ADD THE FOLLOWING:

The contractor shall indemnify the employer and his agent against all proceedings, claims, actions, damages and costs which may arise from or be related to damage to vehicle or property or injury to persons as a result of loose stones or aggregates on the road surface or as a result of bituminous applications during construction of the works. The contractor shall arrange his activities so that construction traffic and equipment do not unnecessary obstruct public traffic or force it to a complete standstill. The flow of public traffic shall always take precedence and the contractor shall not stop or delay public to make way for construction traffic.

B1517 MEASUREMENT AND PAYMENT

B15.14 Traffic Safety Officer month

The unit of measurement shall be the period in months that the approved traffic safety officer is employed upon the instruction of the engineer. The tendered rate per month shall include full compensation for the cost of the traffic safety officer to conduct his duties as specified in sub-clause B1502 (i)

B15.15 Penalties m³

	(a) Fixed penalty per occurrence	No. Number
	(b) Time-related penalty	hr. Hour

The unit measurement shall be a number of occurrences for a fixed penalty of R30 000.00 per occurrence shall be deducted for each and every occurrence of non-compliance with any of the requirements of section 1500 of the standard specifications and section B1500 of the project specifications.

The unit measurement for time-related penalty shall be an hour in addition to the fixed penalty calculated for the time of non-compliance until corrective measures are completed in terms of sections 1500

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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"

(c) Conservation of topsoil*ADD TO THE END OF THE 1ST PARAGRAPH:*

Replace the second paragraph of this clause with the following:

"After clearing and grubbing, all topsoil shall be removed to either windrows alongside the construction area or to stockpile. Where ordered by the engineer, any topsoil that shall be required for the top soiling of new banks and cuts, but which cannot be accommodated within the construction site, shall be loaded and hauled to the designated stockpile area where it shall be placed in temporary stockpiles for later use in the rehabilitation of the site affected by construction activities. Where new borrow pits are to be opened up the topsoil shall first be removed (independently of the overburden) and placed in temporary stockpiles at the edge of the borrow pit.

The contractor shall be responsible for the control of any germination of weed seeds within topsoil used on site. Areas such as stockpiles, borrow pits and spoil sites shall be stripped of all topsoil before work may commence within the area. Should a larger site for any of the above be required during construction, the contractor shall refer to the DEO for best practice methods on ensuring the preservation of the additional stripped topsoil. The topsoil shall be kept free of all foreign material generated during construction. This shall include all stone and bituminous products. All work shall be deemed to have been incorporated in the rates"

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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

B17.01 Clearing and grubbing of:

CHANGE ITEM 17.01 TO READ AS FOLLOWS:

(a)	Normal areas	
	(i) Within the road reserve	ha. Hectare
	(ii) Within the road reserve for stockpiling	ha. Hectare
	(iii) In borrow pits	ha. Hectare
(b)	Existing fill embankment with Slopes steeper than 1:4	ha. Hectare

Measurement and payment for sub-items (a) and (b) shall be as specified for item 17.01 of the standard specifications. Where distinction is made for clearing and grubbing existing fill embankments with slopes steeper than 1:4 (vertical: horizontal), payment shall be made under item B17.01.”

AND ADD THE FOLLOWING TO THE MEASUREMENT AND PAYMENT BELOW LAST PARAGRAPH:

“Clearing and grubbing of the construction camps and any stock pile areas shall not be measured separately and shall be deemed to be included in the rates tendered for item B13.01.

B17.07 Removal of topsoil and unsuitable material and temporary stockpiling thereof in:

(a)	Windrow alongside the work area	m ³
(b)	Temporary stockpiles after loading material into truck including all hauls	m ³

The unit of measurement for items (a) and (b) shall be the cubic metre of topsoil removed to windrow or temporary stockpile. The volume of topsoil removed shall be measured in cut, calculated from the difference in cross-sections of the natural ground level before the commencement of clearing to cross-sections taken after the removal of the topsoil.

The contractor shall constantly liaise and agree with the engineer as to the depth of topsoil to be removed. Where, in the opinion of the engineer, material that would not normally be classed as

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

topsoil to be removed. Where, in the opinion of the engineer, material that would normally be classed as topsoil has also been excavated, the excavation shall be backfilled and compacted with selected material at the contractor' expense. Should material that is deemed by the engineer not to be topsoil, be removed and stockpiled together with material classed as topsoil, the contractor shall be responsible for the removal of this unsuitable soil from the stockpile and the replacement of the quantity of topsoil contaminated by the unsuitable material at his cost. The quantity of topsoil to be replaced shall be determined by the engineer.

The rates tendered shall include for the excavation of the topsoil and where required, the loading and hauling thereof to temporary stockpile as well as the maintenance of the stockpile until re-use of the material. The rates tendered shall also include for all supervision required to ensure that only topsoil is removed.

ESTENDER

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B8 SECTION 1800: DAYWORKS

B1801 SCOPE

This section covers the listing of daywork items in accordance with the general conditions of contract sub-clause 13.6 as amended by Particular Condition, for the use in determining payment for work which cannot be quantified in specific units in the Pricing Schedule, or work ordered by the engineer during the construction period which was not foreseen at tender stage and for which no applicable rate exists in the Pricing Schedule.

B1802 ORDERING OF DAYWORK

No daywork shall be undertaken unless written authorisation has been obtained from the engineer.

B1803 MEASUREMENT AND PAYMENT

B18.01 Personnel

ADD THE FOLLOWING NEW PAYMENT ITEMS:

(a)	Unskilled labour	hr. Hour
(b)	Semi-skilled labour	hr. Hour
(c)	Skilled labour	hr. Hour

B18.03 Plant

(a)	Front end loader (60kW)	hr. Hour
(b)	Tractor loader backhoe 4x4 (50kW)	hr. Hour
(c)	Track excavator (125 kW)	hr. Hour
(d)	Bulldozer with rippers (125 kW)	hr. Hour
(e)	Tip truck (6 m ³)	hr. Hour
(f)	Pad foot roller (12 ton)	hr. Hour
(g)	Pedestrian roller (700 kg)	hr. Hour
(h)	Concrete mixer with loading hopper (400 litre)	hr. Hour
(i)	Water bowser (1000 litre)	hr. Hour
(j)	Concrete vibrator including power unit (26mm – 75mm poker size)	hr. Hour
(k)	Water pump (75mm diameter with	hr. Hour


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

(l)	Compressor (450 cfm) with hose and tools	hr. Hour

B18.04 Material

(a)	Procurement of materials	Prov. Sum Provisional Sum
(a)	Contractor's handling cost, profits and all other charges in respect to sub-item B18.03 (a)	(%) Percentage

The unit of measurement for items B18.01 and B18.02 shall be the hour for the item of equipment or personnel. Non-working hours for transport breakdown, lack of operator of any other reason shall not be measured. The time shall be taken from the time that the personnel and/or equipment depart until return.

Measurement shall only be for work instructed and directed by the engineer, where the engineer considers no other appropriate rate is applicable in the Pricing Schedule. Prior to the commencement of any work by the personnel described under item B18.01 the contractor must obtain written consent from the engineer regarding their classification in terms of "unskilled", semi-skilled" and "skilled" personnel.

The tendered rates for labour under B18.01 shall include full compensation to cover overhead charges and profit, leave pay, bonuses, subsistence, allowances, employer's contributions, additional payment for overtime where applicable, insurances, housing, site supervision, use of small hand tools and appliances, non -mechanical plant and equipment and consumable stores, for all administrative, supervisory, operative and contingent costs, relating to the supply of personnel.

The tendered rates for plant for item B18.02 shall be an all-inclusive hire charge for the use of the vehicle and driver or plant/equipment and operator and shall apply only to vehicles plant and equipment nominated in writing by the engineer, for all administrative, supervisory, operative and contingent cost, and profit relating to the running of the plant. The unit of measurement for sub-item B18.03 (a) shall be the amounts actually paid for the procurement of materials to be purchased and shall be made in accordance with the provision of the general conditions of contract. Only the actual quantities of materials used, as verified by the engineer, shall be paid for. The percentage tendered for sub-item B18.03 (b) shall be the percentage of the amounts actually paid for the procurement of materials as ordered under sub-item B18.03 (a) and shall be in full and final compensation in respect of the contractor's handling costs, profit and all other charges in connection with the procurement and supply of the materials to the point of usage.

The unit of measurement for item B18.04 shall be the kilometre distance that the vehicle travelled for transporting personnel and/or plant. All travelling shall be approved by the engineer.

The tendered rate for item B18.04 shall include full compensation for the cost of the vehicle including fuel, maintenance depreciation and running costs.
The above mentioned tendered rates shall be full compensation for the various items as specified and no further profit shall be paid.

B9 SECTION 2100: DRAINS

B2101 SCOPE

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

AMEND THE FIRST PARAGRAPH TO READ:

“This section covers all work both rehabilitative and new work in connection with the excavation and construction of open drains, subsoil drainage and banks and dykes at the locations and to the sizes, shapes, grades and dimensions as shown on the drawings or as directed by the engineers, and the test flushing of subsoil 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).”

B2107 MEASUREMENT AND PAYMENT

B21.01 Excavation For Open Drains

- (a) Excavation soft material situated within the following depth ranges below the surface level:
 - (i) 0m up to 1.5m m³
 - (ii) Exceeding 1.5m and up to 3.0m m³
- (b) Extra over sub item B21.01 (a) for excavation in hard material, irrespective of depth

Measurement and payment shall be as specified for item 22.21.01 in the standard specifications taking into account the below mentioned.”

ADD THE FOLLOWING TO THE PENULTIMATE PARAGRAPH:

“The tendered rate shall also include full compensation for trimming the open drains, and where quantified in the bill of quantities shall be upon the instruction of the Engineer. The contractor’s attention is drawn in relation to trimming of open drains regardless of slope and material variation that, all incidental work related trimming of open drains must be included in the related bulk tendered, thus no separate payment will be made unless or otherwise instructed by the Engineer.”

B10 SECTION 2200: PREFABRICATED CULVERTS

B2201 SCOPE

ADD THE FOLLOWING:

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

"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".

B2205 EXCAVATION FOR CONSTRUCTION BY TRENCH METHOD

(a) Depth of excavation

ADD THE FOLLOWING TO THE END OF THE FIRST PARAGRAPH:

"Excavated material shall not be placed closer than 1.5 m to the edge of the excavated trench regardless of the depth of the trench or the size of the pipe being placed."

(a) Width of excavation

ADD THE FOLLOWING TO THE END OF THE FIRST PARAGRAPH:

"For excavation depths less than 1.5 m the paid width of all trench excavations for the installation of box culverts shall be the width of the precast box unit (not floor slab) plus 600 mm on either side of the box culvert unit. This width may be increased if, in the opinion of the engineer, poor ground conditions require the use of propping and shoring. For excavation depths greater than 1.5 m propping and shoring must be provided. The paid width of all trench excavations for the installation of box culverts shall be the width of the precast box unit (not floor slab) plus 1 500 mm on either side of the box culvert unit to allow for the placing of propping and shoring equipment."

ADD THE FOLLOWING NEW SUB CLAUSE:

"(c) Shoring of excavations

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

Wherever the depth of the excavation for the culvert exceeds a depth of 1.5 m below the surface of the ground or the road the sides, and the end for half width construction, of all trench excavations shall be suitably propped and shored to prevent any collapse from occurring.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The contractor is solely responsible for the safety of his works and workmen and if the contractor considers it necessary to increase or bench / slope back the width of his excavation (or part of his excavation) wider than the specified paid width of 1 500 mm each side of the box culvert unit (depending on the method of shoring used by the contractor) then the cost of such additional excavation shall be included in his tendered rates.

The costs of all propping and shoring required shall be included in the rates tendered for payment items B22.01 (a) (i) to (ii).”

(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”.

B2218 MEASUREMENT AND PAYMENT

B22.12 Removing existing concrete

(a)	Plain concrete	m ³
(b)	Reinforced concrete	m ³

ADD THE FOLLOWING TO THE SECOND LINE OF THE SECOND PARAGRAPH AFTER

“... demolition”:

“, breaking down into particle sizes not exceeding 300 mm maximum dimension and disposal as directed by the Engineer”

B11 SECTION 2300: CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES AND CONCRETE LINING FOR OPEN DRAINS

B2301 SCOPE

ADD THE FOLLOWING TO THIS CLAUSE:

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

“This section also covers the replacement of damaged concrete kerbing, channelling and vertically realignment to suite new final road levels.”

B2304 CONSTRUCTION

ADD THE FOLLOWING TO THE FIRST PARAGRAPH OF SUB-CLAUSE 2304 (C):

Where directed by the Engineer to use downpipes in place of insitu concrete chutes, downpipes shown on Drawing shall be 300mm diameter uPVC pipes.

ADD THE FOLLOWING SUB-CLAUSE:

“(i) Removal of existing kerb and channel

Where shown on the drawings and/or indicated by the engineer, the existing kerb and channel shall be removed and transported to spoil as directed.”

B2307 MEASUREMENT AND PAYMENT

“Item	Unit

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B12 SECTION 3100: BORROW MATERIAL

B3101 SCOPE

ADD THE FOLLOWING INTERPRETATION:

"All reference to "borrow pit" or "borrow area" shall mean the local municipal borrow pit and/or privately owned borrow pit."

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 pit(s) is/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 Negotiation with the Owners and Authorities and clause 1225 Finishing-off Borrow Areas and Haul Roads of the specifications shall be borne entirely by the contractor."

B3103 OBTAINING BORROW MATERIALS

ADD THE FOLLOWING NEW PARAGRAPH:

"The contractor shall adhere to the requirements within the environmental management plan for the preparation of the area to be utilised as a borrow pit. This shall include the removal and storage of the topsoil within the affected area, maintenance of the area during use and the rehabilitation of the area to its natural state on completion. A photographic record shall be kept of all borrow pit areas (i.e before construction, during and at the end) The Engineer will request photographic records at any given stage of the contract. The contractor must keep good records and cost must be incorporated the rates. Any construction material spoiled within these sites shall be buried to a depth of no less than 300mm below the surface soil. No construction material of any nature shall be left visible after top soiling. The engineer shall confirm this before grassing commences. The area shall be kept free of all undesirable plant material refer (5807(e)).

Sub item B31.03 (b) for finishing-off borrow areas in intermediate material shall not be applicable on this contract. No distinction shall be made between soft and intermediate material and no additional payment shall be made for intermediate material. All finishing off of borrow areas in intermediate material shall be classified and paid for as finishing of borrow areas in soft material."

(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 SUBCLAUSE:

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

"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 SUBCLAUSE:

"(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

B31.01 Excess overburden

*CHANGE ITEM 31.01 TO BE READ AS
FOLLOWS:*

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

(a)	Depth up to and including 0,5m	m ³
(b)	Depth exceeding 0,5m and up to 1,0m	m ³

Measurement and payment shall be as specified for item 31.01 of the standard specifications with the abovementioned depth ranges applicable."

B31.04 Borrow material

ADD THE FOLLOWING NEW ITEM:

(a)	Prime cost sum for compensation to landowners	Prov. Sum
		Provisional Sum
(b)	Handling cost and profit in respect of sub item	(%)
	B31.04 (a) above	Percentage

Measurement and payment shall be in accordance with the provisions of clause 48(2) of the General Conditions of Contract. Payment to the landowner shall be made within fourteen (14) days after such order has been given by the engineer.

The contractor shall provide detailed proof of payment before payment shall be certified to the contractor.

The tendered percentage is an extra over percentage on the amount spent under sub-item B31.04 (a)

B31.05/ 5500 Provision of wire-mesh fencing and gates around borrow pits km

The unit measure shall be a km of wire mesh fencing installed in consultation with the engineer. Payment shall be as specified under item 55.02 of the standard specification

B31.06 Borrow Pit Rehabilitation

ADD THE FOLLOWING NEW ITEM:

(a)	Borrow Pit Rehabilitation of Existing and Old Borrow Pit within the Project Area	Prov. Sum
		Provisional Sum
(b)	Handling cost and profit in respect of sub item	(%)
	B31.06 (a) above	Percentage

Measurement and payment shall be in accordance with the provisions of clause 48(2) of the General Conditions of Contract. The contractor shall provide detailed proof of payment before payment shall be certified to the contractor.

The tendered percentage is an extra over percentage on the amount actually spent under sub-item B31.04 (a)

B13 SECTION 3400: PAVEMENT LAYERS OF GRAVEL MATERIAL

..

B3402 MATERIALS

(a) General

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

ADD THE FOLLOWING AT THE END OF THE SECOND PARAGRAPH:

"For chemically stabilised layers the material shall conform to the requirements in table B3402/5."

B3405 CONSTRUCTION TOLERANCES

(e) Cross-section

DELETE THE SECOND PARAGRAPH AND REPLACE WITH THE FOLLOWING:

"The normal cross fall of the road wearing course where the road is in a straight horizontal alignment, is specified as 2% as shown on the drawings.

At any cross-section the measured cross fall between any two points shall at least be 2,3% and not more than 2,5%. 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".

B3407 MEASUREMENT AND PAYMENT

B34.01 Compensation to landowners

ADD THE FOLLOWING ITEM TO B34.01(g)

- (g) **Gravel shoulder G7 material compacted to 93% of modified AASHTO density in 150 mm thick layers**

- (i) With material from borrow pit

(1) 93% of modified AASHTO density m³

The unit measurement and payment shall be as specified under measurement and payment under clause 34.01(g).

B14 SECTION 3500: STABILIZATION

B3502 MATERIALS

(a) Chemical stabilising agents

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

DELETE SUB-CLAUSES (II) ORDINARY PORTLAND CEMENT AND (III) PORTLAND BLAST-FURNACE CEMENT AND REPLACE WITH THE FOLLOWING:

"Cement shall comply with the relevant requirements of SANS 50197-1:2000. The use of strength classes greater than 32, 5 shall not be permitted.

On this contract CEM II 32.5(N) cement shall be used for stabilisation purposes."

Irrespective of the quantities of road lime or cement included in the pricing schedule, the actual quantities to be used shall be based on the stabilisation test results to be carried out during construction. The use of any one or any combination of the stabilising agents is thus possible."

B3503 CHEMICAL STABILISATION

(h) Curing the Stabilised work

ADD THE FOLLOWING TO PARAGRAPH:

"Method (iii) and (iv) shall not be applicable."

(i) Construction limitations

In Table 3503/1, delete "8 hours for ordinary Portland cements and cement blends" and replace with "3 hours"

ADD THE FOLLOWING:

"No stabilisation shall be done with falling air temperatures when the air temperature falls to below 70, or during rising air temperatures, when the air temperature is below 30 C.

Moisture content tests shall not be undertaken more than one day in advance of in- situ stabilisation operations. Care shall be taken to ensure that samples are representative of the in-situ material. Checks shall be conducted when wet weather occurs between initial testing and work commencing on any section."

In Table 3503/1, delete "8 hours for ordinary Portland cements and cement blends" and replace with "3 hours".

B3506 TOLERANCES

(b) Uniformity of mix (chemical stabilisation)

The uniformity of mixing of the stabilization agent shall be controlled using the test methods prescribed in Clause 8206.

B3509 QUALITY OF MATERIALS AND WORKMANSHIP

ADD THE FOLLOWING AFTER THE SECOND PARAGRAPH:

"The test results and measurements will be judged in accordance with the provisions of Section 8300."

B15 SECTION 4100: PRIME COAT

B4102 MATERIAL

(b) Aggregate for blinding

ADD THE FOLLOWING SENTENCE:

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

"Blinding of the primed surface with aggregate shall only be permitted to facilitate vehicular access to adjoining properties shall be in conjunction with the Engineer's approval"

B4104 WEATHER AND OTHER LIMITATIONS

REPLACE PARAGRAPH (G) WITH THE FOLLOWING:

"(g) When the moisture content of the upper 50mm of the layer is higher than 50% of the optimum moisture content determined according to TMH 1, Method A7"

B4106 APPLICATION OF THE PRIME COAT

ADD THE FOLLOWING TO PARAGRAPH (C):

"The nominal application rate of the prime shall be 0,7l/m². Unless directed otherwise by the engineer or indicated on the drawings, the edges of the primed surface shall be 100mm wider than the edges of the surfacing where there is no kerbing."

ADD THE FOLLOWING SUB-CLAUSE:

"(j) Application in areas treated by reworking and construction of a new base shall be primed using a mechanical distributor complying with sub-clause 4103(a). The edges of the previously constructed or existing surfacing shall be adequately protected by approved means to ensure that an overlap of prime not exceeding 50mm is sprayed onto the previously constructed or existing surfacing."

B4108 TOLERANCES

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

"The actual spray rates measured at spraying temperature shall not deviate by more than 8.0% from that ordered by the engineer. The engineer may, at his discretion, conditionally accept application rates falling outside this tolerance at reduced payment in accordance with Table B4108/1."

TABLE B4108/1: PAYMENT REDUCTION FACTORS FOR CONDITIONALLY ACCEPTED PRIME COAT

Deviation specified spray rate at spraying temperature. (%)	Payment reduction factor of tendered rate.
±8,0	1.00
±9,0	0.97
±10,0	0.95
±11,0	0.90
±12,0	0.85
±13,0	0.80

Any deviation outside these limits shall not be paid for, however, the engineer shall have the right to instruct the contractor to make up any deficiency, or blind excessive prime without additional payment. Where so instructed, the material for blinding shall consist of approved, but shall consist of screened 4,75mm nominal single size aggregate. The use of crusher dust for blinding shall not be permitted. If under-spraying occurs, and it is accepted by the engineer, only the actual quantities applied shall be paid for."

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B4109 TESTING

AMENDMENT:

"Change 24 hours' notice in the first sentence to read 48 hours' notice exclusion of non-working days

ADD THE FOLLOWING:

"No payment will be made if this condition is not adhered to. The contractor shall provide, at his cost, representative samples of every batch of prime delivered onto site.

REMOVE THE LAST SENTENCE WHICH START WITH unless or Otherwise Agreed In Advance with.....

AND REPLACE WITH Unless or Agreed with In Advance the Contractor Shall Only Spray When the Residence Engineer Is Present. "

B16 SECTION 5100: PITCHING, STONEMWORK AND PROTECTION AGAINST EROSION

B5102 MATERIAL

(a) Stone

REPLACE THE 2ND PARAGRAPH WITH THE FOLLOWING:

"Unless suitable stone can be located on site, the stone for pitching shall come from commercial sources but, from whatever source, its use shall be subject to the prior approval of the engineer."

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

TENDER

B17 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).

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

(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 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-


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

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."


Employer


Witness 1


Witness 2


Contractor


Witness 1


Witness 2

B18 SECTION 5600: ROAD SIGNS

B5601 SCOPE

Replace "South African Road Traffic Signs Manual" in the second paragraph with:
"SADC Road Traffic Signs Manual"

"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."

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

All vegetation obstructing the new or replaced sign board shall be removed and disposed of as instructed by the Engineer.”

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

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:

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.”

No.
Number

B56.09 Danger plates at culverts/structures (W401) on a 75mm diameter x 1.8m long galvanized steel post

ADD THE FOLLOWING PAY ITEMS:

(i) 150mm x 600mm

No.
Number

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.”

B56.10 T-Junction Chevron

Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

ADD THE FOLLOWING PAY ITEMS:

(ii) 3600mm x 600mm

No.
Number

The unit of measurement shall be the number of T-Junction Chevron 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.”

ESTENDER

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B19 SECTION 5700: ROAD MARKING

B5701 SCOPE

REPLACE

“South African Road Traffic Signs Manual”

IN THE SECOND PARAGRAPH WITH:

“SADC Road Traffic Signs Manual”

B5702 MATERIALS

(b) Road studs

REPLACE THE SECOND SENTENCE WITH THE FOLLOWING:

“All square road studs shall have a footprint of 100mm x 100mm and a height of 20mm. Round road studs shall be 100mm in diameter and 20mm in height. Only non-metallic products with glass as reflective material shall be used. Shank road studs shall be used on the outside slow lane shoulders and only where the pavement layers are appropriate. The road studs shall be fixed to the road with an approved bituminous based adhesive.”

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 reassessed 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

B57.06 Setting out and remarking the lines

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Setting out and pre-marking the lines (excluding traffic island markings, lettering and symbols)

kilometre

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.”

ESTENDER

B20

SECTION 5900: FINISHING OF ROAD RESERVE

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B5901 SCOPE

IN THE FIRST LINE OF THE SECOND PARAGRAPH, INSERT THE FOLLOWING AFTER 'THIS SECTION'

"...distinguishes between new construction and renewal construction. When construction is new, as in the case of new alignments for example, then this section"

B5902 FINISHING THE ROAD AND ROAD RESERVE

RETAIN THE EXISTING PARAGRAPHS AS NEW SUB-CLAUSE:

"(a) New construction"

REPLACE THE SIXTH PARAGRAPH WITH:

"All materials resulting from the finishing operations shall be disposed of at approved spoil sites."

ADD THE FOLLOWING:

"(b) Renewal construction"

After completing construction work within the site, the contractor shall ensure that all construction generated or related material that may have been swept, windrowed, stockpiled, stored or spread beyond the road surface is removed. This shall be done before any other rehabilitation work is undertaken, including shaping, top soiling and grassing. Should, during the removal of construction generated or related material, existing vegetation or topsoil be disturbed or destroyed, the contractor shall, at his own cost, re-instate the road reserve to its original state. This shall include ripping, should the construction material have compacted the existing surface.

Culvert inlets and outlets, culvert barrels, and open drains shall be cleared of debris, soil, silt and other material generated from the construction activities.

The surfacing shall be cleared of all dirt, mud and foreign objects. Dragging, pushing or scraping material across the finished surfacing shall not be permitted.

All junctions, intersections, islands, kerbing and other elements making up the completed works shall be neatly finished off.

The contractor shall ensure that all undesirable plants have been removed from the road reserve and borrow pit areas.

All materials resulting from the finishing operations shall be disposed of at approved spoil sites."

B21 SECTION 6100: FOUNDATIONS FOR STRUCTURES

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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 breath 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:

"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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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:

... "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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B61.08 Foundation fill consisting of:

(a) **Rock fill**

cubic metre (m³)

(b) **Crushed-stone fill**

cubic metre (m³)

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.”

ESTENDER

B22 SECTION 6200 : FALSEWORK, FORMWORK AND CONCRETE FINISH

B6205 CONSTRUCTION

(b) **Formwork**

(i) **General**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B 23 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."

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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 Concrete surfaces exposed to aggressive water, sea-water spray or a saline atmosphere	< 20°C	CEM II B – S CEM II B – V
	20°C - 30°C	CEM II B – S CEM II B – V
4. EXTREME	< 20°C	CEM II B – S

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Concrete surfaces exposed to the abrasive action of sea water or very aggressive water	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.

(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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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,
- 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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- 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

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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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."

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

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 (m³)

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)."

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B25 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."

ENDER

Annexure 1

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

No.	Inspection	By who	Frequency	Record
1	Structures	Appointed person	As required for design compliance	Checklist
2	Formwork & Support work	Appointed person	Before, during, after loading, then daily	Checklist
3	Excavations	Appointed person	Daily before shift, plus other	Checklist
4	Traffic Accommodation	Appointed person	Daily	Inventory / checklist
5	Suspended Platforms	Appointed person	Manufacturer's spec, not more than 3 mo.	Inventory / checklist
6	Material Hoists	Appointed person	Daily	Checklist
7	Construction Vehicles	Appointed person	Daily	Inventory / checklist
8	Electrical Installations	Appointed person	Weekly	Inventory / checklist
9	Explosive Powered Tools	Appointed person	Daily	Inventory / checklist
10	Fire Equipment	Appointed person	Manufacturer's spec	Inventory / checklist
11	First Aid Box Contents	First Aider	Monthly	Inventory
12	Ladders	Competent person	Monthly	Inventory / checklist
13	Lifting Tackle	Appointed person	3-monthly	Inventory / checklist
14	Hand Tools	Appointed person	Monthly	Inventory / checklist
15	Portable Electrical Equipment	Appointed person	Monthly	Inventory / checklist
16	Gas Bottle Sets (OxyAcetylene)	Appointed person	Monthly	Inventory / checklist
17	Safety Harnesses	H&S Rep / Safety Officer	Monthly	Inventory / checklist
18	Health & Safety Rep	H&S Rep / Safety Officer	Monthly	Checklist
19	Good Housekeeping	H&S Rep / Safety Officer	Monthly	Report
20	Stacking and Storage	Appointed person	Monthly	Report
21	Change rooms and toilets	H&S Rep / Safety Officer	Monthly	Inventory / checklist

Annexure 2

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

(ACT NO 85 OF 1993)

REGULATION 9 OF THE GENERAL ADMINISTRATIVE REGULATIONS

RECORDING AND INVESTIGATION OF INCIDENTS

A. RECORDING OF INCIDENT

Name of employer.

1

Name of affected person

2

Identity number of affected person

3

Date of incident

4

5. Time of incident.

6 Part of the body affected.*

7 Effect on the person.*

8 Expected period of disablement.*

9 Description of Occupational disease**

10

and type of work performed/exposure*

11 Was the incident reported to the Compensation Commissioner? Make a cross in the appropriate square

12 Was incident reported to the police?*

13 SAPS office and reference to be completed in case of a fatal incident.

*

in case of a hazardous chemical substance, indicate substance exposed to

**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

B. INVESTIGATION OF THE ABOVE INCIDENT BY A PERSON DESIGNATED THERETO	
1	Name of investigator _____
	2. Date of investigation _____
3	Designation of investigator _____
4	Short description of incident _____
5	Suspected cause of incident _____
6	Recommended steps to prevent a recurrence _____
Signature of investigator _____ Date _____	
C. ACTION TAKEN BY THE EMPLOYER TO PREVENT THE RECURRENCE OF A SIMILAR INCIDENT	
Signature of employer _____ Date _____	
D. REMARKS BY HEALTH AND SAFETY COMMITTEE	
Signature of chairman of health and safety committee _____ Date _____	

Annexure 3

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Definition of Mandatory

Includes an agent, a contractor or sub-contractor for work, but without derogating from his status in his own right as an employer or user.

Occupational Health and Safety Act (No. 85 of 1993)

You are requested to, as far as you reasonably can, comply with the requirements of the OHS ACT and Regulations.

1. Your attention is drawn to “**General Duties of Employers to their Employees**” as required by Sect 8 of the Act.
2. You are required to:
 - Sign a written “**Agreement with Mandatory**” as required by Sect 37(1)(2) of the Act with us before you
 - 3.1 commence any work on my / our premises / site.
 - 3.2 Provide the **client / principal contractor** with a documented health and safety plan.
 - Provide the **client / principal contractor** with written appointment of the person who is going to supervise the
 - 3.3 construction work as per Construction Regulation 6(1).
Note: Electrician to provide copy of certificate of registration as per Elect. Install Reg. 9(3).
 - Provide the **client / principal contractor** with written designation of your nominated Health and Safety 3.4 Representative as per Sect 17(1).
 - If you employ more than five (5) persons, you are required to provide your own First Aid Box. (General Safety
 - 2.5 Regulation 3 (2).)
 - If you employ more than ten (10) persons, you are required to provide your own qualified First Aider as per
 - 2.6 General Safety Regulation 3(4).
 - 2.7 When working with hazardous chemical substances, comply with Hazardous Chemical Substances Regulation 3. *Note: Asbestos and Lead regulations are separate.*
 - 2.8 When using a Materials Hoist , comply with Construction Regulation 17.
 - 2.9 When using Lifting Machines and Lifting Tackle, comply with Driven Machinery Regulation 18.
 - 2.10 When using Explosive Powered Tools, comply with Construction Regulation 19.
 - 2.11 When using Scaffolding, Formwork and support work, comply with Construction Regulation 10 and 14.
 - 2.12 When Excavating or Demolishing, comply with Construction Regulation 11 and 12.
 - 2.13 When Welding, Flame Cutting, Soldering, comply with General Safety Regulation 9.
 - 2.14 When working in confined spaces, comply with General Safety Regulation 5.
3. You are responsible for providing your own **legal safety documents and registers** to comply with the Act's requirements. *A copy of the OHS Act of 1993 should be available in the main contractor's office.*
4. You are required to comply with General Safety Regulation 2(1) to (7) and provide employees with: personal protective equipment which will allow them to carry out their work in a safe manner, e.g. hard hats, safety belts, gloves, safe footwear, eye protection, ear protection, waterproof clothing etc.
5. Reporting of Incidents and Occupational Diseases shall be done as per General Admin. Regulation 6. (Also see Sect 24 of the Act.)

Compensation for Occupational Injuries and Diseases Act (No 130 of 1993)

You are required to provide the **client** proof of registration with the Compensation Commissioner/Federated Employer's Mutual within seven (7) days after signing this agreement. Failure to do so would result in the **client** notifying the agent of the Commissioner to investigate and make an assessment of your wage return and the applicable levy you have to pay, which will be liable for a deduction from your monthly progress payments and paid over to the Commissioner. (Copies of proof of payment will be provided to the contractor) **See Section 89(1) of the COID Act.**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Annexure 3A

OCCUPATIONAL HEALTH AND SAFETY ACT, 85 OF 1993

Medical Certificate of Fitness

CONSTRUCTION REGULATIONS, 2014

Name of Employee _____ ID Number _____ Co Number _____

* Occupation e.g General worker, Welder, Bricklayer, Steel fixer, Mobile crane operator, etc	* Possible Exposure e.g Noise, Heat, Fall risk, Confined spaces, etc	* Job Specific Requirements e.g Operating mobile crane, Digging trenches, Erecting formwork and support work etc	* Protective Clothing e.g Dust respirator, Welding gloves, etc

* The Employer to complete the information in the spaces marked with an * before sending the Employee for a medical examination Declaration by the Medical Examiner: I certify that I have, by examination and testing, using the above criteria specified by the employer, satisfied myself that the abovementioned employee is fit to perform the duties as described by the employer in the matrix above.

Occupational Medicine Practitioner / Occupational Health Nursing Practitioner:

Signature _____ Practice Number _____ Date _____

Address _____

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

AGREEMENT WITH MANDATORY In terms of Section 37 (1) and (2)

Section 37 (1)

Whenever an employee does or omits to do any act which it would be an offence in terms of this Act for the employer of such employee or a user to do or omit to do, then unless it is proved that -

- (a) in doing or omitting to do that act the employee was acting without the connivance or permission of the employer or any such user;
- (b) it was not under any condition or in any circumstance within the scope of the authority of the employee to do or omit to do an act, whether lawful or unlawful, of the character of the act or omission charged; and
- (c) all reasonable steps were taken by the employer or any such user to prevent any act or omission of the kind in question,

the employer or any such user himself shall be presumed to have done or omitted to do that act, and shall be liable to be convicted and sentenced in respect thereof; and the fact that he issued instructions forbidding any act or omission of the kind in question shall not, in itself, be accepted as sufficient proof that he took all reasonable steps to prevent the act or omission.

Section 37 (2)

The provisions of subsection (1) shall "*mutatis mutandis*" apply in the case of a mandatory of any employer or user, except if the parties have agreed in writing to the arrangements and procedures between them to ensure compliance by the mandatory with the provisions of the Act.

I, (Responsible person) for, (Company) appoint, (Contractor) at the following premises / site:

Period:

AUTHORISED SIGNATORY FOR THE COMPANY (CLIENT)

Signature	Designation	Date

ACCEPTANCE SIGNATORY FOR THE CONTRACTOR

I, hereby acknowledge receipt of and accept and understand the requirements of this agreement and shall ensure compliance with the OHS Act 85, of 1993.

Signature	Designation	Date

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

BASELINE RISK ASSESSMENT

RISK AND ASSURANCE STANDARD RISK MATRIX		Hazard Effect / Consequence				
Loss Type		1 Insignificant	2 Minor	3 Moderate	4 Major	5 Catastrophic
Timeline		No impact on overall project timeline	May result in overall project timeline overrun of less than 5%	May result in overall project timeline overrun of between 5% and less than 20%	May result in overall project timeline overrun of between 20% and less than 50%	May result in overall project timeline overrun of 50% or more
Budget		No impact on the budget of the project	May result in overall project budget overrun of less than 5%	May result in overall project budget overrun of between 5% and less than 20%	May result in overall project budget overrun of between 20% and less than 50%	May result in overall project budget overrun of 50% or more
Investment Return – NPV loss		Less than R25 000	R25 000 to less than R100 000	R100 000 to less than R1 000 000	R1 000 000 to R10 000 000	R10 000 000 or more
Quality		No impact on quality	Minimal quality issues that can be addressed in a short timeframe with minimal interactions	Some quality issues that requires immediate management action	Significant quality issues that requires senior project management interaction	Significant quality issues that requires sponsorship intervention with significant resource and cost implications for rework
Safety / Health		First aid case / Exposure to minor health risk	Medical treatment case / Exposure to major health risk	Lost time injury / Reversible impact on health	Single fatality or loss of quality of life / Irreversible impact on health	Multiple fatalities / Impact on health ultimately fatal
Environment		Minimal environmental harm – L1 incident	Material environmental harm – L2 incident remediable short term	Serious environmental harm – L2 incident remediable within LOM	Major environmental harm – L2 incident remediable post LOM	Extreme environmental harm – L3 incident irreversible
Legal & Regulatory		No legal impact	Minor legal concerns with minor impact	Some legal concerns with manageable level of impact	Serious legal concerns and significant impact on operations	Legal noncompliance with risk of shutdown of operations with significant cost impacts
Likelihood		Risk Rating				
5 Almost Certain	The unwanted event has occurred frequently; has a 90% and higher probability of reoccurring	Medium (11)	Significant (16)	Significant (20)	High (23)	High (25)
4 Likely	The unwanted event has a probability of between 60% and less than 90% of occurring	Medium (7)	Medium (12)	Significant (17)	High (21)	High (24)
3 Possible	The unwanted event has a probability of between 30% and less than 60% of occurring	Low (4)	Medium (8)	Significant (13)	Significant (18)	High (22)
2 Unlikely	The unwanted event has a probability of between 1% and less than 30% of occurring	Low (2)	Low (5)	Medium (9)	Significant (14)	Significant (19)
1 Rare	The unwanted event has never occurred, has a probability of less than 1% of occurring	Low (1)	Low (3)	Medium (6)	Medium (10)	Significant (15)

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

CONSTRUCTION OF RATHOKE BUS- ROUTE

Activity Description:	BASELINE RISK ASSESSMENT				Project No:	EPML/8/3/544	
Assessment Team:			Assessment Date:			Review Date:	

Task #	Task Description	Hazards / Aspects / Failures	Potential Risks / Impacts	SHEQ Category	Likelihood	Consequence	Raw Risk Rating	Mitigation / Control Measures	SHEQ Category	Likelihood	Consequence	Residual Risk Rating	Resp Person
1	Induction and training	- Injuries due to employees not aware of dangers in work area - Long hours of induction. - Use of unfamiliar language. - Imcompetent trainer/facilitator. - Issueing Incorrect PPE afterwards. - Employment of underaged employees.	Injury Disability Property damage	S&H BI/AD L&R	4	4	21(H)	- Inductions- Employees to be informed to all hazards in the work area as well as the recommended precautionary measures - Site specific induction to be conducted to all employees, sub-contractors and visitor's - Employees to be trained on all tools and equipment. - Ensuring that all the employees understood the training including questionnaires raised. - Ensure all employees get the correct PPE. - The contractor to hire people that are legal to work in terms of age.	S&H BI/AD L&R	2	3	9(M)	Safety Officer Site Agent General Foreman
2	Site establishment	- Fence erection. - Exposure to hazardous materials.	Injury, disease, Property damage,	S&H BI/AD L&R	4	2	12 (H)	Management to ensure site layout be approved by relevant engineer to consider site traffic, plant movement and other	S&H BI/AD L&R	1	3	8 (M)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

		- Exposure to moving machinery and vehicles. - Exposure to exhistig services. - Office building building and istallation of ventillations. - Installation of electrical connections. - Clearing of site						- interfacing contractor site layouts. - Ensure that proper PPE is provided. - Ensure that Plants used for clearing are inspected and well serviced. - Contractor to ensure that competent persons are hired for isntallations.					
3	Environmental control	Environmental risks	Environmental	EN	1	3	6(M)	- Ensure all waste areas controlling hazardous waste is kept clear - Ensure area housing hazardous waste is bunded to prevent run-off and absorption into the ground water systems - Ensure the area is well demarcated and screened off - Ensure that waste is disposed legally with an appointment letter from legal appointee. - Ensure all spills are reported immediately - Ensure drip trays are used when the risk to spillage is high - Ensure the waste storage area has sufficient capacity - Ensure that all loose materials are covered and tied down to prevent wind picking	EN	1	2	3(L)	Environmental officer

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

								the loose items out of the storage area or facility • Ensure storage areas and facilities are kept neat and tidy at all times • Ensure these areas are cleared regularly of waste material • Ensure all hazardous waste is removed to an approved dumping site/facility • Ensure correct colour coded waste bin for the discarding of waste					
4	Access/egress to site & correct placing of units	Restricted/unsafe access & parking of vehicles and plant	Injury Property damage	S&H BI/AD L&R	5	2	16(S)	• Management to ensure site layout approved by client to consider site traffic, plant movement and other interfacing contractor site layouts	S&H BI/AD L&R	1	4	10 (M)	Site Agent General Foreman
5	Create access through berm using TLB	Substandard plant	Injury Property damage Production loss	S&H BI L&R	3	4	14 (M)	• Only certified and approved operator to be used. • Plant pre-inspection checklist to be completed • Tool box talk and risk assessment training before work commences • Work area to be barricaded and flag man to control people and plant movement	S&H BI L&R	1	4	4(L)	Site Agent General Foreman
6	Truck onto site and lay down area	• Reckless driving • Uncertified driver • Substandard truck Conditions	Injury Fatality Property damage	S&H BI/AD L&R	3	5	15 (H)	• Ensure drivers are qualified and competent. • Ensure drivers are informed of route and site traffic requirements	S&H BI/AD L&R	2	4	10 (M)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

								- Vehicle to be approved and licensed to enter site - Ensure that the plant is serviced on intervals and by competent and certified personnel.					
7	Pedestrian access to site Construction plant access to site.	- Unsafe pedestrian access (Walkway) - Plants that are not road worthy - Incompetent drivers or operators.	Injury Property damage Production loss	S&H BI L&R	4	4	16(H)	- Safe demarcated walkway to be conducted - Walkway to be barricaded with snow netting - Pedestrian crossings to be conducted and utilised. - Pedestrian and plants access must be separated. - Vehicle and plant signages must be made available. - Monitoring of site. - Appointment of qualified security service provider.	S&H BI L&R	1	4	4(L)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

8	Offloading and positioning of containers/offices (mobile crane)	- Equipment failure - Load falling - Rigger (falling) - Load striking employees - Load striking other containers - Load swinging	Injury Property damage Production loss Fatality	S&H BI L&R	4	5	20 (H)	- Management (supervisor) to ensure that only certified and approved operator, crane and lifting tackle to be used. - All lifting equipment to be inspected and registered - Plant pre-inspection checklist to be completed - Operator and rigger to attend tool box talk and risk assessment training before work commences - Supervisor and rigger to ensure correct lifting tackle and attaching method/procedures applied - Qualified and competent rigger allocated to specific crane (one on one communication) - Rigger to wear safety harness and tie-off at all times. - Step ladder must be used for access to top of container - If working on top of load the rigger must then be hooked on the crane or on a life line - Area to be barricaded off during lifting activities to prevent unauthorised entry - Two guide ropes to be used on load to	S&H BI L&R	1	4	4 (L)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

								- ensure stable movement - No lifting during high winds or inclement weather - Heavy equipment must be identified and a rigging study to be in place - Swing radius must be identified to ensure that the load can be of loaded in a safe manner - Stay out of the swing radius of the crane - Ensure there are barrier guards showing swing radius - A boom angle indicator must be on the crane					
9	Erecting safety and security fencing	Employees Fencing material (Wire and poles) Tools (Tensioners and pliers) Theft (Unauthorised entry) Hi-hub Crane truck Unfenced borrow pits	Injury Disability, Production loss, Property damage, animal loss	S&H BI/AD L&R	2	4	8(M)	- Ensure outriggers are in full extended position and on firm and stable ground using spreader boards - Crane may not travel with outriggers in extended position - Trained and competent workers to be used under supervision for fence erecting	S&H BI/AD L&R	1	2	2(L)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

								- No borrow pit will be excavated prior fencing together with an access gate. - Only approved and correct hand tools for the job may be used - No homemade or modified tools allowed on site - Tools to be inspected before commencing of work - Security guard will be appointed to provide security and access controll. - Labelled tools or plants.					
10	Installation of safety signs and notice boards	Un-informed employees Inadequate signage Incorrect signage	Injury Property damage	S&H BI/AD L&R	2	2	4 (L)	- Legal required signage must be displayed to be clearly visible at all times. - All required signage to be available - Informative, prohibitive, mandatory and emergency signs - Signage change and applicability should be maintained	S&H BI/AD L&R	1	1	2(L)	Site Agent General Foreman
11	Emergency preparedness	Fire fighting equipment Insufficient no's	Injury Property damage Production loss	S&H BI/AD L&R	2	3	6(M)	- Fire fighting equipment must be placed in accordance to survey conducted during site establishment - Identification and signage must be clear and visible - All relevant equipment to be inspected and on register	S&H BI/AD L&R	1	4	4 (L)	Site Agent General Foreman Safety Officer
12	First aid	Inadequate medical assistance	Dieases, disability	S&H BI	2	4	8 (M)	First aid boxes to be available at each	S&H BI	1	3	3(L)	Safety Officer First Aider

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

		Untreated injuries		L&R				work area clearly identified, signage installed and qualified first aider identified	L&R				
13	Facilities	Hygiene Insufficient no Waste Eating area Drinking water	Hygiene Environmental Poor hygiene Illnesses and ailments Water contaminated	S&H BI L&R	2	2	4(L)	- Separate toilets for both genders must be available and clearly identified - Ration 1 to 20 and to be cleaned 3 times a week - Separate waste bins for different waste categories to be available and identified - Waste disposal plan and schedule must be maintained - Skips must have lids - Adequate, clean and shaded eating area to be ensured - Facilities to be ensured from start of site establishment - Clean drinking water must be available - Signage to be installed to all drinking and non drinking water	S&H BI L&R	1	2	2(L)	Safety Officer Site Agent
14	Power supply and electricity to office area	Generator	Injury	S&H	4	4	16 (H)	- DB board must stand on firm level base and should be locked at all times - DB board to be inspected and approved by qualified electrician	S&H	2	4	8 (M)	Site Agent General Foreman
		Electrical cables	Injury Electrocution	S&H BI	3	4	12 (H)	All cables to be routed underground	S&H BI	2	4	8 (M)	Site Agent General

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

				L&R				Only qualified electrician to do installation and termination	L&R				Foreman
15	Refuelling Tank	Environmental spillage	Soil contamination Fire risk	S&H EN	3	3	12 (H)	- Bunding or drip tray to be utilised - Spill kit to be available at all times - MSDS available at generator - Fire extinguisher and relevant required signage to be installed (no smoking, no open flames and hearing protection) - Boundry wall to be available.	S&H EN	1	3	3 (L)	Site Agent General Foreman Environmental officer
16	Lay down area Stacking and storage	Inadequate space	Injury	S&H BI L&R	3	3	12 (H)	Lay down area must be well planned to ensure adequate space	S&H BI L&R	1	3	3 (L)	Site Agent General Foreman
		Poor stack/storage practices	Property damage	S&H BI L&R	2	5	10(H)	- Safe stacking and storing practices/procedures must be maintained - Access and off-loading space must be a priority - Area to be barricaded - Flammable material not to be stacked together.	S&H BI L&R	1	3	3 (L)	Site Agent General Foreman
		Dunnage	Injury Property damage	S&H BI L&R	3	3	9 (M)	Timber poles (Dunnage) to be used for stacking material	S&H BI L&R	1	3	3 (L)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

17	Loading and off-loading of truck with mobile crane	Unfit personnell on site Incorrect PPE Incompetent personnel Under the influences of alcohol and substances	Injury Fatality	S&H BI/AD L&R	4	4	16 (H)	• Insure all personnel are fit by means of medical clearance certificate • All personnel shall undergo all relative inductions, site inductions and risk assessment training • Daily DSTI plus toolbox talks to be conducted • Correct PPE to be worn for the right job or site requirements • Safety harnesses to be worn when working at heights and safety life lines to be erected when required • Safety harnesses will be issued per person and will be inspected and booked out accordingly • Supervisor to ensure personnel is competent for the task at hand with competency/qualifications certificates • All competency certificates to be kept in the safety officer office • All appointments to be up to date • Crane operator must be licence by an authorised training institution • Only competent rigger to do lifting operations • No employee to work when under the influence of drugs or alcohol	S&H BI/AD L&R	1	4	4 (L)	Site Agent General Foreman Banksman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

								Random alcohol test will be conducted					
18	Approval of mobile crane	Non compliance No crane certification	Injury Fatality	S&H BI/AD L&R	3	4	12 (H)	- All cranes to be checked and tested by an testing station - All cranes shall be finally inspected and passed by project vehicle inspector - The crans shall have an up to date and valid load test certificate, rope test certificate, LMI calibration certificate and crane hook certificate - Full maintenance record of crane - Operator competence certificate - Crane pre-use checklist available and checklist completed daily	S&H BI/AD L&R	1	4	4 (L)	Site Agent General Foreman Safety Officer
Employer Witness 1 Witness 2 Contractor Witness 1 Witness 2													

								Crane specification and load chart available in crane cab, understood and used by operator					
20	Establishing crane on site	- No set-up/traffic plan - Poor or unstable ground condition - Obstructions - Excavations - Power lines (arc flash/electrocution)	Injury Fatality	S&H BI/AD L&R	4	4	14(H)	- Site traffic plan/area establishment plan shall be available and be approved by site manager and Project construction manager - Training and awareness to be conducted - Crane to be escorted to set-up area - Barricade crane and work area - Supervisor and crane operator to do a pre-inspection of ground conditions - Check and verify that there is no unknown services - Supervisor/rigger to ensure area is free of any obstructions - Crane not to be established closer than 3 meters to any excavation to prevent possible side wall collapse - Do not work within 15 meters of any power line - Site manager to ensure a pre-plan	S&H BI/AD L&R	2	4	8(M)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

								- meeting and site inspection - Site specific traffic plan in place and approved by Projects construction manager - Permit to work near power lines.					
21	Select correct lifting equipment	Pinch points Lifting equipment failure	Injury Property damage	S&H BI/AD L&R	3	4	12 (H)	- Pre task assessment for correct lifting equipment above 5 ton – Rigging study - Wear correct PPE - Client representative can inspect tools and equipment and request tools to be replaced or repaired - Competent person/s shall be appointed for the responsibility of looking after equipment and tools must be inspected as required Hazard awareness briefings - Rigging study to be approved by construction manager and master rigger	S&H BI/AD L&R	2	3	6 (L)	Site Agent General Foreman
22	Hook up lifting equipment , crane and material to be lifted. Hoist up crane slowly to get equipment slack out	Pinch points	Injury	S&H BI/AD L&R	4	4	16 (H)	- Connect lifting equipment to correct procedures - All lifting equipment must have a load certificate inspection and must be updated and lock down in register - Keep hands clear once hooked up - Rigger to ensure all personnel are clear when hoisting, to get slack out	S&H BI/AD L&R	2	4	8 (M)	Site Agent General Foreman
23	Raise load slowly to	Equipment failure	Injury Fatality	S&H BI	3	5	15 (H)	Use correct and certified equipment	S&H BI	2	4	8 (M)	Site Agent General

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

	check load stability and centre of gravity		Disability Property damage	L&R				• Work within crane and lifting equipment specification • Rigger only personnel to communicate with crane operator by means of hand signals, radio communications and or whistles • Rigger to remove glove when giving hand signals • Do not exceed wind speed for elevated lifts • Rigger to ensure no person to be under a suspended load. • No personnel within the swing radius of the crane	L&R					Foreman
24	Raise load to desired height and slew to designated installation area Remove lifting equipment	Incorrect lifting practices Lifting equipment failure Crane toppling over	Injury Fatality Property damage Production loss	S&H BI L&R	3	4	12 (H)	• Work to lifting procedures/task analysis • Rigger to communicate with operator • Ensure sufficient guide ropes attached • Work to equipment specifications • Work within crane load chart specification • Work within wind regulations – 6m/s or analyse situation • Rigger to ensure he/she constant eye contact with crane operator or radio contact • Rigger to ensure no person to be under a suspended load	S&H BI L&R	2	3	6 (M)	Site Agent General Foreman	
25	Weather conditions	Lightning/wind Storms and thunder storms	Injury Fatality	S&H BI/AD L&R	2	4	14 (H)	• Work within wind regulation – 6m/or analyse situation	S&H BI/AD L&R	1	4	4 (L)	Site Agent General Foreman	

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

								• Stop task and call manager or rigger for assistance if in doubt ask crane operator • Do not work in thunderstorms and lightning • No work to be conducted on elevated positions when raining • If possible when load is suspended lower the load to ground level • Do not work with any steel/lifting of any steel when raining					
26	Truck arrived at site	Un informed operator Restricted access to loading area	Injury Property damage	S&H BI L&R	2	4	8 (M)	• Supervisor to inspect driver's public licence and condition of truck by means of an checklist. • Truck maintenance/service record to be with driver of truck • Driver to be send back if condition are not complied with • Supervisor to escort trucks to lie-down area • Communication with truck and crane operator • Area to be identified and barricaded • If delivery truck from a supplier come to site they need to complete the proforma checklist at the warehouse and manager to sign off.	S&H BI L&R	1	4	4 (L)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

		Truck operator under influence of alcohol and substances	Injury Property damage	S&H BI L&R	3	4	12 (H)	- Randomly drug and alcohol test to be conducted - All truck drivers compulsory to do alcohol test prior of enter site area	S&H BI L&R	2	3	6(M)	Site Agent General Foreman
		Load not secure	Property damage	S&H BI L&R	3	3	9(M)	- Suppliers must be notified before hand that supplier is not allowed on site. - If delivery truck from an supplier come to site and complete proforma checklist at warehouse and their manager must sign - Signed form accompany with truck to site - Delivery truck to be inspected for secure load before entry on site.	S&H BI L&R	1	2	2(L)	Site Agent General Foreman
		Not in position of stop blocks and PPE	Injury	S&H BI L&R	2	2	4(L)	- Spare stop blocks to be provided or operator remain in truck. - Engine to be stopped engage park brakes and stay seated to take action if track comes in motion - Operator not allowed exiting truck without correct PPE	S&H BI L&R	1	1	1 (L)	Site Agent General Foreman
		Incorrect parking on site	Injury Property damage	S&H BI L&R	3	3	9 (M)	- Supervisor to plan off load area before trucks arrived - Supervisor to eliminate that roads been close for other users - Barricade area off	S&H BI L&R	1	2	2(M)	Site Agent General Foreman
27	Climbing on to truck to connect lifting equipment	Falling from truck	Injury	S&H BI L&R	3	4	12 (H)	Personnel must take tripping hazard in consideration and not walk on the edge of truck load bed	S&H BI L&R	2	3	6 (M)	Site Agent General Foreman Banksman/Slinger

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

								- Ensure 3 point contact when climbing on and off the truck - Ladder to be used when ascending or descending truck - Workers to wear safety harness attached to life line if working height exceeds 18m; lineyard on harness not exceeds 1 meter					
		Caught between	Injury	S&H BI L&R	2	3	6{M}	- Ensure loads are stable when offloading - Workers to ensure proper footing and keep their feet out from line of fire	S&H BI L&R	1	2	2{L}	Site Agent General Foreman
		Cuts and brazes	Injury	S&H BI L&R	1	2	2{L}	- Ensure all material is free from sharp edges and protruding objects - Gloves and safety boots to be worn	S&H BI L&R	1	1	1 (L)	Site Agent General Foreman
28	Traffic Accomodation	Failure to inform members of the public about project thru PSC and CLO Non/incorrect placing of signage signage	Injury Fatality Disability Property damage due to traffic accidents	S&H BI L&R	3	4	12{H}	- Discuss Traffic Plan with PSC and CLO and inform members of the public including employees - Placement of correct signage - Pre use inspection prior of use - No damage equipment to be used - Informing members of the public of construction activities thru CLO	S&H BI L&R	1	5	5 (M)	Site Agent General Foreman
29	Identifying and Exposing of existing services Hand	Unsafe conditions unstable ground, incorrect identification Hand tools	Damage to services and disruption to existing services Production loss	S&H BI L&R	2	2	5 44 (L)	- Pre-checks on hand tools - Discuss DSTI with employees - Identify and expose	S&H BI L&R S&H BI L&R	1	2	3 (L)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

	excavations Setting out points (Survey)	Incorrect setting out points (Demarcation)	Loss of production Injury to employees					services Pre-checks on hand tools Warn others in close proximity when excavating using hand tools Barricade all excavations Management, surveyor and supervisor must ensure that SOP's are in accordance with approved and accepted drawings and survey results					
30	Barricading of work area	Uncontrolled movement	Injury Disability Fatality Property damage Production loss	S&H BI L&R	2	2	5 (L)	- All excavation areas will be barricaded with solid barricading from before excavations start until after backfilling is completed - Excavation to be numbered and put on register - Daily pre-work check list to be completed and permit obtained by appointed supervisor - Signage for barricading to be installed at access to excavation	S&H BI L&R	1	2	3(L)	Site Agent General Foreman
31	Excavation with Excavator Handling and storage of excess spoil	Man and machine interface Failure of equipment Property damage Excess spoil (Rocks, stone boulders etc.) Plant lock out	Injury Fatal Property damage	HS	3	5	15H	- Discuss traffic management plan - Pre-use inspection of plant daily before use - Operator and supervisor to inspect site before actual works - Excess spoil will be removed from excavation work area with tipper	S&H BI L&R	1	4	4(M)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

								- Spoil remain in work site area for backfilling purposes will be stock piled in safe area - All spoil will be stored further than 2m way from excavation edges and outside barricading - Stock pile will not cause restriction to access/egress of work area					
32	Placing spoil	Excess material/spoil (Excavation sides collapsing)	Injury Fatality Property damage	S&H BI L&R	2	2	4(L)	- No excess spoil will be placed within 2m from excavation - All spoil material to be removed offsite to identified land fill - All excavation sides will be shored to prevent collapsing of materials - Spoil at edges will not exceed height of 2m and will be shored 1-2 at all times	S&H BI L&R	1	2	3(L)	Site Agent General Foreman
33	Access/egress to excavation	Poor or no access/egress at excavation	Injury	S&H BI L&R	2	2	5(L)	All excavation will be supplied with sufficient access/egress ladders for entry and exit, placed no further than 6m away from nearest workers and no further than 6m apart.	S&H BI L&R	1	2	3(L)	Site Agent General Foreman
34	Using of drilling machine Pre-use inspection Changing of drill bits	- Inspection not done and on register - Drilling machine not made safe	Injury Equipment damage	S&H BI L&R	3	3	9(M)	- Inspection to be done by competent person - User of drilling machine to be trained and found competent	S&H BI L&R	1	3	3 (L)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

		- Incorrect tools used - Incorrect bit fitted - Bit fitted wrong way - Damaged bit fitted						- Checklist to be signed off by competent appointed supervisor - Permanent lock switch not allowed					
								- Only trained and found competent employees to change drill bits on a drilling machine - To ensure drilling machine is unplugged - Equipment needs to be inspected prior entering site - Proper tool (Chuck key) to be use - Supervisor to ensure correct bit is provided and fitted - Bit to be inspected prior of fitment by competent and trained employee					
35	Use of drilling machine (drilling thru hard rock)	- Drilling machine used by incompetent employee - Noise - Dust - Bit coming off while working with drilling machine - Employee injured as a result of an electric shock	Injury Disability Fatality	S&H BI L&R	3	3	9(M)	- Only trained employees allowed to work with drilling machine - Ensure drilling machine not to be left unsupervised - Ear plugs to be worn when drilling - No loose clothing to be worn - Dust mask to be used - Correct PPE to be worn at all times - Employee to ensure drill bit is attached properly and secured with suck key - Drilling machine not to be used while standing in water	S&H BI L&R	1	3	3 (L)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

								- Drilling machine to be inspected before use - Faulty equipment to be removed from site - No drilling operations to be done during rain					
36	Use of mobile compressor	- Unauthorised persons using equipment - Operator not knowing where emergency stop button is - No inspection done prior of commencement of work - Leakage of diesel/petrol - Oil decomposition - Rotating parts - Cleaning of clothes and skin with compressed air	Fire risk Injury Fatality Property damage Injury	S&H BI L&R	3	4	12(H)	- Only authorised trained employees to use equipment - Supervisor to be present at all times - Supervisor to give employee on the job training as to the hazards and risk associated with the mobile Compressor and emergency preparedness - Only trained employees to use mobile Compressor - Inspection to be done daily by supervisor prior commencement of entering site. - Material safety data sheets must be on site and communicated to all employees by supervisor - Drip trays to be utilised	S&H BI L&R	2	3	6 (M)	Site Agent General Foreman

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

		- No information of hazardous substance signage - No fire extinguisher						- determine the quantity of flammable liquid kept on site - No open flames and no smoking symbolic signs to be displayed in the vicinity of flammable liquid store - All material safety data sheets (MSDS) to be available at all times - Liquid bulk storage tanks to be banded. - Each bund to be capable of containing the maximum volume of the tank +10% - Fire extinguisher to be in 10 meter radius.					
38	Borrowing of materials at the Quarry	- Working without conducting a risk assessment. - Without the supervision. - Defective and faulty construction plant and equipments. - No induction conducted. - No PPE worn - Live buried explosives under-ground quarry. - Uncontrolled access	Medical treatment cases Injuries/Fatality Damage to property Incidents/accidents lead by high speeding/no traffic compliance. Falling of rocks from tippers at the public road could lead to incidents/accident		4	4	16(H)	- Conducting site specific risk assessment - Appointment of Site Safety officer and supervisors. - Construction plant daily checklists - Conducting induction training awareness prior accessing the quarry - All employees shall be provided with task specific PPE - Ensure the risk assessment also tackles the possibility of live buried explosives. - Control access and register every one accessing.		1	5	5(M)	Site Agent Safety officer Traffic officer

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

EXTENDER

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

CONTRACT DRAWINGS

The following is a list of contract drawings (See drawing Book 2 of 2)

Item	Description	Drawing No
1.	Locality Map	MONT/EM/RDS/01/2025/RD01
2.	Road Plan and Long Section -Chainage 4990 -5990	MONT/EM/RDS/01/2025/RD01
3.	Road Cross Section -Sheet 1 of 4	MONT/EM/RDS/01/2025/RD02
4.	Road Cross Section -Sheet 2 of 4	MONT/EM/RDS/01/2025/RD02
5.	Road Cross Section -Sheet 3 of 4	MONT/EM/RDS/01/2025/RD02
6.	Road Cross Section -Sheet 4 of 4	MONT/EM/RDS/01/2025/RD02
7.	Road Typical Cross Section	MONT/EM/RDS/01/2025/TYP01
8.	Bridge Layout and Details	MONT/EM/STR/01/2025/RD01
9.	Bridge Reinforcement Details	MONT/EM/STR/01/2025/RD02
10.	Guardrails Elements and Mounting Details (1 of 2)	MONT/RDS/STD001
11.	Guardrails Elements and Mounting Details (2 of 2)	MONT/RDS/STD002
12.	Road Signs Typical Details	MONT/RDS/STD003
13.	Typical Details of Road Sign Supports	MONT/RDS/STD004
14.	Typical Road Marking Details	MONT/RDS/STD005
15.	Subsurface Drainage Details	MONT/RDS/STD006
16.	Surface Side Drainage Details	MONT/RDS/STD007
17.	Typical Open Chute Details	MONT/RDS/STD008
18.	Typical Kerb Inlet (Type A) Details	MONT/RDS/STD009
19.	Typical Kerb Inlet (Type B) Details	MONT/RDS/STD010
20.	Typical Depressed Inlet Details	MONT/RDS/STD011
21.	Typical Inlet and Outlets of Channel and Side Drain Details	MONT/RDS/STD012
22.	Typical Speed Hump Details	MONT/RDS/STD013
23.	Typical Bus/Taxi Stop Layout with Concrete Shelter	MONT/RDS/STD014

Employer

Witness 1

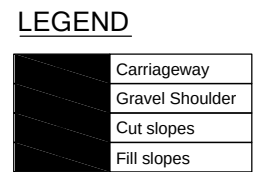
Witness 2

Contractor

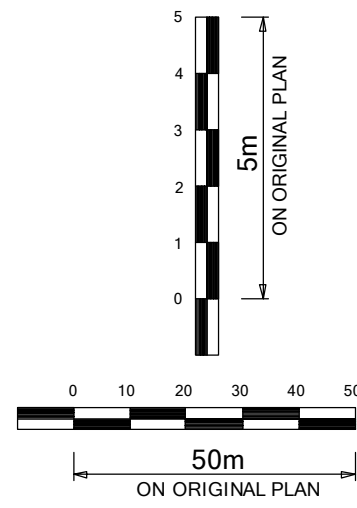
Witness 1

Witness 2

Road1				
Posito	SV	Y-Coord	X-Coord	Radius
BCC1	5037.30	-5947.96	2762098.48	1000.00
PI1	5075.57	-5940.69	2762060.89	
EC1	5113.94	-5936.31	2762022.86	
BCC2	5247.79	-5920.95	2761889.79	
PI2	5316.66	-5912.85	2761819.59	250.00
BCC3	5385.52	-5869.21	2761764.02	750.00
BCC3	5792.01	-5618.12	2761444.35	
PI3	5857.10	-5577.83	2761393.01	
EC3	5922.26	-5529.21	2761349.41	
Road2				
Posito	SV	Y-Coord	X-Coord	Radius
B0	3.31	-5511.08	2761328.71	0.00
PI1	26.37	-5525.36	2761310.60	30.00
EC1	37.62	-5532.68	2761301.33	
PI3	48.07	-5536.71	2761288.56	



DESIGN SPEED 60km/h
(Ch 4990 TO Ch 5990)



Chainage 4990 to 5990 - Horizontal Scale 1:1000 & Vertical Scale 1:100

DESIGNED BY	SZB RANGAN
CHECKED BY	PXA NDLOVU
DRAWN BY	TA MOSIA
CHECKED BY	TE MUVHANG



EPHRAIM MOGALE LOCAL MUNICIPALITY

Private Bag X 111
MARBLE HALL
0450

TEL: 013 - 261 8400
FAX: 013 - 261 2985



MONT COM
PO BOX 1249
FAUNA PARK
0787
TEL: 015 - 291 4173
FAX: 015 - 291 4218

MONT CONSULTING ENGINEERS



PROJECT	CONSTRUCTION OF RATHOKE BUS ROUTE
BID NO.:	EPMLM/8/3/544
TITLE	ROAD PLAN AND LONG SECTION
CHAINAGE	4990-5990

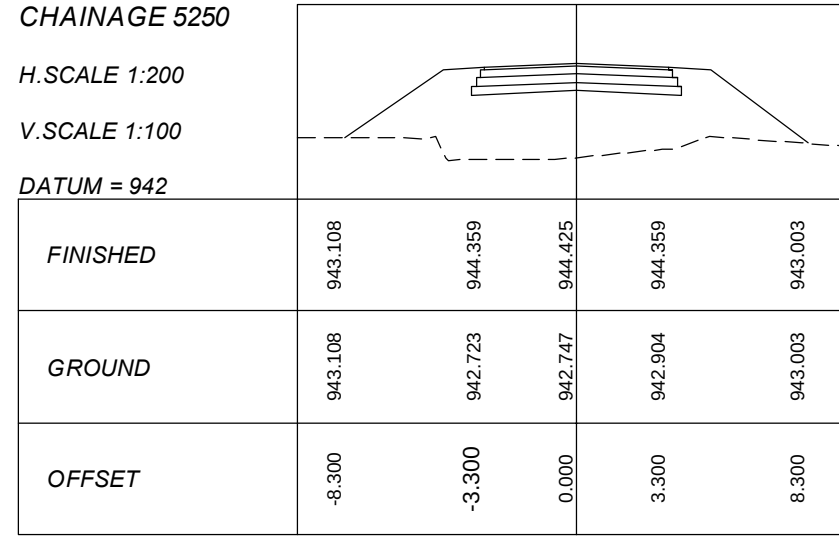
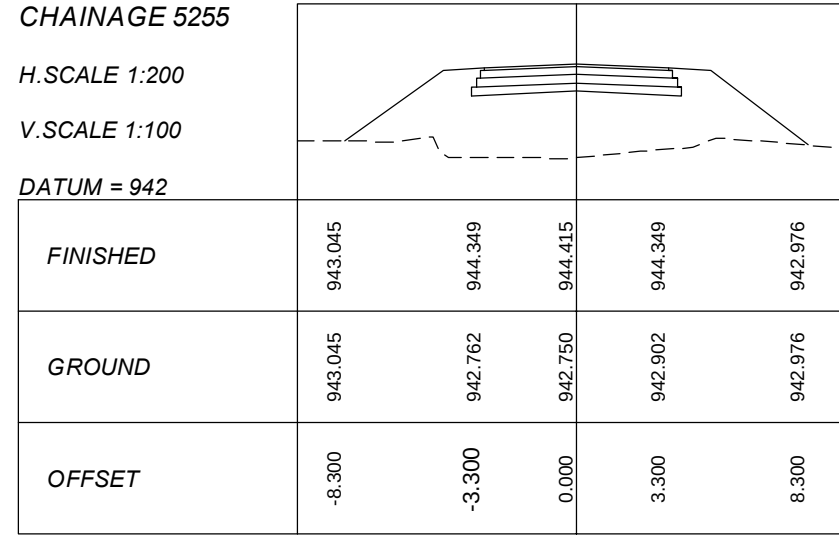
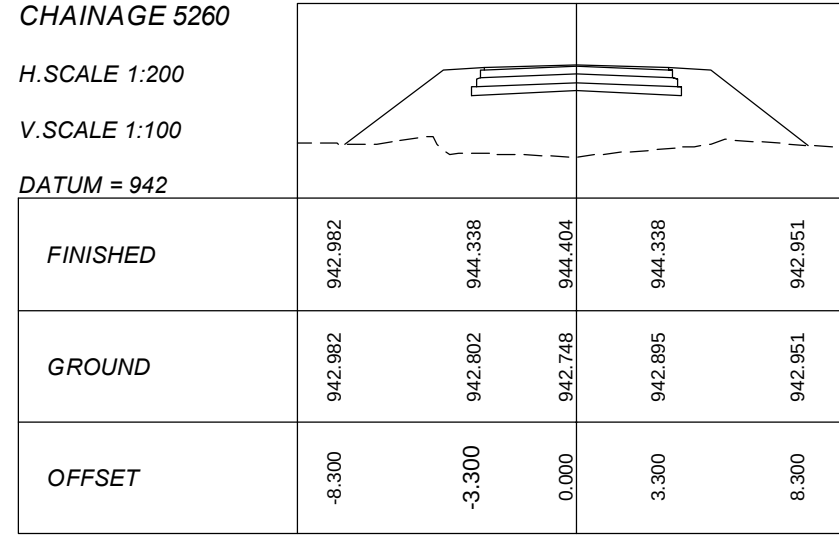
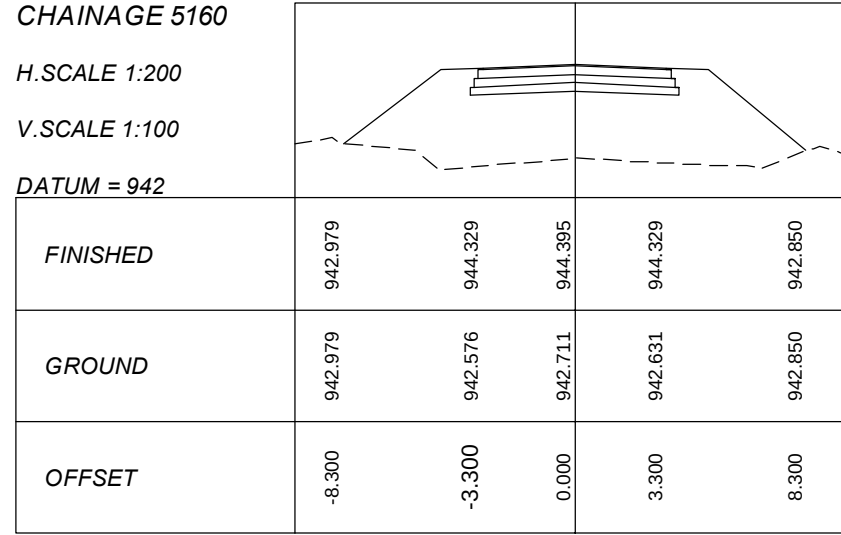
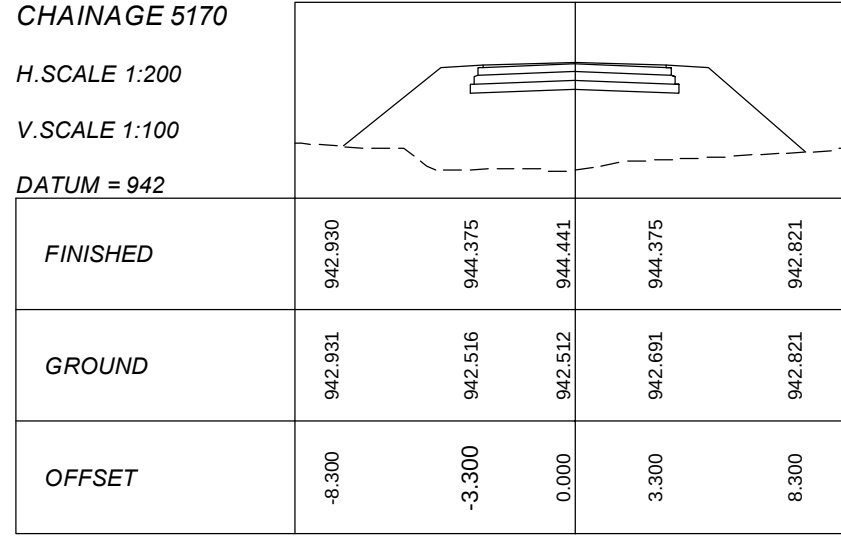
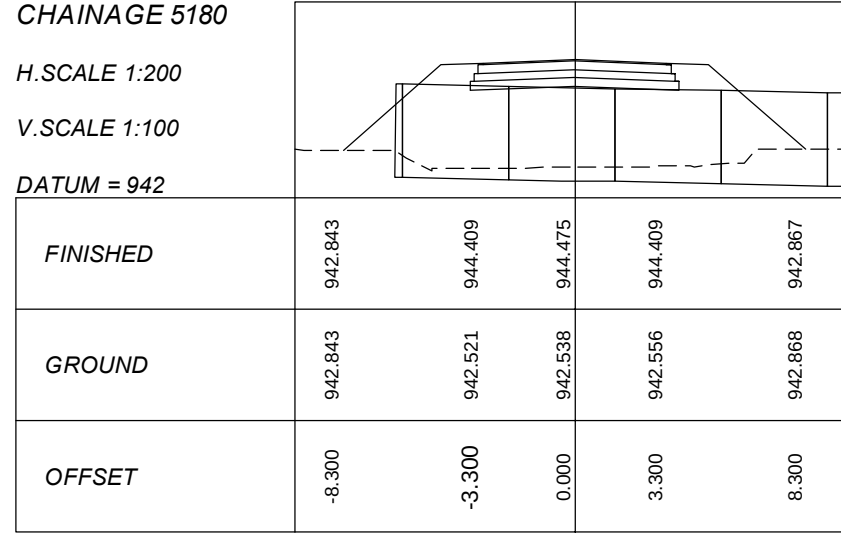
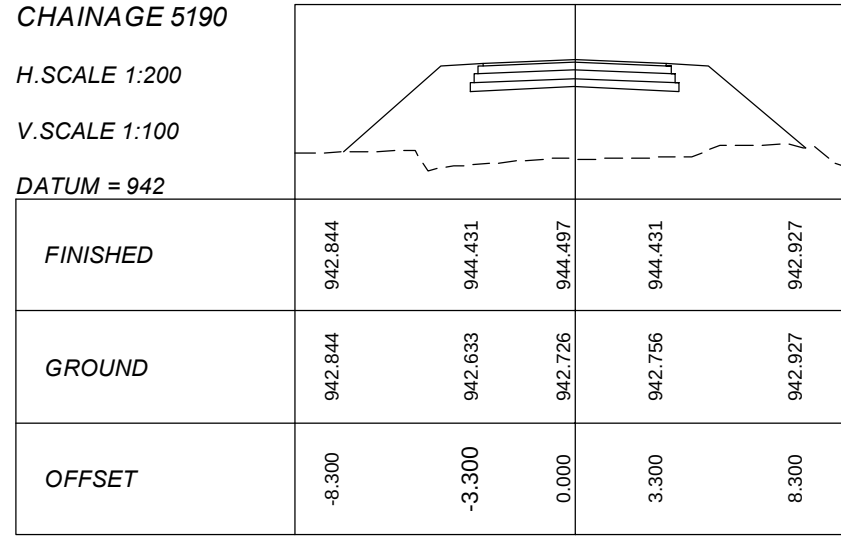
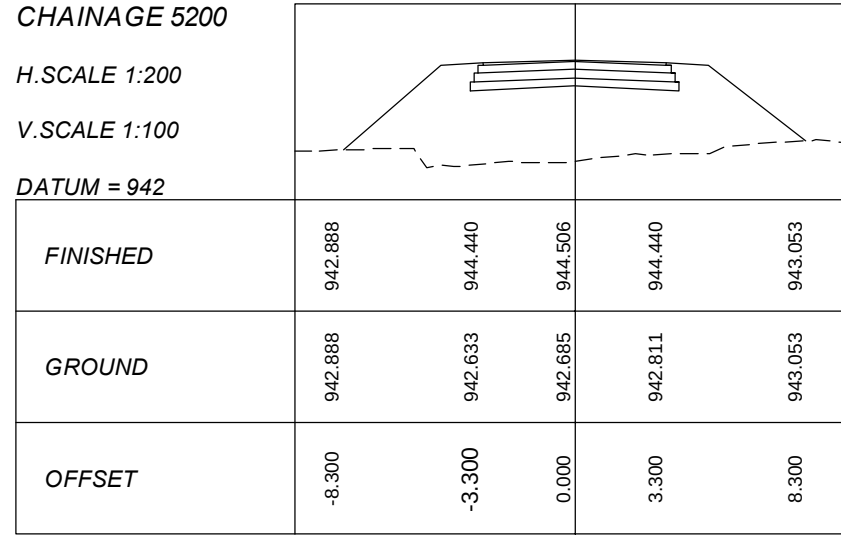
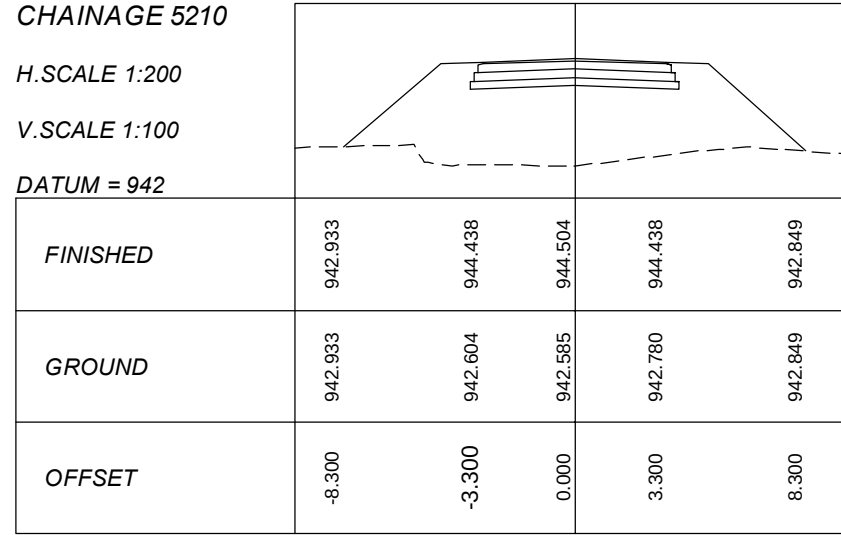
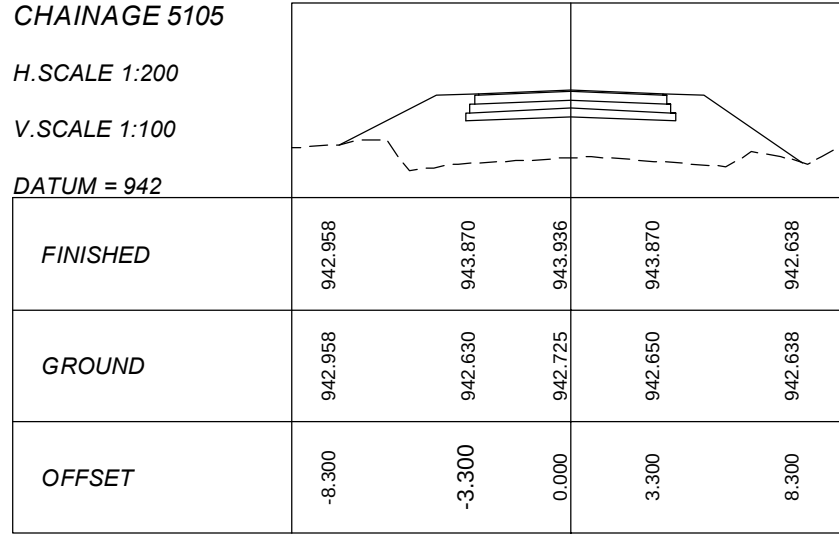
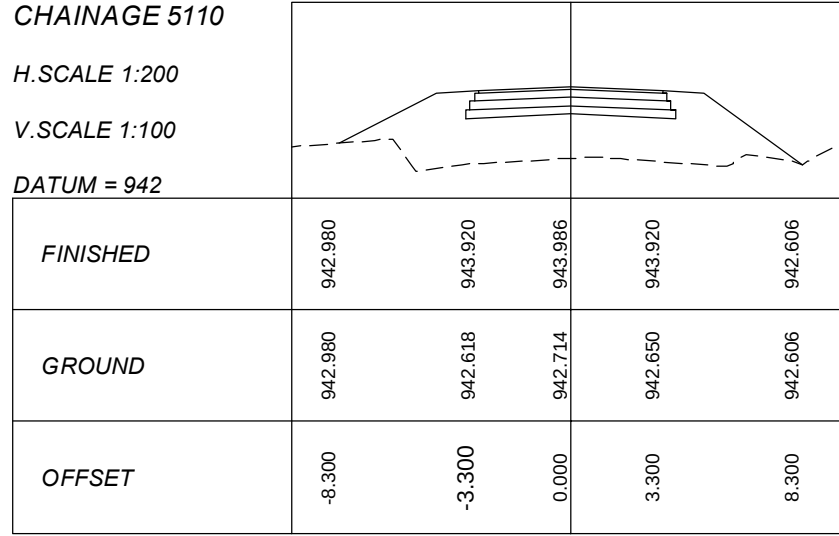
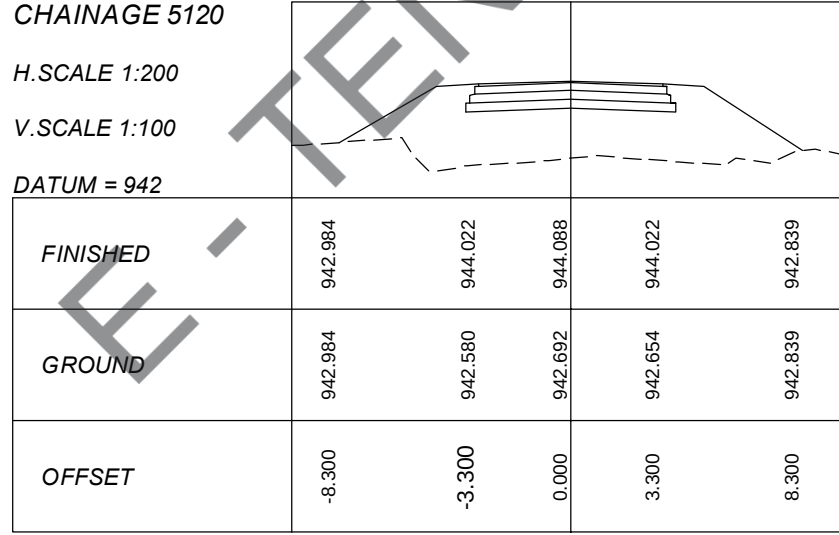
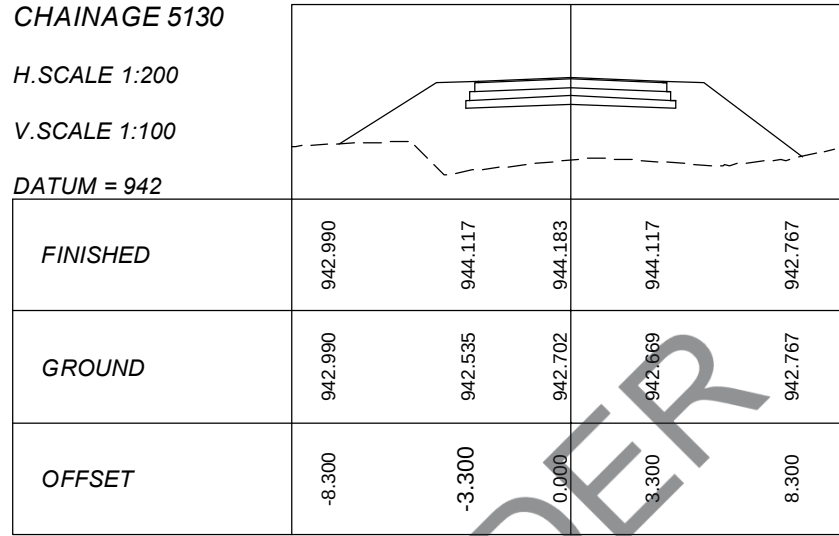
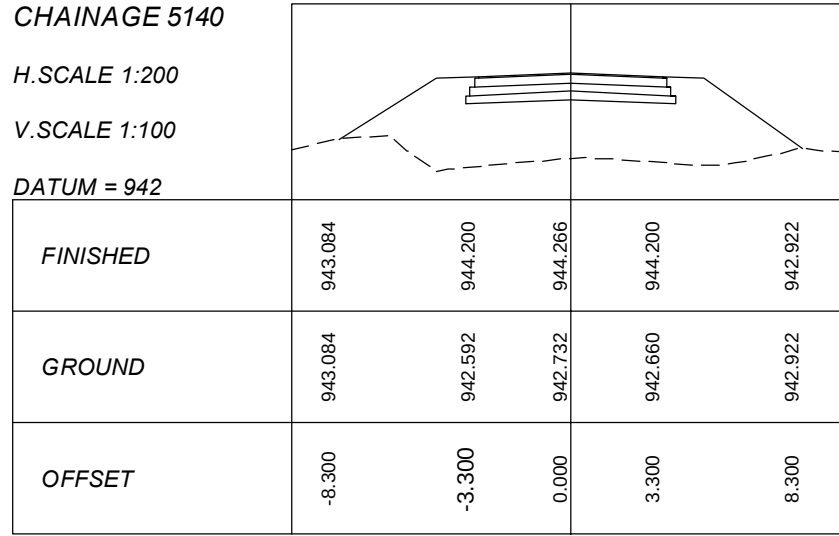
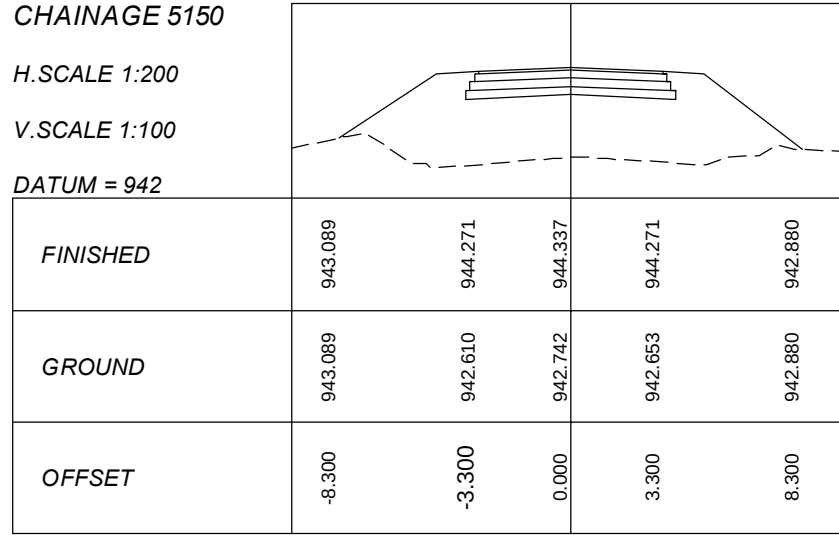
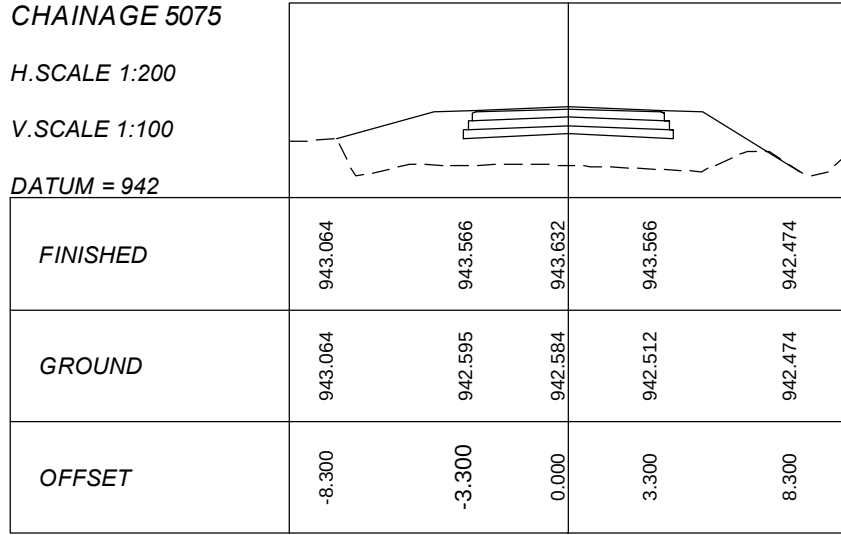
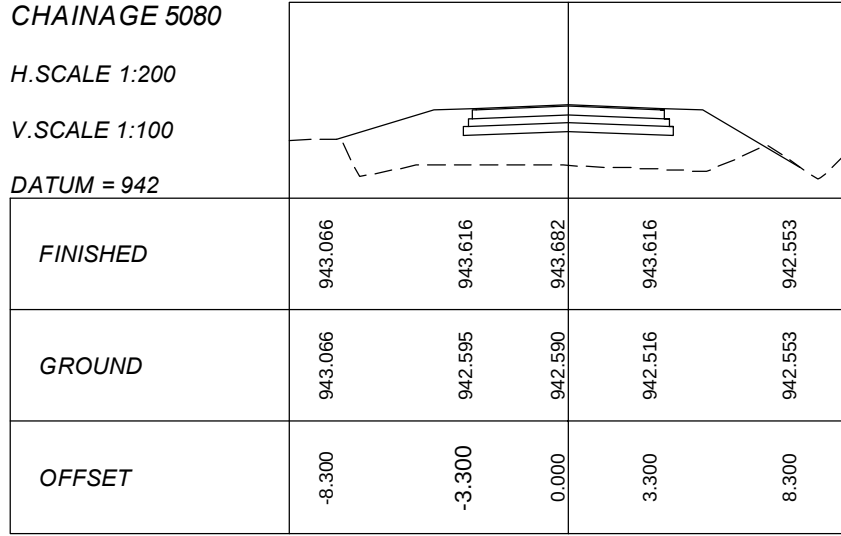
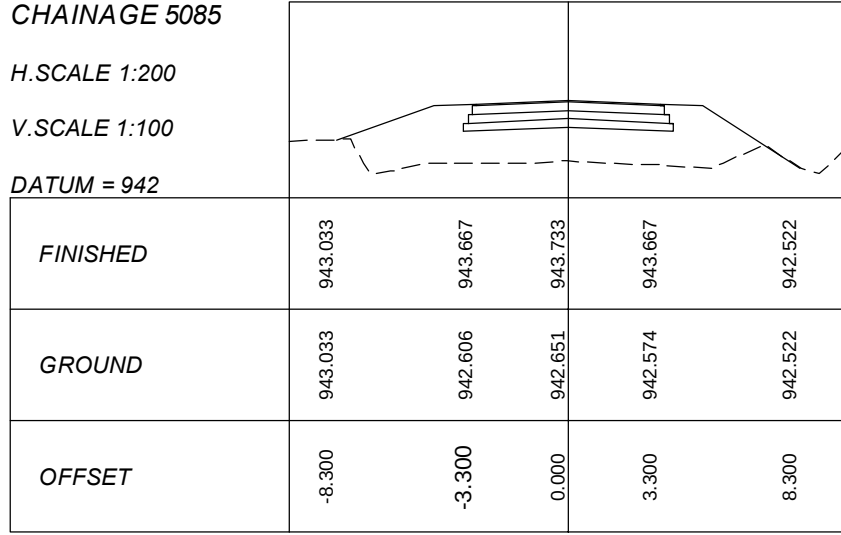
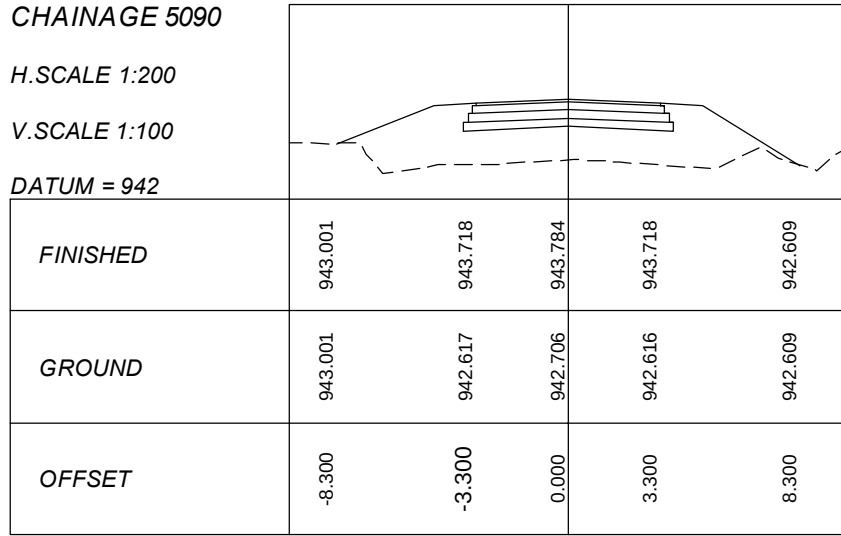
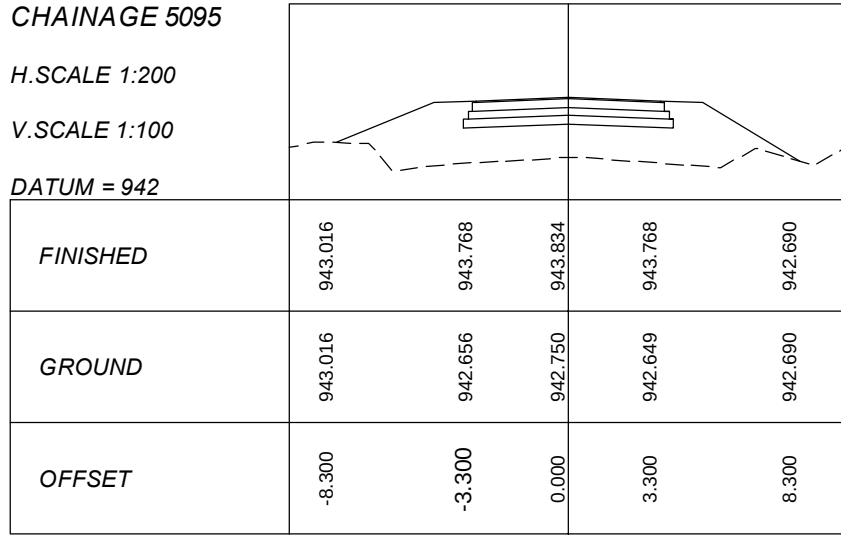
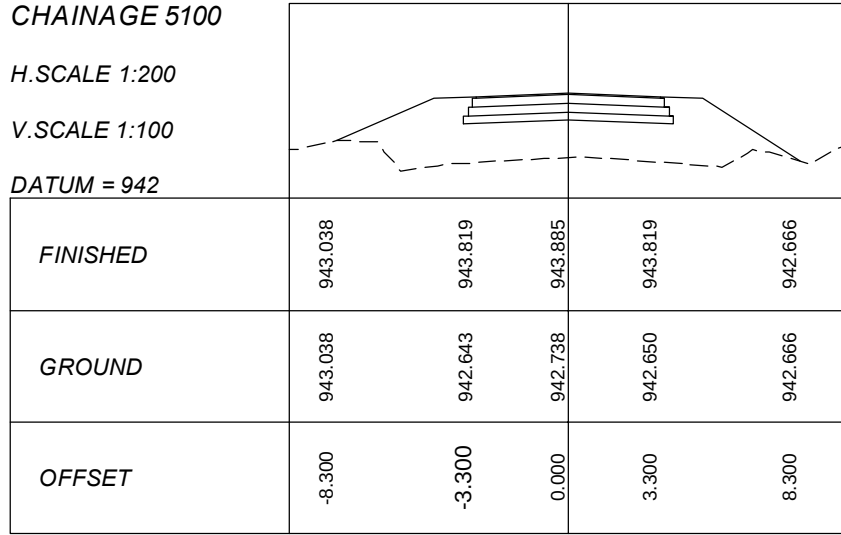
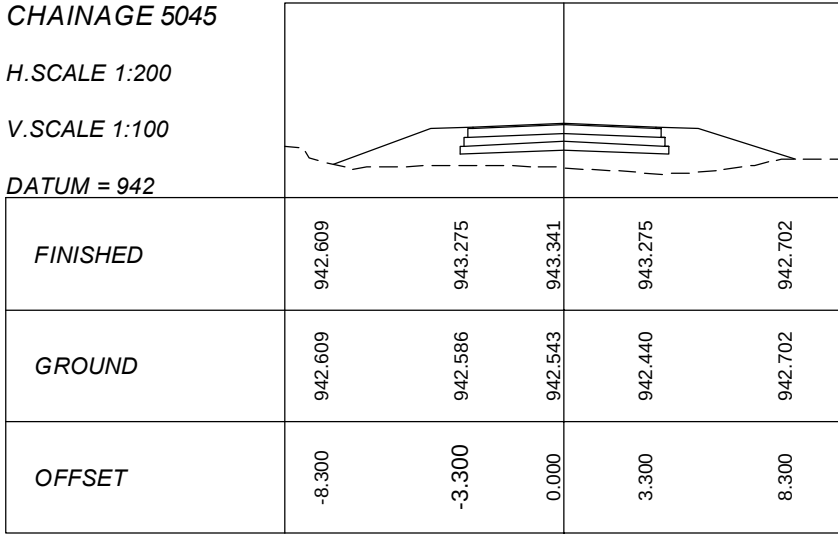
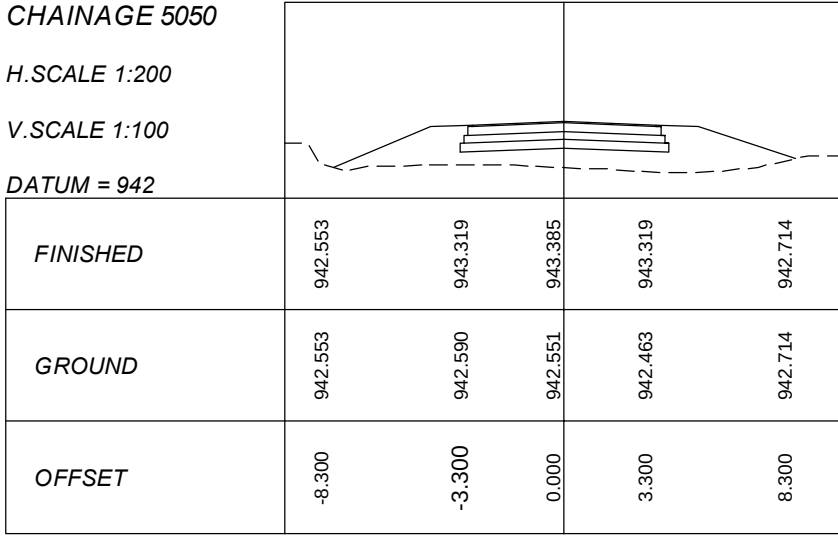
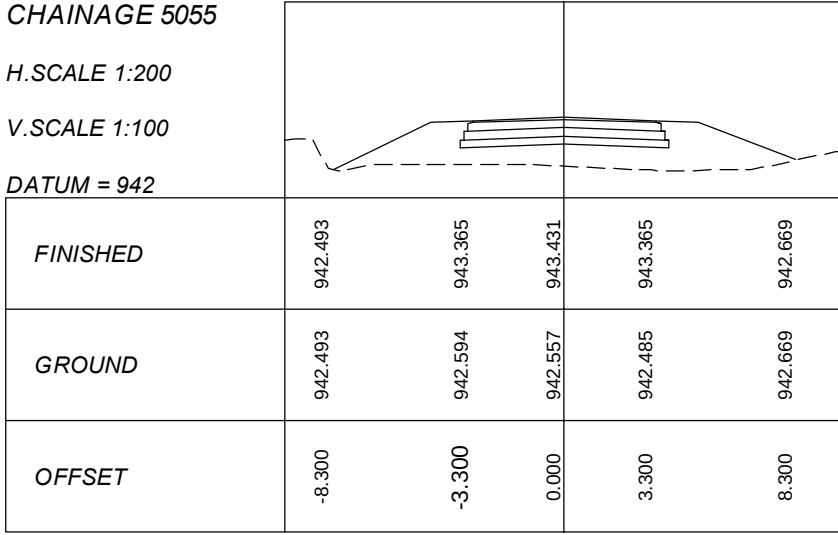
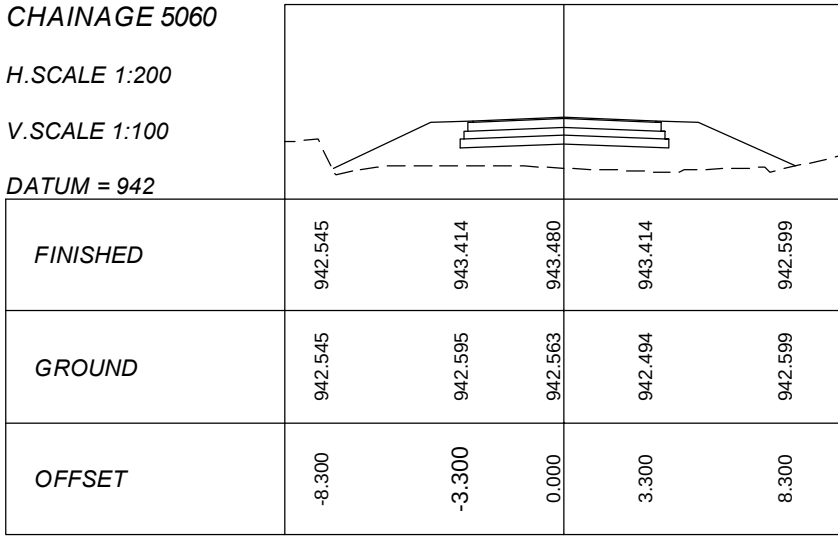
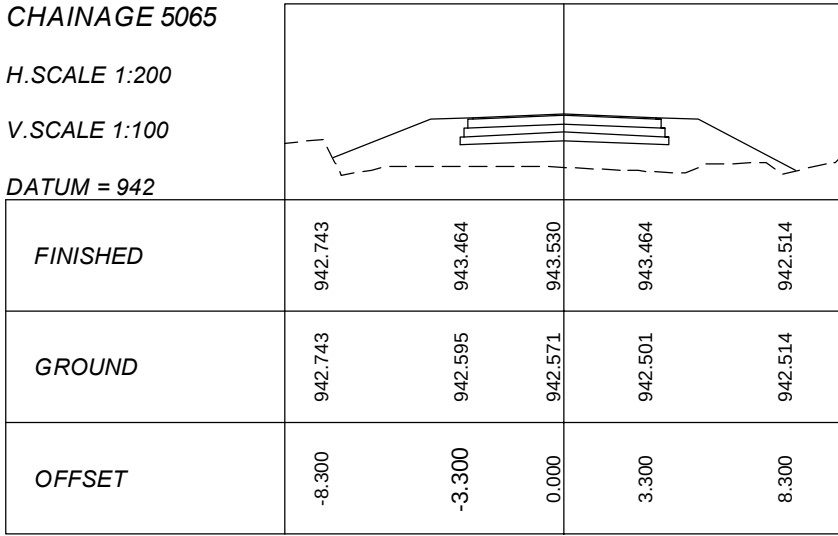
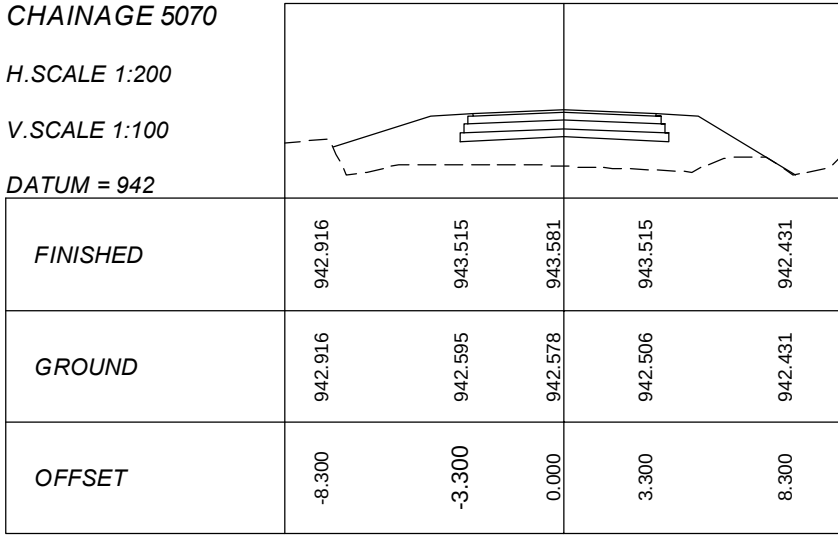
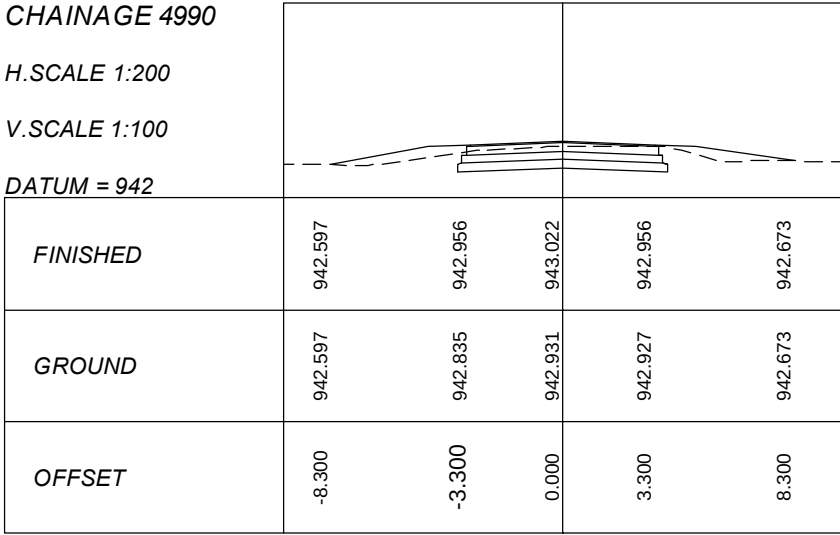
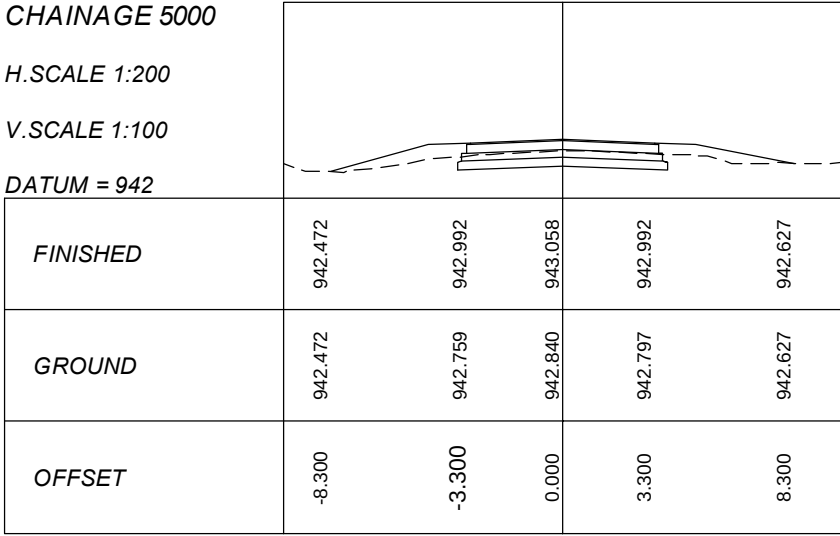
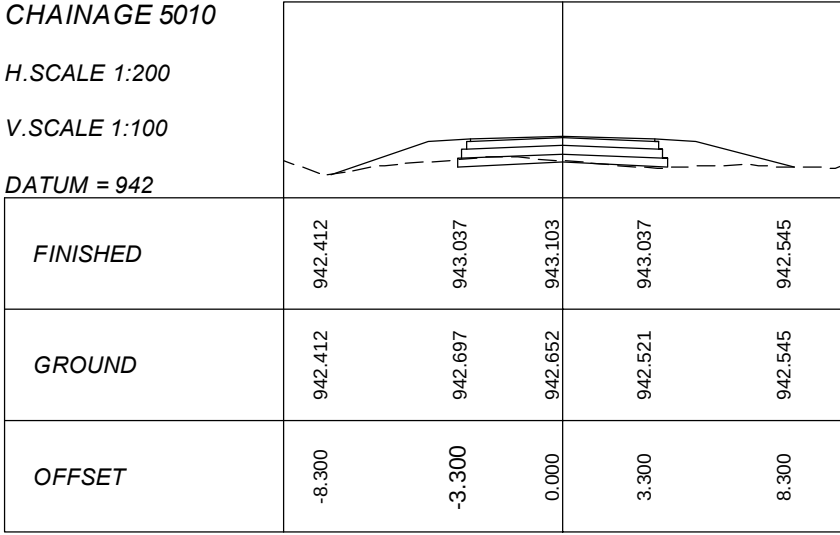
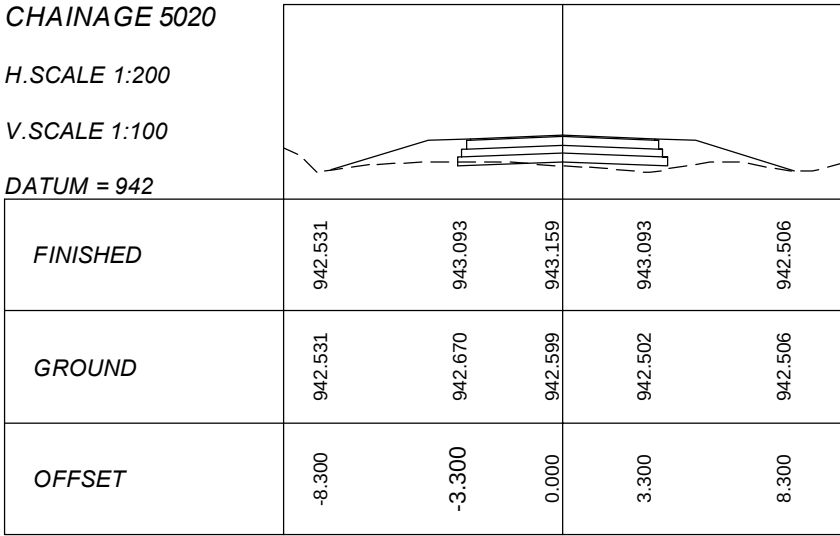
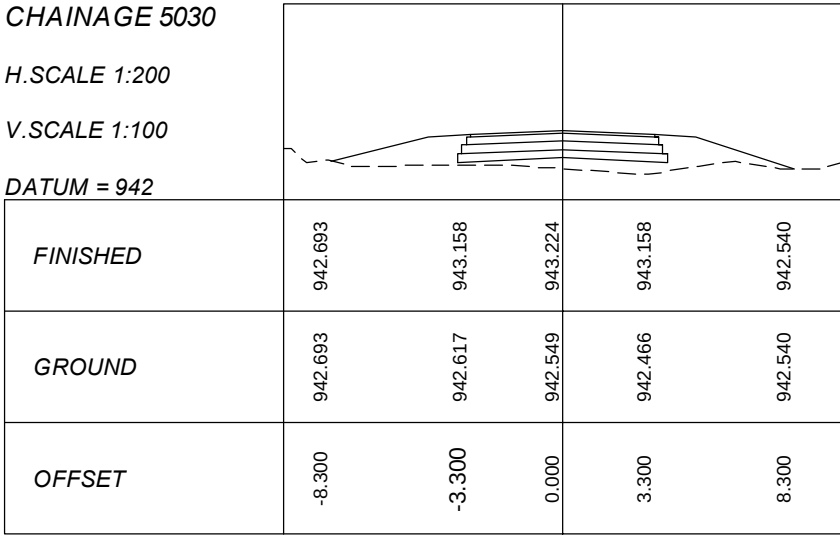
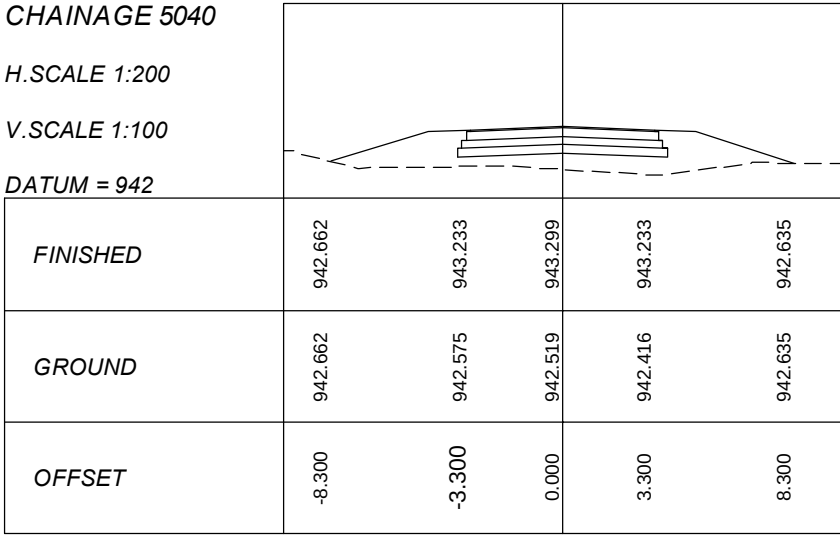
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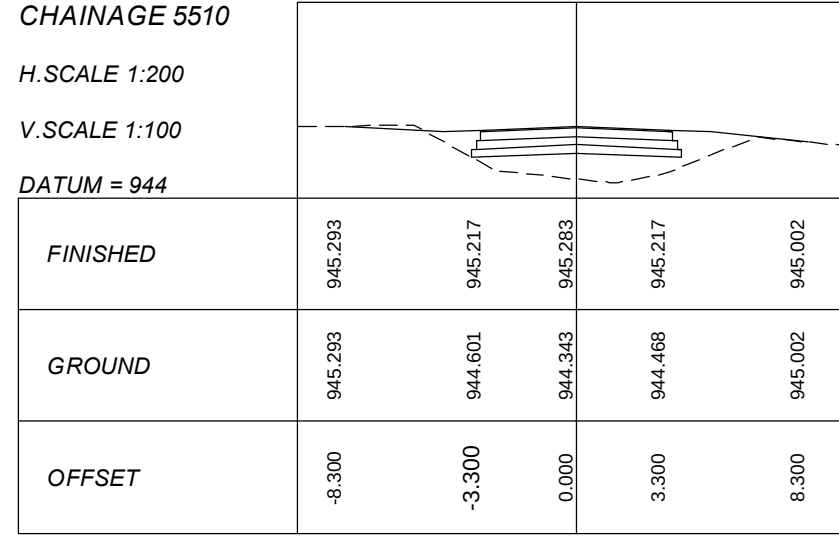
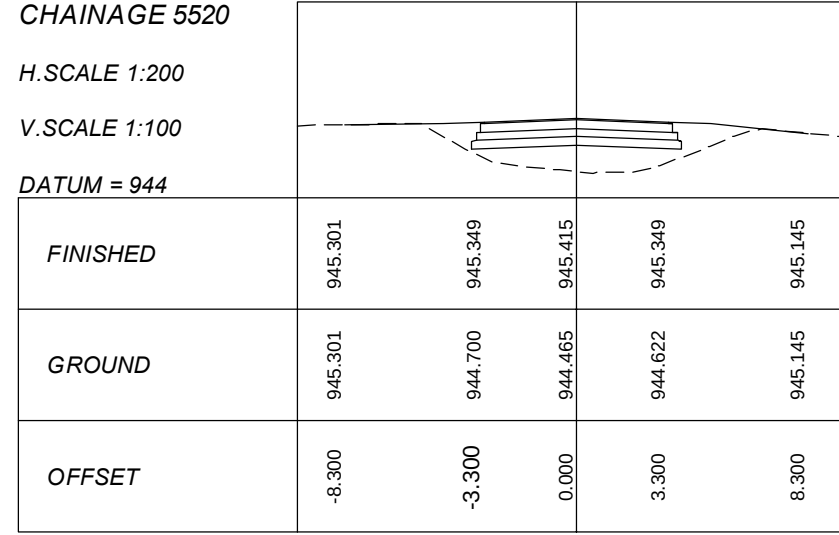
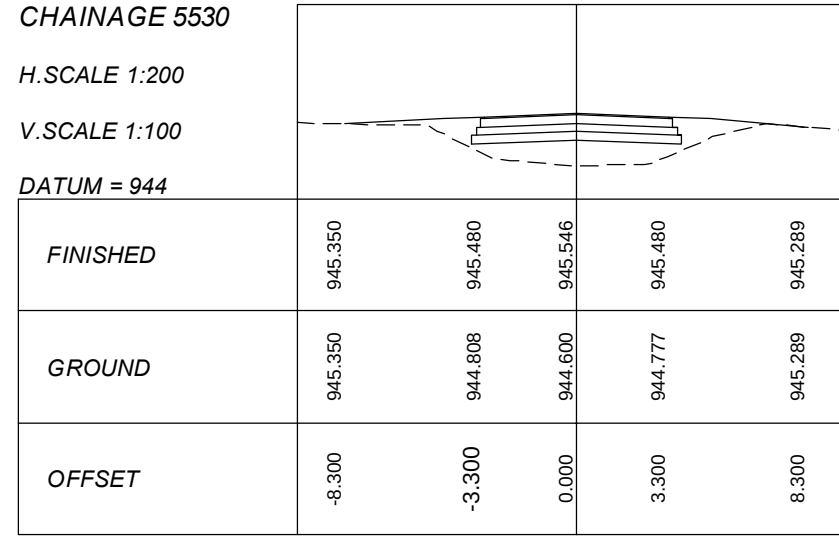
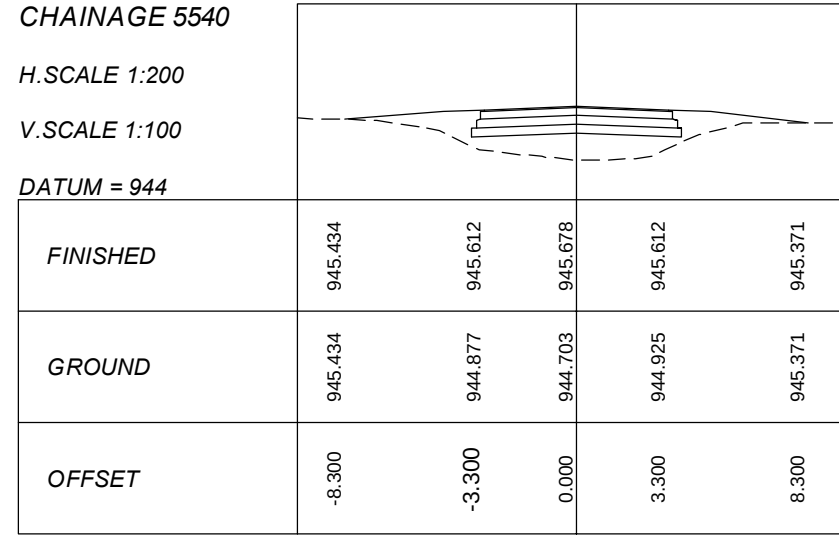
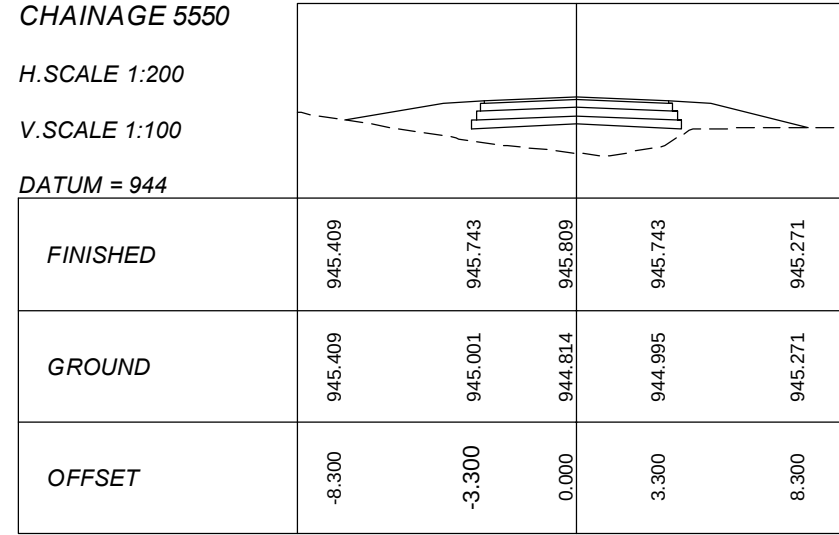
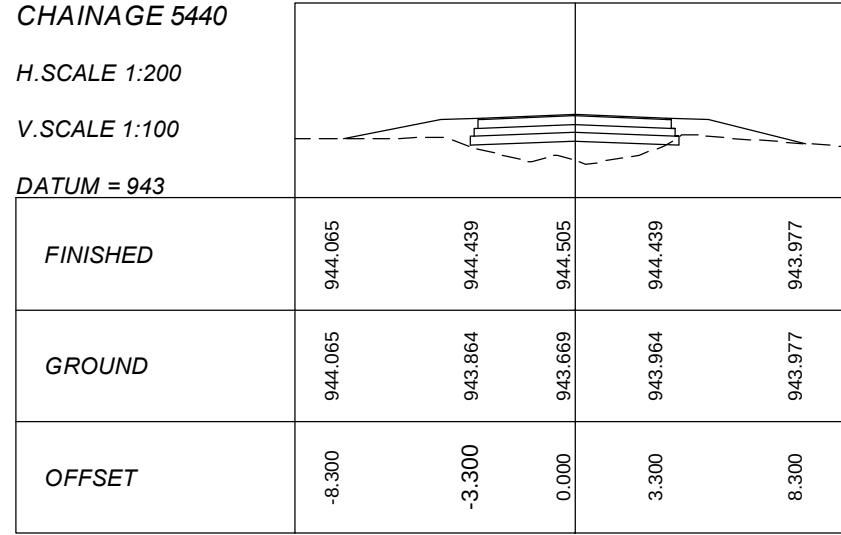
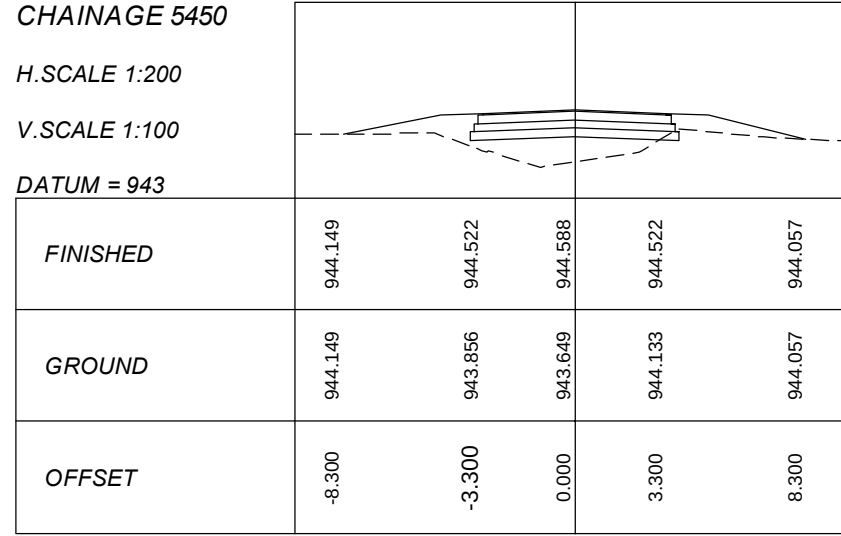
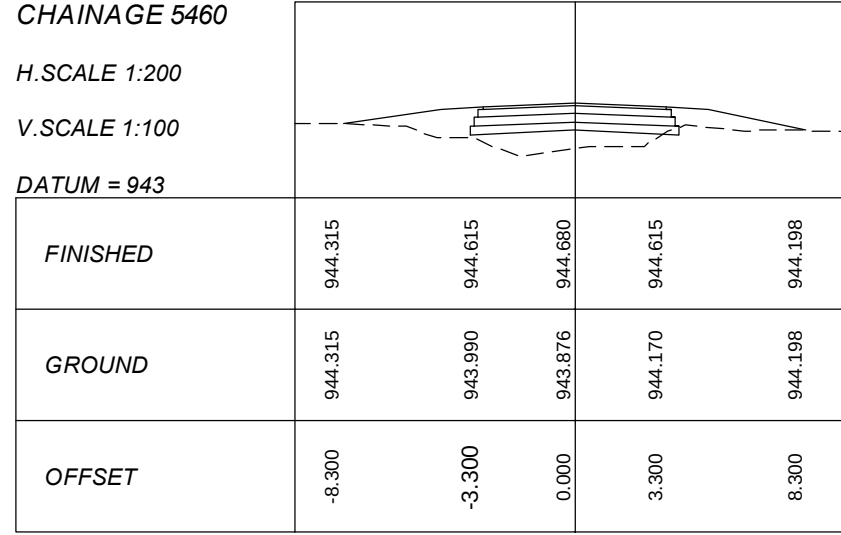
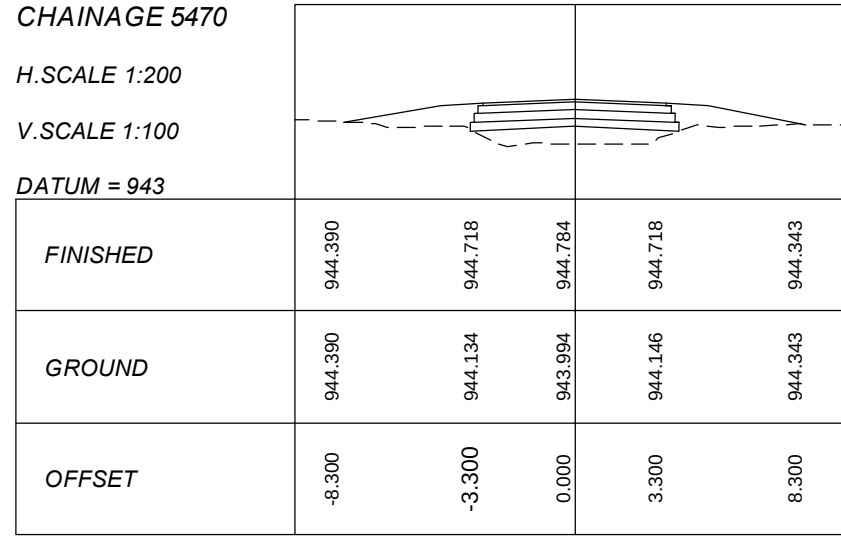
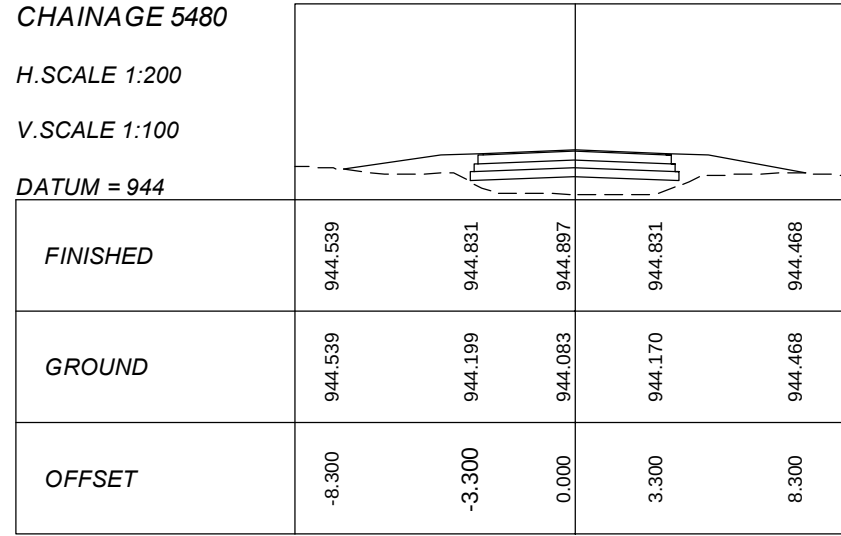
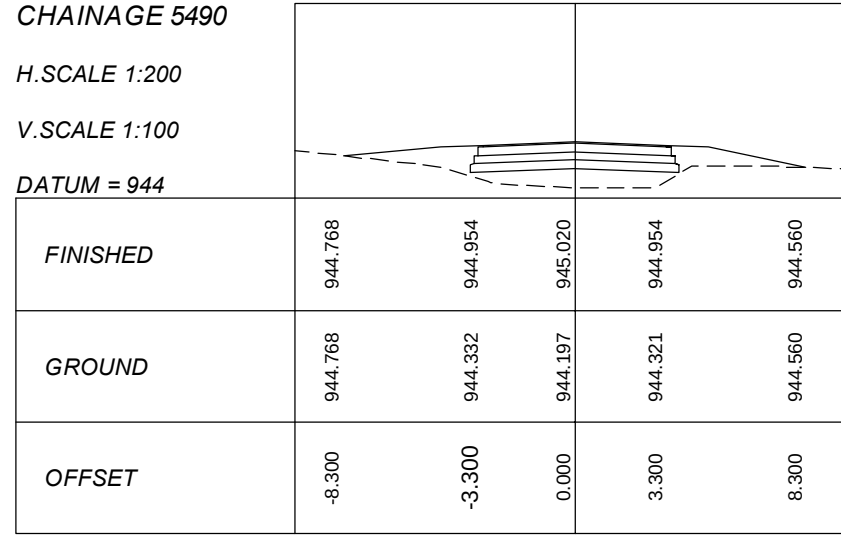
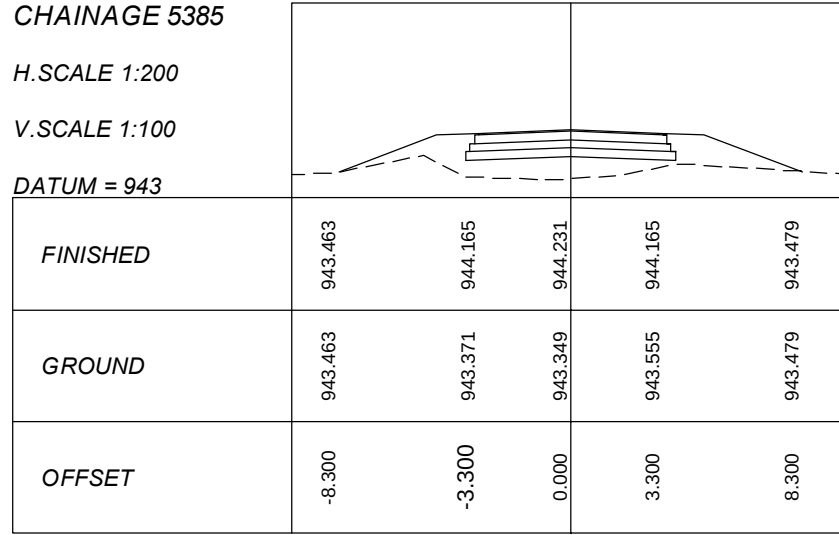
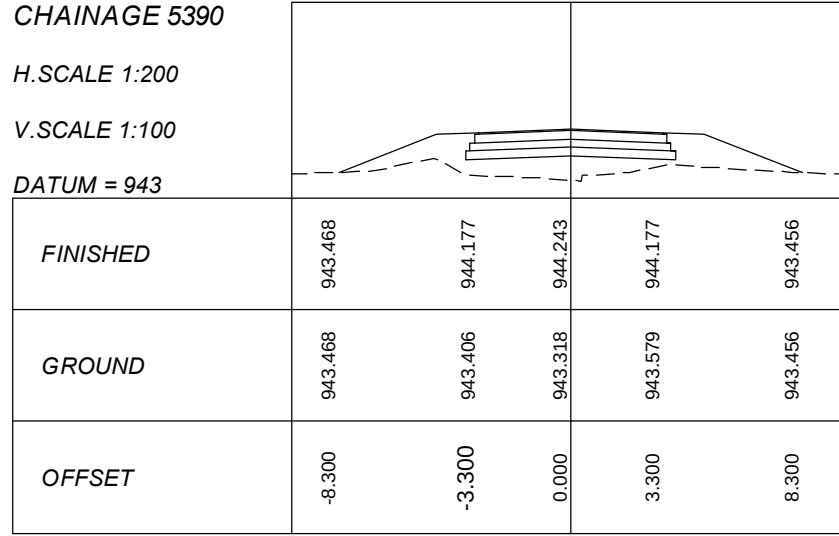
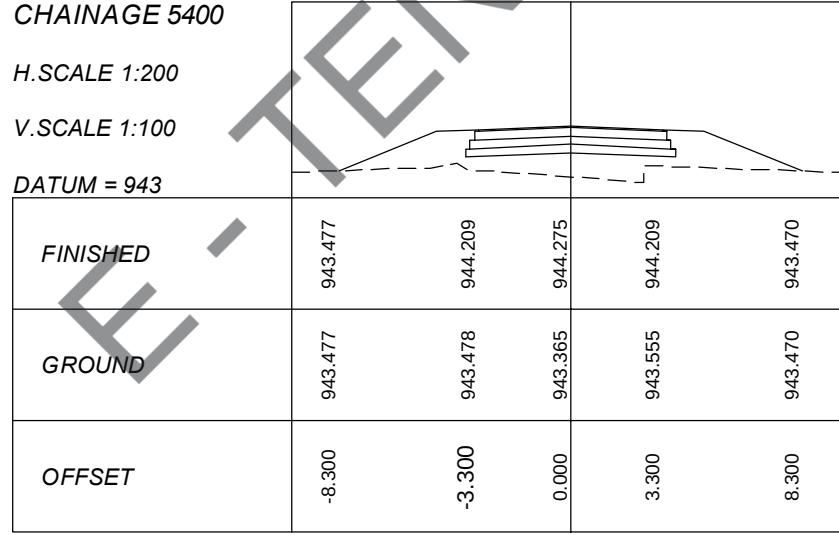
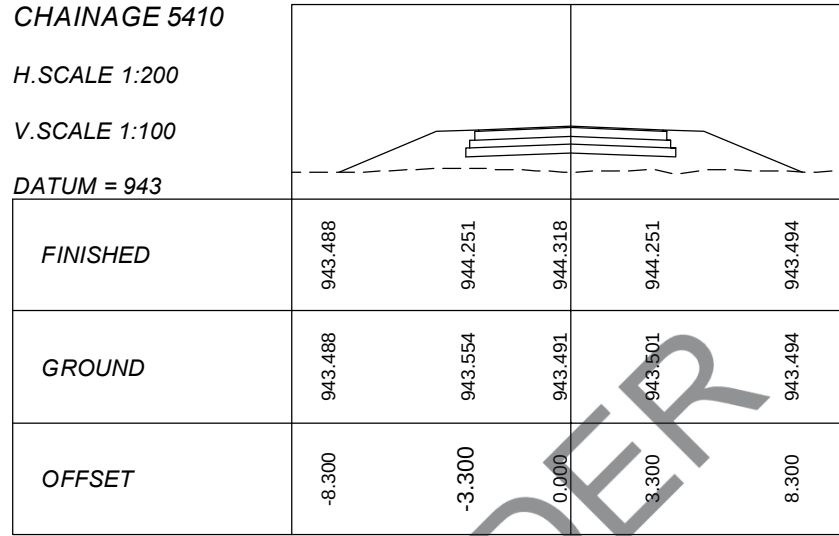
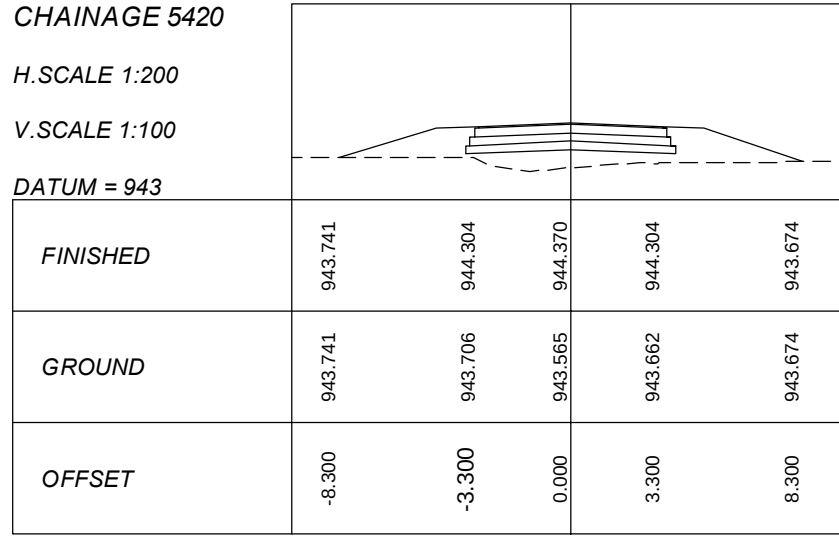
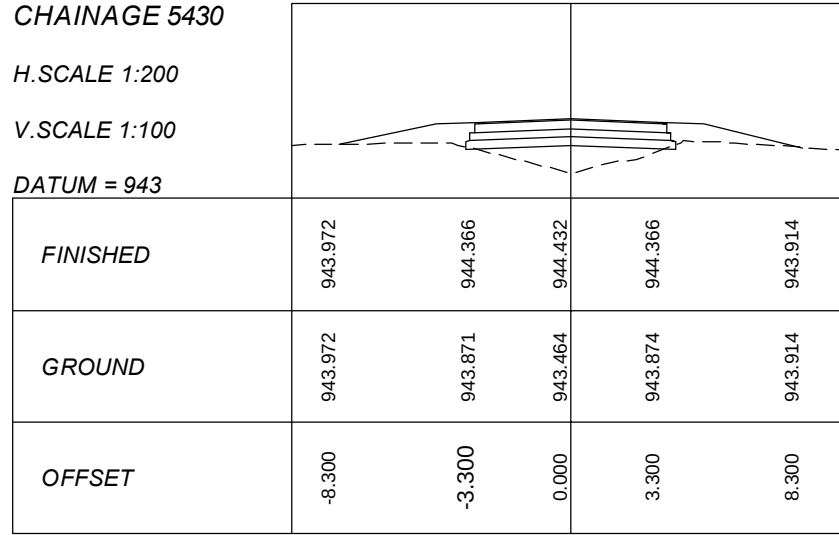
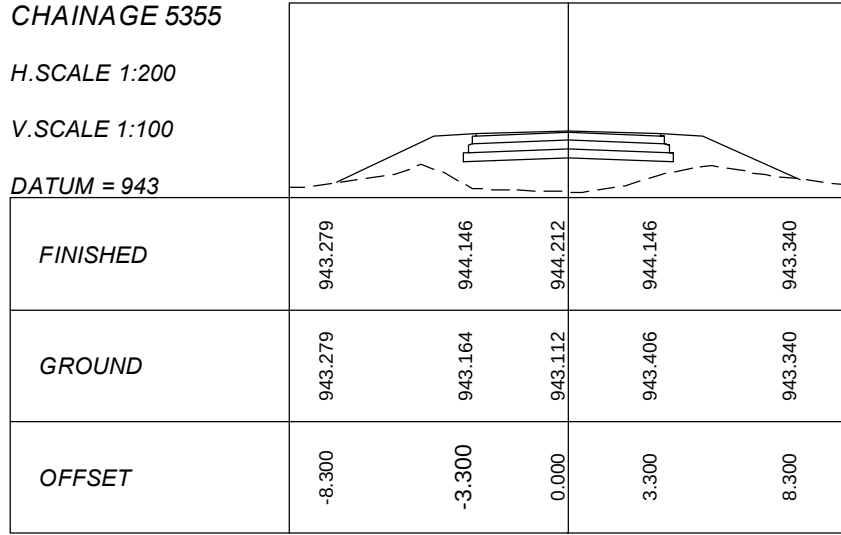
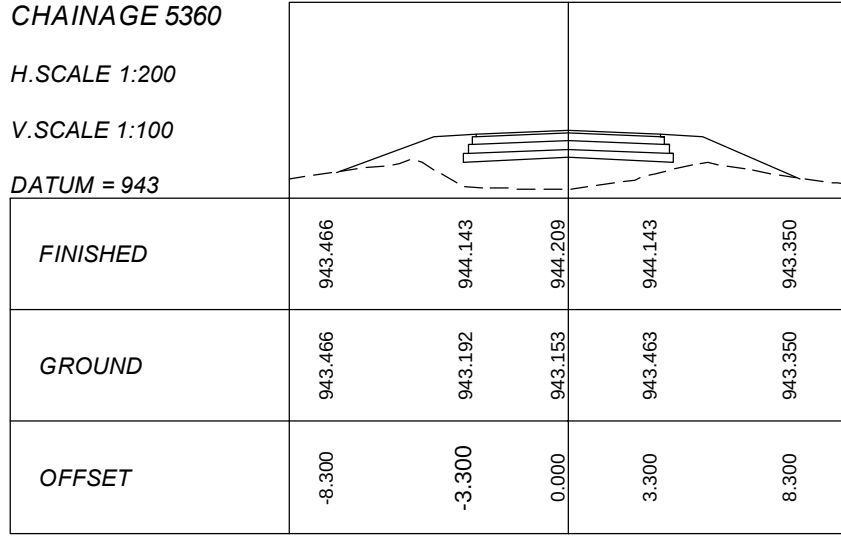
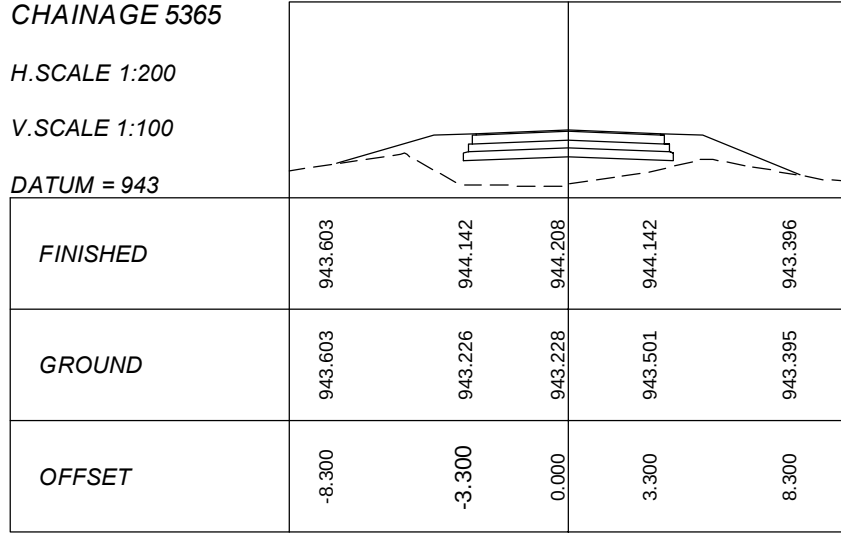
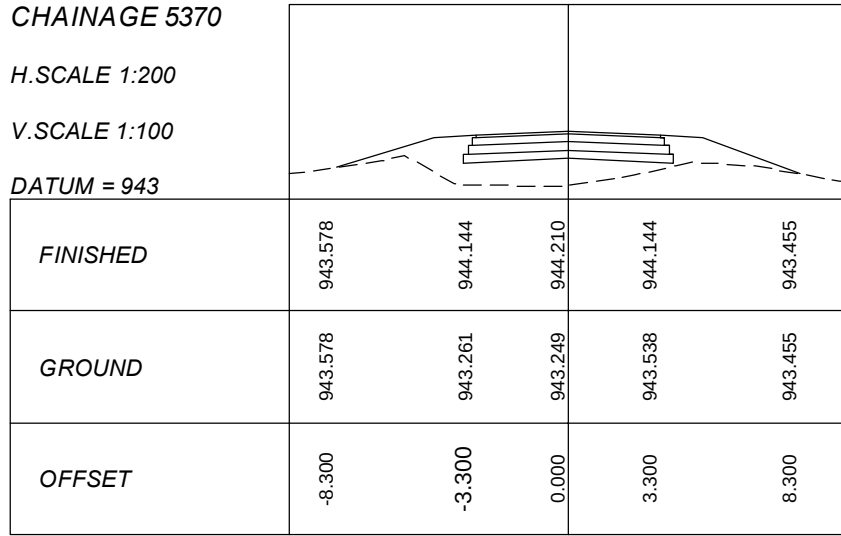
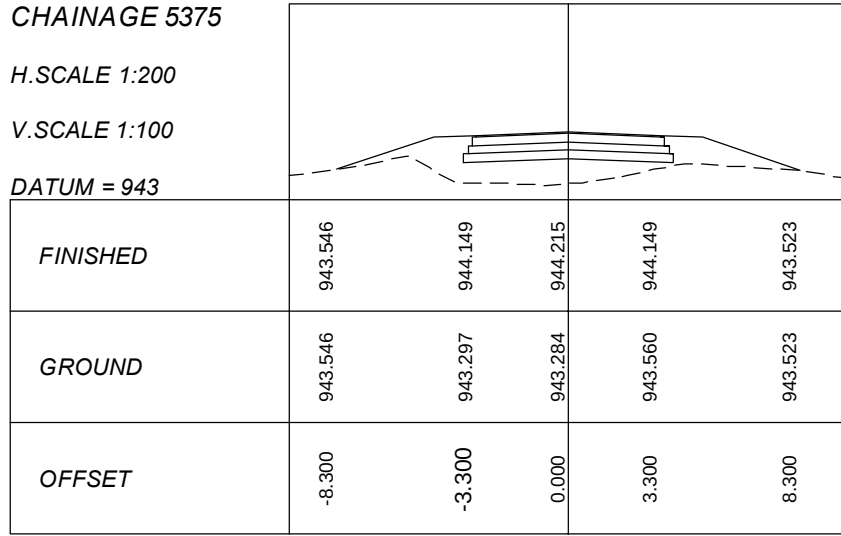
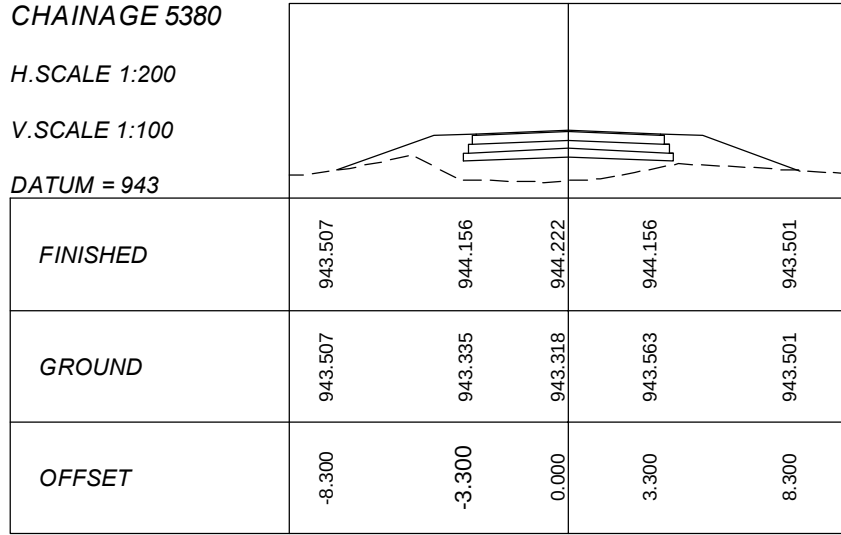
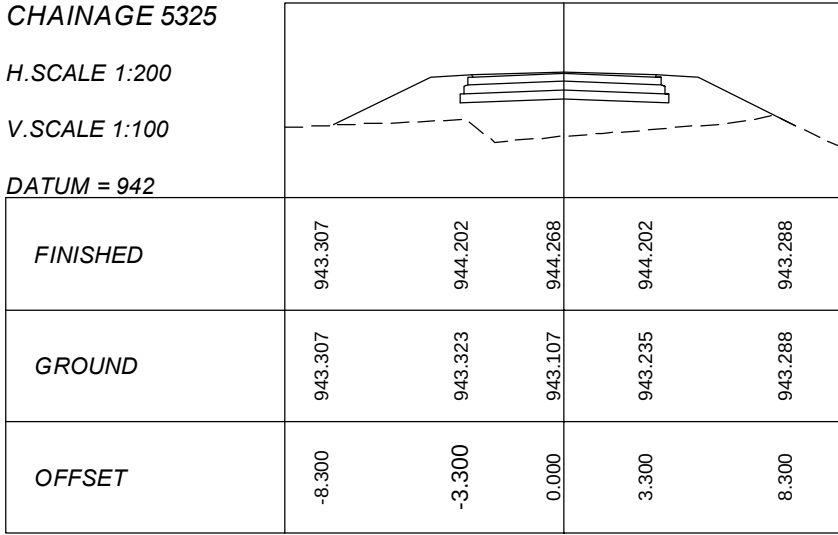
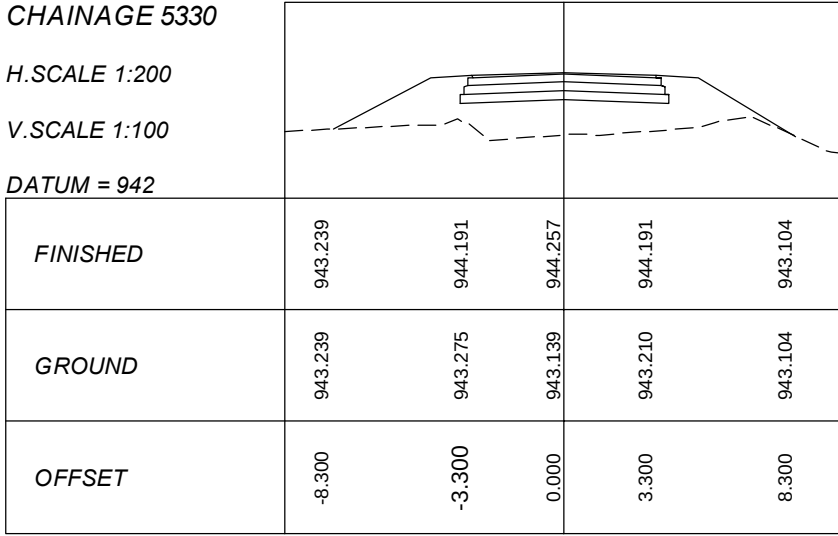
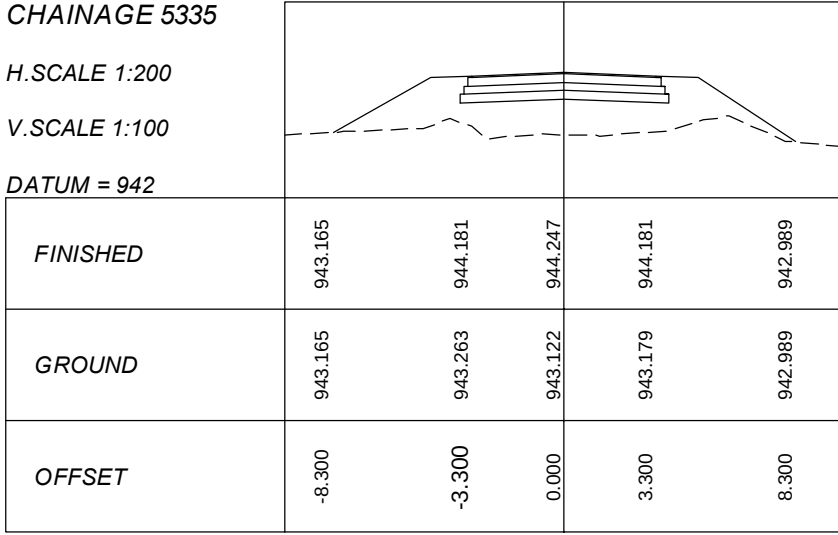
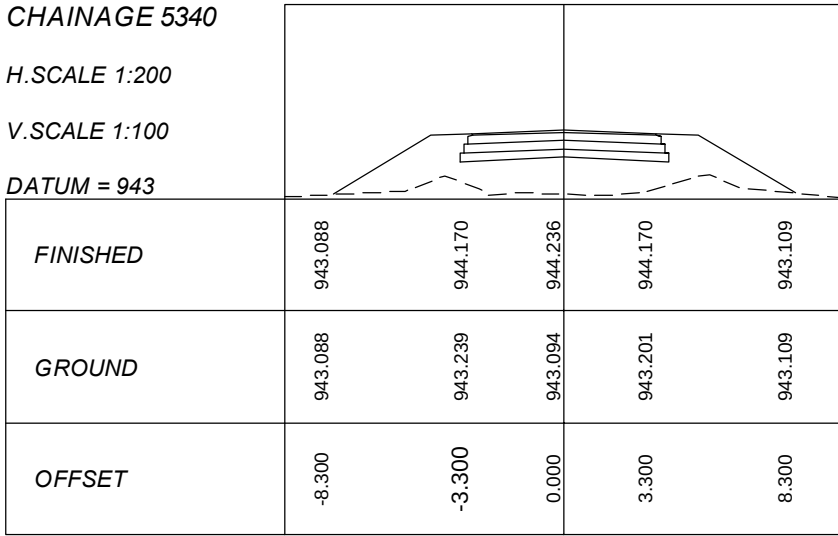
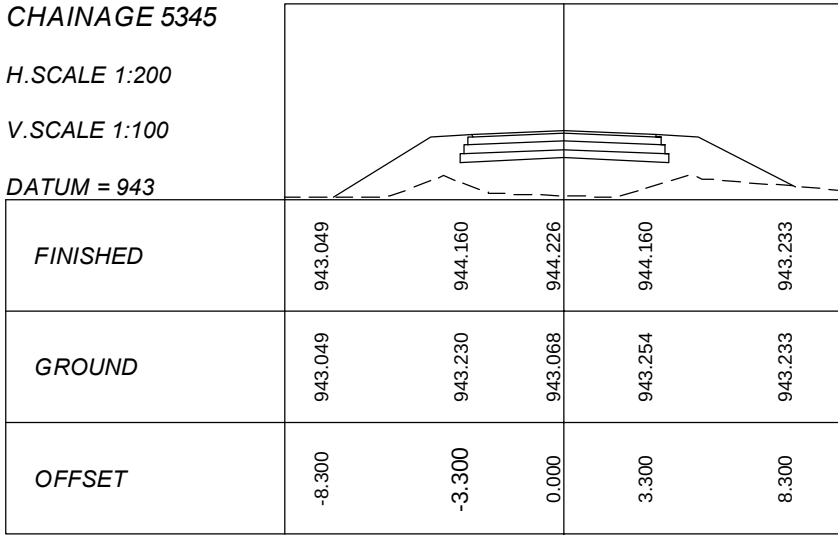
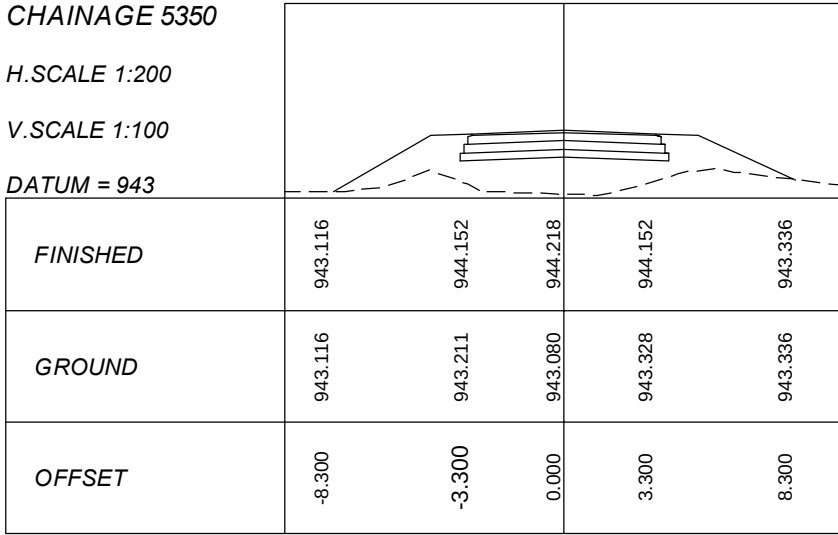
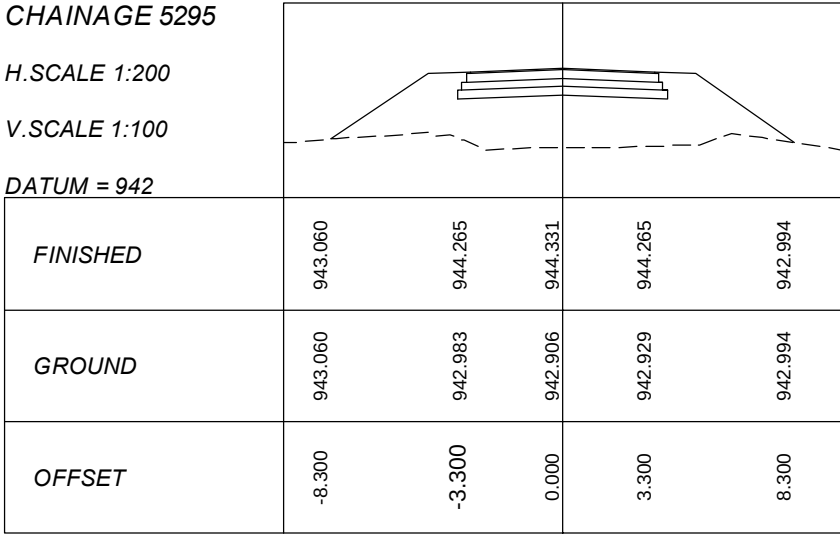
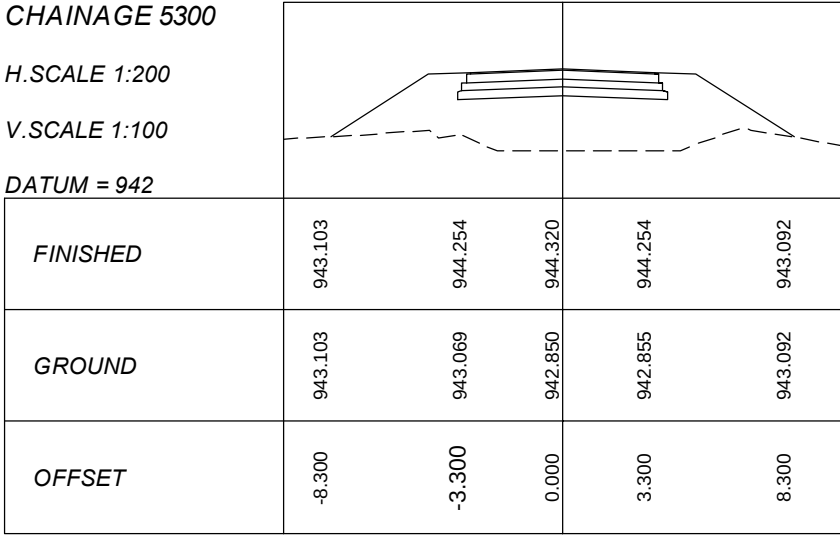
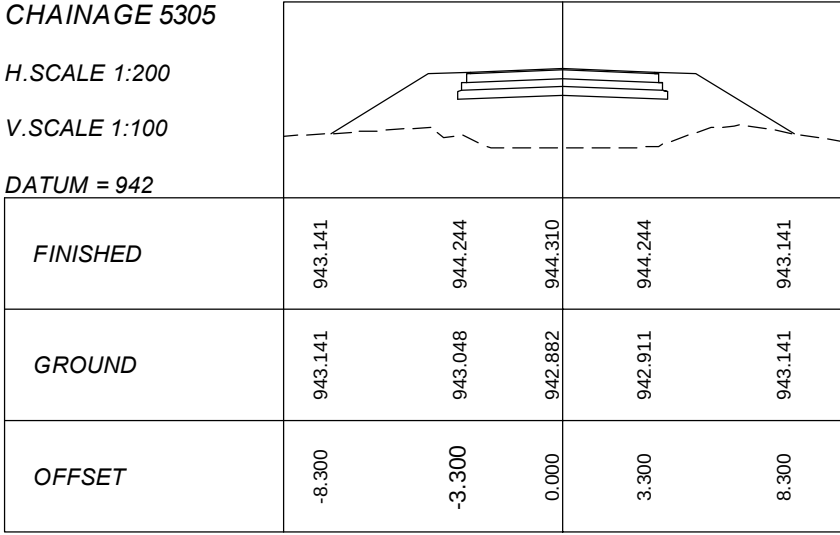
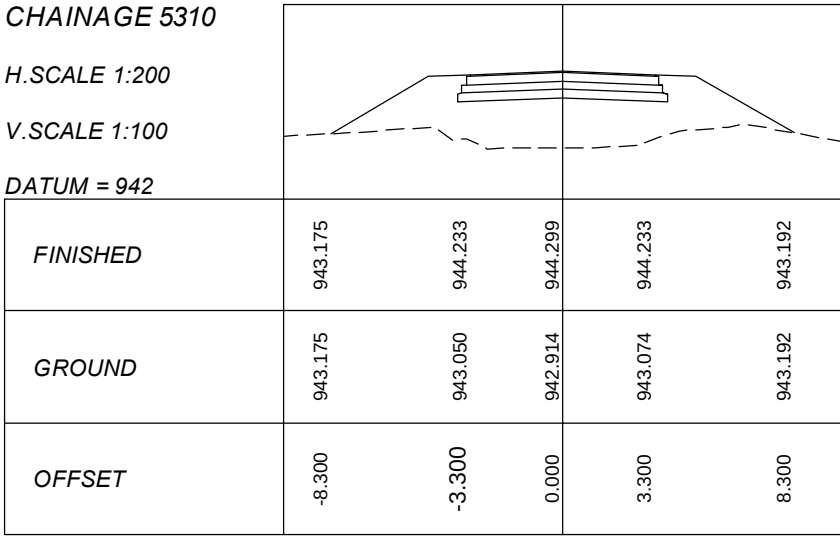
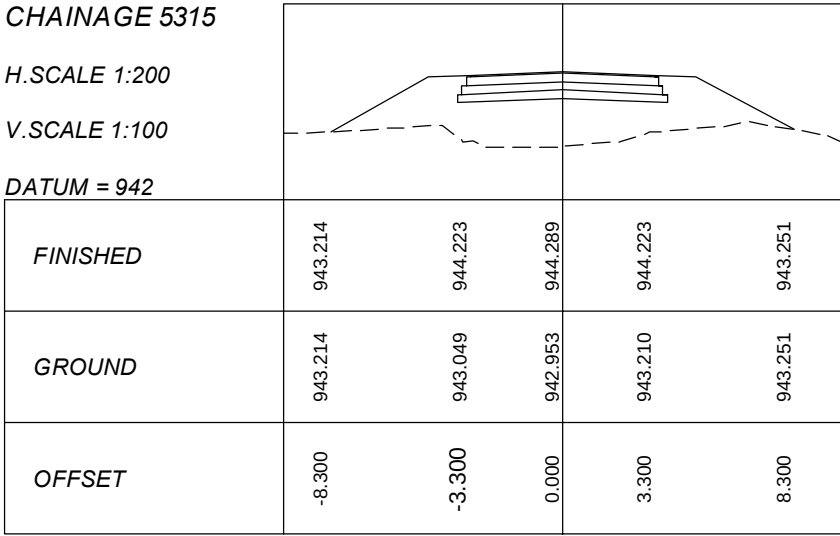
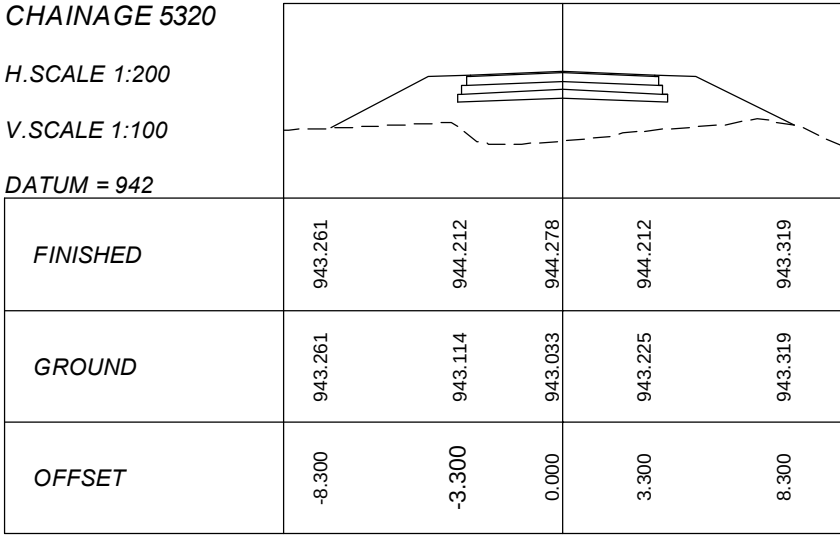
For: Ephraim Mogale Municipality

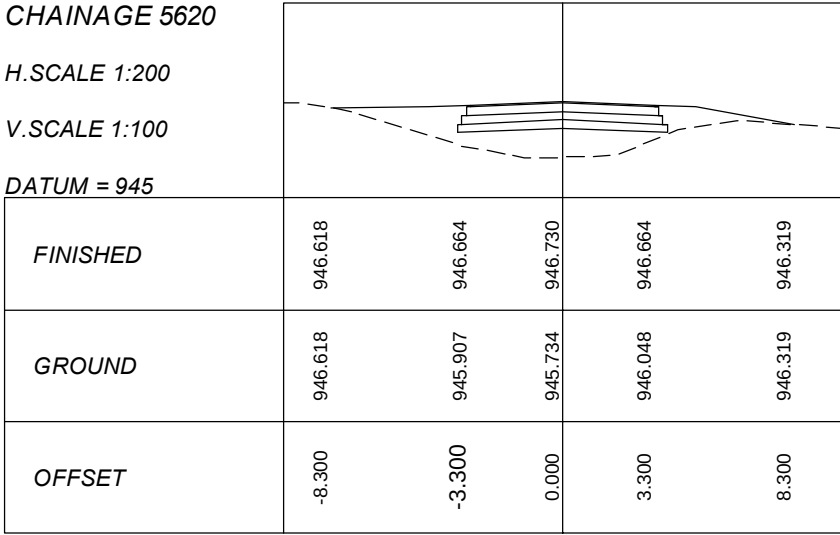
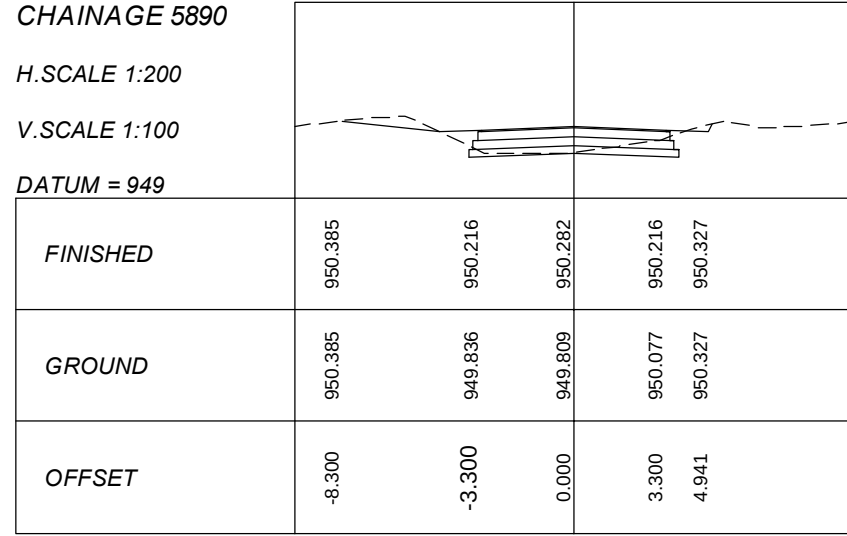
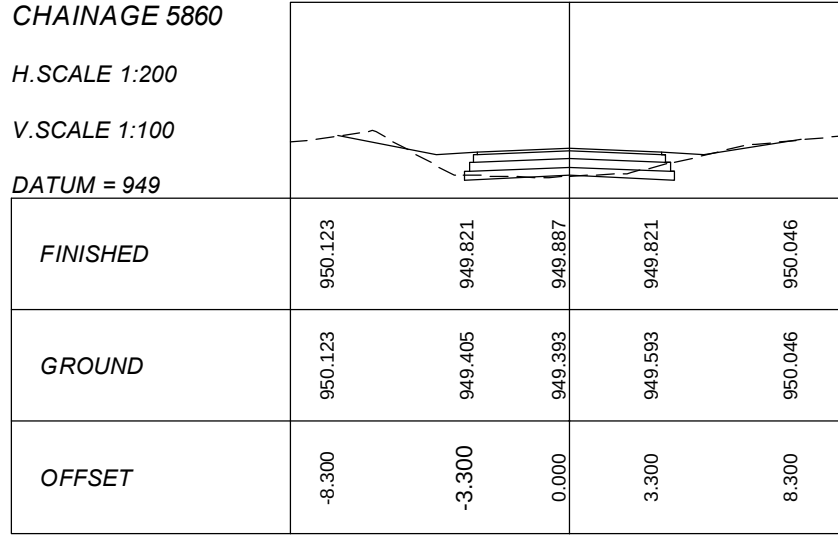
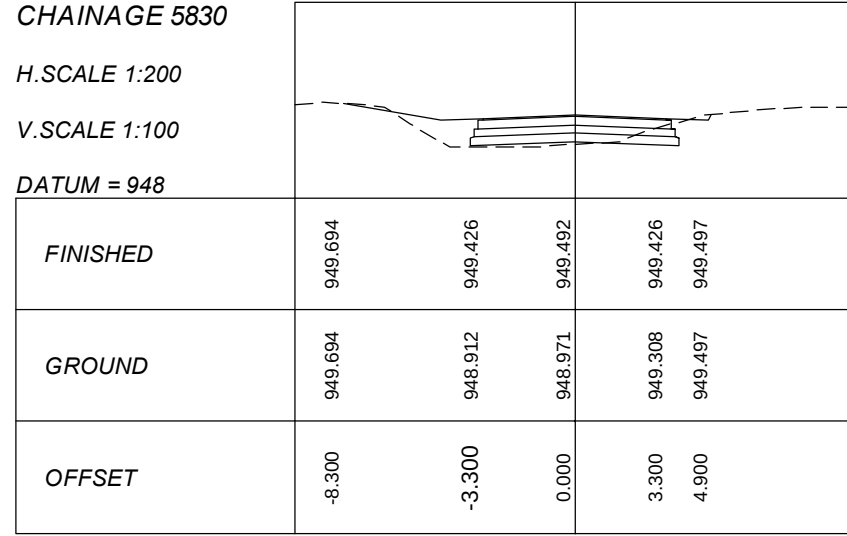
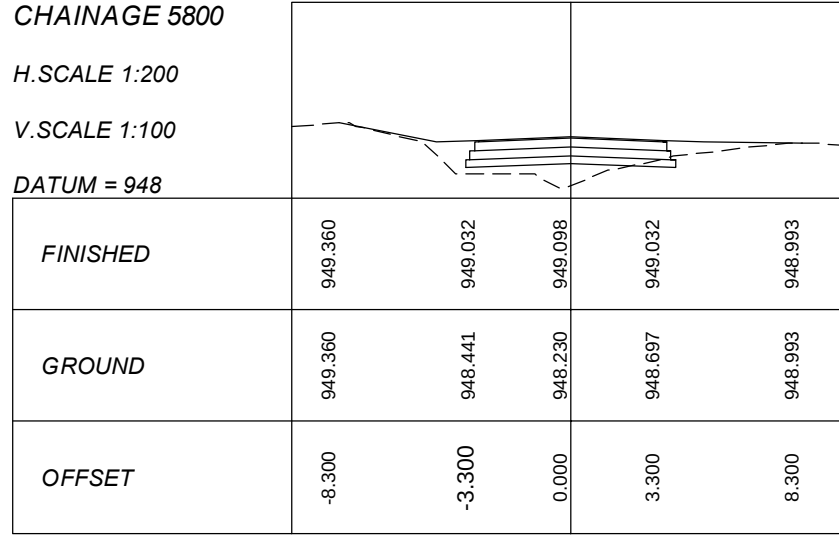
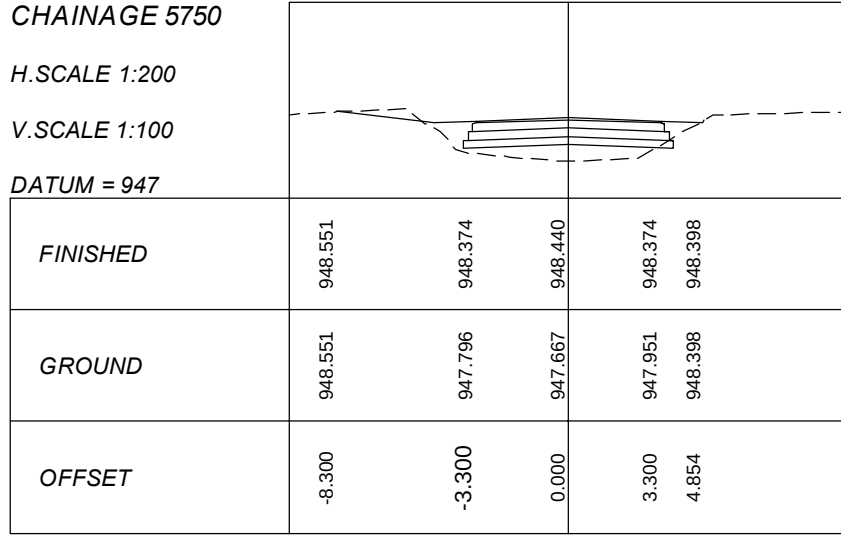
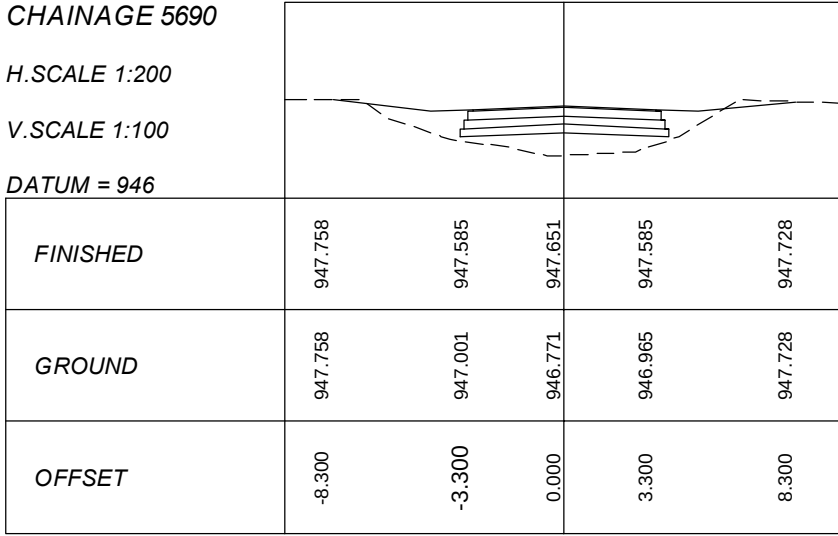
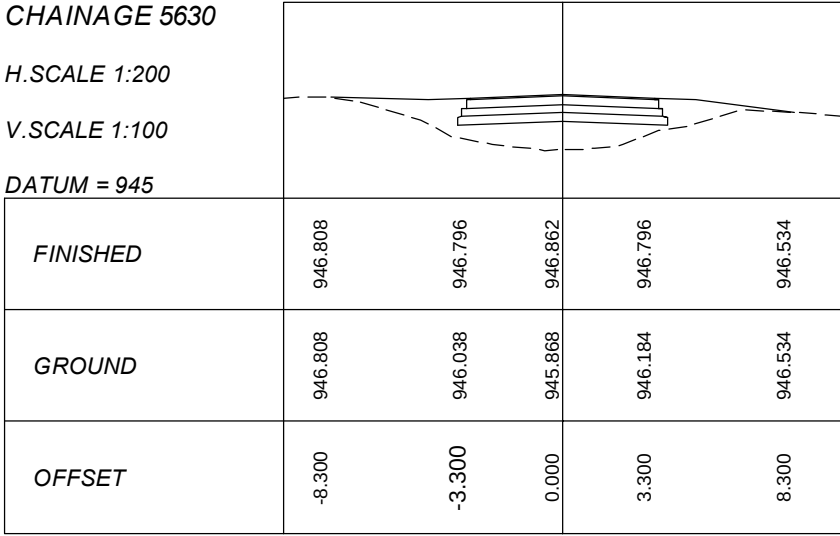
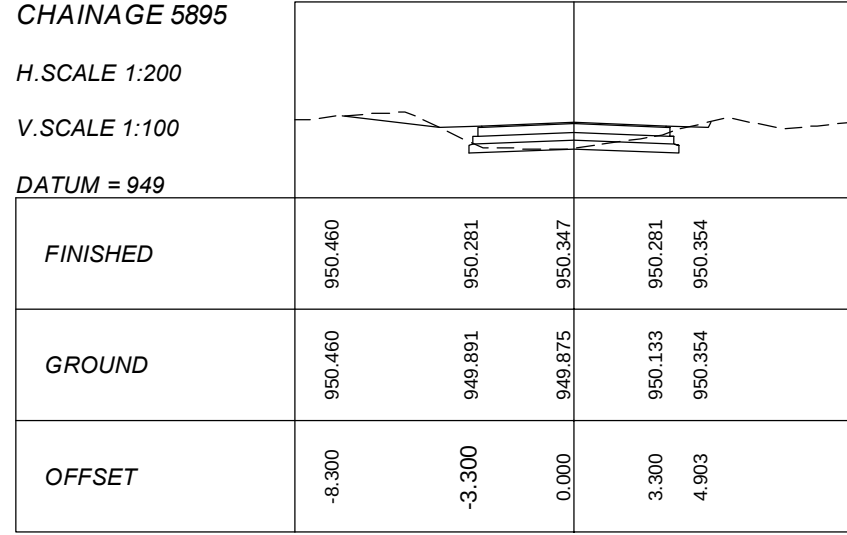
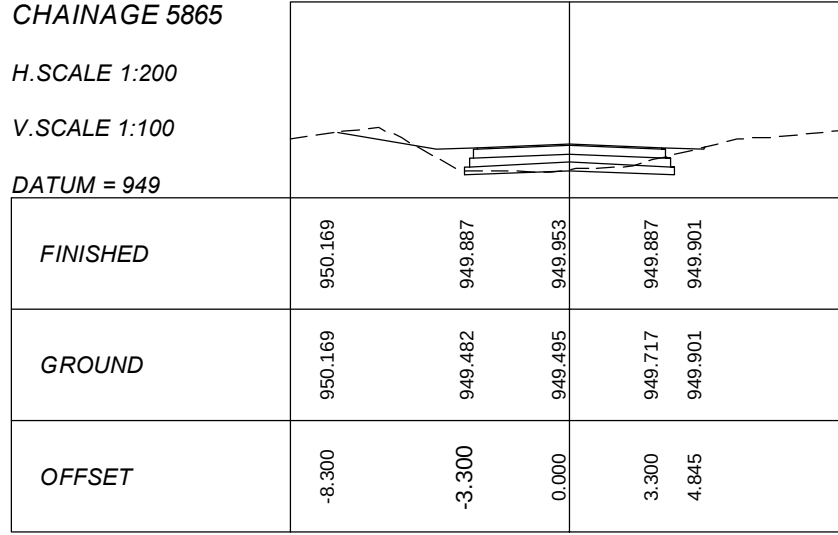
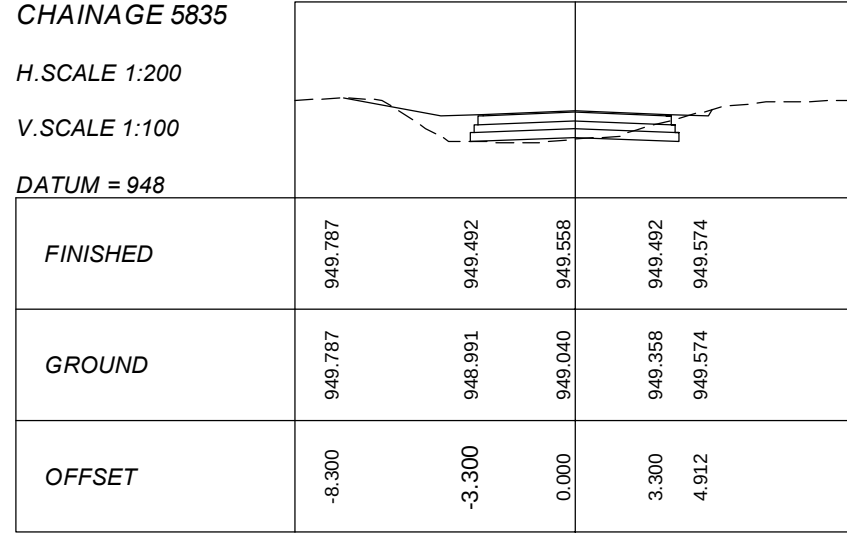
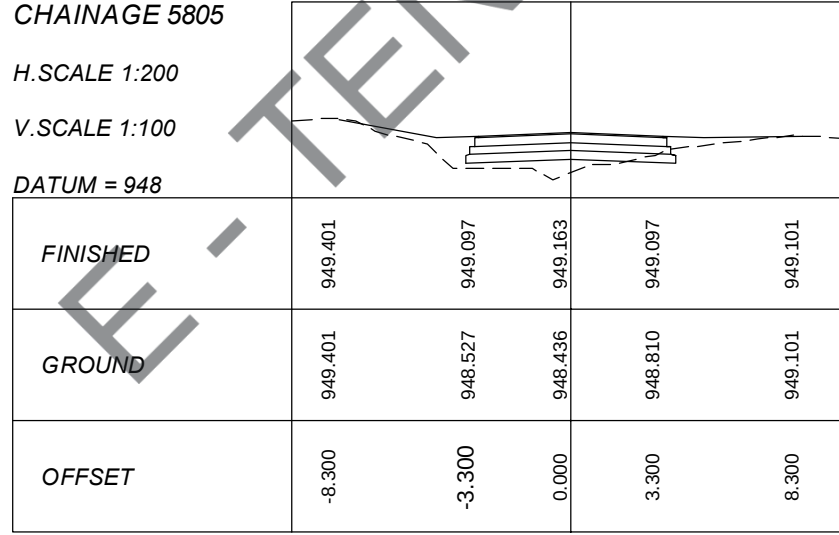
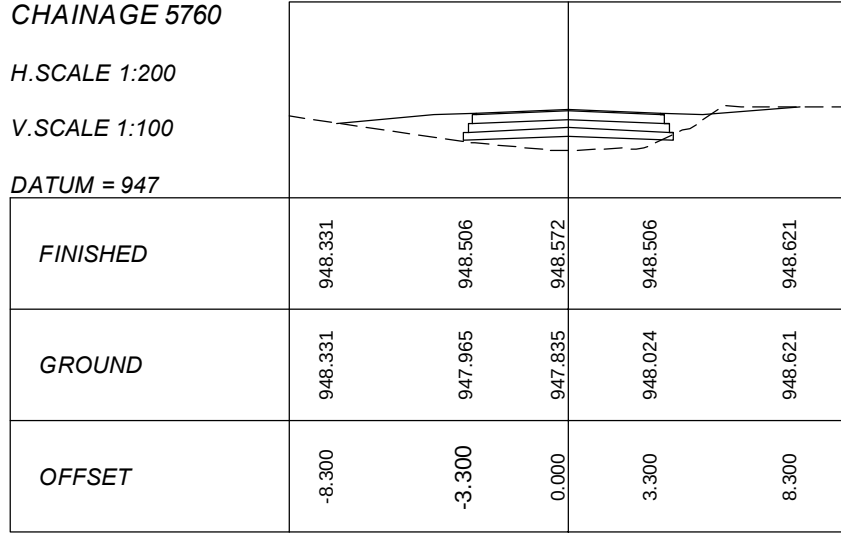
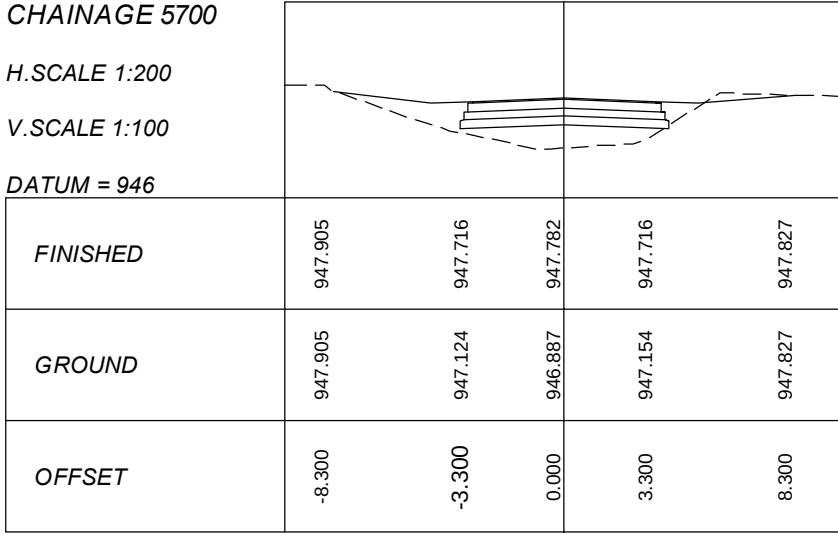
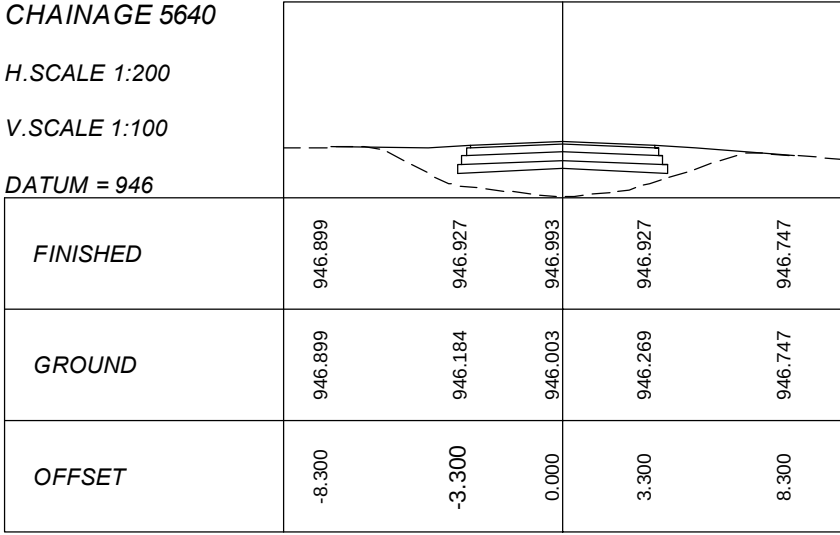
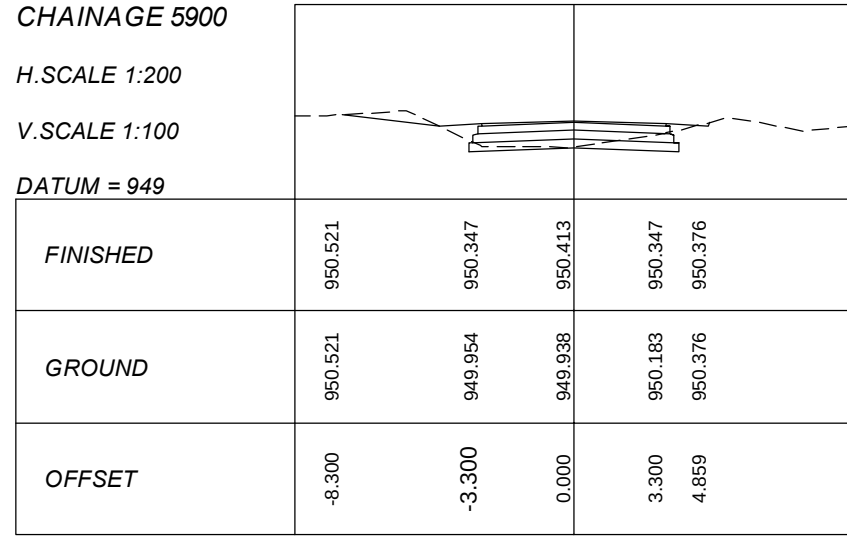
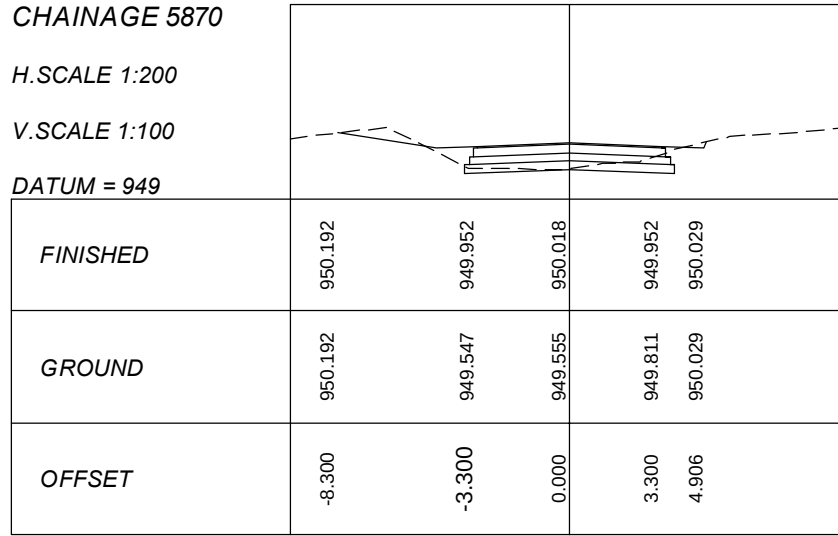
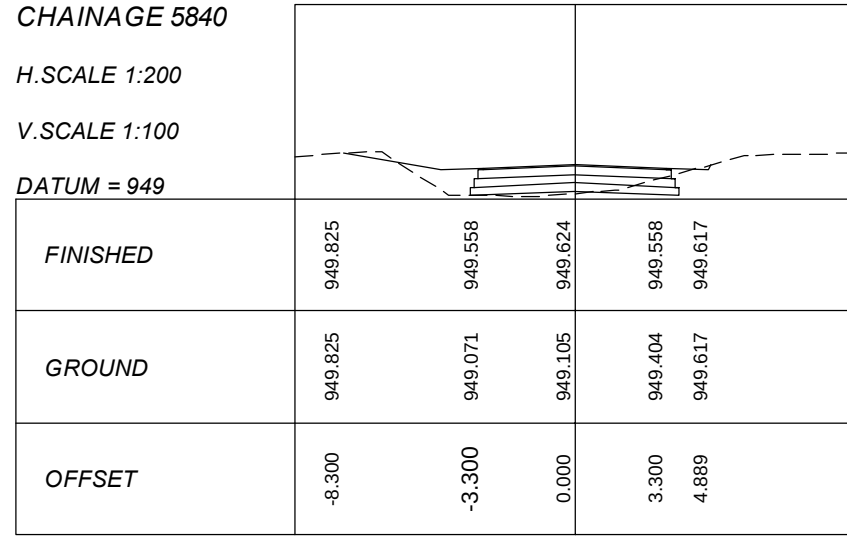
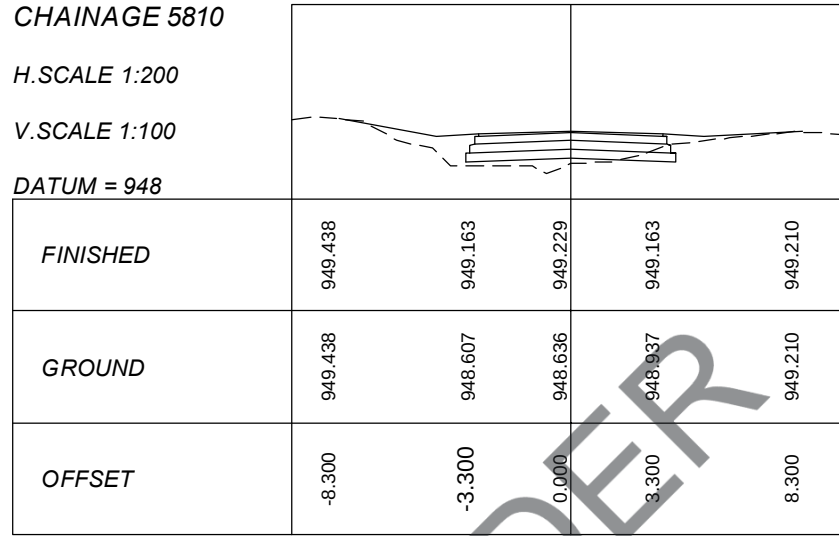
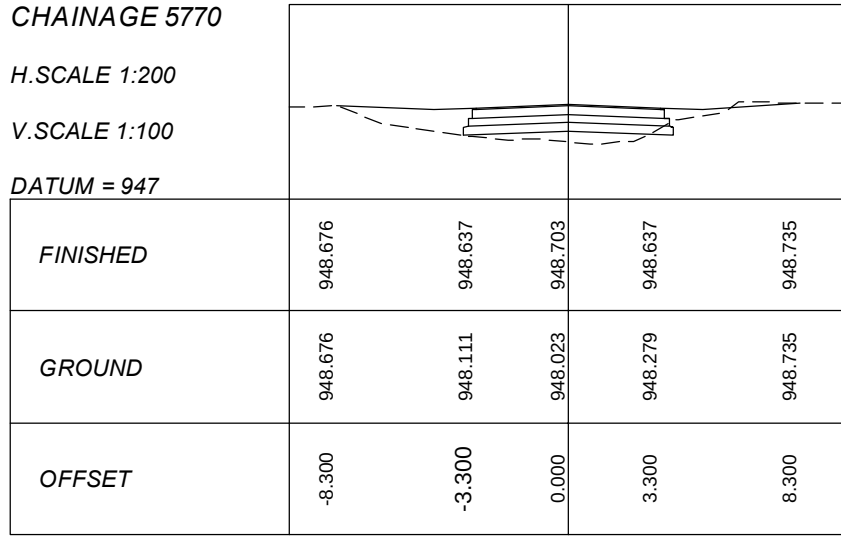
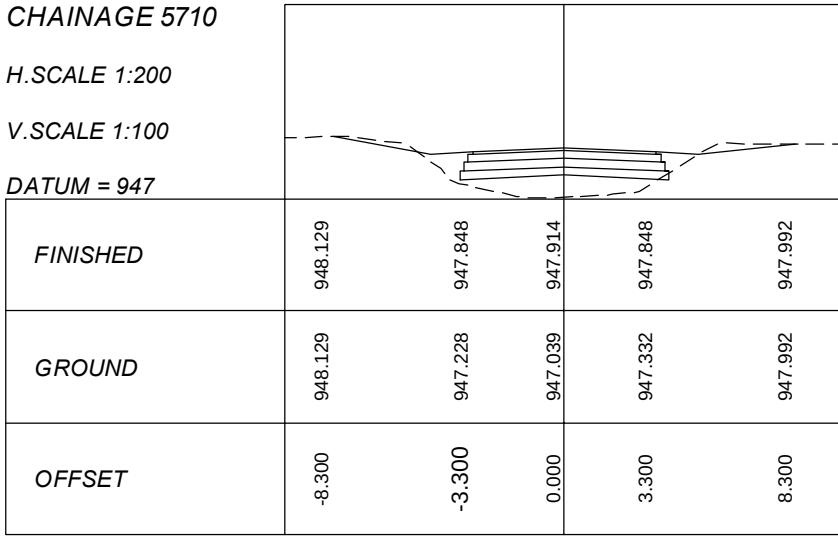
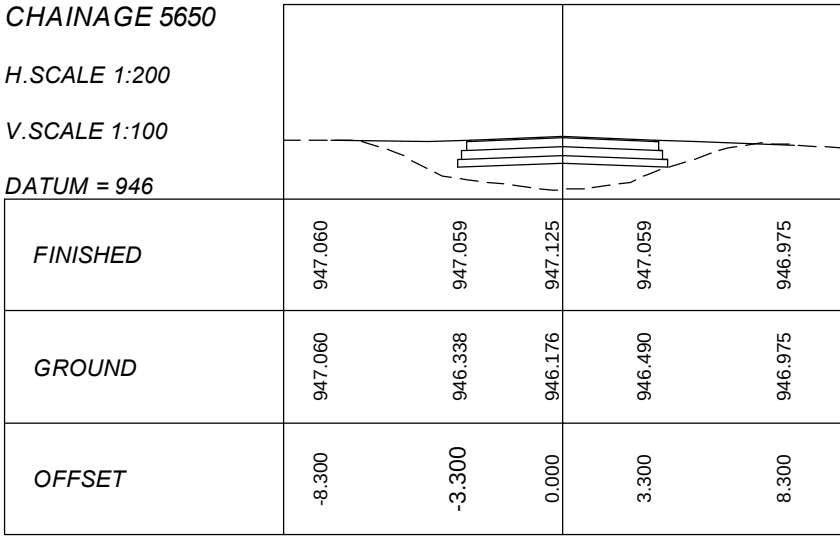
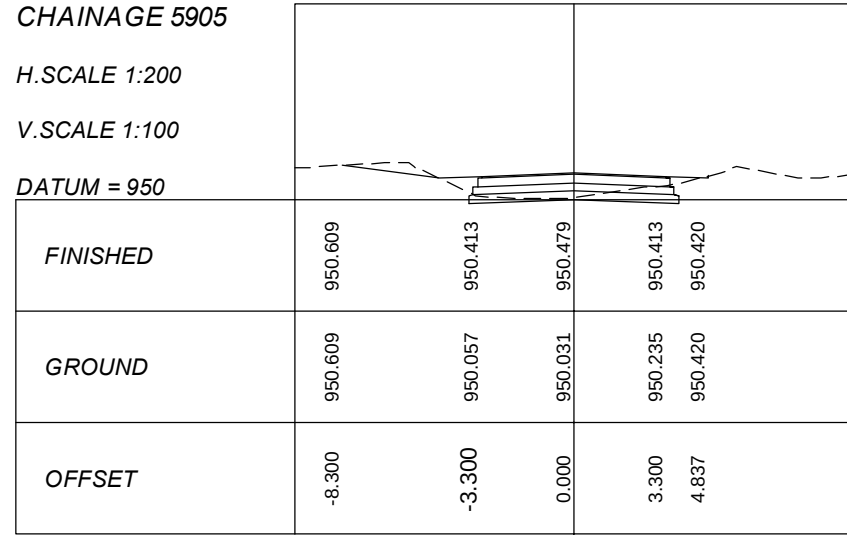
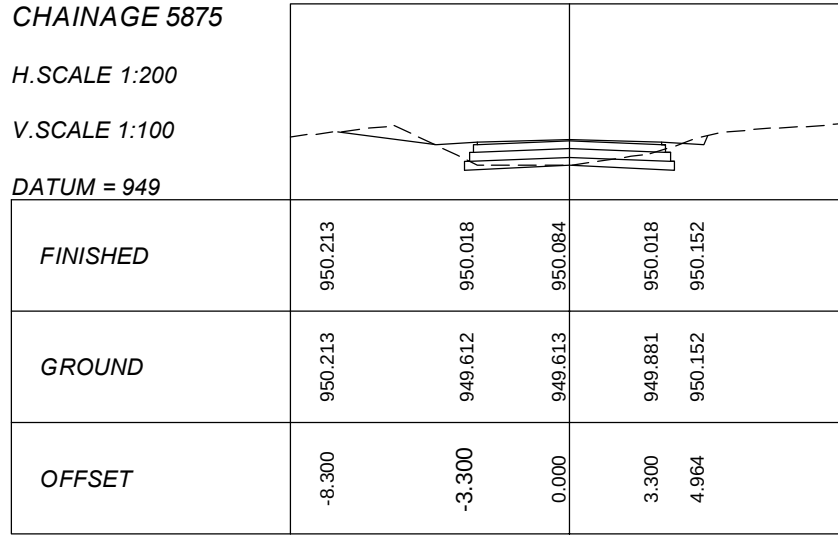
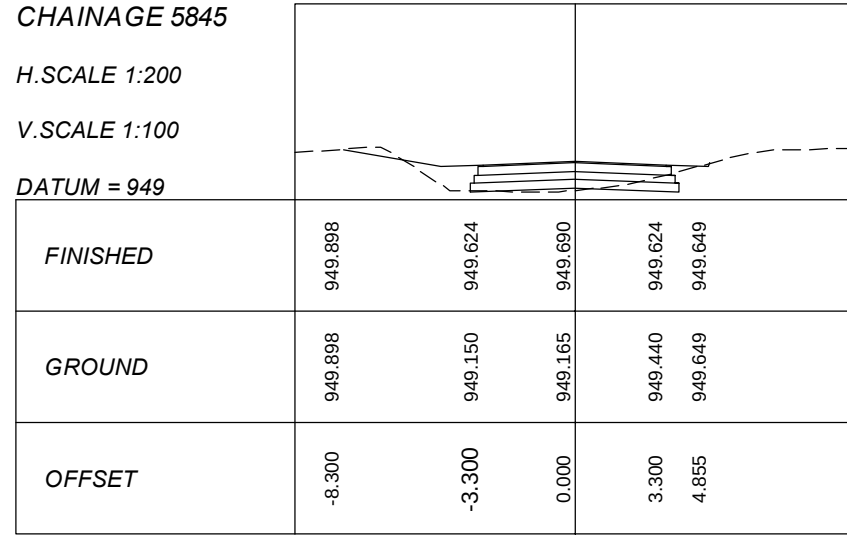
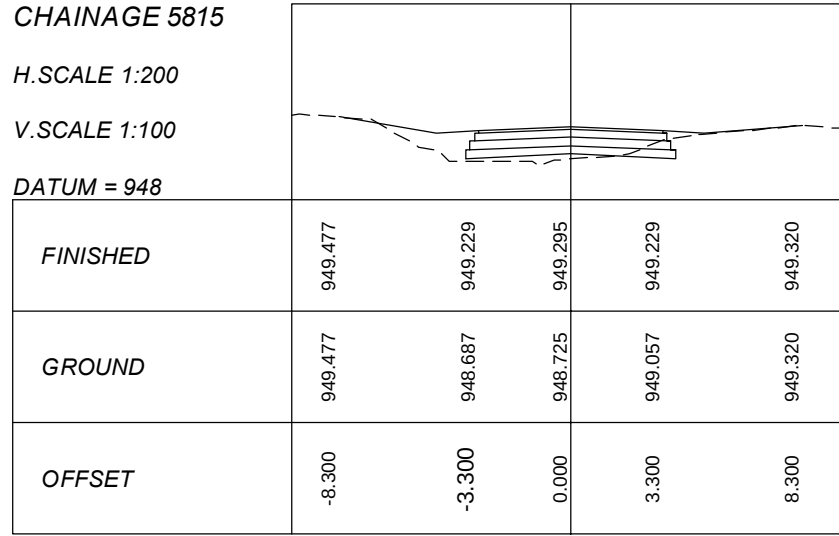
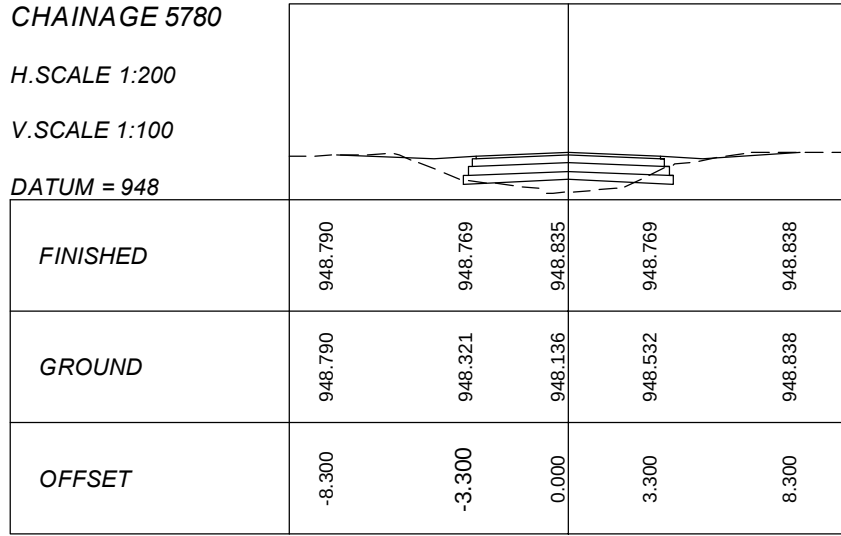
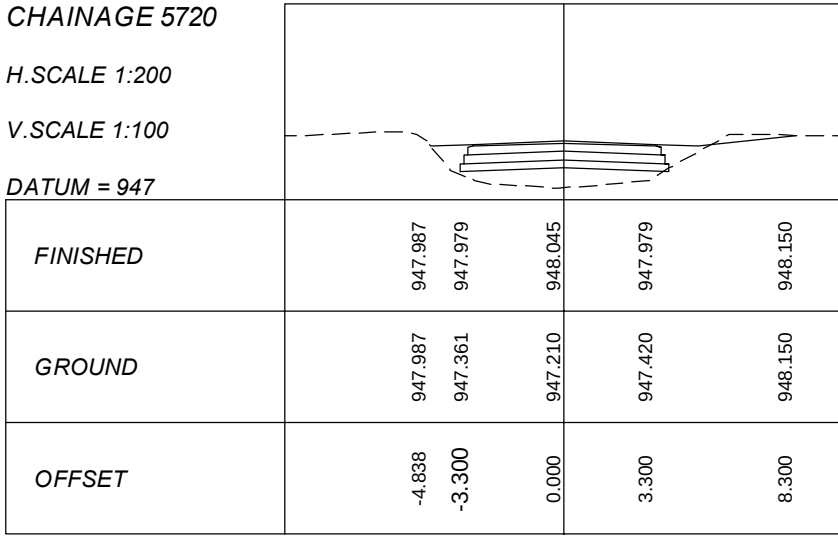
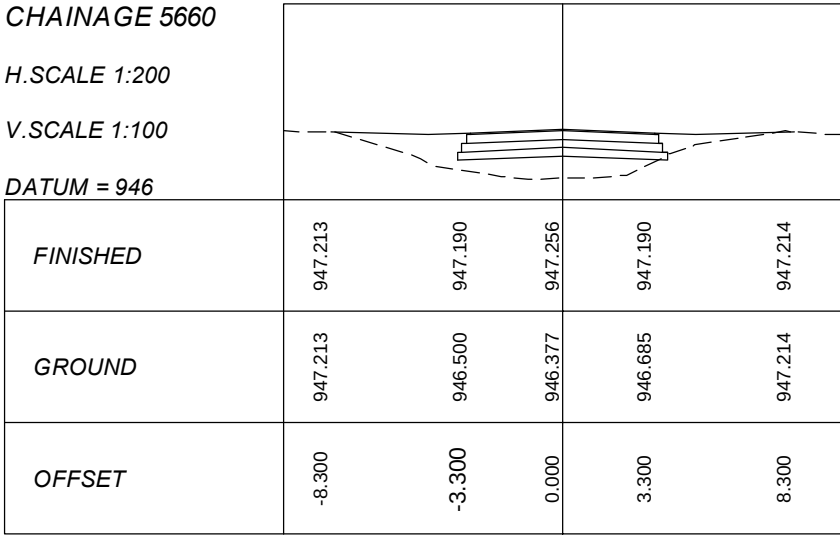
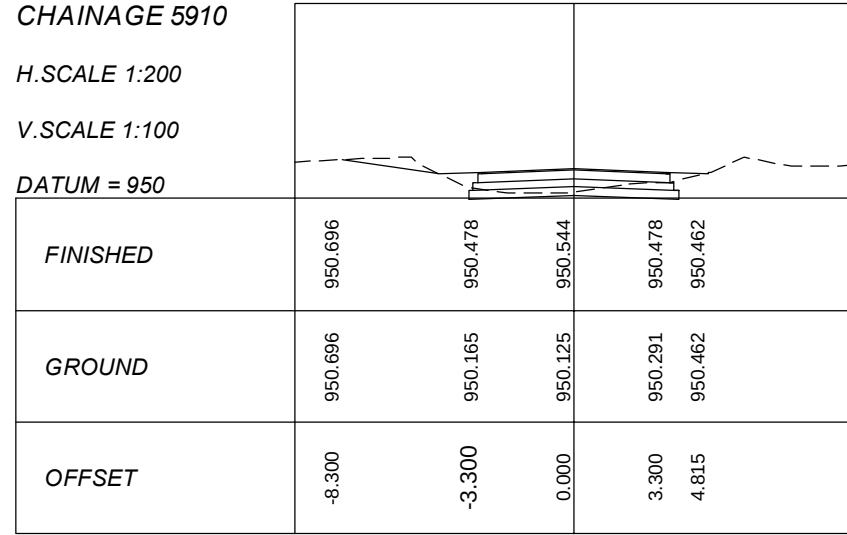
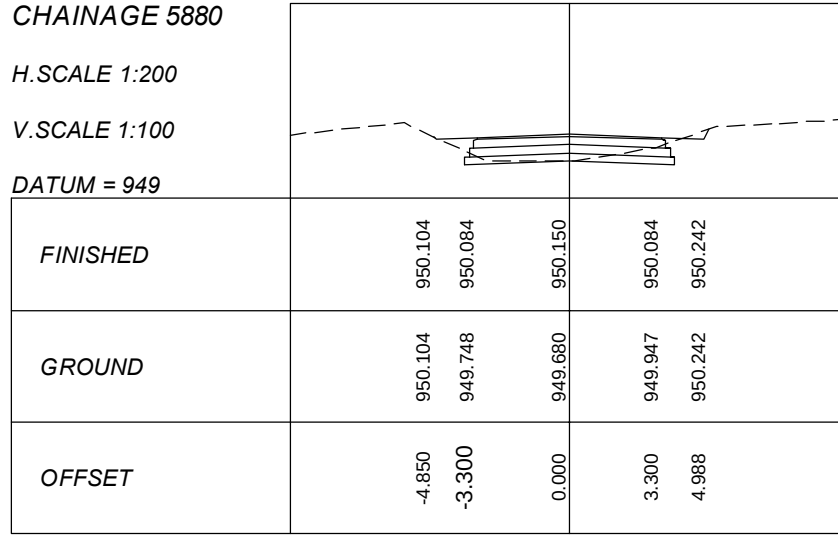
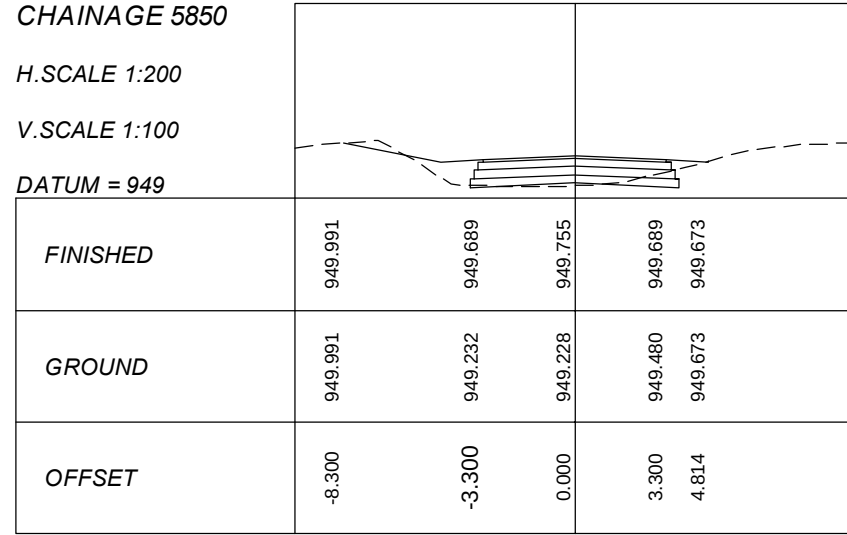
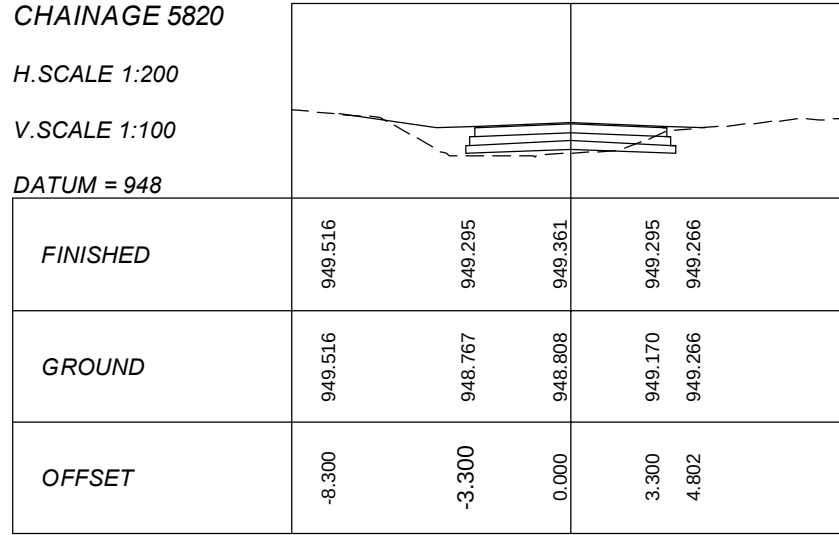
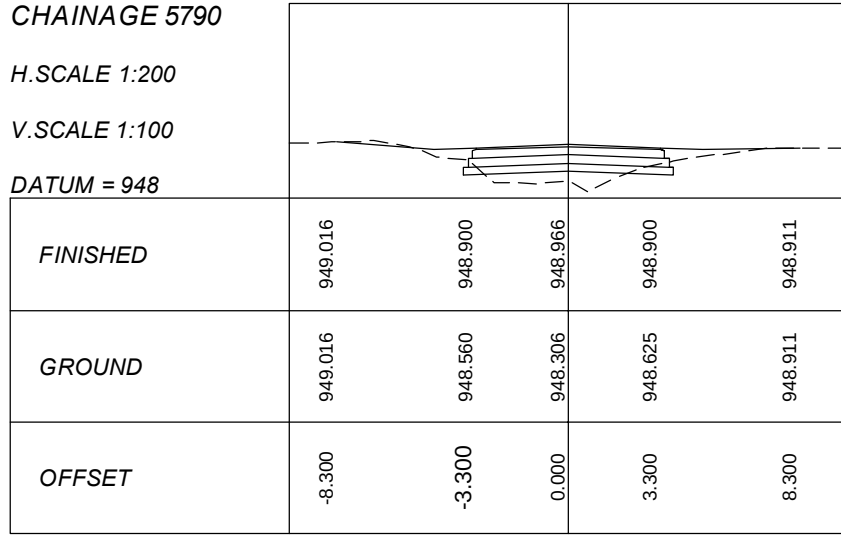
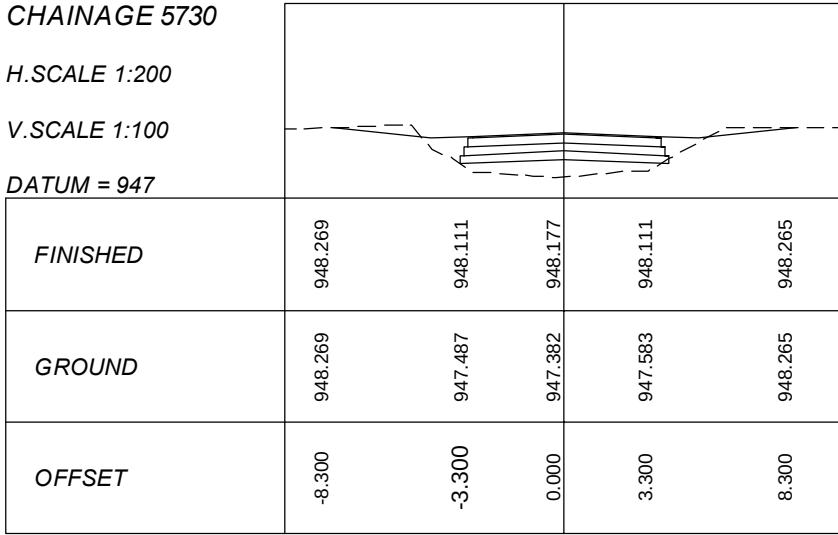
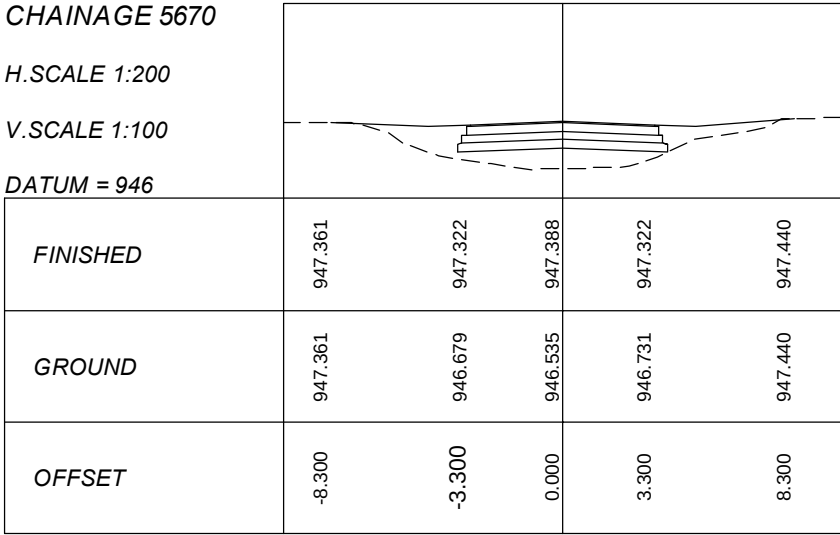
For: Momet Consulting Engineers

DRAWING No.
MOMT/EM/BD/01/2025/DP

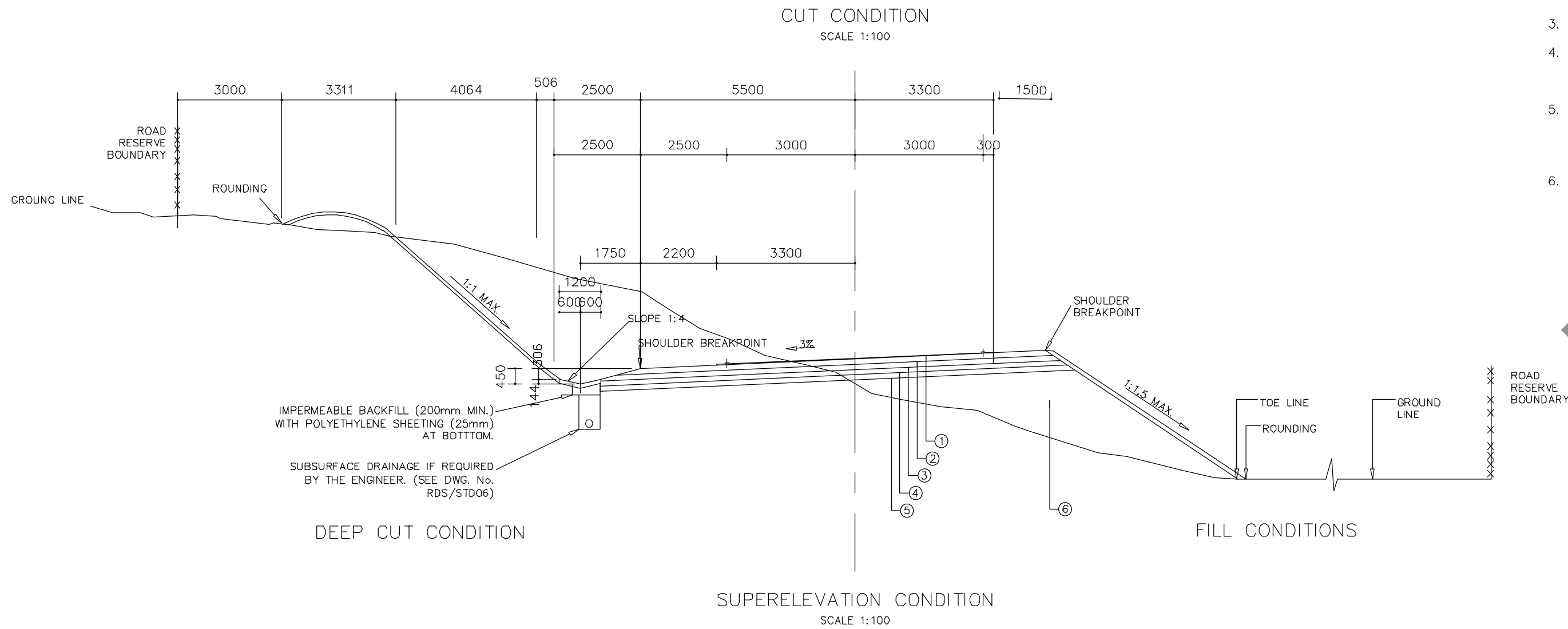
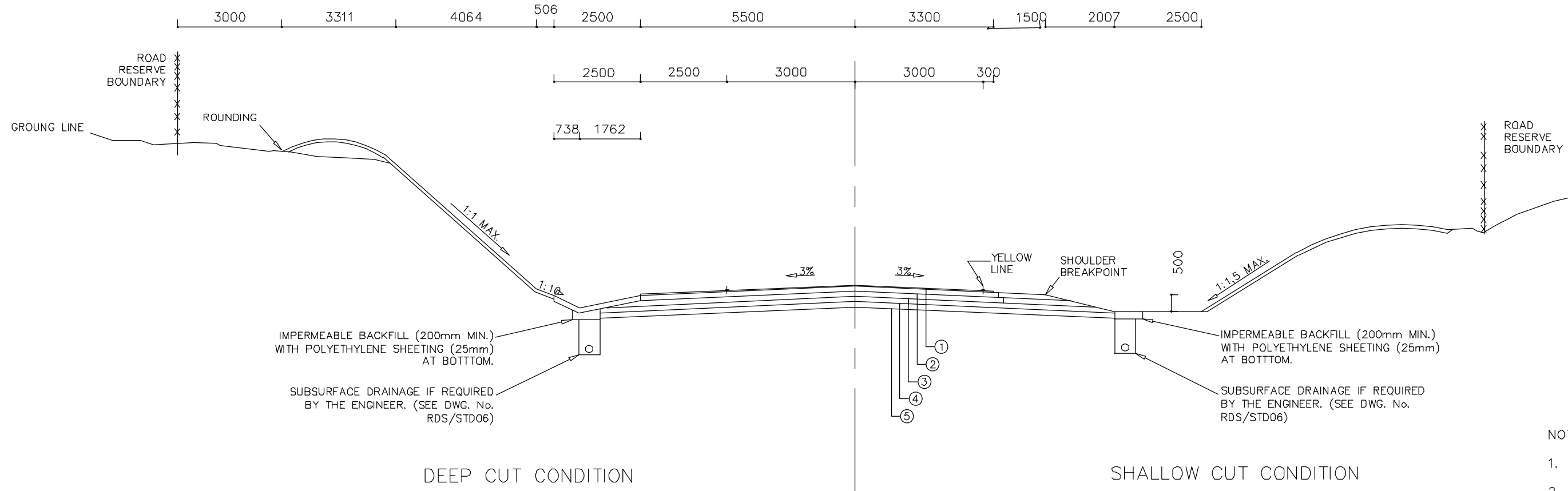
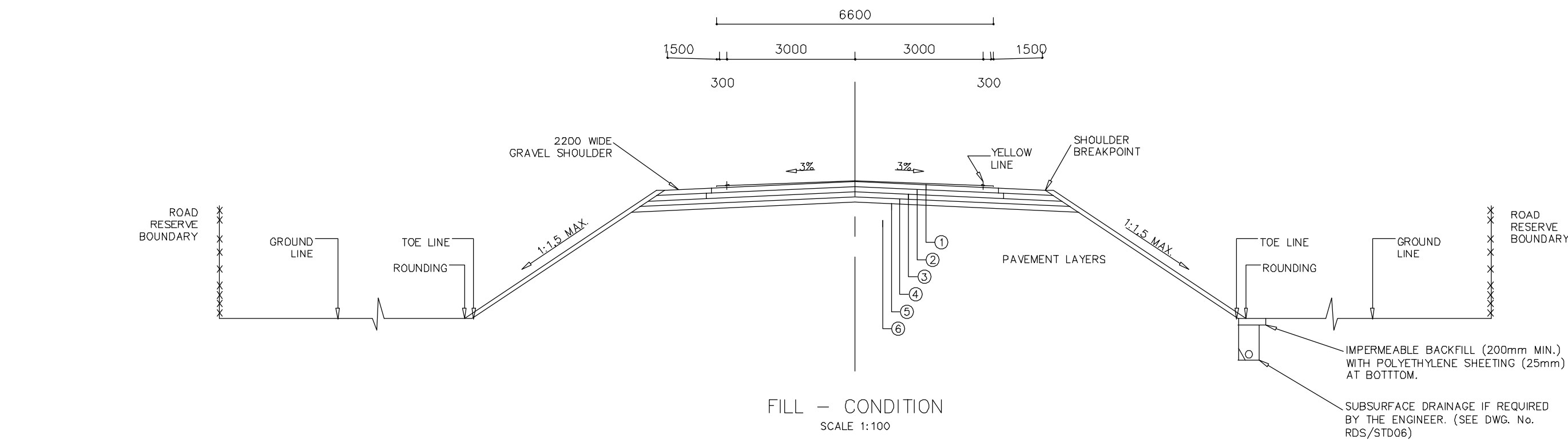
SHEET No.	
SHEET 01 OF 01	
SCALE	
AS SHOWN	
PAPER SIZE	A0
REVISION	00







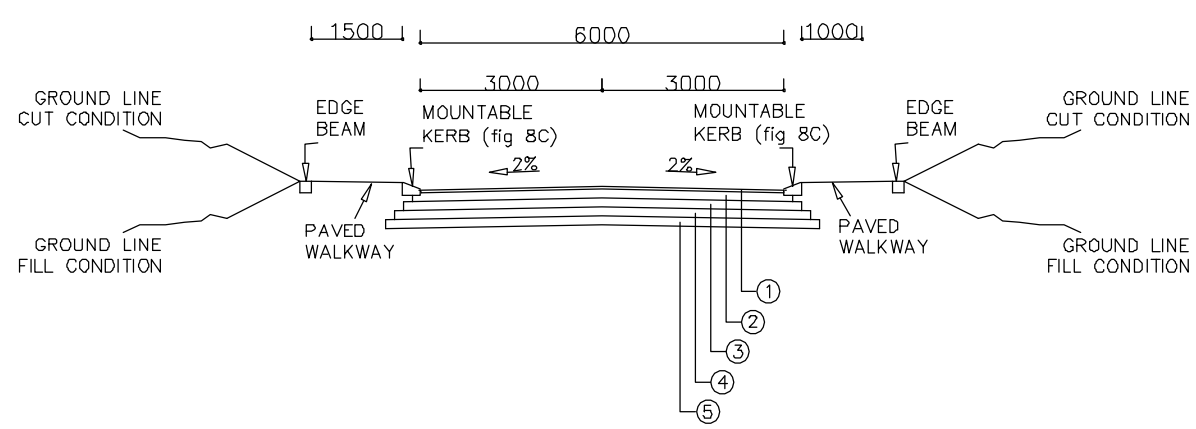
TYPICAL CROSS-SECTION AND PAVEMENT DETAILS



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	SURFACING USING A DOUBLE SEAL WITH 19mm & 9.5mm AGGREGATE WITH 80/100 PENETRATION GRADE BITUMEN AND 60% CATIONIC SPRAY GRADE EMULSION.							
2	150mm CHEMICALLY STABILIZED BASE COURSE	C3	3400 / 3500	98%	MAX. 15	0.75	—	1500 @ 98%
3	150mm CHEMICALLY STABILIZED SUBBASE	C4	3400 / 3500	95%			—	1000 @ 95%
4	150mm UPPER SELECTED LAYER	G6	3400	93%	3GM+10	0.75	15 @ 93%	—
4	150mm LOWER SELECTED LAYER	G6	3400	93%	3GM+10	0.75	15 @ 93%	—
5	ROADBED PREPARATION / TOP OF FILL	G9	3300	93%	—	—	7 @ 93%	—
6	FILL	G10	3300	90%	—	—	3 @ 90%	—

NOTES: SUBSURFACE DRAINAGE

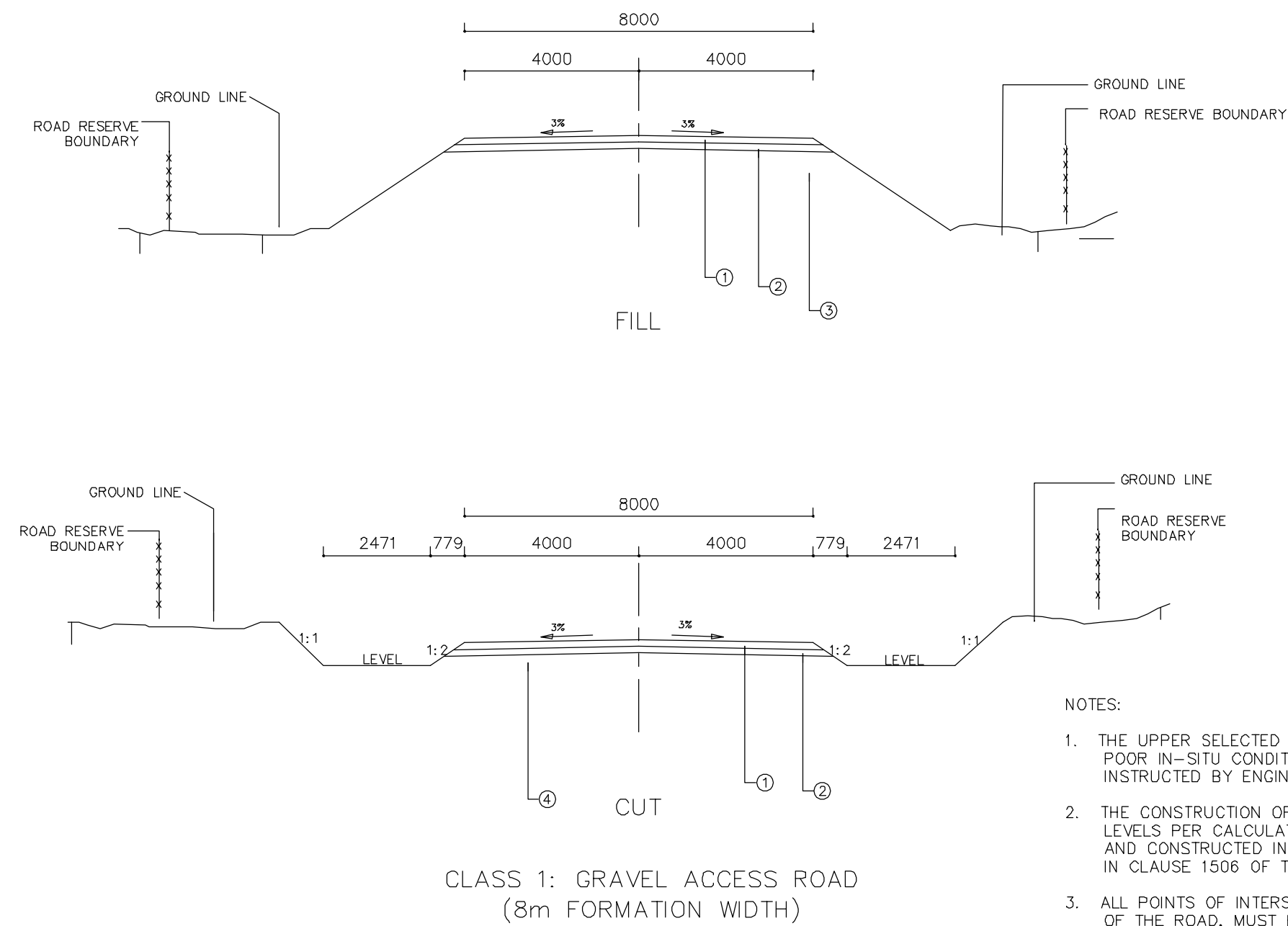
- ROAD PAVEMENT LAYERS AND SIDE DRAIN PROFILES SHOWN, ARE TYPICAL ONLY.
- TYPE, POSITION AND DIMENSIONS OF SUBSOIL DRAIN TO BE DETERMINED BY THE ENGINEER.
- GEOTEXTILE TO BE GRADE 1 UNLESS OTHERWISE SPECIFIED.
- PLACING OF SUBSOIL DRAIN OVER DRY AREAS TO BE AVOIDED. THIS IS TO BE DONE WITH AN UNPERFORATED PIPE AND NOT WITH A SUBSOIL DRAIN.
- DESIRABLE MINIMUM SLOPE OF LONGITUDINAL SUBSOIL DRAIN PIPE TO BE 0.5% WITH AN ABSOLUTE MINIMUM OF 0.5%. THE MINIMUM SLOPE OF TRANSVERSE SUBSOIL DRAIN PIPE TO BE 1.5%.
- PERFORATIONS OR SLOTS OF SUBSOIL DRAIN PIPE TO FACE DOWNWARDS.



- NOTES: SUBSURFACE DRAINAGE
- ROAD PAVEMENT LAYERS AND SIDE DRAIN PROFILES SHOWN, ARE TYPICAL ONLY.
 - TYPE, POSITION AND DIMENSIONS OF SUBSOIL DRAIN TO BE DETERMINED BY THE ENGINEER.
 - GEOTEXTILE TO BE GRADE 1 UNLESS OTHERWISE SPECIFIED.
 - PLACING OF SUBSOIL DRAIN OVER DRY AREAS TO BE AVOIDED. THIS IS TO BE DONE WITH AN UNPERFORATED PIPE AND NOT WITH A SUBSOIL DRAIN.
 - DESIRABLE MINIMUM SLOPE OF LONGITUDINAL SUBSOIL DRAIN PIPE TO BE 0.5% WITH AN ABSOLUTE MINIMUM OF 0.5%. THE MINIMUM SLOPE OF TRANSVERSE SUBSOIL DRAIN PIPE TO BE 1.5%.
 - PERFORATIONS OR SLOTS OF SUBSOIL DRAIN PIPE TO FACE DOWNWARDS.

TYPICAL CROSS-SECTION AND PAVEMENT DETAILS BUILT UP AREAS

TYPICAL CROSS-SECTION AND PAVEMENT DETAILS - TEMPORARY DEVIATION



- 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.

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	—	—	—	—

NO.	DATE	REVISION	CONSULT	DIR.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

DESIGNED BY	SZB RANGANA
CHECKED BY	PKA NDLOVU
DRAWN BY	TA MOSA
CHECKED BY	TE MUWANGO



EPHRAIM MOGALE LOCAL MUNICIPALITY

Private Bag X 111
MARBLE HALL
0450
TEL: 013 - 281 8400
FAX: 013 - 281 2985



MONT CONSULTING ENGINEERS

PO BOX 1249
FAUNA PARK
0787
TEL: 015 - 291 4173
FAX: 015 - 291 4218



PROJECT
CONSTRUCTION OF RATHOKE BUS ROUTE

BID NO.: EMP/MLM/83/544

TITLE
ROAD TYPICAL CROSS SECTION

ISSUED FOR TENDER

For Ephraim Mogale Municipality

For Mont Consulting Engineers

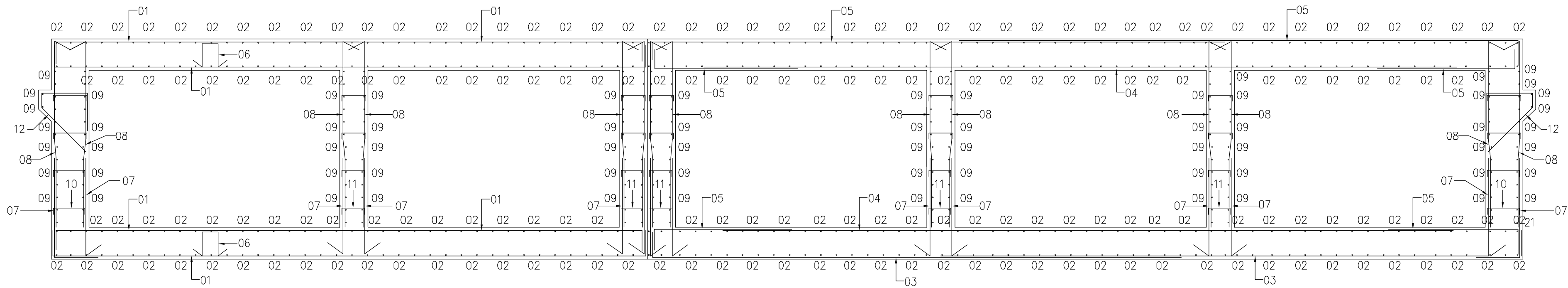
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SHEET NO. 01 OF 01

SCALE
AS SHOWN

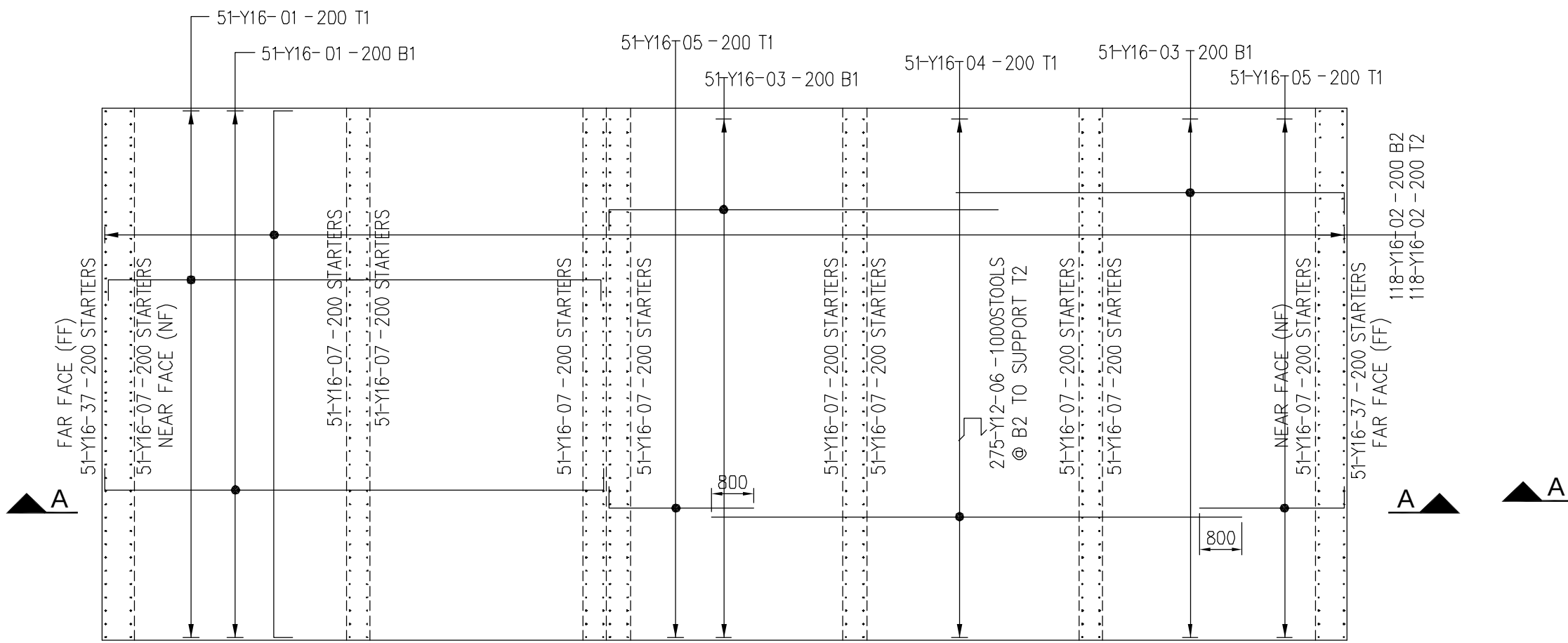
PAPER SIZE
A0

REVISION
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SECTION A-A

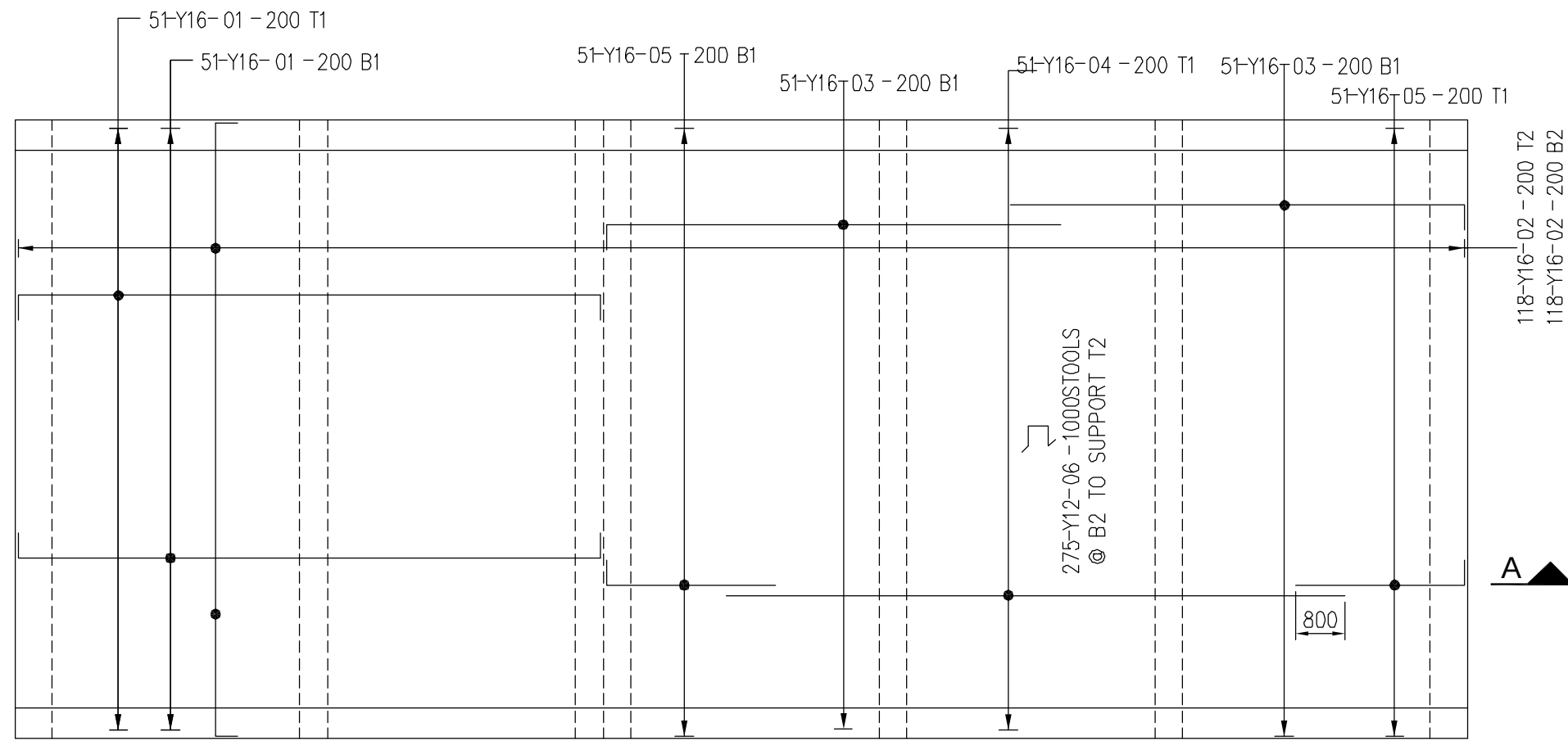
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BOTTOM SLAB REINFORCEMENT DETAILS

SCALE - 1:100

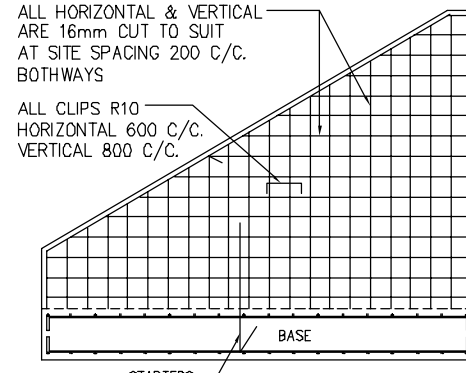
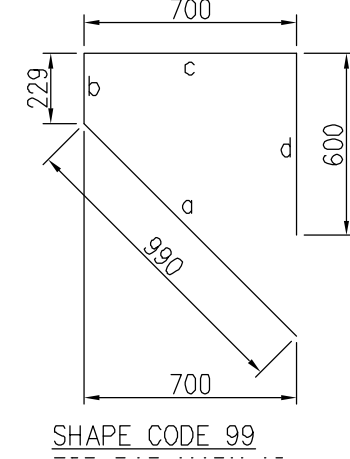
COVER:
TOP, BOTTOM & SIDES=50mm



TOP SLAB REINFORCEMENT DETAILS

SCALE - 1:100

COVER:
TOP, BOTTOM & SIDES=50mm

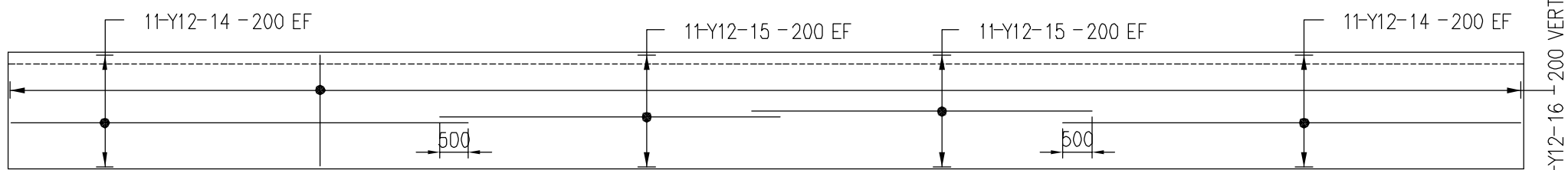


SECTION B-B

RB1 REINFORCEMENT DETAILS (2 No. REQUIRED)

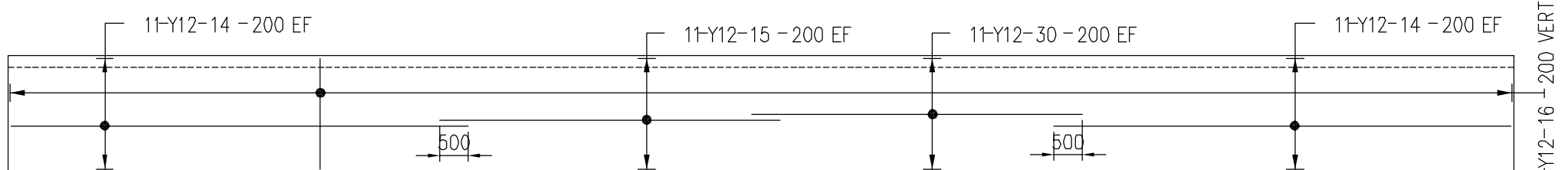
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COVER: TOP & SIDES=30mm
BOTTOM=50mm



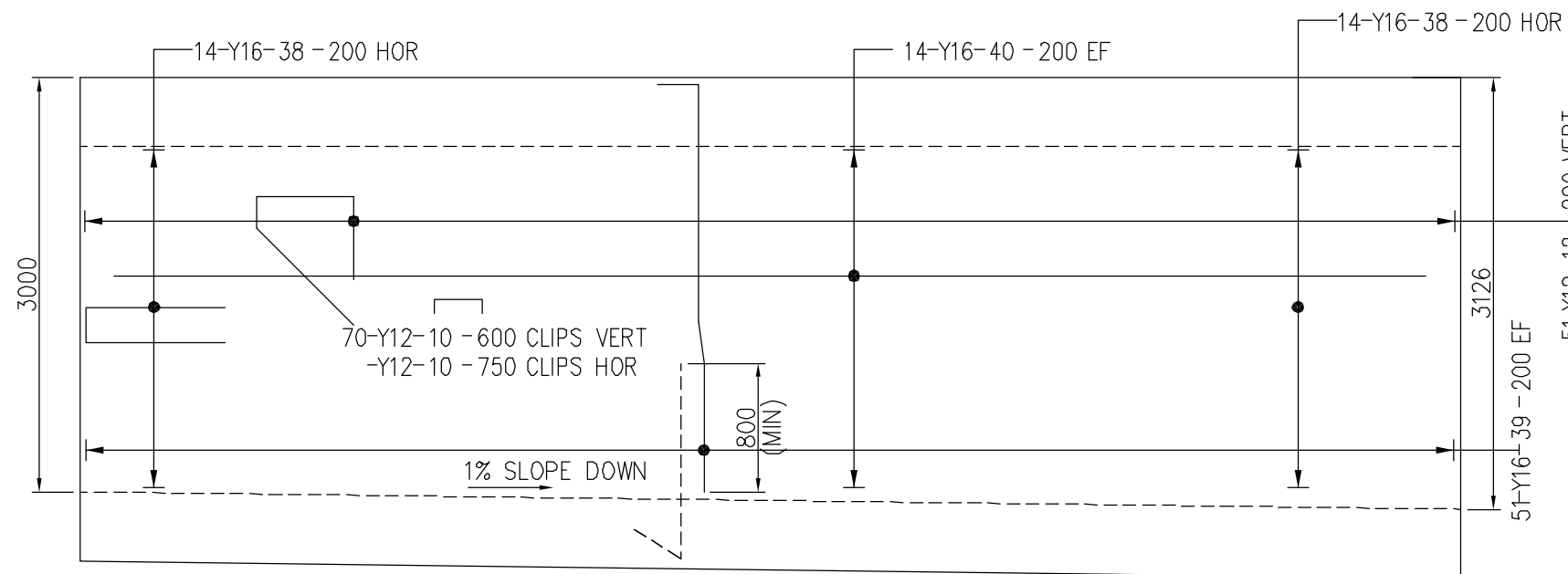
GB1 REINFORCEMENT DETAILS

SCALE - 1:100



GB2 REINFORCEMENT DETAILS

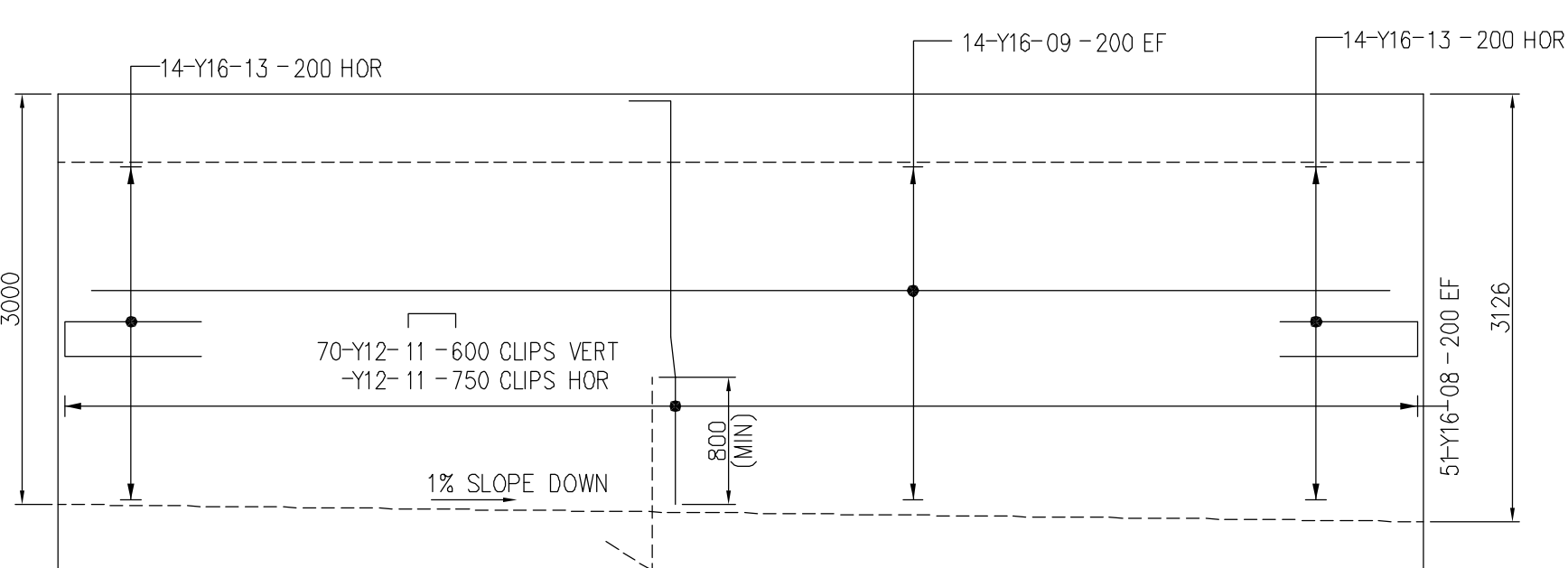
SCALE - 1:100



WALL 1 & 7 REINFORCEMENT DETAILS

SCALE - 1:50

COVER:
TOP, BOTTOM & SIDES=50mm



WALL 2,3,4,5 & 6 REINFORCEMENT DETAILS

SCALE - 1:50

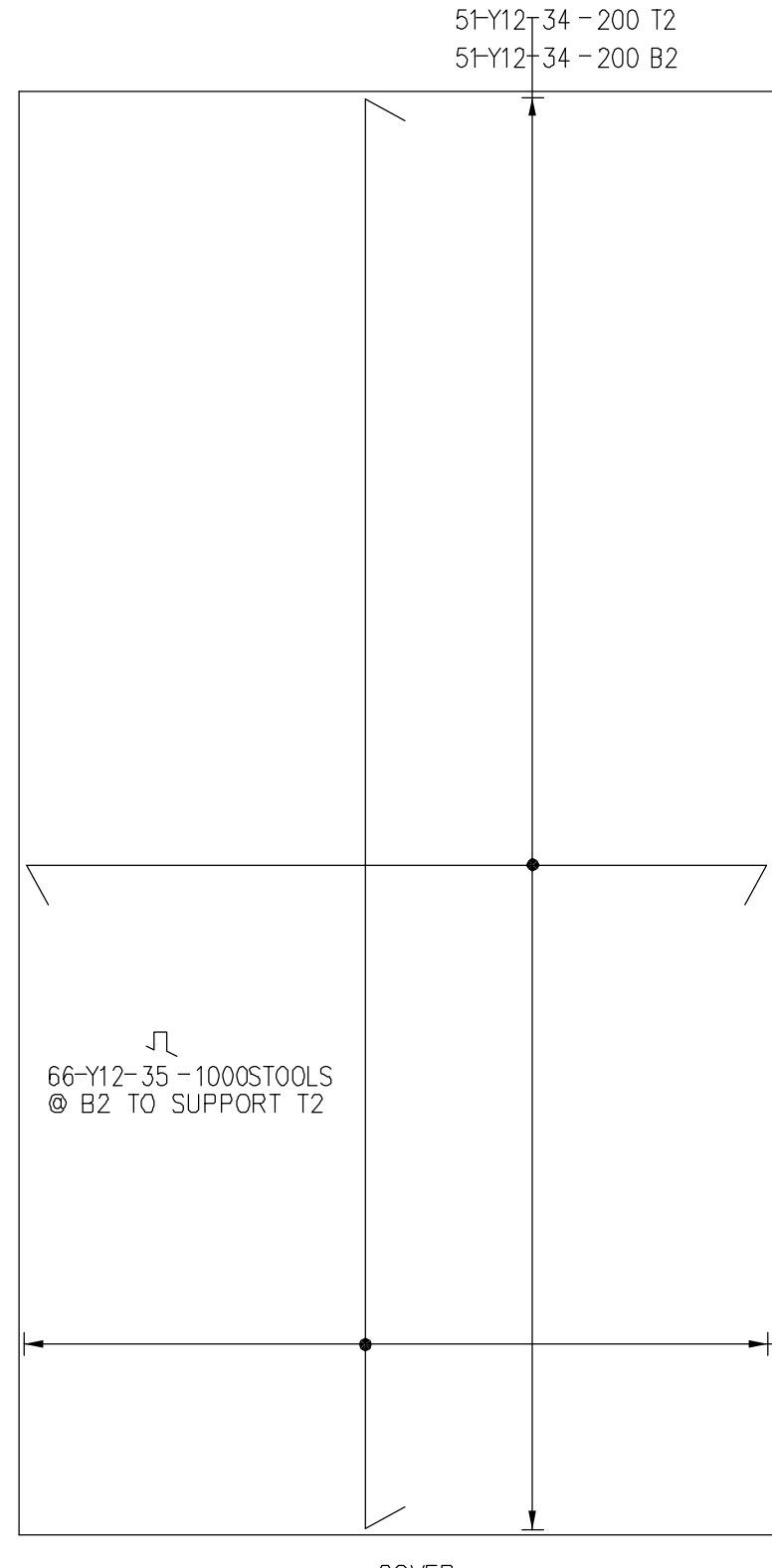
COVER:
TOP, BOTTOM & SIDES=50mm

WINGWALL BASE 3
REINFORCEMENT DETAILS

SCALE - 1:50

WINGWALL BASE 2
REINFORCEMENT DETAILS

SCALE - 1:50



APPROACH SLAB
REINFORCEMENT DETAILS

SCALE - 1:50

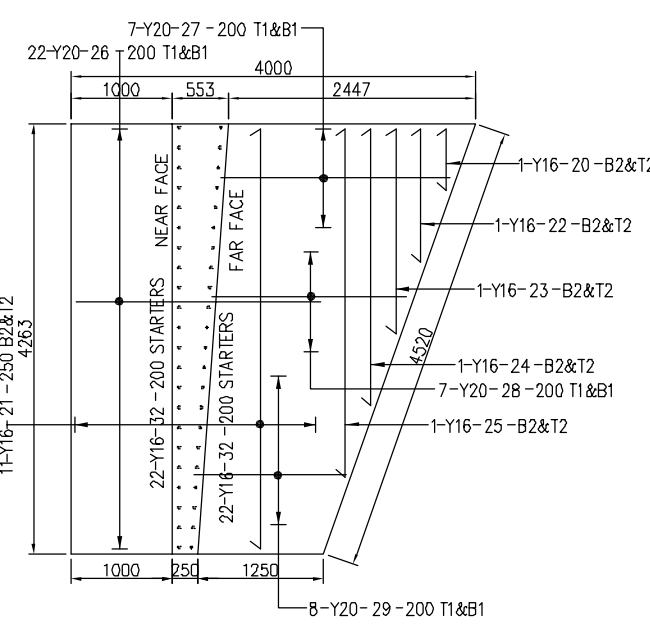
WINGWALL BASE 1
REINFORCEMENT DETAILS

SCALE - 1:50

WINGWALL BASE 1
REINFORCEMENT DETAILS

SCALE - 1:50

Bar MARK	Type and size	No OFF	No OFF PER UNIT	TOTAL No OFF	CUTTING LENGTH	SHAPE CODE	A	B	C	D	E or R							
01	Y16	1	204	204	10150	38	400	9400										
02	Y16	1	472	472	10550	38	350	9900										
03	Y16	1	204	204	7750	37	400											
04	Y16	1	102	102	10000	20												
05	Y16	1	204	204	3150	37	400											
06	Y12	1	550	550	1450	83	300	330	300									
07	Y16	1	510	510	1750	37	400											
08	Y16	5	102	510	2950	42	800	300	1720	40								
09	Y16	5	28	140	9500	20												
10	Y12	2	70	140	700	35	500											
11	Y12	5	70	350	550	35	350											
12	Y12	2	51	102	2550	99												
13	Y16	5	28	140	2300	38	1000	350										
14	Y12	1	88	88	8000	34	7900											
15	Y12	1	66	66	5900	20												
16	Y12	2	261	522	4300	60	200	1900										
17	Y12	2	4	8	1300	39	600	190										
18	Y12	2	8	16	8000	20												
19	Y12	2	119	238	2350	60	190	920										
20	Y16	1	4	4	850	35	610											
21	Y16	1	44	44	4400	35	4160											
22	Y16	1	4	4	1600	35	1320											
23	Y16	1	4	4	2300	35	2030											
24	Y16	1	4	4	3000	35	2740											
25	Y16	1	4	4	3700	35	3450											
26	Y20	1	88	88	2600	34	2420											
27	Y20	1	28	28	2450	34	2280											
28	Y20	1	28	28	2100	34	1930											
29	Y20	1	32	32	1650	34	1500											
30	Y12	1	22	22	5750	20												
31	Y12	2	4	8	7250	20												
32	Y16	1	184	184	1700	37	400											
33	Y12	2	52	104	9700	35	9500											
34	Y12	2	102	204	5150	35	4920											
35	Y12	2	66	132	1150	83	300	170	300									
37	Y16	1	102	102	2150	37	800											
38	Y16	2	28	56	2300	38	1000	350										
39	Y16	2	102	204	2950	42	800	300	1720	40								
40	Y16	2	28	56	9500	20												
45	Y12	1	44	44	4700	35	4500											
46	Y20	1	120	120	2600	34	2440											
47	Y20	1	24	24	2200	34	2060											
48	Y20	1	24	24	1850	34	1680											
49	Y20	1	24	24	1450	34	1300											
51	Y12	1	4	4	4000	35	3770											
52	Y12	1	4	4	3250	35	3010											
53	Y12	1	4	4	2450	35	2240											
54	Y12	1	4	4	1700	35	1470											
55	Y12	1	4	4	950	35	710											
56	Y12	1	4	4	4950	35	4730											
BAR DIAMETER	R6	R8	R10	R12	R16	R20	R25	R32	R40	Y6	Y8	Y10	Y12	Y16	Y20	Y25	Y32	Y40
TOTAL kg													7152	25848	2104			



WINGWALL BASE 2
REINFORCEMENT DETAILS

SCALE - 1:50

WINGWALL BASE 1
REINFORCEMENT DETAILS

SCALE - 1:50

PROJECT CONSTRUCTION OF RATHOKE BUS ROUTE	ISSUED FOR TENDER	SHEET No. 01 OF 01
BID NO.: EPMLM/8/3/544	SCALE AS SHOWN	
TITLE BRIDGE REINFORCEMENT DETAILS	PAPER SIZE A0	
	REVISION	
	MONT/EMI/STR/01/2025/RD02	00

DESIGNED BY SBI RANGANA	CHECKED BY PXA NOLCHU	DRAWN BY TA MOSA	CHECKED BY TE MUYHANGO
DATE	REVISION	CONSULT ENG	OR

Private Bag X 111 MARBLE HALL 0450	TEL: 013 - 261 8400 FAX: 013 - 261 2985



EPHRAIM MOGALE LOCAL MUNICIPALITY



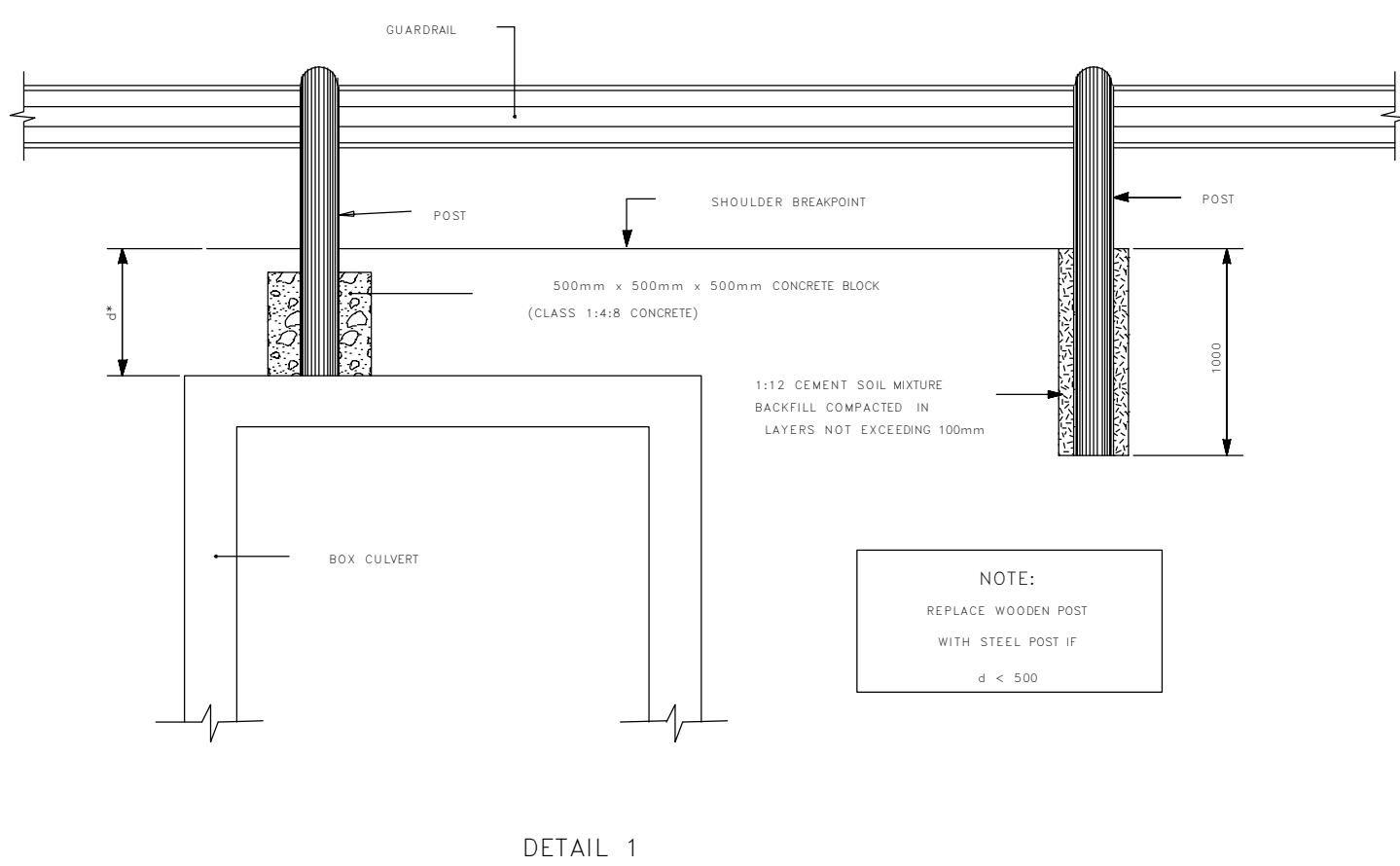
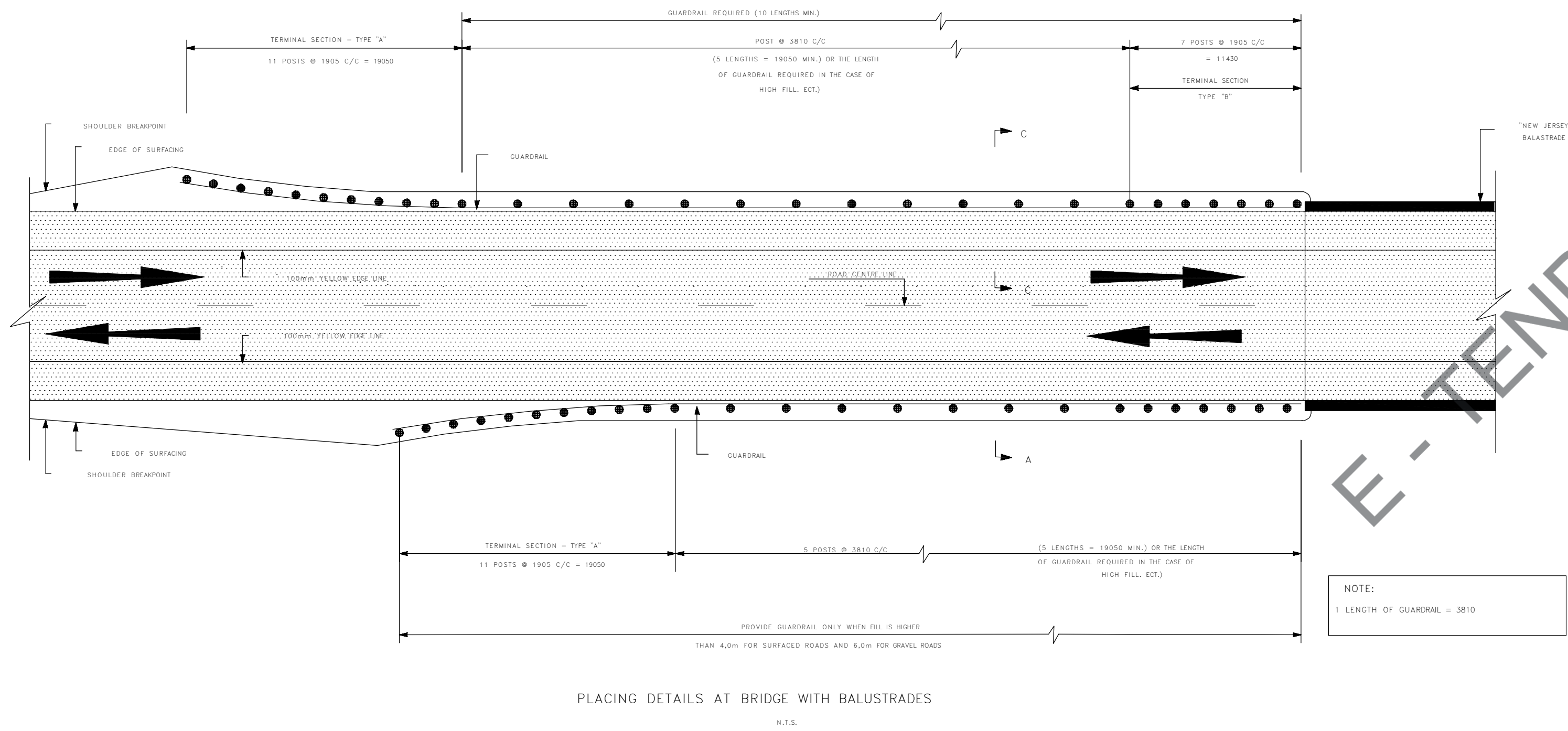
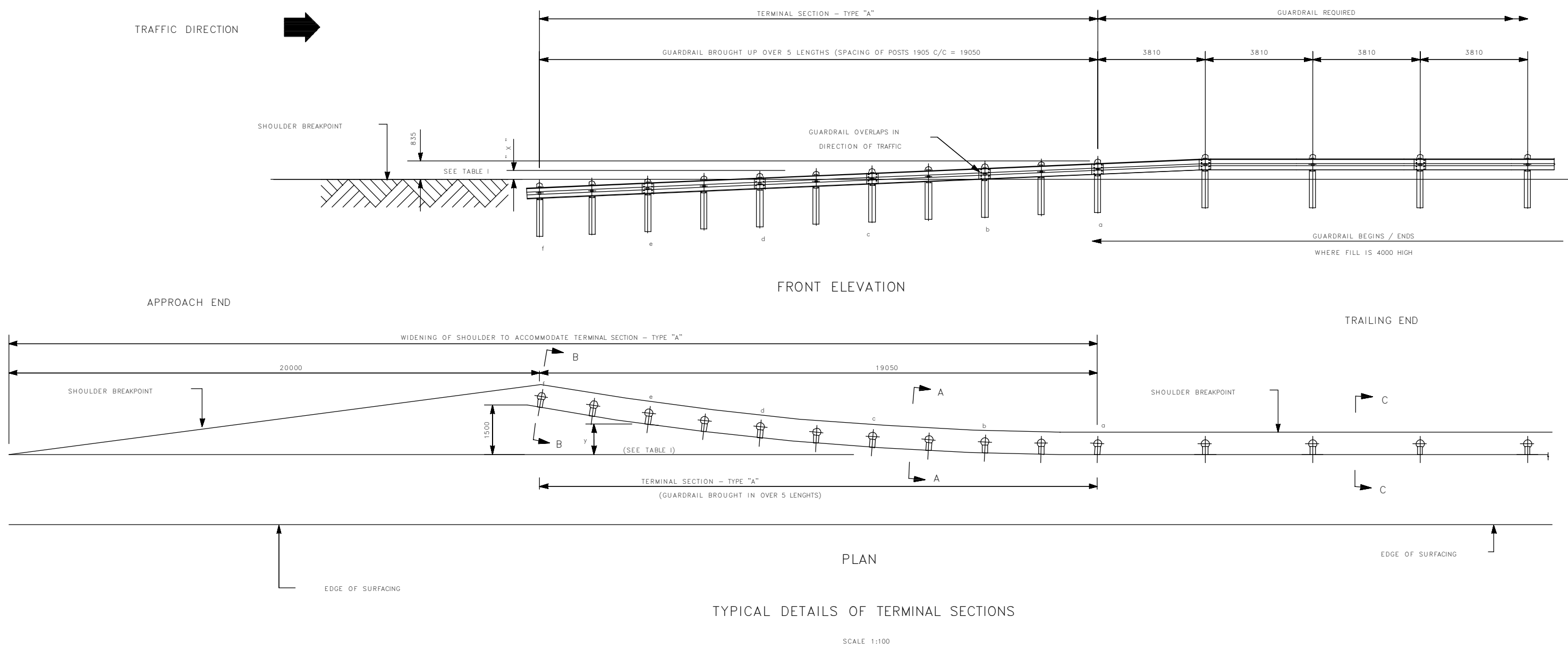
MONT CONSULTING ENGINEERS

PO BOX 1249
FAUNA PARK
0787

TEL: 015 - 291 4173
FAX: 015 - 291 4218

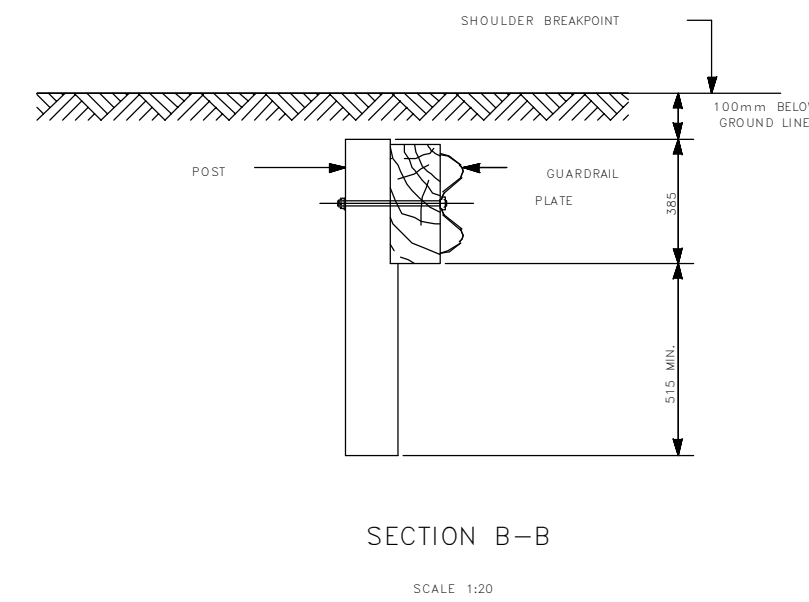
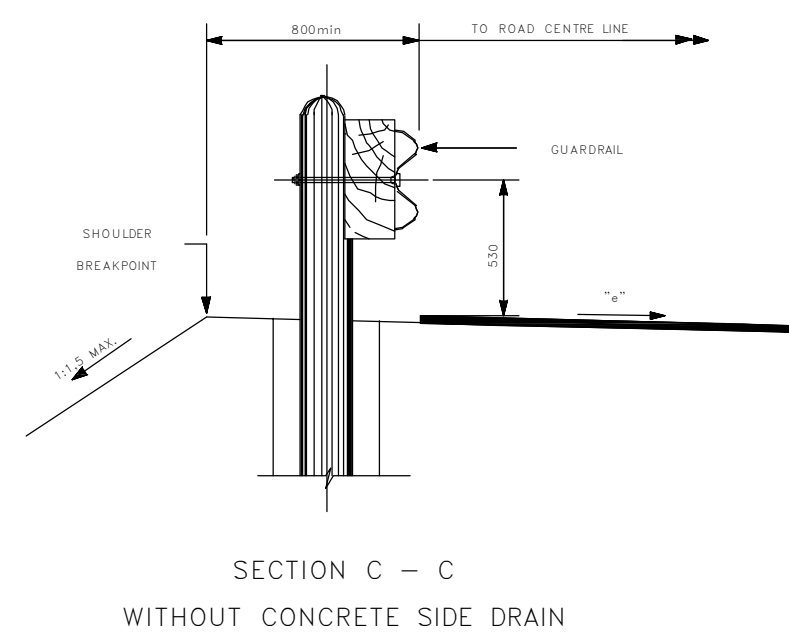
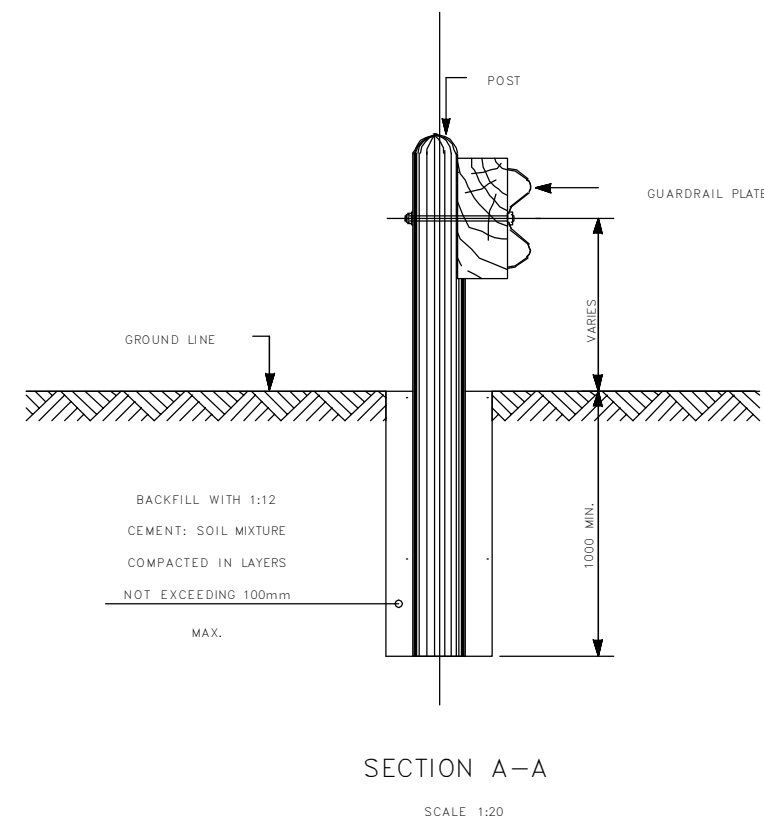


GUARDRAIL PLACING DETAILS



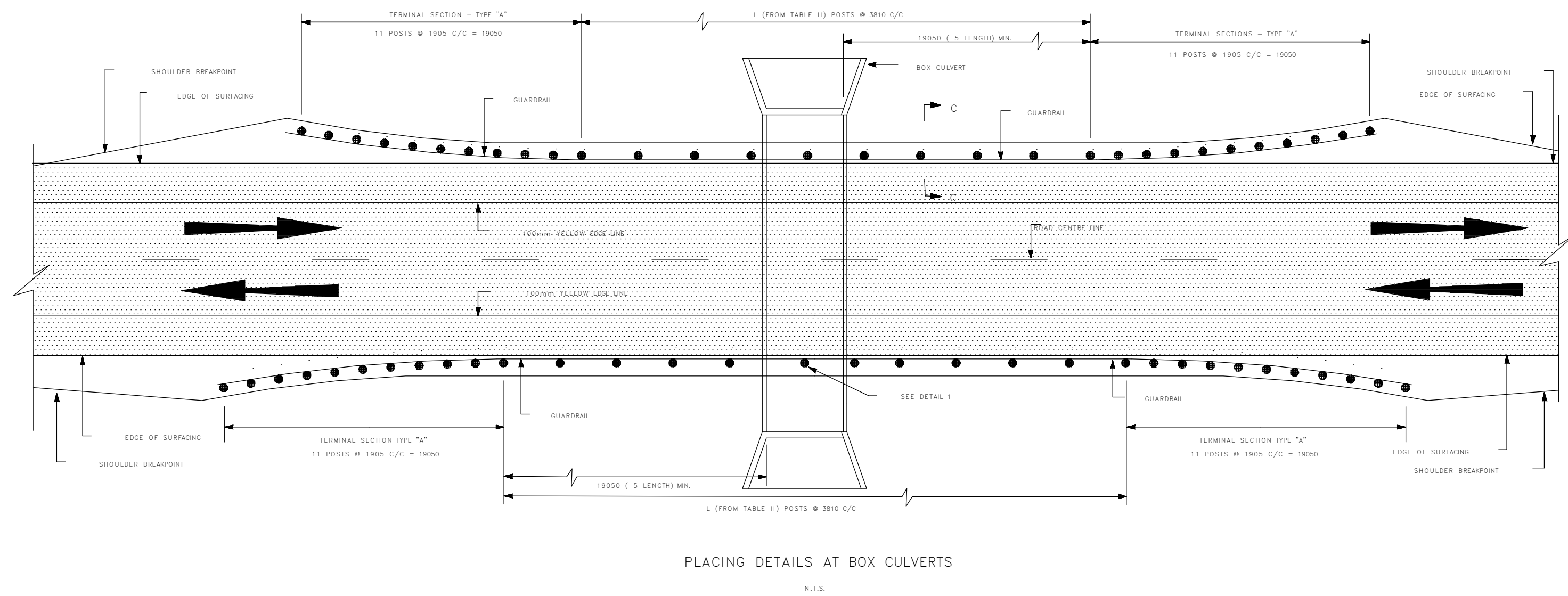
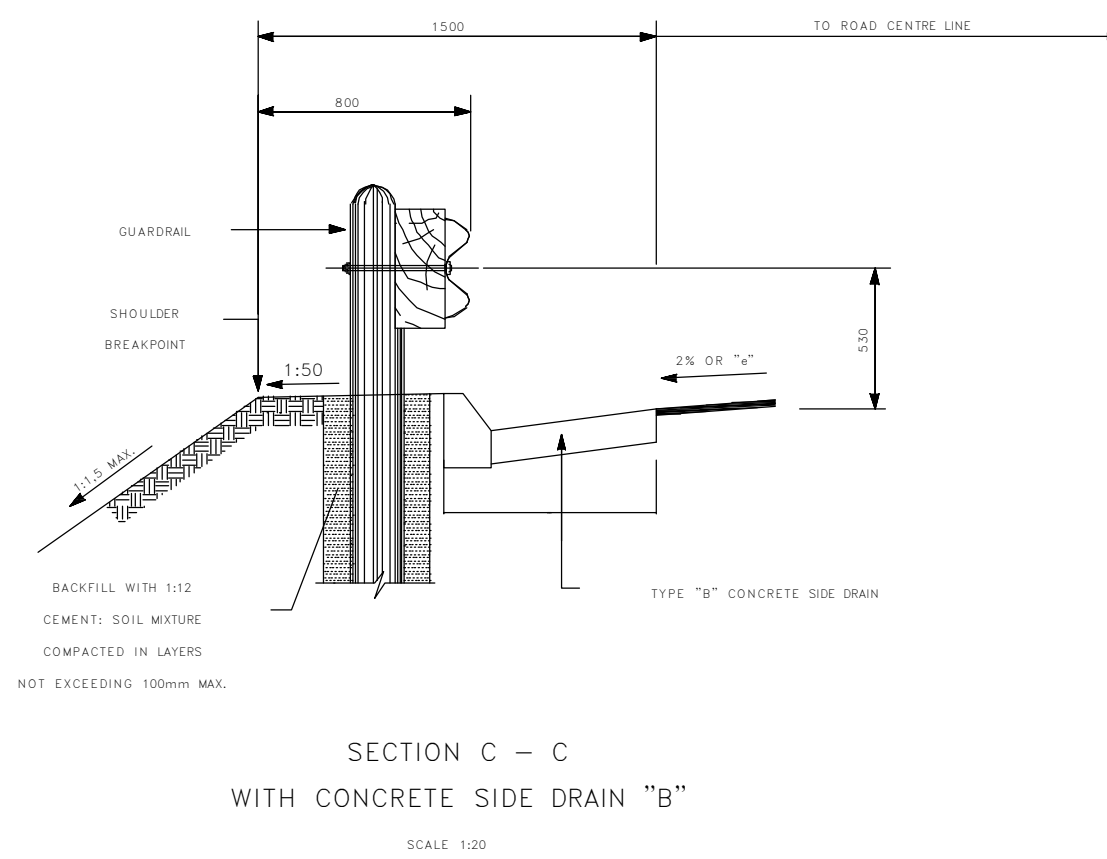
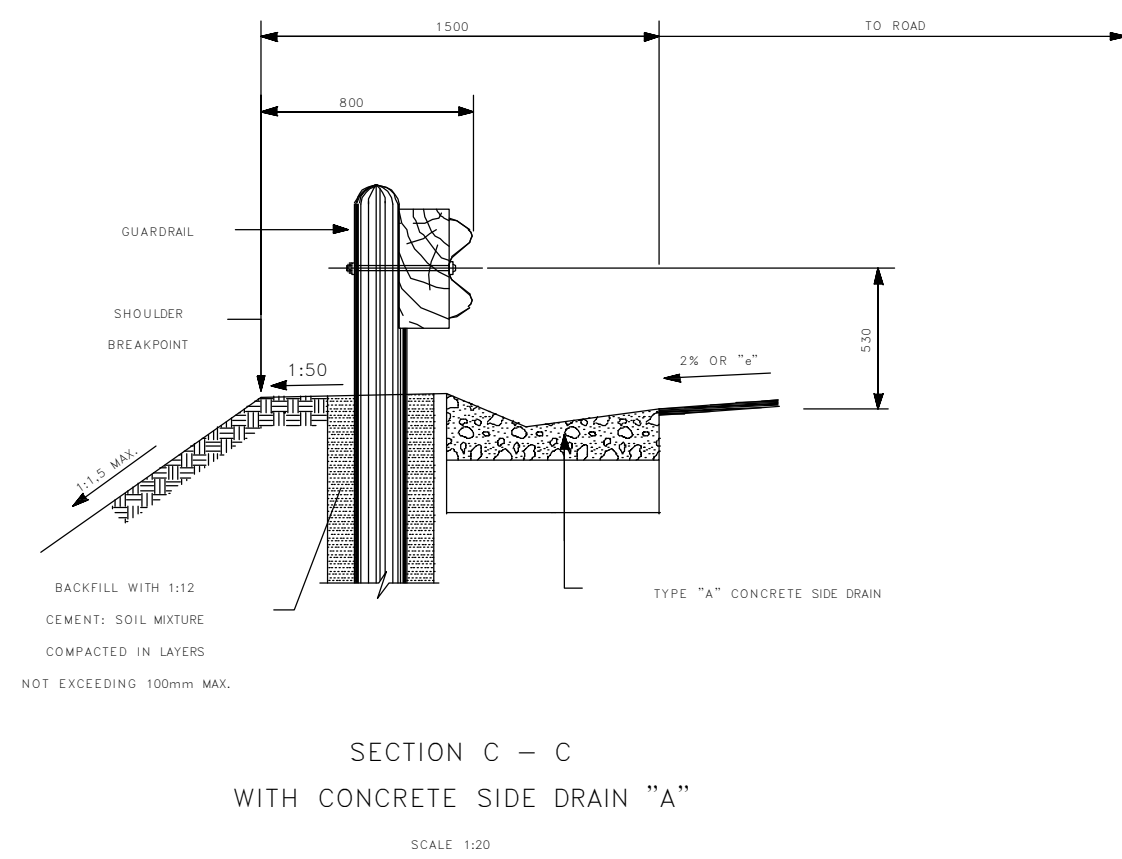
1. THE HOLES FOR TIMBER POSTS SHALL BE OF SUFFICIENT SIZE TO PERMIT PROPER SETTING OF THE POSTS AND TO ALLOW SUFFICIENT ROOM FOR BACKFILLING.
2. AT LEAST 1.0m OF POST SHALL BE EMBEDDED IN THE GROUND
3. HOLES FOR TIMBER POSTS SHALL BE SPACED TO SUITE THE STANDARD LENGTH OF GUARDRAIL SUPPLIED.
4. HOLES SHALL BE BACKFILLED WITH 12:1 SLOPE : CEMENT MIXTURE AT OPTIMUM MOISTURE CONTENT IN COMPACTED LAYERS NOT EXCEEDING 100mm,

1. WHERE THE FILL IS HIGHER THAN 4.0m FOR SURFACED ROADS, AND 6.0m FOR GRAVEL ROADS.
2. WHERE WATER NEXT TO THE ROAD FORMATION IS DEEPER THAN 1.5m.
3. AT ALL BRIDGES WITH RAILROADS.
4. ON THE OUTSIDE OF CURVES WITH RADII LESS THAN 200mm AND ONLY WHEN THE ROAD IS IN FILL.
5. WHERE OBSTRUCTIONS ARE LESS THAN 1.0m FROM THE SHOULDER BREAKPOINT.
6. WHERE AN OBSTRUCTION APPEARS TO BE MORE DANGEROUS THAN A GUARDRAIL WOULD BE.
7. THESE RULES ARE TO BE APPLIED WITH DISCRETION AND THE POSITION OF ALL GUARDRAILS MUST BE CONFIRMED ON SITE BY THE ENGINEER PRIOR TO THE ERECTION THEREOF.



PLACING OF POLES AT PARABOLIC TERMINAL SECTIONS		
	HORIZONTAL OFF - SETS FOR PARABOLIC TERMINAL SECTIONS Y (mm)	VERTICAL OFF-SETS FOR PARABOLIC TERMINAL SECTION (MEASURED FROM TOP OF POST) X (mm)
a	60	0
b	70	35
c	80	125
d	90	299
e	100	531
f	110	835

MIN. LENGTH OF GUARDRAIL REQUIRED (EXCLUDING TERMINAL SECTIONS)	
DESIGN SPEED km/h	MIN. LENGTH
60	12 LENGTHS (5.7)
70	14 LENGTHS (63.56)
80	16 LENGTHS (80.86)
90	20 LENGTHS (96.20)
100	25 LENGTHS (87.63)
110	27 LENGTHS (100.87)
120	29 LENGTHS (110.49)
130	32 LENGTHS (121.92)
140	35 LENGTHS (133.35)



x	x	x	x	x	x
x	x	x	x	x	x
x	x	x	x	x	x
x	x	x	x	x	x
x	x	x	x	x	x
x	x	x	x	x	x
x	x	x	x	x	x
x	x	x	x	x	x
x	x	x	x	x	x
x	x	x	x	x	x
No.	DATE	REVISION	CONSULT. ENG.	DIR.	

DESIGNED BY	SZB RANGANA
CHECKED BY	PXA NDLOVU
DRAWN BY	TA MOSIA
CHECKED BY	TE MUVHANGO



EPHRAIM MOGALE LOCAL MUNICIPALITY

**Private Bag X 111
MARBLE HALL
0450**

**TEL: 013 - 261 8400
FAX: 013 - 261 2985**

MONT CONSULTING ENGINEERS

PO BOX 1249
FAUNA PARK
0787

TEL: 015 - 291 4173
FAX: 015 - 291 4218

MEMBER OF
 **CESA**
Consulting Engineers South Africa

PROJECT
CNSTRUCTION OF RATHOKE BUS ROUTE

BID NO.: EPLMLM/8/3/544

TITLE

GUARDRAILS ELEMENTS AND MOUNTING DETAILS (1 OF 2)

ISSUED FOR TENDER
(Till 30/08/2011)

For: Ephraim Megale Municipality

For: More Consulting Engineers

MONT/RDS/STD001

SHEET No.
SHEET 01 OF 01

SCALE
AS SHOWN

A1

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 ROADSTUDS
(b) "SP-S" ROAD SIGNS.

2. THE STRUCTURAL AND MOUNTING ASPECTS OF ROAD TRAFFIC SIGNS ARE COVERED BY STANDARD PLAN SREIES "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.

SUB-SERIES IN THE ROADWORKS SIGNS AND DETOURS SERIES "SP-R"

GENERAL SIGN DETAILS

"SP-R-1"

TEMPORARY

"SP-R-2"

DIAGRAMMATIC SIGNS

TYPICAL LAYOUTS

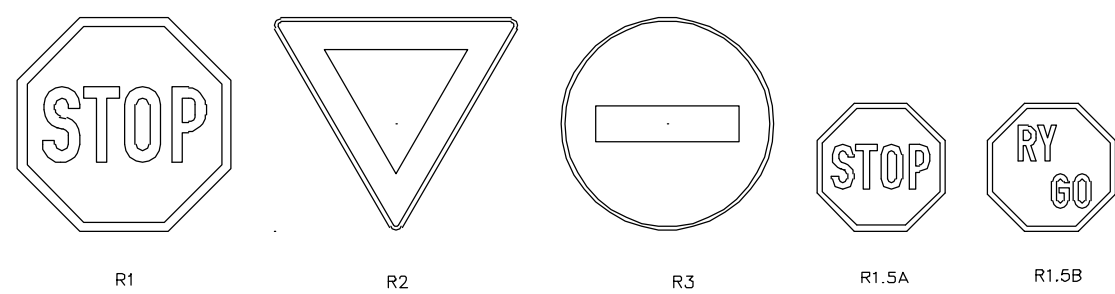
"SP-R-3"

KEY

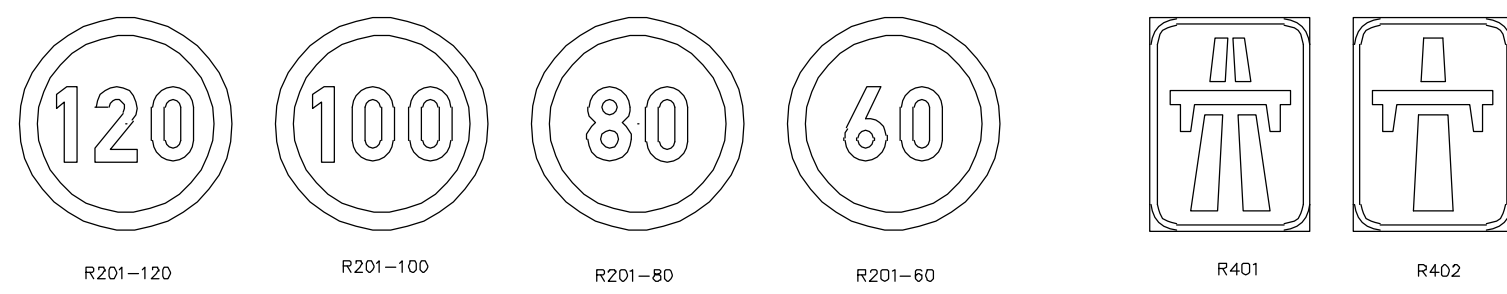
- RED
WHITE
YELLOW
BLUE
BLACK
GREEN
BROWN

PERMANENT SIGNS

CONTROL REGULATORY SIGNS



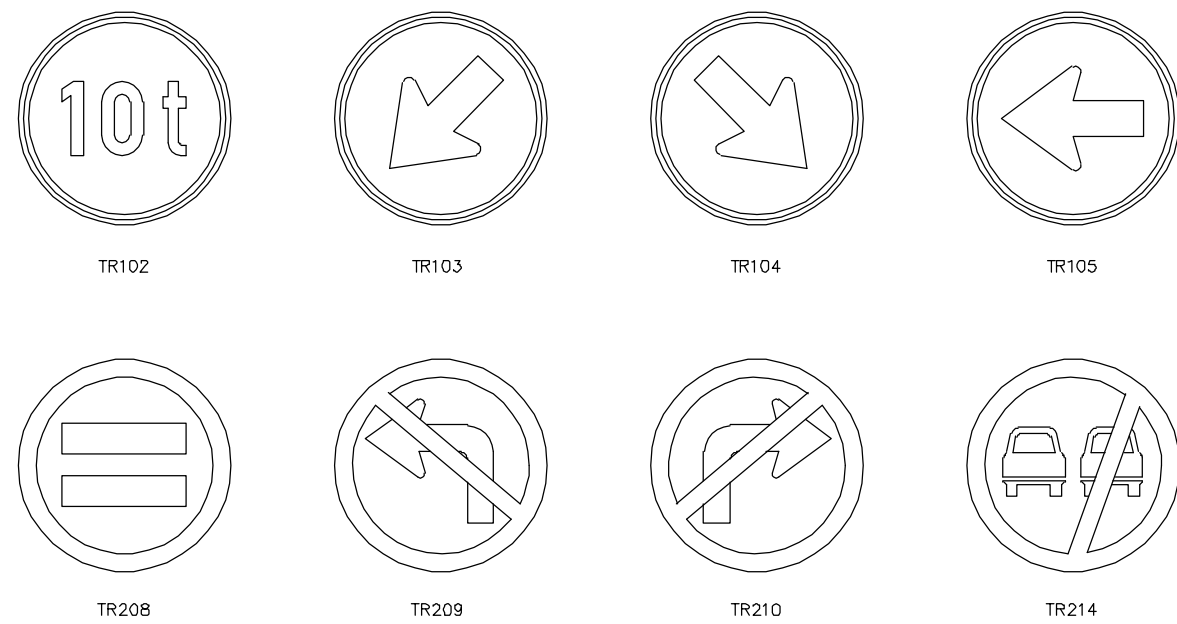
PROHIBITION REGULATORY SIGNS



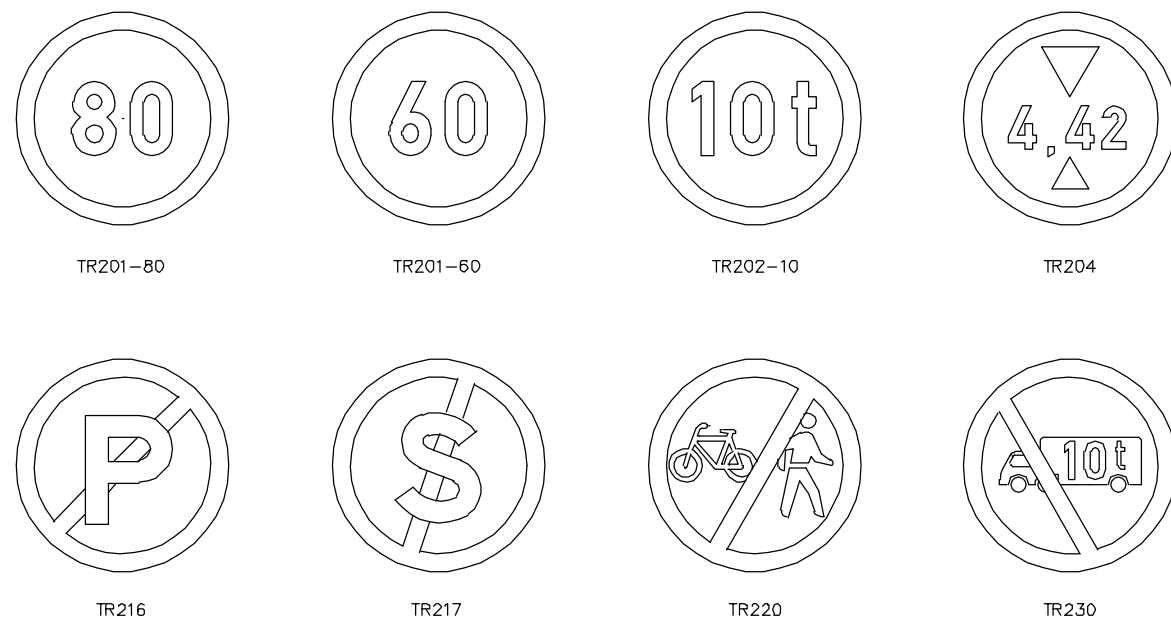
COMPREHENSIVE REGULATORY SIGNS

TEMPORARY SIGNS

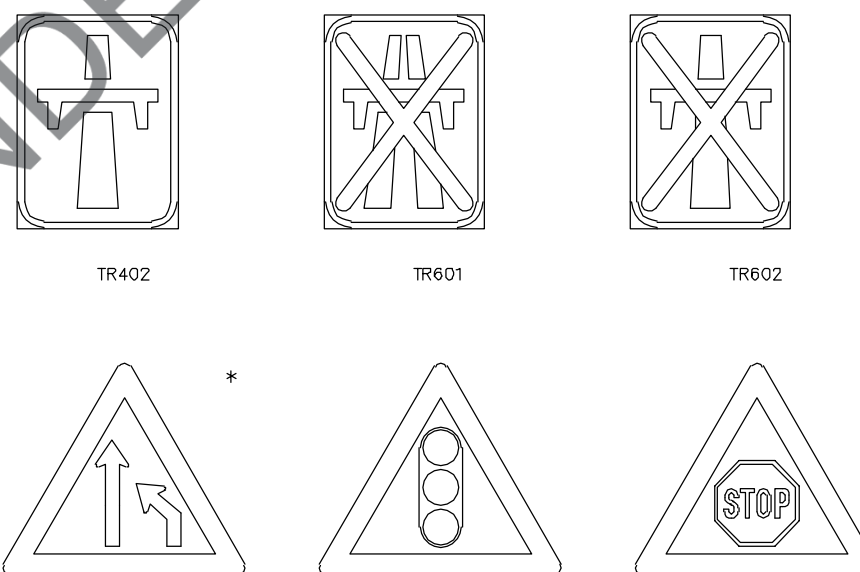
COMMAND REGULATORY SIGNS



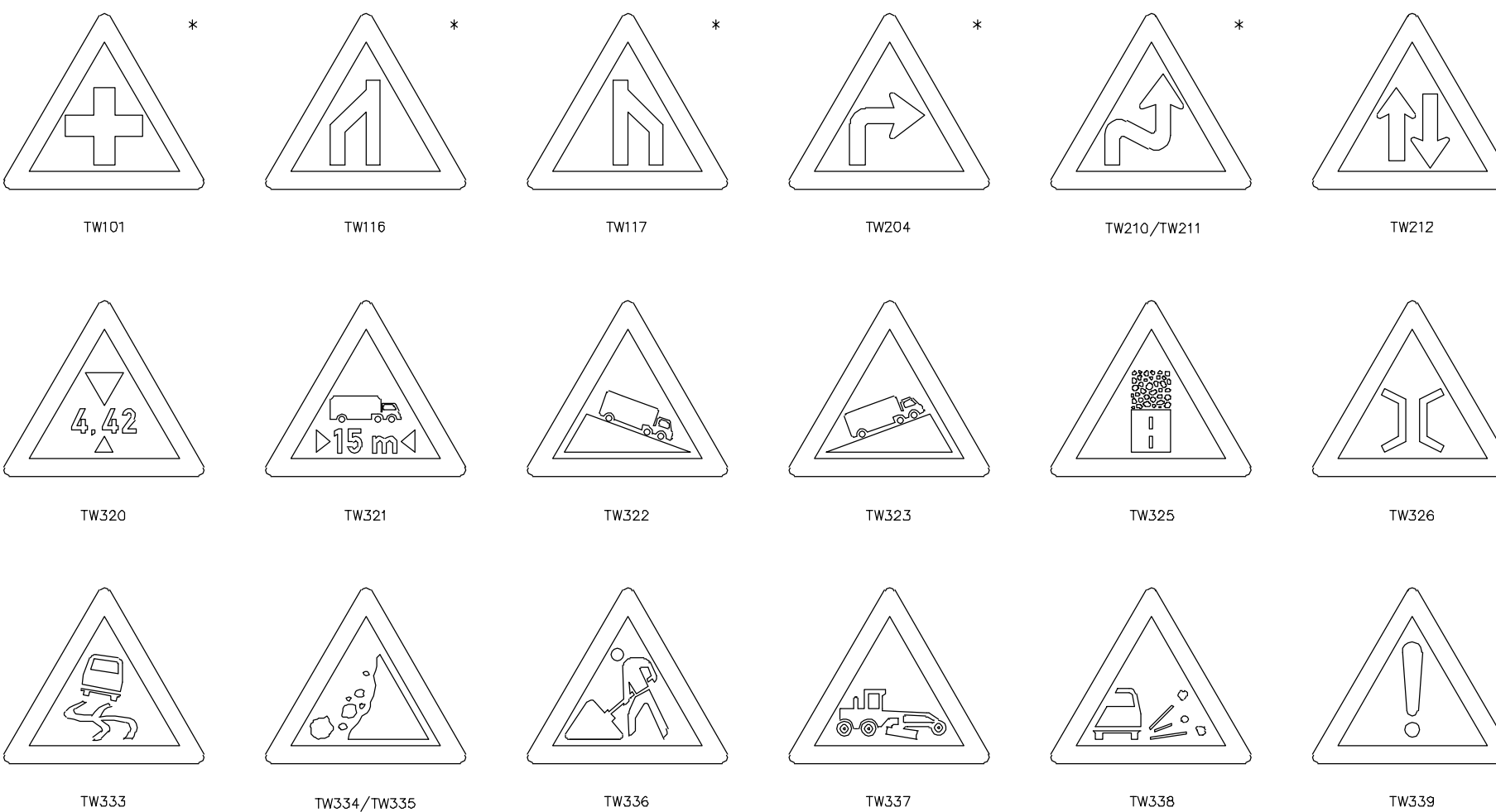
PROHIBITION REGULATORY SIGNS



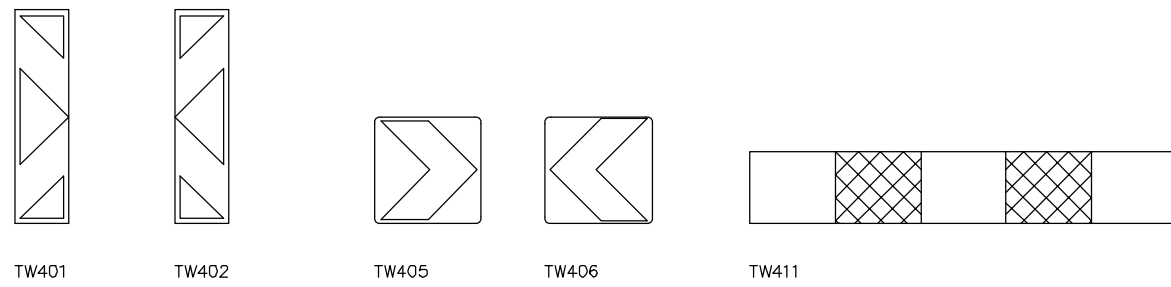
COMPREHENSIVE/DERESTRICTION REGULATORY SIGNS



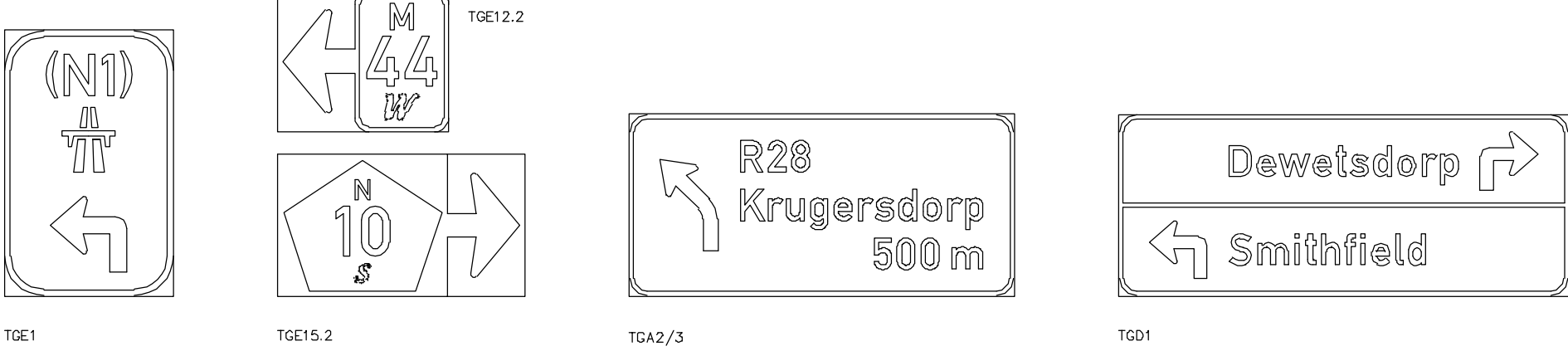
ADVANCE WARNING SIGNS



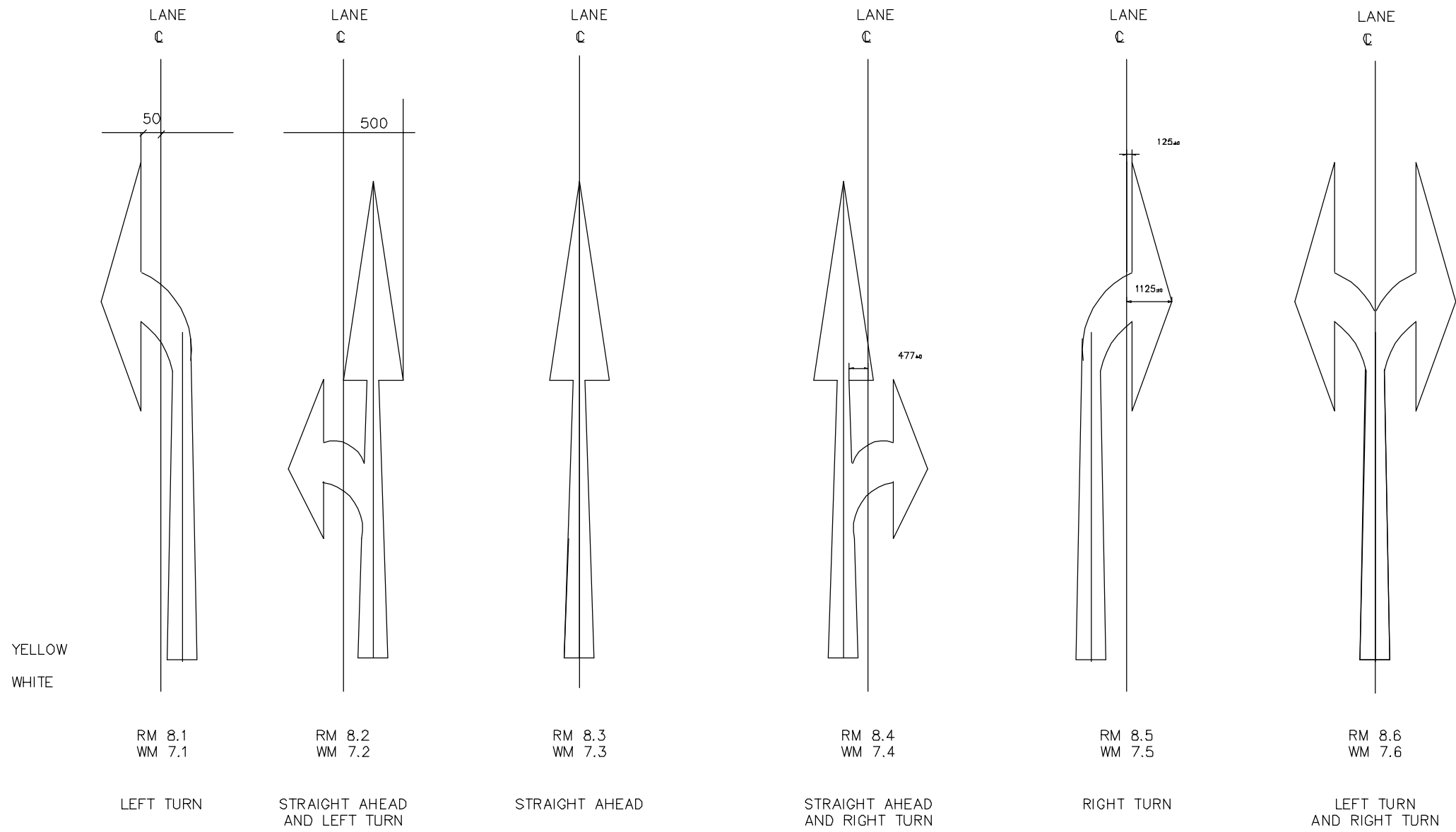
HAZARD MARKER SIGNS



GUIDANCE SIGNS



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NOTES: MANDATORY DIRECTION ARROWS

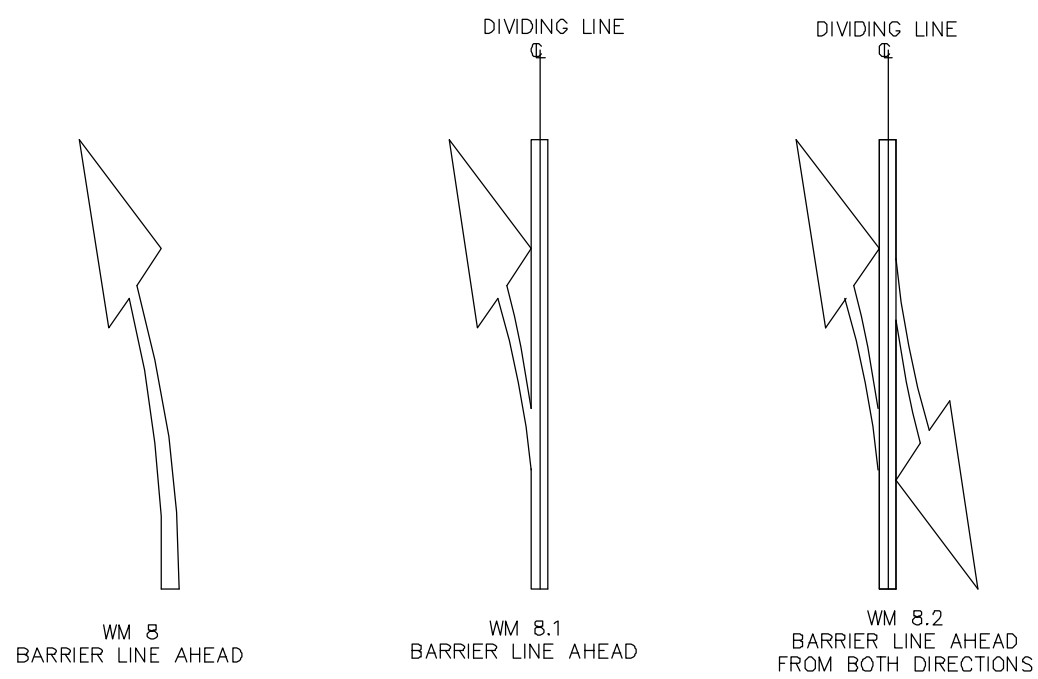
1. THIS ARROWS MAY BE USED IN LANES TO INDICATE THAT DRIVERS SHALL PROCEED ONLY IN THE DIRECTION OR DIRECTIONS SHOWN. THEY SHOULD ONLY BE USED IF THE JUNCTION CONCERNED REQUIRE TURNING MOVEMENT CONTROL BY LANE.
2. THE FINAL ARROW NEAREST TO THE POINT OF TURN OR STRAIGHT ON MOVEMENT SHALL BE YELLOW, ANY 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.

Figure 3 consists of four diagrams, labeled GM 3.1 through GM 3.4, illustrating different lane widening scenarios. Each diagram shows a cross-section of a road with a central vertical line labeled "LANE C".

- GM 3.1: LANE ADITION LEFT** - Shows a road with a central "LANE C" and a left shoulder. A dimension of 155' is indicated for the left shoulder width.
- GM 3.2: LANE WIDENS TO TWO LANES** - Shows a road with a central "LANE C" and a right shoulder. The road widens to two lanes.
- GM 3.3: LANE ADITION RIGHT** - Shows a road with a central "LANE C" and a right shoulder. A dimension of 140' is indicated for the right shoulder width.
- GM 3.4: LANE ADITIONS LEFT AND RIGHT** - Shows a road with a central "LANE C" and both left and right shoulders. The road widens to two lanes on both sides.

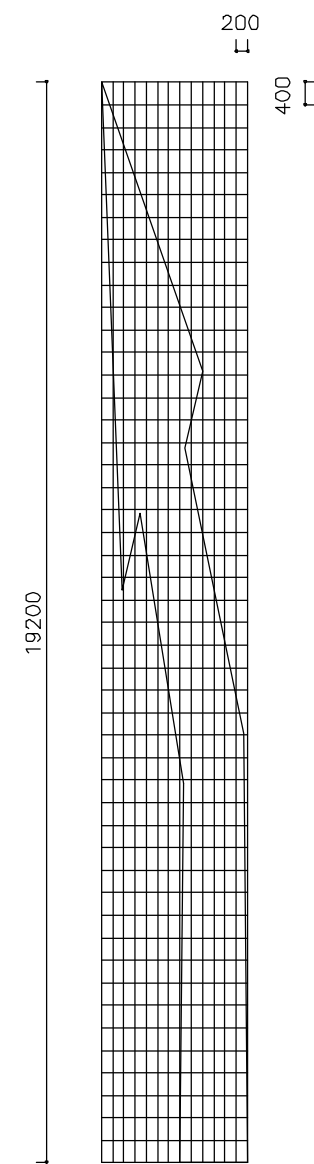
APPLICATIONS
1:50

- 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 MODULS BEFORE THE START OF THE LANE GENERATING TAPER OR CURVE.



APPLICATIONS
1:50

MARKING SPACING



WM 6.1
FROM THE RIGHT

WM 6.2

FROM BOTH SIDES

WM 6.3

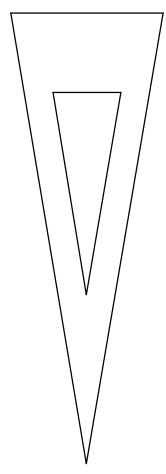
FROM THE LEFT

APPLICATIONS
1:50

- 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.

Figure 1 shows the stylized letters S, T, and P used in the study. Below each letter is its width dimension in millimeters: S is 620 mm, T is 574 mm, and P is 582 mm.

GM 7 STOP
1:50



GM4.1
1:50

GM 7
1:25

DESIGNED BY	SZB RANGANA
CHECKED BY	PXA NDLOVU
DRAWN BY	TA MOSIA
CHECKED BY	TE MUVHANGO



Private Bag X 111
MARBLE HALL
0450
TEL: 013 - 261 8400
FAX: 013 - 261 2885



PO BOX 1249
FAUNA PARK
0787

TEL: 015 - 291 4173
FAX: 015 - 291 4218



BID NO.: EPMLM/8/3/544

TYPICAL ROAD MARKING DETAILS

ISSUED FOR TENDER

For: Ephraim Mogale Municipality

For: Most Consulting Engineers

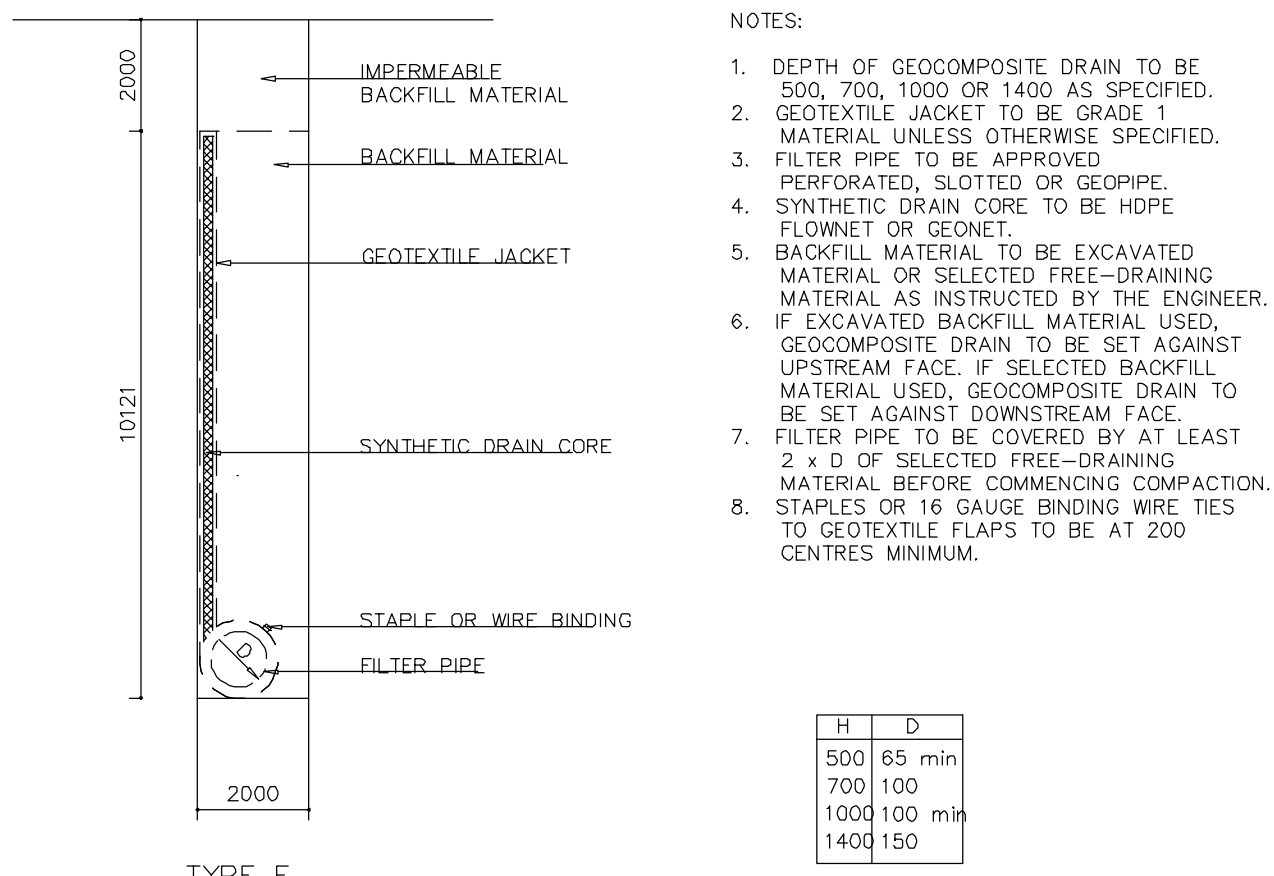
MONT/RDS/STD005

SHEET 01 OF 01

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AS SHOWN

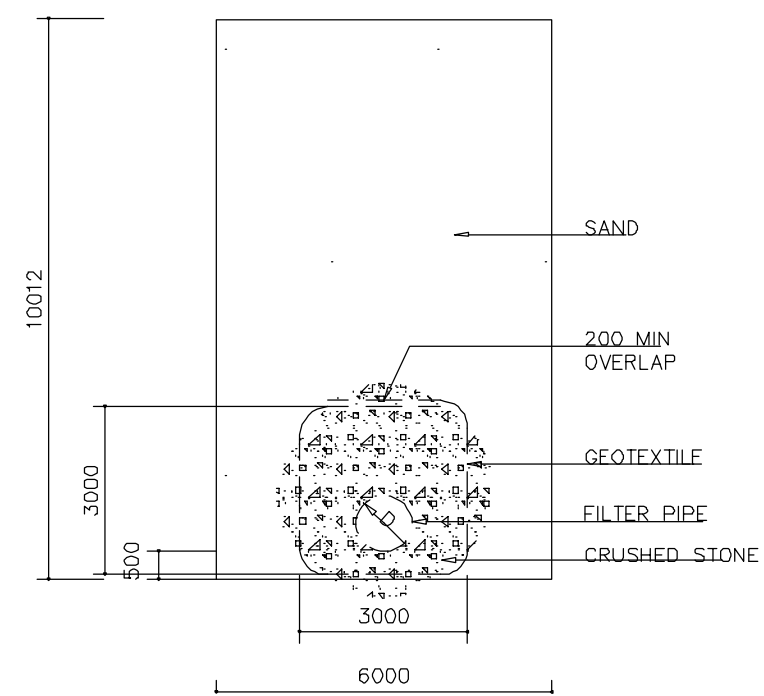
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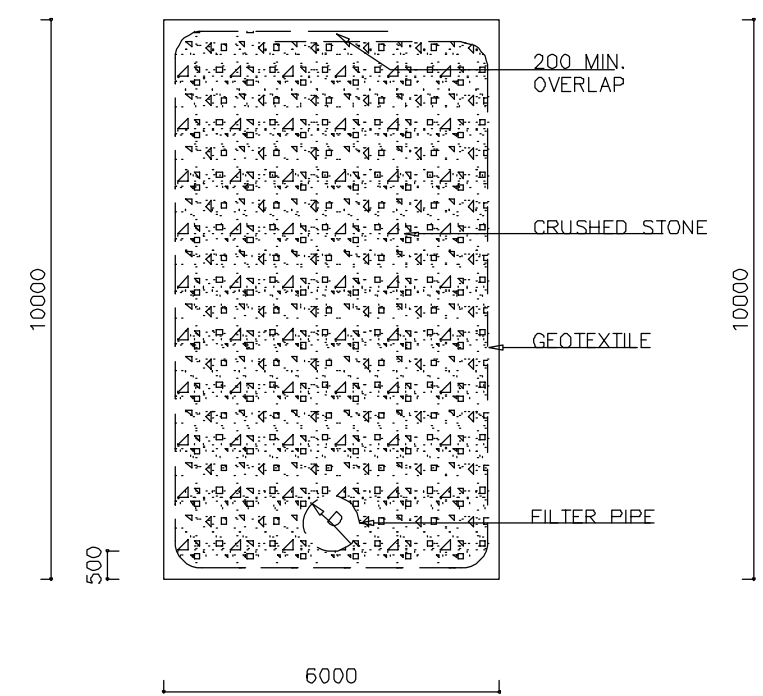


TYPE E GEOCOMPOSITE DRAIN

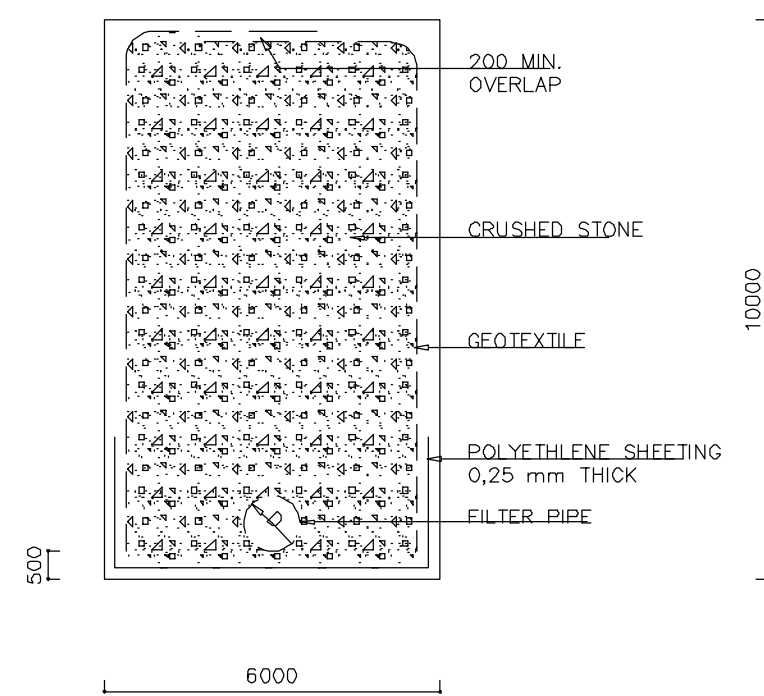
GEOCOMPOSITE DRAIN SIZES



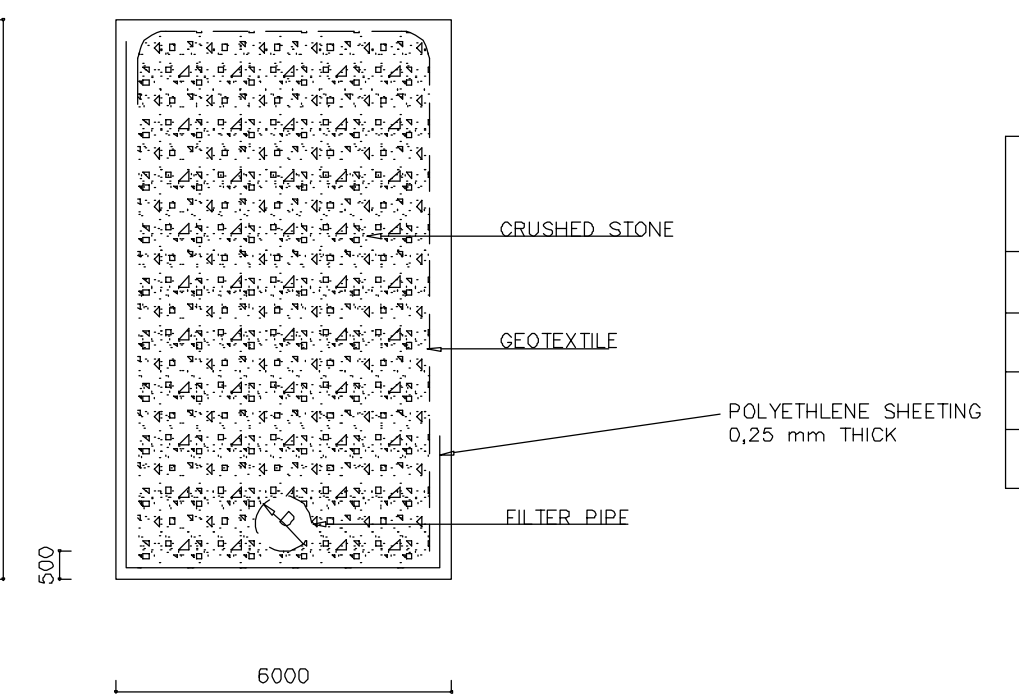
TYPE A GRANULAR OR SAND



TYPE B GEOTEXTILE FILTER



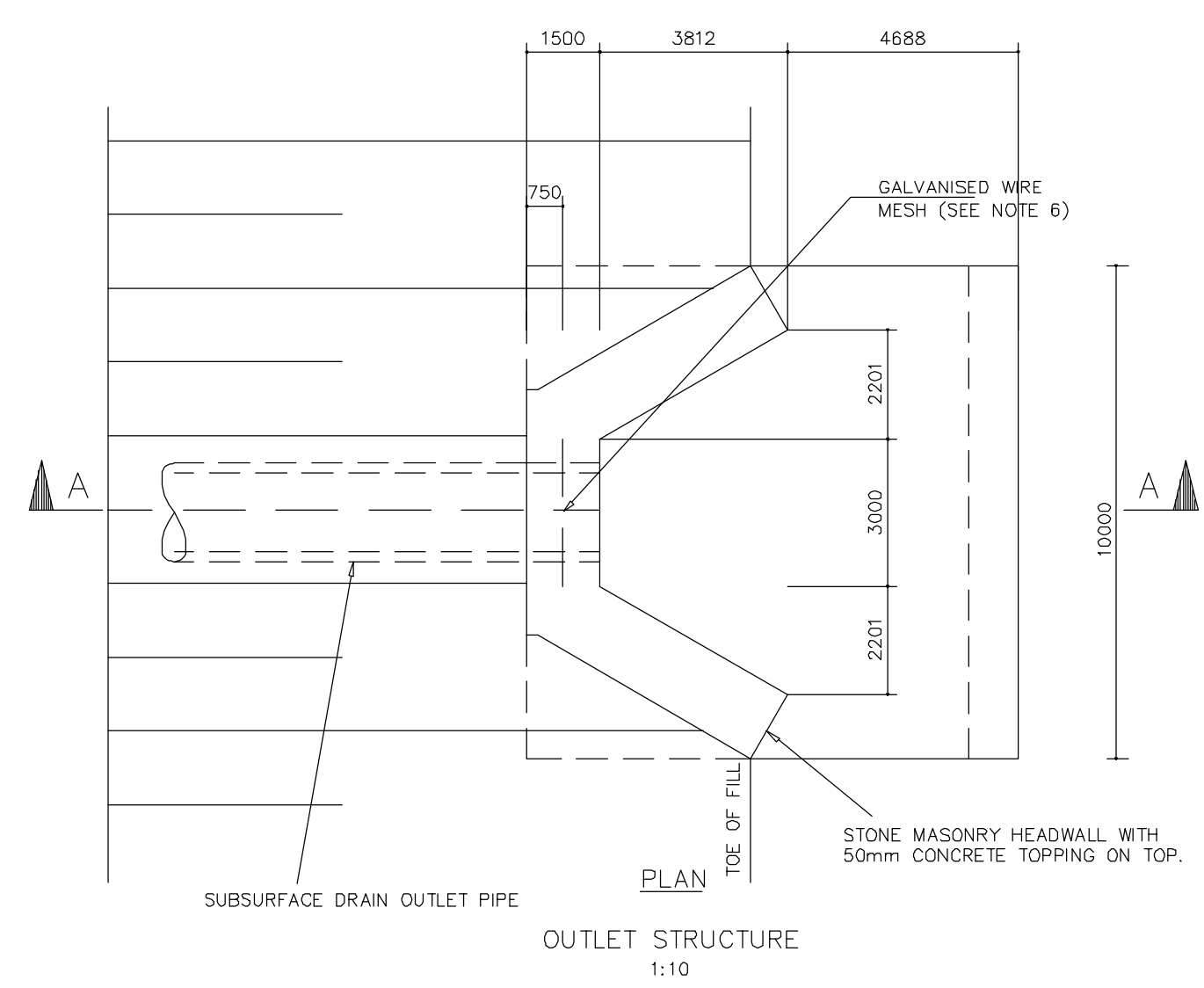
TYPE C IMPERMEABLE MEMBRANE



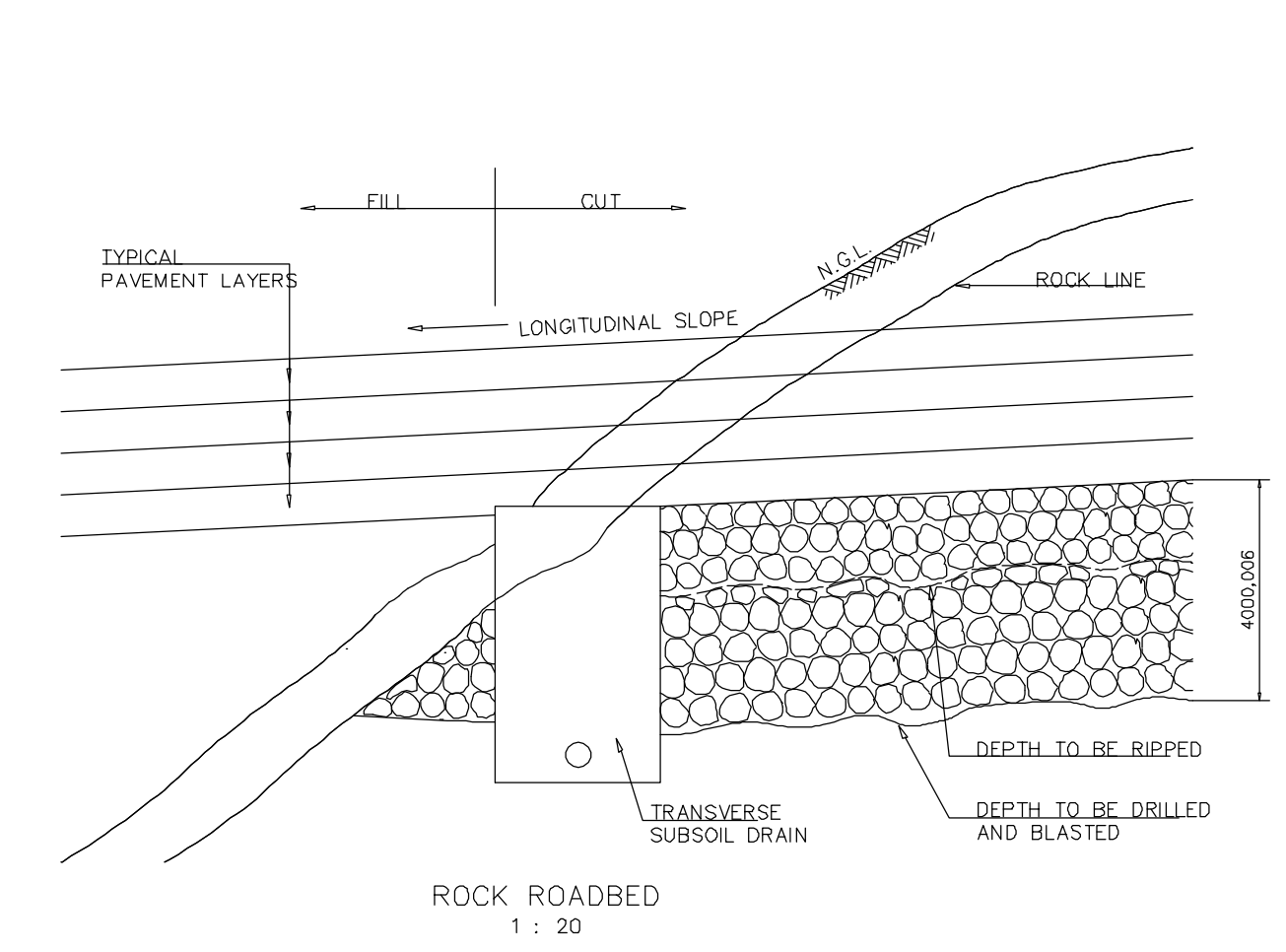
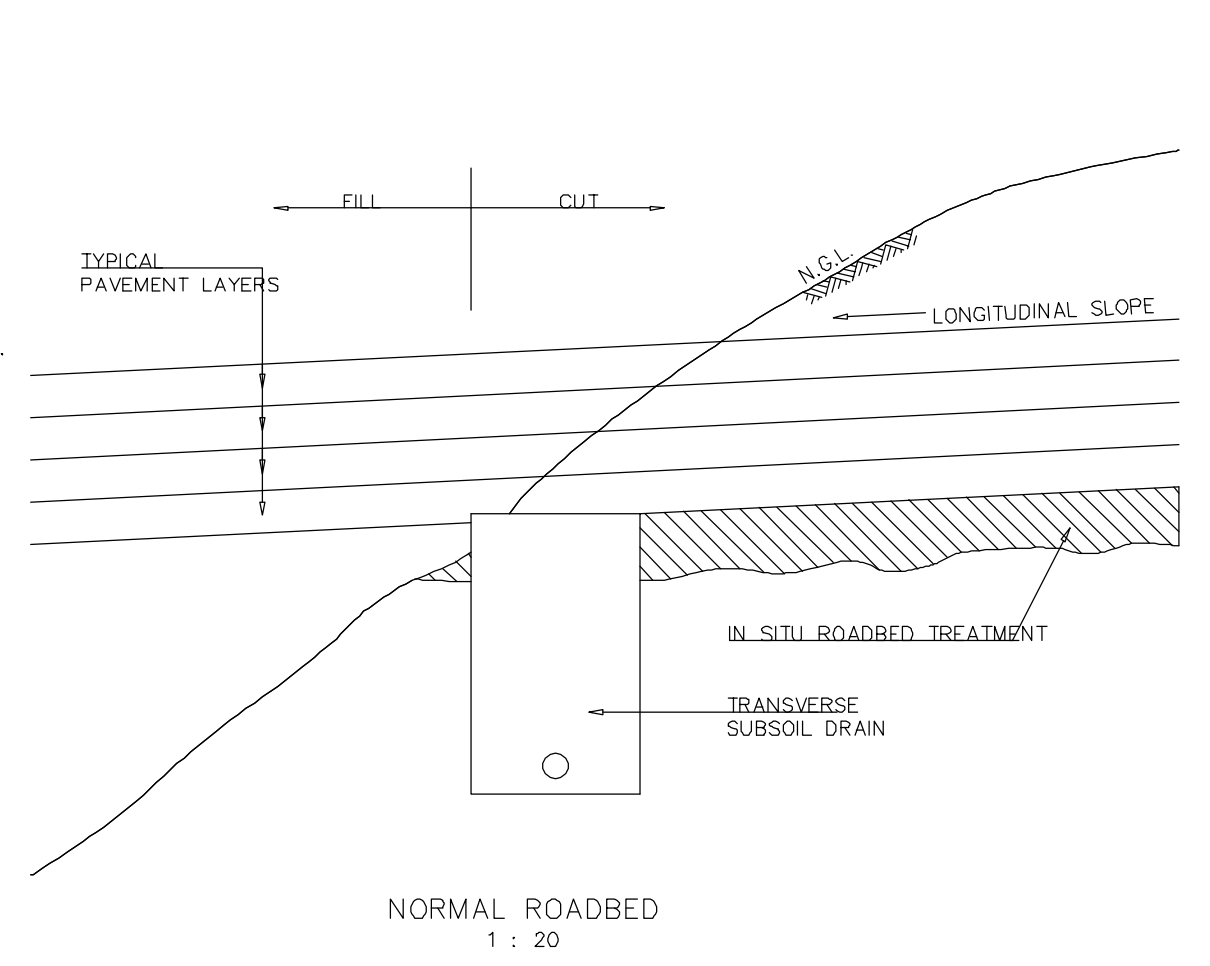
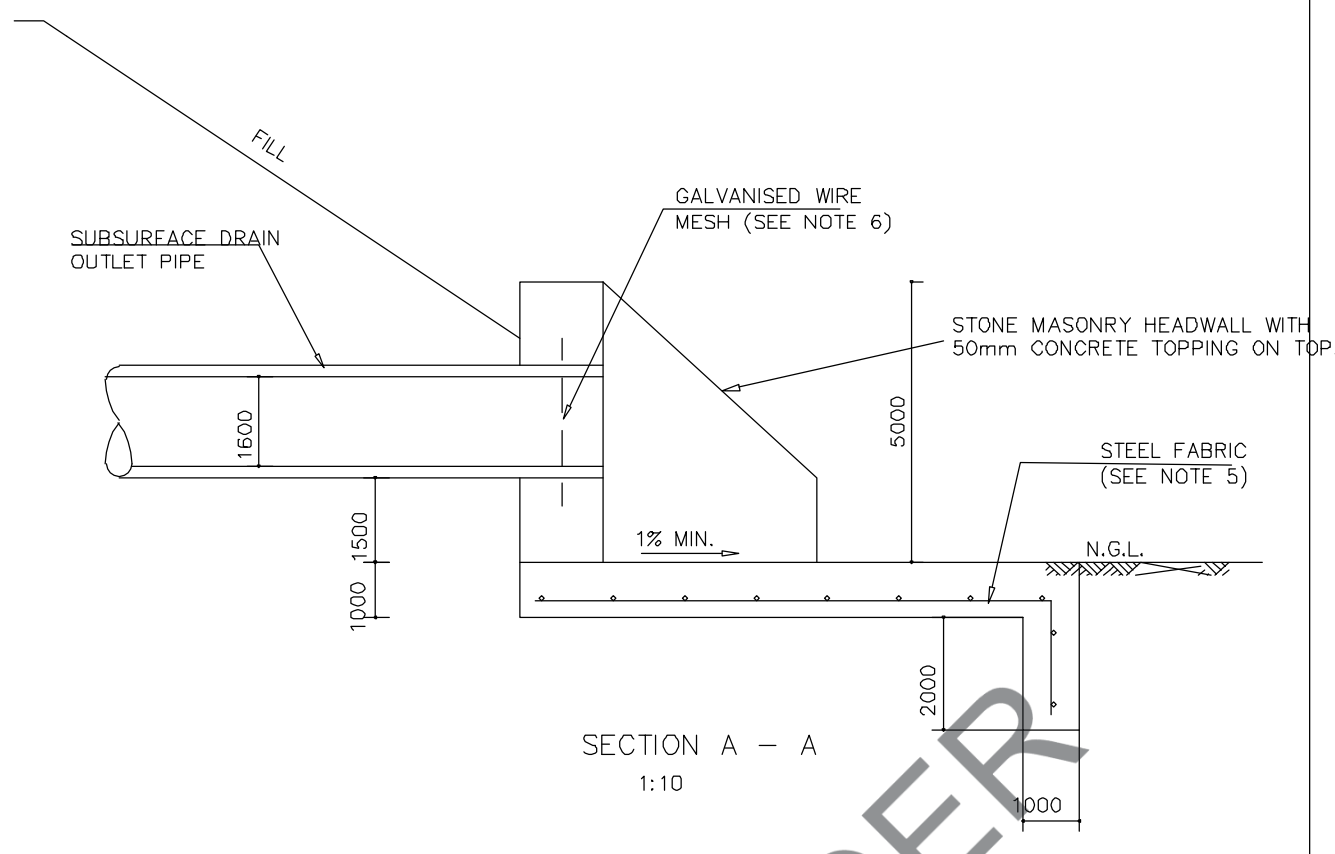
TYPE D IMPERMEABLE MEMBRANE (FOR TOP OF CUT ONLY)

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.



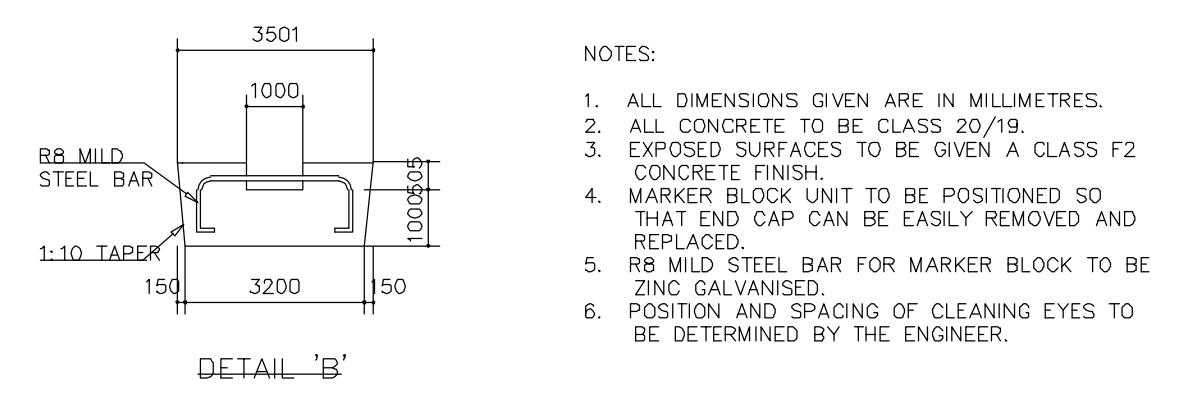
- NOTES:
1. ALL DIMENSIONS GIVEN ARE IN MILLIMETRES.
 2. CONCRETE TO BE CLASS 20/19.
 3. CONCRETE FINISHES TO BE:
FORMED SURFACES - CLASS F1 (CONCEALED)
UNFORMED SURFACES - CLASS U1 (CONCEALED)
CLASS F2 (EXPOSED)
CLASS U2 (EXPOSED)
 4. CONCRETE COVER TO REINFORCEMENT TO BE 40 mm MINIMUM.
 5. STEEL FABRIC 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.



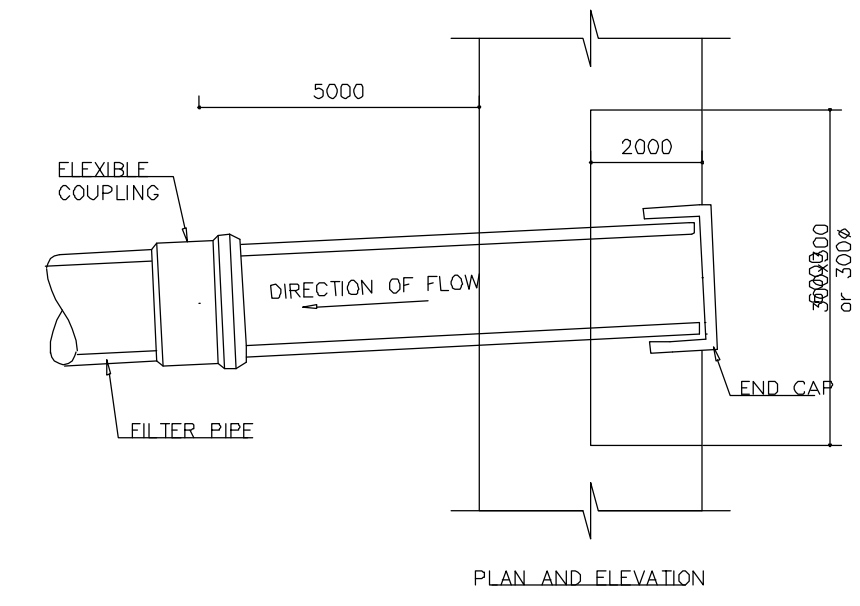
NOTE:

FOR TYPICAL CROSS SECTIONAL POSITIONING OF SUBSURFACE DRAINAGE SEE DWG. No. MONT/RDS/GNLO03

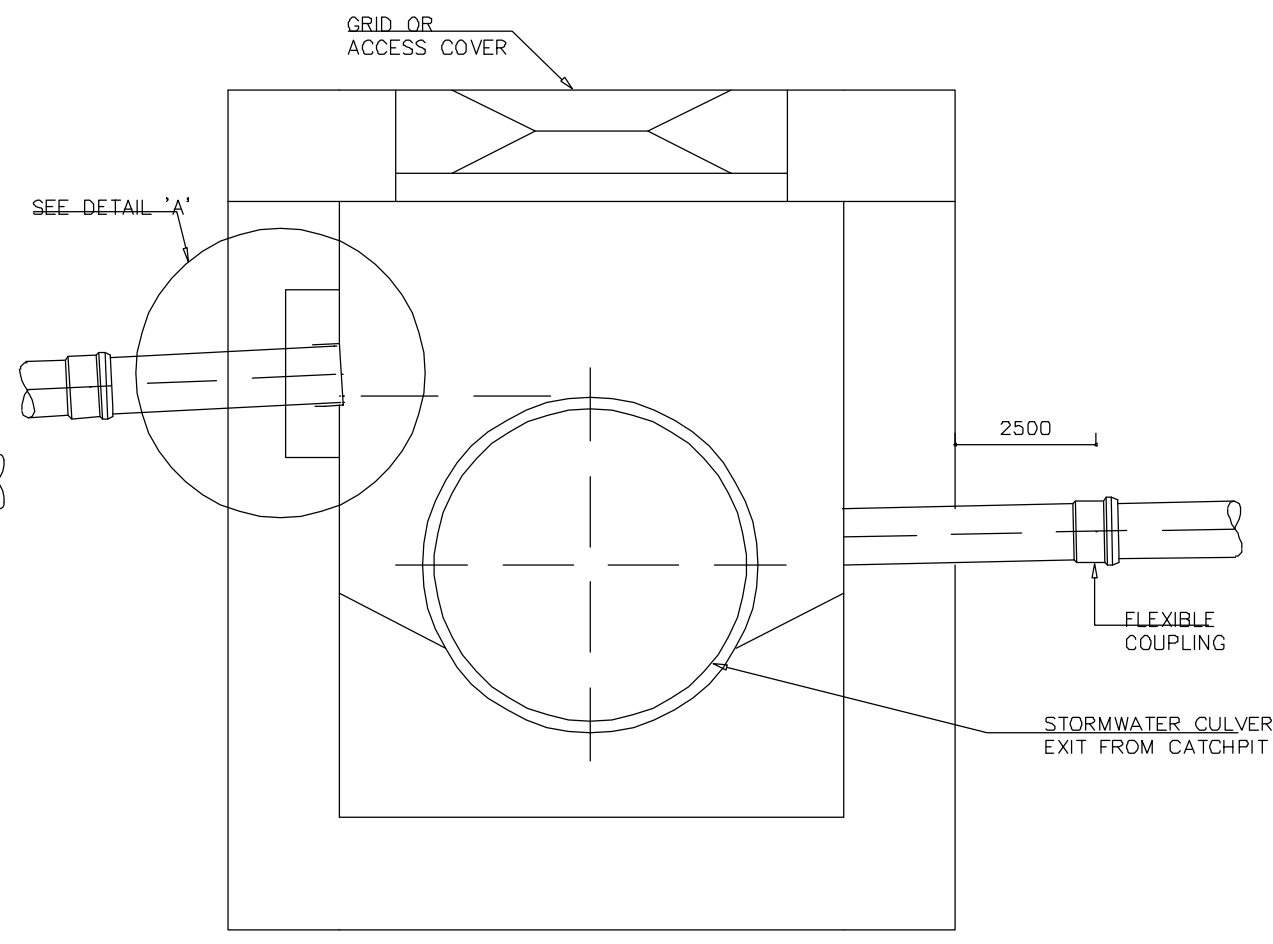
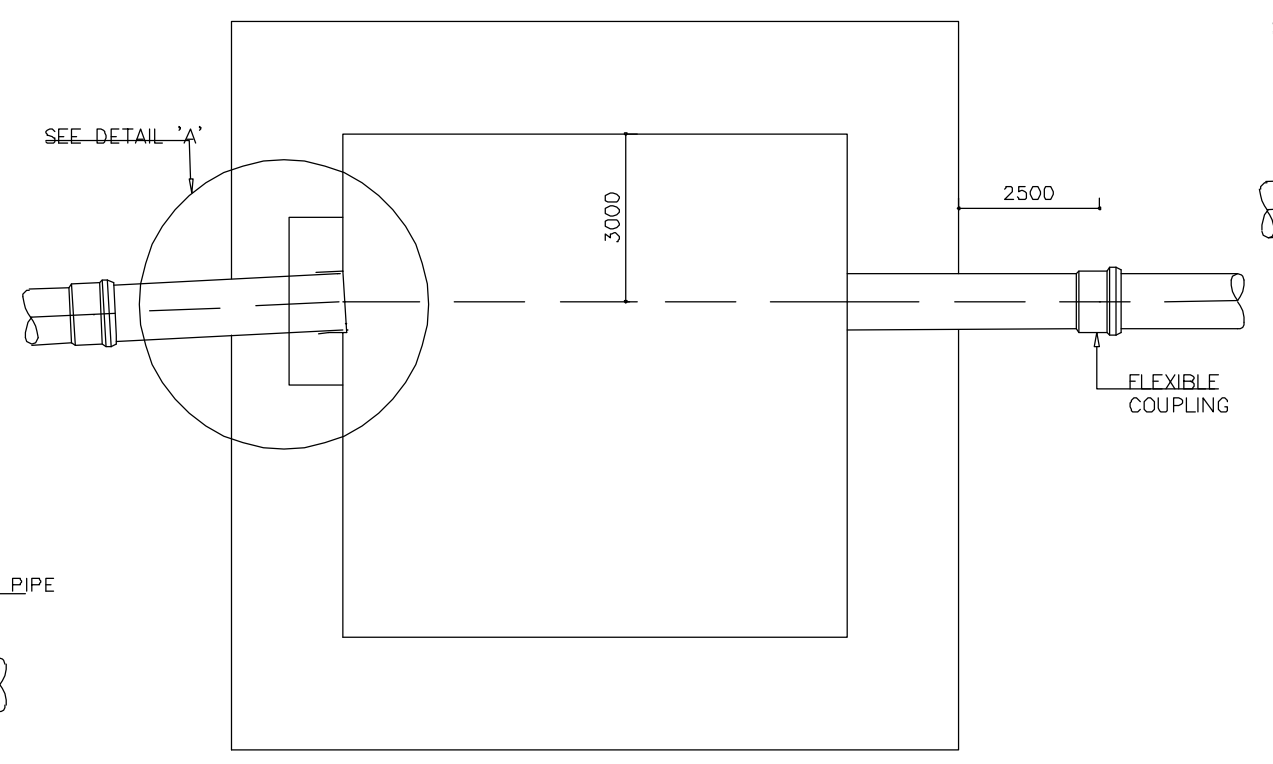
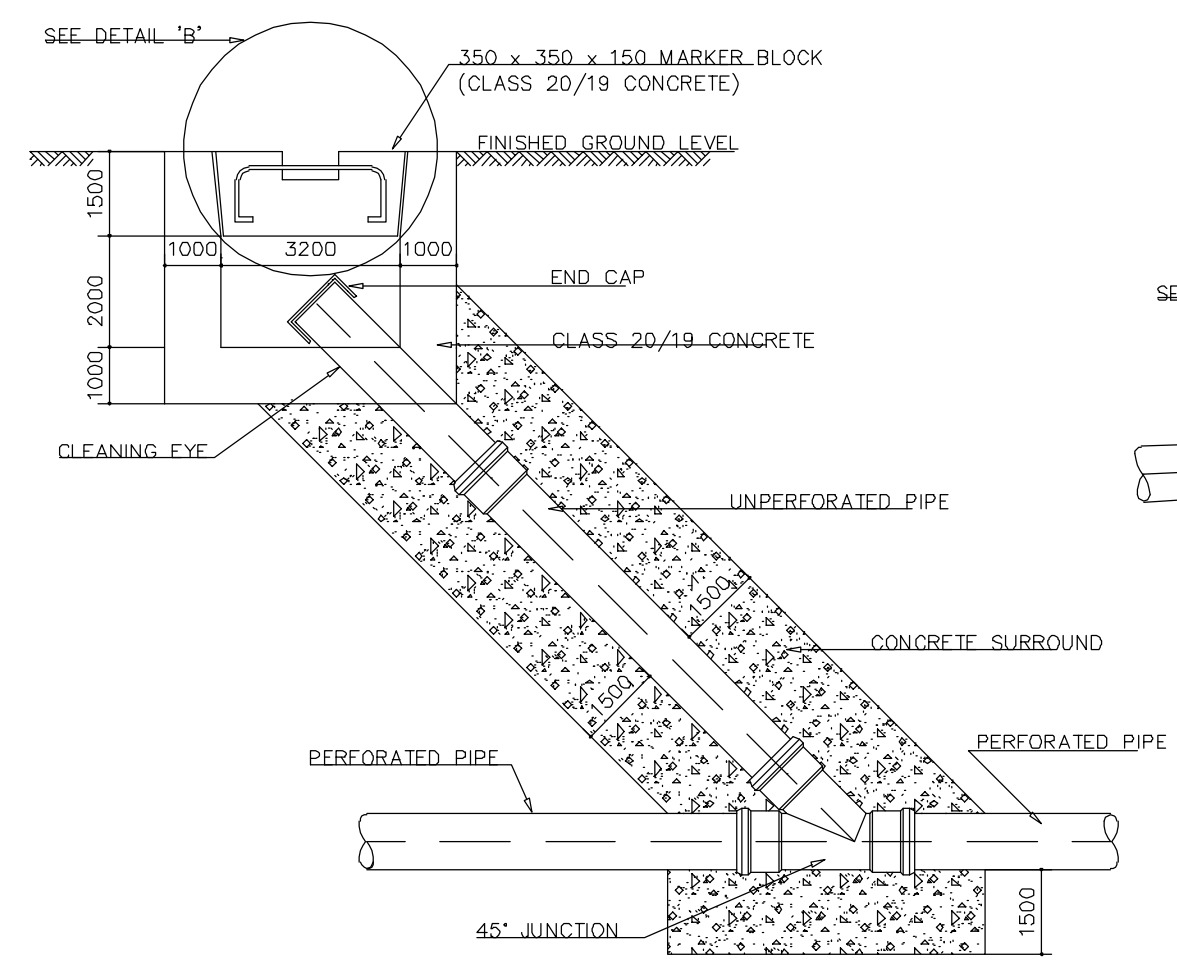
- NOTE:
1. POSITION AND / OR ANGLE OF TRANSVERSE SUBSOIL DRAIN AT CUT TO FILL TO BE DETERMINED BY THE ENGINEER ON SITE.
 2. TRANSVERSE SUBSOIL DRAIN PIPE TO BE JOINED TO LONGITUDINAL SUBSOIL DRAIN PIPE USING A MATCHING JUNCTION FITTING.
 3. SUBSOIL DRAIN TO TERMINATE AT DEDICATED OUTLET STRUCTURE OR STORMWATER DRAINAGE SYSTEM AS INDICATED.



- 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. R8 MILD STEEL BAR FOR MARKER BLOCK TO BE ZINC GALVANISED.
 6. POSITION AND SPACING OF CLEANING EYES TO BE DETERMINED BY THE ENGINEER.

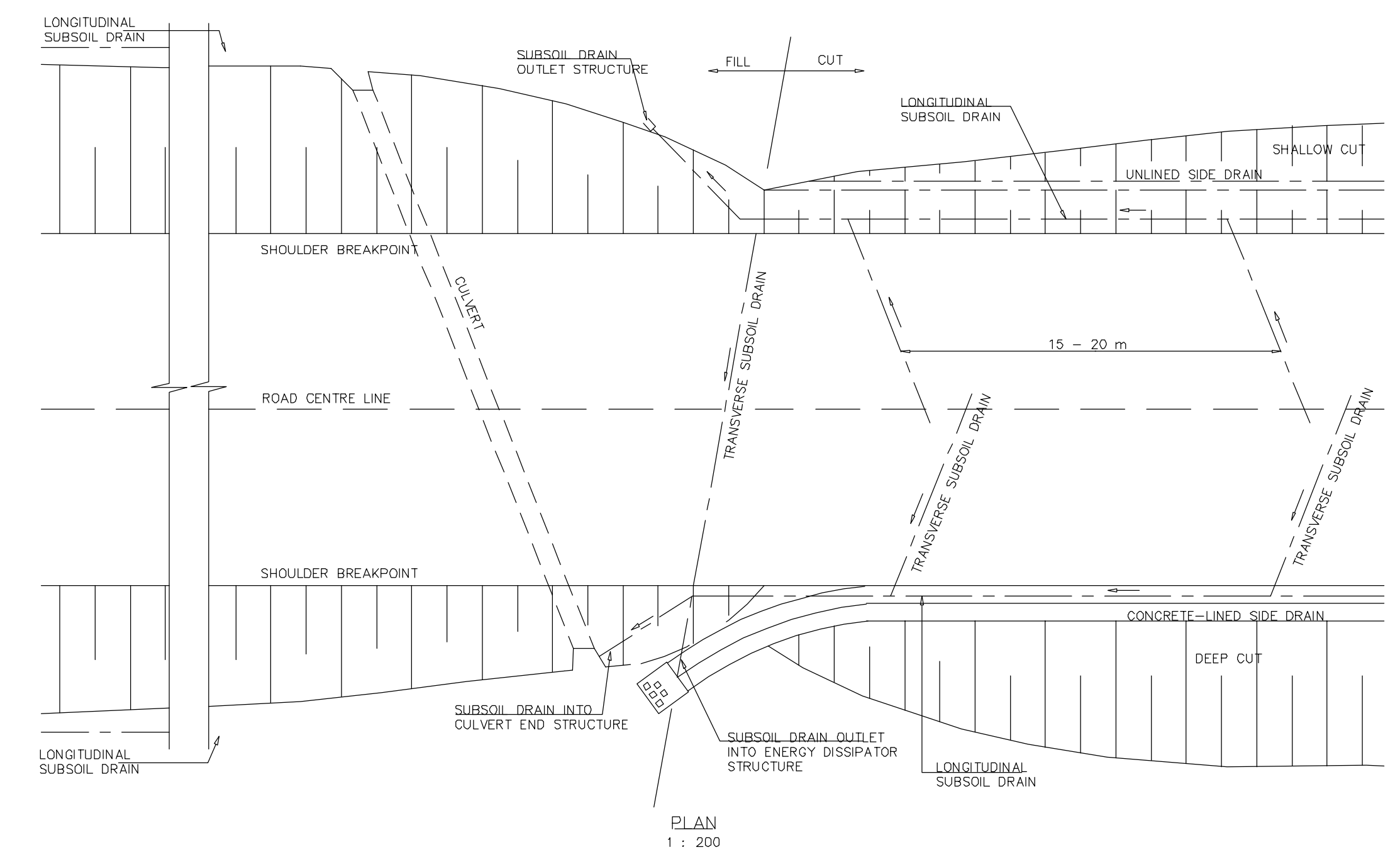


- NOTES:
1. INVERT OF SUBSOIL DRAIN INLET (RODDING/INSPECTION POINT) FROM CATCHPIT TO BE ABOVE SOFFIT OF LOWEST STORMWATER CULVERT.
 2. INVERT OF SUBSOIL DRAIN OUTLET INTO CATCHPIT TO BE ABOVE CENTRE OF LOWEST STORMWATER CULVERT.
 3. END CAP TO BE COMPATIBLE WITH FILTER PIPE.



SUBSOIL DRAIN INLET AND OUTLET AT TYPICAL STORMWATER CATCHPIT
N.T.S.

SUBSOIL DRAIN INLETS AND OUTLETS



SUBSOIL DRAINS AT CUT TO FILL
N.T.S.

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DESIGNED BY	S2B RANGANA
CHECKED BY	PXA NDLOU
DRAWN BY	TA MOSA
CHECKED BY	TE MUVHANGO



EPHRAIM MOGALE LOCAL MUNICIPALITY

Private Bag X 111
MABILE HILL
0450

TEL: 013-261 8400
FAX: 013-261 2885



MONT CONSULTING ENGINEERS

PO BOX 1249
FAUNA PARK
0787

TEL: 015-291 4173
FAX: 015-291 4218



PROJECT
CONSTRUCTION OF RATHOKE BUS ROUTE

BID NO.: EPMLW/3/544

TITLE
SUBSURFACE DRAINAGE DETAILS

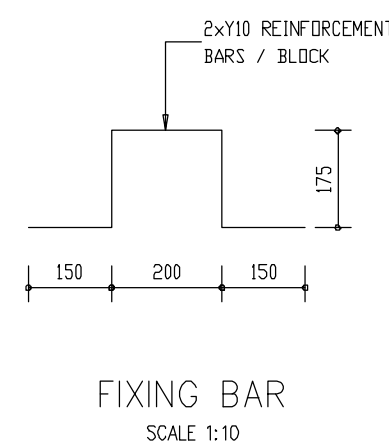
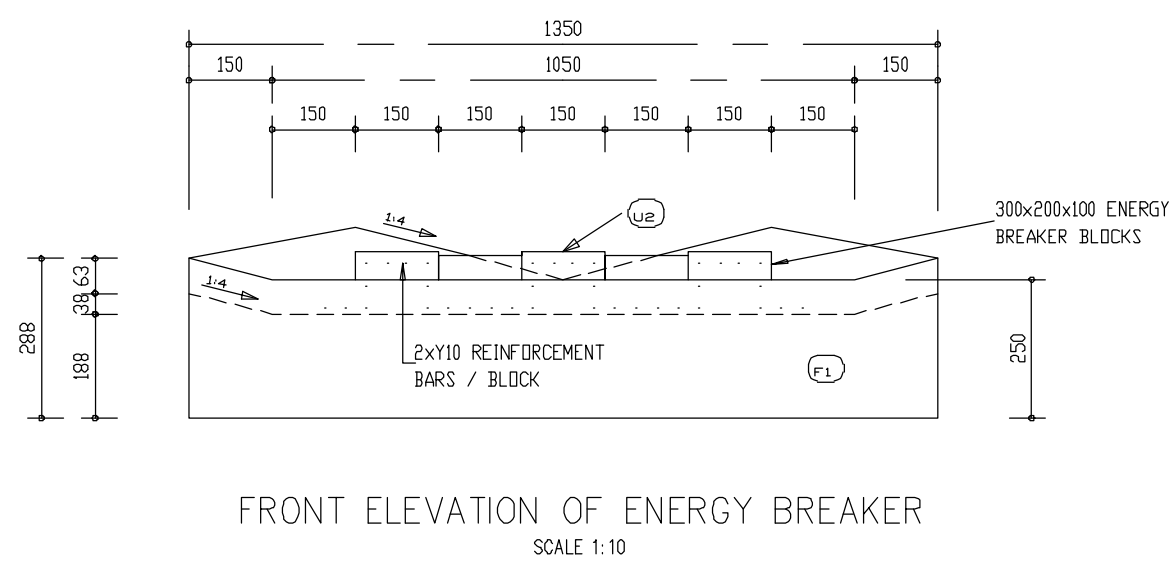
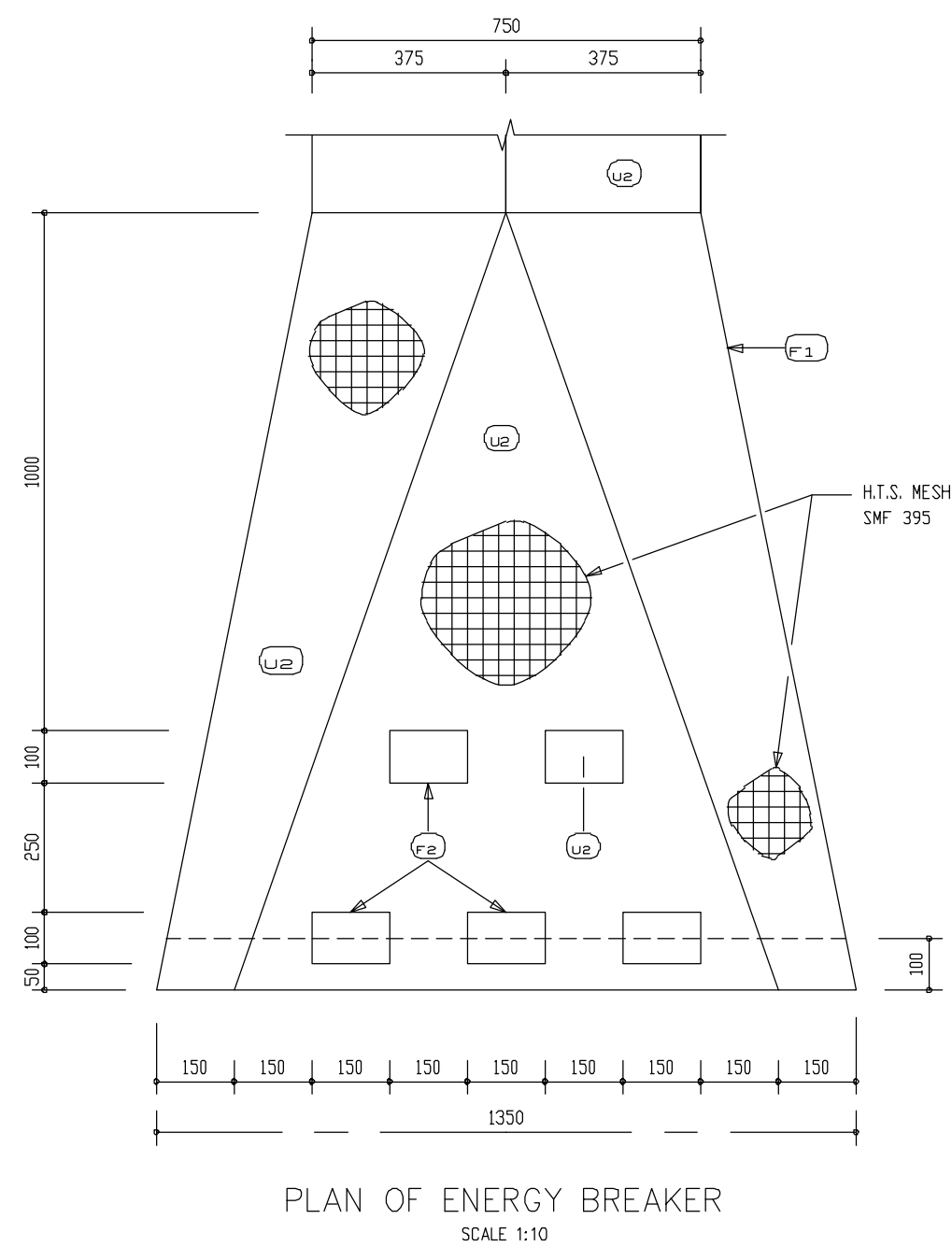
ISSUED FOR TENDER

For Ephraim Mogale Municipality

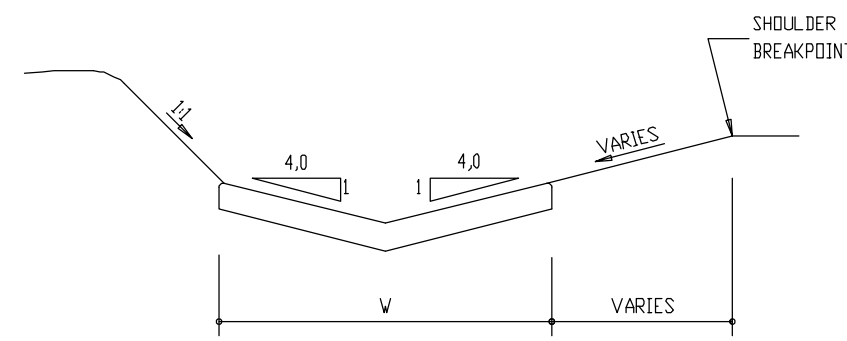
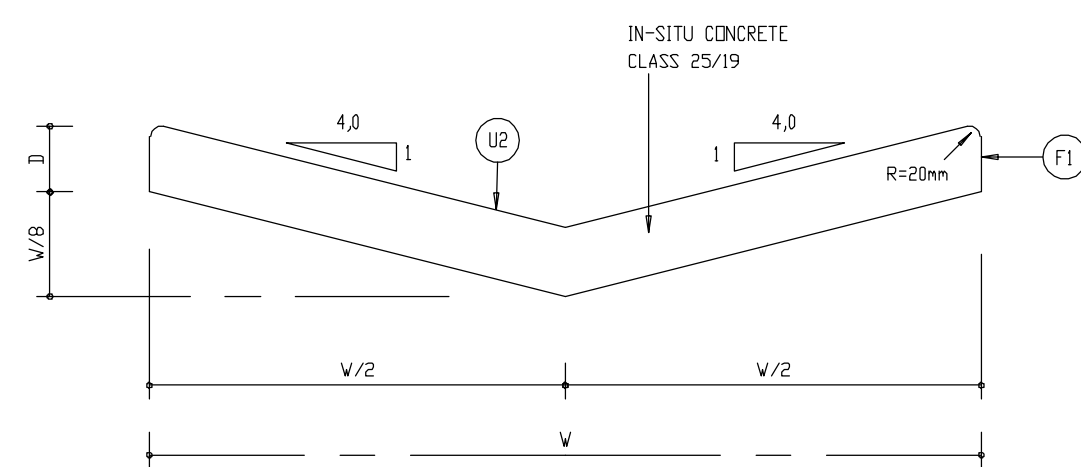
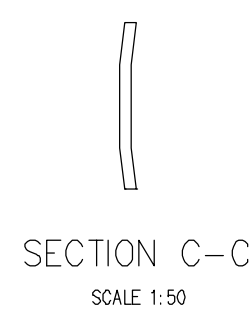
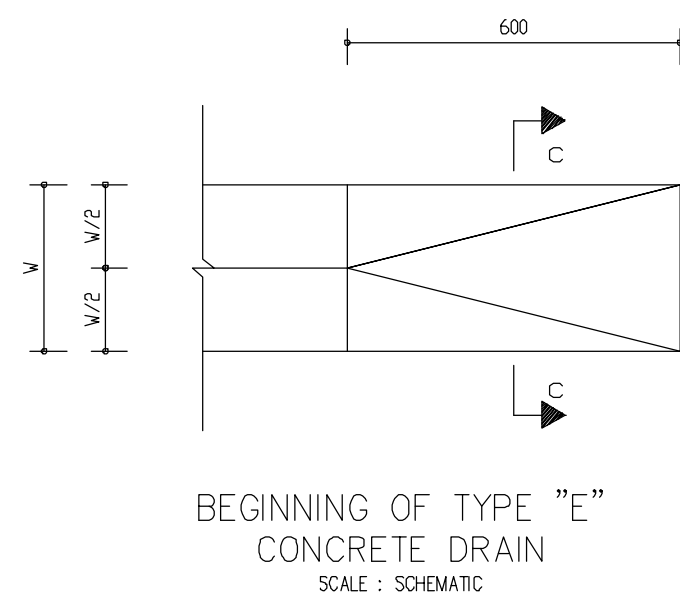
For Mont Consulting Engineers

MONT/RDS/STD007

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OF	01
SCALE	AS SHOWN
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REVISION	00

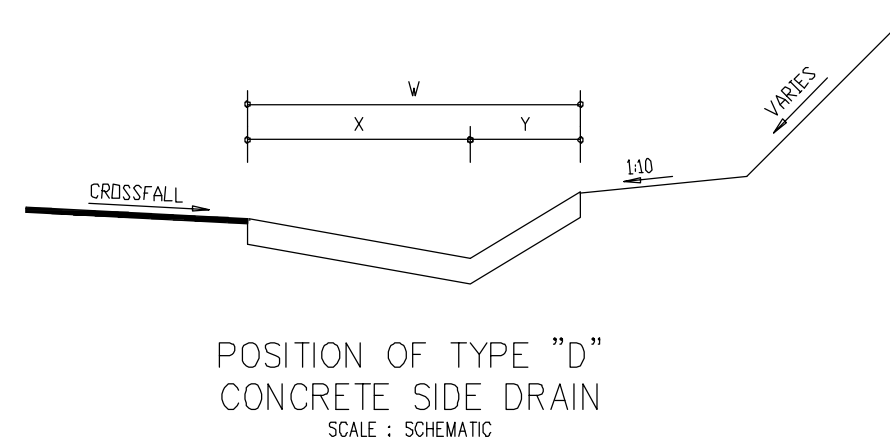
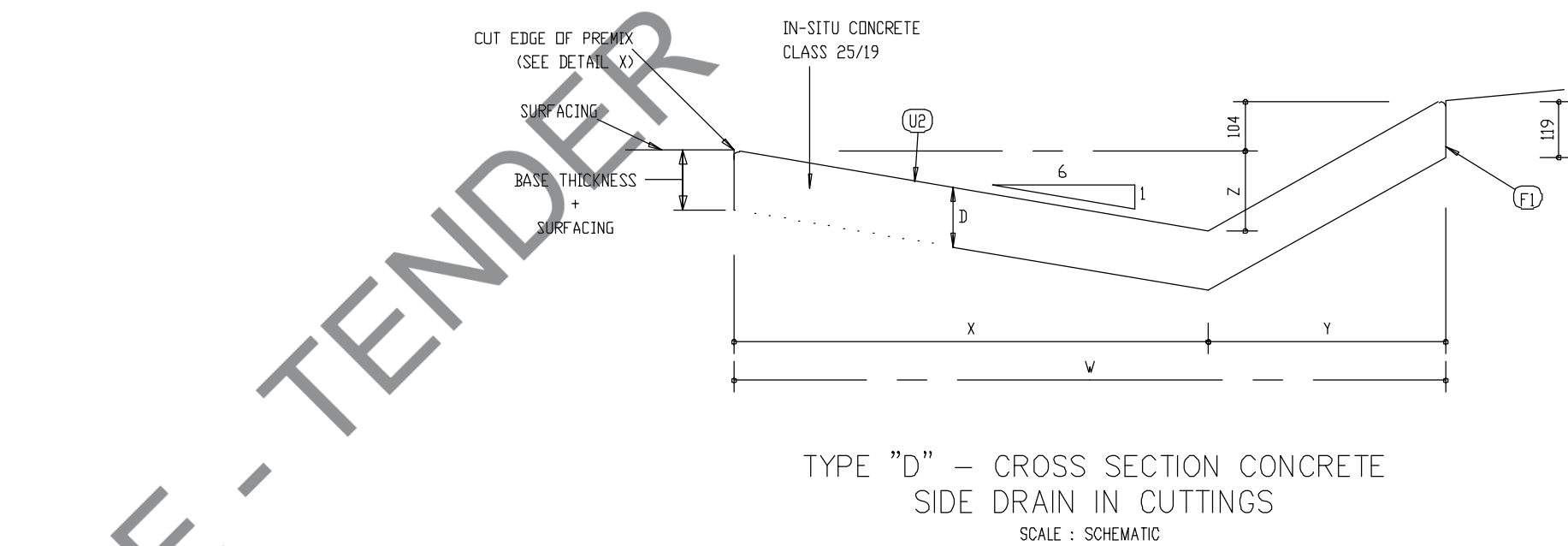
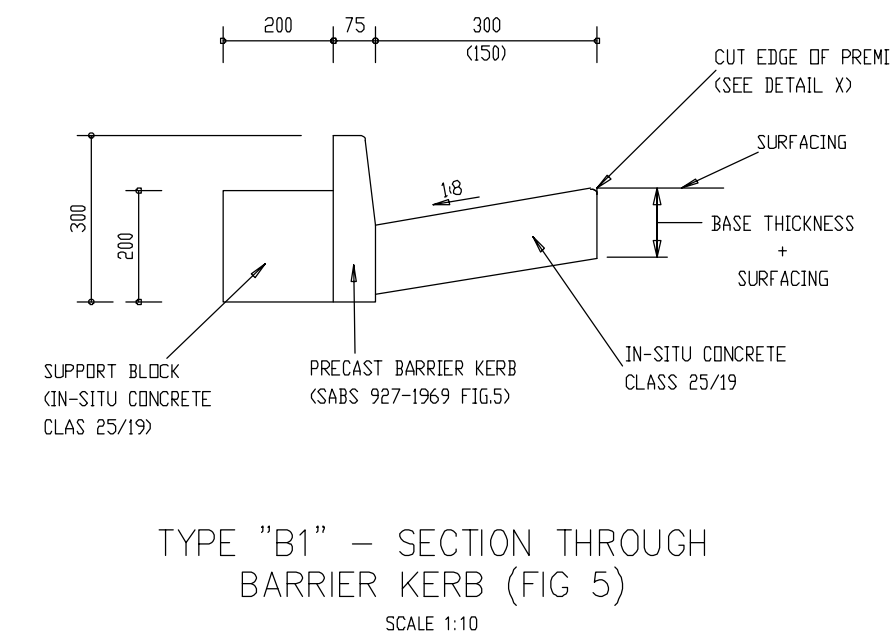
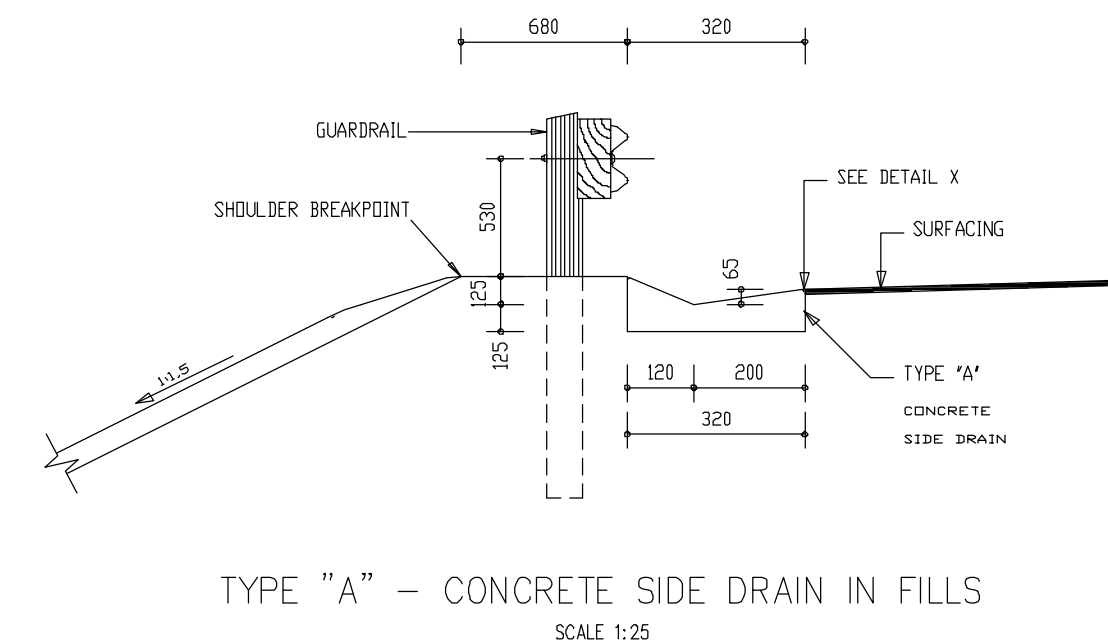
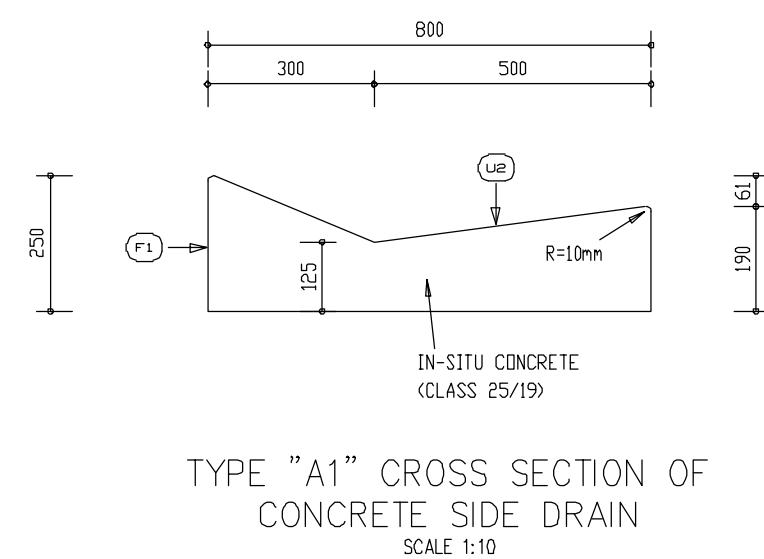
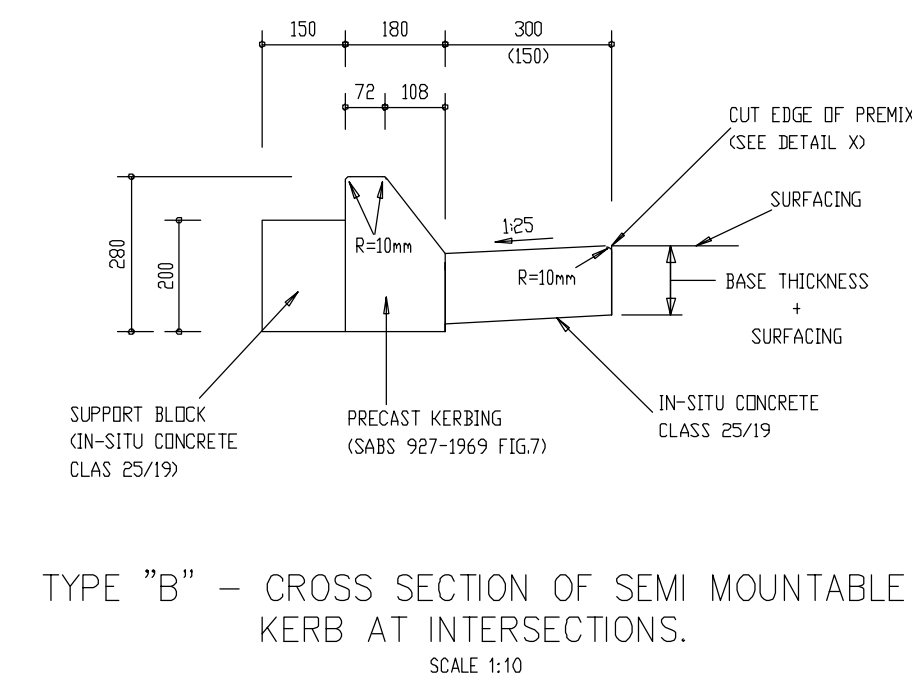
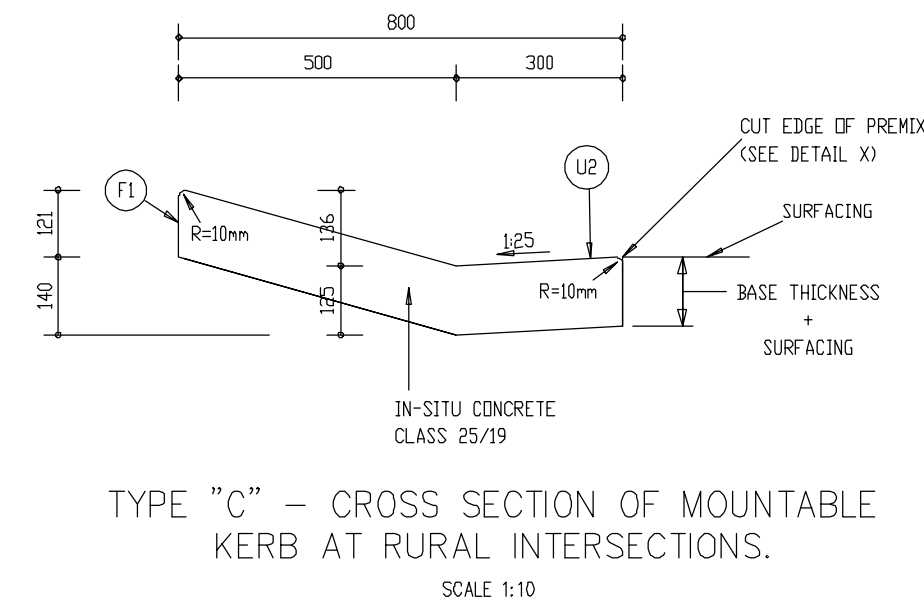


DETAIL OF ENERGY BREAKER SYSTEM AT DISCHARGE POINT OF TYPE "E" CONCRETE SIDE DRAIN



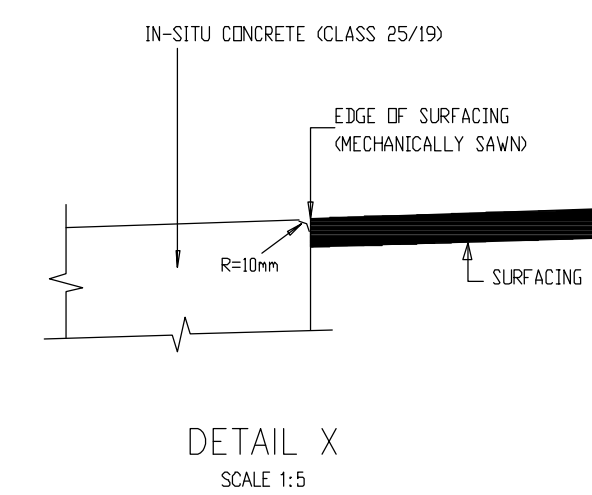
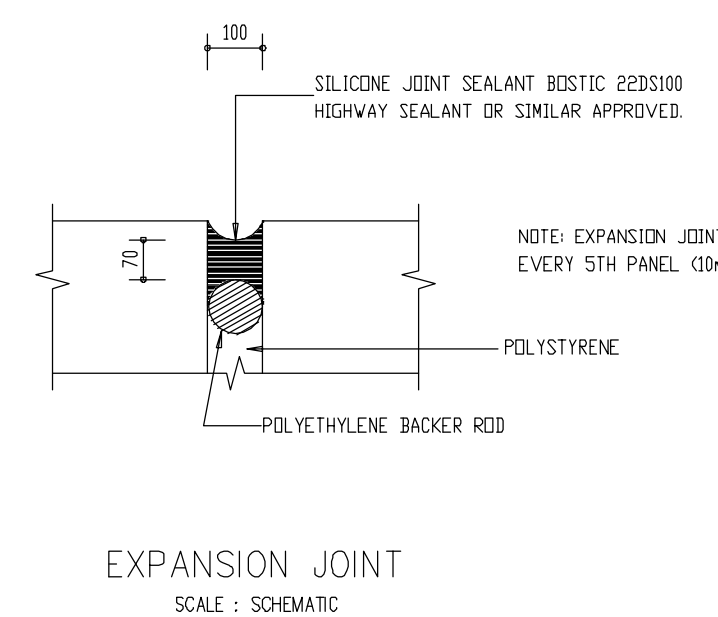
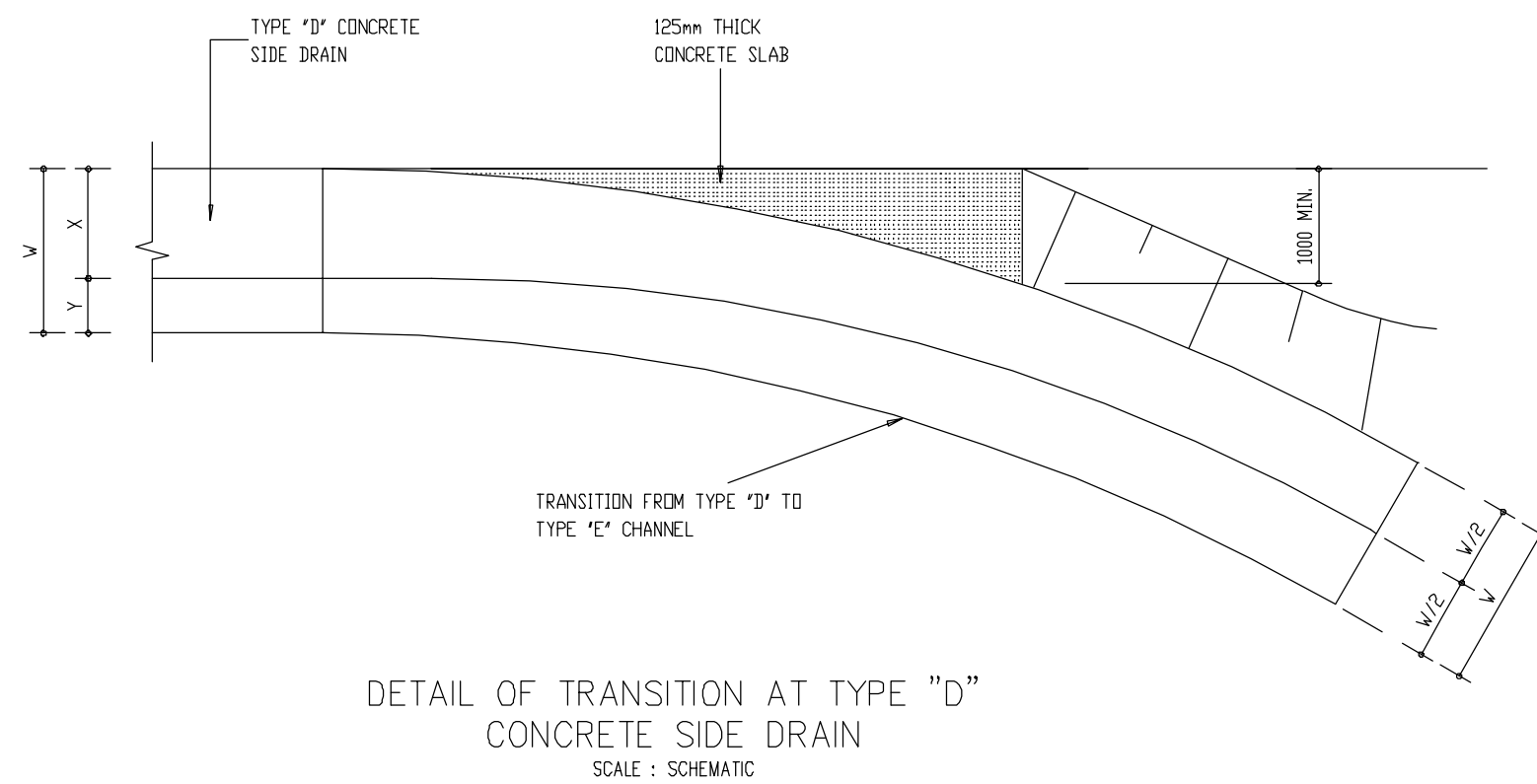
DIMENSIONS OF TYPE "E" CONCRETE CHANNELS

CASE(n)	W	W/2	W/8	B	W/8+B	VOLUME m ³ /m
1	1000	500	125	125	250	0.1250
2	1500	750	188	125	313	0.1875
3	2000	1000	250	150	400	0.3000
4	2500	1250	313	150	463	0.3750



DIMENSIONS OF TYPE "D" CONCRETE CHANNELS

CASE(n)	W	X	Y	Z	B	VOLUME m ³ /m
1	1000	670	330	110	125	0.1250
2	1500	1000	500	170	125	0.1875
3	2000	1390	670	220	150	0.3000
4	2500	1670	830	280	150	0.3750



NOTES

- ALL CONCRETE CHANNELS AND OTHER DRAINAGE STRUCTURES ON THIS PLAN TO BE CAST USING CLASS 25/19 CONCRETE.
- ALL IN-SITU CONCRETE SIDE DRAINS & CHANNELLING TO BE CASTED IN ALTERNATIVE LENGTHS 2.0 m WITH EXPANSION JOINTS EVERY 5TH PANEL (10m)
- ALL EXPOSED CORNERS MUST BE ROUNDED OFF TO A RADIUS OF 10 mm
- THE CLASS OF SURFACE FINISH IS INDICATED AS 'F1' OR 'U2'
- V MIN = 150mm (PREFERRED = 300mm)

DESIGNED BY	ISB RANGANA
CHECKED BY	PXA NOLOVU
DRAWN BY	TA MOSIA
CHECKED BY	TE MUNHANGO



EPHRAIM MOGALE LOCAL MUNICIPALITY
Private Bag X 111
MARBLE HALL
0450
TEL: 013 - 261 5400
FAX: 013 - 261 2985

mont consulting engineers

MONT CONSULTING ENGINEERS
PO BOX 1249
FAUNA PARK
0787
TEL: 015 - 291 4173
FAX: 015 - 291 4218

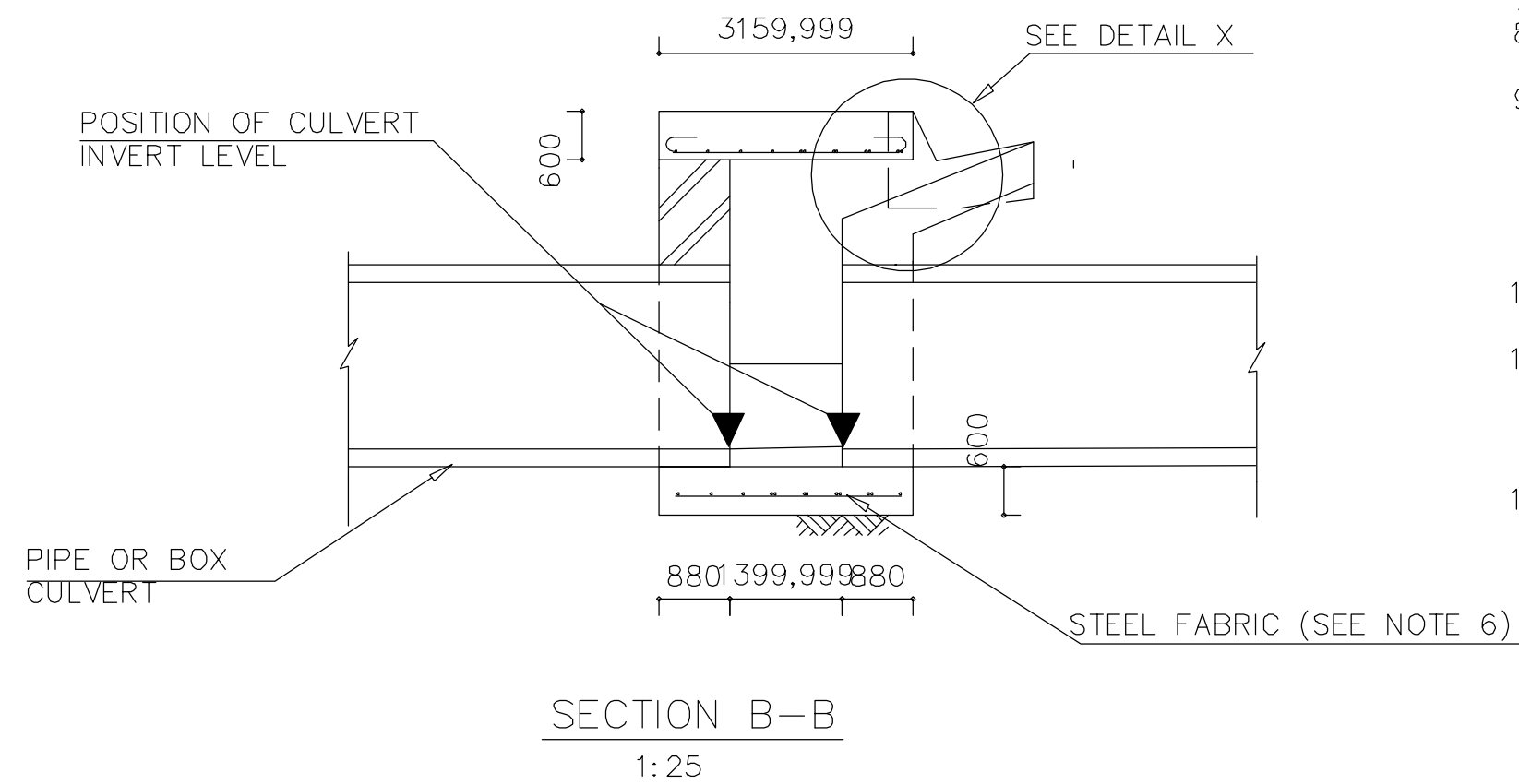
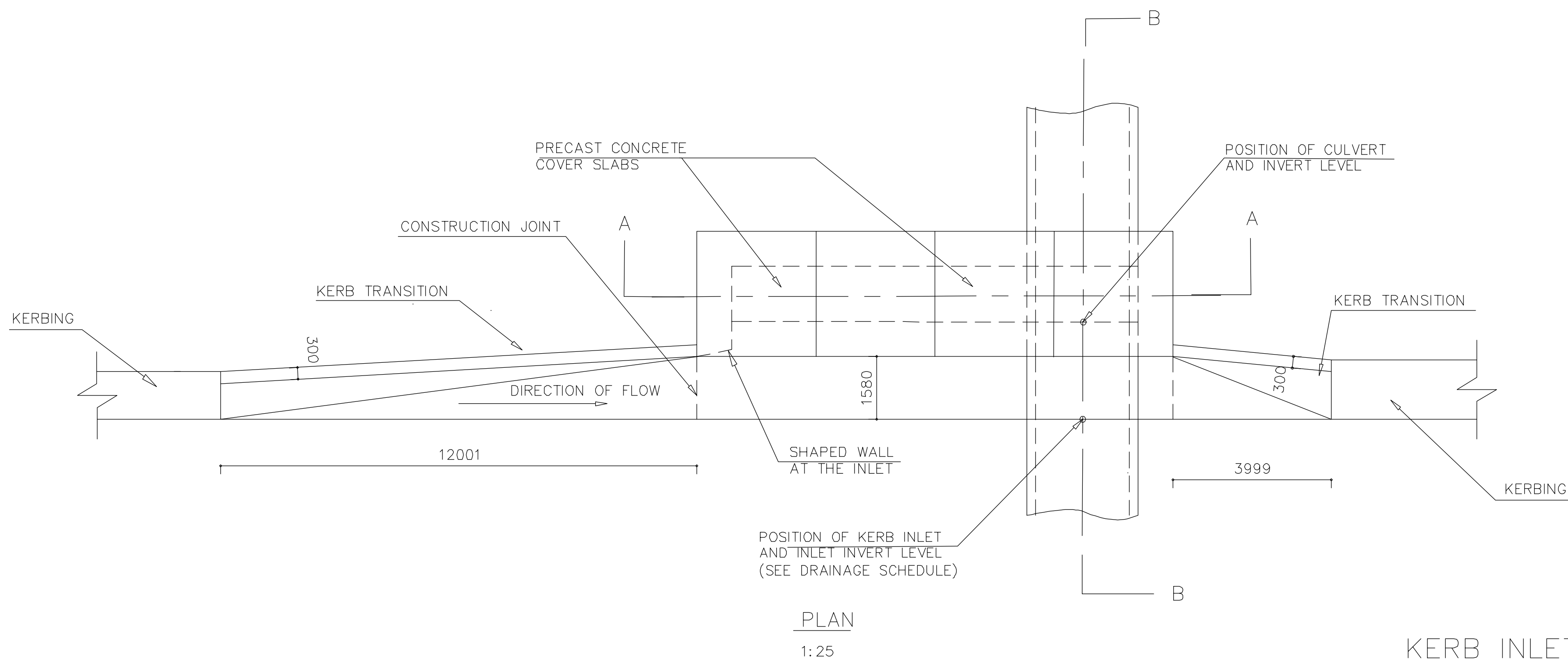
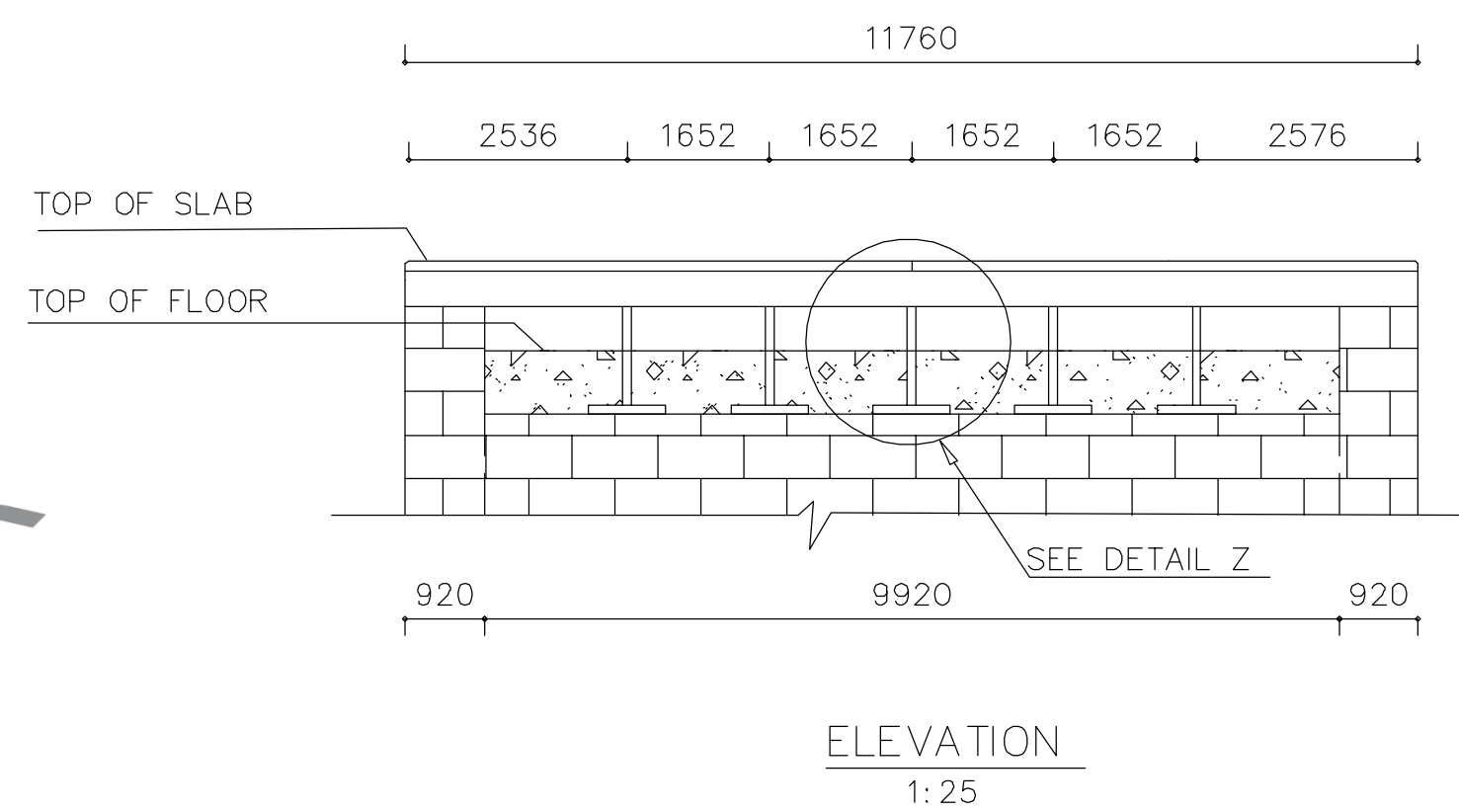
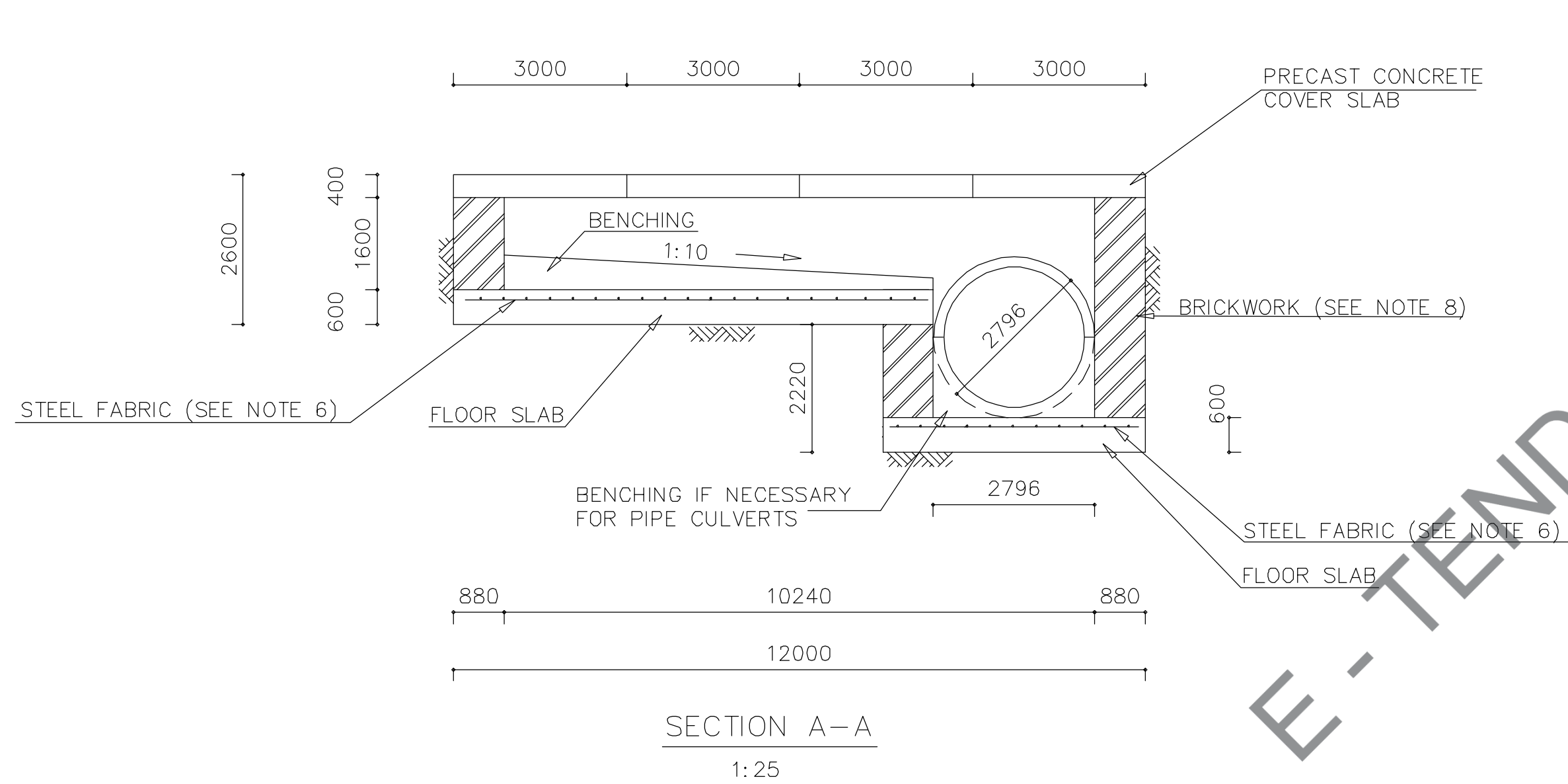
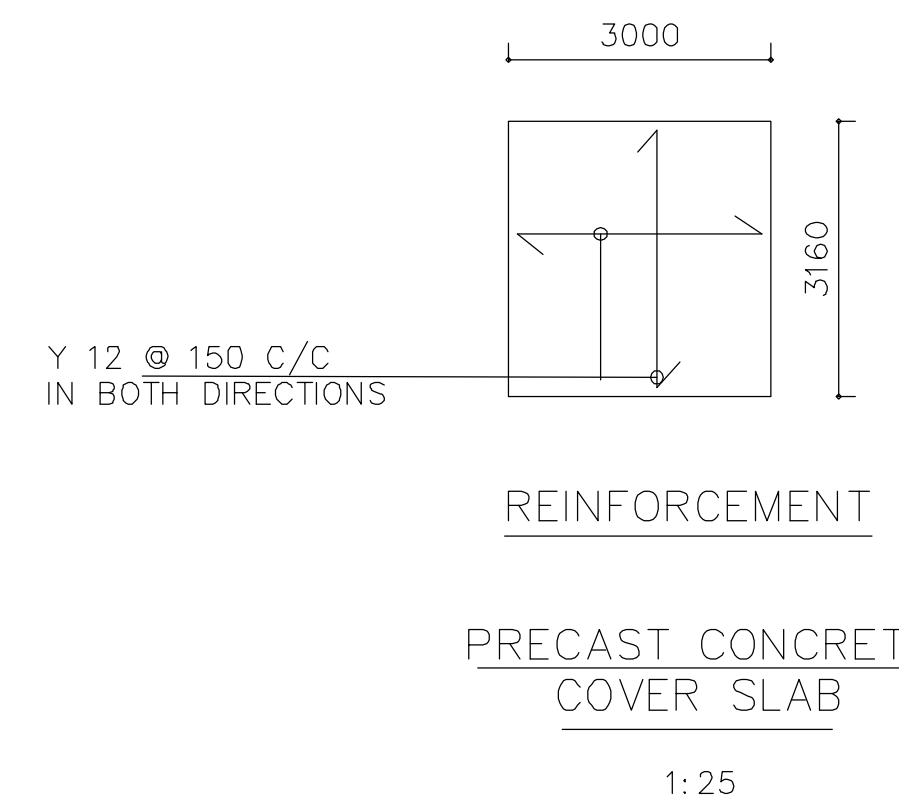
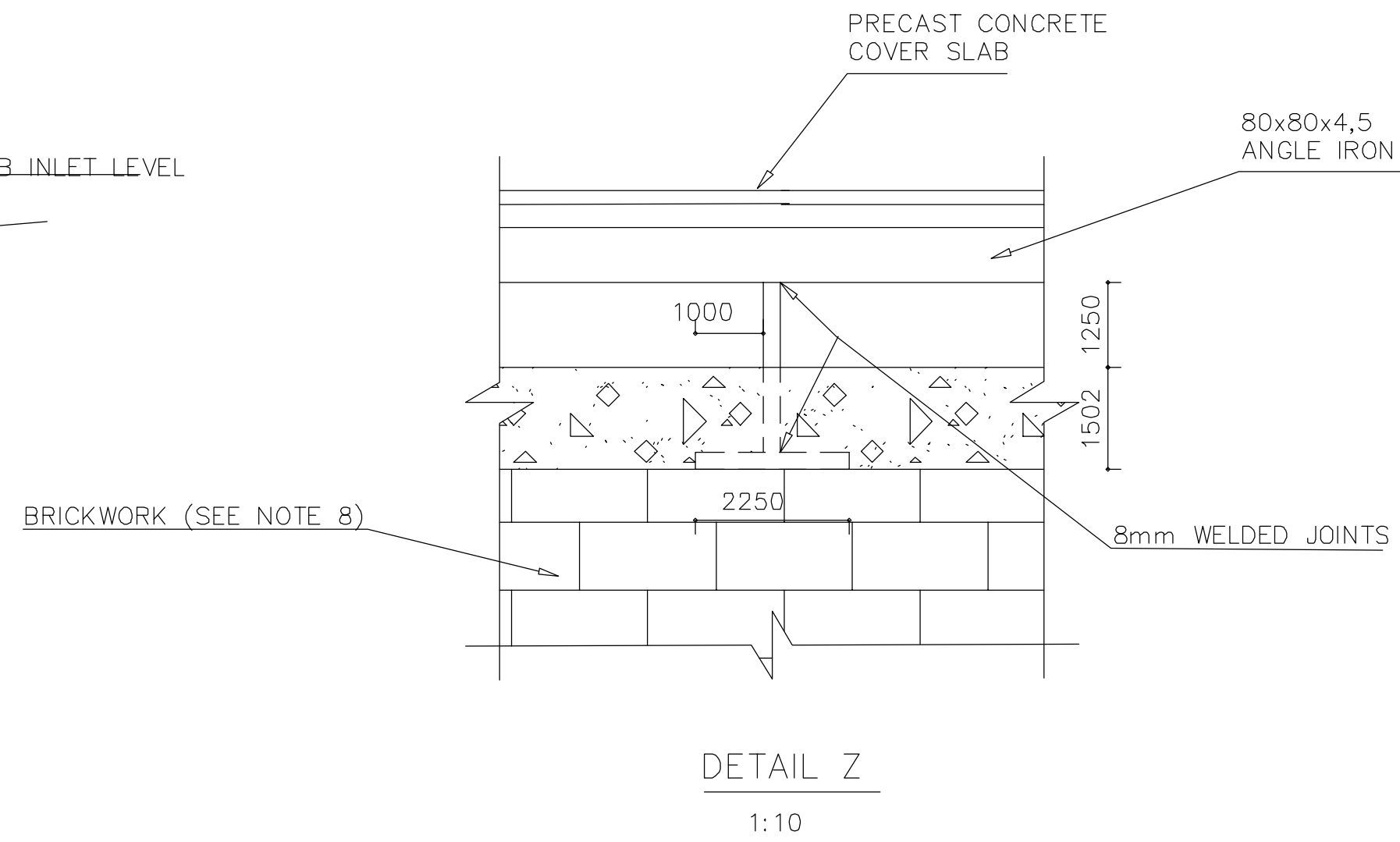
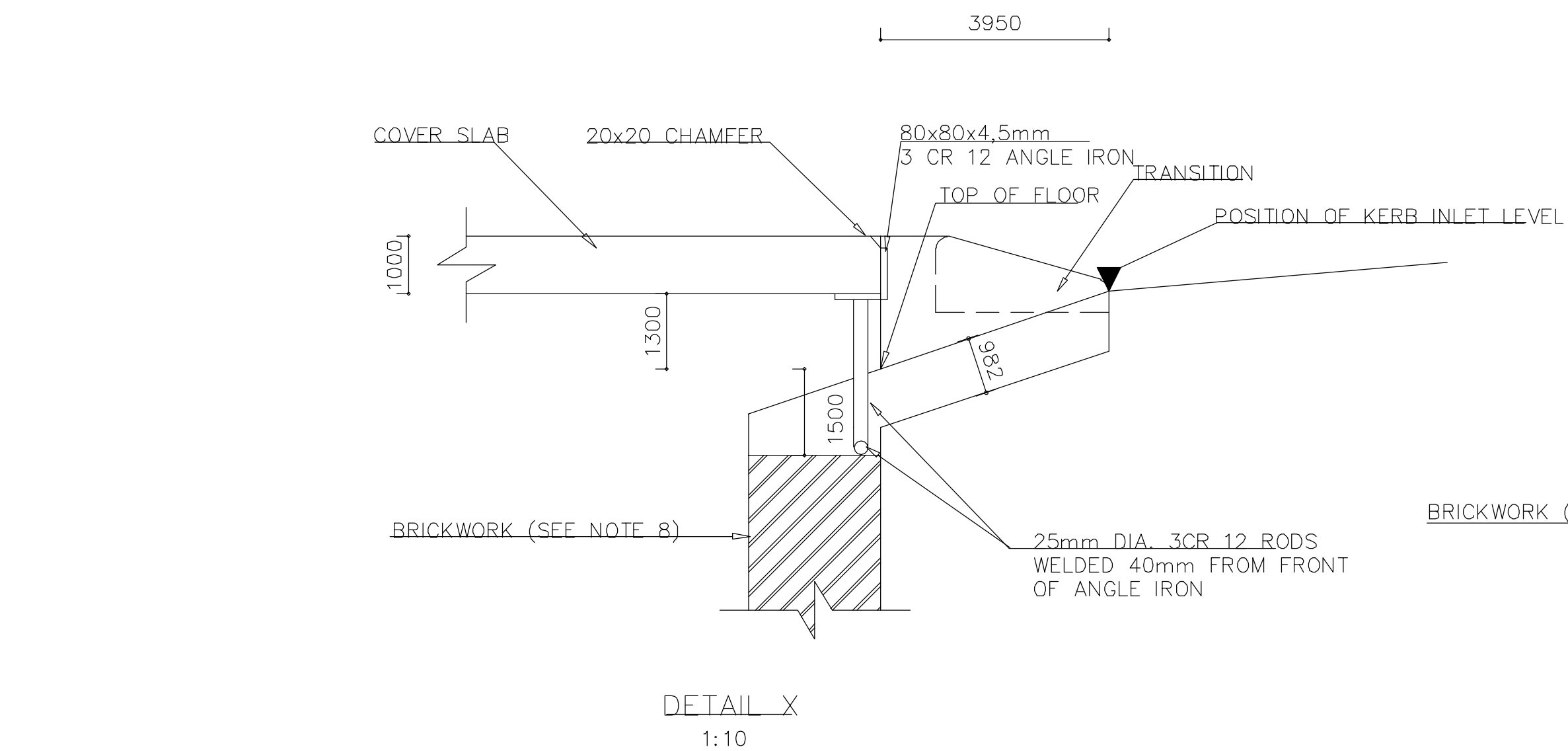


PROJECT
CONSTRUCTION OF RATHOKE BUS ROUTE
BID NO.: EPMLM/8/3/544
TITLE
SURFACE SIDE DRAINAGE DETAILS

ISSUED FOR TENDER
For Ephraim Mogale Municipality
For Mont Consulting Engineers
MONT/RDS/STD007

SHEET No.
B1
SCALE
AS SHOWN
PAPER SIZE
A0
REVISION
00

SHEET No.	SHEET 01 OF 01
SCALE	AS SHOWN
PAPER SIZE	A0
REVISION	00



- NOTES:
- ALL DIMENSIONS GIVEN ARE IN MILLIMETRES.
 - ALL EXPOSED SHARP CORNERS OF CONCRETE TO HAVE 20 x 20 CHAMFERS.
 - CONCRETE TO BE:
CLASS 30/19 FOR COVER SLAB
CLASS 20/19 FOR BENCHING
CLASS 25/19 FOR BALANCE OF STRUCTURE
 - CONCRETE FINISHES TO BE:
FORMED SURFACES - CLASS F1 (CONCEALED)
- CLASS F2 (EXPOSED)
UNFORMED SURFACES - CLASS U1 (CONCEALED)
- CLASS U2 (EXPOSED)
 - CONCRETE COVER TO REINFORCEMENT TO BE 40 MIN.
 - STEEL FABRIC TO BE :
REF. 311 FOR KERB INLET FLOOR SLAB
REF. 617 FOR CATCHPIT FLOOR SLAB
 - SUPPORTING STEELWORK TO BE 3CR12.
 - BRICKS TO BE BURNT CLAY MASONARY UNITS CONFORMING TO SABS 227.
 - KERB INLET STRUCTURE TO BE CONSTRUCTED ALONG SAME GRADIENT AS ROAD.
 - POSITION OF KERB INLET AND INLET INVERT LEVEL GIVEN IN THE DRAINAGE SCHEDULE.
 - BRICKWORK:
WHERE TOTAL DEPTH (INVERT LEVEL TO FINISHED GROUND LEVEL) EXCEEDS 2,0m
BRICKWORK TO BE 345mm THICK BELOW 2,0m DEPTH.
 - 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 A

No.	DATE	REVISION	CONSULTANT	DIR.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

DESIGNED BY	S2B RANGANA
CHECKED BY	PXA NOLUVA
DRAWN BY	TA MOSA
CHECKED BY	TE MUVHANGO



EPHRAIM MOGALE LOCAL MUNICIPALITY
Private Bag X 111
MARBLE HALL
0450
TEL: 015 - 261 9400
FAX: 015 - 261 2985

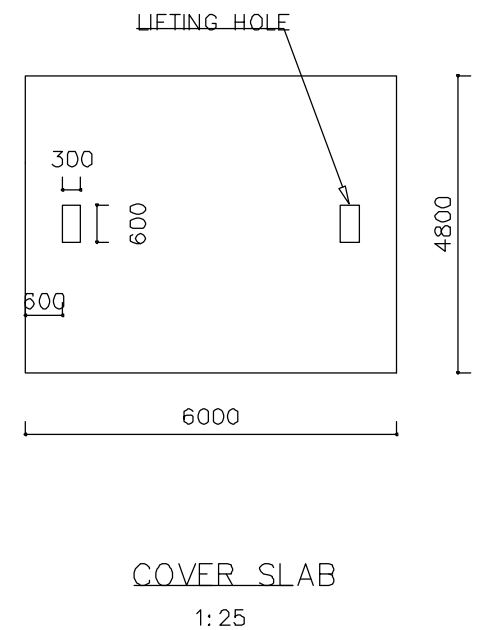
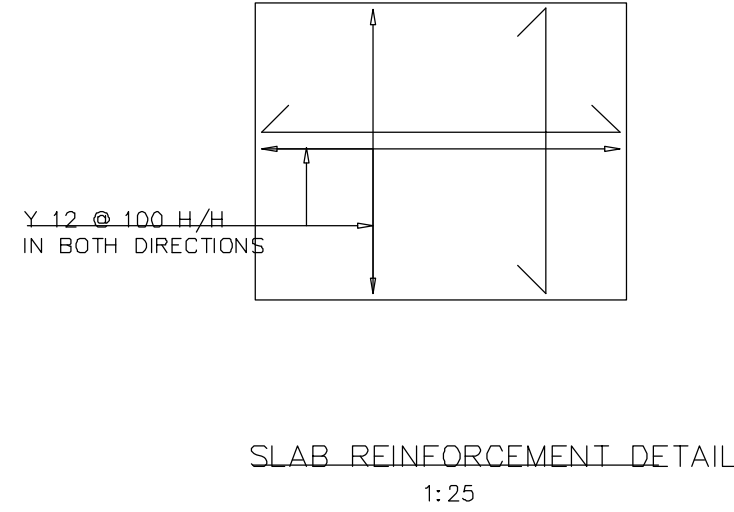
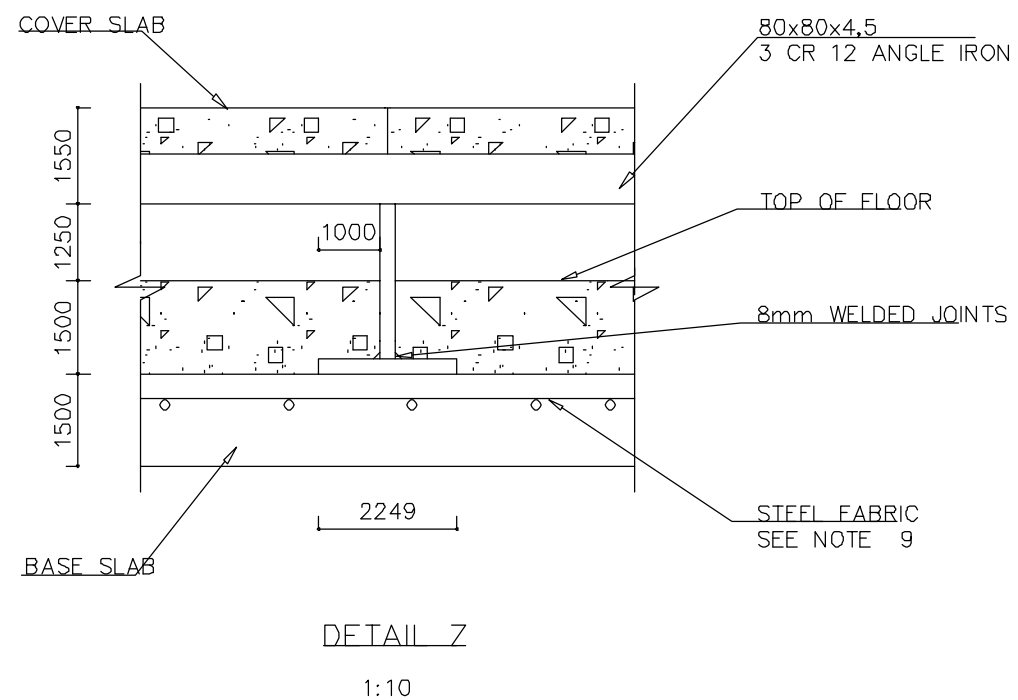
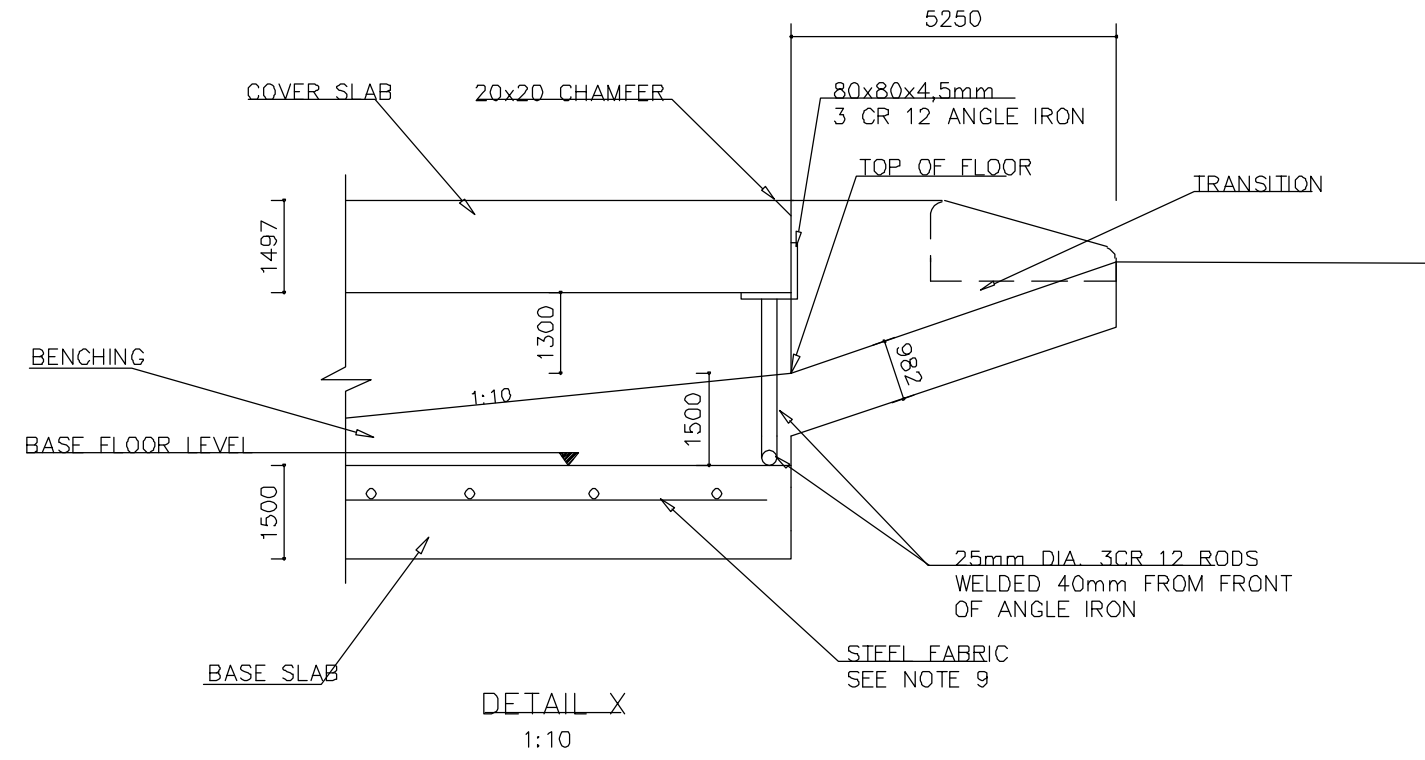
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consulting engineers

MONT CONSULTING ENGINEERS
PO BOX 1249
FAUNA PARK
0787
TEL: 015 - 291 4173
FAX: 015 - 291 4218

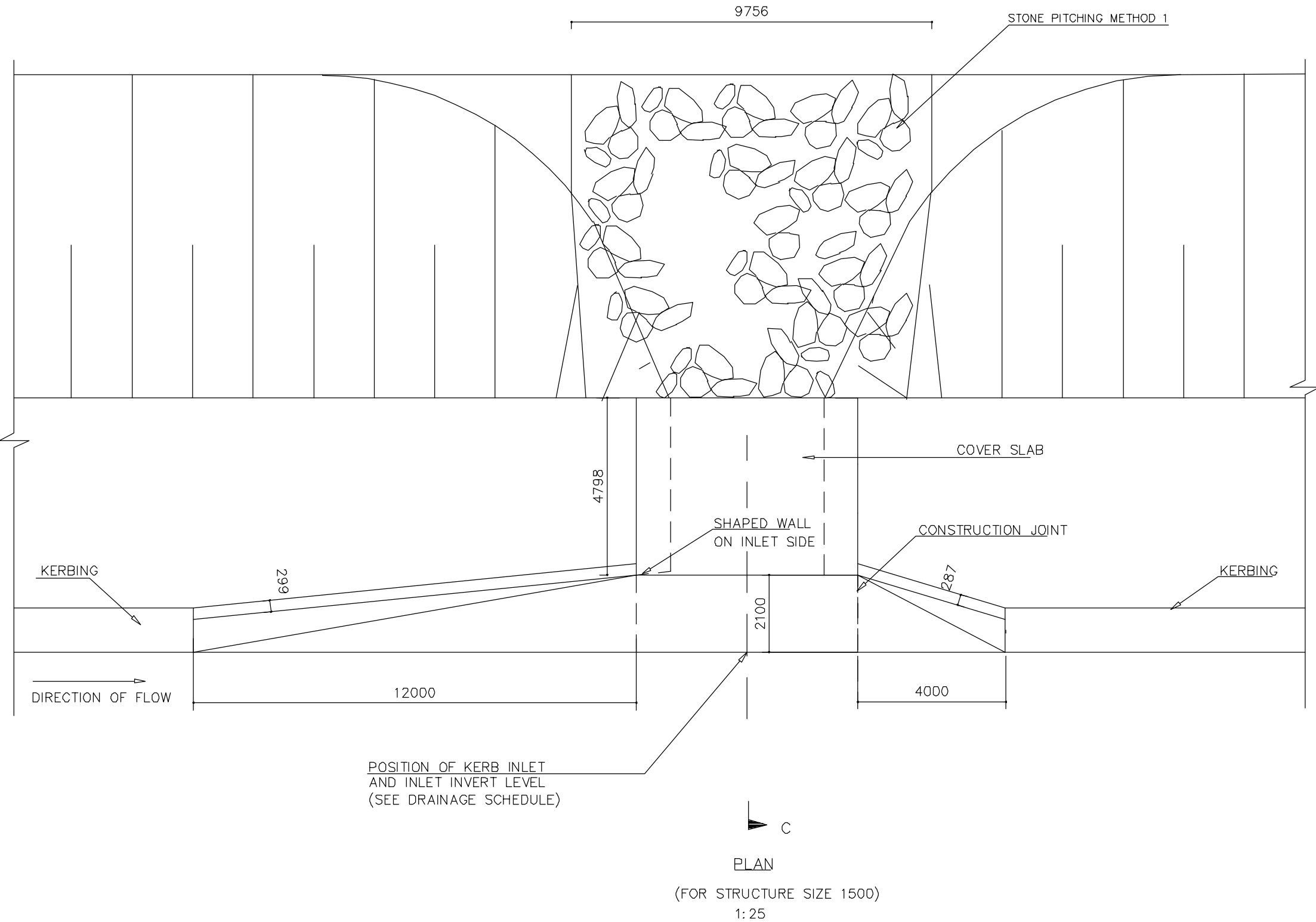
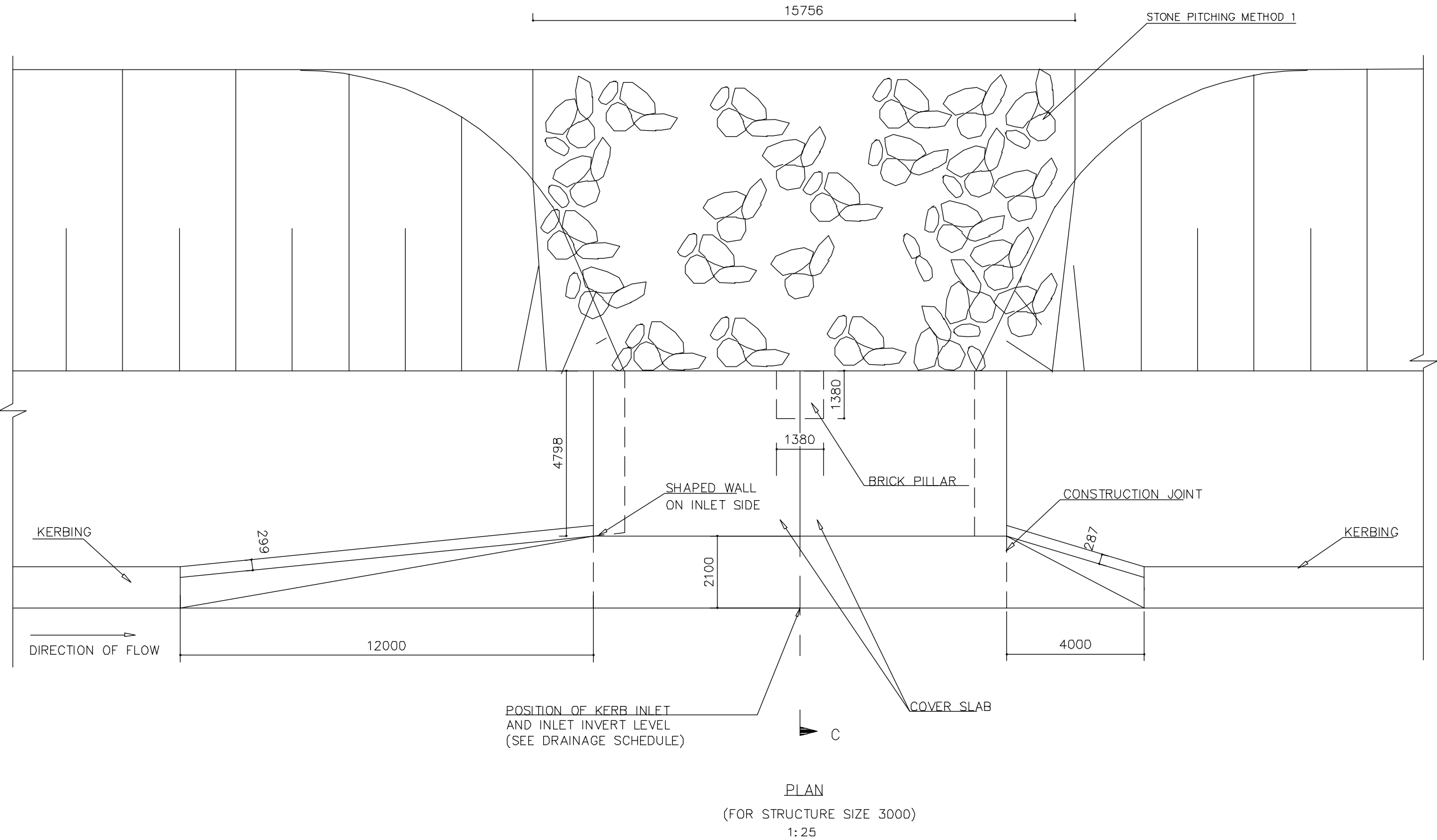
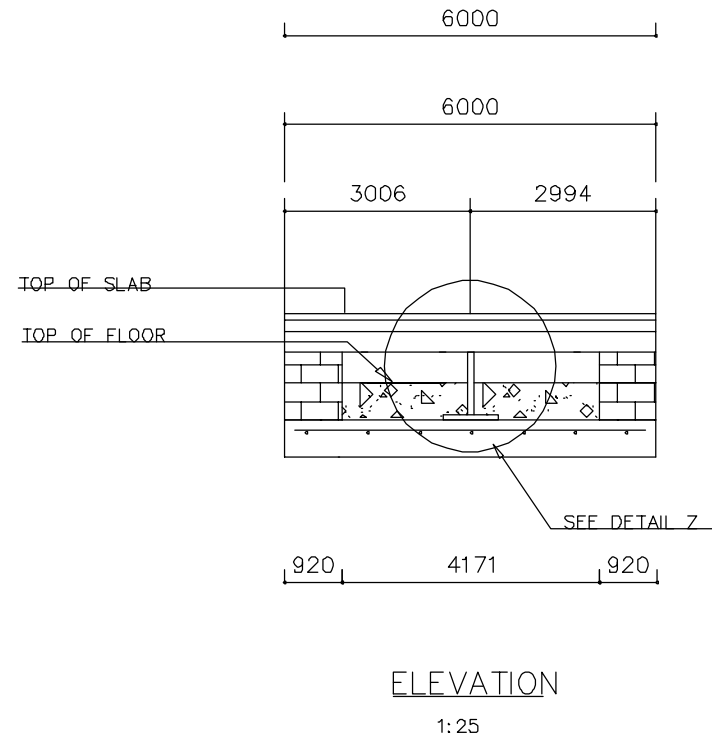
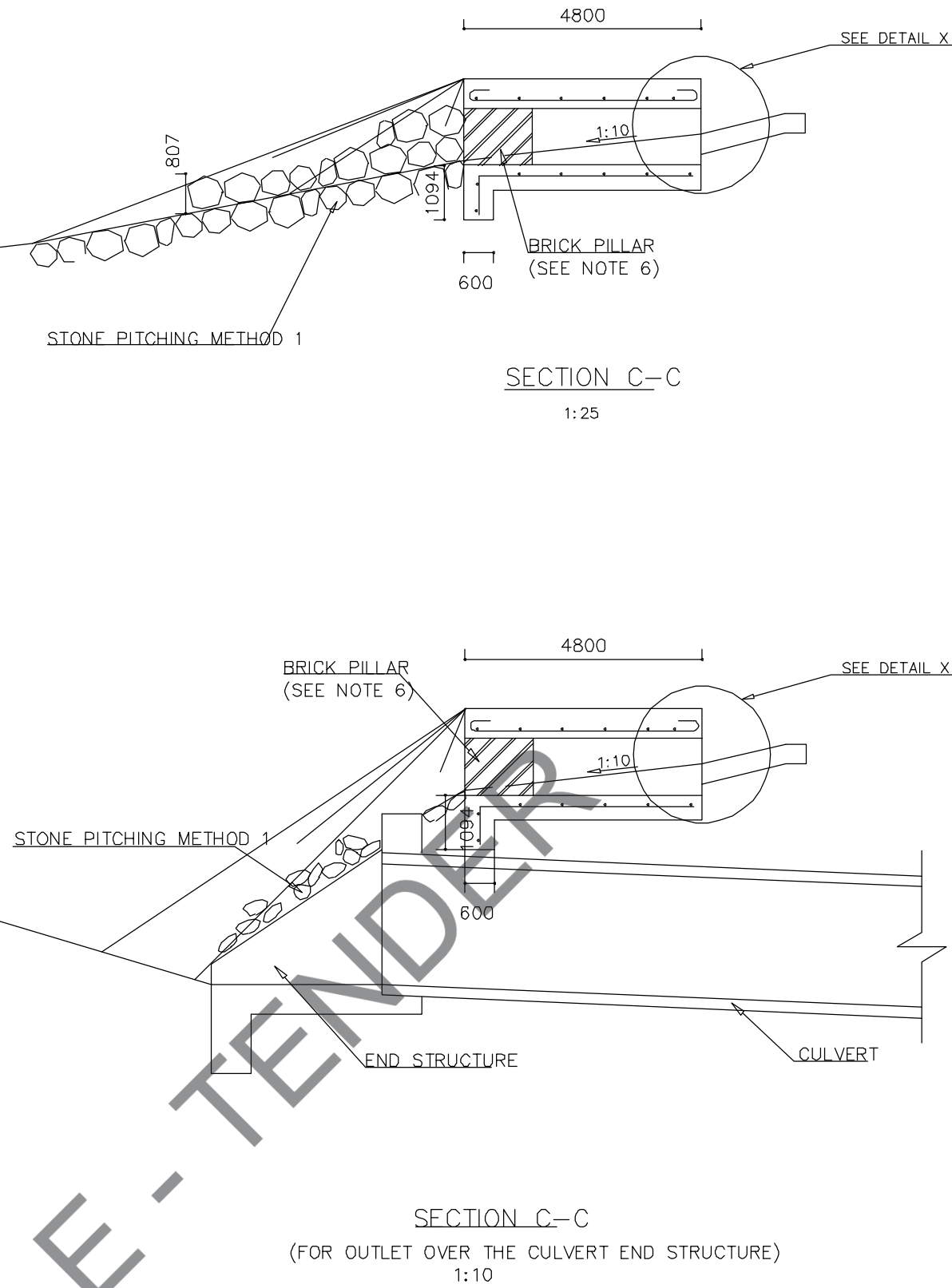
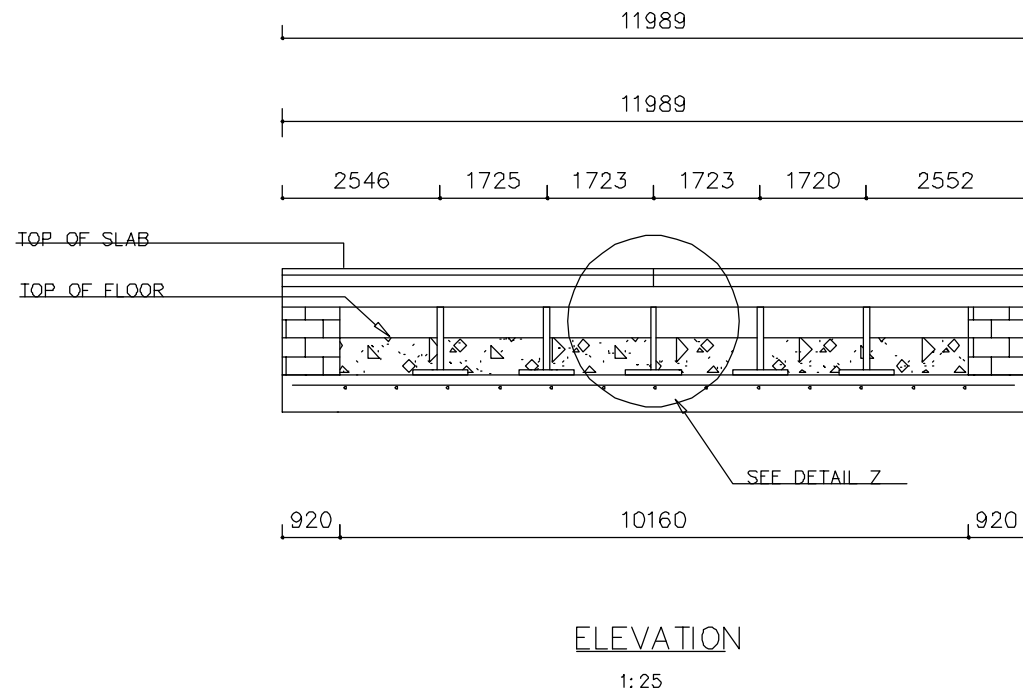


PROJECT
CONSTRUCTION OF RATHOKE BUS ROUTE
BID NO: EPMLM/3/544
TITLE
TYPICAL KERB INLET (TYPE A) DETAILS

ISSUED FOR TENDER
For Ephraim Mogale Municipality
SCALE
AS SHOWN
PAPER SIZE
A0
REVISION
MONT/RDS/STD009
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 U2 (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

DESIGNED BY	SZB RANGANA
CHECKED BY	PXA NDLOVU
DRAWN BY	TA MOSIA
CHECKED BY	TE MUVHANGO



EPHRAIM MOGALE LOCAL MUNICIPALITY
Private Bag X 111
MAARLE HALL
0450
TEL: 015 - 291 8400
FAX: 015 - 291 2686



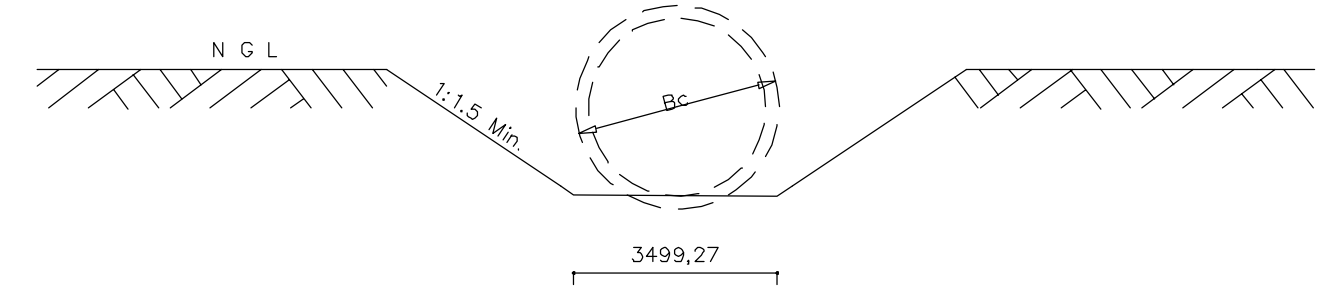
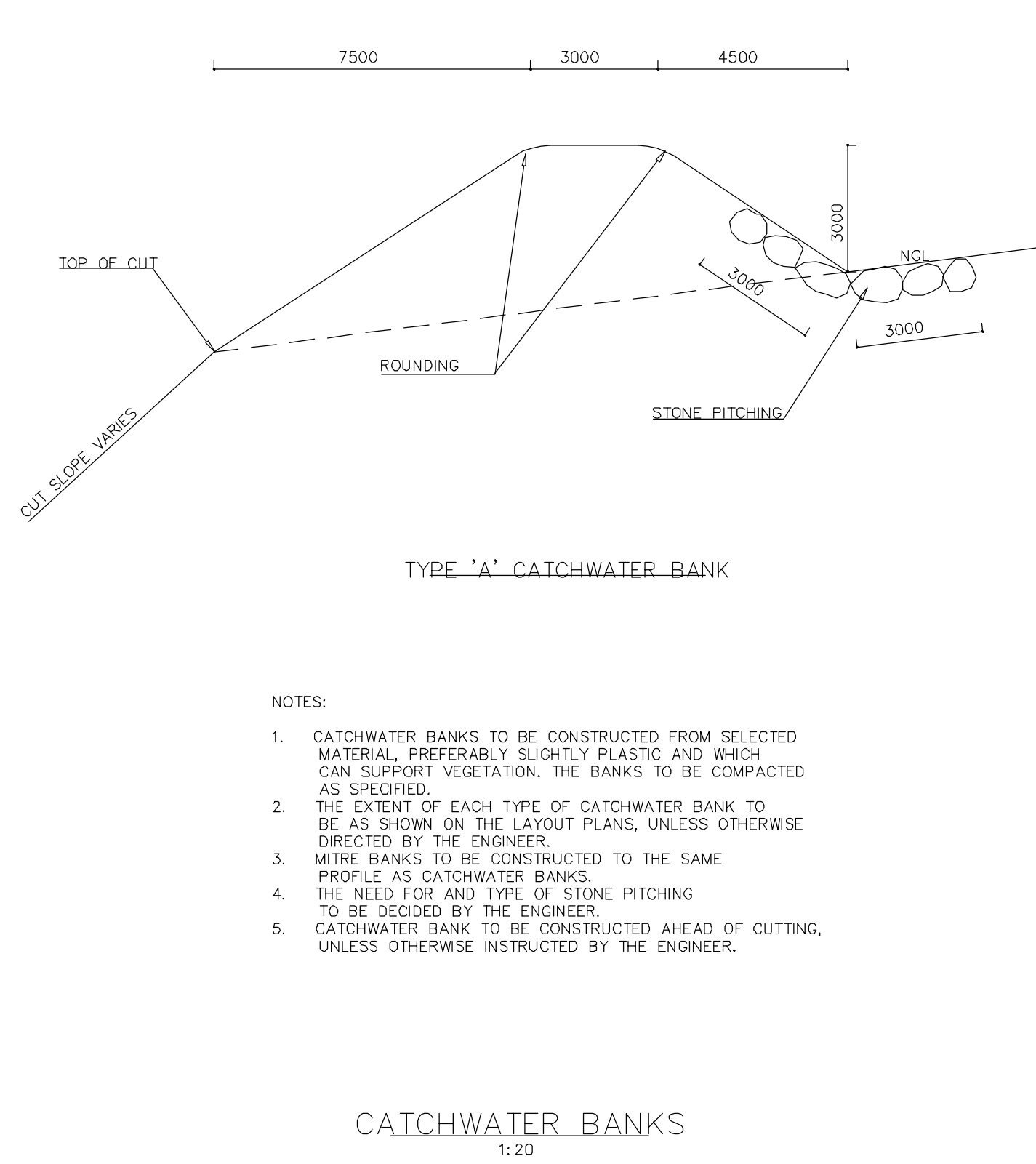
MONT CONSULTING ENGINEERS
PO BOX 1249
FAUNA PARK
0787
TEL: 015 - 291 4173
FAX: 015 - 291 4218



PROJECT
CONSTRUCTION OF RATHOKE BUS ROUTE
BID NO.: EPMLM/8/5/544
TITLE
TYPICAL KERB INLET (TYPE B) DETAILS

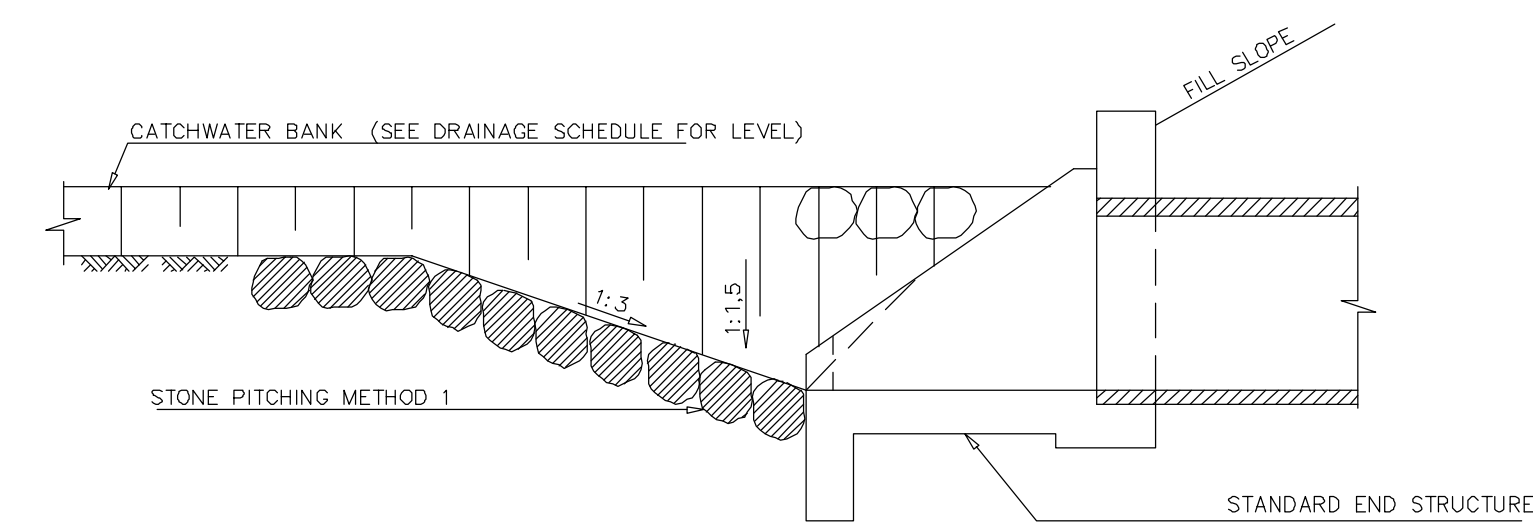
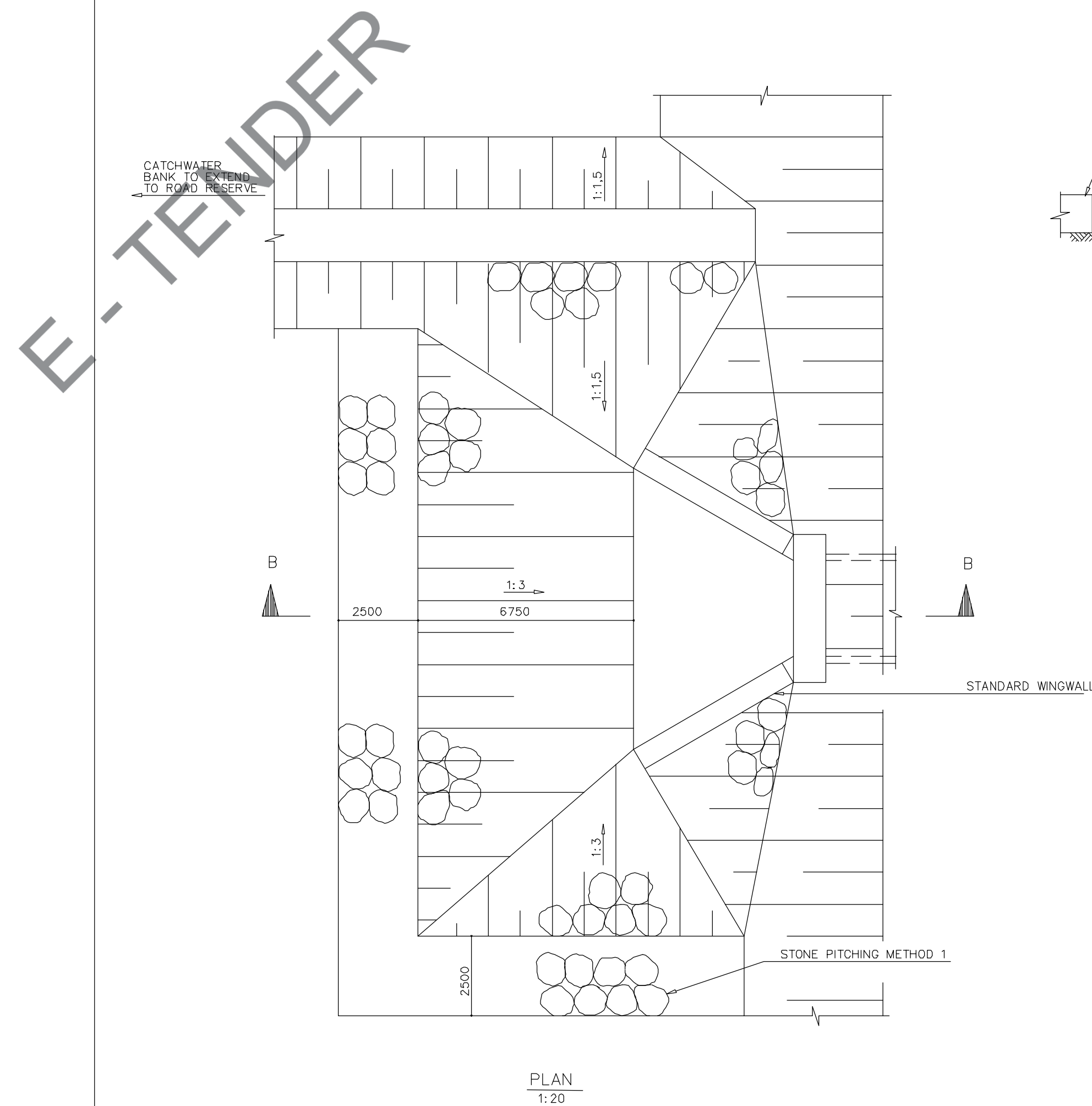
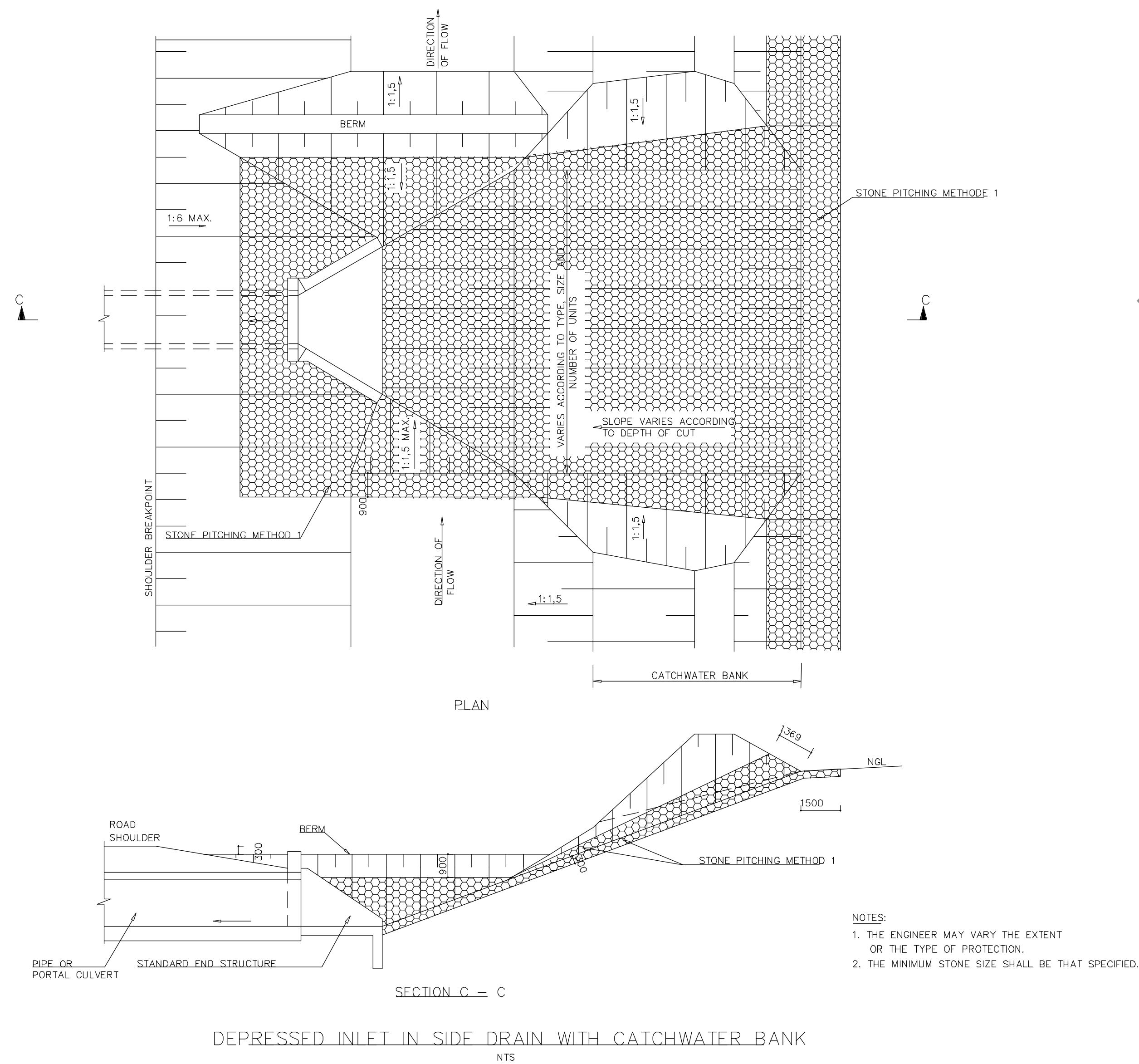
ISSUED FOR TENDER
For Ephraim Mogale Municipality
For Mont Consulting Engineers
MONT/RDS/STD010

SHEET No
01 OF 01
SCALE
AS SHOWN
PAPER SIZE
A0
REVISION
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1. SLOPE OF CHANNEL WHETHER INLET OR OUTLET, TO BE NOT LESS THAN 0.5%.
2. TRIMMED CHANNEL TO BE COMPACTED IN SITU, IF INSTRUCTED BY THE ENGINEER.
3. WHEREVER POSSIBLE OUTLET CHANNEL TO BE EXCAVATED PERPENDICULAR TO THE NATURAL CONTOURS.
4. OUTLET CHANNEL TO EXTEND TO NATURAL GROUND LEVEL.
5. Bc REFERS TO OUTSIDE DIAMETER OF PIPE.

CHANNEL OUTLET
NTS



SECTION B — B
1:20

1. THE ENGINEER MAY VARY THE EXTENT OR THE TYPE OF PROTECTION.
2. THE MINIMUM STONE SIZE SHALL BE THAT SPECIFIED.

	X	X	X	X	X	X
	X	X				X
	X	X				X
	X	X				X
	X	X				X
	X	X				X
	X	X				X
	X	X				X
	X	X				X
	X	X				X
No.	DATE	REVISION		CONSULT	DIR.	

DESIGNED BY	SZB RANGANA
CHECKED BY	PXA NDLOVU
DRAWN BY	TA MOSIA
CHECKED BY	TE MUVHANGO



Private Bag X 111
MARBLE HALL
0450
TEL: 013 - 261 8400
FAX: 013 - 261 2985

mont
consulting engineers

PO BOX 1249
FAUNA PARK
0787

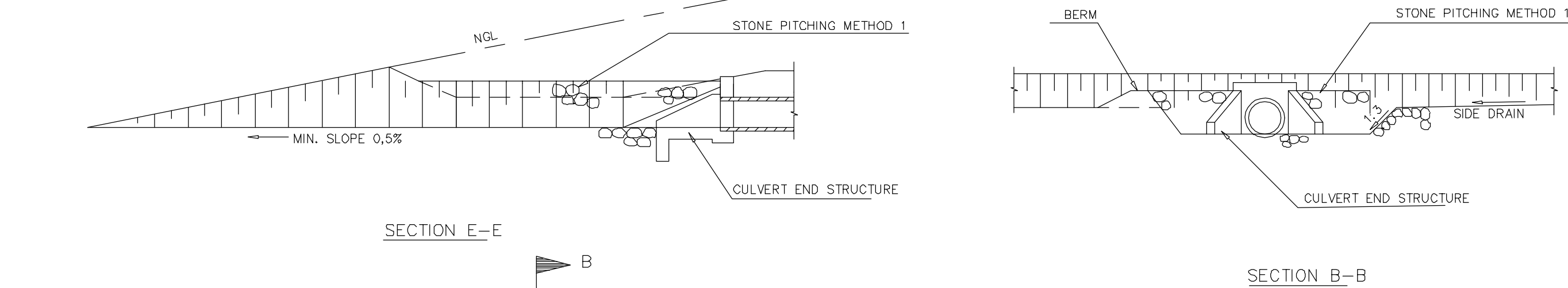
TEL: 015 - 291 4173
FAX: 015 - 291 4218



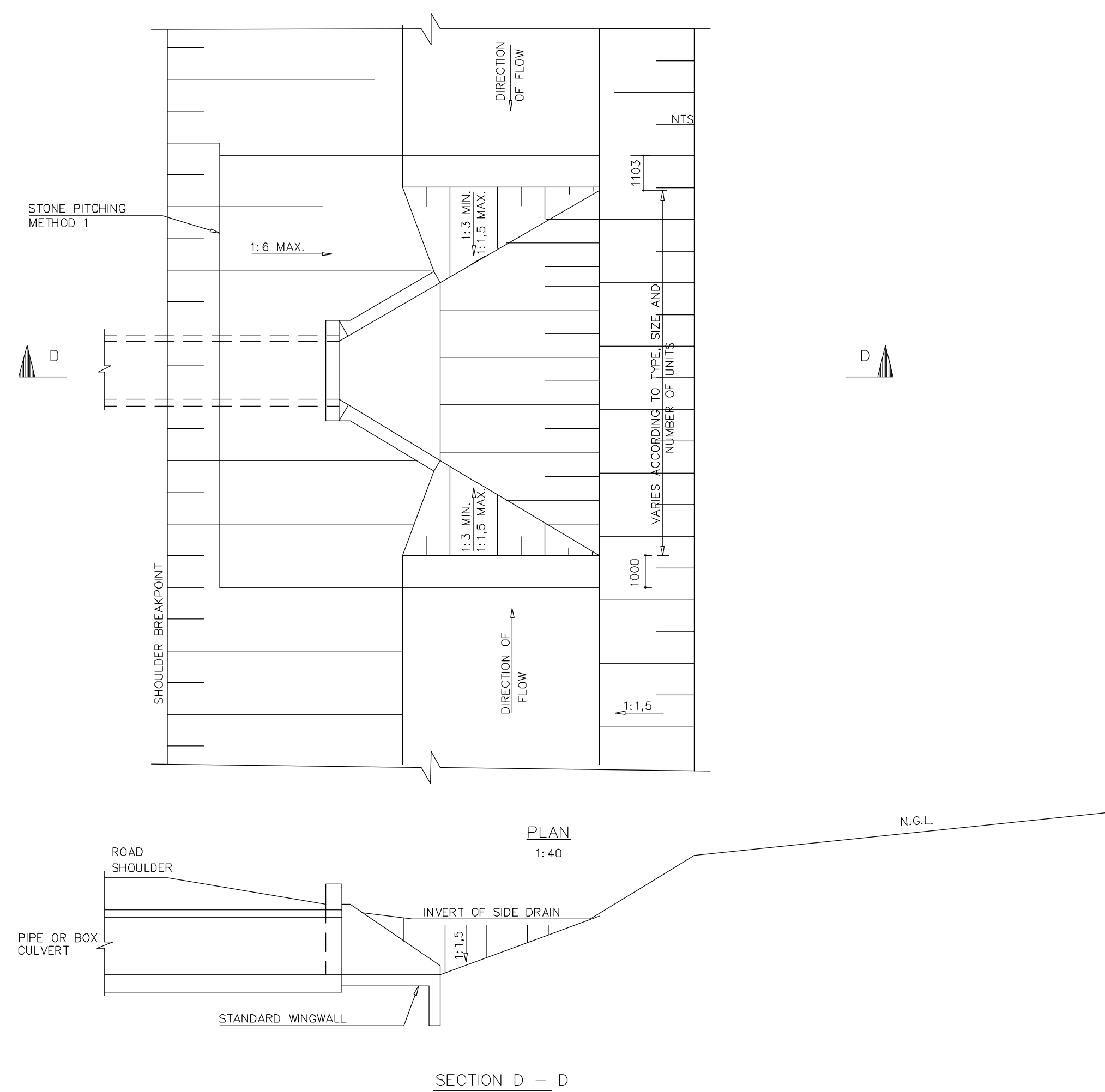
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BID NO.:	EPMLM/8/3/544
TITLE	TYPICAL DEPRESSED INLET DETAILS

	ISSUED FOR TENDER (Full signature)
	For: Ephraim Moga le Municipality
	For: Mont Consulting Engineers
DRAWING No.	MONT/RDS/STD011

SHEET No.	SHEET 01 OF 01
SCALE	AS SHOWN
PAPER SIZE	A0
REVISION	00

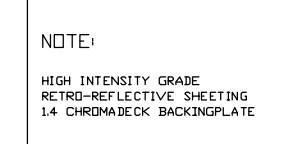
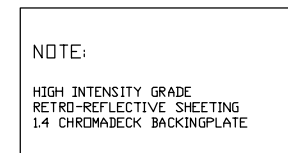
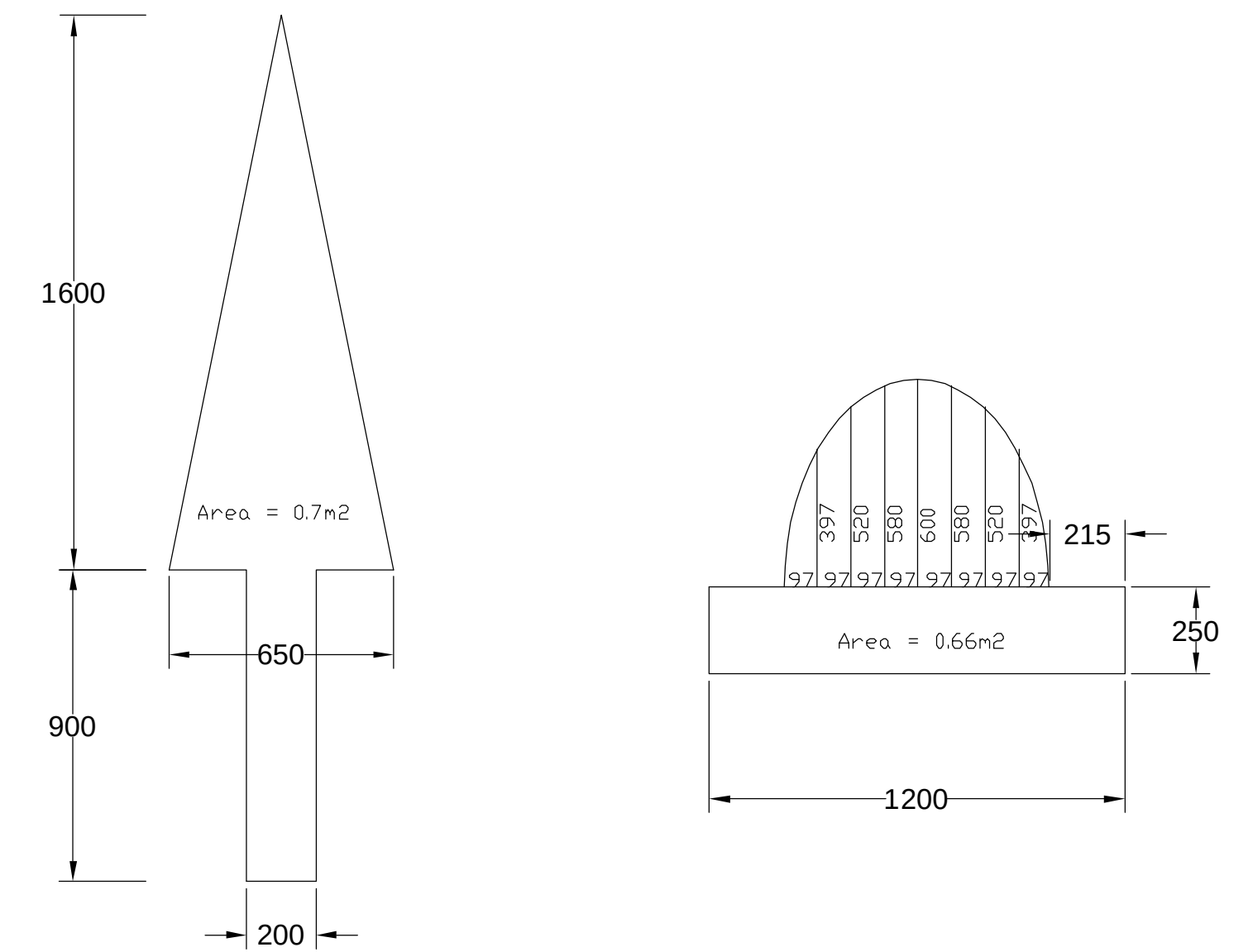
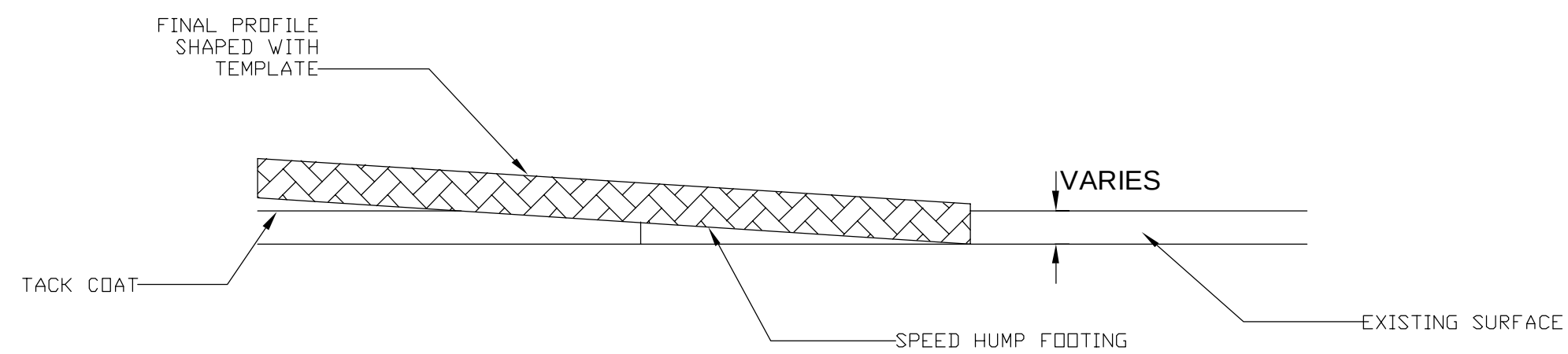
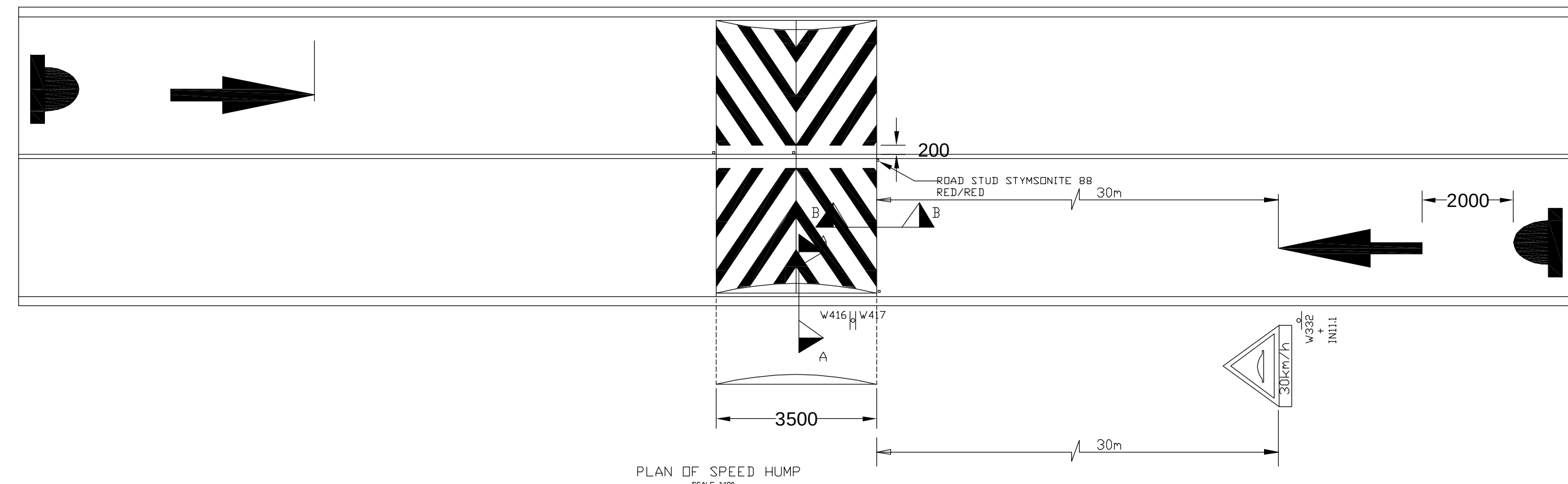


SIDE DRAIN-CULVERT OUTLET COMBINATION



DEPRESSED INLET IN SIDE DRAIN AT LOW POINT

20__/__/__	SHEET No. SHEET 01 OF 01
	SCALE A5 SHOWN "
20__/__/__	PAPER SIZE A0
	REVISION 00

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