



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD IN TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

PARTICULARS OF THE BIDDER	
NAME OF THE BIDDING OR TENDERING COMPANY	
STREET ADDRESS (PHYSICAL ADDRESS)	
	POSTAL CODE
E-MAIL ADDRESS	
TELEPHONE NUMBER (TELKOM LINE)	
CIDB CRS NUMBER (IF APPLICABLE)	
CELLPHONE NUMBER	
ALTERNATE CELLPHONE NO.	
CENTRAL SUPPLIER DATABASE NUMBER OF THE BIDDING COMPANY	

PREPARED FOR:	PREPARED BY:
MAKHADO MUNICIPALITY CIVIC CENTER 83 KROGH STREET MAKHADO 0920 TEL: (015) 519 300 FAX: (015) 516 1195	RALEMA CONSULTING ENGINEER (PTY) LTD 34 MAZZENINE OXFORD OFFICE PARK 03 BAUHINIA STREET HIGHVELDPARK CENTURION TEL: (012) 753 0744 FAX: 086 537 7350



THE TENDER
Part T1: Tendering procedure

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Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



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Witness 1

Witness 2

Contractor

Witness 1

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MAKHADO

LOCAL MUNICIPALITY



TENDER NOTICE

All suitable service providers are hereby invited to bid for the below mentioned projects. Bidders are requested to bid as per specification attached to the bid documents that will be obtainable 24 July 2023 at non-refundable amount of R600.00 per document at the Procurement Office No. B043 Ground Floor, 83 Krogh Street, Civic Center, Makhado or can be downloaded from e-tender portal for free <https://etenders.treasury.gov.za/content/advertised-tender> or www.makhado.gov.za.

BID NO:	DESCRIPTION	EVALUATION CRITERIA	COMPULSORY BRIEFING SESSION	SPECIAL REQUIREMENT	TECHNICAL ENQUIRIES	REFERENCE AND NOTICE NO.	CLOSING DATE AND TIME
69 of 2023	Supply, Deliver, Installation and Commissioning of 50KVA 3Ph Generator at Dzanani Regional Office	80/20 preferential points with functionality	26 July 2023 at 10:00am at Dzanani Regional Office	CIDB grading 01EP or higher • Certified copy of a valid ORHVS certificate, with modules 1 to 10 or HVO-level 04. • A certified copy of a valid wiremen's license • A letter/certificate as proof of being registered with the department of labour as an electrical contractor with IE or ME (installation or master electrician) number.	Director Technical services: MS DG Siboiboi or Mr. T Magalela at 0155193000	Ref: 8/3/2/2001 Notice no: 112/2023	11 August 2023 at 12H00pm
70 of 2023	Re-advertisement: Upgrading of road Tsianda Marundu to Military base Phase 1	90/10 preferential points with functionality criteria	28 July 2023 at 11:00am U-Save Supermarket Ha-Mutsha Village along R524 road	• CIDB Grading 07CE or higher. • Attach three years audited financial statement (only those that are required by law to be audited)	Director Technical services: MS DG Siboiboi or Ms. L Thulani at 0155193000	Ref: 8/3/2/2003 Notice no: 113/2023	21 August 2023 at 12H00pm
71 of 2023	Re-advertisement: Supply, Delivery, Refill and Service of Council Fire Extinguishers Cabinets for the period three (03) Years	80/20 preferential points with functionality			Director Corporate Service Mr. SG Maguga or Mr. MT Tshikota at 0155193000	Ref: 8/3/2/2004 Notice no: 114/2023	21 August 2023 at 12H00pm
72 of 2023	Re-advertisement: Provision of single automated performance management system for the period of three (03) Years	80/20 preferential points with functionality	27 July 2023 at 10:00am at council chamber, Civic Center, 83 Krogh street, Makhado, 0920		Manager performance management system: Mr. K Sigidi at 0155193000	Ref: 8/3/2/2005 Notice no: 115/2023	21 August 2023 at 12H00pm

Completed bid documents signed by a duly authorized person, sealed in an envelope clearly marked "**As mentioned above**" must reach the undersigned by depositing it into the tender box at the foyer of the main entrance to the Civic Centre by not later than "**As mentioned above**" when all tenders received will be opened in public in the Council Chamber, Ground Floor, Civic Centre, No. 83 Krogh Street, Makhado.

The Municipality is not bound to accept the lowest or any bid and reserves the right to accept any part of a bid. Bids must remain valid for a period of ninety (90) days after closing date of submission thereof. Submitted tenders will be evaluated as per above mentioned table.

Bids which are late, incomplete, unsigned, or submitted in pencil or by telegraph or facsimile or electronically by e-mail, or not having the following documents attached for evaluation or not complying with the tender specifications, will not be evaluated, and will be disqualified:

- Valid Tax compliance status pin issued by SARS
- A copy of company registration documents (CK)
- Certified copy/copies of company owner(s) ID book(s), not older than three (03) months certification.
- Attach proof of payment for municipal rates not owing for more than (03) months or formal lease agreement for rental premises or letter from the traditional authority in cases of non-ratable areas. (Attach for both entity and directors of the company)
- Copy of central supplier database (CSD) report.

NB: • All Service Provider doing business with Makhado municipality are required to register on the CSD (Central Supplier Database). • A copy of a certified copy will not be accepted.

All procurement enquiries should be directed to Ms. P Mudau or Mr. M Ramabulana at Tel no. **(015) 519 3044/3024**

Civic Centre
83 Krogh Street
MAKHADO

MR KM NEMANAME
MUNICIPAL MANAGER

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Employer

Witness 1

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- ✓ Bidders must be registered on CSD and provide their registration number on the tender/ quotation document

PLEASE READ AND FOLLOW INSTRUCTIONS BELOW ON HOW TO COMPLETE DIFFERENT FORMS IN THE DOCUMENT AND FILL THEM AS INSTRUCTED

- ✓ The tender documents must be completed in full i.e. Compulsory Questionnaire, MBD 1, Pricing Schedule, MBD 4, MBD 5, MBD 6.1, MBD 7.2, MBD 8, MBD 9, Section 38 and the Form of Offer, including all witness signatures on all the above stated forms.
- ✓ **NB! FAILURE TO ADHERE TO THE BELOW MENTIONED POINTS MAY INVALIDATE THE TENDER AND RESULT IN DISQUALIFICATION**
 - **COMPULSORY QUESTIONNAIRE** must be fully completed and signed
*In a case of Joint Venture separate **COMPULSORY QUESTIONNAIRE** forms must be completed and submitted.*
 - **MBD 1** must be fully completed and signed
 - **PRICING SCHEDULE** must be fully completed and signed
 - **MBD 4** -only tick the appropriate answer. Please be informed that whether you scratch out, tick or circle, **your answer will be where the pen ink is reflecting**. Ink should not reflect on both answers.
In a case of Joint Venture or multi- directors, full details of all Directors must be provided on the table on MBD 4.
 - **MBD 5** -only tick the appropriate answer. Please be informed that whether you scratch out, tick or circle, **your answer will be where the pen ink is reflecting**. Ink should not reflect on both answers.
 - *In a case of Joint Venture separate **MBD 5** forms must be completed and submitted.* (complete if applicable)
 - **MBD 6.1** – must be fully completed. Ink should not reflect on both answers.
 - **MBD 7.2** must be fully completed. Ink should not reflect on both answers.
 - **MBD 8** - only tick the appropriate answer box, whether you scratch out, tick or circle, your answer will be where the pen ink is reflecting. Ink should not reflect on both answers.
 - **MBD 9** - must be fully completed and signed. Ink should not reflect on both answers.
 - **SECTION 38** - only tick the appropriate answer box, whether you scratch out, tick or circle, your answer will be where the pen ink is reflecting. Must be fully completed and signed, including signatures of witnesses. Ink should not reflect on both answers.
- Note that should you answer “**NO**” to any of the declaration questions on **section 38 form**, then supporting documents **MUST** be attached

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- **SIGNATORY AUTHORISATION** – complete and sign the form
- **The document must not be dismantled; page numbers must be sequential and returnable documents must be submitted separately (BINDED) . Annexures must be attached at the back of the tender document or as a separate document(BINDED).**

THE FOLLOWING MANDATORY DOCUMENTS MUST BE SUBMITTED TOGETHER WITH THE BID DOCUMENT

- ✓ Deposit slip.
- **FOR ALL DOCUMENTS THAT WILL NEED CERTIFICATION (AND AFFIDAVITS WHERE APPLICABLE) BIDDERS ARE REQUESTED NOT TO SUBMIT COPIES OF CERTIFIED COPIES.**
- ✓ A valid Disability letter from a Medical Doctor with Practice Number.

MUNICIPAL RATES AND TAXES STATEMENTS OF THE DIRECTORS

- ✓ Current municipal rates and taxes statement for each directors' address must be attached; or
- ✓ Valid lease agreement of the director/s (showing lease period) or,
- ✓ An original letter from tribal authority not older than three (3) months if the director/s are residing in a tribal land, or
- ✓ If the rates and taxes account are not in the names of the director/s the attached municipal rates and taxes statement must be accompanied an original affidavit from the property owner whose names are reflecting on the municipal rates and taxes statement to confirm that the director resides in their property. Please note that Body Corporate statements will not be accepted ONLY Municipal rates and taxes will be accepted.

MUNICIPAL RATES AND TAXES STATEMENTS OF THE COMPANY

- ✓ Current municipal rates and taxes statement for the company's' address must be attached; or
- ✓ Valid lease agreement of the company (showing all critical contractual obligations, or
- ✓ An original letter from a tribal authority not older than three (3) months if the company is operating from a tribal, or

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- ✓ If the rates and taxes account are not in the names of the company, the attached municipal rates taxes statement must be accompanied by an original affidavit from the property owner whose names are reflecting on the municipal rates and taxes statement to confirm that the director resides in their property. Please note that Body Corporate statements will not be accepted ONLY Municipal rates and taxes will be accepted.

NB!!

- ✓ **FOR PROCUREMENT EXPECTED TO BE LESS THAN 10 MILLION, AWARDS WILL NOT BE MADE TO BIDDERS OWING MUNICIPAL RATES AND TAXES FOR OVER 90 DAYS AT THE TIME OF TENDER CLOSURE**
- ✓ **FOR PROCUREMENT EXPECTED TO BE MORE THAN 10 MILLION, AWARDS WILL NOT BE MADE TO BIDDERS OWING MUNICIPAL RATES AND TAXES FOR OVER 30 DAYS AT THE TIME OF TENDER CLOSURE**
- ✓ Required CIDB Grading Certificate where applicable
- ✓ Signatory resolution – Please attach a copy of Signatory resolution on your company letterhead and signed where instructed
- ✓ If the submission is from a Joint Venture, then a signed JV agreement by both parties must be attached

VERIFICATION OF DOCUMENTS AND INFORMATION.

- ✓ Tax compliance status will be verified using CSD number. (For a bidder to be considered for final award, their status must reflect “tax compliance” before award is made)
- ✓ CIDB Grading will be verified
- ✓ A letter from Medical Doctor will be verified with relevant registration bodies.
- ✓ Sworn Affidavits will be accepted only if its originals submitted.

ALLOCATION OF SPECIFIC GOALS POINTS

- ✓ No points will be allocated for a Specific Points Doctor’s letter that is not valid
- ✓ No points will be allocated if the attached sworn affidavit is a copy.

INSTRUCTION ON THE SUBMISSION OF TENDER DOCUMENTS

- ✓ A tender document must be in a sealed document that has on the outside the bid number and bid description. Both the bid number and the bid description must be on the envelope for the document to be acceptable.
- ✓ If the bid number and description are not clearly marked on the envelope, the bid will not be received
- ✓ The tender document must be in the tender box before the specified closing time and date.

Bidders who arrive when the tender box is open are late.

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MAKHADO MUNICIPALITY

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MBD 1

T1.1 Tender Notice and Invitation to Tenders

NB! THE BID DOCUMENTS SHOULD BE RETURNED PACKAGED IN THE MANNER IN WHICH THEY APPEAR IN THE TABLE OF CONTENTS FOR EASE OF REFERENC

PART A INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE MAKHADO MUNICIPALITY					
BID NUMBER:	BID NO: 70 OF 2023	CLOSING DATE:	21 st August 2023	CLOSING TIME:	12H00
DESCRIPTION	UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1				
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:

MAKHADO MUNICIPALITY				
CIVIC CENTER				
83 KROGH STREET , MAKHADO , 0920				
CIDB GRADING – 7CE OR HIGHER				
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:

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ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]	ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER PART B:3]
TOTAL NUMBER OF ITEMS OFFERED		TOTAL BID PRICE	R
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	Technical Service	Technical Service	
CONTACT PERSON	Ms DG Siboiboi	Ms L Thulare	
TELEPHONE NUMBER	015 519 3000	015 519 3000	
E-MAIL ADDRESS	dengas@makhado.gov.za	livhuwanit@makhado.gov.za	

Tenderers who can demonstrate that they will have in their employ staff which satisfy EPWP requirements during the contract validity are eligible to submit tenders

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Tender Data

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PART B TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:	
1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.	
1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED, COMPLETED WITH A BLACK PEN	
1.3. THIS BID IS SUBJECT TO THE MM SUPPLY CHAIN MANAGEMENT POLICY, PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, 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)?	<input type="checkbox"/>
YES <input type="checkbox"/> NO	
3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA?	<input type="checkbox"/>
YES <input type="checkbox"/> NO	
3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?	
<input type="checkbox"/> YES <input type="checkbox"/> NO	
3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?	
<input type="checkbox"/> YES <input type="checkbox"/> NO	
3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?	<input type="checkbox"/>

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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.

NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

DATE:

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1. Documents are available on E-tender and Hard Bid Documents Copies are available at Municipal offices on the 24th July 2023 at non-refundable amount of R600.00, B043 Ground Floor, 83 Krogh Street , Civic Center , Makhado respectively.
2. Sealed bid documents marked: **BID NO: 70 OF 2023 - UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1** must be placed in the bid box in the Foyer of Main Entrance CIVIC CENTER, 83 Krogh Street , Makhado not later than **21st August 2023 @ 12h00** where after the bids will be opened in public at the Municipal offices.
3. One sealed envelope containing “ **TENDER DOCUMENT AND RETURNABLES** ” must be deposited in the box before the closing date and time..
4. The Council will not be responsible for bids not received or received late by mail. Bids will remain valid for 90 days (Ninety)..
5. An updated record of payment of rates, taxes and services to the relevant Municipality must be attached. Failure to do so will invalidate the bid submitted
6. No bids will be considered from any person(s) in the service of the state (as defined in Regulation 1 of Local Government: Municipal Supply Chain Management Regulations).
7. All bids must be submitted on the official forms provided and a successful bidder will be required to fill and sign a written Contract Form (MBD 7).
8. Enquiries relating to this tender should be addressed to Ms Ms DG Siboiboi @ 015 519 3000

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T1.2 Tender Data

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

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

Clause number	Tender Data
F.1.1	The employer The employer is The MAKHADO MUNICIPALITY.
F.1.3.2	Replace the contents of the clause with the following: The Standard Conditions of Tender, the Tender Data, List of Returnable Documents and Returnable Schedules which are required for the tender evaluation purposes, shall form part of the Contract arising from the invitation to tender.
F.2.1	Eligibility Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a CE class of construction work, are eligible to submit tenders. Joint ventures are eligible to submit tenders provided that: <ol style="list-style-type: none">1. Every member of the joint venture is registered with the CIDB;2. The lead partner has a contractor grading designation in the 7CE OR HIGHER; and the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 7CE OR HIGHER class of construction work. Tenderers faced with the above scenario and who fail to meet the combined designation grading will not be considered for the tender.
F.2.1.	Eligibility Only those tenderers who have in their employ management and supervisory staff satisfying the requirements of the scope of work for labour intensive competencies for supervisory and management staff are eligible to submit tenders.
F.2.2	Accept that the Employer will not compensate the tenderer for any costs incurred in attending interviews in the office of the employer.

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Clause number	Tender Data
F.2.7	Clarification Meeting There will be a compulsory Site Briefing Session on the 28th July 2023, 1100hrs U-Save Supermarket Ha-Mutsha Village along R524 road . Should there be any addendum it will be published on either/or of the following websites E-Tender, CIBD and Municipal website.
F.2.10.5	Pricing and tender offer Add the following to the clause: No digital copy of the Bill of Quantities will be issued.
F.2.11	Alterations to documents Add the following to the clause: To correct errors made, draw a line through the incorrect entry and write the correct entry above in black ink and place the full signatures of the authorized signatories next to the correct entry.

Employer

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Contractor

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**Clause
number**

Tender Data

F.2.12

Alternative tender offers

If a tenderer wishes to submit an alternative tender offer, 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.

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 the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the Employer's standards and requirements 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.

Failure to properly comply with this clause, thereby preventing the Employer and/or the Engineer to properly assess the full implications of the alternative tender, is likely to disqualify the alternative offered from further consideration.

No submission by the Contractor after award for additional payment or time for completion of Works relating to the alternative offer will be considered, the tendered rates submitted shall be considered to reflect the full and final cost implications of the alternative offer.

F.2.13

Submitting a tender offer

Add the following to the clause:

No claim will be entertained for faults in the tender price resulting from any discrepancies, omissions or indistinct figures.

F.2.13.2

Replace the contents of the clause with the following:

Return all volumes of the tender document to the Employer after completion of the relevant sections of each volume in their entirety by writing in black ink.

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Clause number	Tender Data
	All volumes are to be left intact in its original format and no pages shall be removed or re-arranged.
F.2.13.3	Parts of each tender offer communicated on paper shall be submitted as an original.
F.2.13.4	Add the following to the clause: Only authorised signatories may sign the original tender offer where required in terms of 2.13.3.
F.2.13.5 F2.15.1	The employer's address for delivery of tender offers and identification details to be shown on each tender offer package are: Location of tender box: Foyer Main Entrance Civic Center , 83 Krogh Street, Makhado 0920 Physical address: Civic Center , 83 Krogh Street, Makhado 0920 Identification details: BID NO: 70 OF 2023- UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1 , and the closing date and time of the tender. Postal address: Private Bag X2596, Makhado, 0920 The name and address of the tenderer shall be entered on the back of the envelope. Add the following to the clause: Accept that all conditions, which are printed or written upon any stationary used by the Tenderer for the purpose of or in connection with the submission of a tender offer for this Contract, which are in conflict with the conditions laid down in this document shall be waived, renounced and abandoned.
F.2.14	Information and data to be completed in all respects Add the following to the clause: The Tenderer is required to enter information in the following sections of the document:

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**Clause
number**

Tender Data

Section T2.2 : Returnable Schedules Section
Section C1.1..... : Form of Offer and Acceptance Section
Section C1.2..... : Contract Data (Part 2) Section
Section C2.2..... : Bill of Quantities

The above sections shall be signed by the Tenderer (and witnesses where required). Individual pages should only be initialled by the successful Tenderer and by the witnesses after acceptance by the Employer of the Tender Offer.

The Tenderer shall complete and sign the Form of Offer prior to the submission of a Tender Offer.

The Schedule of Deviations (if applicable) shall be signed by the successful Tenderer after acceptance by the Employer of the Tender Offer.

Accept that the Employer shall in the evaluation of tender offers take due account of the Tenderer's past performance in the execution of similar engineering works of comparable magnitude, and the degree to which he possesses the necessary technical, financial and other resources to enable him to complete the Works successfully within the contract period. Satisfy the Employer and the Engineer as to his ability to perform and complete the Works timeously, safely and with satisfactory quality, and furnish details in section T2.2.2 of contracts of a similar nature and magnitude which they have successfully executed in the past. Accept that the Employer is restricted in accordance with clause 4.(4) of the Construction Regulations 2014, to only appoint a contractor whom he is satisfied has the necessary competencies and resources to carry out the work safely. Accept that submitting inferior and inadequate information relating to health and safety shall be regarded as justifiable and compelling reasons not to accept the Tender Offer of the Tenderer scoring the highest number of tender evaluation points.

F.2.15.1

Closing Time

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

F.2.15.2

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

F.2.16.1

Tender offer validity

The tender offer validity period is 90 days.

F.2.16.1

Add the following to the clause:

If the tender validity expires on a Saturday, Sunday or public holiday, the tender shall remain valid and open for acceptance until the closure of business on the following working day.

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F.2.18	<p>Provide other material</p> <p>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 labour intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.</p> <p>Add the following to the clause:</p> <p>Accept that if requested, the Tenderer shall within 14 days of the date upon which he is requested to do so, submit a full report from his banker as to his financial standing. The Employer may, in its discretion, and subject to the provisions of Section 4(1)(d) of the State Tender Board Act 86 of 1968, condone any failure to comply with the foregoing condition.</p>
F.2.20.	<p>Accept that the Employer, reserves the right to approach the Tenderer's banker or guarantor(s) as indicated in the tender document, or the bankers of each of the individual members of any joint venture that is constituted for purposes of ascertaining the financial strength of the Tenderer or of the individual member of such venture; and affirmation of the letter of intent referred to below.</p> <p>The tenderer is required to submit with his tender a letter of intent from an approved financial institution undertaking to provide the Construction Guarantee in the format included in Part C1.3 of this procurement document; and such guarantee with be put in place upon appointment.</p>
F.2.22	<p>Return of other tender documents</p> <p>Return all retained tender documents prior to the closing time for the submission of Tender Offers.</p>
F.2.23	<p>Certificates</p> <p>The tenderer is required to submit with his tender:</p> <ol style="list-style-type: none">1. a Certificate of Contractor Registration issued by the Construction Industry Development Board2. a copy of the CSD summary report3. Copies of legal registration documents of the company/close corporation/partnership including certified copies of identity documents of directors.4. Bank Rating Letter5. Documents and Schedules listed in Part T2. <p>Where a tenderer satisfies CIDB contractor grading designation requirements through joint venture formation, such tenderers must submit the Certificates of Contractor Registration in respect of each partner.</p>

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Clause number	Tender Data
F.3.4	Opening of tender submissions Tenders will be opened immediately after the closing time for tender
F.3.5	Two-envelope system A two-envelope procedure will not be followed.
F.3.11	Evaluation of Tenders The procedure for the evaluation of responsive tenders is Method 1 (Functionality, 90/10 Preferential Point System).

POINTS AWARDED FOR FUNCTIONALITY

The tenderer will be required to achieve a minimum score of **70 points** in the technical evaluation to be considered further in the valuation process.

FUNCTIONALITY SCHEDULE

TARGETED GOALS Name reference with contact details (Previous 5 yrs, Projects involving Roads Projects)		Max Points to be Scored	Points Claimed by Tenderer	Allocated Points
1	Project 1	8		
2	Project 2	8		
3	Project 3	8		
4	Project 4	8		
5	Project 5	8		
Sub-Total: Reputation and References		40		

NOTE: The tender should attach Appointment Letter and Completion Certificate as a proof for having completed such project. Points for each project will be allocated as follows:

9CE: 8 points

8CE: 8 points

7CE: 8 points

6CE: 7 points

5CE: 6 points

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FINANCIAL REFERENCES

TARGETED GOALS	Tendered Goal	Points Claimed by Tenderer	Allocated Points
1 Tenderer submitted banking details proof attached	2		
2 Bank rating of "C" or better	5		
3 Letter of intent from Registered financial Institution's (with full details of guarantor) in the amount of 10% specified for surety purposes shall be submitted	3		
Sub-Total: Financial References	10		

EXPERIENCE AND QUALIFICATION OF KEY STAFF

Experience

TARGETED GOALS	Points Allocation	Points Claimed by Tenderer	Allocated Points
1 Contract Manager: 10 years in Road Projects	>10 yrs=5 6-9 yrs=3		
2 Site Agent: 8 years in Road Projects	>8 yrs=5 5-7 yrs=3 3-4 yrs=2		
3 Foreman 5 years in Road Projects	>5 yrs=3 4 yrs=1.5 3 yrs=1		
4 Health and Safety Officer 5 years of experience as OHS in Civil Engineering Construction – MUST BE REGISTERED WITH SACPCMP	>5 yrs=2 4 yrs=1 3 yrs=0.5		
Sub-Total: Experience	15		

NOTE: Project organogram should be attached. Curriculum vitae with detailed experience and contact details should be attached to the tender document for verification by the consultants.

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Qualifications

TARGETED GOALS	Tendered Goal	Points Claimed by Tenderer	Allocated Points
1 Contract Manager: Civil Engineering or construction management or project management (NQF LEVEL 5 LIC- Management of Labour-Intensive Work)	BSc = 5 B-Tech /PrCPM = 5		
2 Site Agent: Civil Engineering or Construction management (Must have at least NQF 4)	BSc/B-Tech = 5 ND = 4 NQF 5/7 = 3 N6 = 2		
3 Foreman	ND = 3 NQF 7 =2 N6 = 2 N3= 1.5 NQF5= 1.5 NQF 4= 1 NQF 3= 0.5		
4 Health and Safety Officer 5 years of experience as OHS in Road projects	ND = 2 Cert = 0.5		
Sub-Total: Qualifications	15		

CV's and Certified Qualifications should be attached.

PLANT AND EQUIPMENT

TARGETED GOALS	Tendered Goal	Points Claimed by Tenderer	Allocated Points
1. Grader (2 no)	4		
2. TLB (2 no)	2		
3. Excavators (2 no)	4		
4. Water Cart (2x 18 000 litre)	2		
6. 10 m ³ Tipper Trucks (6 no)	4		
7. 10 Ton Roller (2 no)	4		
Sub-Total: Plant and Equipment	20		

Note: Tenderers should attach certified proof of ownership certificate for the plant mentioned above if they own such plant. In case of hired plant, tenderers will be required to attach a letter of undertaking by the hiring firm indicating that they will provide the tenderer with such plant should the tenderer becomes a successful bidder. The hiring company should also provide proof of ownership for such plants.

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SUMMARY

DESCRIPTION	Maximum Points to be Allocated	Points Claimed by Tenderer	Allocated Points
REPUTATION AND REFERENCE OF THE FIRM: TABLE A1	40		
FINANCIAL REFERENCES: TABLE A2	10		
EXPERIENCE OF KEY STAFF: TABLE 3.1	15		
QUALIFICATION OF KEY STAFF: TABLE A3.2	15		
PLANT AND EQUIPMENT: TABLE A4	20		
TOTAL	100		

NB:

NB! For EXPERIENCE AND QUALIFICATION OF KEY STAFF on the functionality, Please attach an organogram indicating the positions of personnel.

The tenderer will be required to achieve a minimum score of 70 points in the technical evaluation to be considered further in the valuation process.

The tenderer will be required to achieve a minimum score of 28 points in the technical evaluation for REPUTATION AND REFERENCE OF THE FIRM:TABLE A1 to be considered further in the valuation process

The Preference Points System assigns a score to each tenderer tender price .These scores are combined to determine an overall score for the tender. The tender with the highest score will be considered for acceptance.

The weighting of tender Price and Preference for the tender will be done by way of a point system:

In the case of acquisition of services, works or goods up to a Rand value above R50 million:

- 90 points are assigned to Price; and
- 10 points are assigned to Preference.

The total points for Price and Preference in each case above must add up to 100 points. Points scored will be rounded off to the nearest 2 decimal places.

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FORMULA FOR SCORING TENDER PRICE

The following formula will be used to calculate the points for price.

$$P_s = x \left[1 - \frac{P_t - P_{min}}{P_{min}} \right]$$

where:

P_s = points scored for comparative price of tender under consideration

P_t = comparative price of tender under consideration

P_{min} = comparative price of lowest acceptable tender

X = points assigned to price

FORMULA FOR PREFERENCE POINT SYSTEM

The points allocated to a tenderer will be in accordance with the Preferential Procurement Regulations, 2022

The following table is applicable:

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

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.)

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

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The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
100% Black ownership (attach CSD detail report)	05	N/A		N/A
Woman Ownership (attach CSD detail report or Certified ID copy)	03	N/A		N/A
Disability (Attach Disability letter from a Doctor)	02	N/A		N/A

F3.13.1

Acceptance of tender offer

Tender offers will only be accepted if:

- the price is within the range of the market analysis.
- 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 in an appropriate contractor grading designation;
- 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; or
 - failed to perform on any previous contract and has been given a written notice to this effect; and
- has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process.

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- F.3.14 Replace the contents of the clause with the following:
Notice of non-acceptance of tender will not be sent to individual unsuccessful tenderers.
Particulars of the accepted tender can be obtained from the Engineer.
- F.3.18 The number of paper copies of the signed contract to be provided by the employer is **ONE (1)**.

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Annex: Standard Conditions of Tender

(As contained in Annexure F of the CIDB Standard for Uniformity in Construction Procurement (as amended in Board Notice 86 of 2010 (May 2010))

F.1 General

F.1.1 Actions

F.1.1.1 The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

F.1.1.2 The employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict, and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

- Note: 1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.
- 2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.

F.1.1.3 The employer shall not seek, and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

F.1.2 Tender Documents

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

F.1.3 Interpretation

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

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

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F.1.3.3 For the purposes of these conditions of tender, the following definitions apply:

- a) **conflict of interest** means any situation in which:
- i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfil his or her duties impartially.
 - ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
 - iii) incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.
- b) **comparative offer** means the tenderer's financial offer after all tendered parameters that will affect the value of the financial offer have been taken into consideration in order to enable comparisons to be made between offers on a comparative basis
- c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process; and
- d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels
- e) **organization** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body
- f) **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 tenderer shall be to or from the employer's agent only, and in a form that can be readily read, copied and recorded. Communications shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the employer's agent are stated in the tender data.

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

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

F.1.5.2 The employer may not subsequent to the cancellation or abandonment of a tender process or the rejection of all responsive tender offers reissue a tender covering substantially the same scope of work within a period of six months unless only one tender was received, and such tender was returned unopened to the tenderer.

F.1.6 Procurement procedures

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F.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to F.3.13, be concluded with the tenderer who in terms of F.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

F.1.6.2 Competitive negotiation procedure

F.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of F.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of F.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

F.1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of F.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

F.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to make a fresh tender offer, based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

F.1.6.2.4 The contract shall be awarded in accordance with the provisions of F.3.11 and F.3.13 after tenderers have been requested to submit their best and final offer.

F.1.6.3 Proposal procedure using the two-stage system

F.1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

F.1.6.3.2 Option 2

F.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.

F.1.6.3.2.2 The employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data and award the contract in terms of these conditions of tender.

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F.2 Tenderer's obligations

F.2.1 Eligibility

F.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with employer.

F.2.1.2 Notify the employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the employer's written approval to do so prior to the closing time for tenders.

F.2.2 Cost of tendering

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

F.2.3 Check documents

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

F.2.4 Confidentiality and copyright of documents

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

F.2.5 Reference documents

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

F.2.6 Acknowledge addenda

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

F.2.7 Clarification meeting

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

F.2.8 Seek clarification

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

F.2.9 Insurance

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

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F.2.10 Pricing the tender offer

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

F.2.10.2 Show VAT payable by the employer separately as an addition to the tendered 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 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 tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

F.2.11 Alterations to documents

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

F.2.12 Alternative tender offers

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

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

F.2.13 Submitting a tender offer

F.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

F.2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in no erasable ink.

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

F.2.13.6 Where a two envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable

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documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

F.2.13.7 Seal the original tender offer package that states on the outside only the employer's address and identification details as stated in the tender data.

F.2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

F.2.13.9 Accept that tender offers submitted by facsimile or email will be rejected by the employer, unless stated otherwise in the tender data.

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

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

F.2.15 Closing time

F.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.

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

F.2.16 Tender offer validity

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

F.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.

F.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted.

F.2.16.4 Where a tender submission is to be substituted, submit a substitute tender in accordance with the requirements of F.2.13 with the packages clearly marked as "SUBSTITUTE".

F.2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

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

F.2.18 Provide other material

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

F.2.18.2 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 tender data.

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

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

F.2.21 Check final draft

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

F.2.22 Return of other tender documents

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

F.2.23 Certificates

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

F.3 The employer's undertakings

F.3.1 Respond to requests from the tenderer

F.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

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F.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

- an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements.
- the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or
- in the opinion of the Employer, acceptance of the material change would compromise the outcome of the functionality process.

F.3.2 Issue Addenda

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

F.3.3 Return late tender offers

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

F.3.4 Opening of tender submissions

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

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

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

F.3.5 Two-envelope system

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

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

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total price and any preferences claimed. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for quality.

F.3.6 Non-disclosure

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

F.3.7 Grounds for rejection and disqualification

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

F.3.8 Test for responsiveness

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

- a) complies with the requirements of these Conditions of Tender,
- b) has been properly and fully completed and signed, and
- c) is responsive to the other requirements of the tender documents.

F.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

- a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
 - b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or
 - c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.
- Reject a non-responsive tender 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, omissions and discrepancies

F.3.9.1 Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.

F.3.9.2 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with F.3.11 for:

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

F.3.9.3 Notify the tenderer of all errors or omissions that are identified in the tender offer and either confirm the tender offer as tendered or accept the corrected total of prices.

F.3.9.4 Where the tenderer elects to confirm the tender offer as tendered, correct the errors as follows:

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- a) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.
- b) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

F.3.10 Clarification of a tender offer

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

F.3.11 Evaluation of tender offers

F.3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

F.3.11.2 Method 1: Financial offer

In the case of a financial offer:

- a) Rank tender offers from the most favourable to the least favourable comparative offer.
- b) Recommend the highest ranked tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- c) Re-rank all tenderers should there be compelling and justifiable reasons not to recommend the highest ranked tenderer and recommend the highest ranked tenderer, unless there are compelling and justifiable reasons not to do so and the process set out in this sub clause is repeated.

F.3.11.4 Method 3: Financial offer and quality

In the case of a financial offer and quality:

- a) Score each tender in respect of the financial offer made and the quality offered in accordance with the provisions of F.3.11.7 and F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.
- b) Calculate the total number of tender evaluation points (TEV) in accordance with the following formula:
 $TEV = NFO + NQ$

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where: *NFO* is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7.
NQ is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

- c) Rank tender offers from the highest number of tender evaluation points to the lowest
- d) Recommend tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this sub clause is repeated.

F.3.11.5 Method 4: Financial offer, quality and preferences

In the case of a financial offer, quality and preferences:

- a) Score each tender in respect of the financial offer made, preference claimed, if any, and the quality offered in accordance with the provisions of F.3.11.7 to F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.
- b) Calculate the total number of tender evaluation points (TEV) in accordance with the following formula, unless otherwise stated in the Tender Data:

$$TEV = NFO + NP + NQ$$

where: *NFO* is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;
NP is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8.
NQ is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

- c) Rank tender offers from the highest number of tender evaluation points to the lowest.
- d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this sub clause is repeated.

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F.3.11.6 Decimal places

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

F.3.11.7 Scoring Financial Offers

Score the financial offers of remaining responsive tender offers using the following formula:

$$NFO = W1 \times A$$

where: *NFO* is the number of tender evaluation points awarded for the financial offer.
W1 is the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data.
A is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

Table F.1: Formulae for calculating the value of A

Formula	Comparison aimed at achieving	Option 1a	Option 2 a
1	Highest price or discount	$(1 + \frac{(P - P_m)}{P_m})$	$A = P / P_m$
2	Lowest price or percentage commission / fee	$(1 - \frac{(P - P_m)}{P_m})$	$A = P_m / P$
where: <i>P_m</i> = the comparative offer of the most favourable tender offer. <i>P</i> = the comparative offer of tender offer under consideration.			

F.3.11.8 Scoring preferences

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences. Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

F.3.11.9 Scoring quality

Score each of the criteria and sub criteria for quality in accordance with the provisions of the Tender Data. Calculate the total number of tender evaluation points for quality using the following formula:

$$NQ = W2 \times SO / MS$$

where: *SO* is the score for quality allocated to the submission under consideration.
MS is the maximum possible score for quality in respect of a submission; and
W2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data

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F.3.12 Insurance provided by the employer

If requested by the proposed successful tenderer, submit for the tenderer'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 tender offer

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

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

F.3.14 Prepare contract documents

F.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:

- a) addenda issued during the tender period,
- b) inclusion of some of the returnable documents, and
- c) other revisions agreed between the employer and the successful tenderer.

F.3.14.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

F.3.15 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.3.16 Notice to unsuccessful tenderers

F.3.16.1 Notify the successful tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.

F.3.16.2 After the successful tenderer has been notified of the employer's acceptance of the tender, notify other tenderers that their tender offers have not been accepted.

F.3.17 Provide copies of the contracts

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

F.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender, but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

F.3.19 Expanded Public Works Programme

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

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

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T2.1 List of returnable documents

1. Tenderers are required to submit the following with their tenders or within three days of receipt of the Employer's or his Agent's written request for same:
 - (a) Certified copy of a Workmen's Compensation Certificate, Act 4 of 2002,
 - (b) Certified copy of Unemployment Insurance Certificate, Act 4 of 2002,
 - (c) Curriculum vitae of the person who prepares the Contractor's Health and Safety Plan, and
 - (d) Curriculum vitae of the Health and Safety Officer the successful tenderer intends appointing in accordance with the Occupational Health and Safety Act (Act 85 of 1993).
 - (e) Curriculum Vitae of all supervisory staff.
 - (f) Insurance
 - (g) Guarantee
2. The returnable schedules included in Section T2.2 will be used to evaluate tenders received. These schedules will also form part of the Contract.

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T2.2 Returnable schedules

1. Returnable Schedules required only for tender evaluation purposes

- T2.2.1 Record of Addenda to Tender Documents
- T2.2.2 Compulsory Enterprise Questionnaire
- T2.2.3 Certificate of authority for joint ventures (where applicable)
- T2.2.4 Schedule of Proposed Subcontractors
- T2.2.5 Schedule of Plant and Equipment
- T2.2.6 Schedule of the Tenderer's Experience
- T2.2.7 Financial References
- T2.2.8 Proposed Amendments and Qualifications
- T2.2.9 Supervisory and Safety Personnel
- T2.2.10 Labour Utilisation
- T2.2.11 Compliance with OHSA (Act 85 of 1993)
- T2.2.12 Site Inspection Certificate
- T2.2.13 Authority of Signatory
- T2.2.14 General Conditions of Contract
- T2.2.15 MBD Pricing Schedule
- T2.2.16 MBD 4 Declaration of Interest
- T2.2.17 MBD 5 Declaration of Procurement above R 10 million
- T2.2.18 MBD 6.1 Preference Points Claim Form in terms of PPR 2022
- T2.2.19 MBD 6.2 Declaration certificate for local production and content for designated sectors
- T2.2.20 MBD 8 Past Supply Chain Management Practices
- T2.2.21 MBD 9 Certificate of Independent Bid Determination
- T2.2.22 Section 38 – Declaration Form
- T2.2.23 Confirmation of Outstanding Municipal Rates and Taxes

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T2.2.1: Record of Addenda to tender documents

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

Attach additional pages if more space is required.

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Signed _____ Date _____
Name _____ Position _____
Tenderer _____

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T2.2.2: Compulsory Enterprise Questionnaire

The following particulars must be furnished. In the case of a joint venture, **separate** enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: Record of service of the state

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

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

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

Name of sole proprietor, partner, director, manager,	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)
--	---	---

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principal shareholder or stakeholder		current	Within last 12 months

*insert separate page if necessary

Section 7: Record of spouses, children and parents in the service of the state

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

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

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

*insert separate page if necessary

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

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

Signed _____

Date _____

Name _____

Position _____

*Enterprise
name*

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T2.2.3: Certificate of Authority for Joint Ventures

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms
, authorised signatory of the company
, acting in the capacity of lead partner, to sign all documents in connection
 with the tender offer and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
Lead partner		Signature. Name Designation
		Signature. Name Designation
		Signature. Name Designation
		Signature. Name Designation

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T2.2.4: 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 names 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.

We confirm that all subcontractors who are contracted to construct a house are registered as home builders with the National Home Builders Registration Council.

	Name and address of proposed Subcontractor	Nature and extent of work	Previous experience with Subcontractor.
1.			
2.			
3.			
4.			

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5.			
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Signed _____ Date _____
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Tenderer _____

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T2.2.5: Schedule of Plant and Equipment

The following are lists of major items of relevant equipment that I/we presently own or lease and will have available for this contract or will acquire or hire for this contract if my/our tender is accepted.

(a) Details of major equipment that is owned by and immediately available for this contract.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired or acquired for this contract if my/our tender is acceptable.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

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T2.2.6: Schedule of the Tenderer's Experience

The following is a statement of similar work successfully executed / in progress by myself/ourselves in the last 5 years:

Employer, contact person and telephone number.	Description of contract	Value of work inclusive of VAT (Rand)	Date completed

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T2.2.7: Financial References

(a) FINANCIAL STATEMENTS

I/We agree, if required, to furnish an audited copy of the latest set of financial statements together with my/our Directors' and Auditors' report for consideration by the Employer.

(b) DETAILS OF COMPANY'S BANK

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

DESCRIPTION OF BANK DETAIL	BANK DETAIL APPLICABLE TO COMPANY HEAD OFFICE	BANK DETAIL APPLICABLE TO THE SITE OF THE WORKS
Name of bank		
Branch name		
Branch code		
Street address		
Postal address		
Name of manager		
Telephone number	()	()
Fax number	()	()

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Account number		
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Signed _____ Date _____
Name _____ Position _____
Tenderer _____

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T2.2.8: Proposed amendments and qualifications

The Tenderer should record any deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule. Alternatively, a tenderer may state such deviations and qualifications in a covering letter to his tender and reference such letter in this schedule.

The Tenderer's attention is drawn to clause F.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the employer's handling of material deviations and qualifications.

Page	Clause or item	Proposal

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Name _____ Position _____

Tenderer _____

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T2.2.9: Supervisory and Safety Personnel

PREVIOUS EXPERIENCE ON WORKS OF A SIMILAR NATURE DURING THE LAST FIVE YEARS

Name	% Time on Site	Position (Current)	Service (Years)	Name of Project And year executed	Value of Works	Position Occupied
Contracts Manager						
Contractor's Site Agent	100%					
Contractor's Foremen						
Construction Health and Safety Officer	100%					
Contractors Surveyor						

Tenderers shall indicate the percentage of working time these persons will be engaged on site. Tenderers are required to provide copies of curriculum vitas of all supervisory and safety personnel.

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

Employer

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T2.2.10: Labour Utilisation

Labour Categories - Definitions

NOTE: These definitions serve as a guideline to complete the following table and will in no respect alter the Project Specifications or Standardised Specifications

1. General Foreman / Foreman

An employee who gives out work to and directly co-ordinates and supervises employees. His duties encompass any one or more of the following activities:

- a) Supervision.
- b) Maintaining discipline.
- c) Ensuring safety on the workplace.
- d) Being responsible to the Contractor for efficiency and production for his portion of the works; and
- e) Performing skilled work, whether in an instructional capacity or otherwise.

2. Charge hand

An employee engaged in any one or more of the following activities:

- a) Being primarily employed in a supervisory capacity, but who may also be doing the work of an artisan.
- b) Giving out work to other employees under his control and supervision.
- c) Ensuring safety on the workplace.
- d) Maintaining discipline; and
- e) Being directly responsible to a general foreman or foreman or the Contractor or the Contractor's representative for efficiency and production for his portion of the works.

3. Artisan

An employee who has successfully completed all prescribed courses at a practical institutional training center for a particular trade and who has successfully completed the on-site period of training as prescribed and who has successfully passed the prescribed trade tests.

4. Team Leader

An employee engaged in any one or more of the following activities:

- a) Being employed in a supervisory capacity, but who may also be doing the work of a skilled person.
- b) Giving out work to other employees under his control and supervision.
- c) Maintaining discipline.
- d) Being directly responsible to a Charge hand or a foreman or a general foreman or the employer's authorised representative for efficiency and production for his portion of the works.

5. Skilled Employee

An employee engaged in an ancillary trade or an assistant artisan.

6. Semi-Skilled Employee

An employee with any specified skills, an apprentice or a trainee-artisan.

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7. Unskilled Employee

An employee engaged on any task or operation not specified above.

8. Imported Employee

Personnel permanently employed by Contractor.

9. Local Employee

Temporary workforce employed through Labour Desk.

MAN DAYS

Categories	a) No. of Man Days		d) HDI (Y/N)
	b) Imported	c) Local	
1. Contracts Manager			
2. Site Agent			
3. Foreman/Supervisors (specify type)			
3.1 _____			
3.2 _____			
3.3 _____			
4. Safety Inspectors (specify type)			
4.1 _____			
4.2 _____			
5. Charge hands			

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Categories	a) No. of Man Days		
	b) Imported	c) Local	
6. Artisans			
7. Operators/Drivers			
8. Clerks/ Storeman			
9. Team Leader			
10. Skilled Labour			
11. Semi-skilled Labour			
12. Unskilled Labour			

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

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T2.2.11: Occupational Health and Safety Act: Statement by Tendering Entity

I, _____ duly authorised
to represent _____ (company name)
in my capacity as _____ hereby
confirm that I accept full and exclusive responsibility for compliance by myself and all persons who perform
work for me with the provisions of the Occupational Health and Safety Act, No. 85 of 1993 (as amended) and
all regulations promulgated from time to time, whilst performing work on _____

I confirm that all employees who perform work on the site shall be properly trained to do this in a manner
which is safe and without risk to health and safety to themselves and others in the vicinity and undertake to
have our activities adequately supervised in the interest of health and safety.

Signed _____ Date _____
Name _____ Position _____
Tenderer _____

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T2.2.12: Site Inspection Certificate

As required by Clause 2.7 of the Tender Data, I/we certify that I/we have visited the site of the Works and attended the site visit and clarification meeting on the date certified below.

I/we further certify that I am / we are satisfied with the description of the Work and the explanations given by the Engineer at the site visit and clarification meeting.

Signature of Tenderer

Date

Site Visit

This will certify that _____

representing _____

attended a Site Inspection for this Contract on _____ 20_____

_____(signed)
For the Engineer

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T2.2.13: Authority of Signatory

With reference to Clause 2.13.4 of the Tender Data, I/we herewith certify that this tender is submitted by: *(Mark applicable block)*

a company, and attach hereto a certified copy of the required resolution of the Board of Directors

☐

a partnership, and attach hereto a certified copy of the required resolution by all partners

☐

a close corporation, and attach hereto a certified copy of the required resolution of the Board of Officials

☐

a one-man business, and attach hereto certified proof that I am the sole owner of the business submitting this tender

☐

a joint venture, and attach hereto

☐

- an notarially certified copy of the original document under which the joint venture was constituted; and
- certified authorisation by the participating members of the undersigned to submit tenders and conclude contracts on behalf of the joint venture

Signed

Date

Name

Position

Tenderer

☐

Employer

☐

Witness 1

☐

Witness 2

☐

Contractor

☐

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☐

Witness 2



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T2.2.14: General Conditions of Contract

(NOT TO BE ALTERED)

PROCUREMENT: GENERAL CONDITIONS OF CONTRACT
Dated July 2010 as set out by the National Treasury: Republic of South Africa

TABLE OF CLAUSES

1. Definitions
2. Application
3. General
4. Standards
5. Use of contract documents and information inspection
6. Patent Rights
7. Performance security
8. Inspections, tests and analyses
9. Packing
10. Delivery and documents
11. Insurance
12. Transportation
13. Incidental Services
14. Spare parts
15. Warranty
16. Payment
17. Prices
18. Variation orders
19. Assignment
20. Subcontracts
21. Delays in the supplier's performance
22. Penalties
23. Termination for default
24. Anti-dumping and countervailing duties and rights
25. Force Majeure
26. Termination for insolvency
27. Settlement of Disputes
28. Limitation of Liability
29. Governing language
30. Applicable law
31. Notices
32. Taxes and duties
33. Transfer of contracts
34. Amendments of contracts

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35. Prohibition of restrictive practices

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General Conditions of Contract

1. Definitions

1. The following terms shall be interpreted as indicated:
 - 1.1 "Closing time" means the date and hour specified in the bidding documents for the receipt of bids.
 - 1.2 "Contract" means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
 - 1.3 "Contract price" means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.
 - 1.4 "Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.
 - 1.5 "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.
 - 1.6 "Country of origin" means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
 - 1.7 "Day" means calendar day.
 - 1.8 "Delivery" means delivery in compliance of the conditions of the contract or order.
 - 1.9 "Delivery ex stock" means immediate delivery directly from stock actually on hand.
 - 1.10 "Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the goods are so delivered and a valid receipt is obtained.
 - 1.11 "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.
 - 1.12 "Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to,

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acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

- 1.13 “Fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.
- 1.14 “GCC” means the General Conditions of Contract.
- 1.15 “Goods” means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
- 1.16 “Imported content” means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the goods covered by the bid will be manufactured.
- 1.17 “Local content” means that portion of the bidding price, which is not included in the imported content provided that local manufacture does take place.
- 1.18 “Manufacture” means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.
- 1.19 “Order” means an official written order issued for the supply of goods or works or the rendering of a service.
- 1.20 “Project site,” where applicable, means the place indicated in bidding documents.
- 1.21 “Purchaser” means the organization purchasing the goods.
- 1.22 “Republic” means the Republic of South Africa.
- 1.23 “SCC” means the Special Conditions of Contract.
- 1.24 “Services” means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the supplier covered under the contract.
- 1.25 “Supplier” means the successful bidder who is awarded the contract to maintain and administer the required and specified service(s) to the State.

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- 1.26 "Tort" means in breach of contract.
- 1.27 "Turnkey" means a procurement process where one service provider assumes total responsibility for all aspects of the project and delivers the full end product / service required by the contract.
- 1.28 "Written" or "in writing" means hand-written in ink or any form of electronic or mechanical writing.

2. Application

- 2.1. These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services (excluding professional services related to the building and construction industry), sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.
- 2.2. Where applicable, special conditions of contract are also laid down to cover specific goods, services or works.
- 2.3. Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

3. General

- 3.1. Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a nonrefundable fee for documents may be charged.
- 3.2. Invitations to bid are usually published in locally distributed news media and on the municipality/municipal entity website.

4. Standards

- 4.1. The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

5. Use of contract documents and information inspection

- 5.1. The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be

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made in confidence and shall extend only as far as may be necessary for purposes of such performance.

- 5.2. The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.
- 5.3. Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.
- 5.4. The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

6. Patent Rights

- 6.1. The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.
- 6.2. When a supplier developed documentation / projects for the municipality / municipal entity, the intellectual, copy and patent rights or ownership of such documents or projects will vest in the municipality / municipal entity.

7. Performance security

- 7.1. Within thirty (30) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.
- 7.2. The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.
- 7.3. The performance security shall be denominated in the currency of the contract or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:
- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
- (b) a cashier's or certified cheque.
- 7.4. The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified.

8. Inspections, tests and analyses

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- 8.1. All pre-bidding testing will be for the account of the bidder.
- 8.2. If it is a bid condition that goods to be produced or services to be rendered should at any stage be subject to inspections, tests and analyses, the bidder or contractor's premises shall be open, at all reasonable hours, for inspection by a representative of the purchaser or organization acting on behalf of the purchaser.
- 8.3. If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.
- 8.4. If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the goods to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.
- 8.5. Where the goods or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such goods or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.
- 8.6. Goods and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.
- 8.7. Any contract goods may on or after delivery be inspected, tested or analysed and may be rejected if found not to comply with the requirements of the contract. Such rejected goods shall be held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with goods, which do comply with the requirements of the contract. Failing such removal the rejected goods shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute goods forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected goods, purchase such goods as may be necessary at the expense of the supplier.
- 8.8. The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 22 of GCC.

9. Packing

- 9.1. The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size weights shall

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take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

- 9.2. The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, and in any subsequent instructions ordered by the purchaser.

10. Delivery and documents

- 10.1. Delivery of the goods and arrangements for shipping and clearance obligations shall be made by the supplier in accordance with the terms specified in the contract.

11. Insurance

- 11.1. The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified.

12. Transportation

- 12.1. Should a price other than an all-inclusive delivered price be required, this shall be specified.

13. Incidental Services

- 13.1. The supplier may be required to provide any or all of the following services, including additional services, if any:
- (a) performance or supervision of on-site assembly and/or commissioning of the supplied goods.
 - (b) furnishing of tools required for assembly and/or maintenance of the supplied goods.
 - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods.
 - (d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and
 - (e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.
- 13.2. Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

14. Spare parts

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14.1. As specified, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:

(a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract, and.

(b) in the event of termination of production of the spare parts:

- (i) advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and
- (ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

15.1. The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.

15.2. This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise.

15.3. The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.

15.4. Upon receipt of such notice, the supplier shall, within the period specified and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.

15.5. If the supplier, having been notified, fails to remedy the defect(s) within the period specified, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

16. Payment

16.1. The method and conditions of payment to be made to the supplier under this contract shall be specified.

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- 16.2. The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfillment of other obligations stipulated in the contract.
- 16.3. Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.
- 16.4. Payment will be made in Rand unless otherwise stipulated.

17. Prices

- 17.1. Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized or in the purchaser's request for bid validity extension, as the case may be.

18. Variation orders

- 18.1. In cases where the estimated value of the envisaged changes in purchase does not vary more than 15% of the total value of the original contract, the contractor may be instructed to deliver the goods or render the services as such. In cases of measurable quantities, the contractor may be approached to reduce the unit price, and such offers may be accepted provided that there is no escalation in price.

19. Assignment

- 19.1. The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.

20. Subcontracts

- 20.1. The supplier shall notify the purchaser in writing of all subcontracts awarded under these contracts if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.

21. Delays in the supplier's delivery and/or performance

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- 21.1. Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.
- 21.2. If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.
- 21.3. The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the goods are required, or the supplier's services are not readily available.
- 21.4. Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of penalties.
- 21.5. Upon any delay beyond the delivery period in the case of a goods contract, the purchaser shall, without cancelling the contract, be entitled to purchase goods of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

22. Penalties

- 22.1. Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

23. Termination for default

- 23.1. The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:
- (a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;

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- (b) if the supplier fails to perform any other obligation(s) under the contract; or
- (c) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

- 23.2. In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner, as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.
- 23.3. Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.
- 23.4. If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the supplier as having no objection and proceed with the restriction.
- 23.5. Any restriction imposed on any person by the purchaser will, at the discretion of the purchaser, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the purchaser actively associated.
- 23.6. If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information:
- (i) the name and address of the supplier and / or person restricted by the purchaser.
 - (ii) the date of commencement of the restriction
 - (iii) the period of restriction; and
 - (iv) the reasons for the restriction.
- These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.
- 23.7. If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to

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section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website

24. Antidumping and countervailing duties and rights

- 24.1. When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the supplier to the purchaser or the purchaser may deduct such amounts from moneys (if any) which may otherwise be due to the supplier in regard to goods or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him.

25. Force Majeure

- 25.1. Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in Performance or other failure to perform his obligations under the contract is the result of an event of force majeure.
- 25.2. If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

26. Termination for insolvency

- 26.1. The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the purchaser.

27. Settlement of Disputes

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- 27.1. If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 27.2. If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.
- 27.3. Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.
- 27.4. Notwithstanding any reference to mediation and/or court proceedings herein,
- (a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and
 - (b) the purchaser shall pay the supplier any monies due the supplier for goods delivered and / or services rendered according to the prescripts of the contract.

28. Limitation of Liability

28.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6;

- (a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage does not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and
- (b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

29. Governing language

- 29.1. The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.

30. Applicable law

- 30.1. The contract shall be interpreted in accordance with South African laws, unless otherwise specified.

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31. Notices

- 31.1. Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice.
- 31.2. The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.

32. Taxes and duties

- 32.1. A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.
- 32.2. A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.
- 32.3. No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid SARS must have certified that the tax matters of the preferred bidder are in order.
- 32.4. No contract shall be concluded with any bidder whose municipal rates and taxes and municipal services charges are in arrears.

33. Transfer of contracts

- 33.1. The contractor shall not abandon, transfer, cede assign or sublet a contract or part thereof without the written permission of the purchaser

34. Amendment of contracts

- 34.1. No agreement to amend or vary a contract or order or the conditions, stipulations or provisions thereof shall be valid and of any force unless such agreement to amend or vary is entered into in writing and signed by the contracting parties. Any waiver of the requirement that the agreement to amend or vary shall be in writing, shall also be in writing.

35. Prohibition of restrictive practices

- 35.1. 35.1 In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of restrictive practices 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder(s) is / are or a contractor(s) was / were involved in collusive bidding.

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- 35.2. If a bidder(s) or contractor(s) based on reasonable grounds or evidence obtained by the purchaser has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in section 59 of the Competition Act No 89 Of 1998.
- 35.3. If a bidder(s) or contractor(s) has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.

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SPECIAL CONDITIONS OF CONTRACT

Termination by Employer and Appointment of a completion Service Provider (Contractor)

In an event where the successful Service Provider (Contractor) has failed to execute the contract as per the conditions of the contract, thus resulting in termination of the contract as per **Clauses 9.2.1.1, 9.2.1.2, 9.2.1.3 (1)(2)(3)(4)(5)(6)(7)(8)**, of the **General Conditions of Contract 2015, Third Edition**. Then, the Employer (MAKHADO MUNICIPALITY) reserves the right to appoint the second highest scoring bidder in the same tender for completion of the contract.
Any incurred losses and damages will be claimed against the terminated Service Provider(Contractor).

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T2.2.16:

MBD 4: DECLARATION OF INTEREST

No bid will be accepted from persons in the service of the state ☐.

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.

In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

3.1 Full Name of bidder or his or her representative:

3.2 Identity Number:

3.3 Position occupied in the Company (director, trustee, hareholder²):

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? [TICK APPLICABLE BOX] ☐ YES / ☐ NO

3.8.1 If yes, furnish particulars.

.....

'MSCM Regulations: "in the service of the state" means to be –

(a) a member of –

(i) any municipal council.

(ii) any provincial legislature; or

(iii) the national Assembly or the national Council of provinces.

(b) a member of the board of directors of any municipal entity; (c) an official of any municipality or municipal entity.

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

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

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

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 company.

3.9 Have you been in the service of the state for the past twelve months?

[TICK APPLICABLE BOX] ☐ YES / ☐ NO

3.9.1 If yes, furnish particulars.....

.....

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

[TICK APPLICABLE BOX] ☐ YES / ☐ NO

3.10.1 If yes, furnish particulars.....

.....

3.11 Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid?

[TICK APPLICABLE BOX] ☐ YES / ☐ NO

3.11.1 If yes, furnish particulars.....

3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state?

[TICK APPLICABLE BOX] ☐ 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?

[TICK APPLICABLE BOX] ☐ YES / ☐ NO

3.13.1 If yes, furnish particulars.....

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3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract. [TICK APPLICABLE BOX] ☐ YES / ☐ NO

3.14.1 If yes, furnish particulars.....

.....

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

Full Name	Identity Number	Personal Reference Tax Number	State Employee Number

.....

Signature

.....

Date

.....

Capacity

.....

Name of Bidder

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T2.2.17:

MBD 5

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?
[TICK APPLICABLE BOX] ☐ *YES / ☐ NO
- 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.
.....
.....
- 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?
[TICK APPLICABLE BOX] ☐ *YES / ☐ NO
- 2.1 If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.
- 2.2 If yes, provide particulars.
.....
.....
.....
- 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?
[TICK APPLICABLE BOX] ☐ *YES ☒ NO
- 3.1 If yes, furnish particulars

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4. Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic?
[TICK APPLICABLE BOX] ☐ *YES / ☐ NO
- 4.1 If yes, furnish particulars

.....
.....

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS 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.

.....
Name/s and Surname of Bidder

.....
Signature

.....
Position in the Firm/Company

.....
Date

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T2.2.18:

MBD 6.1

PREFERENCE

POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

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

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

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

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

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1.2 To be completed by the organ of state

(delete whichever is not applicable for this tender).

- a) The applicable preference point system for this tender is the **90/10** preference point system..
- b) The applicable preference point system for this tender is the **80/20** preference point system.
- c) Either the **90/10 or 80/20 preference point system** will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

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

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	90
SPECIFIC GOALS	10
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.

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

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or any other method envisaged in legislation;

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

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

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

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

80/20

or

90/10

$$Ps = 80 \left(1 - \frac{Pt - Pmin}{Pmin} \right)$$

or

$$Ps = 90 \left(1 - \frac{Pt - Pmin}{Pmin} \right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

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3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

3.2.1. POINTS AWARDED FOR PRICE

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

80/20

or

90/10

$$P_s = 80 \left(1 + \frac{P_t - P_{max}}{P_{max}} \right) \text{ or } P_s = 90 \left(1 + \frac{P_t - P_{max}}{P_{max}} \right)$$

Where

P_s = Points scored for price of tender under consideration

P_t = Price of tender under consideration

P_{max} = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system 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

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and 80/20 preference point system.

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

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.)

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

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
100% Black ownership (attach CSD detail report)	05	N/A		N/A
Woman Ownership (attach CSD detail report or Certified ID copy)	03	N/A		N/A
Disability (Attach Disability letter from a Doctor)	02	N/A		N/A

DECLARATION WITH REGARD TO COMPANY/FIRM

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

4.4. Company registration number:

4.5. TYPE OF COMPANY/ FIRM

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- ☐ Partnership/Joint Venture / Consortium
- ☐ One-person business/sole propriety
- ☐ Close corporation
- ☐ Public Company
- ☐ Personal Liability Company
- ☐ (Pty) Limited
- ☐ Non-Profit Company
- ☐ State Owned Company

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/firm for the preference(s) shown and I acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution, if deemed necessary.

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

SURNAME AND NAME:

DATE:

ADDRESS:

.....

.....

.....

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CONTRACT FORM - RENDERING OF SERVICES

MDB 7.2

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SERVICE PROVIDER (PART 1) AND THE PURCHASER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SERVICE PROVIDER AND THE PURCHASER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

PART 1 (TO BE FILLED IN BY THE SERVICE PROVIDER)

I hereby undertake to render services described in the attached bidding documents to (name of the institution) in accordance with the requirements and task directives / proposals specifications stipulated in Bid Number..... at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the Purchaser during the validity period indicated and calculated from the closing date of the bid.

The following documents shall be deemed to form and be read and construed as part of this agreement:

Bidding documents,

Invitation to bid;

Tax compliance status (CSD report);

Pricing schedule(s);

Filled in task directive/proposal;

Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2011;

Declaration of interest;

Declaration of bidder's past SCM practices;

Certificate of Independent Bid Determination;

Special Conditions of Contract;

General Conditions of Contract; and

Other (specify

I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the services specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.

I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfillment of this contract.

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I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.

I confirm that I am duly authorised to sign this contract.

NAME (PRINT)

CAPACITY

SIGNATURE

NAME OF FIRM

DATE

WITNESSES

1

2

DATE:

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MBD 7.2

CONTRACT FORM - RENDERING OF SERVICES

PART 2 (TO BE FILLED IN BY THE PURCHASER)

I..... in my capacity as.....
accept your bid under reference numberdated for the rendering of services indicated
hereunder and/or further specified in the annexure(s).

An official order indicating service delivery instructions is forthcoming.

I undertake to make payment for the services rendered in accordance with the terms and conditions of the contract, within
30 (thirty) days after receipt of an invoice.

DESCRIPTION OF SERVICE	PRICE (ALL APPLICABLE TAXES INCLUDED)	COMPLETION DATE	% OF BLACK OWNERSHIP	MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)

4. I confirm that I am duly authorized to sign this contract.

SIGNED ATON.....

NAME (PRINT)

SIGNATURE

WITNESSES

1

2

DATE:

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DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- 1 This Standard Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by institutions 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 disregarded if that bidder, or any of its directors have-
 - a. abused the institution's supply chain management system.
 - b. committed fraud or any other improper conduct in relation to such system; or
 - c. failed to perform on any previous contract.
- 4 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

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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 <input type="checkbox"/>	No <input type="checkbox"/>
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? The Register for Tender 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 <input type="checkbox"/>	No <input type="checkbox"/>
4.2.1	If so, furnish particulars: _____		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars: _____		
4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	If so, furnish particulars: _____		

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CERTIFICATION

I, THE UNDERSIGNED (FULL NAME) CERTIFY
THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS 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.

.....
Name/s and surname of Bidder

.....
Signature

.....
Position In the Firm/Company

.....
Date

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MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

- 1 This Municipal Bidding Document (MBD) must form part of all bids¹ 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 (or bid rigging).² Collusive bidding is a *pe 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 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 bids 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 bids, limited bids and proposals.

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

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I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Municipality / Municipal Entity)

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

I certify, on behalf of: _____ that:
(Name of Bidder)

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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.
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; or
 - (f) bidding with the intention not to win the bid.

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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 bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

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.

.....

Signature

.....

Date

.....

Position

.....

Name of Bidder

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SECTION 38: DECLARATION FORM

T2.2.22:

Having examined the BID and the general conditions thereto, I/we hereby certify that the bid price in the bid schedules and the preference points claimed are correct.

I/We furthermore certify that I/we/the Company comply/complies with the issues around Section 38 of the Supply Chain Management Policy inter alia:

IF ALL IS IN PLACE IN RESPECT OF THE CONTRACTUAL ISSUES LISTED IN THE TABLE BELOW; THE ANSWER SHOULD BE YES. ATTACH SUPPORTING INFORMATION IF ANY OF THE ANSWERS IS NO.

Note that the Municipality's Procurement Section will verify the statements.

I/we certify the following:

No.	CONTRACTUAL ISSUES	YES	NO
1.	In terms of Section 38 (1) (c) that the Bidder or any of the Directors is not listed as a person prohibited from doing business with the Public Sector		
2.	In terms of Section 38 (1)(d) (i) that the Bidder or any of the Directors does not owe rates and taxes or Municipal service charges to any Municipality that is in any arrears for more than three (3) months. Copies of the latest Municipal service charges statement of the Bidder and the Directors must be attached to the tender/bid document		
3.	In terms of Section 38 (1) (d) (ii) that the Bidder or any of the Directors has not failed to perform satisfactorily on a previous/previous contract/s with the Municipality or any organ of state		
4.	In terms of Section 38 (i) (9) that the Bidder or any of the Directors has not been convicted for fraud or corruption during the past five (5) years		
5.	In terms of Section 38 (i) (9) (iv) that the Bidder or any of the Directors has not been listed in the Register Of Tender Defaulters in terms of Section 29 of the Prevention and Combating of Corrupt Activities Act, (Act No. 12 of 2004)		

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.....
SIGNATURE OF BIDDER

.....
DATE

.....
FULL NAME AND SURNAME OF BIDDER IN BLOCK LETTERS

COMPANY NAME:

PHYSICAL ADDRESS:

TELEPHONE NUMBER:

EMAIL ADDRESS:

WITNESS 1:

WITNESS 2:

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THE CONTRACT PART C1 : AGREEMENTS AND CONTRACT DATA

- C1.1 Form of Offer and Acceptance
- C1.2 Contract Data
- C1.3 Pro Forma Guarantee

THE CONTRACT
Part C1: Agreement and Contract Data

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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:

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

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

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

..... Rand (in words);

R(in figures)

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

Signature

Date

Name

Capacity

for the tenderer

(Name and
address of
organization)

THE CONTRACT

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C1.1

Part C1: Agreement and Contract Data

Form of Offer and Acceptance

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

.....
Name and
signature
of witness

Acceptance

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

The terms of the contract, are contained in:

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

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

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

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

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

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Part C1: Agreement and Contract Data

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MAKHADO MUNICIPALITY

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UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

Signature Date

Name
Capacity

**for the
Employer** MAKHADO MUNICIPALITY
83 KROGH STREET
MAKHADO
0920

Name and Date.....
signature
of witness

Schedule of Deviations

Notes :

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

1 Subject

Details

.....

.....

THE CONTRACT
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2 Subject

Details

.....

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3 Subject

Details

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4 Subject

Details

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5 Subject

Details

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.....

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

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

for the tenderer

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Part C1: Agreement and Contract Data

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Signature Date

Name

Capacity

(Name and
address of
organization)

Name and
signature
of witness

for the Employer

Signature Date

Name

Capacity

MAKHADO MUNICIPALITY
CIVIC CENTER
83 KROGH STREET
MAKHADO

Name and
signature
of witness Date

|”

THE CONTRACT Part C1: Agreement and Contract Data

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C1.1 Form of Offer and Acceptance

Employer

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Witness 2

Contractor

Witness 1

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MAKHADO MUNICIPALITY

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UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

C1.2 Contract Data

GENERAL CONDITIONS OF CONTRACT

The General Conditions of Contract for Construction Works (2015) 3rd Edition, published by the South African Institution of Civil Engineering, is applicable to this Contract.

The General Conditions of Contract are not bound into this document but are available at the Contractor's expense. Each party to the contract shall purchase its own copy of the GC 2015, available from
South African Institution of Civil Engineering
Private Bag X200
Halfway House, 1685
South Africa
Tel: 27(0) 11 805 5947 /48 /53

Each item of data below is cross-referenced to the clause in the conditions of contract to which it applies.

In terms of clause 1.1.1.8 of the General Conditions of Contract for Construction Works (2015) 3rd Edition, published by the South African Institution of Civil Engineering), the following Contract Data apply to this Contract.

The Contract Data consists of two parts. Part 1 contains information provided by the Employer, while Part 2 contains information to be provided by the Contractor.

Part 1: Data Provided by the Employer

Clause	Contract Data
1.1.1.5	Replace the contents of Clause 1.1.1.5 with the following: The "Commencement Date" means the date on which the Contractor receives a written instruction from the Employer to commence with the Works. The instruction to commence with the works will not be issued later than 28 days from the date that the Agreement made in terms of the Form of Offer and Acceptance comes into effect.
1.1.1.13	The Defects Liability Period for the Works shall be 365 days (12 calendar months)
1.1.1.14	Add the following to the end of this definition: This clause shall apply <i>mutatis mutandis</i> to any portion or phase of the Works that may be described in the Scope of Works or in the Contract Data, or agreed subsequently between the Contractor and the Employer, and committed to writing. The time for achieving practical completion is 14 Calendar Months – including 1 calendar month for application of work permit in terms of Construction Regulations of 2014

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Part C1: Agreement and Contract Data

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Clause	Contract Data
1.1.1.15	The Employer is MAKHADO MUNICIPALITY.
1.1.1.16	The Engineer means any Director, Associate or Professional Engineer appointed generally or specifically by the management of the Employer to fulfil the functions of the Engineer in terms of the Conditions of Contract.
1.1.1.26	The pricing strategy is Re-measurement Contract.
1.2.1	<p>Add the following to the clause:</p> <p>1.2.1.3 Sent by facsimile, electronic or any like communication irrespective of it being during office hours or otherwise.</p> <p>1.2.1.4 Posted to the Contractor's address and delivered by the postal authorities.</p> <p>1.2.1.5 Delivered by a courier service and signed for by the recipient or his representative.</p>
1.2.1.2	<p>The address of the Employer is:</p> <p>MAKHADO MUNICIPALITY 83 Krogh Street Makhado 0920</p> <p>Tel: +27 (15) 519 3000 Fax:</p>
1.3.6	<p>Add the following new Clause:</p> <p>The copyright in all documents, drawings and records (prepared by the Engineer) related in any manner to the Works shall vest in the Employer or the Engineer or both (according to the dictates of the Contract that has been entered into by the Engineer and the Employer for the Works), and the Contractor shall not furnish any information in connection with the Works to any person or organisation without the prior approval of the Employer to this effect.</p>
3.1.3	<p>The Engineer is, in terms of his appointment by the Employer for the design and administration of the Works included in the Contract, required to obtain the specific approval of the Employer for the execution of the following duties:</p> <p>3.1.3.1 The issuing of an order to suspend the progress of the Works, the extra cost resulting from which order is to be borne by the Employer in terms of Clause</p>

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Part C1: Agreement and Contract Data

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Contractor

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Clause	Contract Data
	<p>5.11 or the effect of which is liable to give rise to a claim by the Contractor for an extension of time under Clause 5.12 of these conditions.</p> <p>3.1.3.2 The issuing of an instruction or order to vary the nature or quantity of the Works in terms of Clause 6.3, the estimated effect of which will be to increase the Contract Price by an amount exceeding R50 000, the evaluation of all variation orders in terms of Clause 6.4 and the adjustment of the sum(s) tendered for General Items in terms of Clause 6.11.</p> <p>3.1.3.3 The approval of any claim submitted by the Contractor in terms of Clause 10.1.</p>
4.1.2	<p>Add the following to the clause:</p> <p>The Contractor shall provide the following to the Engineer for retention by the Employer or his assignee in respect of all works designed by the Contractor:</p> <p>4.1.2.1 a Certificate of Stability of the Works signed by a registered Professional Engineer confirming that all such works have been designed in accordance with the appropriate codes of practice.</p> <p>4.1.2.2 proof of registration and of adequate and current professional indemnity insurance cover held by the designer(s).</p> <p>4.1.2.3 design calculations should the Engineer request a copy thereof.</p> <p>4.1.2.4 engineering drawings and workshop details (both signed by the relevant professional engineer), in order to allow the Engineer to compare the design with the specified requirements and to record any comments he may have with respect thereto.</p> <p>4.1.2.5 "As-Built" drawings in DXF electronic format after completion of the Works.</p> <p>The Contractor shall be responsible for the design of the Temporary Works.</p>
4.3.3	<p>Add the following new clause:</p> <p>The Contractor shall comply with the Occupational Health and Safety Specification prepared by the Employer in terms of the Construction Regulations, 2014 promulgated in terms of Section 43 of the Occupational Health and Safety Act (Act No. 85 of 1993).</p> <p>Without limiting the Contractor's obligations in terms of the Contract, the Contractor shall before commencement of the Works or any part thereof, be in the possession of an approved Health and Safety Plan.</p> <p>The Contractor shall submit an approved Health and Safety Plan to the Engineer within 14 days from the date that the Agreement made in terms of the Form of Offer and Acceptance comes into effect.</p>

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Clause	Contract Data
4.3.4	<p>Add the following new clause:</p> <p>Contractor's liability as mandatory</p> <p>Notwithstanding any actions which the Employer may take, the Contractor accepts sole liability for due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures imposed by the Occupational Health and Safety Act, 1993 (Act 85 of 1993), and all its regulations, including the Construction Regulations, 2014, for which he is liable as mandatory. By entering into this Contract, it shall be deemed that the parties have agreed in writing to the above provisions in terms of Section 37 (2) of the Act.</p>
4.3.5	<p>Add the following new clause:</p> <p>Contractor to notify Employer</p> <p>The Employer retains an interest in all inquiries conducted under this Contract in terms of Section 31 and/or 32 of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and its Regulations following any incident involving the Contractor and/or Sub-Contractor and/or their employees. The Contractor shall notify the Employer in writing of all investigations, complaints or criminal charges which may arise pursuant to work performed under this Contract in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and Regulations.</p>
4.3.6	<p>Add the following new clause:</p> <p>Contractor's Designer</p> <p>The Contractor and his designer shall accept full responsibility and liability to comply with the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and the Construction Regulations, 2014 for the design of the Temporary Works and those part of the Permanent Works which the Contractor is responsible to design in terms of the Contract.</p>
4.3.7	<p>Add the following new clause:</p> <p>The Ministerial Determination 4, Expanded Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No 949 of 22 October 2010, as appended to these Contract Data as Annexure A, shall apply to works described in the Scope of Work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.</p>
4.10.3	<p>Add the following new clause:</p> <p>The Contractor shall use local labour in accordance with the requirements contained within the Scope of Work.</p>
5.3.1	<p>Add the following:</p>

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Clause	Contract Data
	<p>The documentation required before commencement with Works Execution are:</p> <ul style="list-style-type: none"> • Health and Safety Plan (Refer to Clause 4.3) • Initial Programme (Refer to Clause 5.6) • A detailed cash flow forecast (Refer to Clause 5.6.2.6) • Security (Refer to Clause 6.2) • Insurance (Refer to Clause 8.6)
5.3.2	<p>Add the following:</p> <p>The time to submit the documentation required (Refer to Clause 5.3.1) before commencement with Works execution is 14 days.</p>
5.4.2	<p>The access and possession of Site shall not be exclusive to the Contractor but as set out in the Scope or Works and/or Site information.</p>
5.6.1	<p>Add the following to the clause:</p> <p>In this regard the Contractor shall have regard for the phases and sub-phases (if applicable) for the Development, which shall also be the order in which the Permanent Works shall be constructed, unless otherwise agreed between the parties and committed to writing. If phased construction is applicable, the phases and sub-phases will be described in the Specifications and/or will be indicated on the Phasing Plan which forms part of the Drawings.</p>
5.7.1	<p>Delete the last paragraph of the clause and replace with the following:</p> <p>No such instruction by the Engineer to expedite progress shall be the subject of additional compensation to the Contractor unless the instruction explicitly states that the Contractor is entitled to additional compensation, and cites the amount of such compensation or the basis upon which it is to be determined.</p>
5.8.1	<p>The non-working days are Sundays.</p> <p>Special non-working days shall be all South African Statutory holidays and the official building holidays (which commences on 16 December and ends on 10 January).</p>
5.12.3	<p>Delete the contents of the clause and insert the following:</p> <p>If an extension of time is granted, other than an extension resulting from abnormal rainfall in terms of Clause 5.12.5, the Contractor shall be paid such additional time-related General</p>

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Clause	Contract Data
	Items as are appropriate having regard to any other compensation which may already have been granted in respect of the circumstances concerned.
5.12.5	<p>Add the following new clause:</p> <p>Extension of time due to Abnormal Rainfall</p> <p>Extension of time for completion of the Contract shall be allowed in the event of abnormal rainfall in accordance with the following formula:</p> $V = (N_w - N_n) + (R_w - R_n)/20$ <p>Where:</p> <p>V = Extension of time in calendar days for the calendar month under consideration</p> <p>N_w = Actual number of days during the calendar month under consideration on which a rainfall of 10mm and more is recorded</p> <p>R_w = Actual total rainfall in mm recorded during the calendar month under consideration</p> <p>N_n = Average number of days, derived from rainfall records, on which a rainfall of 10mm and more was recorded during the relevant calendar month as per the data tabulated hereinafter</p> <p>R_n = Average total rainfall in mm for the relevant calendar month, derived from rainfall records, as tabulated hereinafter</p> <p>Where the extension of time due to abnormal rainfall has to be calculated for portion of a calendar month, pro rata values shall be used. Should V be negative for any particular month, and should its absolute value exceed the corresponding value of N_n, then V shall be taken as being equal to minus N_n. The total extension of time to be granted shall be the algebraic sum of all the monthly extensions, provided that if this total is negative then the time for completion shall not be reduced due to subnormal rainfall.</p> <p>Rainfall records for the period of construction shall be taken on Site. The Contractor shall provide and install all the necessary equipment for accurately measuring the rainfall. The Contractor shall also provide, erect and maintain a security fence plus gate, padlock and keys at each measuring station, all at his own cost. The Engineer or his Representative shall take and record the daily rainfall readings. The Contractor shall be permitted to attend</p>

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Clause	Contract Data																																										
	<p>these readings, in the company of the Engineer's Representative. Access to the measuring gauge(s) shall at all times be under the Engineer's control.</p> <p>The rainfall records applicable to this Contract are those recorded at Weather Station Thohoyandou ARG 0511/5234. The following values of N_n and R_n shall apply:</p> <table><tr><th>Month</th><th>R_n (mm)</th><th>N_n (days)</th></tr><tr><td>January</td><td>130,1</td><td>4</td></tr><tr><td>February</td><td>94,2</td><td>3</td></tr><tr><td>March</td><td>75,1</td><td>2</td></tr><tr><td>April</td><td>60,3</td><td>2</td></tr><tr><td>May</td><td>9,8</td><td>0</td></tr><tr><td>June</td><td>5,9</td><td>0</td></tr><tr><td>July</td><td>1,6</td><td>0</td></tr><tr><td>August</td><td>7,2</td><td>0</td></tr><tr><td>September</td><td>18,8</td><td>0</td></tr><tr><td>October</td><td>57,5</td><td>2</td></tr><tr><td>November</td><td>89,4</td><td>3</td></tr><tr><td>December</td><td>105,8</td><td>3</td></tr><tr><td>TOTAL</td><td>655,7</td><td>19</td></tr></table> <p>No adjustment to the total for time-related preliminary and general items will be applicable for any automatic extension of time for completion granted in terms of this clause.</p>	Month	R_n (mm)	N_n (days)	January	130,1	4	February	94,2	3	March	75,1	2	April	60,3	2	May	9,8	0	June	5,9	0	July	1,6	0	August	7,2	0	September	18,8	0	October	57,5	2	November	89,4	3	December	105,8	3	TOTAL	655,7	19
Month	R_n (mm)	N_n (days)																																									
January	130,1	4																																									
February	94,2	3																																									
March	75,1	2																																									
April	60,3	2																																									
May	9,8	0																																									
June	5,9	0																																									
July	1,6	0																																									
August	7,2	0																																									
September	18,8	0																																									
October	57,5	2																																									
November	89,4	3																																									
December	105,8	3																																									
TOTAL	655,7	19																																									
5.13.	<p>Delete the contents of the clause and insert the following:</p> <p>5.13.1 If the Contractor fails by the Due Completion Date to complete the Works, or any specific portion thereof that is identified in the Scope of Works to the extent which entitles him in terms of Clause 5.14.2 to receive a Certificate of Practical Completion for the Works, then the Contractor shall be liable to the Employer for the sum(s) stated below as (a) penalty(ies) for every day which shall elapse between the Due Completion Date for the Works or the specific portion of the Works and the actual Date of Practical Completion of the Works or of the specific portion.</p> <p>The penalty for delay shall be: R4 500-00 per calendar day.</p> <p>5.13.2 If before the issue of a Certificate of Practical Completion for the whole of the Works, or for any specific portion thereof that is identified in the Scope of Works, any further part of the Works has been:</p>																																										

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Clause	Contract Data
	<p>5.13.2.1 certified as complete in terms of a Certificate of Practical Completion; or</p> <p>5.13.2.2 occupied or used by the Employer, his agents, employees or other contractors (not being employed by the Contractor);</p> <p>then the appropriate penalty for delay referred to in Clause 5.13.1 above shall be reduced by the amount which is determined by the Engineer to be appropriate under the circumstances.</p> <p>5.13.3 The imposition of penalties in terms of Clause 5.13.1 shall not relieve the Contractor from his obligation to complete the Works, nor from any of his obligations and liabilities under the Contract.</p> <p>5.13.4 All penalties for which the Contractor becomes liable in terms of Clause 5.13.1 shall be accumulative. The Employer may, without prejudice to any other method of recovery, deduct the amounts of all such penalties from any monies in his possession that are or may become due to the Contractor.</p> <p>5.13.5 The imposition of any penalties in terms of Clause 5.13.1 shall not limit the right of the Engineer of the Employer to act in terms of Clause 9.2.</p>
5.13.6	<p>Add the following new Clause:</p> <p>If the Contractor shall, without the prior written permission of the Engineer, in respect of any portions of the Works which are prescribed in the Scope of Work to be executed using labour intensive construction methods, or for which the maximum size and capacity of mechanical plant and equipment is restricted in terms of the Contract:</p> <ul style="list-style-type: none"> fail to execute such portions of the Works, or any parts thereof, utilising labour intensive construction methods strictly in accordance with the provisions of the Contract; or utilise in the execution of such portions of the Works, or any parts thereof, mechanical plant or equipment which is in conflict with the terms of the Contract; or utilise in the execution of such portions of the Work, workers drawn from sources other than those allowed in terms of the Contract. <p>then the Contractor shall be liable to the Employer for the percentage stated below of the value of the Works so executed in conflict with the provisions of the relevant Scope of Work, as a penalty for non-compliance.</p> <p>The penalty for non-compliance is: 15% of the value of Works specified.</p> <p>The imposition of penalties in terms of this clause shall not relieve the Contractor from his obligation to complete the Works, nor from any of his obligations and liabilities under the Contract.</p>

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Clause	Contract Data
5.16.3	The Latent defect period is 10 years after the issue of the Final Approval Certificate in terms of Clause 15.6.1
6.1.1	Add the following to the clause: Payment for works identified in the Scope of Work 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.
6.2.1	Add the following to this Clause: The amount of the Surety will be 10% of the Contract Price (including Value Added Tax) at the time that the Agreement comes into effect. The guarantee shall remain valid until the issue of the Certificate or Certificates of Completion in respect of the whole of the Permanent Works. The Pro Forma Form of Guarantee bound into the General Conditions of Contract is replaced by the Form of Guarantee (Deed of Surety ship) which is included in Part C1.3 of this document. This approval or otherwise shall be based upon legal opinion to be provided by the Engineer.
6.8.2	The application of a Contract Price Adjustment factor will apply to this Contract. "Refer to Contract Price Adjustment Schedule for details".
6.8.3	Price Adjustments for variations in the cost of special materials will NOT be allowed. "The Contractor will be required to provide full details in Part 2 of the Contract Data".
6.8.4	In line 8 delete the words "between the Employer and the Contractor".
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%.
6.10.3	The Limit of Retention Money of 10% value of the Contract Price. Retention Money Guarantee is not applicable.
6.10.4	In line 4 delete the word "said" and insert the word "correct".
6.10.9	Replace the first sentence of the clause with the following: Within 14 days after the date of final approval as stated in the Final Approval Certificate, the Contractor shall deliver to the Engineer a final statement claiming final statement of all moneys due to him for additional work ordered by the Engineer after the Certificate of Completion date (save in respect of matters in dispute, in terms of Clause 58, and not yet

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Contractor

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Clause	Contract Data
	resolved) plus the remainder of retention monies (subject to Clause 49.5.1) retained by the Employer.
6.11.1.3	Delete "15 %" and replace it with "25%".
8.6.1.3	The limit of indemnity for liability insurance is R10 000 000 per event, the number of events being unlimited.
10.5.3	The number of Adjudication Board Members to be appointed is 1 (One).

CONTRACT PRICE ADJUSTMENT SCHEDULE	
Clause	Contract Data
1.1	The application of a Contract Price Adjustment factor will apply to this Contract. The price adjustment formula provided in the General Conditions of Contract will apply, together with the following coefficients and the definition of the relevant indices indicated below; X=0,10 a=0.15 b=0.20 c=0.55 d=0.1
1.2	Replace the definitions of the relevant indices with the following: "L" is the "Labour Index" and shall be the "Consumer Price Index" as published in the Consumer Price Index Statistical Release P0141 (Table A – Consumer Price Index and percentage change according to Polokwane of Statistics South Africa. "P" is the "Plant Index" and shall be the "Civil Engineering Plant" index as published in the Production Price Index Statistical Release P0142.1 (Table 12 – Price Index for selected materials) of Statistics South Africa. "M" is the "Materials Index" and shall be the "Civil Engineering" index as published in the Production Price Index Statistical Release P0142.1 (Table 11 – Production Price for materials used in certain industries) of Statistics South Africa. "F" is the "Fuel Index" and shall be the "Diesel fuel – Coast and Witwatersrand" index as published in the Production Price Index Statistical Release P0142.1 (Table 12 - Production Price Index for selected materials) of Statistics South Africa.
1.3	The base month shall be the month prior to the closing date of this tender.

THE CONTRACT
Part C1: Agreement and Contract Data

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C1.2
Contact Data

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

Part 2: Data provided by the Contractor

Clause	Contract Data	
1.1.1.9	The name of the Contractor is: 	
1.2.1.2	The address of the Contractor is: 	
6.2.1	The security to be provided by the Contractor shall be one of the following:	
	Type of Security	Contractor's choice Indicate "Yes" "No"
	<i>Performance guarantee of 10 % of the Contract Sum (Incl. VAT).</i>	
	<i>Retention of 10% of the value of the Works (Incl. VAT).</i>	
Expanded Public Works Programme	Payment for works identified in the Scope of Works as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict	

THE CONTRACT
Part C1: Agreement and Contract Data

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C1.2
Contact Data

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



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	<p>The Contractor's payment invoices shall be accompanied by labour information for the corresponding period in a format specified by the employer. If the contractor chooses to delay submitting payment invoices, labour returns shall still be submitted as per frequency and timeframe stipulated by the Employer. The contractor's invoices shall not be paid until all pending labour information has been submitted.</p> <p>The current Ministerial Determination (also downloadable at www.epwp.gov.za), Expanded Public Works Programmes, issued in terms of the Basic Condition of Employment Act of 1997 by the Minister of Labour in Government Notice, shall apply to works described in the scope of work as being labour-intensive and which are undertaken by unskilled workers</p>
--	--

END OF SECTION

THE CONTRACT
Part C1: Agreement and Contract Data

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C1.2
Contact Data

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

C1.3. Pro forma Performance guarantee

Contract No **BID NO: 70 OF 2023**

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

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

Physical address:

"Employer" means: _____

"Contractor" means: _____

"Engineer" means: _____

"Works" means: _____

"Site" means: _____

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

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

Amount in Words

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

Amount in Words

"Expiry Date" means:

CONTRACT DETAILS

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

THE CONTRACT

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Part C1: Agreement and Contract Data

C1.3

Contact Data

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

PERFORMANCE GUARANTEE

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum
2. The Guarantor's period of liability shall be from and including the date of issue of this performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Certificate of Completion of the Works or the date of payment in full of the Guaranteed sum, whichever occurs first. The Engineer and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.
3. The Guarantor hereby acknowledges that:
 - 3.1 any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;
 - 3.2 its obligation under this Performance Guarantee is restricted to the payment of money.
4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:
 - 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum Certified by the Engineer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
 - 4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;
 - 4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.
5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the Full outstanding balance upon receipts of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
 - 5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or
 - 5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the performance Guarantee is called up in terms of 5; and
 - 5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in term 1.
7. Where the Guarantor has made payment in term 5, the Employer shall upon the date of issue of the final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank

THE CONTRACT

Part C1: Agreement and Contract Data

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C1.3

Contact Data

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

- compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
8. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Employer.
 9. Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.
 10. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the employer may deem fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
 11. The Guarantor chooses the physical address as stated above for the services of all notices for all purposes in connection herewith.
 12. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor after it has expired.
 13. This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
 14. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's court.

Signed at.....

Date.....

Guarantor's signatory (1).....

Capacity.....

Guarantor's signatory (2).....

Capacity.....

Witness signatory (1).....

Witness signatory (2).....

THE CONTRACT
Part C1: Agreement and Contract Data

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C1.3
Contact Data

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

CONTRACT PART C2: PRICING DATA

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

THE CONTRACT
Part C3: Scope of Work

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Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

C2.1 Pricing Instructions

1. Measurement and payment shall be in accordance with the relevant provisions of COLTO 1998 Edition for Road and Bridgework for State Road Authorities referred to in the Scope of Work. The Preliminary and General items shall be measured in accordance with the provisions of COLTO 1200, General Requirements and Provisions.
2. The units of measurement described in the Bills of Quantities are metric units. Abbreviations used in these Bills of Quantities are as follows:

%	=	percent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kPa	=	kilopascal
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimetre
m ²	=	square metre
m ² -pass	=	square metre-pass
m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre
MN	=	meganewton
MN.m	=	meganewton-metre
MPa	=	megapascal
No.	=	number
Prov sum	=	Provisional sum
PC sum	=	Prime Cost sum
R/only	=	Rate only
sum	=	lump sum
t	=	ton (1000 kg)
W/day	=	Work day
Pers. Days	=	person days

3. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
4. The prices and rates in these Bills of Quantities are fully inclusive prices for the work described

THE CONTRACT
Part C3: Scope of Work

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Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out.

5. It will be assumed that prices included in these Bills of Quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.stanza.org.za or www.iso.org for information on standards)
6. Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered such items
7. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.
8. 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.
9. Reasonable compensation will be received where no pay item appears in respect of work required in the Bills of Quantities in terms of the Contract and which is not covered in any other pay item.
10. The short descriptions of the items of payment given in these Bills of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
11. Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the **COLTO** Standardised Specifications.
12. All prices and rates entered in the Bill of Quantities must be **excluding Value Added Tax (VAT)**. VAT will be added last on the summary page of the Bill of Quantities.
13. Those parts of the contract to be constructed using labour-intensive methods have been marked in the bill of quantities with the letters LI in a separate column or as a prefix or suffix against every item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of works, is a deviation from the contract. The items marked with the letters 'LI' are not necessarily an exhaustive list of all the activities, which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works.

THE CONTRACT Part C3: Scope of Work

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Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

14. Where minimum labour intensity is specified by the design the contractor is expected to use their initiative to identify additional activities that can be done labour-intensively in order to comply with the set minimum labour intensity target.
15. Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the scope of works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work, which was to be done labour-intensively will not be condoned, and any works so constructed will not be certified for payment.

THE CONTRACT
Part C3: Scope of Work

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Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

BILL OF QUANTITIES

THE CONTRACT
Part C3: Scope of Work

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Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



SUMMARY OF BILL OF QUANTITIES
MAKHADO LOCAL MUNICIPALITY
CONTRACT NO: 70 OF 2023
CONSTRUCTION OF ROADS TSIANDA(MARUNDU)



TENDER BOQ

SCHEDULE A : ROADWORKS		TENDER AMOUNT	
1200	General requirements and provisions	R	-
1300	Contractor's establishment on site and general obligation	R	-
1400	Housing, Office and laboratory for the engineer's site personnel	R	-
1500	Accommodation of traffic	R	-
1700	Clearing and Grabbing	R	-
1800	Dayworks	R	-
2100	Drains	R	-
2200	Prefabricated Culverts	R	-
2300	Concrete Kerbing, Concrete Channeling, Chutes and Down Pipes, and Concrete Linings for Open Drains	R	-
3300	Mass Earthworks	R	-
3400	Pavement Layers of gravel material	R	-
3500	Stabilization	R	-
3800	Breaking Up Existing Pavement Layers	R	-
5200	Gabion	R	-
5400	Guardrails	R	-
5600	Road signs	R	-
5700	Road Markings	R	-
5900	Finishing the road and road reserve and treating old roads	R	-
6100	Foundation For Structures	R	-
6200	Falsework, Formwork and Concrete Finish	R	-
7300	Concrete block paving for roads	R	-
8100	Testing materials and workmanship	R	-
TOTAL CONSTRUCTION		R	-
5% CONTIGENCIES		R	-
CPA (5 %)		R	-
SUB-TOTAL A		R	-
SUB-TOTAL C		R	-
15% VAT		R	-
TENDER AMOUNT CARRIED TO FORM OF OFFER		R	-

[illegible]

1200 TOTAL CARRIED TO SUMMARY

MAKHADO LOCAL MUNICIPALITY
CONTRACT NO: 70 OF 2023
CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1300	<u>CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS</u>				
B13,01	The Contractor's general obligations:				
	(a) Fixed obligations	L/Sum	1,0		
	(b) Value-related obligations	L/Sum	1,0		
	(c) Time-related obligations	Month	14,0		
	NB: The combined total ESTIMATED amount for sub items (a), (b) and c, should NOT exceed 15% of ESTIMATED amount				
1300	TOTAL CARRIED TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY
CONTRACT NO: 70 OF 2023
CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1400	<u>HOUSIN, OFFICE AND LABORATORY FOR THE ENGINEER'S SITE PERSONNEL</u>				
14,01	Offices and laboratory accommodation				
	(a) Offices (interior floor space only)				
	(i) Type 1 (6m x 3,5,)	m ²	21		
	(ii) Type 2 (4m x 3,5)	m ²	14,0		
	(ii) Ablution Units (Flushing)	m ²	10,0		
14,02	Offices and laboratory furniture				
	(a) Chairs	No	18,0		
	(d) Desks, complete with drawers and locks	No	4,0		
	(f) Conference tables	No	1,0		
B14.03	Offices and laboratory fittings Installations and equipment.				
	(a) Items measured by number				
	(i) 220/250 volt power points	No	4		
	(iii) Double 80 watt flourescent light fittings complete with ballast and tubes	No	4		
	(v) Single incandescent light fittings complete with 100 watt	No	4		
	(vi) Hand wash basins complete with taps and drains globes	No	2		
	(iv) Double 55 watt fluorescent light fittings complete with ballast and tubes	No	3		
	(x) Fire extinguishers, 9,0 kg, all purpose dry powder type, complete, mounted on wall with brackets	No	2		
	(xiv) General-purpose steel cupboards with shelves	No	1		
1400	TOTAL CARRIED FOWARD				

MAKHADO LOCAL MUNICIPALITY

CONTRACT NO: 70 OF 2023

CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
	(b) Prime-cost items and items paid for in a lump sum:				
	(ix) Cell phones costs, including pro-rata rentals, for calls in connection with contract administration	PC Sum	1	20 000,00	20 000,00
	(x) Handling costs and profit in respect of subitem B14.03 (b)(ix)above	%	20 000,0		
14,04	Car ports				
	(a) Car ports, as specified,at offices and laboratory buildings	No	4		
14,08	Services				
	(a) Services at office and laboratories				
	(i) Fixed costs	L/sum	1		
	(ii) Running costs	month	14		
14,10	Provision of photostat facilities	month	14		
1400	TOTAL CARRIED TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY

CONTRACT NO: 70 OF 2023

CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1500		<u>ACCOMMODATION OF TRAFFIC</u>				
B15.01		Accommodating traffic and maintaining temporary deviations	km	8,9		
15,03		Temporary traffic-control facilities				
	LI	(a) Flagmen	man-days	2 016,0		
		(b) Portable STOP and GO-RY signs	no	7,0		
		(e) Road signs, R- and TR-series, (1200mm diameter)	No	20,0		
		(f) Road signs, TW-series, (1500mm)	No	20,0		
		(g) Road signs, STW-, DTG-, TGS- AND TG-series excluding delineators and barricades)	No	30,0		
		(h) Delineators (DTG50(j) (200mm x 800mm)				
		(1) Single	No	200,0		
		(2) Mounted back to back	No	200,0		
		(i) Moveable barricade/road sign combination (1970mm x 3000mm)	No	7,0		
		(j) Traffic cones (750mm)	No	50,0		
15,04		Relocation of traffic-control facilities	No	6,0		
15,06		Watering of temporary deviations	kl	10 584,0		
B15.15		Provision of safety equipment to be used by the Engineer				
		(a) Safety Jackets	No	4,0		
1500		TOTAL CARRIED FORWARD				

MAKHADO LOCAL MUNICIPALITY

CONTRACT NO: 70 OF 2023

CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO		DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
B15.17		Penalty to be deducted for non-compliance with requirements for accommodation of traffic				
		(a) Fixed penalty per occurrence	No		-2 000,00	
		(b) Time-related penalty	hr		-1 000,00	
15/16.02		Overhaul on material hauled in excess of 1,0km	m ³ -km	20 034,0		
15.02		Cut and borrow to fill, including free-haul up to 1km				
		(b) Gravel material in compacted layer thickness of 200mm and less	m ³	6 678,0		
1500		TOTAL CARRIED FORWARD TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY
 CONTRACT NO: 70 OF 2023
 CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1700		<u>CLEARING AND GRUBBING</u>				
17,01		Clearing and grubbing	ha	13,4		
17,02		Removal and grubbing of large trees and stumps				
	LI	(a) Girth exceeding 1 m up to and including 2 m	No	12,0		
	LI	(b) Girth exceeding 2 m up to and including 3 m	No	12,0		
17,04	LI	Clearing and grubbing at inlets and outlets of hydraulic structures	m²	35,0		
17,05		Clearing out of hydraulic structures:				
	LI	(a) Pipes with an internal diameter up to and including 750 mm	m³	50,0		
	LI	(b) Pipes with an internal diameter exceeding 750 mm	m³	20,0		
	LI	(c) Box culverts up to and including 1,5 m vertical dimension	m³	20,0		
	LI	(d) Box culverts exceeding 1,5 m vertical dimension	m³	20,0		
1700		TOTAL CARRIED TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY
 CONTRACT NO: 70 OF 2023
 CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B1800		DAYWORKS				
B18.01		Personnel during normal working hours				
	LI	(a) Unskilled labour	hour	32,00		
	LI	(b) Semi-skilled labour	hour	32,00		
	LI	(c) Skilled Labour	hour	32,00		
	LI	(d) Foreman - Section Leader	hour	32,00		
	LI	(e) Flagman	hour	32,00		
	LI	(f) Operator	hour	32,00		
B18.02		Personnel outside normal working hours				
		(a) Outside normal working hours and Saturdays:				
	LI	(i) Unskilled labour	hour	18,00		
	LI	(ii) Semi-skilled labour	hour	18,00		
	LI	(iii) Skilled Labour	hour	18,00		
	LI	(iv) Foreman - Section Leader	hour	18,00		
	LI	(v) Flagman	hour	18,00		
	LI	(vi) Operator	hour	18,00		
	LI	(b) Sunday and Public holidays:				
	LI	(i) Unskilled labour	hour	18,00		
	LI	(ii) Semi-skilled labour	hour	18,00		
	LI	(iii) Skilled Labour	hour	18,00		
	LI	(iv) Foreman - Section Leader	hour	18,00		
	LI	(v) Flagman	hour	18,00		
	LI	(vi) Operator	hour	18,00		
TOTAL CARRIED FORWARD						

MAKHADO LOCAL MUNICIPALITY
 CONTRACT NO: 70 OF 2023
 CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO		DESCRIPTION	UNIT	QTY	RATE	AMOUNT
BROUGHT FORWARD						
B18.03		Plant:				
		(a) Tipper Trucks				
		(i) 6m3 capacity	hour	18,00		
		(ii) 10m3 capacity	hour	18,00		
		(c) TLB	hour	18,00		
		(e) Pneumatic Roller (10 to 25 tons)	hour	18,00		
		(g) Air Compressors and equipment	hour	18,00		
		(k) 20 ton Excavator	hour	18,00		
B18.05		Transport:				
		(a) LDV	km	8,00		
		(b) Flatbed truck	km	14,00		
		(c) Semi-trailer and truck	km	22,00		
TOTAL CARRIED SUMMARY						

MAKHADO LOCAL MUNICIPALITY
CONTRACT NO: 70 OF 2023
CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO		DESCRIPTION	UNIT	QTY	RATE	AMOUNT
2100		<u>DRAINS</u>				
21,01		Excavation for open drains				
		(a) Excavating soft material situated within the following depth ranges below the surface level:				
		(i) 0m up to 1.5m	m ³	2 826		
		(ii) exceeding 1.5m to 3.0m	m ³	20		
		(b) Extra over subitem 21.01 (a) for excavation in hard material, irrespective of depth	m ³	800		
B21,03		Excavation for subsoil drains systems				
		(a) Excavating soft material situated within the following depth ranges below the surface level:				
		(i) 0m up to 1.5m	m ³	50		
		(ii) Exceeding 1.5m and up to 3.0m	m ³	40		
		(b) Extra over subitem 21.03 (a) for excavation in hard material, irrespective of depth	m ³	10		
21,04		Impermeable backfilling to subsoil drainage system	m ³	30		
21,04		Banks and dykes	m ³	50		
21,06		Natural permeable material in subsoil drainage system (crushed stone)				
		(b) Crushed stone obtained from commercial sources (19,0mm aggregates)	m ³	50		
21,06		Natural permeable material in subsoil drainage system (sand)				
	LI	(b) Sand obtained from commercial sources	m ³	30		
21,08		Pipes in subsoil drainage systems				
		(b) Unplasticized PVC pipes and fittings, normal duty, complete with couplings				
	LI	(i) 160mm internal dia Perforated slotted	m	300		
2100		TOTAL CARRIED FORWARD				

MAKHADO LOCAL MUNICIPALITY
CONTRACT NO: 70 OF 2023
CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO		DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
21,12	LI	Concrete outlet structures, manhole boxes, junction boxes and cleaning eyes for subsoil drainage systems as in drawing No. AC.....				
	LI	(b) Manhole boxes	No	5		
	LI	(c) Junction boxes	No	5		
21,13	LI	Concrete caps for subsoil drain pipes	No	5		
21,15		Overhaul for material hauled in excess of 1,0km free hauled (normal overhaul)	m ³ - km	11 304		
21,17	LI	Test flushing of pipe subsoil drains	No	5		
2100		TOTAL CARRIED TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY

CONTRACT NO: 70 OF 2023

CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	LI	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:				
		(i) 0m up to 1.5m	m³	1 875		
		(ii) exceeding 1.5m to 3.0m	m³	938		
		(b) Extra over subitem 21.01 (a) for excavation in hard material, irrespective of depth	m³	1 250		
22,02		Backfilling				
		(a) Using excavated material	m³	1 313		
		(b) Using Imported material	m³	50		
		(c) Extra over subitem 22.0(a) and 22.02(b) for soil cement backfilling				
		(i) with 2% stabilization (soil soil-crete) cem II 32.5N	m³	3		
22,03		Concrete culvert pipes				
		(b) On class "B" bedding,				
		(i) OG Class 75D - SABS 677 Type SC				
		(1) 450mm dia.	m			Rate Only
	LI	(2) 600mm dia.	m	540		
	LI	(3) 750mm dia.	m	160		
	LI	(4) 900mm dia.	m	470		
		(i) OG Class 100D - SABS 677 Type SC				
	LI	(1) 600 mm dia.	m	45		
	LI	(2) 750 mm dia.	m	45		
	LI	(3) 900mm dia.	m	35		
22.05		Portal culverts and Rectangular culverts				
		a) Complete with prefabricated floor				
		(i) 3000mm by 1800mm	m	3		
		(ii) 1500mm by 900mm	m	9		
		(iii) 3000mm by 1200mm	m	6		
	LI	(iv) 1500mm by 1500mm	m	120		
22.07		Cast in situ concrete and formwork				
		b) Floor and Top slabs for portal or rectangular culverts, including formwork joints and class U2 finish(30MPA)	m³	130		
2200		TOTAL CARRIED TO FOWARD				

MAKHADO LOCAL MUNICIPALITY
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CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
B22,12		Removing of existing concrete/ stone pitching.				
		(a) Plain concrete	m ³	50		
		(b) reinforced concrete	m ³	2		
22,17		Manholes, catchpits, precast inlet and outlet structures complete				
		(a) Manholes				
		(1) Brick manholes for drainage: constructed on all pipes up to 900 mm diameter complete with covers				
		(i) Up to 1.0m deep	no	5		
		(ii) 1.0m up to 1.5m deep	no	12		
		(iii) 1.5m up to 2.5m	no	15		
		(b) Catchpits constructed to complete	no	8		
22,18		Brick work				
	LI	a) 230mm brickwork	m ²	200		
	LI	b) 345mm brick work	m ²	150		
22,27		Reinstating trenches crossing road:				
	LI	(a) Selected layers	m ³	10		
	LI	(b) Subbase	m ³	10		
	LI	(c) Base	m ³	10		
	LI	(d) Asphalt surfacing (including tack coat)	m ²	12		
		(e) kerbs (all types)	m	12		
22/16.01		Overhaul material hauled in an excess of free haul distance of 1,0km (restricted haul overhaul)	m ³	1 875		
22/16.02		Overhaul on material hauled in an excess of 1,0km (ordinary overhaul)	m ³ - km	200		
22.26	LI	Hand Excavation to determine positions of services	m ³	100		
2200		TOTAL CARRIED SUMMARY				

ITEM NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
23,00		CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS				
23,02		Concrete kerbing-channeling combination				
		(a) Precast kerb to SABS 927 and cast in situ channel (100mm x 100mm concrete class 20/19)				
		(1) Figure 8C kerb				
	LI	(i) Radius 1m to 20m	m	50,00		
	LI	(iii) Straight and to radius not less than 20m	m			
	LI	(b) Fig 3	m	100,00		
	LI	(c) Fig 8c	m	12 614,00		
23,08		Concrete lining for open drains				
		(a) Cast in-situ concrete lining class 30/19 cast in 2.0m alternate sections				
		(1) standard side drain				
	LI	(i) type v1 - v4	m³	380,80		
		b) Class U2 surface finish to cast in-situ concrete(type V1 to V4	m²	0,80		
23,09		Formwork to cast in-situ concrete lining for open drains (class F2 surface finish)				
	LI	(a) To sides with formwork on the internal face only	m²	1 040,00		
	LI	(b) To sides with formwork on both internal and external faces (each face measured)	m²	1 040,00		
23.10		Sealed joints in concrete linings of open drains				
	LI	(a) Polysulphide sealants	m	200,00		
23.12		Steel Reinforcement				
	LI	(c) Welded steel fabric	m²	8 500,00		
23.14		Cutting bituminous surfacing and pavement layers for concrete kerbing, channelling or concrete-lined drains	m	10,00		
23/73.02	LI	Cast in situ concrete edge and intermediate beams (concrete class 30/19)	m³	66,78		
B23.16	LI	Removal of kerbs to spoil including haulage	m	5,0		
TOTAL CARRIED SUMMARY						

MAKHADO LOCAL MUNICIPALITY
CONTRACT NO: 70 OF 2023
CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
33,00	MASS EARTHWORKS				
B33.01	Cut and borrow to fill, including free-haul up to 10km (a) Gravel material in compacted layer thickness of 150mm and less (i) Compacted to 90% MOD. AASHTO	m³	4 342,0		
B33,04	Cut to spoil, including free-haul up to 1km. Material obtained from: (a) Soft Excavation (b) Intermediate Excavation (c) Hard Excavation (d) Boulder Excavation (class A) (e) Boulder Excavation (class B)	m³ m³ m³ m³ m³	15 315,4 3 828,9 1 766,0 1 300,0 1 400,0		
33,09	Material bladed to windrow	m³	30,0		
33,10	Roadbed preparation and the compaction of material (a) Compacted to 93% modified AASHTO density	m³	7 063,8		
33,11	Three-roller-passes compaction (a) Vibratory roller (b) Grid roller (f) Pneumatic-tyred roller	m² m² m²	100,0 100,0 100,0		
33,12	In situ treatment of roadbed (a) In situ treatment by ripping	m³	1 412,8		
B33/16.02	Overhaul on material hauled in excess of 10km (ordinary overhaul)	m³-km	139 761,3		
33/32.06	Stockpiling of material	m³	2 500,0		
TOTAL CARRIED SUMMARY					

MAKHADO LOCAL MUNICIPALITY
CONTRACT NO: 70 OF 2023
CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
34.00	PAVEMENT LAYERS OF GRAVEL MATERIAL				
34,01	Pavement layers constructed from gravel taken from cut or borrow or borrow pit including free-haul up to 1.0 km				
	(a) Gravel selected layer compacted to				
	(i) 95% of modified AASHTO density (150mm compacted layer thickness)	m ³	1 200,0		
	(f) Gravel subbase (chemically stabilized material) compacted to				
	(i) 97% of modified AASHTO density (150mm compacted layer thickness)	m ³	800,0		
	(g) Gravel shoulder/sidewalks compacted to:				
	(i) 93% MOD. AASHTO density	m ³	600,0		
B34,14	Pavement layers constructed from gravel obtained from commercial sources:				
	(b) Gravel selected layer G5 material quality compacted to:				
	(i) 95% of modified AASHTO density (150mm compacted layer thickness)	m ³	300,0		
	(e) Gravel sub-base layer G6 material quality compacted to:				
	(i) 97% of modified AASHTO density (150mm compacted layer thickness)	m ³	8 570,3		
	(f) Gravel base G5 material quality (chemically stabilized material to C3 quality) compacted to:				
	(i)98% of modified AASHTO density (150mm compacted layer thickness)	m ³	7 791,2		
34/16.02	Overhaul on material hauled in excess of 1,0km (ordinary overhaul)	m ³ -km	16 000,0		
3400	TOTAL CARRIED SUMMARY				

MAKHADO LOCAL MUNICIPALITY

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CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B35.00	STABILIZATION				
35,01	Chemical stabilization extra over unstabilized 150mm thickness subbase	m³	7 791,2		
35,02	Chemical stabilization agent: (a) Ordinary portland cement (c) Road lime	t t	467,5		Rate Only
35,04	Provision and application of water for curing	kl	472,7		
TOTAL CARRIED SUMMARY					

MAKHADO LOCAL MUNICIPALITY
 CONTRACT NO: 70 OF 2023
 CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3800		<u>BREAKING UP EXISTING PAVEMENT LAYERS</u>				
38,01		Excavating and removing existing bituminous				
(a)	LI	Not exceeding 30 mm	m ²	25		
(b)		Exceeding 30 mm but not exceeding 60mm	m ²	25		
38,04		Excavating and spoiling material from an existing pavement and/or the underlying				
(a)		Non-cemented material	m ³	20		
(c)		Cemented crush stone	m ³	20		
(d)		Cemented material	m ³	20		
38,08		Sawing or cutting asphalt or cemented pavement				
(b)	LI	Cutting asphalt	m	50		
(b)	LI	Sawing Cemented layers	m	50		
(i)		Cemented crushed stone (150mm thick)	m	50		
B38,16		Sealing of Construction joint of new and existing				
(b)	LI	Geofabric painted with bituminous material (with of 200mm)	m	50		
3800		TOTAL CARRIED TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY

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CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5 200,00		GABIONS				
52.01		Foundation Trench excavation and backfilling				
(b)	LI	In all other classes of material	m ³	500,00		
52.02	LI	Surface preparation for bedding the gabions	m ²	400,00		
52.03		Gabions				
(a)		Galvanized gabion boxes				
(i)	LI	1,0 x 1,0 x 0,5m (80 x 100mm mesh aperture, with 2.7mm diameter wire and 3.4mm salvage wire)	m ³	150,00		
(ii)	LI	1, x 1,0 x 1,0m (80 x 100mm mesh aperture, with 2.7mm diameter wire and 3.4mm salvage wire)	m ³	100,00		
(iii)	LI	2,0 x 1,0 x 1,0m (80 x 100mm mesh aperture, with 2.7mm diameter wire and 3.4mm salvage wire)	m ³	100,00		
(iv)	LI	1,5 x 1,0 x 1,0m (80 x 100mm mesh aperture, with 2.7mm diameter wire and 3.4mm salvage wire)	m ³	150,00		
(v)	LI	2,0 x 1,0 x 0,5m (80 x 100mm mesh aperture, with 2.7mm diameter wire and 3.4mm salvage wire)	m ³	150,00		
c)	LI	Galvanized gabion mattresses				
(i)	LI	2,0 x 1,0 x 0,3m Mattress (80 x 100mm mesh aperture, with 2.7mm diameter wire and 3.4mm salvage wire)	m ³	150,00		
(ii)	LI	6,0 x 2,0 x 0,3m Mattress of (80 x 100mm mesh aperture, with 2.7mm diameter wire and 3.4mm salvage wire)	m ³	100,00		
52.02	LI	Filter Fabric (grade A3 filter fabric, penetration load 1500N) Puncture resistance (maximum) 32 mm	m ²	2 000,00		
52/51.01		Stone Pitching				
(a)		Plain Pitching				
	LI	(i) Method 1	m ²	50,00		
	LI	(ii) Method 2	m ²	50,00		
(b)		Grouted stone Pitching	m ²	300,00		
c)	LI	Grouted stone pitching on concrete bed (70mm thick)	m ²	200,00		
5200		TOTAL CARRIED TO SUMMARY				

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CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5 400		GUARDRAILS				
54.04	LI	Guardrails on timber posts: (a) Galvanized	m	140,00		
54.02	LI	Guardrails on steel post: (a) Galvanized	m	320,00		
54.02	LI	End treatment:				
	LI	(a) End wings	No	12,00		
	LI	(e) End treatment in accordance with drawings where double guardrail sections are used	No	8,00		
54.06	LI	Reflective plates:	No	900,00		
54.03	LI	Extra over items 54.01,54.02 and 54.11 for horizontally curved guard rails factory bent to a radius of less than 45m	m	80,00		
54/66.16	LI	Steel Rails (Galvanized steel balustrade 1,2m high) as per drawings	m	180,00		
5400		TOTAL CARRIED TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY

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CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5600		ROAD SIGNS				
56,01		Road signs boards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class 1 retro-effective material, where the sign board is constructed.				
		(c) Prepainted galvanized steel plate (chromadek 1,6 mm thick or approved equivalent):				
		(i) Area not exceeding 2m²	m²	250,00		
		(ii) Area exceeding 2m² but not 10m²	m²	100,00		
		(iii) Area exceeding 10m²	m²	20,00		
56,02		Extra over item 56.01 for using:				
		(a) Background of retro-reflective material				
		(i) Class I	m²	30,00		
		(b) Lettering, symbols, number, arrows, emblems and borders or retro-reflective material of Class 1 Engineering grade				
		(ii) Class III	m²	70,00		
56,03		Road sign supports (overhead road sign structures				
		excluded):				
		(a) Steel tubing, fully galvanised				
	LI	(iii) 76mm dia. D-Section 2m thick	t	1,20		
	LI	(iii) 100mm dia. D-Section 4mm thick	t	0,40		
		(b) Timber				
	LI	(i) Timber (100mm dia,treated)	m	150,00		
	LI	(ii) Timber (150mm dia,treated)	m	150,00		
56,05	LI	Excavation and backfilling for road sing supports	m³	50,00		
56,06	LI	Extra over item 56.05 for cement-treated soil backfill	m³	10,00		
56,08	LI	Dismantling, storing and re-erecting road signs with a surface area of:				
		(a) Up to 2 m²	No	12,00		
56,09	LI	Dismantling and storing road signs with a surface area of:				
		(a) Up to 2 m²	No	5,00		
5600		TOTAL CARRIED TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY

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CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
57.02	<u>ROAD MARKINGS</u> Retro-reflective road-marking paint: (a) White lines (broken or unbroken): (i) 100 mm wide (b) Yellow lines (broken or unbroken): (i) 100 mm wide (c) White lettering and symbols (d) Yellow lettering and symbols (e) Transverse lines, painted island and arrestor bed markings (any colour)	km	8,9		
57.04	Variations in rate of application: (a) White paint (b) Yellow paint	litre	100,0		
57.06	Setting out and pre-marking the lines (excluding traffic-island markings, lettering and symbols)	km	5,0		
57.07	Re-establishing the painting unit at the end of the maintenance period	L/Sum	1,0		
B57.08	Marking of speed humps complete as speed hump marking drawing	No	15,0		
5700	TOTAL CARRIED TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY
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CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
59.01	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
	Finishing the road and road reserve: (a) Single-carriageway road	km	8,9		
5900	TOTAL CARRIED TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY
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CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
6100		<u>FOUNDATIONS FOR STRUCTURES</u>				
61.02		Excavation:				
		(a) Excavating soft material situated within the following successive depth ranges:				
		(i) 0 m up to 2 m	m ³	300,0		
		(b) Extra over sub-item 61.02(a) for excavation in hard material irrespective of depth	m ³	50,00		
61.03		Access and drainage				
	LI	(b) Drainage where no access has been provided	sum	1,00		
61.04		Backfill to excavations utilizing:				
	LI	(c) Soil Cement	m ³	50,00		
61,08		Foundation fill consisting of:				
		a) Rockfill	m ³	200,00		
	LI	(b) Crushed-stone fill (19 mm aggregate)	m ³	20,00		
		(e) Dump Rock	m ³	200,00		
	LI	d)Mass Concrete (15 MPA)	m ³	70,00		
	LI	(e) Concrete screed:	m ³	20,00		
		(i) 50mm thick, Class 15/19 concrete	m ³	20,00		
B61,09	LI	Supply and install Geotextile membrane Grade A5	m ²	400,0		
6100		TOTAL CARRIED TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY
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CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
6200		FALSEWORK, FORMWORK AND CONCRETE FINISH				
62.02		Vertical formwork to provide:				
		(a) Class F1 surface finish to :				
	<u>LI</u>	(i) Sides of bases and concealed rear face of wall	m ²	250,00		
	<u>LI</u>	(ii) Joints between adjcent wall panels	m ²	20,00		
		(b) Class F2 surface finish to :				
	<u>LI</u>	(i) Plain faces of walls	m ²	250,00		
62.03		Inclined formwork to provide:				
		(b) Class F2 surface finish to :				
	<u>LI</u>	(i) Plain faces of walls	m ²	100,00		
62/63.01		Steel reinforcement for :				
		(a) Concrete walls				
	<u>LI</u>	(i) Mild steel bars	t	5,00		
	<u>LI</u>	(ii) High yield stress steel bars (Type II 450 Mpa yield stress)	t	8,00		
62/64.01		Cast in situ concrete:				
	<u>LI</u>	(a) Class 30/19	m ³	40,00		
62/66.29		Subsoil drain				
	<u>LI</u>	Kaytech or similar M160 geopipe embedded within 300 x 300, 19mm stone, all fully enclosed by Grade A3 geofabric as detailed on the drawings	m	60,00		
B62 .04		Drainage strips				
	<u>LI</u>	200mm wide Netlog strips wrapped in Grade A3 geofabric installed as detailed drawings	m	40,00		
62/66.08		Sealing Joints with:				
	<u>LI</u>	(a)Approved 20 mm x 20 mm silicone sealant on exposed vertical faces (wall only)	m	40,00		
	<u>LI</u>	(b) 300 mm x 3 mm Bituthene or similar approved bandage on concealed faces above base level	m	40,00		
5900		TOTAL CARRIED TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY
 CONTRACT NO: 70 OF 2023
 CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	LI	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
7300		<u>CONCRETE BLOCK PAVING FOR ROADS</u>				
73,01	LI	a) 80mm interlocking paving blocks (25Mpa) SABS approved on a 20mm bedding sand	m²	46 167,24		
	LI	b) 60mm interlocking paving blocks (25Mpa) SABS approved on a 20mm bedding sand	m²	20,00		
73,03	LI	Provision of approved herbicide and ant poison:				
		(a) Provision of materials	PC Sum	1,00	2 000,00	2 000,00
		(b) Contractor's charges and profit added to the prime cost sum	%	2 000,00		
B73,04	LI	Removal of 80mm interlocking paving blocks and including stacking at designated area by Engineer including free haul of 1km	m²	25,00		
B73,05	LI	Reinstatement of existing paving	m²	25,00		
B73,06	LI	Haulage of paving	tonkm	50,00		
B42.14	LI	Procurement , Supply and Construction (all inclusive price) speed humps as per drawing drawing	No	20		
7300		TOTAL CARRIED TO SUMMARY				

MAKHADO LOCAL MUNICIPALITY
CONTRACT NO: 70 OF 2023
CONSTRUCTION OF ROADS TSIANDA(MARUNDU)

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>TESTING MATERIALS AND WORKMANSHIP</u>				
B81.02	Other special tests requested by the Engineer:				
	(a) Cost of testing	PC Sum	1,00	85 000,00	85 000,00
	(b) Charge on Prime Cost Sum	%	85 000		
81.03	Providing testing equipment:				
	(a) Rolling straight-edge	N0			Rate Only
8100	TOTAL CARRIED TO SUMMARY				



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

CONTRACT PART C3: SCOPE OF WORKS

C3: Scope of Work

THE CONTRACT
Part C3: Scope of Work

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Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

C3: Scope of Work

1. DESCRIPTION OF THE WORKS

1.1 Employer's objectives

MAKHADO MUNICIPALITY aims to promote transport corridors, promote equitable access and facilities to ensure sustainable living in Tsianda Village.

1.2 Overview of the works

The project will implement the following:

1. Clear and Grubb
2. Exposing of underground services and relocation
3. Mass earth works - Box cutting road prism for layers
4. Construction of layers works - Dump rock layer, selected layer, sub-base (stabilised layer) and base layers
5. Installation of kerbs
6. Laying of 80mm paving blocks for surfacing of 7,42 km road
7. Construction of 1,2 km of storm concrete pipes
8. Construction of concrete channel
9. Finishing of road reserves
10. Painting of road marking and installation of signs

√

1.3 Extent of the works

The main items of work to be undertaken in terms of the contract involve but not limited the following:

- Contractor's establishment on site
- Compliance with EMP requirements
- Compliance with OHS act requirements
- Provisions of temporary workforce (ABE)
- Training of temporary workforce
- Housing, offices and laboratories for the engineer's personnel
 - Upgrading from gravel to paved standard of 7,42 km of roads

Pavement layers - Box cutting , Roadbed, sub-base and based layer construction

Pavement is 80mm concrete paving blocks.

THE CONTRACT
Part C3: Scope of Work

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Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



MAKHADO MUNICIPALITY

BID NO: 70 OF 2023

UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

Clear and Grubb for 7,42 km.

Kerbing and concrete side stormwater control channel.

Total of 1,2km of 600mm . 750 mm and 900 mm stormwater pipes together with manholes and KIs.

3 Portal Culvert crossing together with reinforced concrete wings walls.

Gabon works for erosion protection.

Road Markings and signs.

Fences relocation and services relocation

Appurtenant work such as accommodation of traffic, protection and/or relocation of services, road markings, road signs, etc.

1.4 Location of the works

The project is in Tsianda Marundu Villages. Refer to locality and site plan on drawing

2 Drawings

2.1 Employer's Design

The permanent works included in this contract has been designed by the Employer. The detail of the works is indicated on the drawings and in the specifications. The Tenderer may submit alternative offers for designs prepared by him subject to the conditions specified in the Contract Data.

2.2 Drawings

Drawings are bound into this document.

The Contractor shall be entitled to receive free of charge, two full size A2 and one A3 copies of each such drawings and to receive, at the cost of reproduction, such additional copies as he shall reasonably require.

One copy of all drawings shall be kept on the Site and be available for perusal by the Engineer or any person authorised by him.

The Contractor shall, in accordance with the Engineer's instructions, maintain a register on the Site of all drawings and revisions thereof in the chronological order in which they are delivered to him.

3. Procurement

THE CONTRACT Part C3: Scope of Work

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Contractor

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3.1 Preferential procurement procedures

The works shall be executed in accordance with the conditions pertaining to preferences granted in accordance with the preferencing schedule.

3.2 Labour and Personnel

3.2.1 Contractors Personnel

The Contractor shall limit the utilisation of his permanently employed personnel to that of key personnel only on the Works, as defined below, and shall execute and complete the Works utilising a temporary workforce employed directly by the Contractor and/or by his sub-contractors, using the assistance of the Labour Desk(s), from the various communities that are established in proximity to the Works or which will be consumers from the Scheme.

Without derogating from the Contractor's obligations to complete the Works within the specified time for completion, the numbers in each category of the Contractor's key personnel, as stated by the Contractor in the Returnable Schedules, will be strictly controlled during the contract period and any increase in numbers will be subject to the prior approval of the Employer.

Key personnel means all contracts managers, site agents, site clerks, materials and survey technicians, quantity surveyors, trainers, supervisors, foremen, skilled plant operators, brick layers, welders, shutter hands and the like, and all other personnel in the permanent employ of the Contractor or his sub-contractors who possess special skills, and/or who play key roles within the Contractor's or his subcontractor's operations.

The Engineer may at his discretion, upon receipt of a written and fully motivated application from the Contractor, and where he deems the circumstances so warrant, authorise in writing that the Contractor may utilise in the execution of the Works, workers not being his key personnel but who are in his permanent employ. Without limiting the generality of application of this sub-clause, circumstances which may be considered by the Engineer to warrant authorization of the use of the Contractor's permanent employees other than key personnel, include:

- a) The unavailability from local sources of sufficient numbers of temporary workers and/or sub-contractors to execute the Works provided always that the Contractor has satisfied the Engineer that he has exercised his best endeavours and taken all reasonable actions to recruit sufficient temporary workers and sub-contractors from local sources.
- b) The unavailability within the temporary worker pool and/or from subcontractor sources available to the Contractor in terms of the Contract, of sufficient skills necessary to execute the Works or specific portions thereof, in situations where the completion period allowed in the Contract is insufficient to facilitate the creation of the necessary skills through the provision of suitable training as contemplated in the Contract;
- c) Any other circumstances which the Engineer may deem as constituting a warrant.

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3.2.2 Temporary Workforce

The Contractor shall employ labour from the local communities through the Labour Desk(s). Accordingly, the workforce that is employed on Site shall consist of local residents, except for approved key staff in the permanent employ of the Contractor, to the maximum extent that is compatible with the requirements of clause C3.2.1.

The Labour Desk(s) shall assist in identifying available local labour and, where available, semi-skilled labour as well as local sub-contractors. The Labour Desks shall also assist and advise regarding conditions of employment, disputes and disciplinary procedures. The function of the Labour Desk(s) shall however in no way diminish the responsibilities of the Contractor or sub-contractor.

The Contractor and its sub-contractor shall adhere to the statutory minimum wage rates, they are however at liberty to negotiate additional incentive payments based on performance.

A contract of employment or subcontract should be signed between the Contractor and each of his employees or sub-contractors, as the case may be. Likewise contracts of employment must be entered into between each such sub-contractor, and each of the specific subcontractor's employees. Employment and subcontract agreements shall make clear reference to at least the following conditions:

- The minimum agreed wage rate per hour in respect of labourers;
- The agreed pay rate per unit of production where applicable;
- UIF and WCA payments;
- Minimum working hours per day;
- Start and end times of a daily shift;
- Lunch break times;
- Company Policy regarding :
 - Rain time
 - Sickness and absenteeism
 - Disciplinary matters
 - Grievances
- Method and frequency of payment;
- Work clothes and safety equipment to be issued.

3.2.3 Local Content and Labour-Intensive Construction (Expanded Public Works Programme)

The promotion of the use of local content is required in the execution of this project. This will be achieved by the use of local labour and local sub-contractors in the construction of works equivalent to twenty-five percent (30%) of the total cost of works are to be constructed. The following limits apply:

- Construction by subcontractors may constitute a maximum of 25% of the total local content works.
- Construction using labour intensive construction methods and employing locally (within Tsianda and its surrounds) labour must make up 75% the total local content works.

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Labour Intensive Construction shall mean the economically efficient employment of as great a portion of labour as is technically feasible to produce a standard of construction as demanded by the Specifications with completion by the Due Completion Date, thus the effective substitution of labour for equipment.

Appropriate portions of the Works included in the Contract shall be executed using labour intensive construction methods. These portions of the Works shall be constructed and supplemented only to the extent necessary and unavoidable by the Contractors key personnel, unless otherwise instructed by the Engineer.

The portions of the Works to be executed using labour intensive construction methods are:

- clearing and grubbing of the Site;
- Laying of interlocked block paving for road surfacing and sidewalk / channel.
- Installation of road signs
- exposing existing services;
- dismantling and re-erection of fences; and
- cleaning and tidying up of the Site.

In respect of those portions of works which are not listed above, the construction methods adopted and plant utilised shall be at the discretion of the Contractor, provided always that the construction methods adopted and plant utilised by the Contractor are appropriate in respect of the nature of the Works to be executed and the standards to be achieved in terms of the Contract.

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

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

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

- (a) 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.
- (b) 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.

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

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

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

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

Progress report detailing production output compared to the programme of works

3.2.4 Subcontracting

3.2.4.1 The Contractor shall sub-let to sub-contractors appropriate portions of the works. A sub-contract agreement shall be signed between the contractor and each of its sub-contractors.

3.2.4.2 The Contractor shall be responsible for all work carried out by sub-contractors on his behalf. The Engineer will not liaise directly with any such sub-contractor, nor will he become involved in any problems and/or disputes related to payments, programming, workmanship, etc, unless provided for in the Conditions of Contract. Such problems and/or disputes shall remain the sole concern of the Contractor and his sub- contractors.

3.2.4.3 The Engineer may at his discretion, upon receipt of a written and fully motivated application from the Contractor, and where he deems the circumstances so warrant, and provided always that the Contractor has complied fully and in all respects with the provisions of the Contract pertaining to subletting to local sub-contractors or has utilised his best endeavours to comply therewith, authorise in writing that the Contractor may employ local residents with the sole intent of executing on-the-job training of such local residents to suitable levels of skill.

Without limiting the generality of application of this clause, circumstances which may be considered by the Engineer to warrant such authorization include:

- a) non-receipt of valid or acceptable tenders/quotations from local sub-contractors;
- b) serious default or failure of appointed local sub-contractors;

The Engineer shall not grant such authority in cases where it may reasonably be concluded on the available evidence that the invitation of further tenders/quotations in accordance with the terms of the Contract is likely to result in the successful completion of the portions of the Works concerned by sub-contractors.

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Should the Contractor, after suitable due endeavour, be unable to identify sub-contractors for portions of the Works as specified, then the Contractor shall be permitted to undertake the Works in question with his own workforce as provided for above.

The Engineer shall monitor progress achieved with subcontractor training, and successful completion of this training shall be subject to his approval or instruction. The Contractor shall tender rates for the training of sub-contractors and labour.

3.2.4.4 The Contractor shall approach the Labour Desk that is established for purposes of the Contract for assistance and advice regarding conditions of employment, minimum wages, disputes and disciplinary procedures in respect of local sub-contractors.

3.2.5 Sub-contractor

To qualify as a sub-contractor the following requirements shall be applicable:

- Registration with the CIDB in the min class of CE registration applicable for a particular amount of work
- Submit an original valid Tax Clearance Certificate (in terms of the Preferential Procurement Regulations, 2011 published in Government Gazette No. 34350 dated 8 June 2011),
- Submit a valid VAT Registration Certificate (if VAT number is not included in tax clearance certificate),
- Submit a valid Workmen's Compensation Certificate, Act 4 of 2002,
- Submit a valid Unemployment Insurance Certificate, Act 4 of 2002,
- Submit a Certificate of Incorporation (if a Company),
- Submit a Founding Statement (if a Closed Corporation),
- Submit a Partnership Agreement (if a Partnership),
- Submit an Identity Document (if a One-man concern),
- Submit a Joint Venture Agreement (if a Joint Venture),
- Submit monthly proof of SARS PAYE in respect of all labourers
- Submit a Curriculum vitae of the person who prepares the Health and Safety Plan,
- Curriculum vitae of the Health and Safety Officer to be appointing in accordance with the Occupational Health and Safety Act (Act 85 of 1993).
- Provide all work clothes, safety equipment and tools required for the execution of the Works
- The minimum amount of liability insurance cover required will be R 1 000 00.00 per event, the number of events being unlimited.
- Payment of all amounts due to the local sub-contractor by the Contractor shall be subject to a the same retention conditions as applicable the Contractor.
- The sub-contractor shall deliver to the Contractor a performance guarantee of an insurance company or a bank to be jointly and severally bound with the sub-contractor for an amount equal to the same guarantee conditions as applicable to the Contractor
- Submit payments certificates to the Contractor at a frequency of once a month with payment made by the Contractor within seven days after the Employer paid the Contractor.
- The Contractor and its sub-contractor shall enter into a SAFCEC (or similar) sub-contract agreement.

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4 Applicable COLTO 1998 Standard Specifications for Road and Bridge Works for State Road authorities

4.1 The applicable COLTO Standardised Specifications for Civil Engineering Construction for this contract shall be the following:

1200	-	General Requirements and Provisions
1300	-	Contractor's Establishment on Site and General Obligations
1500	-	Accommodation of Traffic
1600	-	Overhaul
1700	-	Clearing and Grubbing
2100	-	Drains
2200	-	Prefabricated Culverts
2300	-	Downpipes and Concrete Linings for Open Drains
3100	-	Borrow Material
3300	-	Mass Earthworks
3400	-	Pavement Layers of Gravel Material
3500	-	Stabilization
5100	-	Pitching, Stonework and Protection against Erosion
5200	-	Gabions
5600	-	Road Signs
5700	-	Road Markings
5800	-	Landscaping and Planting Plants
7300	-	Concrete Block Paving for Roads
8100	-	Testing Material and Workmanship

Note 1 The Standard Specifications are not bound into the tender and contract documents, but are available at the Tenderer's/Contractor's expense from the South African Institution of Civil Engineering (SAICE), Private Bag X200, Halfway House, 1685.

Note 2 Each of the Standard Specifications contains an appendix, which in turn lists further specifications which are not bound into the tender and contract documents.

Note 3 Both of the Standard Specifications, as well as those specifications that are listed in the appendix to the Standard Specifications, shall apply to the Contract to the same extent as if each of these specifications had been bound into the tender/contract documents.

4.2 Variations and Additional Clauses to the Standard and Particular Specifications

The following variations and additions to the Standard and Particular Specifications will be applicable to this Contract.

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The various documents listed in Section 4.1 shall be treated as mutually explanatory. However, should any requirements of Section 4.1 conflict with any requirement in the Standardized Specifications or with any requirement of the Particular Specifications, then the requirements of Section 4.2 shall prevail.

The Contractor shall make suitable arrangements for process control prior to commencement with the Works. Should he intend using site personnel for this purpose he shall ensure that suitably trained and competent personnel take charge of the necessary test work, and that the necessary equipment is at their disposal prior to commencement of the Works. Failure to comply with these requirements shall be just cause for the Engineer to order suspension of the Works without additional remuneration in terms of Clause 5.11 of the Conditions of Contract (2010), or for him to recommend termination to the Employer in terms of Clause 9.2 thereof.

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PORTION 2: VARIATIONS AND ADDITIONAL CLAUSES

PS6 SITE FACILITIES AVAILABLE

PS6.1 Contractor's Camp

A site will be made available for the Contractor's camp or depot, to be located adjacent to the works. The Contractor shall be entirely responsible for ensuring that his establishment meets the requirements of any Municipal regulations or by-laws, which may be applicable and shall include therefore in his tendered rates.

The Contractor shall also be responsible for ensuring that unauthorised persons do not have access to the site or any construction material stockpiles.

PS6.2 Source of Water Supply

Water is NOT available on the site. The Contractor shall make all own arrangements with the Local Authority for a water connection and include for the payment of water used for construction purposes in his tendered rates.

PS6.3 Source of Power Supply

The Contractor will however be entirely responsible for arranging a power connection and for payment for all electric power required for construction purposes if electric power is available on site. The costs of electric power are to be included in the Contractor's tendered rates.

PS6.4 Housing

The Contractor shall be permitted to house Key Personnel only within his camp site(s). At the commencement of the Contract, the Contractor shall inform the Engineer of his intentions regarding the housing of Key personnel on Site and he shall thereafter ensure that all such accommodation is kept neat and tidy, hygienic and properly controlled at all times. Should at any stage of the Contract the Employer and/or the Engineer be of the opinion that the housing of Key Personnel within the camp site(s) of the Contractor is causing disturbance or inconvenience to the landowner or to nearby residents, then the authority granted by this clause for the Contractor to house Key personnel on Site may be withdrawn, either partially or entirely.

The Contractor shall at all times confirm with all requirements contained in law or bylaws, as well as any other requirements set by the controlling local authority.

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PS6.5 Ablution Facilities

Ablution facilities will not necessarily be available at the camp or depot site and the Contractor shall make his own arrangements in this regard.

PS7 SITE FACILITIES REQUIRED

PS7.1 For the Contractor

Whatever may be required for the satisfactory execution of the Contract.

PS7.2 For the Engineer

Not required.

PS7.3 Sanitary Facilities

Water borne sewerage is not available on site. Chemical or flush toilets with on-site disposals shall be provided and maintained for the use of the Contractor's personnel, the Engineer and representatives of the Employer at all camp sites that the Contractor may establish for construction of the Works. In addition, the Contractor shall at all times during construction of the works provide adequate sanitary facilities.

PS8 FEATURES REQUIRING SPECIAL ATTENTION

PS8.1 Existing services

The site of the Works is traversed by various existing services including water, sewers, and electricity cables, the exact position of which are generally unknown. Where positions of services are known these will be shown on layout plans or information in this regard will be made available by the engineer prior to construction commencing in an area. The contractor will be required to so schedule and programme his work that when works are disrupted due to the influence of unexpected services encountered, construction can continue in other portions to allow the situation to be remedied by re-routing of new or existing services.

PS8.2 Other Contractors

The Contractor must prepare himself to work with other Contractors in the same project location and/or on the same site simultaneously. The Contractor must make adequate provision for himself in the rates tendered to protect and clearly mark "his" works, to accommodate other Contractors and to liaise constantly and adequately with the other persons active in the same area.

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It might happen that up to five different contractors will be active on site, that routine maintenance are carried out on the existing work by another party and that the Client or his agent is active onsite with the day to day running of the works.

PS8.3 Preservation of trees

Special care shall be taken that only designated trees are removed and that no damage is caused to other trees during construction.

PS8.4 Safeguarding reference beacons

The Contractor shall take special care to safeguard any permanent survey beacons such as erf corner pegs, reference beacons and level beacons. Should such pegs or beacons be disturbed, the Contractor shall have them replaced by a registered Land Surveyor at his own cost. The Surveyor shall submit the necessary documentation regarding the replacement of pegs and beacons to the Engineer for approval.

The Contractor's attention is drawn to Article 35(1) of the Land Surveying Act No. 9 of 1927, (as amended) in this regard.

PS8.5 DISPOSAL OF MATERIAL

All surplus or unsuitable materials arising from any excavations, rocks, trees, debris and other unsightly material shall be disposed of at an approved municipal landfill site or approved borrow pit.

The Contractor shall be responsible to make his own arrangements for a suitable spoil site.

B: AMENDMENTS TO THE STANDARD SPECIFICATIONS

The following references from, and variations and additions to the Standard Specifications will be valid for this Contract.

The clauses and pay items in this portion of the Particular Specifications are numbered "B" followed by a number corresponding to the number of the relevant clause or pay item in the Standard Specifications. New clauses and pay items not covered by clauses or pay items in the Standard Specifications, if included here, are also designated "B" followed by a number. These numbers follow on the last clause or pay item number used in the relevant section of the Standard Specifications.

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SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS

Add the following:

B1201 SCOPE

Add the following:

This section also covers matters, which relate to the location of existing services by the contractor.

B1202 SERVICES

Add the following:

The location, protection and relocation of existing services form an integral part of this contract.

No guarantee as to the accuracy of the information can be given and the responsibility lies with the contractor to determine the exact positions of all existing services.

Before any work is commenced, the contractor shall contact all private owners or public authorities controlling services so that they may either protect, move or relocate any services as required, or confirm that all such work has been completed.

Any damage of these services as a result of acts by the contractor, his sub-contractors or their respective employees, shall be repaired at the contractor's expense.

Wherever, for the proper construction of the works, any telephone or electricity line or poles, or any water supply pipes, conduits, electric cables, sewers, drains or any other services are required to be removed or relocated, or where any of these services requires to be repaired as a result of damage by the contractor or otherwise, the contractor shall immediately advise the engineer thereof, who will further notify the responsible authorities concerned in order that such work as is necessary be undertaken by such authorities. The engineer will also decide the extent of the work, if any to be undertaken by the contractor in removing, relocating or repairing such services.

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B1204 PROGRAMME OF WORK

Add the following:

The programme must show clearly full details of all activities, together with the anticipated application of plant and expected cash flow diagram. The programme must make provision for the location and survey of existing services.

The contractor must at all times give the inhabitants of a stand, at least 2 weeks notice before starting any work which may cause them inconvenience. Should any problems or complaints be received from the homeowners, the contractor must liaise with the engineer's representative.

The programme shall be updated monthly, or as instructed by the Engineer, in accordance with the progress made by the contractor.

Failure to comply with these requirements will entitle the engineer to use a programme based on his own assumptions for the purpose of evaluating claims for extension of time or additional payments.

Penalty Clause 6.8 will apply on failure to comply with all the completion dates given above.

If the progress of the work falls behind the programme, or if the sequence of operations is altered, or if the programme is deviated from in any other way, the contractor shall, within one week of having been notified by the engineer, submit a revised programme. The revised programme shall indicate how he intends to regain lost time in order to ensure completion of the works within the time for completion as defined in clause 6.6.1 of the general conditions of contract or any granted extension of time.

B1205 WORKMANSHIP AND QUALITY CONTROL

Add the following:

No laboratory facilities are required but the contractor is responsible for testing of densities, bedding, backfill and all relevant concrete tests. All material testing must be done by an approved laboratory and is deemed to be included in the contractor's rates. The contractor shall submit the test results to the engineer and shall indicate the extent to which they meet the specified requirements. The engineer at his discretion may undertake or order such further tests by an independent laboratory, to satisfy himself that the work is of acceptable quality conforming to the specifications. No failed tests will be paid for and is for the contractor's expense.

B1206 THE SETTING OUT OF WORK AND PROTECTION OF BEACONS

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Add the following:

The contractor shall establish the exact positions of all existing services before he commences with permanent construction in the proximity of these services.

The exact positions of these services will be established by determining of co-ordinates and the taking of levels and offsets. This information will be submitted to the engineer in a format to his satisfaction.

The provisions of clause 1206 regarding measurement and payment shall apply.

B 1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

(See Clause 6.6.2 of the general conditions of contract as amended)

B 1232 EMPLOYMENT OF COMMUNITY LIAISON OFFICER

The contractor must employ a community liaison officer for the duration of the contract. The community liaison officer shall be employed from within the local community in conjunction with local structures. The Engineer will determine remuneration of the CLO after consultation with the Employer.

B 1233 COMPLIANCE WITH ACT NO 85 OF 1993

At the handing over of the site, the contractor shall appoint a person or persons to act as responsible person(s) in terms of the act on Machinery and Occupational Safety, Act no 85 of 1993 and the appropriate regulations.

CLAUSE TO BE ADDED TO CONTRACTS BETWEEN THE EMPLOYER AND CONTRACTORS IN TERMS OF SEC 37(2) OF THE OHS ACT

The employer and the Contractor hereby agree, in terms of the provisions of Section 37(2) of The Occupational Health and Safety act 1993 (Act 85 of 1993, hereinafter referred to as the Act), that

the following arrangements and procedures shall apply between them to ensure compliance by the Contractor with the provisions of the act, namely:

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- (a) 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 of the Act;
- (b) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations will be fully complied with;
- (c) The Contractor hereby accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and Regulations and expressly absolves the Employer from itself being obliged to comply with any of the aforesaid duties, obligations and prohibitions;
- (d) The Contractor agrees that any duly authorised officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the Contractor has complied with his undertakings as set out more fully in paragraphs (a) and (b) above, which steps may include, but will not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or to inspect any appropriate records held by the Contractor;
- (e) The Contractor shall be obliged to report forthwith 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 Contract, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

B 1234 MEASUREMENT AND PAYMENT

SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS

Item		Unit
B12.02	Employment of a community liaison officer (CLO) for the duration of the contract	Prov
Sum		

A prime cost item has been included for the compensation of the CLO (also defined or described as "The Labour Desk Officer"). Payments will be done to the CLO on instruction of the engineer, in writing. In addition to the abovementioned amount, provision is made in Schedule 1 for a mark-up on the payments made to the CLO. This mark-up shall be regarded as a full compensation for overheads, charges and profits as provided for Clause 6.6.2 of the Conditions of Contract.

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Item

B12.04	Provisional sum for payment for Training the duration of the contract	Prov. Sum.
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A Prime Cost Item has been included for payments to be made to specialists for the training of unskilled or semi-skilled persons in industry accredited management and generic skills. Payment to the Contractor will be based on invoices certified by the Engineer and issued by training specialists to the Contractor for work undertaken in terms of this item.

In addition to the above amounts, provision is made for a mark-up on any payments made by the Contractor in this regard. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in Clause 6.6.2 of the Conditions of Contract.

Item		Unit
B12.05	Percentage for charges and profit on the provisional sums for contractor's cost and profit	Percentage
(%)		

The percentage tendered for charges and profit on provisional sums ordered by the engineer shall include full compensation for all cost, profit, charges, handling and transport related to the service.

C3.5.1.18 Unauthorized persons

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

B 1235 MEASUREMENT AND PAYMENT

Item		Unit
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B12.01 Protection, removal, realignment and Replacement of Services

(a) Utility services

(i) Relocation of services and payments to service
owners.

provisional sum

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- (ii) Handling costs and profit in respect of
Sub item B12.01 (a) (i) above percentage (%)

The provisional sum for utility services shall be expended in accordance with Clause 45.1 of the General Conditions of Contract. The tendered percentage is a of the amount actually spent under item B12.01 (a) (i), which shall be paid to the Contractor for full compensation for handling costs and profit in connection with dealing with utility services.

B4 SECTION 1300: CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS

B 1302 GENERAL REQUIREMENTS

(a) Camps, construction plant and testing facilities

Add the following:

"There is no area available within the road reserve for the establishment of the contractor's organization, camp and constructional plant on site.

The contractor shall make his own arrangements regarding the establishment of a camp site and housing for his construction personnel. No personnel will be allowed to reside on the site. Only night-watchmen may be on the site after hours.

The contractor shall be responsible for the security of his personnel, construction plant on and around the site of the works, and of his camp. The cost of this will be deemed to be included in item B13.01.

"The contractor's offices, laboratory and stores shall, unless otherwise agreed, be erected in close proximity to the engineer's offices and laboratory. The entire area shall be fenced with a minimum of 1,8m height razor taped mesh. The contractor's offices, laboratory and stores and engineer's offices and laboratory shall be provided with sufficient perimeter lighting.

The contractor shall provide security guards from a reputable security company for protection of the engineer's offices and laboratory. The security guards must be provided with a two way radio and be in constant contact with the control room of the security company and an armed response unit. The security guards must be armed and accompanied by trained guard dogs. Payment for the above shall be included in item B13.01."

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"The contractor shall provide at each work site at least one portable chemical latrine unit per 10 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. The contractor shall move them to the required positions, and finally remove them, on completion of the works, all to the satisfaction of the Health Department of the relevant authority. Toilets must be screened from public view and their use shall be enforced. No separate payment shall be made for this requirement and payment shall be deemed to be included in the rates tendered for the contractor's time-related obligations."

B1303 PAYMENT

Item	Unit
-------------	-------------

B13.01	The contractor's general obligations (As specified)
---------------	---

Add the following after the fifth paragraph:

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

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

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B5 SECTION 1400 : HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL

B 1402 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 200m."

(b) Offices

Add the following subclauses:

- "(xvii) Steel plan cabinets shall be able to accommodate 30 AO – sized drawings hanging vertically from approved holders.
- (xix) An electric refrigerator of at least 200l capacity.
- (xx) Provision of floodlights which are to be controlled by a photocell for security purposes at the offices and laboratory of the supervisory staff.

The prime cost shall include for the cost of all cellular telephone calls in connection with the contract administration.

A complete telephone service together with fax equipment shall be provided. The prime cost shall also include for the cost of telephone calls and the fax transmissions in connection with contract administration."

(c) Laboratories

In the second paragraph, second line substitute "drawings" with "figure included in the project document"

(e) Ablution units

Add the following:

"Ablution units are required on site. Each unit shall contain at least a wash-hand basin, flush toilet, urinal, shower unit and the necessary accessories.

Both ablution units shall be provided with hot and cold water.

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The towels shall be replaced with clean towels every second day and soap supplied as necessary.

One of the units shall contain a lockable clothing cupboard for at least four employees. The other unit shall contain a lockable clothing cupboard for at least two employees.

The ablution units shall each have an interior floor area of at least 10m² and a 1,5m wide veranda on one side with a 100mm concrete floor.

The tendered rate under Item B14.01(e) shall include full compensation for the supply, erection and maintenance of the complete units as specified.

Add the following new subclause:

“(g) Kitchen units

The contractor shall provide two kitchen units with minimum interior floor area of 12m², a 1,5m wide veranda on one side with a 100 mm thick concrete floor in the vicinity of the offices.

Each unit shall contain at least two opening windows, a lockable door, a two-plate electrical stove without oven, a steel framed formica topped table (0,6 m x 1,2 m), four steel framed bar or kitchen stools, a lockable refrigerator of one hundred and fifty litres capacity, a kitchen sink supplied with clean hot and cold potable water, a drain board coupled to a suitable drainage system and a lockable steel grocery cupboard.”

(h) Conference room

The contractor shall provide conference room with minimum interior floor area of 23 m², with a 100 mm thick concrete floor in the vicinity of the offices. The Conference room shall contain at least four opening windows and a lockable door.

B 1403 HOUSING

B 1404 SERVICES

(b) Water, electricity and gas

Add the following:

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"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 electronic equipment during power surges. In the event of damage to the office and laboratory equipment and related electronic equipment because of a faulty voltage, the contractor shall be liable for payment of all repair or replacement costs of such damaged items."

B 1406 MEASUREMENT AND PAYMENT

Change the unit of measurement of Item 14.01(e) to "number" and renumber as follows:

Item	Unit
B14.01	
(g) Kitchen units	number (No.)
(h) Conference room	square metre(m ²)

The unit of measurement and payment shall be the authorized number of units erected for the kitchen and square metre for the conference room, complete and in accordance with the specifications and drawings, together with all items as specified in Clause B1402.

The tendered rate shall include full compensation for the supply and erection of the conference room, accessories, furniture, etc. as specified and for the proper maintenance, cleaning and provision of daily requirements.

"Item

Unit

B14.03 Office and laboratory fittings, installations and equipment

(a) Items measured by number

Add the following sub-items:

"(xix) Steel plan cabinets.....	Number (No)
(xx) Floodlights complete with poles and 500 Watt minimum globes	Number (No)

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The tendered rate for sub-item B14.03 (a)(xx) 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

Add the following sub-items:

- | | |
|--|--|
| (ix) The provision of a cellular telephone including the running cost of four cell phones and all calls in connection with the contract administration (cell phones provided by the engineer)
..... | Prime Cost (PC) Sum |
| (x) Provision of telephone services with fax facility including the cost of calls and fax transmission in connection with contract administration and pro-rata telephone rental | Prime Cost (PC) Sum
Percentage
(%) |
| (xi) Handling costs and profit in respect of sub-item 14.03(b)(ix) above | Percentage (%) |
| (xii) Handling costs and profit in respect of sub-item 14.03(b)(x) above | |

The tendered percentage is a percentage of the amount actually spent under sub-item B14.03(b)(xi) and B14.03(b)(xii) which shall include full compensation for the handling costs of the cellular phone, telephone services and fax facility".

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B6 SECTION 1500 : ACCOMMODATION OF TRAFFIC

B1501 SCOPE

Add the following:

"It is a condition of this contract that traffic is accommodated in accordance with 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 the South African National Roads Agency Limited, P.O. Box 415, Pretoria, 0001."

B 1502 GENERAL REQUIREMENTS

(a) Safety

Add the following:

"The Contractor shall take all precautions necessary to programme and conduct his construction operations in such a manner that inconvenience and annoyance to public traffic, property owners and road users is kept to a minimum. The Contractor shall also ensure that safety requirements are strictly enforced at all times.

The Contractor shall be responsible for maintaining the existing road surface within the site of the Works in a safe and trafficable condition for the duration of the contract.

The Contractor, before starting work on any part of the site or at any position, shall submit to the Engineer his method statement and programme for accommodating traffic on that section."

b) Providing temporary deviations

Add the following:

The total road reserve will be handed to the contractor at the commencement of the work. However, the work within the road reserve shall only be carried out behind barricaded off areas. Such barricaded working areas shall be restricted to the numbers, order and sequence as specified in this section to ensure orderly and safe passage of the public traffic. The public traffic shall be accommodated on the existing carriageway and on the gravel shoulders, the use of specially constructed bypasses shall only be implemented if so instructed by the engineer

(e) Access to properties

Add the following:

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"Where the section of the road under construction (shoulders) and rehabilitation coincides with existing access, a number of accesses to private properties will have to be operational and maintained during the constructional period. No separate payment will be made for providing acceptable and safe access across the road at all times during construction of the road."

Add the following new subclauses:

(j) Overnight parking of plant

During non-working hours, all plant and traffic hazards shall be removed from the road and all signs no longer applicable to the situation shall be removed or effectively covered. No plant shall be left adjacent to the road during overnight parking. Plant which is impractical to be parked at the contractor's camp may be parked at the construction site, provided it is parked at least 5 m from the edge of the road surface.

(k) Use of reflective safety jackets

The Contractor shall ensure that all site personnel, excluding those who are permanently office bound, are equipped with reflective safety jackets and that these are worn at all times when working on or in proximity of the travelled way. The safety jackets shall be of an approved Level 2 type, bright/fluorescent orange, red-orange or yellow in colour with retro-reflective strips as indicated in Chapter 13 of Volume 2 of the South African Road Traffic Signs Manual (SARTSM), Figure 13.30 (Detail 13.30.2). Any person found not wearing a reflective safety jacket under these circumstances shall be removed from the site until such time as he/she 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.

The provision of these safety jackets shall be deemed to be included in the rate tendered for item B15.01 : Accommodation of traffic and maintaining temporary deviations.

(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 traveling public, accommodation of traffic, and the provision of 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 impose penalties as follows:

- A fixed penalty of R5 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 R500-00 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

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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) Handing over the site

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

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

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

(o) Land taken up for deviations

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

B7 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 the project specifications, the South African Road Traffic Signs Manual (SARTSM) and as shown on the drawings and remove them when no longer required. It shall be incumbent upon the contractor to ensure 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

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approval of the engineer. The arrangements expected to be most commonly used in the contract are given on the tender drawings.

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.”

(b) Road signs and barricades

Add the following:

“The contractor shall be responsible for the protection and maintenance of all signs, and shall at his own cost replace any that have been damaged, lost, or stolen.

All temporary road signs required to be moved 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. The cost of covering of permanent road signs shall be included in the tendered rates of items B15.01 and B15.10.”

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(a) Channelization devices and barricades

Add the following:

“The use of drums as channelisation 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 lower than 250mm above the road surface;
- (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 0,18 m² and ballasted by sandbags with sand;
- (v) 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 750 mm 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 order to be clearly 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.

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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 clearly visible and operated continuously while the vehicles is manoeuvring in or out of traffic or is 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.

The contractor shall ensure that all his personnel, excluding 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. 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."

Add the following sub clauses:

(g) Other traffic control measures ordered by the engineer

"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, at least two flagmen shall be provided at each traffic control point in addition to the STOP/GO sign operator, one flagman at the 80 km/h sign and a second roving flagman to indicate to the traffic at the end of the queue to stop. 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.

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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 600 mm. The flag shall be attached to a staff at least 1,0 m in length. At night, flagmen shall use a torch with fluorescent orange lense and halogen lamp visible to the travelling public for at least a 100m distance.

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.

(i) Temporary Road markings

Temporary road marking lines for demarcation of temporary traffic lanes, other than on the final road surfaces shall be painted as specified in this section as well as section 5700 of the COLTO Standard Specifications. Temporary road marking shall be in the same positions and colours as the existing road marking. The contractor will be required to survey all existing road marking prior to commencement of any milling and patching. Temporary road marking when ordered shall be pre-marked after each shift before the road is opened to traffic. Temporary road studs when ordered shall be installed at double the spacing and shall be of the same colour as the existing road studs.

Temporary road marking lines for demarcation of temporary traffic lanes, on the final road surface shall consist of one of the following as directed by the engineer:

- (i) Construction grade tape for temporary road marking which can be removed by applying gentle heat. The tape shall be foil backed, adhesive, reflective tape, as manufactured by the 3M company, or equal. The tape shall be capable of being easily removed from the road surface by the application of gentle heat.
- (ii) removable traffic paint TRP10 by Plascon (or similar approved). Removal of TRP10 paint shall be carried out using paint remover TRP20 by Plascon or similar approved.

(j) Moveable New Jersey Barriers

Movable barriers shall be of concrete or plastic balasted with water and shall be erected as and when instructed by the engineer or as shown on the drawings. Sections shall be firmly joined together and retro-reflective tape shall be placed to make them highly visible. The employer is in possession of lengths of moveable concrete barriers and could be made available to the contractor."

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(k) Maintenance

All temporary traffic control facilities shall be kept clean and maintained in good order at all times.

If the coefficient of retro-reflection of any of the Contractor's signs falls below 80% of the value given in Table 1 of CKS 191 - 1987 (observation angle 0,33 , entrance angle 5,0) for the grade and colour of the material used the sign shall be considered defective and shall either be rectified or removed and replaced.

(l) Sufficiency

The Contractor shall determine, from his proposed programme, the number of temporary traffic-control facilities required and shall not commence with any accommodation of traffic before sufficient traffic-control facilities have been delivered to the site.

The Contractor shall keep sufficient surplus barricades, signs and delineators on or around the site to allow for the replacement of damaged or missing items within a period of two (2) hours of the deficiency being discovered.

The Contractor shall allow in his tendered rates for the replacement of five (5) percent of the traffic-control facilities scheduled. This percentage is to allow for the replacement of traffic-control facilities which become unserviceable or damaged by public traffic or stolen and is beyond the Contractor's control and not the result of his actions or omissions during the period of accommodation of traffic on the site. The replacement of traffic control facilities over and above this five (5) percent of the scheduled items damaged by public traffic or stolen shall be payable at tendered rates."

Item

Unit

B15.15: Provision for safety equipment for use by engineer.

- | | | |
|----|---|-------------|
| a) | Amber flashing lights roof mounted for engineer's staff | Number (No) |
| b) | Retro-reflective safety vests for engineers personnel | Number (No) |

The unit of measurement shall be the number of each type of light provided and erected.

The tendered rates shall include full compensation for providing and mounting the lights. The general notes of payment item 15.03 shall be equally applicable to the above payment items

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"Item	Unit
B15.17 Penalty to be deducted for non-compliance with requirements for accommodation of traffic	
(a) Fixed penalty per occurrence	number (No.)
(b) Time related penalty per hour	hour (hr)

In subitem B15.17(a), a fixed penalty of R5 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 in subitem B15.17(b), a time-related penalty of R500-00 per hour over and above the fixed penalty in sub-item B15.17(a) which shall be deducted for non-compliance to rectify any defects in the accommodation of traffic within reasonable time after the engineer has given an instruction to this effect. The engineer's instruction shall state the time in hours for re-instatement of the defects. Should the contractor fail to adhere to the instruction, the time-related penalty will be applied from the time the instruction was given."

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Add the following new clause:

B 1518 ADDITIONAL REQUIREMENTS

The following additional requirements shall apply:

- The contractor's tendered rates for the relevant items in the schedule of quantities shall include full compensation for all possible additional costs which may arise from the above, and no claims for extra payment due to inconvenience as a result of the modus operandi will be considered.
- No section of the road shall be closed to traffic during the construction works and at least one lane in each direction shall be open to traffic at all times.
- 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.
- Failure to maintain road signs, warning signs or flicker lights, etc. in a good condition shall constitute ample reason for the engineer to bring the works to a stop until the road signs, etc. have been repaired to his satisfaction.
- The contractor may not commence construction activities before adequate provision has been made to accommodate traffic in accordance with the requirements of this document and the South African Road Traffic Signs Manual.
- The contractor shall submit proposals for each traffic accommodation in connection with directional signs to the engineer for approval.

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B7 SECTION 1600 : OVERHAUL

B 1602 DEFINITIONS

(a) Overhaul material

Add the following:

- (vii) Any material, irrespective of the type of material, which is removed from the existing pavement layers and spoiled at designated spoil sites, or is re-used in other parts of the works or to approved stockpiles or from stockpiles to any part of the works.

(b) Overhaul

Add the following:

Overhaul shall not be payable on materials transported from commercial source

B8 SECTION 1700 : CLEARING AND GRUBBING

B1702 DESCRIPTION OF WORK

(a) Clearing

Add the following:

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

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

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

The payment for the clearing of concrete structures which cannot be cleared by means of a bulldozer as described under clause 1702(a), shall be made according to item B17.08."

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Add the following subclauses:

(f) Removal of trees

Only trees identified and marked by the engineer shall be removed."

B 1703 EXECUTION OF THE 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

(c) Disposal of material

Add the following:

"(i) Non toxic waste (trees, tree stumps, plain and reinforced concrete, rubble, etc.)

All surplus or unsuitable material (non-toxic waste) shall be disposed of at an approved dumping site. The local authority within whose boundaries the site is located, must approve such site, and the dumping must comply with all statutory and municipal regulations. Rates tendered shall include an unlimited free haul distance to the approved dumping site.

(ii) Toxic waste (bitumen products, etc.)

The contractor shall identify a approved toxic waste dumping site. Pay item B17.06 has been provided in the schedule of quantities to compensate the contractor for all costs associated with the removal and disposal of existing toxic waste, viz existing bitumen products.

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Toxic waste generated by the contractor during construction shall be removed and disposed of by the contractor at his own cost. No pay item has been provided for this work. The cost thereof shall be deemed to be included in the contractor's tendered rates."

B 1704 MEASUREMENT AND PAYMENT

Add the following new Item:

Item	Unit
B17.06 Disposal of toxic waste including dumping site fees and an unlimited free-haul distance to an approved dumping site	cubic metre (m ³)

The unit of measurement shall be the cubic metre of in-situ material removed.

The tendered rate shall include full compensation for all excavation, demolition and for loading, transporting and disposal of the toxic waste, including dumping site fees and an unlimited free-haul distance to an approved dumping site.

B9 SECTION 1800 : DAY WORK

Add the following new Section:

B 1801 SCOPE

This section covers the listing of day work items for use in determining payment for work which cannot be quantified in specific pay item "units" in the bill of quantities or work ordered by the engineer during the construction period which was not foreseen at tender stage for which no applicable rate exists in the schedule or for work of a special or different character warranting special payment as decided by the engineer. No surcharge is applicable to the rates tendered under Section B1800 of the schedule of quantities.

B1802 ORDERING OF DAYWORK

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

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B1802 **GENERAL**

The contractor shall submit records of the work performed in accordance with the requirements of Clause 37.2 "Day work" of the general conditions of contract to the engineer.

B1803 **MEASUREMENT AND PAYMENT**

Only work ordered by the Engineer to be carried out under dayworks shall be measured and paid for at the rates given in the daywork schedule.

The daywork rates submitted for labour shall cover overhead charges and profit, site supervision and administration staff, use of small hand tools and appliances, non-mechanical plant and equipment, consumable stores and site supervisors transport.

The daywork rates for vehicles, plant and equipment shall be 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.

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

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

Item	Unit
B18.01 Personnel during normal working hours:	
a) Unskilled labour	hour (h)
b) Semi-skilled labour	hour (h)
c) Skilled labour	hour (h)

d) Ganger

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hour (h)

Item

Unit

B18.02 Personnel outside normal working hours:

- | | | |
|------|--|----------|
| a) | Outside normal working hours and Saturdays | |
| i) | Unskilled labour | hour (h) |
| ii) | Semi-skilled labour | hour (h) |
| iii) | Skilled labour | hour (h) |
| iv) | Ganger | hour (h) |
| b) | Sundays and public holidays | |
| i) | Unskilled labour | hour (h) |
| ii) | Semi-skilled labour | hour (h) |
| iii) | Skilled labour | hour (h) |
| iv) | Ganger | hour (h) |
| v) | Foreman | hour (h) |

Item

Unit

B18.03 Plant:

- | | | |
|----|--|-----------------|
| a) | Provisional sum for renting of plant | Provisional Sum |
| b) | Handling costs and profit in respect of sub-item B18.03(a) | Percentage (%) |

Item

Unit

B18.04 Materials:

- | | | |
|----|---|------------------------|
| a) | Procurement of materials | Provisional (prov) sum |
| b) | Contractor's handling costs, profit and all other charges in respect of Subitem B1804 (a) | Percentag(%) |

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<u>Item</u>	<u>Unit</u>
B18.05 Transport:	
a) LDV	kilometre (km)
b) Flatbed truck	kilometre (km)
i) 5 ton	kilometre (km)
ii) 10 ton	kilometre (km)

The unit of measurement for items B18.01 and B18.02 shall be the hour for the item of plant or personnel. Non working hours for transport breakdown, lack of operator or for any other reason shall not be measured. The time shall be taken from the time that the personnel and/or plant depart until return.

Measurement shall only be for work instructed and directed by the engineer, where the engineer considers no other appropriate rate is available in the schedule of quantities. Prior to the commencement of any work by the labourers described under items B18.01 and B18.02, the contractor must obtain written consent from the engineer regarding the classification of all labourers in terms of "unskilled", semi-skilled" and "skilled" labourers.

The tendered rates for labour for items B18.01 and B18.02 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 unit of measurement for subitem B18.03 (a) and B18.04 (a) shall be the amounts actually paid for the renting of the plant or 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 plant or materials used, as verified by the engineer, shall be paid for. The publication "Plant Equipment Hire and Rates" shall be used for shadow pricing.

The percentage tendered for subitem B18.03 (b) and B18.04 (b) shall be the percentage of the amounts actually paid for the renting of the plant or procurement of materials as ordered under subitems B18.03 (a) and B18.04 (a) and shall be in full and final compensation in respect of the

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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 B18.05 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 B18.05 shall include full compensation for the cost of the vehicle including fuel, maintenance, depreciation and running costs. The tendered rate shall not be more than the AA tariffs.

The above mentioned tendered rates shall be full compensation for the various items as specified and no further profit shall be paid.

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B10 SECTION 2100 : DRAINS

B2101 Scope

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 engineer, and the test flushing of subsoil drains.

B2104 Subsoil drainage

(a) Materials

(i) Pipes

Amend this subclause by adding the following to the end of the third paragraph:

“(category-heavy duty) or SABS 1601 (stiffness class 350)”

The pipes to be used shall be either slotted u PVC pipes or perforated HDP pressure pipes, 100mm ID”

(ii) Natural permeable material

Add the following to the 3rd paragraph:

“The crushed stone shall be fine (13.2mm nominal size) and shall be washed clean of all fines”

(iii) Synthetic-fibre filter fabric

Under item (4) Selection, of this subclause, delete the 1st paragraph and replace with the following:

“The filter-fabric used for subsoil drains shall be grade 2 and shall satisfy the criteria for a grade 2 geotextile as given in Table 2104/2”

(b) Construction of subsoil drainage systems

Add the following sub-clause:

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“(v) Proving of pipes in sub-soil drainage systems

On completion of the pipe laying and backfilling, the pipes shall be proved by pulling through a cylindrical cleaning brush followed by a wooden mandrill \pm 400mm long and 5mm in dia less than the bore of the pipe. Proving of pipes shall not be paid for separately and the cost thereof shall be deemed to be included in the rate tendered for laying the pipe.”

B2107 MEASUREMENT AND PAYMENT

B21.01 Excavation for open drains

Add the following to the penultimate paragraph:

“The tendered rate shall also include full compensation for trimming the open drains”

Item

Unit

B21.03 Excavation for subsoil drainage systems

Add the following sub-item:

Cubic metre (m³)”

“(c) Extra-over item 21.03(a) for excavating through
stabilised layers of existing pavement

Add the following to the second paragraph:

“Excavation in stabilised pavement material shall be paid only in sub-item (c) and shall not be paid as an extra over for hard material in sub item (b). For sub item (c), the tendered rate shall also include full compensation for backfill with soilcrete.”

Item

Unit

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B21.04 Impermeable backfilling to subsoil drainage systems

Create the following new sub-items

- “(a) Unstabilised natural gravel Cubic metre (m³)
- (b) G5 material stabilised with 4% stabilising agent Cubic metre (m³)”

B21.12 Concrete outlet structures, manhole boxes, Junction boxes, Number (No)
and cleaning eyes for subsoil drainage systems.....

Add the following:

“The tendered rate shall also include full compensation for procuring and finishing the galvanised woven wire mesh, cutting, waste, installing the wire mesh at outlets and keeping the wire mesh in the pipe openings clean for the duration of the contract period.”

B11 SECTION 2200 : PREFABRICATED CULVERTS

B2201 SCOPE

Add the following:

“All rectangular culverts shall be constructed with precast units.

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

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

No precast units shall be ordered until the engineer has satisfied himself that the proposed units have been manufactured to the required tolerances and loading

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standards. The engineer must be given the opportunity to load test units if he considers this necessary”.

B2203 MATERIALS

(f) Skewed Ends

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

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

B2204 CONSTRUCTION METHODS

Add the following:

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

(c) Excavation by hand

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

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

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B2205 EXCAVATION FOR CONSTRUCTION BY TRENCH METHOD

Add the following subclauses:

"(c) Excavation by hand

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

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

(d) Drainage of excavations

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

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

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

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

B2210 LAYING AND BEDDING OF PREFABRICATED CULVERTS

B.2210(b)(i) Cast in situ invert slabs

Replace with the following:

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

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

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

B2211 BACKFILLING OF PREFABRICATED CULVERTS

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

B2212 INLET AND OUTLET STRUCTURES, CATCHPITS AND MANHOLES

(b) Concrete work

Add the following:

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

(h) Prefabricated inlet and outlet structures

Add the following:

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

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B12 SECTION 2300 CONCRETE KERBING, CONCRETE CHANNELING, CHUTES AND DOWNPIPES AND CONCRETE LINING FOR OPEN DRAINS

B2301 SCOPE

Add the following to this clause

“This section also covers the replacement of damaged concrete kerbing, channelling and lining.”

B2302 CONSTRUCTION

Add the following new 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.”

B2303 MEASUREMENT AND PAYMENT

Add the following new item:

Item

Unit

B23.02 Cast in-situ concrete edge beam using class 30/19

(b) Concrete measuring 300 x 300mm..... (m)

The measurement and payment for item B23.02 (b) shall be as for item 23.04 (a).

Add the following new item:

Item

Unit

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B23.16 Demolition and removal of existing kerbs and/or channel..... Cubic metre (m³)

The unit of measurement shall be the cubic metre (m³) of concrete measured in-situ before demolition/breaking up.

The tendered rates shall include full compensation for breaking up the existing concrete or reinforced concrete, removal from site to an approved spoil site, clearing the excavation of all loose debris and to backfill the excavation where new concrete is not required. Overhaul shall be included in the rate of this item.

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B13 SECTION 3400 PAVEMENT LAYERS OF GRAVEL MATERIALS

B3402 MATERIALS

a) General

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."

Add the following after the second paragraph:

"Distinction shall be made between crushed G4, G5 and G6 materials. Where the crushing and/or screening of these materials has been specified, the combined grading shall conform to the grading limits specified for

class material in table 3402/1."

Delete table 3402/5 and replace with:

"Table B3402/5: Requirements For Chemically Stabilised Layers

Classification	C1	C2	C3	C4
Material before treatment	At least G2 quality	At least G4 quality	At least G5 quality	At least G6 quality
PI after treatment	Non-plastic	Non-plastic	6 max. *(1)	6 max. *(1)
UCS (MPa) *(2)	6 min.	4 min.	1,5 min	0,75 min.
ITS (kPa) *(3)	-	-	250 min.	200 min.
WDD (% loss)	5 max.	10 max.	20 max.	30 max.

Note * (1) For materials derived from the basic crystalline rock group, the Plasticity Index after stabilisation shall be non-plastic.

* (2) Unconfined Compressive Strength @ 100% Mod. AASHTO density

* (3) Indirect tensile Strength @ 100% Mod. AASHTO density

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* (4) Wet/Dry Durability according to Method B 8110"

B3403 CONSTRUCTION

B3405 CONSTRUCTION TOLERANCES

g) Construction tolerances for rehabilitation work

Add the following:

"The reworked material shall be classified as subbase layer when under laying a new granular overlay. Alternatively it shall be classified as a base if directly under the asphaltic levelling course and resurfacing.

The thus reworked and chemically treated subbase and base layers shall be restored as close as possible to the existing road level and the tolerances applied to the final reworked layer shall be as specified in clause 3405".

B3406 QUALITY OF MATERIALS AND WORKMANSHIP

Add the following:

"Statistical control on layer thickness, compaction and stabilizer content will be applied in accordance with section 8200 Quality Control (Scheme 2).

B3407 MEASUREMENT AND PAYMENT

Add the following payment items:

<u>Item</u>	<u>Unit</u>
-------------	-------------

B34.14 **Pavement layers constructed from gravel from commercial sources:**

a)	Gravel selected layer (unstabilized-G8)	cubic metre (m ³)
	compacted to 93% Mod AASHTO density (<i>compacted layer thickness indicated</i>)	

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- b) Gravel selected layer (unstabilised-G7) compacted to 95% cubic metre (m³)
Mod AASHTO density (*compacted layer thickness indicated*)
- c) Gravel shoulder (unstabilised – G5) compacted to 95% cubic metre (m³)
Mod AASHTO density (*compacted layer thickness indicated*)
- d) Gravel sub-base (chemically stabilised) C4 quality cubic metre (m³)
compacted to 95% mod. AASHTO density (*compacted layer thickness indicated*)
- e) Crushed Gravel sub-base G6 quality. cubic metre (m³)
compacted 97% mod. AASHTO density (*compacted layer thickness indicated*)
- f) Crushed Gravel base G5 (chemically stabilised)
C3 quality to 98% mod. AASHTO density
(*compacted layer thickness indicated*). cubic metre (m³)

The unit of measurement shall be the cubic metre of completed gravel layer in place as the case may be, and compacted to the specified density. The quantity shall be calculated from authorised dimensions of the layer as shown on the drawings or prescribed by the engineer.

The tendered rates shall include full compensation for procuring, finishing and placing all materials, including the purchase of the crushed gravel from commercial sources, for hauling the material over an unlimited freehaul distance from the commercial source, for rolling, slushing and correcting the layers if required, and for testing, protecting and maintaining the work as specified.

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B14 SECTION B3500 STABILIZATION

B3502 MATERIALS

The actual application rate of the stabilization agent used in any specific material or layer shall be determined by the engineer.

All references to "Ordinary Portland Cement" shall be replaced with "Portland composite cement (CEM II 32,5)".

(f) Application rate

The nominal application rate of chemical stabilizing agents for tender purposes shall be 80 kg/m³

B3503 CHEMICAL STABILIZATION

(i) Construction limitations

In table 3503/1, delete "8 hours" for ordinary Portland cement and cement blends and replace with "6 hours".

B3506 TOLERANCES

(b) Uniformity of mix (chemical stabilization)

Add the following:

"The method described under 3506(b)(ii) shall be applicable to this contract."

B3507 ROUTINE INSPECTION AND TESTS

Statistical control as per Section 8300 (Scheme 2) will apply.

Add the following sub-clause:

(j) Rejection of stabilized layers

Where newly constructed layers have been stabilized and have been rejected, the following shall apply:

- (i) if rejected within seven (7) days of construction – 50% stabilizing agent shall be added and the layer reworked.

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- (ii) if rejected more than seven (7) days of construction – the material shall be removed and replaced and the layer reworked with 100% stabilizing agent.

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B16 SECTION 4200: ASPHALT PAVEMENTS AND SEALS

(a) B4202 Materials

- a) Bituminous binders
- i) Conventional binders

Add the following:

"The binders to be used shall be as follows:

- a) Continuously graded surfacing course: 60/70-penetration grade bitumen
- b) Continuously graded base: 40/50-penetration grade bitumen

Add the following:

The road grade bitumens shall in addition conform to the ductility requirements of table 4202/12. The 'spot test' in the SABS 307 may also become an on site test is so instructed by the engineer (refer B4214(d)). The frequency of testing shall be as ordered by the engineer.

Table 4202/12: Ductility specifications

Property	Penetration grade				Test method
	40/50	60/70	80/100	150/200	
	Requirements				
Ductility @ 10 ° C, cm, min	-	-	100	100	DIN 52013
Ductility @ 15 ° C, cm, min	100	100	-	-	DIN 52013
Performance when subjected to the rolling thin film oven test:					ASTM D2872
(a) Ductility @ 10° C, cm, min	- 5	- 10	5 -	10 -	DIN 52013
(b) Ductility @ 10° C, cm, min					DIN 52013

b) Aggregates

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Add the following paragraph to the introductory description:

"Asphalt mixes shall be manufactures using different individual single size coarse aggregates fractions and crushed fine aggregates blended to conform to the specified grading requirements. The use of natural sands shall only be permitted if approved by the engineer and shall be limited to a maximum of 5% for continuously graded mixes. All aggregate in excess of 4,75mm shall consist of individual nominal single sized aggregate. For stone mastic asphalt mixes all aggregate fractions in excess of 2,36 shall consist of individual single size fractions. Contractors shall note that commercial suppliers may not be able to supply all the required single size aggregates, in which instance arrangements will have to be made for additional on site screening. No additional payment shall be made for screening aggregate. The use of run of crusher type materials shall not be permitted.

v) Absorption

Add the following new sentence:

"In addition, the total binder absorption of the combined coarse and fine aggregate blend shall not exceed 0,5%"

viii) Grading

Delete the second paragraph commencing with "The target grading..." and add the following paragraphs:

"The grading limits for the combined aggregate grading for the asphalt base shall be as specified in table 4202/6: Continuously graded 26,5m maximum.

The grading limits for the combined aggregate grading for the asphalt surfacing shall be as specified in table 4202/7: Continuously graded medium

c) Fillers

Delete the second last sentence of the first paragraph and replace with:

"With the exception of stone mastic asphalt, in no instances shall more than 2% by mass of active filler be used in the mixes"

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Add the following after the last paragraph:

"For tender purposes the active filler shall be hydrated lime"

h) General

Add the following after the second paragraph:

"Sufficient aggregate for a minimum of 3 days production shall be separately stockpiled and tested for conformance and uniformity prior to use. The test results shall be presented to the engineer

A2 B4203 Composition of Asphalt Base and Surfacing Mixtures

Add the following after the first paragraph:

"The contractor is required to work in close co-operation with the engineer during the mix design process. Details of the testing programme will be agreed between the engineer and contractor. Testing will include rut resistance testing, fatigue testing as well as Dynamic Creep testing. Sufficient time (at least 6 weeks from submission of all mix designs to the engineer) must be allowed in the programme for testing by external laboratories (e.g. SRT, CSIR). The contractor must include the cost of the test for the specified criteria, as well as the special tests above, in the price of the asphalt."

Add the following:

"Asphalt mixes must comply with the following requirements included in table B4203/1."

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In the first paragraph, third last line, after “or active filler” add:

“or aggregate content”

Delete the fifth paragraph and replace with the following:

“The design of the asphalt mixes shall be in accordance with “Interim Guidelines For The Design Of Hot-Mix Asphalt In South Africa (June 2001)”, and appropriate research results. The mix properties and requirements shall be as specified in the project specifications”

The relevant asphalt mixes for the base and surfacing layers shall comply with the requirements in table B4203/2.

Table B4203/2: Asphalt mix requirements

Property	Unit	Mix Type			
		Conventional Asphalt			
		Continuously graded Asphalt base (26,5mm max.)		Continuously (medium or fine) graded asphalt surfacing	
		Max.	Min.	Max.	Min.
Marshall stability (60°C)	kN	18	8	18	8
Marshall flow	mm	6	2	6	2
Stability/flow ratio	kN/mm	-	2,5	-	2,5
Voids in the mix:					
❑ Slow lane	%	6	4	6	4
❑ Other lanes	%	6	4	6	4
Voids in mineral aggregate	%	-	14	-	15
Filler/bitumen ratio		1,5	1,0	1,5	1,0
Air permeability cm ²	cm ²	1 x 10 ⁻⁸	-	1 x 10 ⁻⁸	-
Film thickness of bitumen	Micron s	-	5,5	-	5,0
Indirect tensile strength (25°C)	kPa	-	800	-	800
Dynamic Creep Modulus (40°C)	MPa	-	20	-	20
Immersion index	%		80		80
Modified Lottmann* (TSR)					
Moisture susceptibility	%		0.7		0.8
Modified Lottman test					

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Test requirements for the rutting and fatigue tests to be agreed between the contractor and the engineer

B4204 Plant and equipment

b) Mixing plant

Add the following:

“All binders and modified binders shall have a calibrated delivery system which can deliver within 1,5% of mass delivered to the mixing plant.”

A3 B4205 General limitations and requirements and the stockpiling of mixed material

c) Surface requirements

iii) Tack coat

Add the following new paragraph:

“Hand spraying shall only be permitted on areas approved by the engineer. The binder distribution shall be capable to apply the binder evenly over the full area. The equipment shall comply with clause B4103. Tack coat shall be applied to all transverse and longitudinal joints by hand utilizing a paint brush.”

A4 B4206 Producing and transporting the mixture

b) Production of the mixture

ii) Using drum-type mixer plants

Add the following:

“Pre-blending of aggregate fractions shall not be permitted and the contractor shall ensure that sufficient cold-feed bins are installed to accommodate each individual aggregate fraction, including the filler.”

c) Transporting the mixture

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Add the following paragraph:

“Special precautions shall be taken by the contractor to ensure that the temperature of the total mass of asphalt does not decrease by more than 10°C from point of dispatch to the point where it is to be paved. The use of the thermal blankets is obligatory.”

Add the following new subclause:

“f) Approval of asphalt mixture

Before any asphalt is placed on the road, the engineer shall approve the mix design. The approval process shall be as follows:

The contractor shall prepare and submit a laboratory design mix with test results at four different bitumen contents. The design mix shall be submitted on the prescribed form D3 of TMH 10: “Instruction for the Completion of As-Built Materials Data Sheets” with all the necessary test results completed. In addition, the proposed asphalt mixture shall be subjected to gyratory testing. All the expenses in preparing and submitting the laboratory design mix shall be to the contractors cost.

Samples of all aggregate and bitumen shall be submitted with the laboratory design mix to enable the engineer to carry out check design testing as necessary. The above design and aggregate shall be submitted to the engineer at least six weeks before it is intended to commence with any asphalt production.

After approval is obtained for the laboratory design mix, a plant mix at varying binder contents of approximately 5 to 10 tons each shall be produced. The purpose of the plant mix is for the contractor to prove that the laboratory design mix can be produced successfully. The engineer shall conduct the necessary testing on the plant mix. The plant mix shall not be placed on the road. During the production of the plant mix, the engineer shall be afforded the opportunity to inspect the asphalt plant.

After the plant mix is approved, permission shall be given for laying a trial section at varying binder contents in accordance with the requirements of section 4211 of the specifications. The Engineer may require that the mix be further assessed by means of CSIR Wheel Tracking or MMLS testing, the cost of which will be borne by the Employer. Mass production of asphalt shall only commence after approval of the trial section, which should be given within a maximum of ten days.

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The engineer may instruct the contractor at any time to halt his paving process and to review the whole or part of the above process should a change of aggregate properties occur, the specified asphalt requirements not being met and/or a consistent asphalt mixture not be produced."

A5 B4207 Spreading the mixture

Add the following:

"The asphalt levelling and scratch coats shall be constructed in layers with thicknesses varying from feather edge up to 75mm. Layers thicker than 75mm need to be constructed in two or more layers. All the specified requirements for asphalt (e.g. density, tolerances, etc.) shall be equally applicable to the construction of an asphaltic levelling and scratch coats."

A6 B4208 Joints

Add the following to this clause:

"Where the difference in level between the new work and the existing road surface exceeds 25mm, joints shall be treated as follows:

Transverse steps at the end of a day's work shall be tapered off at a slope of 1 vertical to 20 horizontal (1:20) to tie in with the existing surface. The tapered section shall be removed before surfacing is recommenced and a joint formed in accordance with clause 4208 of the specification.

Longitudinal joints exposed to traffic shall be provided with a taper of compacted asphalt material over the full length of the exposed joint. The width of the taper shall be at least 5 times the difference in level between the old and new work.

All costs involved in the provision and removal of these temporary ramps shall be deemed to have been included in the rates tendered for the relevant asphalt pay item.

B4211 LAYING TRIAL SECTIONS

Add the following:

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"Comprehensive testing will be undertaken on samples of the asphalt mix taken from the trial sections. The contractor must therefore make allowance in his rates for the trial section for a waiting period of at least 4 weeks for the completion of the testing programme before the final approval of the production mix can be given."

A7 B4214 Quality of Materials and Workmanship

b) Coring of asphalt layers

Add the following:

"A suitable coring machine shall be available on a daily basis when asphalt paving is taking place. Cores shall only be drilled, when the road temperature is 20°C or less. Core holes shall be filled with hot mix asphalt and compacted, all within 24 hours of the core being drilled. Coring shall be carried out within 48 hours after the paving has been completed and supplied to the engineer. The test results of cores shall be submitted to the engineer within 24 hours after coring."

c) Routine inspection and tests

Add the following paragraph:

"The contractor shall keep accurate records of:

- i) The position where every truckload of asphalt is paved (chainage, lane, time and date).
- ii) The temperatures of the asphalt in the trucks both at the mixing plant and at the paving equipment immediately prior to discharging the load.
- iii) The truck number from which control samples are taken. All samples taken shall be appropriately numbered."

Add the following subclause:

a) Special tests

n-Heptance-Xylene Equivalent (Spot test) (AASHTO-T102)

If the engineer suspects that bitumen or asphalt has been overheated, he may order that the bitumen, or the bitumen recovered from the asphalt, be subjected to the Spot Test. Recovery of binder for use in the Spot Test shall be carried out according to an approved method.

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Any bitumen having an n-Heptance-Xylene equivalent in excess of 36, or in excess of the manufacturers test result on the dispatched stock, shall be considered to have been overheated and shall be deemed to be rejected unless proven otherwise."

B4215 MEASUREMENT AND PAYMENT

Amend the following payment item:

<u>"Item</u>	<u>Unit</u>
(i) B42.0 100mm cores in asphalt paving	number (no)

"Amend the 1st sentence by adding the following after the word "drilled":

"irrespective of depth of core.

e) Surfacing constructed with bitumen rubber semi open
graded With 19.5mm max
aggregate.....ton(t)

Insert the following paragraphs after the 1st paragraph

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GENERIC LABOUR-INTENSIVE SPECIFICATION

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

Scope

This specification establishes general requirements for activities which are to be executed by hand involving the following:

- a) trenches having a depth of less than 1.5 metres
- b) stormwater drainage
- c) low-volume roads and sidewalks

Precedence

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this Contract, the requirements of this Contract, the requirements of this specification shall prevail.

Hand excavatable material

Hand excavatable material is material:

- a) granular materials:
 - i) whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dens, or dense; or
 - ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;
- b) cohesive materials:
 - i) whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or

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- ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

Note

- 1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.
- 2) A dynamic cone penetrometer is an instrument used to measure the insitu shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

Table 107. 1: Consistency of materials when profiled

GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very loose	Crumbles very easily when scraped with a geological pick	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle
Loose	Small resistance to penetration by sharp end of a geological pick	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40mm; can be moulded by fingers with some pressure
Medium dense	Considerable resistance to penetration by sharp end of a geological pick	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in up to 10mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade
Dense	Very high resistance to penetration by the sharp end of geological pick; requires many blows for excavation	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers

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GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very dense	High resistance to repeated blows of a geological pick	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point

Trench excavation

All hand excavateable material in trenches having a depth of less than 1.5 metres shall be excavated by hand.

Compaction of backfilling to trenches (areas not subject to traffic)

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers.

- a) to 90% Proctor density.
- b) such that in excess of 5 blows of a dynamic cone penetrometer (DCP) is required to penetrate 100mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or
- c) such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

Excavation

All hand excavateable material including topsoil classified as hand excavateable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand. The excavation of any material which presents the possibility of danger or injury to workers shall not be excavated by hand.

Clearing and grubbing

Grass and small bushes shall be cleared by hand.

Shaping

All shaping shall be undertaken by hand.

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Loading

All loading shall be done by hand, regardless of the method of haulage.

Haul

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m.

Offloading

All material, however transported, is to be off-loaded by hand, unless tipper-trucks are utilized for haulage.

Spreading

All material shall be spread by hand.

Compaction

Small areas may be compacted by hand provided that the specified compaction is achieved.

Grassing

All grassing shall be undertaken by sprigging, sodding, or seeding by hand.

Stone pitching and rubble concrete masonry

All stone required for stone pitching and rubble concrete masonry, whether grouted or dry, must be collected, loaded, off loaded and placed by hand.

Sand and stone shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m. Grout shall be mixed and placed by hand.

Manufactured Elements

Elements manufactured or designed by the Contractor, such as manhole rings and cover slabs, precast concrete planks and pipes, masonry unit and edge beams shall not individually, have a mass of more than 320kg. In addition, the items shall be large enough so that eight workers can conveniently and simultaneously acquire a proper hand hold on them."

EXPANDED PUBLIC WORKS PROGRAMME

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Requirement for Sourcing and engagement of Labour

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

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

© Tasks established by the contractor must be such that:

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

(d) The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 1.1.3 of the EPWP Infrastructure Guidelines.

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

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

C3.5 MANAGEMENT

C3.5.1 Management of the Works

C3.5.1.1 Applicable Specifications

Series COLTO Standard specification for Roads and Bridge Works for State Road Authorities, including the variations and additions thereto included in section C3.4.2 of this document shall be applicable to this contract.

C3.5.1.3 Construction Programme

The Contractor shall supply within the period stated in the Contract Data a suitable and realistic construction programme that is based on the construction drawings issued by the Engineer, for consideration by the Engineer. This programme shall show the proposed scheduling and methods of execution of the Works, as well as the resources that will be allocated to each item or phase of the Works. Quantities proposed for execution during each month must be shown. In addition, the anticipated cash flow for the Contract, based upon these quantities, shall be shown following the prescribed format.

The Contractor will be expected to progress with the Works in accordance with the approved programme and shall not deviate from the order of execution shown in the programme without the prior approval of

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the Engineer or his Representative. Should such approval be given an adjusted programme shall be produced within seven (7) days and submitted to the Engineer for evaluation.

Progress in advance of the programme on certain portions or phases of the Works shall not be considered adequate reason for poor progress on another portion or phase.

C3.5.1.4 Drawings, Operation and Maintenance Manuals

All information in the possession of the Contractor that is required by the Engineer's Representative in order to complete the As-Built drawings and to prepare a completion report for the Employer must be submitted to the Engineer's Representative before a Certificate of Practical Completion will be issued for the Works. Similarly, the Contractor will be required to submit full details of all pipes, valves, meters and specials in a suitable loose bound format, including any special operational and maintenance procedures related thereto, for incorporation in the overall operation and maintenance manual for the Scheme prior to the issue of a Certificate of Completion for the Works.

Only figured dimensions on the Drawings may be used in the interpretation thereof, and the Drawings shall not be scaled unless the Contractor is so instructed by the Engineer in writing. The Engineer will upon written request provide any dimensions that may have been omitted from the drawings.

C3.5.1.5 Site Administration

An index to the Engineer's standard site administration forms as well as examples of some of the administration forms is appended as in Part C4.6. Acceptance control, record keeping, and payment certificates shall be done in accordance with the Engineer's standard system except if the Engineer approves that the Contractor's standard system may be used.

C3.5.1.6 Daily Site Diary

The daily site diary in accordance with the pro forma appended in Annexure A shall be kept up to date by the Contractor's Representative and will be signed on a daily basis by the Engineer's Representative.

C3.5.1.7 Information in Respect of Plant

Information relating to plant on Site shall be recorded in the daily site diary. In addition, the Contractor shall deliver to the Engineer, on a monthly basis, a detailed summary of construction plant kept on the Site, full particulars given for each day of the month. Distinction shall be made between plant in working order and plant out-of-order. Such inventory shall be submitted by the first day of the month following the month to be reported.

C3.5.1.8 Information in Respect of Employees

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Information relating to labour and management on Site shall be recorded in the daily site diary in addition, the Contractor shall deliver to the Engineer, on a monthly basis, a detailed summary of supervisory staff, labour employed (own and local labour) by category, and sub-contractors (both local and imported) for each day of the month. Such return shall be submitted by the first day of the month following the month to be reported.

C3.5.1.9 Rainfall Records

Rainfall records for the period of construction shall be taken on Site and recorded in the daily site diary. The Contractor shall provide and install all the necessary equipment for accurately measuring the rainfall. The Contractor shall also provide, erect and maintain a security fence plus gate, padlock and keys at each measuring station, all at his own cost. The Engineer or his Representative shall take and record the daily rainfall readings. The Contractor shall be permitted to attend these readings, in the company of the Engineer's Representative. Access to the measuring gauge(s) shall at all times be under the Engineer's control.

C3.5.1.10 Site Instructions

Site instructions by the Engineer, addressed to the Contractor at his office on the Site, will be numbered consecutively and will be deemed to have been received by the Contractor's representative unless a break in the sequence of numbers is brought to the notice of the Engineer in writing immediately.

C3.5.1.11 Site Meetings

The Contractor and his authorised representative shall attend all meetings held on the Site with the Employer and the professional team at dates and times to be determined by the Engineer. Such meetings will be held to evaluate the progress of the Contract, and to discuss matters pertaining to the Contract which any of the parties represented may wish to raise. It is not the intention to discuss day-to-day technical matters at such meetings.

C3.5.1.12 Payment Certificates

Monthly Progress Payment Certificates shall be submitted to the Engineer's representative on Site not later than the 20th of each month (or as agreed between the Contractor and the Engineer).

All quality calculations and certificates submitted by the Contractor for checking shall be in accordance with the standard forms that are appended as annexure to the Scope of Works.

C3.5.1.13 Environmental Management Plan

The Contractor shall comply with all the conditions of the Record of Decision and the Environmental Management Plan appended in this document (if any).

C3.5.1.14 Community Liaison and Community Relations

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In all dealings with communities through which the Works are to be executed, and in all dealings with workers employed from within such communities, the Contractor shall take due cognizance of the character, culture and circumstances of the specific community, and shall at all times use his best endeavours to avoid the development of disputes and rather to foster a spirit of co-operation and harmony towards the project.

The Contractor shall at all times, keep the Engineer fully informed regarding all matters affecting or negotiated between the Contractor and the community, and he shall attend all liaison meetings as may be arranged by the Engineer and/or the Employer. All matters concerning the community shall be discussed and where possible, resolved at such meetings.

Where any resolution during such negotiations or at such meetings shall be contrary to the terms and provisions of the Contract, the Contractor shall not give effect thereto without a prior written instruction from the Engineer. Where the Contractor is of the opinion that any instruction of the Engineer issued in terms of this clause will result in the incurring of additional costs which were not provided for in his tendered rates and prices and/or that a delay in the progress of the Works will result, he shall be entitled to submit a claim in terms of Clause 48 of the Contract Data, provided always that the period of twenty-eight (28) days referred to in Clause 48 shall be reduced to three (3) normal working days in respect of all claims submitted in terms of this clause.

C3.5.1.15 Workmanship and Quality Control

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

The cost of the Contractor's supervision and process control, including all testing carried out by the Contractor, will be deemed to be included in the rates tendered for the various items of work. The Contractor's attention is drawn to the provisions of the various Standardised Specifications regarding the minimum frequency of process control testing that is to be executed. The Contractor shall, at his own discretion, increase this frequency where necessary to ensure adequate control of the quality of the Works at all times.

Upon completion and submission of each portion of the Works to the Engineer for examination, the Contractor shall furnish the Engineer with the results of relevant tests, measurements and levels, thereby indicating compliance with the Specifications. The Engineer will not examine or inspect any portion of work submitted for approval unless the request for inspection and approval is accompanied by relevant tests, measurements and levels indicating compliance.

C3.5.1.16 Features Requiring Special Attention

C3.5.1.16.1 Built-up Areas

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The Contractor's attention is drawn to the fact that the Works will be constructed inside built-up areas. The Contractor shall exercise all necessary precautions and take all necessary steps to ensure the safety and convenience of the public. In addition, the Contractor shall provide access for traffic over and through the works, and for residents to their places of abode, all as described in the Scope of Work. Allowance must be made by the Contractor in his programming for delays resulting from the aforesaid.

The Contractor shall give residents a minimum of 72 hours written notice of his intent to close access to residential stands. The Contractor shall acquire written confirmation from all owners that they are aware of any intended closures of access. No traffic access to a residential stand shall be closed for longer than 48 hours.

C3.5.1.16.3 Care of the Site

At all times during construction of the Works and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store all materials and equipment for which he is responsible in an orderly manner, and shall keep the Site free from debris and obstructions.

C3.5.1.16.4 Control of Water

The Contractor shall at all times and in all respects be responsible for the handling of storm water from higher-laying areas above the Works, and for the handling of any sub-surface water that may affect the Works.

C3.5.1.16.5 Survey and Setting Out

The Engineer has established survey beacons on site from which the Contractor can set out the Works. The position and co-ordinates of the permanent survey beacons have been shown on the drawings. The Contractor shall be responsible for the protection of all these survey beacons and reference points from handing over of the beacons to the Contractor to completion of the Works. Property beacons and trigonometrically survey beacons that are disturbed or destroyed during the course of the contract shall be replaced at the Contractor's cost by a registered land surveyor who shall verify such replacement. The Contractor's attention is drawn to the requirements of SABS 1200 A (General), Clause 5.1, in this respect.

The Contractor shall be responsible for the true and proper setting out of the Works and for the correctness of the position, levels, dimensions and alignment of all parts of the Works from the beacons established above and for the provision of all necessary instruments, appliances and labour in connection therewith. Such setting out shall be executed by a registered surveyor. No separate payment shall be made in respect of setting out, such work being deemed as included in the rates tendered for construction of the Works.

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The checking of any setting-out or of any line or level by the Engineer shall not relieve the Contractor of his responsibility for the correctness thereof.

If at any time during the progress of the Works, any error shall appear or arise in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required to do so by the Engineer, shall at his own expense rectify such error to the satisfaction of the Engineer, but if such error is based on incorrect data supplied in writing by the Engineer shall, in respect of cost of such rectification, be entitled to make a claim in accordance with Clause 48 of the Contract Data.

C3.5.1.17 Notices, Signs, Barricades and Advertisements

Notices, signs and barricades (required in terms of Clause 34 of the Conditions of Contract) as well as advertisements may only be erected where approved by the Engineer. The Contractor shall be responsible for their supply, erection, maintenance and ultimate removal and shall make provision for this in his tendered rates.

The Engineer shall have the right to have any sign, notice or advertisement moved to another location, or to have it removed from the Site of the Works, should it in any way prove to be unsatisfactory, inconvenient or dangerous to the general public.

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- C4.1: Location of the Works
- C4.2: OHS Specifications
- C4.3: Site Administration Forms

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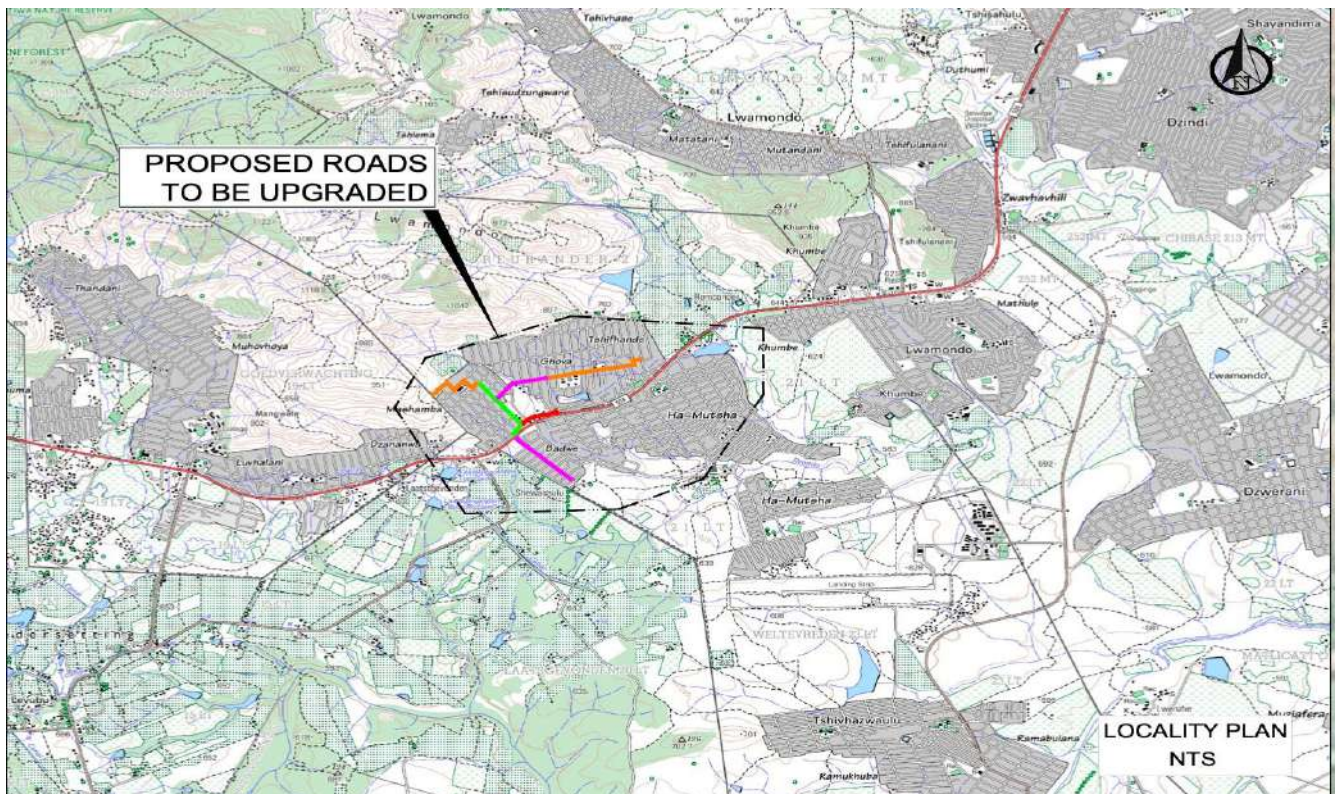
UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1

C4.1 Location of the Works

The area is located within the Makhado Municipality, Limpopo Province, in a small rural mining township called Tsianda, approximately 40 km North East of Makhado town along road R 524.

AREA	LATITUDE	LONGITUDE
Tsianda	23,05729° S	30,34414° E

Figure 0-1 Location of Project Site



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Location of the Works

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C4.2 OHS Specification

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

Compiled for

MAKHADO MUNICIPALITY

For

CIVIL CONSTRUCTION &
BUILDING PROJECTS

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Occupational health and safety specification for UPGRADING OF ROAD TSIANDA MARUNDU TO MILITARY BASE -PHASE 1-TSIANDA

1 Scope

This health and safety specification in respect of an engineering and construction works contract:

- a) provides the overarching framework within which the Principal Contractor is required to demonstrate compliance with certain requirements for occupation health and safety established by the Occupational Health and Safety Act of 1993 (Act No. 85 of 1993) and its regulations, Construction Regulations 2014, Electrical installation regulations as well as applicable Municipality By laws.
- b) establishes the manner in which the Principal Contractor is to manage the risk of health and safety incidents in the execution of the contract; and
- c) establishes the manner in which the Principal contractor will interact with the Clients Agent.

Note: 1) This specification establishes specific requirements to enable the Client and the Principal contractor to satisfy the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), the Construction Regulations 2014 as well as applicable Municipal By laws.

- 2) The Construction Regulations, 2014, require the Client or its appointed Agent to stop any Contractor from executing construction work which is not in accordance with the Contractor's health and safety plan for the site or which poses to be a threat to the health and safety of persons.
- 3) This specification establishes health and safety requirements Site specific requirements for health and safety as stated in the scope of work associated with a contract.

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2 Definitions

Act: The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)

Competent person: any person having the knowledge, training and experience specific to the work or task being performed

Employer's Health and Safety Agent: the person appointed as agent by the Employer in terms of Regulation 4(5) of the Construction regulations and named in the contract data as the being the employer's agent responsible for health and safety matters

ergonomics: the application of scientific information concerning humans to the design of objects, systems and the environment for human use in order to optimize human well-being and overall system performance

hazard: a source of or exposure to danger

hazard identification: the identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed

health and safety plan: a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified.

healthy: free from illness or injury attributable to occupational causes

incident: an event or occurrence occurring at work or arising out of or in connection with the activities of persons at work, or in connection with the use of plant or machinery, in which, or in consequence of which:

- a) any person dies, becomes unconscious, suffers the loss of a limb or part of a limb or is otherwise injured or becomes ill to such a degree that he is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or to continue with the activity for which he was employed or is usually employed;
- b) a major incident occurred; or
- c) the health or safety of any person was endangered and where:
 - i) a dangerous substance was spilled;
 - ii) the uncontrolled release of any substance under pressure took place;

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- iii) machinery or any part thereof fractured or failed resulting in flying, falling or uncontrolled moving objects; or machinery ran out of control

inspector: a person designated as such under section 28 the Act

major incident: an occurrence of catastrophic proportions, resulting from the use of plant or machinery, or from activities at a workplace

reasonably practicable: practicable having regard to:

- a) the severity and scope of the hazard or risk concerned;
- b) the state of knowledge reasonably available concerning that hazard or risk and of any means of removing or mitigating that hazard or risk;
- c) the availability and suitability of means to remove or mitigate that hazard or risk; and
- d) the cost of removing or mitigating that hazard or risk in relation to the benefits deriving there from;

registered person: a person registered in terms of the Electrical Installation Regulations

risk: the probability that injury or damage will occur

safe: free from any hazard

scaffold: any temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both

3 Structure

- a) any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, batching plants, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;
- b) any formwork, false work, scaffold or other structure designed or used to provide support
- c) or means of access during construction work; or

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- d) any fixed plant in respect of work which includes the installation, commissioning, decommissioning or dismantling and where any such work involves a risk of a person falling two meters or more

substance: any solid, liquid, vapour, gas or aerosol, or combination thereof

suitable: capable of fulfilling or having fulfilled the intended function or fit for its intended purpose

workplace: any premises or place where a person performs work in the course of his employment

4 Interpretation

The Act and its associated regulations shall have precedence in the interpretation of any ambiguity or inconsistency between it and this specification.

Compliance with the requirements of this specification does not necessarily result in compliance with the provisions of the Act.

5 Requirements

General requirement

The Principal Contractor shall:

- a) create and maintain a safe and healthy work environment,
- b) execute the works in a manner that complies with all the requirements of the Act and all its associated regulations, Applicable Municipal By Laws and in so doing, minimize the risk of incidents occurring; and
- c) respond to the notices issued by the Client's Health and Safety Agent as follows:
 - 1) Improvement Notice: improve health and safety performance over time so that repeat notices are not issued;
 - 2) Contravention Notice: rectify contravention as soon as possible;
 - 3) Prohibition Notice: terminate affected activities with immediate effect and only recommence activities when it is safe to do so.

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Administration

Notification of intention to commence construction work

The Principal Contractor shall notify the Provincial Director of Labour in writing using a form Annexure 2 of the Construction Regulations issued in terms of the Act before construction work commences and retain a copy of such notification in the health and safety file where such work:

- a) involves the demolition of a structure exceeding a height of 3m;
- b) involves the use of explosives to perform construction work;
- c) involves the dismantling of fixed plant at a height greater than 3m;
- d) exceeds 30 days or will involve more than 300 person days of construction work; and includes:
 - i) excavation work deeper than 1m
 - ii) working at a height greater than 3 m above ground or a landing.

The Principal Contractor shall ensure that no work commences on an electrical installation which requires a new supply or an increase in electricity supply before the person who supplies or contracts or agrees to supply electricity to that electrical installation has been notified of such work.

The Principal Contractor shall ensure that no asbestos work is carried out before the Provincial Director of the Department of Labour has been notified in writing.

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Copy of the Act

The Principal Contractor shall ensure that a copy of the Act and relevant regulations is available on site for inspection by any person engaged in any activity on the site.

Good standing with the compensation fund or a licensed compensation insurer

The Principal Contractor shall before commencing with any works on the site provide the Client's Health and Safety Agent with proof of good standing with the compensation fund or with a licensed compensation insurer.

Emergency procedures

The Principal Contractor shall submit for acceptance to the Client's Health and Safety Agent an emergency procedure which include but not limited to fire, spills, accidents to employees, exposure to hazardous substances, which:

- a) identifies the key personnel who are to be notified of any emergency.
- b) sets out details including contact particulars of available emergency services; and
- c) the actions or steps which are to be taken during an emergency.

The Principal Contractor shall within 24 hours of an emergency taking place notify the Client's Health and Safety Agent in writing of the emergency and briefly outline what happened and how it was dealt with.

Health and safety file

The Principal Contractor shall maintain on site a health and safety file which contains copies of the following, as relevant:

- a) ***documents required prior to commencing with physical construction activities***
 - 1) the Principal Contractor's health and safety policy, signed by the chief executive officer, which outlines the Contractor's objectives and how they will be achieved and implemented by the Contractor;
 - 2) the notification made to the Provincial Director of Labour, and if relevant, the notification of the person who supplies or contracts or agrees to supply electricity to that electrical installation;

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- 3) the letters of appointment, as relevant, of the construction Manager for the site in respect of construction works covered by the Construction Regulations and the registered person responsible for the electrical installation covered by the Electrical Installations Regulations;
- 4) a copy of the certificate of registration of the registered person responsible for the electrical installation covered by the Electrical Installation Regulations;
- 5) the approval of the design of the part of an electrical installation which has a voltage in excess of 1 kV by a person deemed competent in terms of the Electrical Installations Regulations;
- 6) proof of registration of the electrical contractor who undertakes the electrical installation in terms of the Electrical Installation Regulations;
- 7) the preliminary hazard identification undertaken by a competent person;
- 8) the organ gram which outlines the roles and responsibilities of the construction supervisor's assistants and safety officers; and
- 9) the Principal contractor's health and safety plan;
- 10) the emergency procedures;
- 11) the procedure for the replacement of lost, stolen, worn or damage personal protective clothing and
- 12) proof that the Principal contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer;

b) documents required after construction activities have commenced

- 1) the letters of appointments, if relevant, of:
 - i) persons who are required to assist the construction Manager;
 - ii) safety officers;
 - iii) health and safety representatives;
 - iv) replacement construction supervisor, and
 - v) assistants of construction supervisor.
- 2) any revisions to the organ gram which outlines the roles and responsibilities of the

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construction Manager's assistants and safety officers;

- 3) each and every subcontract agreement;
- 4) proof that every subcontractor is registered and in good standing with the compensation fund or with a licensed compensation insurer;
- 5) proof of all subcontractor's induction training whenever it is conducted;
- 6) copies of the minutes of the Principal Contractor's subcontractors health and safety meetings;
- 7) copies of each of the Principal Contractor's subcontractors' health and safety policy, signed by the chief executive officer, which outlines the subcontractor's objectives and how they will be achieved and implemented by the subcontractor;
- 8) the health and safety plans of all the Principal Contractor's subcontractors who are required to provide such plans;
- 9) a comprehensive and updated list of all the subcontractors employed on site by the Principal contractor, indicating the type of work being performed by such sub-contractors;
- 10) the outcomes of the monthly audits for compliance with the approved health and safety plan of each and every sub-contractor working on the site;
- 11) any report made to an inspector by the health and safety committee;
- 12) the minutes of all health and safety meetings and any recommendations made to the Principal Contractor by the health and safety committee;
- 13) the findings of all audit reports made regarding the implementation of the Principal Contractor's or a subcontractor's health and safety plan;
- 14) the inputs of the safety officer, if any, into the health and safety plan;
- 15) details of induction training conducted whenever it is conducted including the list of attendees;
- 16) proof of the following where suspended platforms are used:
 - i) a certificate of system design issued by a professional engineer,

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- ii) professional certificated engineer or a professional engineering technologist;
 - iii) proof of competency of erectors;
 - iii) proof of compliance of operational design calculations with requirements of the system design certificate;
 - iv) proof of performance test results;
 - v) sketches indicating the completed system with the operational loading capacity of the platform;
 - vi) procedures for and records of inspections having been carried out;
 - vii) procedures for and records of maintenance work having been carried out;
 - viii) proof that the prescribed documentation has been forwarded to the provincial director;
- 17) letters of appointments for competent persons to supervise the activities which law requires to be so supervised;
- 18) a copy of risk assessments made by competent persons
- 19) records of the register of inspections made by a competent person immediately before and during the placement of concrete or any other load on formwork;
- 20) the names of the first aiders on site and copies of the first aid certificates of competency;
- 21) the names of the persons who are in possession of valid certificate of competency in first aid and copies of such certificates;
- 22) details of all incidents together with the Contractor's report on such incident; and
- 23) the record of inspections carried out by the designers of structures to ensure compliance with designs.

The health and safety file shall be made available for inspection by any inspector, subcontractor, the Project Manager, the Client's Health and Safety Agent or employee of the Contractor upon the request of such persons.

The Principal Contractor shall hand over the health and safety file to the Client's Health and Safety Agent upon completion of the contract and if relevant, a certificate of compliance accompanied by a test report for the electrical installation in accordance with the provisions of the Electrical Installation Regulations.

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Health and safety committee

The Principal Contractor shall convene health and safety meetings whenever more than two health and safety representatives have been appointed for the site. These meetings shall be attended by all health and safety representatives and persons nominated by the Principal Contractor. Such meetings shall be convened at least once every month to:

- a) make recommendations to the Principal Contractor regarding any matter affecting the health or safety of persons on the site; and
- b) discuss any incident on the site in which or in consequence of which any person was injured, became ill or died.

The Principal Contractor shall consult with the health and safety committee on the development, monitoring and review of the risk assessment.

The Principal Contractor shall ensure that minutes of the health and safety committee meetings are kept.

Inspections, formal enquires and incidents

The Principal Contractor shall inform the relevant safety representative:

- a) beforehand of inspections, investigations or formal inquiries of which he has been notified by an inspector; and
- b) as soon as reasonably practicable of the occurrence of an incident on the site.

The Principal Contractor shall record all incidents and notify the Client's Health and Safety Agent of any incident, except in the case of a traffic accident on a public road, as soon as possible after it has occurred and report such incidence to an inspector.

The Principal Contractor shall investigate all incidents and issue the Client's Health and Safety Agent with copies of such investigations.

Personal protective equipment and clothing

The Principal Contractor shall ensure that:

- a) all workers are issued with the necessary personal protective clothing;

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- b) all workers are identifiable at all times by having the company for which they work for printed on the back or front of their overalls; and
- c) clear procedures are in place for the replacement of lost, stolen, worn or damage personal protective clothing.

Appointments

Health and safety representatives

The Principal Contractor shall appoint in writing one health and safety representative for every 50 employees working on the site, whenever there are more than 20 employees on the site, to:

- a) review the effectiveness of health and safety measures;
- b) identify potential hazards and potential major incidents;
- c) in collaboration with his employer, examine the causes of incidents;
- d) investigate complaints by any employee of the Principal Contractor relating to that employee's health or safety on the site;
- e) make representations to the Principal Contractor on matters arising from a), b), c) or d) or on general matters affecting the health or safety of the employees at the workplace;
- g) inspect the site with a view to, the health and safety of employees, at regular intervals;
- h) participate in consultations with inspectors at the workplace and accompany inspectors on inspections of the workplace; and
- i) participate in any internal health or safety audit.

The Principal Contractor shall provide the health and safety representatives with the necessary assistance, facilities and training to carry out the functions established in 4.3.1

- c) as soon as reasonably practicable of the occurrence of an incident on the site.

The Principal Contractor shall record all incidents and notify the Client's Health and Safety

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Agent of any incident, except in the case of a traffic accident on a public road, as soon as possible after it has occurred and report such incidence to an inspector.

The Principal Contractor shall investigate all incidents and issue the Client's Health and Safety Agent with copies.

Personal protective equipment and clothing

The Principal Contractor shall ensure that:

- d) all workers are issued with the necessary personal protective clothing;
- e) all workers are identifiable at all times by having the company for which they work for printed on the back or front of their overalls; and
- f) clear procedures are in place for the replacement of lost, stolen, worn or damage personal protective clothing.

Appointments

Health and safety representatives

The Principal Contractor shall appoint in writing one health and safety representative for every 50 employees working on the site, whenever there are more than 20 employees on the site, to:

- f) review the effectiveness of health and safety measures;
- g) identify potential hazards and potential major incidents;
- h) in collaboration with his employer, examine the causes of incidents;
- i) investigate complaints by any employee of the Principal Contractor relating to that employee's health or safety on the site;
- j) make representations to the Principal Contractor on matters arising from a), b), c) or d) or on general matters affecting the health or safety of the employees at the workplace;

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- j) inspect the site with a view to, the health and safety of employees, at regular intervals;
- k) participate in consultations with inspectors at the workplace and accompany inspectors on inspections of the workplace; and
- l) participate in any internal health or safety audit.

The Principal Contractor shall provide the health and safety representatives with the necessary assistance, facilities and training to carry out the functions established in 4.3

Appointment of construction Manager and supervisor as well as safety officer

The Principal Contractor shall, prior to commencing the work, appoint a full-time competent employee in writing as the construction Manager for the site, with the duty of supervising the performance of the work falling within the scope of the contract and may appoint one or more competent employees to assist the appointed construction Manager.

The Principal Contractor may, having considered the size of the project, the degree of dangers likely to be encountered or the accumulation of hazards or risks on the site, appoint a full-time or part-time construction safety officer registered with a professional body in accordance with construction Regulations 2014 in writing, who has in the Principal Contractor's opinion the necessary competencies and resources, to assist the Principal Contractor in the control of all safety related aspects on the site.

The Principal Contractor shall compile and maintain an organ gram which outlines the roles and responsibilities of the construction Manager's assistants and safety officers.

Competent persons

The Principal Contractor shall appoint in writing competent persons to supervise or inspect, as relevant, any of the following:

- a) . formwork and support work operations;
- b) excavation work;
- c) demolition work;
- d) scaffolding work operations;

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- e) suspended platform work operations;
- f) material hoists;
- g) operation of batch plants;
- h) explosive power tools;
- i) vehicles and mobile equipment;
- j) fire equipment; and
- g) the stacking and storage of articles on the site.

The Contractor shall appoint in writing competent persons to:

- a) induct employees in health and safety; and
- b) prepare a fall protection plan.

Client's health and safety agent

The Client's Health and Safety Agent shall:

- a) audit the Principal Contractor's compliance with the requirements of this specification prior to the commencement of any physical construction activities on the site;
- b) accept or reject all safety plans, giving reasons for rejecting such plans;
- c) monitor the effective implementation of all safety plans;
- d) conduct periodic and random audits on the health and safety file to establish compliance with the requirements of this specification;
- e) visit the site at regular intervals to conduct site inspections, and based upon such visits issue, wherever necessary, Improvement Notices, Contravention Notices and Prohibition Notices, to the Contractor or any of the Contractor's subcontractors with a copy to the Project Manager and, where relevant, to the Contractor.

The Principal Contractor shall invite the Client's Health and Safety Agent to audit compliance with the

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requirements of this specification before commencing with any physical construction activity on the site.

Creating and maintaining a safe and healthy work environment

General

The Principal Contractor shall with respect to the site and the construction works that are contemplated:

- a) cause a preliminary hazard identification to be performed by a competent person before commencing any physical construction activity;
- b) evaluate the risks associated with such work constituting a hazard to the health and safety of such employees and the steps that need to be taken to comply with the Act; and
- c) as far as is reasonably practicable, prevent the exposure of such employees to the hazards concerned or, where prevention is not reasonably practicable, minimize such exposure.

The Principal Contractor shall ensure that:

- a) all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work;
- b) no structure or part of a structure is loaded in a manner which would render it unsafe; and
- c) account of information, if any, provided by the designer of the structure is taken into account

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in the risk assessment;

Note: The information provided by the designer should outline known or anticipated dangers or hazards relating to the works and make available all information required for the safe execution of the work. It should provide as relevant, geotechnical information (or make reference to reports provided in the site information), the loading the structure is designed to withstand, the methods and sequence of construction.

The Principal Contractor shall carry out regular inspections and audits to ensure that the works are being performed in accordance with the requirements of this specification.

Risk assessment

The Principal Contractor shall before the commencement of any work on site and during construction work, cause a risk assessment to be performed by a competent person appointed in writing. Such an assessment shall as a minimum:

- a) identify the risks and hazards to which persons may be exposed to;
- b) analyse and evaluate the identified risks and hazards;
- c) document a plan of safe work procedures, including the use of any personal protective equipment or clothing and the undertaking of periodic “toolbox talks” or inductions before undertaking hazardous work, to mitigate, reduce or control the risks and hazards that have been identified;
- d) provide a monitoring plan; and
- e) provide a review plan.

Note: A risk assessment is an important step in protecting workers as well as complying with the law. It helps to focus on the risks that really matter in a particular workplace – the ones with the potential to cause real harm. Workers and others have a right to be protected from harm caused by a failure to take reasonable control measures. The following four steps are recommended:

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- 1) **Identify the hazards** by looking at what could reasonably be expected to cause harm, ask employees or their representatives what they think, obtain advice from trade associations or publications on health and safety, check manufacturer's instructions or data sheets for chemicals and equipment as they can be very helpful in spelling out the hazards and putting them in their true perspective, review accident and ill-health records, think about long-term hazards to health (e.g. high levels of noise or exposure to harmful substances) as well as safety hazards etc.
- 2) **Identify who may be harmed and how** by identifying how groups of people might be harmed
i.e. what type of injury or ill health might occur.
- 3) **Evaluate the risks and decide on precautions** by doing everything 'reasonably practicable' to protect people from harm i.e. by looking at how things are done, what controls are in place and how the work is organised and comparing this against good practice to see if more can be done to bring practices up to standard. Consider if the hazard can be got rid of all together, and if not how can the risks be controlled so that harm is unlikely, e.g. try a less risky option (e.g. switch to using a less hazardous chemical); prevent access to the hazard (e.g. by guarding); organise work to reduce exposure to the hazard (e.g. put barriers between pedestrians and traffic); issue personal protective equipment (e.g. clothing, footwear, goggles etc); and provide welfare facilities (eg first aid and washing facilities for removal of contamination).
- 4) **Record the findings** by writing down the findings of the risk assessment.

The Principal Contractor shall ensure that as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in the risk assessment.

Notwithstanding the provisions of the fall protection plan, the Principal Contractor shall ensure that:

- a) all unprotected openings in floors, edges, slabs, hatchways and stairways are adequately guarded, fenced or barricaded or that similar means are used to safeguard any person from falling through such openings;
- b) no person works in an elevated position, unless such work is performed safely as if working from a scaffold or ladder;
- c) notices are conspicuously placed at all openings where the possibility exists that a person might fall through such openings;
- d) fall prevention and fall arrest equipments:

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- i) suitable and of sufficient strength for the purpose or purposes for which it is being used having regard to the work being carried out and the load, including any person, it is intended to bear; and
 - ii) securely attached to a structure or plant and the structure or plant and the means of attachment thereto is suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and any person who is liable to fall;
- e) fall arrest equipment is only used where it is not reasonably practicable to use fall prevention equipment; and
- f) suitable and sufficient steps are taken to ensure, as far as is reasonably practicable, that in the event of a fall by any person, the fall arrest equipment or the surrounding environment does not cause injury to the person.

Where roof work is being performed on a construction site, the Contractor shall ensure that it is indicated in the fall protection plan that:

- a) the roof work has been properly planned;
- b) the roof erectors are competent to carry out the work;
- c) no employees are permitted to work on roofs during inclement weather conditions or if weather conditions are a hazard to the health and safety of the employees; prominent warning notices are to be placed where all covers to openings are not of
- d) sufficient strength to withstand any imposed loads and where fragile material exists;
- e) the areas mentioned in paragraph (d) are to be barricaded off to prevent persons from entering;
- f) suitable and sufficient platforms, coverings or other similar means of support have been provided to be used in such a way that the weight of any person passing across or working on or from fragile material is supported; and
- g) there is suitable and sufficient guard-rails or barriers and toe-boards or other similar means of protection to prevent, so far as is reasonably practicable, the fall of any person, material or equipment.

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Health and safety plans

The Principal Contractor shall prior to commencing the works to which this specification applies, submit to the Client's Health and Safety Agent for approval a suitable and sufficiently documented health and safety plan, based on this specification and the risk assessment that is conducted.

The health and safety plan shall as a minimum provide:

- a) the information contained in Table 1 in respect of each of the hazards associated with work falling within the scope of the contract (see Figure 1);and

Table 1: Example of the format of a health and safety plan

What are the hazards relating to work tasks?	Who might be harmed and how?	What are the safe work procedures for the site?	What further action is necessary (monitoring and review)?	Action by whom	Action by when

- b) an outline of the manner in which the Principal contractor intends complying with the requirements of this specification.

The Principal contractor shall discuss the submitted health and safety plan with the Clients' Health and Safety Agent, modify such plan in the light of the discussions and resubmit the modified plan for approval.

The Principal contractor shall apply the approved health and safety plan from the date of its commencement and for the duration of the works to which this specification applies.

The Principal contractor shall conduct periodic audits for compliance with the approved health and safety plan at intervals agreed upon with the Employer's Health and Safety Agent, but at least once every month.

The Principal contractor shall update the health and safety plan whenever changes to the works are brought about

Fall protection plan

The Principal contractor shall require a competent person to prepare a fall protection plan in compliance with the requirements of the Construction Regulations.

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The Principal contractor shall ensure that the construction supervisor is in possession of the most recently updated version of the fall protection plan.

Responsibilities towards employees and visitors

The Principal Contractor shall as far as is reasonably practicable, cause every employee to be made conversant with the hazards to his health and safety attached to any work which he has to perform, any article or substance which he has to produce, process, use, handle, store or transport and any plant or machinery which he is required or permitted to use, as well as with the precautionary measures which should be taken and observed with respect to those hazards or safe work procedures.

The Principal contractor shall ensure that all employees under his or her control are:

- a) informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment; and
- b) issued with proof of health and safety induction training issued by a competent person and carry proof of such induction when working onsite.

The Principal contractor shall cause a record of training to be kept which indicates the names, identity numbers and job description of all those who attended such training.

The Principal contractor shall not allow or permit any employee to enter the site, unless such person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.

The Principal contractor shall ensure that each visitor to a construction site, save where such visitor only visits the site office and is not in direct contact with the construction work activities:

- a) undergoes health and safety instruction pertaining to the hazards prevalent on the site; and
- b) is provided with the necessary personal protective equipment.
- d)

The Principal contractor shall provide suitable on-site signage to alert workers and visitors to health and safety requirements. Such signage shall include but not be limited to:

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- a) unauthorized entrance prohibited;
- b) signage to indicate what personal protective equipment is to be worn; and
- c) activity related signs.

The Principal contractor shall not permit any person who is or who appears to be under the influence of intoxicating liquor or drugs, to enter or remain at workplace.

Subcontractors

The Principal contractor may only subcontract work in terms of a written subcontract and shall only appoint a subcontractor should he be reasonably satisfied that such a subcontractor has the necessary competencies and resources to safely perform the work falling within the scope of the contract. Such a subcontract shall require that the subcontractor to:

- a) co-operate with the Principal contractor as far as is necessary to enable both the Principal contractor and sub-contractor to comply with the provisions of the Act; and
- b) as far as is reasonably practicable, promptly provide the Principal contractor with any information which might affect the health and safety of any person at work carrying out work or any person who might be affected by the work of such a person at work or which might justify a review of the health and safety plan.

The Principal contractor shall provide any sub-contractor who is submitting a tender or appointed to perform a sub-contract falling within the scope of the contract, with the relevant sections of this specification and any work specific information which might be pertinent to the sub-contract.

The Principal contractor shall take reasonable steps as are necessary to ensure:

- a) co-operation between all sub-contractors to enable each of those sub-contractors to comply with the requirements of the Act and associated regulations; and that each sub-contractor's health and safety plan is implemented

The Principal contractor shall conduct periodic audits for compliance with the approved health and safety plan of each and every sub-contractor working on the site at intervals agreed upon with such subcontractors, but at least once per month.

The Principal contractor shall stop any subcontractor from executing construction work which is not in accordance with the Contractor's or subcontractor's health and safety plan for the

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site or which poses a threat to the health and safety of persons.

The Principal contractor shall ensure that where changes to the works occur, sufficient health and safety information and appropriate resources are made available to subcontractor to execute the work safely.

The Principal contractor shall ensure that:

- a) every subcontractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to work commencing onsite;
- b) potential subcontractors submitting tenders have made provision for the cost of health and safety measures during the construction process; and
- c) every subcontractor has in place a documented health and safety plan prior to commencing any work on site which falls within the scope of the contract.

The Principal contractor shall receive, discuss and approve health and safety plans submitted by subcontractors.

The Principal contractor shall ensure that all subcontractors are informed regarding any hazard as stipulated in the risk assessment before any work commences, and thereafter at such times as may be determined in the risk assessment.

The Principal contractor shall reasonably satisfy himself that all employees of subcontractors are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment.

The Principal contractor shall satisfy himself that ensure that all subcontractor employees deployed in the site are:

- a) informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment; and
- b) issued with proof of health and safety induction training issued by a competent person and carry proof such induction when working onsite.

First aid, emergency equipment and procedures

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The Principal contractor shall where more than five employees are employed at a workplace, provide a first aid box or boxes at or near the workplace which shall be available and accessible for the treatment of injured persons at that workplace. Such first aid boxes shall contain suitable first aid equipment.

The Principal contractor shall ensure that where there are more than 10 employees employed on the site that for every group of up to 50 employees at that workplace, at least one person readily available during normal working hours, who is in possession of a valid certificate of competency in first aid.

Facilities for workers

The Principal Contractor shall provide and keep clean and fit for use at or within reasonable access of the site:

- a) at least one shower facility for every 15workers;
- b) at least one sanitary facility for every 30workers;
- c) changing facilities for each sex;and
- d) Sheltered eating areas.

The Principal contractor shall provide reasonable and suitable living accommodation for the workers at construction sites which are remote from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available.

Signed this day of 20..... at

..... (Place)

(Full name)..... (Signature)

On behalf of..... (Principal contractor/Agent)

Contractor Responsible Manager (responsible for signing Client's 'contract on behalf of the Principal

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contractor)

Witnesses

1.

2.

Signed this day of20.....

at.....(Place)

(Full name).....(Signature).....

On Behalf of **Client/Agent.**

(Contracts and/or Project Manager)

Witnesses

1.

2.

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ANNEXURE A

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
Regulation 3 of the Construction Regulations, 2014

NOTIFICATION OF CONSTRUCTION WORK

1.(a) Name and postal address of principal contractor:

(b) Name and tel. no of principal contractor's contact person:

2. Principal contractor's compensation registration number:

3.(a) Name and postal address of client:

(b) Name and tel no of client's contact person or agent:

4.(a) Name and postal address of designer(s) for the project:

(b) Name and tel. no of designer(s) contact person:

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5. Name and telephone number of principal contractor's construction supervisor on site appointed in terms of regulation 16.(1).

6. Name/s of principal contractor's sub-ordinate supervisors on site appointed in terms of regulation 16.(2).

7. Exact physical address of the construction site or site office:

8. Nature of the construction work:

9. Expected commencement date: _____

10. Expected completion date: _____

11. Estimated maximum number of persons on the construction site.

12. Planned number of contractors on the construction site accountable to principal contractor: _____

13. Name(s) of contractors already chosen.

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Principal Contractor

Date

Client

Date

- THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR PRIOR TO COMMENCEMENT OF WORK ON SITE.
- ALL PRINCIPAL CONTRACTORS THAT QUALIFY TO NOTIFY MUST DO SO EVEN IF ANOTHER PRINCIPAL CONTRACTOR ON THE SAME SITE HAD DONE SO PRIOR TO THE COMMENCEMENT OF WORK.

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GOVERNMENT NOTICE

DEPARTMENT OF LABOUR

No. R.

.....2014

Occupational Health and Safety Act, 1993

Incorporation of Safety Standards in the Construction Regulations, 2014

Under section 44 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I, Thembelani Waltermade Nxesi, Minister of Labour, after consultation with the Advisory Council for Occupational Health and Safety, hereby incorporate in the Construction Regulations, 2014 the health and safety standards specified in the Schedule.

SCHEDULE

1. Regulation 14(1)

The South African Bureau of Standards' Code of Practice SABS 085, as amended, entitled "The Design, Erection, Use and Inspection of Access Scaffolding".

2. Regulation 15(2)(a)

The South African Bureau of Standards' Standard Specification SABS EN 1808, as amended, entitled "Safety Requirements on Suspended Access Equipment – Design calculations, stability criteria, construction-tests".

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The South African Bureau of Standards' Standard Front-end Specification SABS 1903, as amended, entitled "Safety Requirements on Suspended Access Equipment – Design calculations, stability criteria, construction-tests".

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Department of Labour

GUIDE TO THE GENERAL ADMINISTRATIVE REGULATIONS, 2014

Chief Directorate

of

Occupational Health and Safety

1. INTRODUCTION

2. As the name of the regulation indicates, the General Administrative Regulations determines the administrative procedure of the Occupational Health and Safety Act. This procedure was not placed in the Act itself owing to the fact that changes can be made to a Regulation with greater ease than that of a Section in the Act. A change to a Section of the Act needs to be passed by parliament whereas the Minister of the relevant Department can approve a change in a Regulation.

3. The General Administrative Regulations, as is the case with all other regulations, is an extension of the Act and should therefore be seen as a complete unit.

3.1 Terms, which were previously defined in the Act, are not redefined in the Regulations. If a specific definition does not appear in the Regulations, then it should be available in Section 1 of the Act.

4. DEFINITIONS

5. All new phrases as well as words (expressions and words which differ from the standard dictionary definitions) that are used in this regulation, which have not been defined in the Act, will be defined in this regulation. Where the Act or regulation refers to "mean" the definition in the Act or regulation must be considered and where there's reference made to "It Includes" definition from the Act and regulation including the oxford dictionary must be considered

6. ACCESS TO PREMISES

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7. It is prohibited for an employer to refuse an inspector entry to perform his or her function because an inspector is entitled by the law to enter employer's workplace.

8. Employers should always ensure that inspectors are accompanied by a person who has knowledge and experience of the activities and safety requirements of the workplace.

9. EXEMPTIONS

10. Any exemption, which has been granted to any person, shall be signed by the Chief Inspector of the Department of Labour. A person who wishes to apply for an exemption should forward his/her application to the office of the Chief Inspector in Pretoria. The application for exemption should indicate proof that the health and safety of persons who are likely to be affected by the exemption will not be prejudiced in consequences of it. Health and safety representatives and committees must be consulted during the whole process and given time to comment.

11. COPY OF THE ACT

11.1 Employees together with employers have certain duties and rights, which have been assigned to them in terms of the Act. In order to comply with the provisions of the Act and regulations, each employee must have access to a copy of the Act. This regulation requires that—

11.1.1 Each employer with 5 or more employees shall have a copy of at least one Act, which will be made readily available for perusal by the employee. Owing in the fact that a workplace can be made up of a very large area, and that the legislator did not intend to be unreasonable, various concessions are made. For example, a meter-reader in the town of Brits' workplace is the Municipal area of Brits. In such a case it is expected that a copy of the Act be made available at the point where the employee reports for duty in the morning, or any other suitable position as agreed upon with the employer.

11.1.2 Each employer with less than 5 employees, shall, if requested provide a copy of the Act for perusal by the employees. This includes farm workers and domestic servants.

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11.1.3 The copy of the Act may be an electronic reproduction or from a library. The Act and Regulations are amended from time to time, and it is therefore important to remember that one must obtain a copy of the latest amendments to keep up to date with the current legislation.

12. HEALTH AND SAFETY COMMITTEES

12.1 Health and Safety committees are made up of all the Health and Safety Representatives together with an equal amount of employer appointee representatives to represent the employer (there can be more than one committee to avoid a large congregation of representatives). If more than two committees are established, each health and safety representative must be member of at least one of the committees. These committees are the point around which self-regulation revolves.

12.2 Employer should provide necessary equipment, facilities and stationery required by the committee in order them to perform their functions.

12.3 It is important to keep the records of the meeting as they can be used as evidence for action taken to eliminate hazards and vice versa

13. NEGOTIATIONS AND CONSULTATIONS BEFORE DESIGNATION OF HEALTH AND SAFETY REPRESENTATIVES

13.1 The regulation prescribes the items which must be agreed upon during negotiations between the employer and employees representatives. If a dispute arises between the employees and employers or his authorised representative, the matter should be referred for arbitration. Both parties shall submit a statement within a prescribed period to both the arbitrator and the other party concerned.

13.2 The statement is to contain the following information:

13.2.1 The proposal for the arrangements and procedures for the nomination of the Health and Safety Representatives.

13.2.2 The decision which is sought.

13.3 The arbitrator should then:

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13.3.1 Determine when and where the arbitration procedure shall be held. The arbitration may be held in the absence of the party who failed to submit a statement to the arbitrator and other party;

13.3.1.1 Determine whether a pre-hearing conference shall be held;

13.3.1.2 Determine which arbitration procedures shall be followed;

13.3.1.3 Determine the procedures for the admission of evidence;

13.3.1.4 Determine the admissibility of hearsay evidence; and

13.3.1.5 Determine other relevant procedural matters.

13.3.2 In terms of Section 17(2) of the Act both parties are to come to a decision within 14 days as to who the arbitrator shall be. If no decision can be made, the president of the Labour Court is to be notified in writing. The president of the Labour Court in consultation with the Chief Inspector shall appoint an arbitrator, whose decision shall be final. This arbitrator will be entitled to receive remuneration as is payable to an additional member of the Labour Court.

14. DESIGNATION OF HEALTH AND SAFETY REPRESENTATIVES

14.1 The employer must designate Health and Safety Representatives as follows:

14.1.1 Shops and offices— one for up to 100 employees; and

14.1.2 Workplaces other than shops and offices— one for up to 50 employees.

14.2 The employer shall ensure that employees designated as health and safety representatives meet the following requirements:

14.2.1 Employed in a full-time capacity in the specific workplace or section thereof;

14.2.2 Acquainted with conditions and activities at that workplace or section thereof, and

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14.2.3 Taking into account the nature of hazards associated with the activities of the workplace or section thereof, the employer shall provide as far as is reasonable practicable health and safety training to the health and safety representatives on how to identify health and safety risks and how to conduct inspections of the workplace or section thereof.

15. REPORTING OF INCIDENTS AND OCCUPATIONAL DISEASES

15.1 Section 24 of the Act refers to certain incidents occurring at the workplace, or in connection with the use of machinery whereby a person dies or is injured to be extent where he is likely to die or could have resulted in a major incident. Such incidents should be reported to the Provincial Director on a WCL 1 or WCL 2 form within seven days.

15.2 Certain other types of incidents must be reported to the Provincial Director telephonically, facsimile or similar means of communication and these types of incidents are as follows—

15.2.1 Where a person, as a result of the incident;

15.2.2 Dies;

15.2.3 Becomes unconscious;

15.2.4 Suffers the loss of a limb or part thereof;

15.2.5 Is injured to the extent that he is likely to die;

15.2.6 Is injured to the extent that he is likely to be permanently disabled;

15.2.7 Is injured to the extent that he is likely to be off for a period of 14 days or more;

15.2.8 Cannot perform his normal duties (those duties for which he was employed).

15.3 An incident of major consequence arising out of the use of industrial equipment or machinery or industrial practices at a workplace.

15.4 The health and safety of any person is endangered and where –

15.4.1 A dangerous substance was spilled.

15.4.2 The uncontrolled release of any substance under pressure (pressure greater than 1 atmosphere) took place.

15.4.3 Machinery or any part thereof fractured or failed, resulting in flying, falling or uncontrolled moving objects; or

15.4.4 Machines, which ran out of control

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- 15.5 These incidents should also be recorded and investigated in accordance to Regulation 8 of the General Administrative Regulations.
- 15.6 If an injured person is to die as a result of an incident, which has already been reported in terms of the above, the employer or user should report such death to the Provincial Director.
- 15.7 Any registered medical practitioner should, in terms of Section 25 of the Act, report all (to the employer and Chief Inspector) cases of occupational diseases or any other disease, which he believes arose out of a person's employment, which he/she has treated. This must be done within 14 days in the form of a WCL 22 form.
- 15.8 Any other person may in writing, give notice of any disease suspected to be an occupational disease, to the employer and chief inspector.

16. RECORDING AND INVESTIGATION OF INCIDENTS

- 16.1 The employer or user of machinery should keep record and investigate all incidents referred to in terms of Section 24 of the Act together with any other incident, which resulted in the person concerned having had to receive medical treatment other than first aid.
- 16.2 These incidents must be recorded in the form of Annexure 1 of these regulations and be kept for a period of at least 3 years. This record shall be kept on the premises and available for perusal by an inspector.
- 16.3 The employer, a designated person, a health and safety representative or a member of the health and safety committee must investigate the above-mentioned incidents. This investigation should take place within 7 days from the date of incident and completed as soon as is reasonably practicable or within the contracted period of contract workers.
- 16.4 The employer should record the result of the investigation in the Annexure 1. The purpose of the investigation is to establish the cause of the incident together with the safety measures that can be implemented to prevent the re-occurrence of such incidents in the future.

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16.5 The health and safety committee shall examine this record at their next meeting.

17. WITNESS AT AN INQUIRY

17.1 The chief inspector can, in terms of Section 32, direct an inspector to hold a formal inquiry as a result of an incident reported in terms of Section 24 (refer to Regulation 6). In such an instance, the inspector shall inform the employer or user of machinery of his intentions, and request the following from him/her:

17.1.1 That all persons witness to the incident; and

17.1.2 That any other person as required by the inspector be notified in connection with the time, date and venue of the formal inquiry.

17.2 The employer or user of machinery is to establish which persons are likely not to attend the inquiry and shall advise the inspector of the names and addresses of such persons to allow the inspector to subpoena such persons.

18. RETURNS

18.1 An employer or user shall furnish the inspector with such information as requested for the purpose of the Administration of the Act.

19 . COVID19 Virus Personal Protective Equipment

While engineering and administrative controls are considered more effective in minimizing exposure to SARS-CoV-2, PPE may also be needed to prevent certain exposures. While correctly using PPE can help prevent some exposures, it should not take the place of other prevention strategies.

Examples of PPE include: gloves, goggles, face shields, face masks, gowns, aprons, coats, overalls, hair and shoe covers and respiratory protection, when appropriate. During an outbreak of an infectious disease, such as COVID-19, recommendations for PPE specific to occupations or job tasks may change depending on geographic location, updated risk assessments for workers, and information on PPE effectiveness in preventing the spread of COVID-19. Employers should check the NICD website regularly for updates about recommended PPE.

All types of PPE must be:

- Selected based upon the hazard to the worker.

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- Properly fitted (e.g. respirators).
- Consistently and properly worn when required.
- Regularly inspected, maintained, and replaced, as necessary.
- Properly removed, cleaned, and stored or disposed of, as applicable, to avoid

contamination of self, others, or the environment.

Employers are obligated to provide their workers with PPE needed to keep them safe while performing their duties. The types of PPE required during a COVID-19 outbreak will be based on the risk of being infected with SARS-CoV-2 while working and job tasks that may lead to exposure.

Workers, including those who work within 2 meters of patients known to be, or suspected of being, infected with SARS-CoV-2 and those performing aerosol-generating procedures, need to use respirators:

- Approved N95 filtering half face respirators as a minimum used in the context of a comprehensive, written respiratory protection program that includes fit-testing, training, and medical exams.

1. Construction Work Permit Application

The Construction Regulation 3(1) requires that the client who intends to execute construction work must at least 30 days before that work is carried out apply to the provincial director in writing for a construction work permit to perform the construction work if the intended construction work will:

1. exceed 365 days and will involve more than 3600-person days of construction work.
2. The tender value limit is grade 7, 8 or 9 of the Construction Industry Development Board (CIDB) grading.

2. Health and safety policy

The principal contractor has to provide the Client, as an annexure to the health and safety plan, with a detailed health and safety policy outlining the principal contractor's stance on and principles adopted for health and safety.

3. Cost for health and safety measures during the construction process

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To enable the Client to comply with Construction Regulation 5(1)(g), all potential principal contractors submitting tenders/bids have to demonstrate to the Client that sufficient provision has been made for the cost to implement and maintain the health and safety plan proposed by the principal contractor to meet the requirements of this health and safety specification as well as that of the OHS Act and its Regulations. A detailed schedule of costs has to be included in the health and safety plan submitted as part of the potential principal contractor's tender document. Failure by the principal contractor to adhere to this requirement will force the Client to reject the tender/bid in terms of Construction Regulation 5(1)(h).

a) 9 MEASUREMENT AND PAYMENT

E 9.1 Payment for the contractor's obligations in respect of the Occupational Health and Safety act and Construction Regulations shall be made through three payment items described below. The three payment items together shall include full compensation for all personnel (including a dedicated full time Construction Safety Officer), cost and incidentals in respect of compliance with the enforcement of the Health and Safety Specifications, which shall include for the compilation, presentation, implementation and maintenance of the Health and Safety Plan as contemplated.

All of the Contractor's costs associated with compliance with the provisions of this part of the Project Specifications shall be deemed to be included in the rates tendered for the items of work listed below.

Item	Unit
E 9.01 Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Lump Sum

The full amount will be paid in one instalment only once:-

- (a) The contractor has notified the Provincial Director of the Department of Labour in writing of the project.
- (b) The contractor has made the required initial appointments of employees and sub-contractors and provided medical certificate
- (c) The client has approved the contractor's Health and Safety Plan.
- (d) The contractor has set up his Health and Safety File.

Item	Unit
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E 9.02 Contractor's time related obligations in respect of the Occupational Health and Safety Act , Construction Regulations (2014) and Disaster Management Act of 2002 as amended for administrative Controls for SARS (COVID 19) Virus
Month

The tendered monthly amount shall represent full compensation for that part of the contractor's general obligations in terms of the Occupational Health and Safety Act and the Construction Regulations 2014 and Disaster Management Act 2002 as amended for administrative controls required action towards meeting policy or procedures (and control for SARS (covid-19) virus to reduce or minimize exposure to a hazard.which are mainly a function of time. This includes inter alia payment of all costs for the appointment of all staff contemplated in the construction regulations and the transport of employees on site. Payment will be monthly only after payment for Item E 9.01 has been made.

Item

Unit

E 9.03 Submission of the Health and Safety File

Lump Sum

The tendered lump sum shall represent full compensation for the contractor meeting all his obligations in respect of the Occupational Health and Safety Act and the Construction Regulations and for the preparation and submission of his Health and Safety File complete as envisaged on this specification to the Client's satisfaction.

This amount will be paid only once the contractor has met all his obligations in respect of the Occupational Health and Safety Act and the Construction Regulations and has submitted his Health and Safety File complete as envisaged on this specification to the Client's satisfaction.

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C4.3 Site Administration Forms

All site administration documents will be handed over at the site handover meeting.

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TENDER DRAWINGS

TENDER DRAWINGS

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Witness 1

Witness 2



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TENDER DRAWINGS

TENDER DRAWINGS

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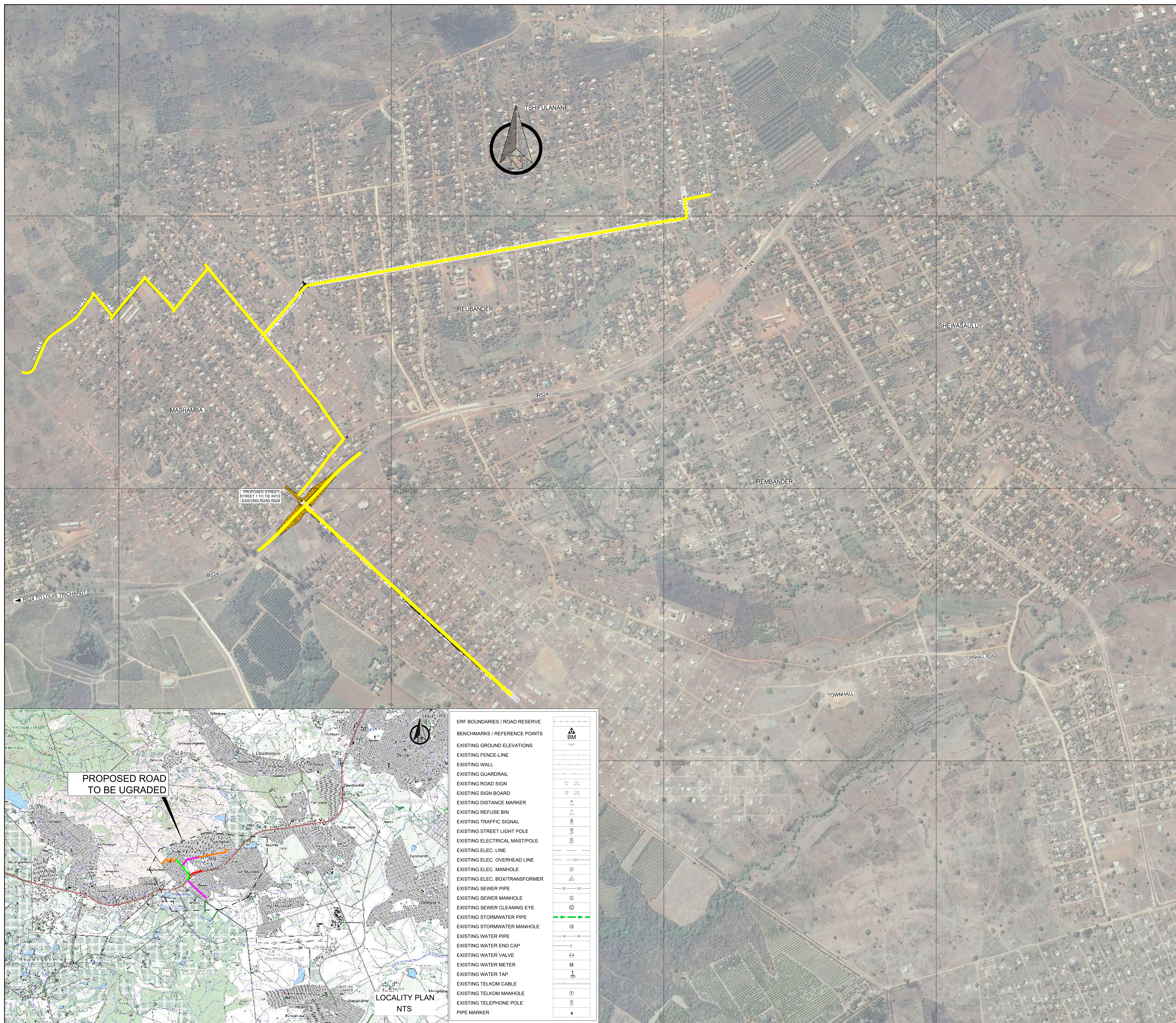
Witness 1

Witness 2



Contractor

Witness 1

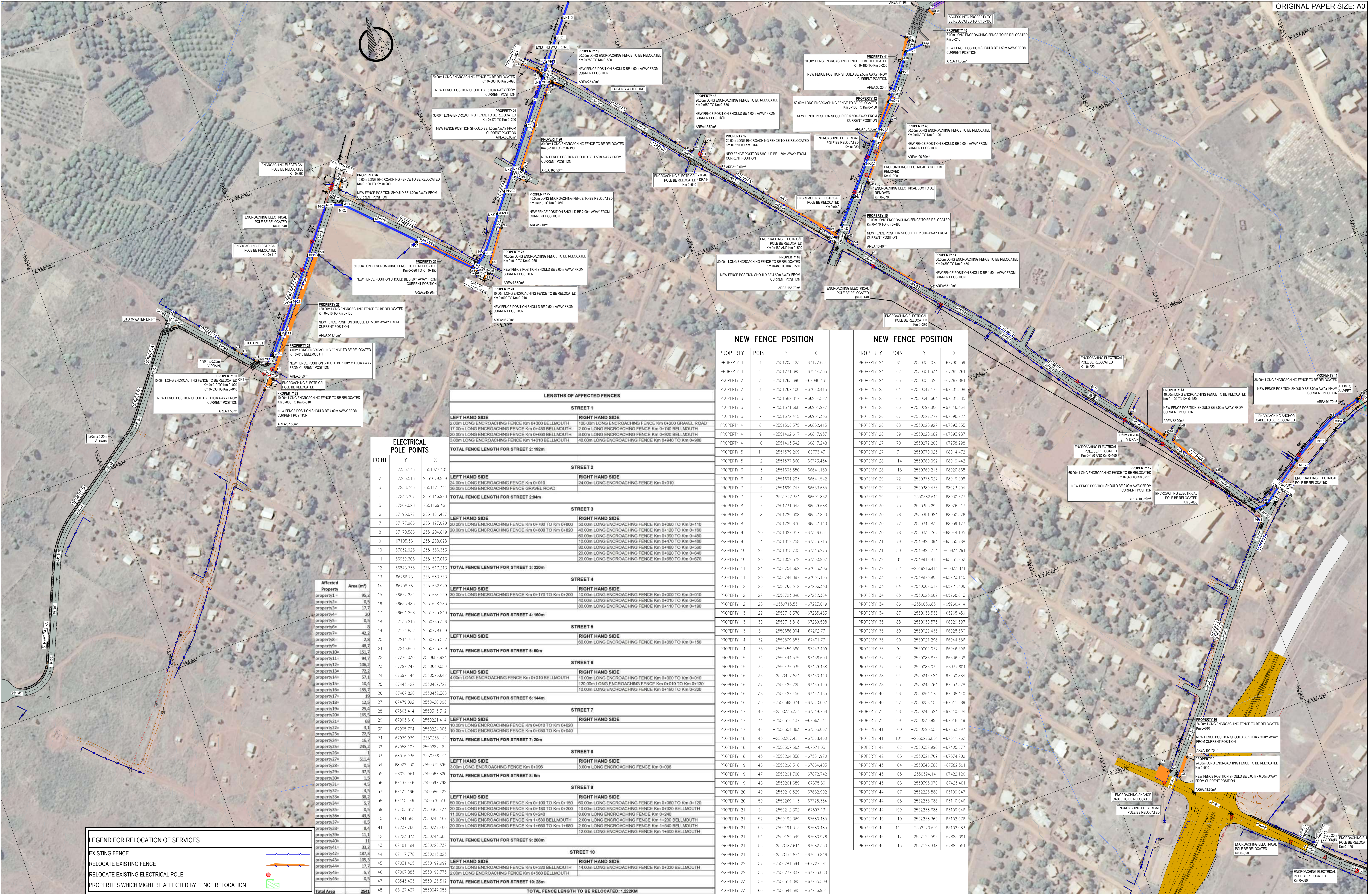
Witness 2



DRAWING LIST	
LOCALITY AND LAYOUT PLAN	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_KP_01	KEY PLAN AND LIST OF DRAWINGS
RCE 78_MLM_LP_01	TSHIANDA AND MARUNDU STREETS: LAYOUT PLAN
RCE 78_MLM_LP_02	TSHIANDA AND MARUNDU STREETS: LAYOUT PLAN
RCE 78_MLM_LP_03	TSHIANDA AND MARUNDU STREETS: LAYOUT PLAN OPTION 1
RCE 78_MLM_LP_03	TSHIANDA AND MARUNDU STREETS: LAYOUT PLAN OPTION 2
RCE 78_MLM_LP_04	TSHIANDA AND MARUNDU STREETS: LAYOUT PLAN
EXISTING SERVICES LAYOUT PLAN	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_ESLP_01	RELOCATION OF EXISTING SERVICES LAYOUT PLAN
RCE 78_MLM_ESLP_02	RELOCATION OF EXISTING SERVICES LAYOUT PLAN
RCE 78_MLM_ESLP_03	RELOCATION OF EXISTING SERVICES LAYOUT PLAN
RCE 78_MLM_ESLP_04	RELOCATION OF EXISTING SERVICES LAYOUT PLAN
STREET 1: LONGITUDINAL AND CROSS SECTIONS	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_1LS_01	STREET 1: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_1LS_02	STREET 1: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_1CS_01	STREET 1: Km 0+000 to 0+700: CROSS SECTIONS
RCE 78_MLM_1CS_02	STREET 1: Km 0+720 to 1+028: CROSS SECTIONS
STREET 2: LONGITUDINAL AND CROSS SECTIONS	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_2LS_01	STREET 2: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_2CS_01	STREET 2: CROSS SECTIONS
STREET 3: LONGITUDINAL AND CROSS SECTIONS	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_3LS_01	STREET 3: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_3LS_02	STREET 3: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_3CS_01	STREET 3: Km 0+000 to 0+700: CROSS SECTIONS
RCE 78_MLM_3CS_02	STREET 3: Km 0+720 to 0+831: CROSS SECTIONS
STREET 4: LONGITUDINAL AND CROSS SECTIONS	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_4LS_01	STREET 4: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_4CS_01	STREET 4: CROSS SECTIONS
STREET 5: LONGITUDINAL AND CROSS SECTIONS	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_5LS_01	STREET 5: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_5CS_01	STREET 5: CROSS SECTIONS
STREET 6: LONGITUDINAL AND CROSS SECTIONS	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_6LS_01	STREET 6: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_6CS_01	STREET 6: CROSS SECTIONS
STREET 7: LONGITUDINAL AND CROSS SECTIONS	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_7LS_01	STREET 7: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_7CS_01	STREET 7: CROSS SECTIONS
STREET 7A: LONGITUDINAL AND CROSS SECTIONS	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_7ALS_01	STREET 7A: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_7ACS_01	STREET 7A: CROSS SECTIONS
STREET 8: LONGITUDINAL AND CROSS SECTIONS	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_8LS_01	STREET 8: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_8CS_01	STREET 8: CROSS SECTIONS
STREET 9: LONGITUDINAL AND CROSS SECTIONS	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_9LS_01	STREET 9: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_9LS_02	STREET 9 OPTION 1: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_9LS_03	STREET 9: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_9CS_01	STREET 9: Km 0+000 to 0+700: CROSS SECTIONS
RCE 78_MLM_9CS_02	STREET 9: Km 0+720 to 1+420: CROSS SECTIONS
RCE 78_MLM_9CS_03	STREET 9: Km 1+440 to 1+738: CROSS SECTIONS
RCE 78_MLM_9LS_01	STREET 9 OPTION 2: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_9CS_03	STREET 9 OPTION 2: CROSS SECTIONS
STREET 10: LONGITUDINAL AND CROSS SECTIONS	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_10LS_01	STREET 10: LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION
RCE 78_MLM_10CS_01	STREET 10: CROSS SECTIONS
STORMWATER LAYOUT PLAN	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_SWLPP_01	STORMWATER LAYOUT PLAN
RCE 78_MLM_SWLPP_02	STORMWATER LAYOUT PLAN
RCE 78_MLM_SWLPP_03	STORMWATER LAYOUT PLAN
RCE 78_MLM_SWLPP_04	STORMWATER LAYOUT PLAN
STORMWATER LONGITUDINAL SECTIONS	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_SWLS_01	STORMWATER LONGITUDINAL SECTIONS
RCE 78_MLM_SWLS_02	STORMWATER LONGITUDINAL SECTIONS
STORMWATER CONCERNS LAYOUT PLAN	
DRAWING NUMBER	DRAWING DESCRIPTION
RCE 78_MLM_SWCLP_01	STORMWATER CONCERNS STORMWATER LAYOUT PLAN
RCE 78_MLM_SWCLP_02	STORMWATER CONCERNS STORMWATER LAYOUT PLAN
RCE 78_MLM_SWCLP_03	STORMWATER CONCERNS STORMWATER LAYOUT PLAN

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<div>No. DATE REVISIONS BY CHECKED BY</div>										<div>DRAWING TITLE</div> <div>KEY PLAN AND LIST OF DRAWINGS</div>					<div>REVISION</div> <div>0</div>	<div>PLAN No.</div> <div>RCE 78_MLM_KP_01</div>					





No.	DATE	REVISIONS	BY	CHECKED BY

DESIGNED BY: RALEMA CONSULTING ENGINEERS

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CLIENT

MAKHADO LOCAL MUNICIPALITY

PROJECT TITLE

UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1

DRAWING TITLE

RELOCATION OF EXISTING SERVICES LAYOUT PLAN

CONTRACT No.

IPW No.

SHEET
2 OF 5

SCALE

1:1000

TYPES OF PLANNING

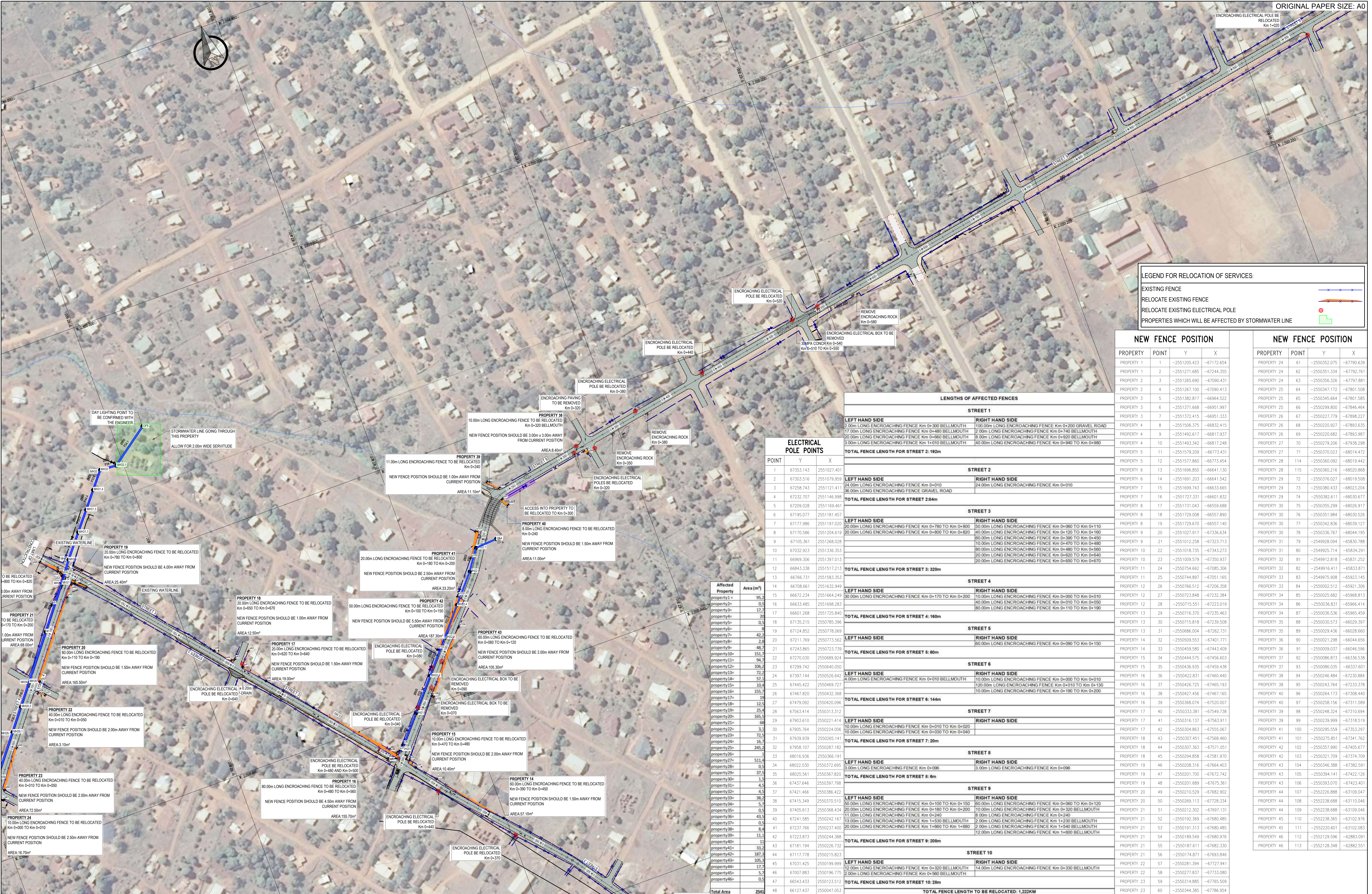
PLANNING

REVISION

PLAN No.

0

RCE 78_MLM_ESLP_02



LEGEND FOR RELOCATION OF SERVICES:

- EXISTING FENCE
RELOCATE EXISTING FENCE
RELOCATE EXISTING ELECTRICAL POLE
PROPERTIES WHICH WILL BE AFFECTED BY STORMWATER LINE

NEW FENCE POSITION

PROPERTY	POINT	Y	X
PROPERTY 1	1	-2551205.423	-67172.654
PROPERTY 1	2	-2551271.685	-67244.355
PROPERTY 2	3	-2551265.690	-67090.431
PROPERTY 2	4	-2551267.100	-67090.413
PROPERTY 3	5	-2551382.817	-66964.522
PROPERTY 3	6	-2551371.668	-66951.997
PROPERTY 3	7	-2551372.415	-66951.333
PROPERTY 4	8	-2551506.375	-66832.415
PROPERTY 4	9	-2551492.617	-66817.937
PROPERTY 4	10	-2551493.342	-66817.248
PROPERTY 5	11	-2551579.209	-66773.431
PROPERTY 5	12	-2551577.880	-66773.454
PROPERTY 6	13	-2551696.850	-66641.130
PROPERTY 6	14	-2551691.203	-66641.542
PROPERTY 7	15	-2551689.743	-66633.665
PROPERTY 7	16	-2551727.331	-66601.832
PROPERTY 7	17	-2551731.043	-66559.688
PROPERTY 8	18	-2551729.008	-66557.890
PROPERTY 8	19	-2551729.670	-66557.140
PROPERTY 9	20	-2551027.917	-67336.634
PROPERTY 9	21	-2551012.258	-67323.713
PROPERTY 10	22	-2551018.735	-67343.273
PROPERTY 10	23	-2551009.579	-67350.937
PROPERTY 11	24	-2550754.662	-67085.306
PROPERTY 11	25	-2550744.897	-67051.165
PROPERTY 12	26	-2550766.512	-67206.358
PROPERTY 12	27	-2550723.848	-67232.384
PROPERTY 12	28	-2550715.551	-67223.019
PROPERTY 13	29	-2550716.370	-67235.463
PROPERTY 13	30	-2550715.818	-67229.508
PROPERTY 13	31	-2550686.004	-67262.731
PROPERTY 14	32	-2550509.553	-67401.771
PROPERTY 14	33	-2550459.580	-67443.409
PROPERTY 15	34	-2550444.575	-67456.603
PROPERTY 15	35	-2550436.935	-67459.438
PROPERTY 16	36	-2550422.831	-67460.440
PROPERTY 16	37	-2550426.725	-67465.193
PROPERTY 16	38	-2550427.456	-67467.165
PROPERTY 16	39	-2550368.074	-67520.007
PROPERTY 17	40	-2550333.381	-67549.738
PROPERTY 17	41	-2550316.137	-67563.911
PROPERTY 17	42	-2550304.863	-67555.067
PROPERTY 18	43	-2550307.451	-67568.460
PROPERTY 18	44	-2550307.363	-67571.051
PROPERTY 18	45	-2550294.858	-67581.970
PROPERTY 19	46	-2550208.316	-67664.403
PROPERTY 19	47	-2550201.700	-67672.742
PROPERTY 19	48	-2550201.689	-67675.361
PROPERTY 20	49	-2550210.529	-67682.902
PROPERTY 20	50	-2550269.113	-67728.334
PROPERTY 21	51	-2550212.302	-67697.131
PROPERTY 21	52	-2550192.369	-67680.485
PROPERTY 21	53	-2550191.313	-67680.485
PROPERTY 21	54	-2550189.549	-67680.976
PROPERTY 21	55	-2550187.611	-67682.330
PROPERTY 21	56	-2550174.871	-67693.846
PROPERTY 22	57	-2550281.394	-67727.941
PROPERTY 22	58	-2550277.837	-67733.080
PROPERTY 23	59	-2550314.885	-67765.509
PROPERTY 23	60	-2550344.385	-67786.954

NEW FENCE POSITION

PROPERTY	POINT	Y	X
PROPERTY 24	61	-2550352.075	-67790.639
PROPERTY 24	62	-2550351.334	-67792.761
PROPERTY 24	63	-2550356.326	-67797.881
PROPERTY 25	64	-2550347.172	-67801.508
PROPERTY 25	65	-2550345.664	-67801.585
PROPERTY 25	66	-2550299.800	-67846.464
PROPERTY 26	67	-2550227.779	-67898.227
PROPERTY 26	68	-2550220.927	-67893.635
PROPERTY 26	69	-2550220.682	-67893.987
PROPERTY 27	70	-2550279.206	-67938.298
PROPERTY 27	71	-2550370.023	-68014.472
PROPERTY 28	114	-2550360.092	-68019.442
PROPERTY 28	115	-2550360.216	-68020.868
PROPERTY 29	72	-2550376.027	-68019.508
PROPERTY 29	73	-2550380.433	-68023.204
PROPERTY 29	74	-2550382.611	-68030.677
PROPERTY 30	75	-2550355.299	-68026.917
PROPERTY 30	76	-2550351.984	-68030.526
PROPERTY 30	77	-2550342.836	-68039.127
PROPERTY 30	78	-2550336.677	-68044.195
PROPERTY 31	79	-2549928.094	-65830.788
PROPERTY 31	80	-2549925.714	-65834.291
PROPERTY 32	81	-2549912.818	-65831.252
PROPERTY 32	82	-2549916.411	-65833.871
PROPERTY 32	83	-2549975.908	-65923.145
PROPERTY 33	84	-2550002.512	-65921.306
PROPERTY 34	85	-2550025.682	-65968.813
PROPERTY 34	86	-2550036.831	-65966.414
PROPERTY 34	87	-2550036.536	-65965.459
PROPERTY 35	88	-2550030.573	-66029.397
PROPERTY 35	89	-2550029.436	-66028.660
PROPERTY 36	90	-2550021.298	-66044.656
PROPERTY 36	91	-2550009.037	-66046.596
PROPERTY 37	92	-2550086.873	-66336.538
PROPERTY 37	93	-2550086.035	-66337.601
PROPERTY 38	94	-2550246.484	-67230.884
PROPERTY 38	95	-2550243.764	-67233.378
PROPERTY 40	96	-2550264.173	-67308.440
PROPERTY 40	97	-2550258.156	-67311.589
PROPERTY 39	98	-2550248.324	-67310.694
PROPERTY 39	99	-2550239.999	-67318.519
PROPERTY 41	100	-2550295.559	-67353.297
PROPERTY 41	101	-2550275.851	-67341.762
PROPERTY 42	102	-2550357.990	-67405.677
PROPERTY 42	103	-2550331.709	-67374.709
PROPERTY 43	104	-2550346.388	-67382.591
PROPERTY 43	105	-2550394.141	-67422.126
PROPERTY 43	106	-2550393.070	-67423.041
PROPERTY 44	107	-2552226.888	-63109.047
PROPERTY 44	108	-2552228.688	-63109.046
PROPERTY 45	110	-2552238.365	-63102.976
PROPERTY 45	111	-2552220.601	-63102.083
PROPERTY 46	112	-2552129.596	-62883.091
PROPERTY 46	113	-2552128.348	-62882.551

ELECTRICAL POLE POINTS

POINT	Y	X
1	67353.143	2551027.401
2	67303.516	2551079.959
3	67258.743	2551121.411
4	67232.707	2551146.998
5	67209.028	2551169.461
6	67195.077	2551181.457
7	67177.886	2551197.020
8	67170.586	2551204.619
9	67105.361	2551268.028
10	67032.923	2551336.353
11	66969.306	2551397.013
12	66843.338	2551517.213
13	66766.731	2551583.353
14	66708.661	2551632.949
15	66672.234	2551664.249
16	66633.485	2551698.283
17	66601.268	2551725.840
18	67135.215	2550785.396
19	67124.852	2550778.069
20	67211.769	2550773.562
21	67243.865	2550723.739
22	67270.030	2550689.924
23	67299.742	2550640.050
24	67397.144	2550526.642
25	67445.422	2550469.727
26	67467.820	2550432.368
27	67479.092	2550420.096
28	67563.414	2550313.312
29	67903.610	2550221.414
30	67905.764	2550224.006
31	67939.939	2550265.141
32	67958.107	2550287.182
33	68016.936	2550366.191
34	68022.030	2550372.695
35	68025.561	2550367.820
36	67431.646	2550397.798
37	67421.466	2550386.422
38	67415.349	2550370.510
39	67405.613	2550368.434
40	67241.585	2550242.181
41	67237.766	2550237.400
42	67223.873	2550244.388
43	67181.194	2550226.732
44	67117.778	2550215.823
45	67031.425	2550199.999
46	67007.883	2550196.773
47	66543.433	2550123.512
48	66127.437	2550047.053

Affected Property	Area (m²)
property1	95.2
property2	0.5
property3	17.7
property4	20
property5	0.5
property6	9
property7	42.2
property8	2.8
property9	48.7
property10	151.7
property11	54.7
property12	106.3
property13	72.2
property14	57.1
property15	10.4
property16	155.7
property17	19
property18	12.3
property19	25.4
property20	165.3
property21	68
property22	3.1
property23	72.3
property24	16.7
property25	245.2
property26	1
property27	511.4
property28	0.5
property29	37.5
property30	1.3
property31	4.5
property32	4.5
property33	38.2
property34	13
property35	0.5
property36	43.5
property37	0.5
property38	8.4
property39	11.1
property40	13
property41	33.2
property42	387.3
property43	105.3
property44	17.7
property45	5.7
property46	0.5
Total Area	2541

DESIGNED BY: RALEMA CONSULTING ENGINEERS



C08/06 PHOENIX VIEW ESTATES
Cnr RIVERSIDE & 14TH STREET
NOORDWYK X95
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Email: admin@ralemacons.co.za

S. Bapela-Pr Tech Eng
DESIGNED

I. Thiasi
DRAWN

S. Bapela-Pr Tech Eng
CHECKED

RALEMA CONSULTING

ISSUED BY:

DATE:

DEPARTMENT

RECEIVED BY:

DATE:

CLIENT ADDRESS



THOHYANDOU
PRIVATE BAG X5006
THOHYANDOU
0960

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CLIENT

MAKHADO LOCAL MUNICIPALITY

PROJECT TITLE

UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1

DRAWING TITLE

RELOCATION OF EXISTING SERVICES LAYOUT PLAN

CONTRACT No.

IPW No.

SHEET
3 OF 5

SCALE

1:1000

TYPES OF PLANNING

PLANNING

REVISION

PLAN No.

0 RCE 78_MLM_ESLP_03

An aerial photograph showing a large, light-colored house with a dark roof, a swimming pool, and a driveway. The house is surrounded by trees and landscaping. A road or path runs along the left side of the property.

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 **RALEMA**
CONSULTING ENGINEERS

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NOORDWYK X95 Email: admin@ralemacons.co.za
1963





CLIENT ADDRESS



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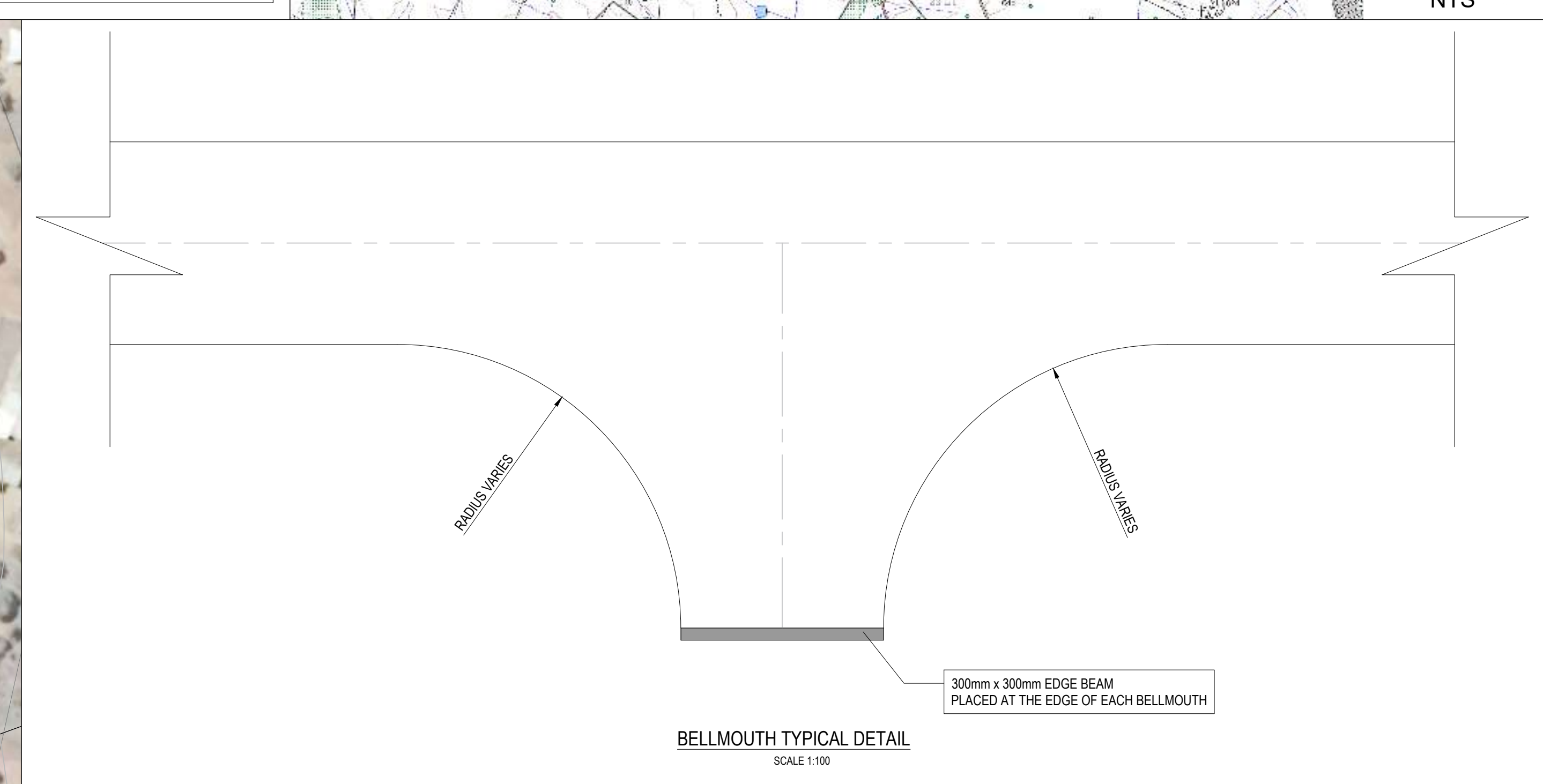
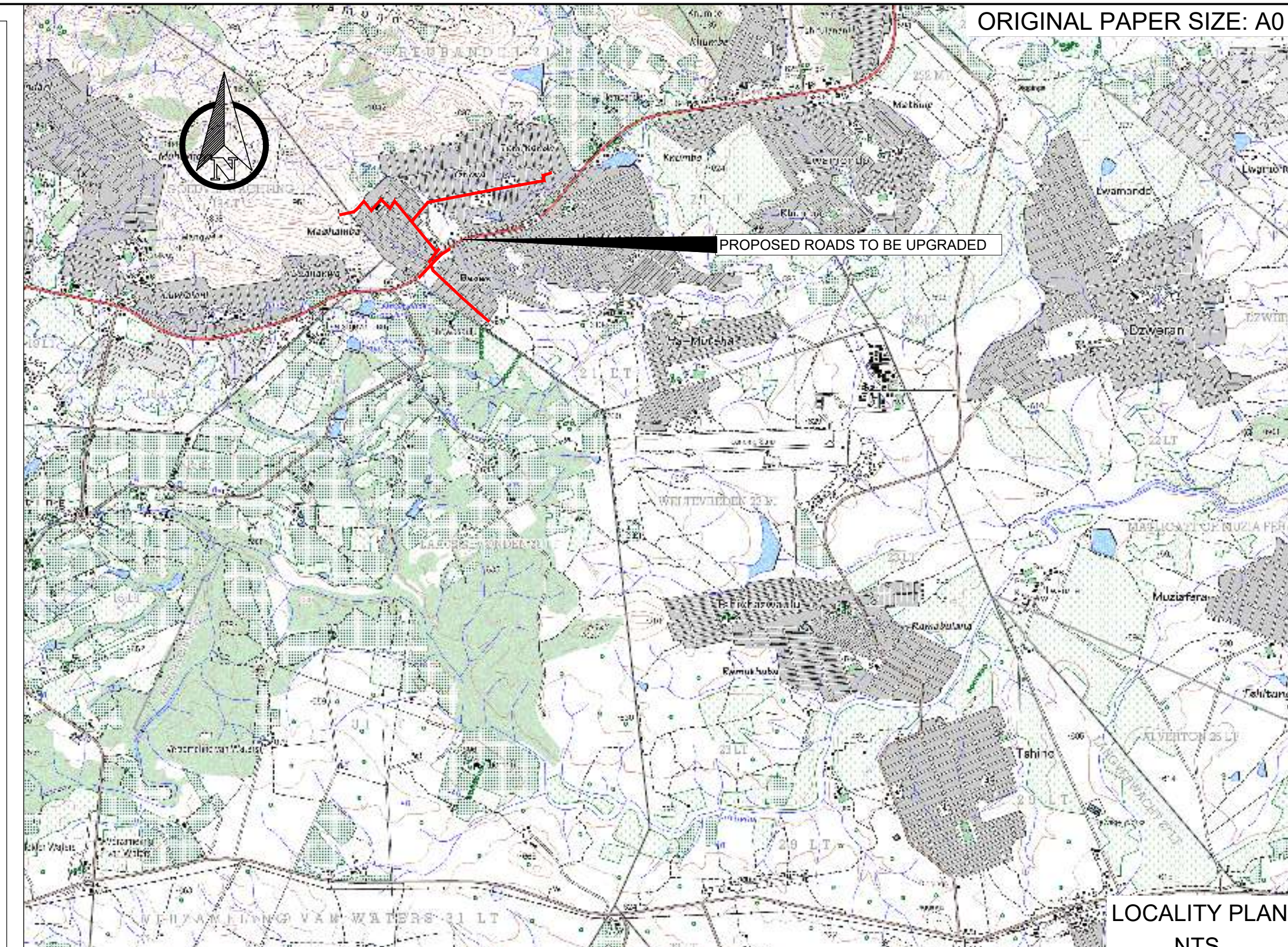
Tel: (015) 962 1828
Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 4 OF 5
PROJECT TITLE				
UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1				
DRAWING TITLE				
RELOCATION OF EXISTING SERVICES LAYOUT PLAN				

SCALE	TYPES OF PLANNING	STATUS
1:1000	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
0	RCE 78_MLM_ESLP_04	

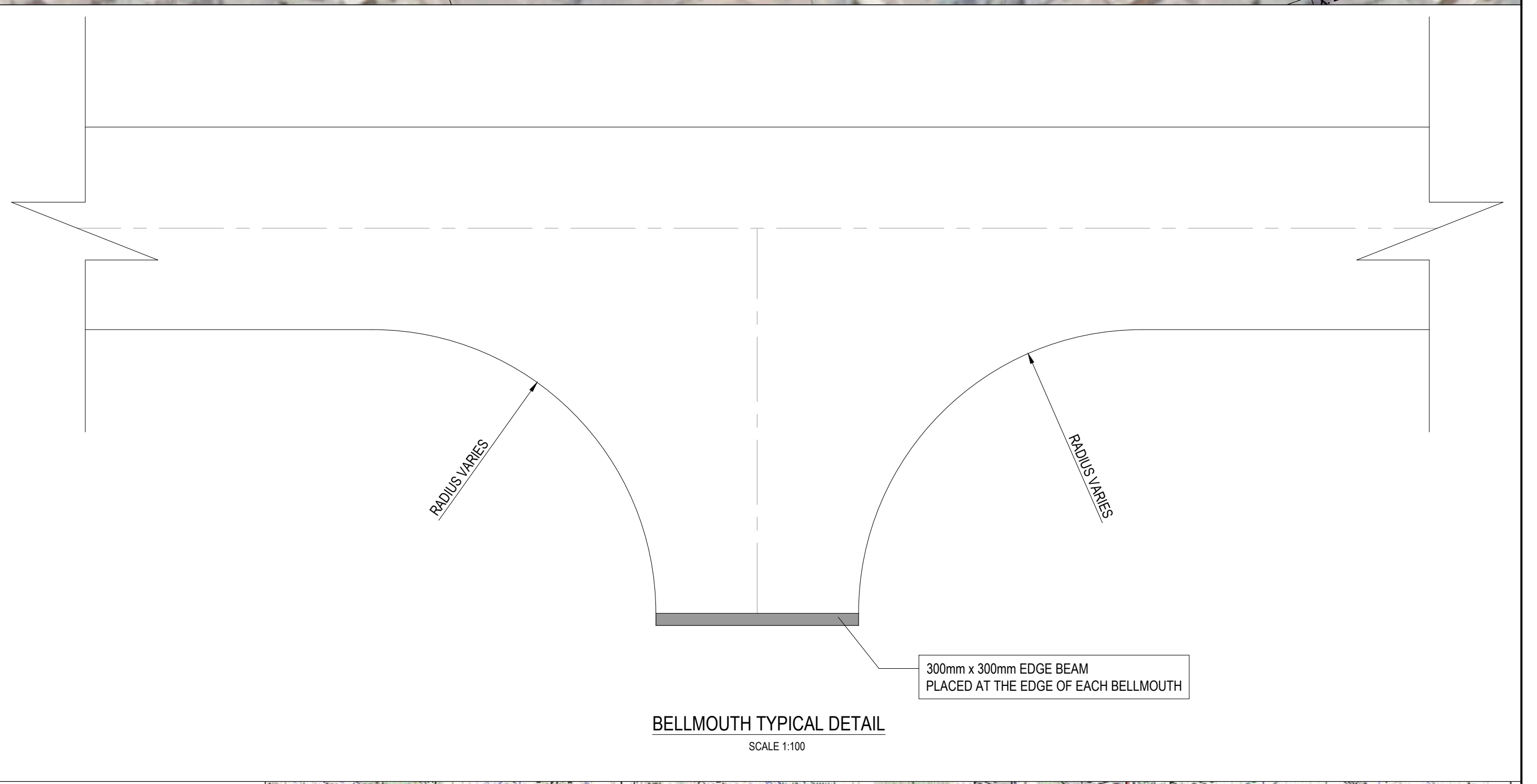
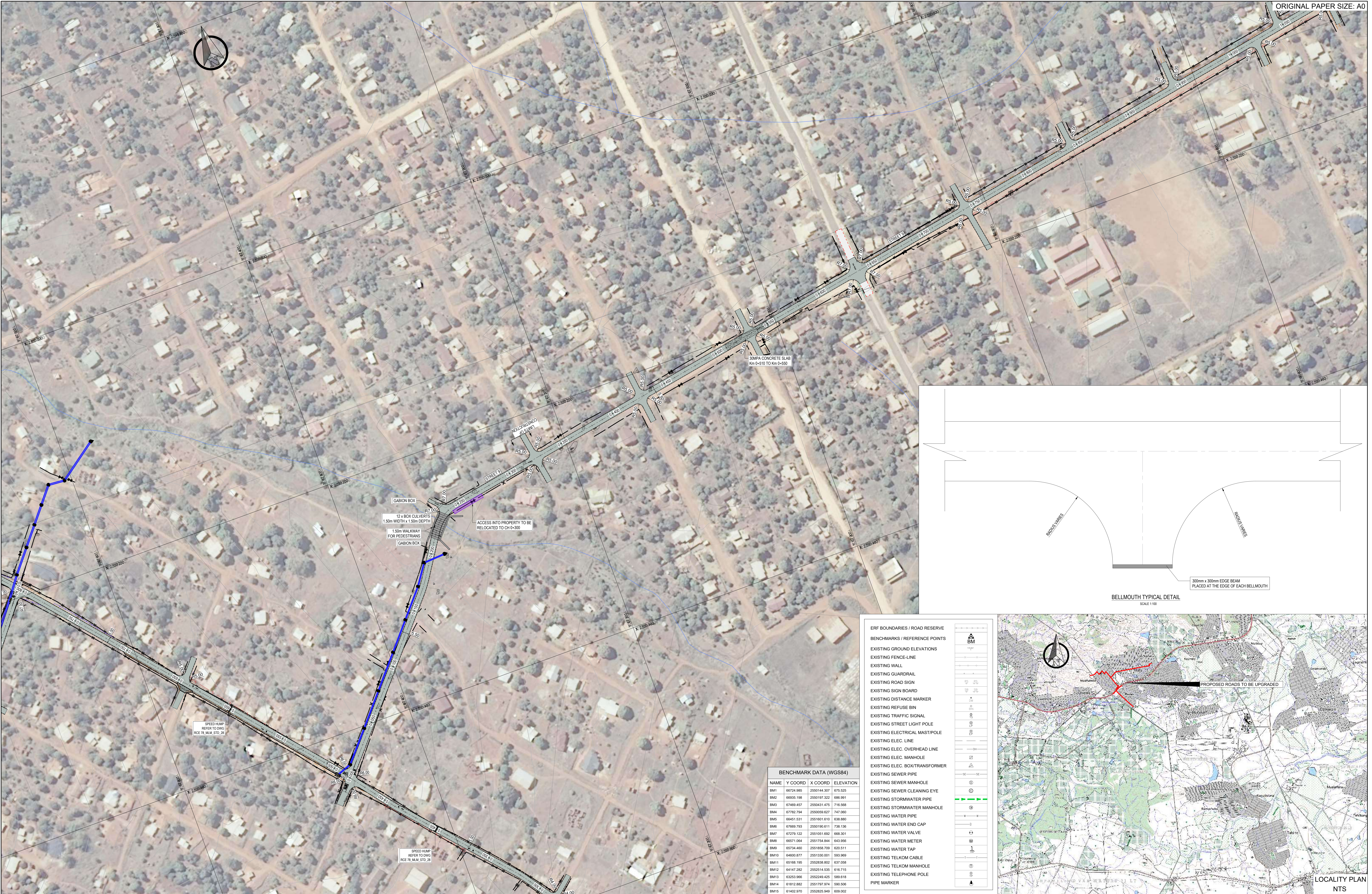


ERF BOUNDARIES / ROAD RESERVE	
BENCHMARKS / REFERENCE POINTS	
EXISTING GROUND ELEVATIONS	
EXISTING FENCE-LINE	
EXISTING WALL	
EXISTING GUARDRAIL	
EXISTING ROAD SIGN	
EXISTING SIGN BOARD	
EXISTING DISTANCE MARKER	
EXISTING REFUSE BIN	
EXISTING TRAFFIC SIGNAL	
EXISTING STREET LIGHT POLE	
EXISTING ELECTRICAL MAST/POLE	
EXISTING ELEC. LINE	
EXISTING ELEC. OVERHEAD LINE	
EXISTING ELEC. MANHOLE	
EXISTING ELEC. BOX/TRANSFORMER	
EXISTING SEWER PIPE	
EXISTING SEWER MANHOLE	
EXISTING SEWER CLEANING EYE	
EXISTING STORMWATER PIPE	
EXISTING STORMWATER MANHOLE	
EXISTING WATER PIPE	
EXISTING WATER END CAP	
EXISTING WATER VALVE	
EXISTING WATER METER	
EXISTING WATER TAP	
EXISTING TELKOM CABLE	
EXISTING TELKOM MANHOLE	
EXISTING TELEPHONE POLE	
PIPE MARKER	

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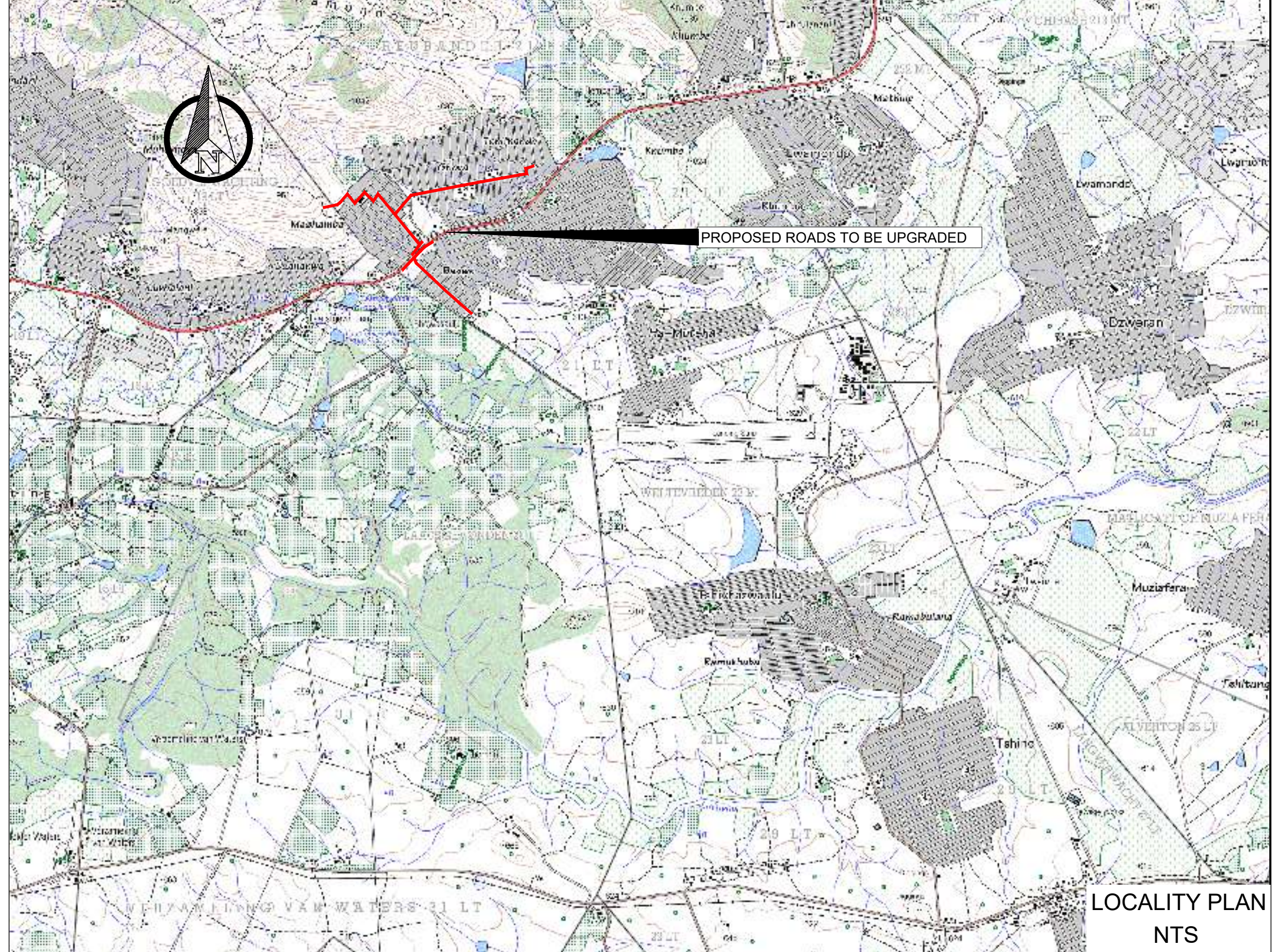


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ERF BOUNDARIES / ROAD RESERVE
BENCHMARKS / REFERENCE POINTS
EXISTING GROUND ELEVATIONS
EXISTING FENCE-LINE
EXISTING WALL
EXISTING GUARDRAIL
EXISTING ROAD SIGN
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EXISTING DISTANCE MARKER
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EXISTING WATER END CAP
EXISTING WATER VALVE
EXISTING WATER METER
EXISTING WATER TAP
EXISTING TELKOM CABLE
EXISTING TELKOM MANHOLE
EXISTING TELEPHONE POLE
PIPE MARKER

BENCHMARK DATA (WGS84)			
NAME	Y COORD	X COORD	ELEVATION
BM1	66724.985	2550144.307	675.525
BM2	66935.198	2550197.322	686.991
BM3	67459.457	2550431.475	716.568
BM4	67752.794	2550059.627	747.950
BM5	68451.531	2550161.610	638.880
BM6	67895.793	2550190.611	736.136
BM7	67279.122	2551051.692	688.301
BM8	66571.064	2551754.844	643.956
BM9	65734.460	2551858.709	620.511
BM10	64600.877	2551330.001	593.969
BM11	65168.195	2552638.802	637.058
BM12	64147.282	2552514.535	616.715
BM13	63253.966	2552249.425	589.618
BM14	61812.882	2551797.974	590.506
BM15	61402.970	2552625.949	609.002



No.	DATE	REVISIONS	BY	CHECKED BY

DESIGNED BY: RALEMA CONSULTING ENGINEERS

RALEMA CONSULTING ENGINEERS

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1863

S. Bapela-Pr Tech Eng DESIGNED	RALEMA CONSULTING	DEPARTMENT
I. Thasi DRAWN	ISSUED BY:	RECEIVED BY:
S. Bapela-Pr Tech Eng CHECKED	DATE:	DATE:

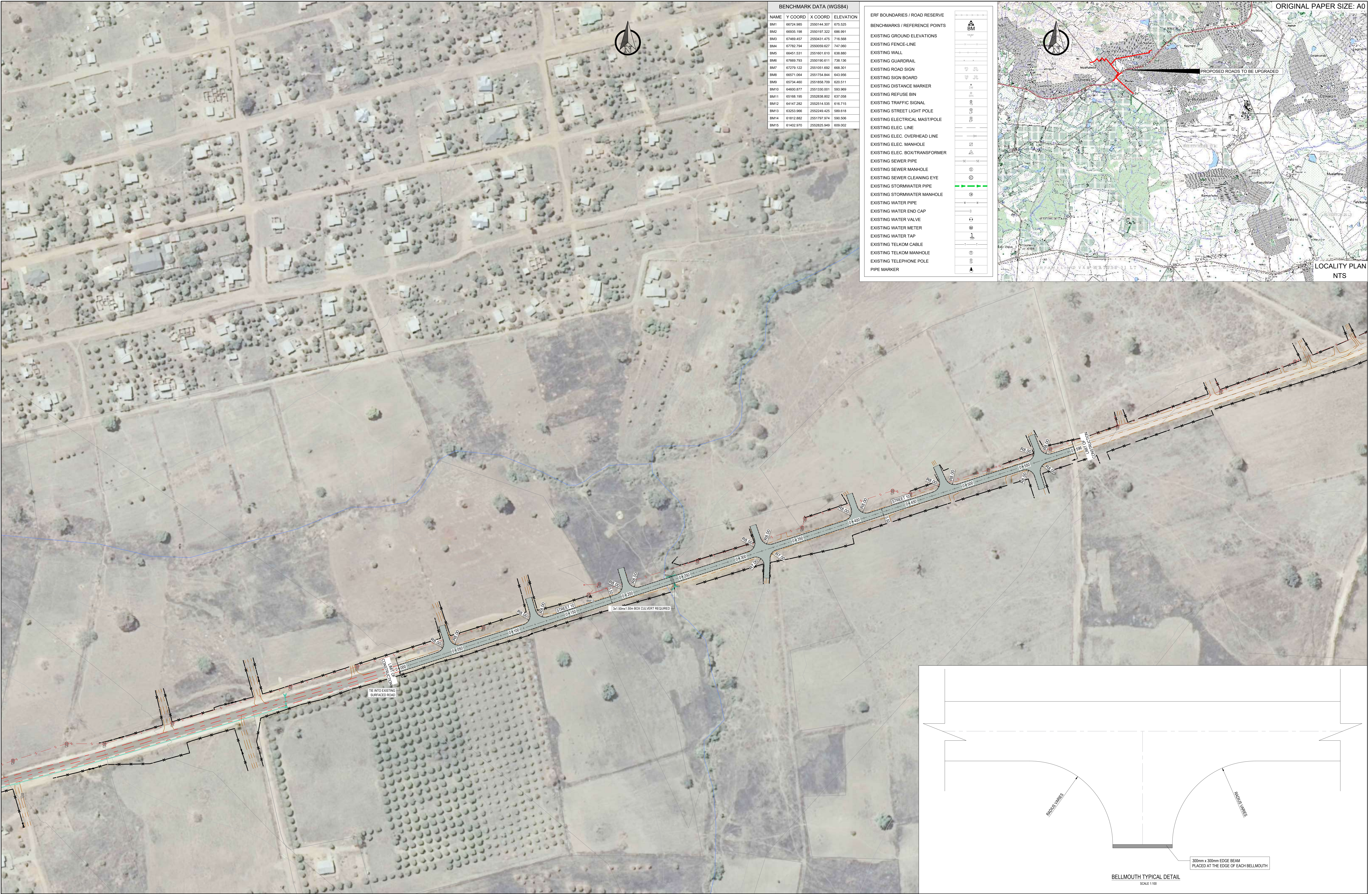
CLIENT ADDRESS

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THOHOYANDOU
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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 3 OF 5
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	TSHIANDA AND MARUNDU STREETS: LAYOUT PLAN			

SCALE	TYPES OF PLANNING	STATUS
1:1000	PLANNING CONSTRUCTION AS-BUILT	PLANNING
REVISION	PLAN No.	
0	RCE 78_MLM_LP_03	



No.	DATE	REVISIONS	BY	CHECKED BY	

DESIGNED BY: RALEMA CONSULTING ENGINEERS

**RALEMA**
CONSULTING ENGINEERS

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S. Bapela-Pr Tech Eng DESIGNED	
I. Thasi DRAWN	
S. Bapela-Pr Tech Eng CHECKED	

RALEMA CONSULTING	DEPARTMENT
ISSUED BY:	RECEIVED BY:
DATE:	DATE:

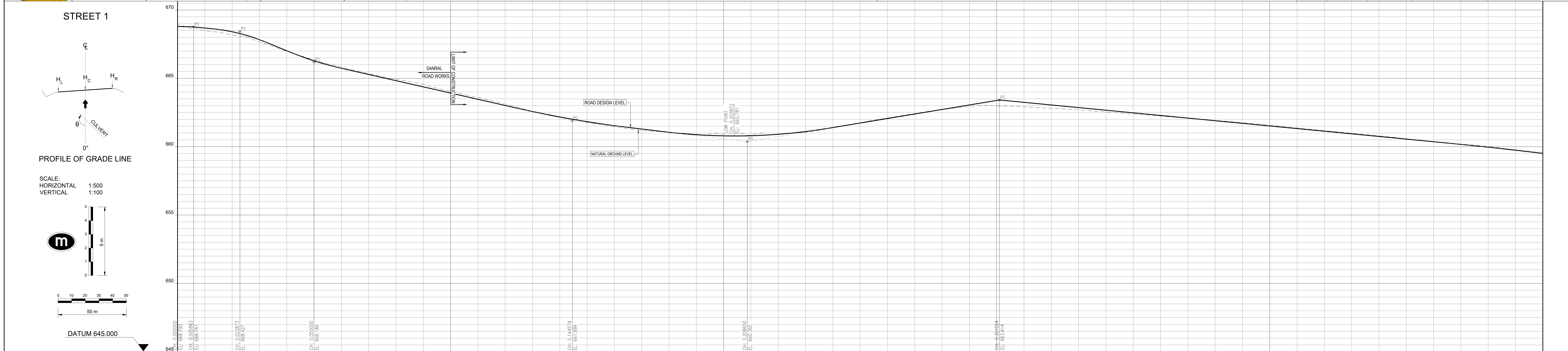
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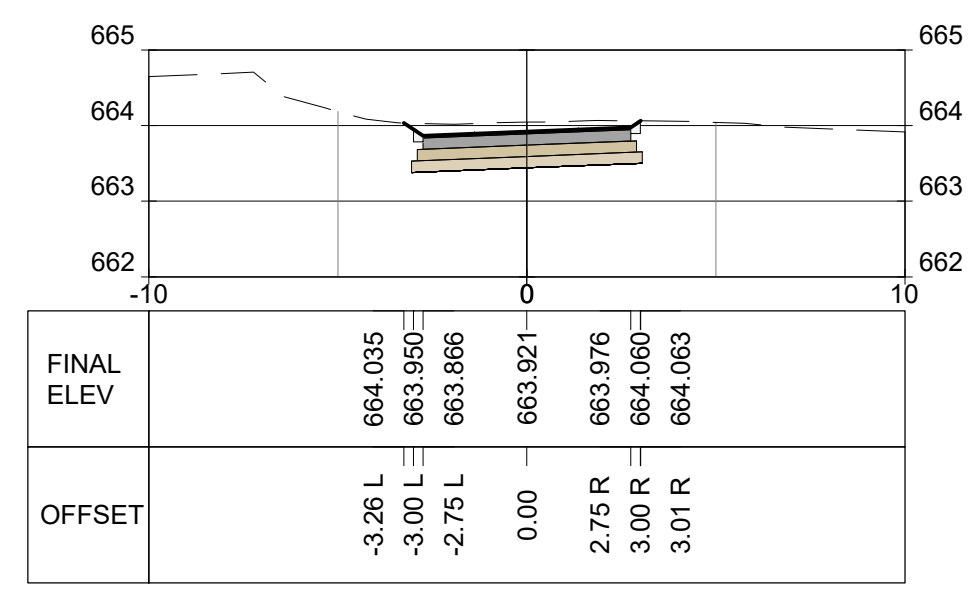
**MAKHADO**
PRIVATE BAG X5006
THOHOYANDOU 0950

Tel: (015) 952 1828
Fax: (015) 952 1017

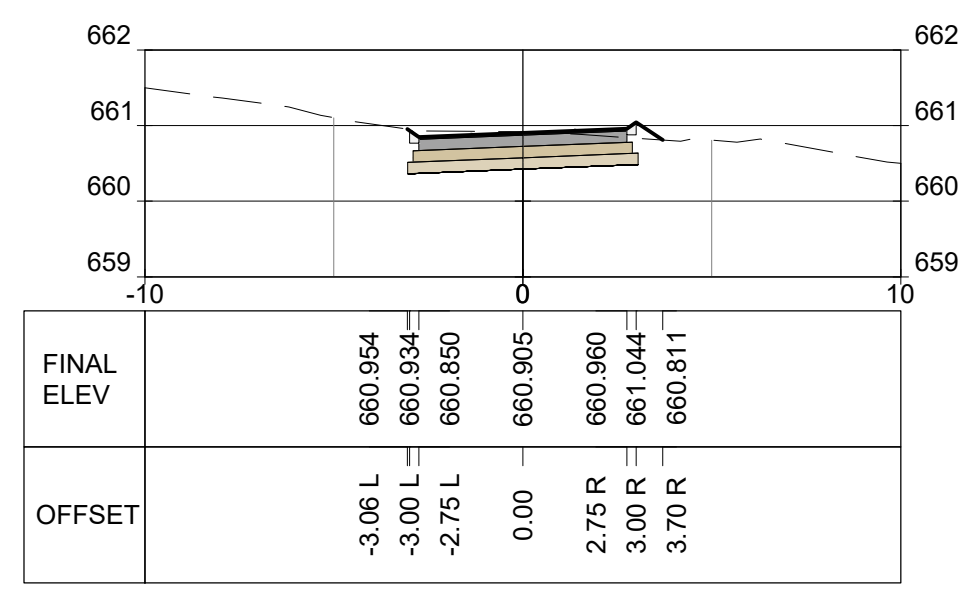
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PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	TSHIANDA AND MARUNDU STREETS: LAYOUT PLAN			

SCALE	TYPES OF PLANNING	STATUS
1:1000	<div><div>PLANNING</div><div>CONSTRUCTION</div><div>AS-BUILT</div></div>	<div>PLANNING</div>
REVISION	PLAN No.	
0	RCE 78_MLM_LP_05	

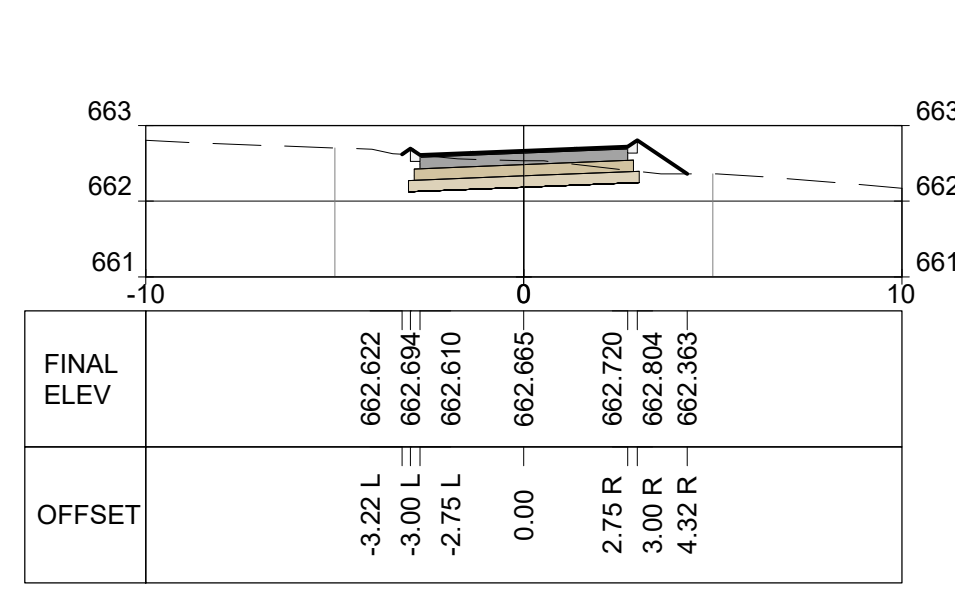
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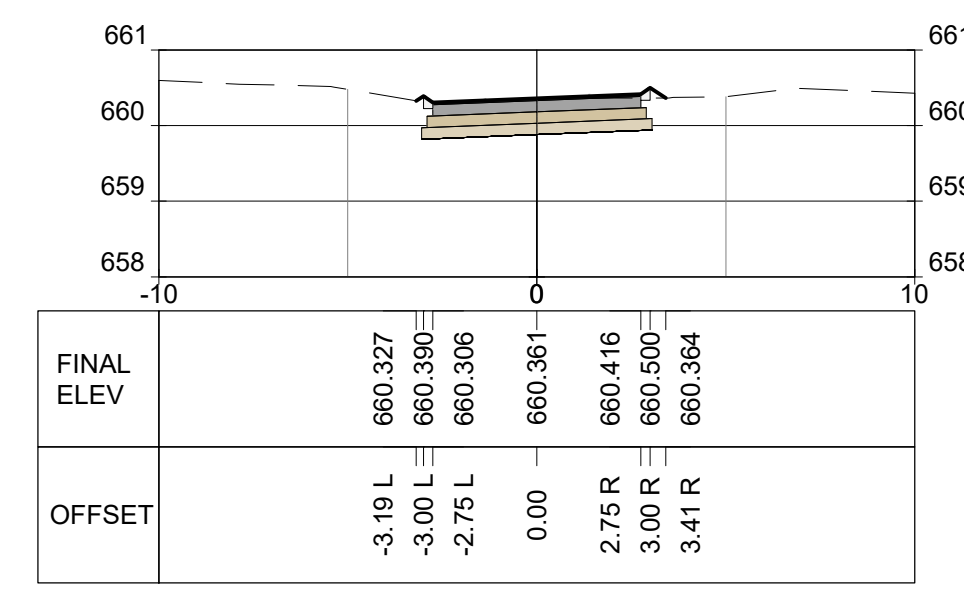
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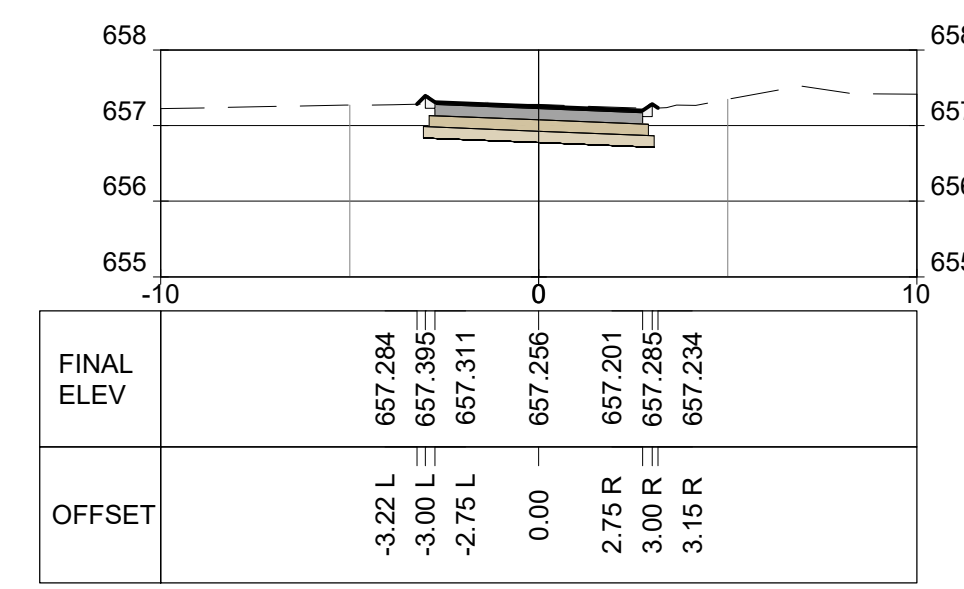
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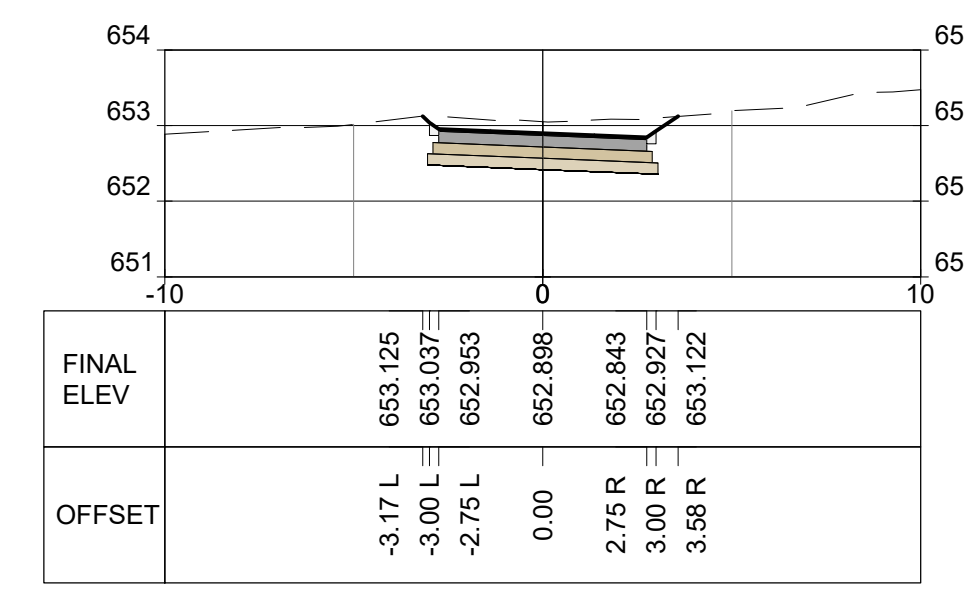
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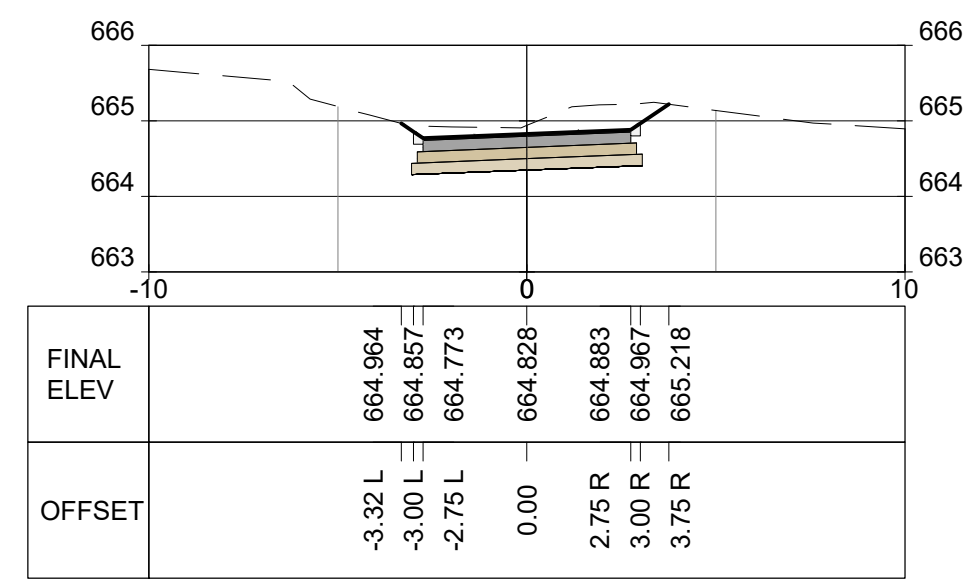
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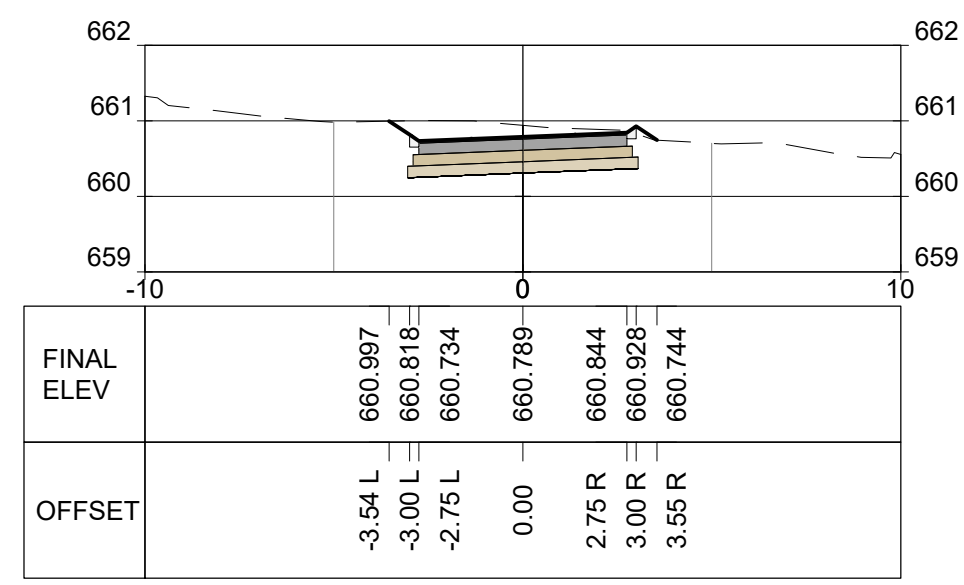
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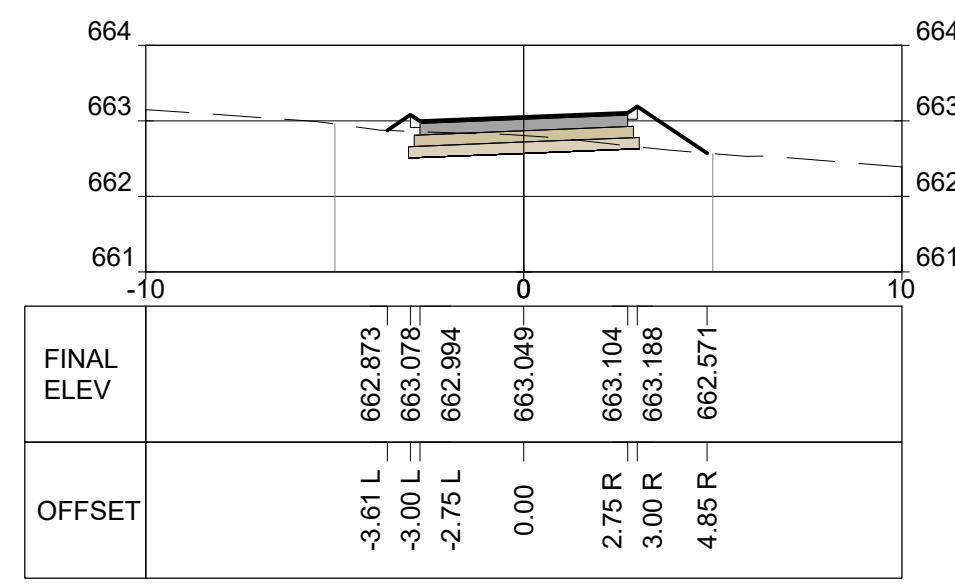
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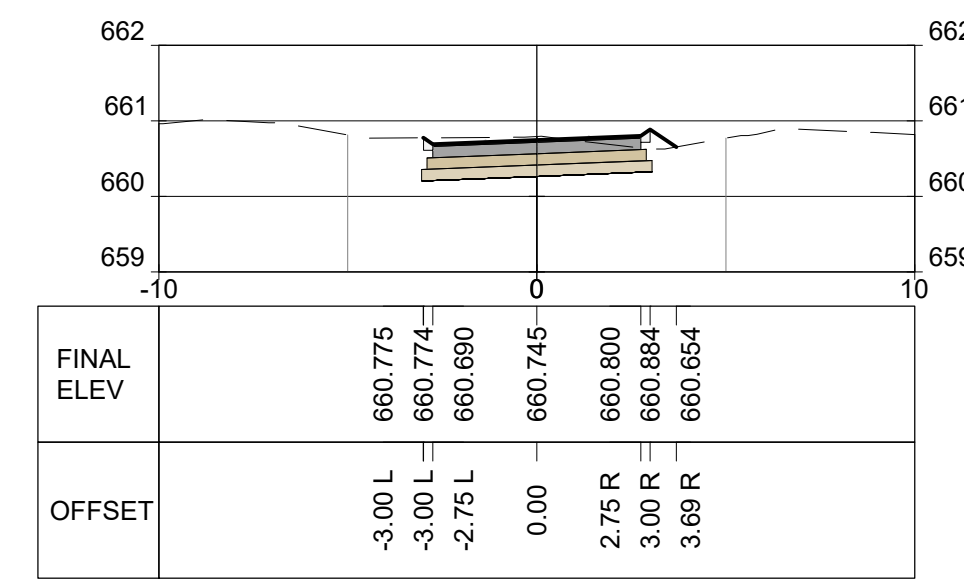
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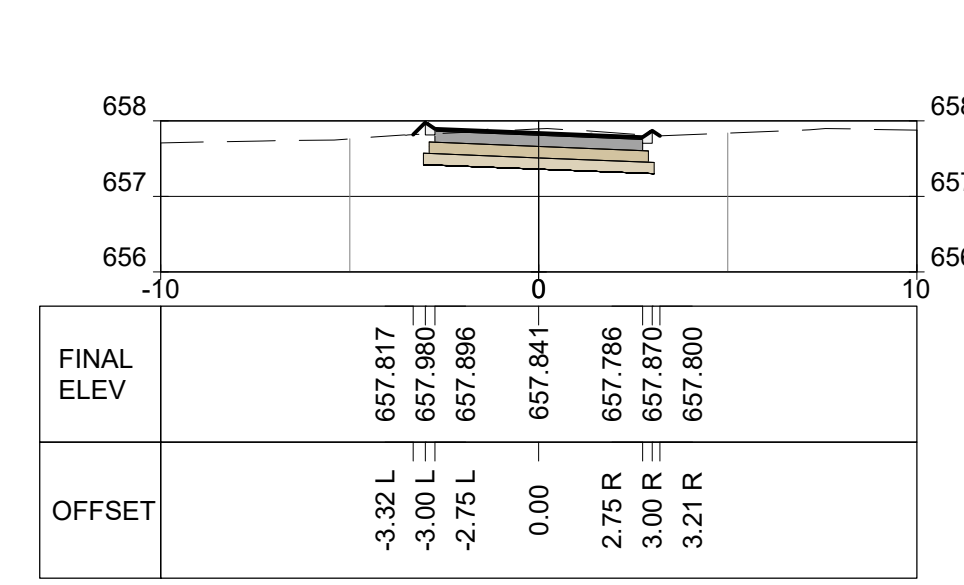
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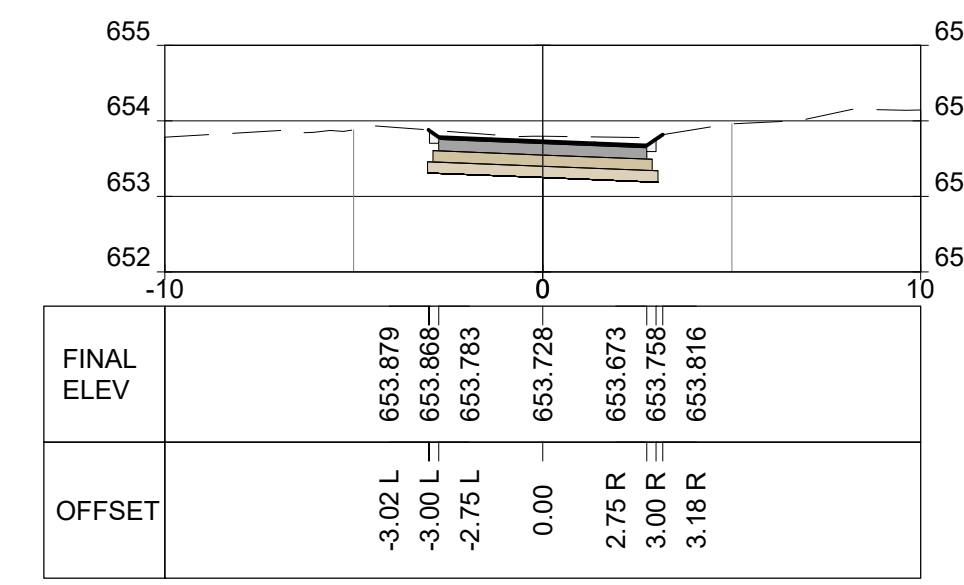
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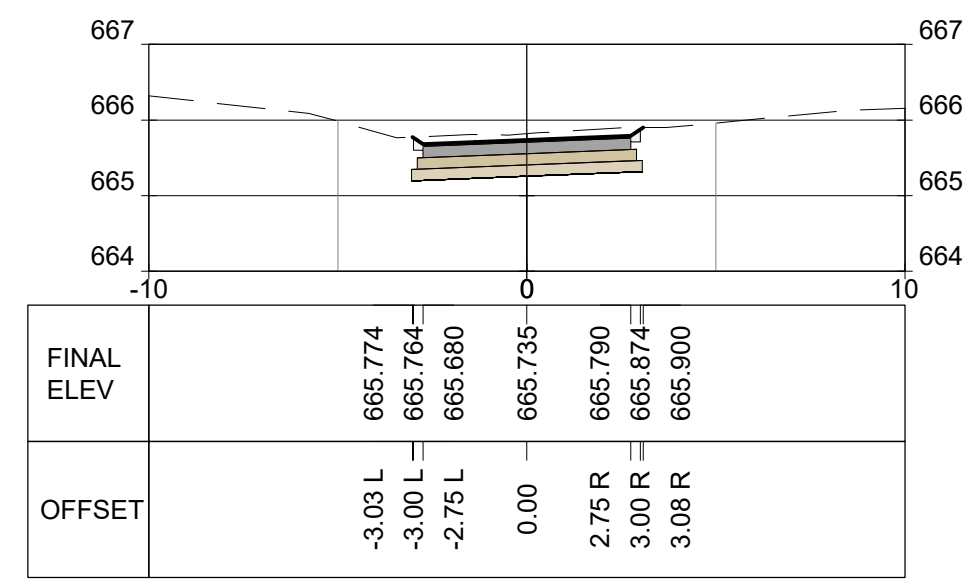
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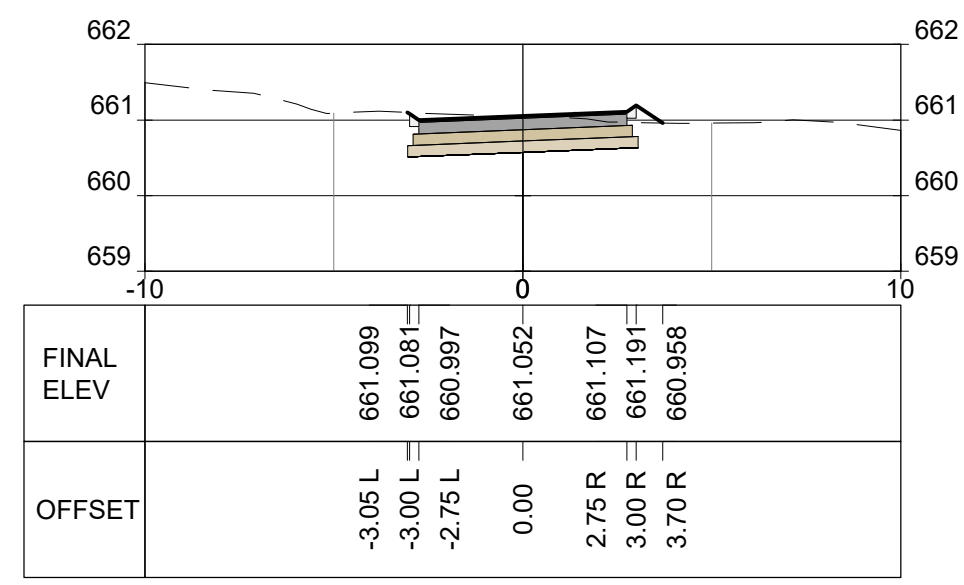
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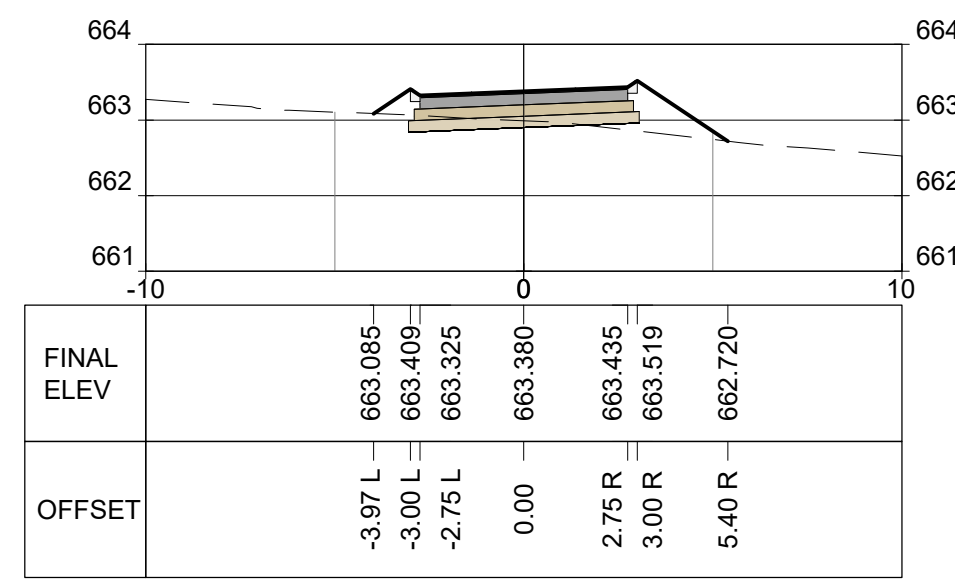
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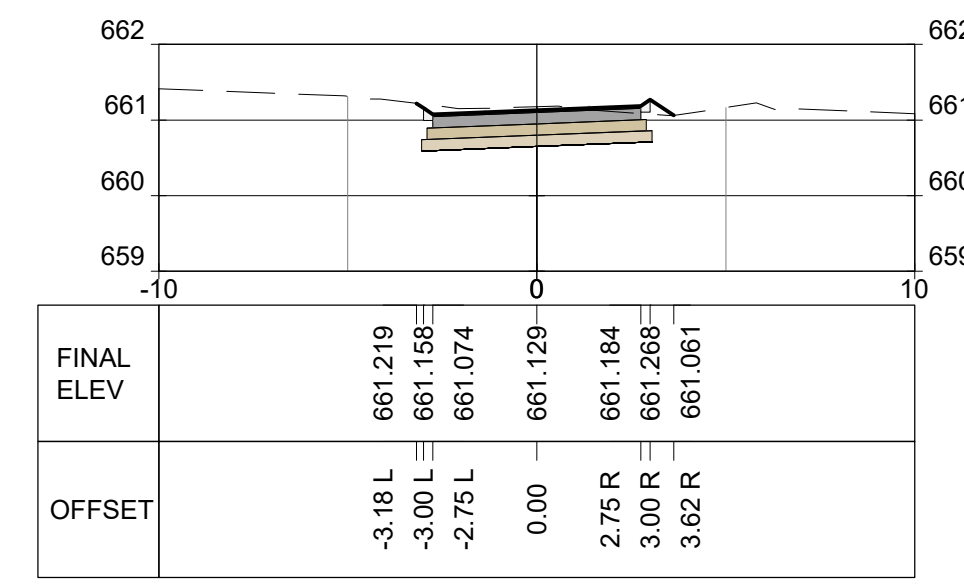
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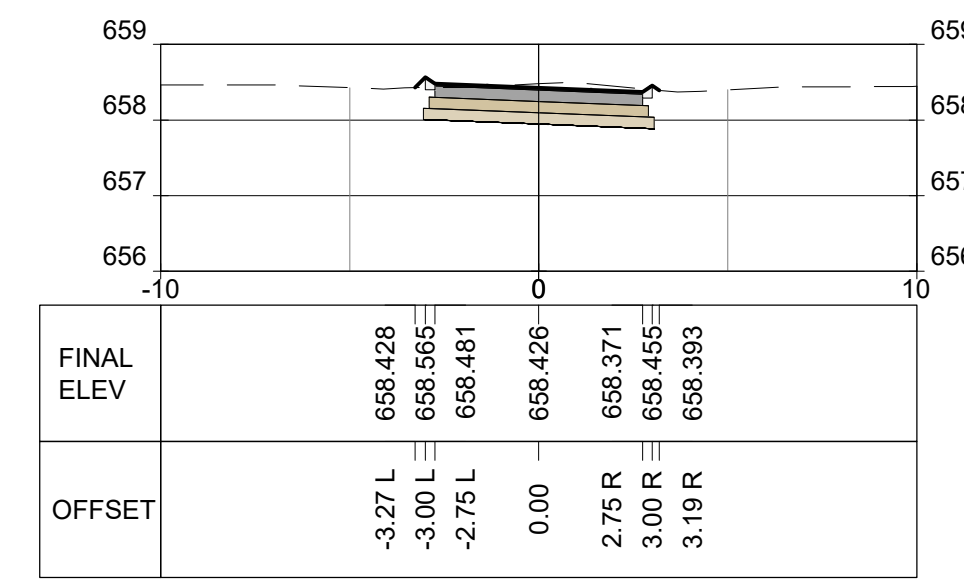
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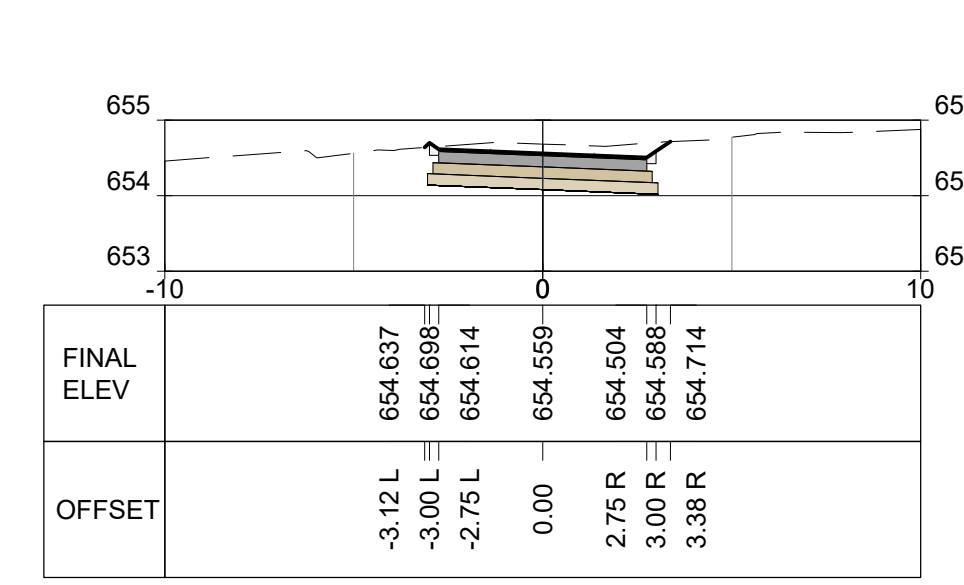
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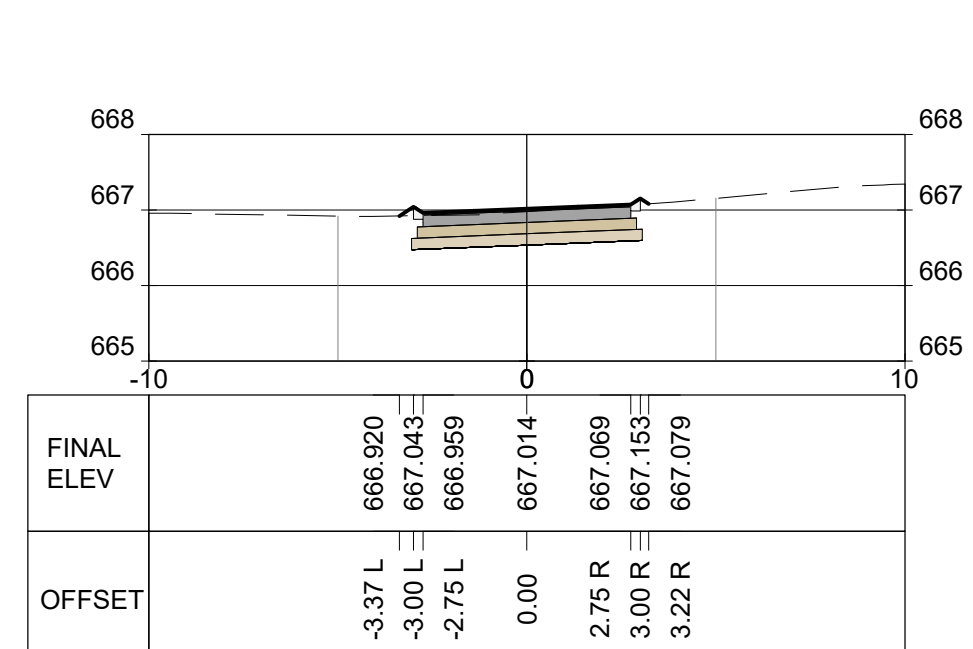
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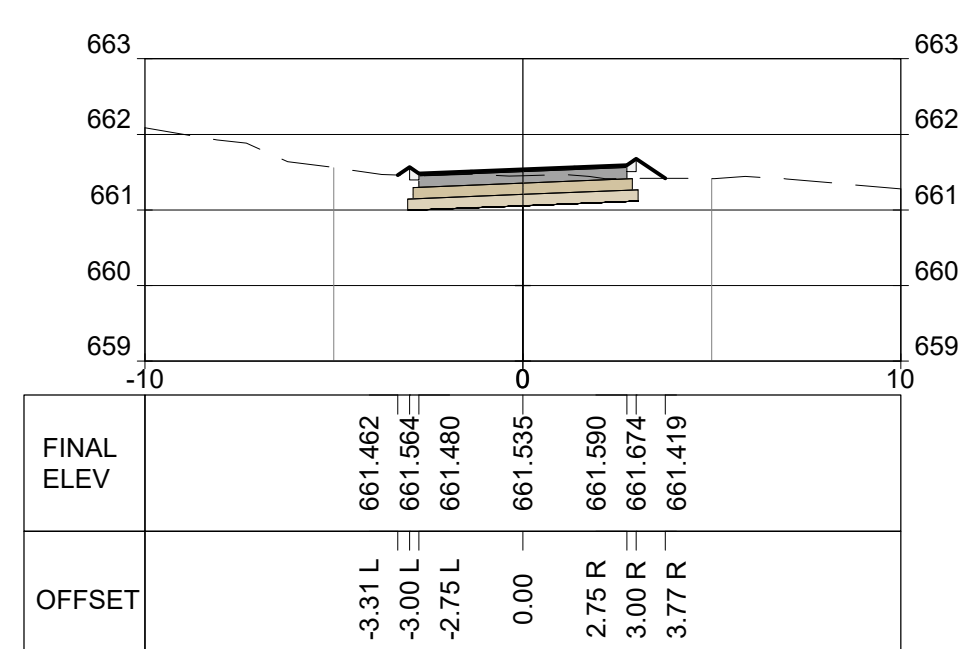
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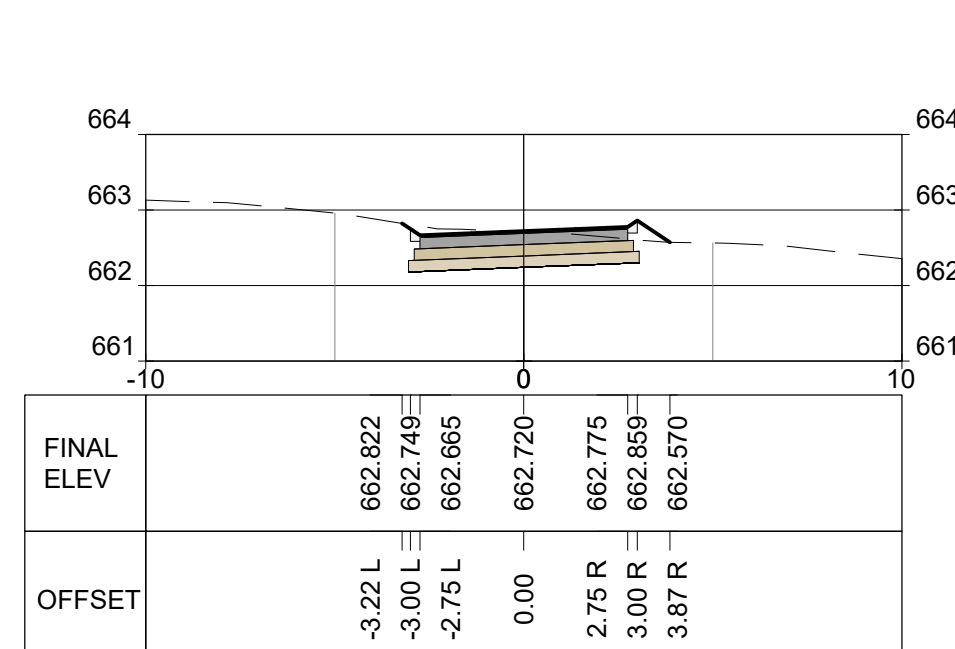
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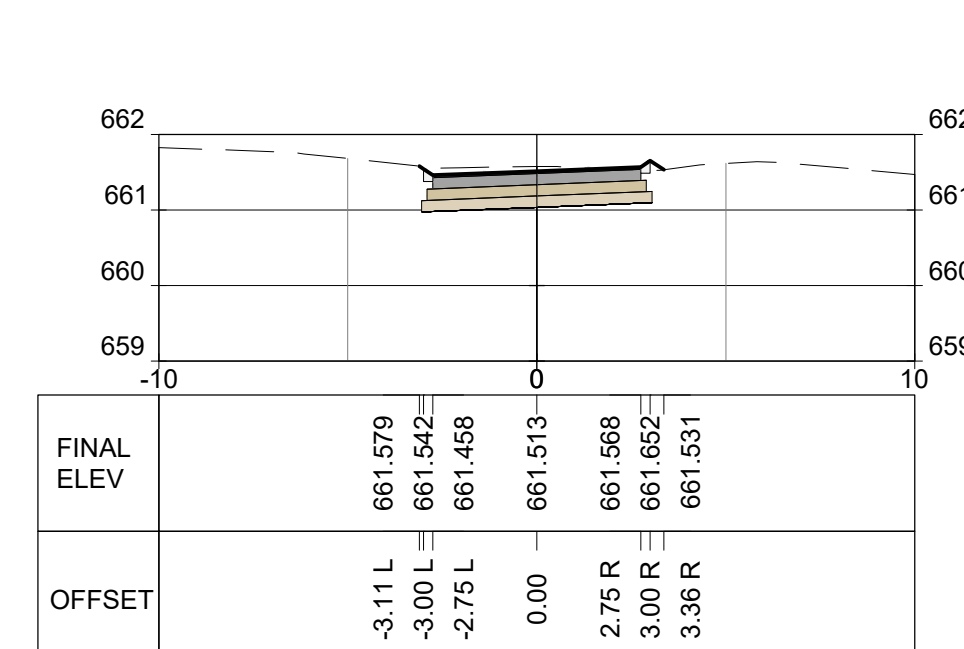
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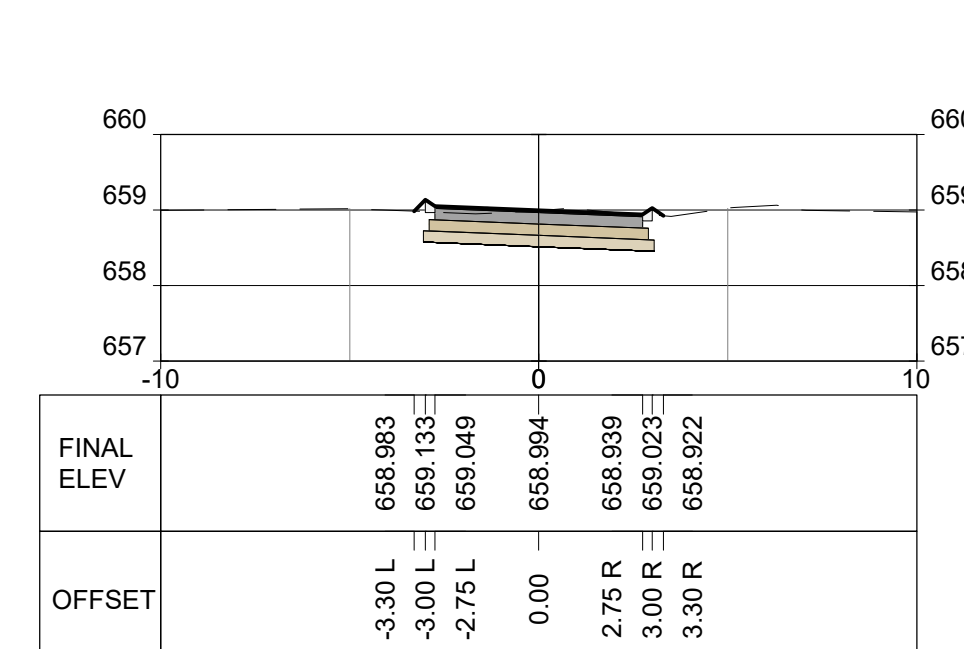
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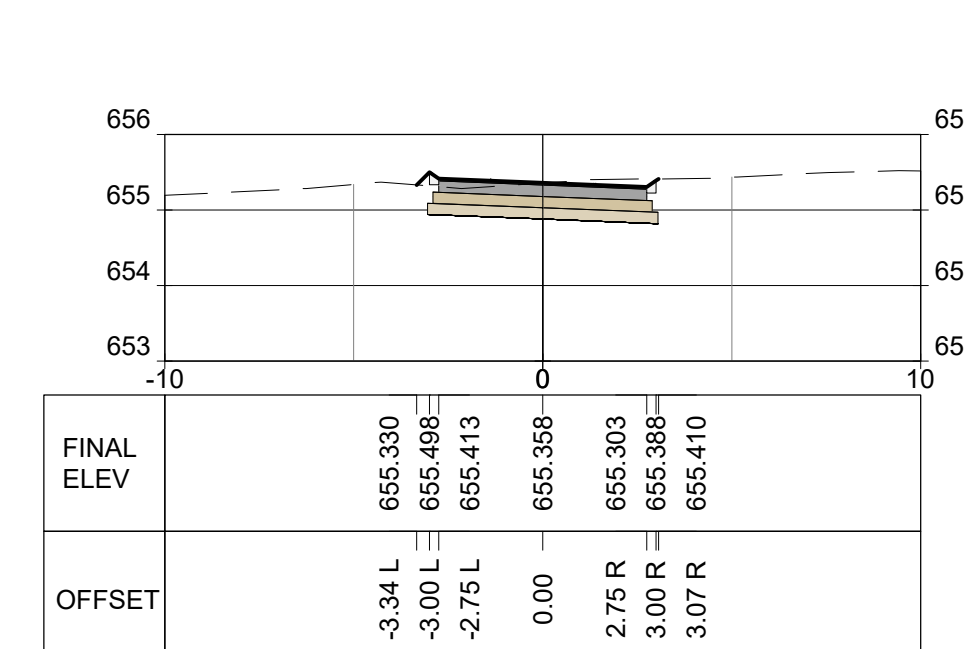
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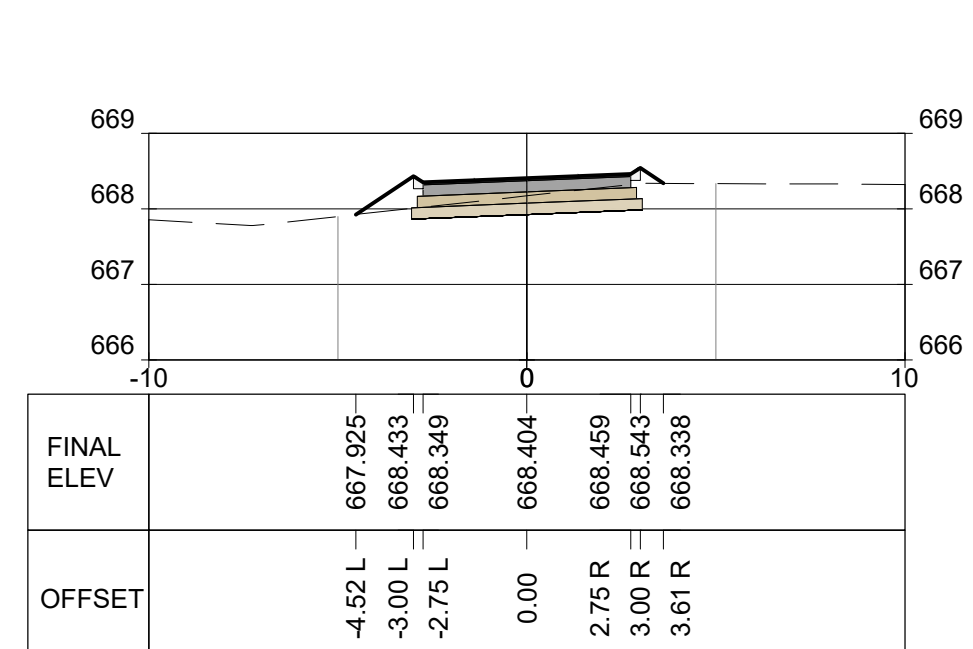
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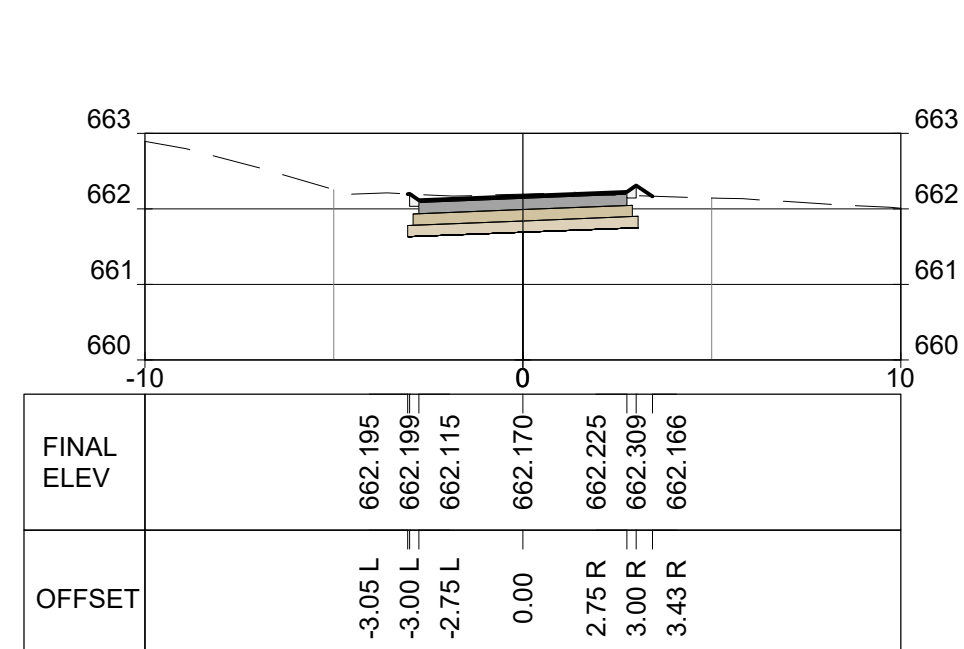
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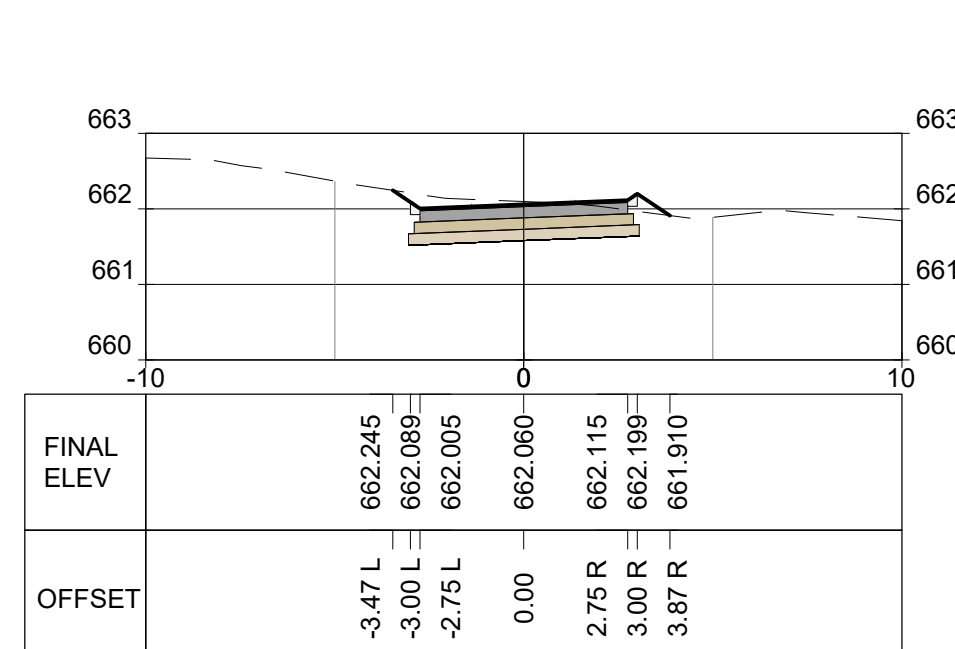
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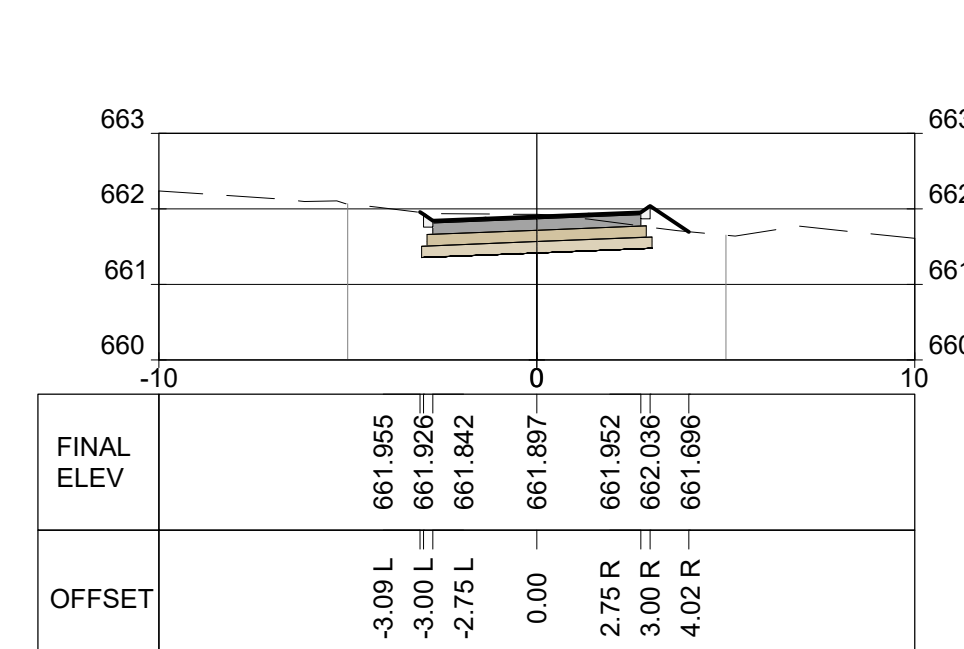
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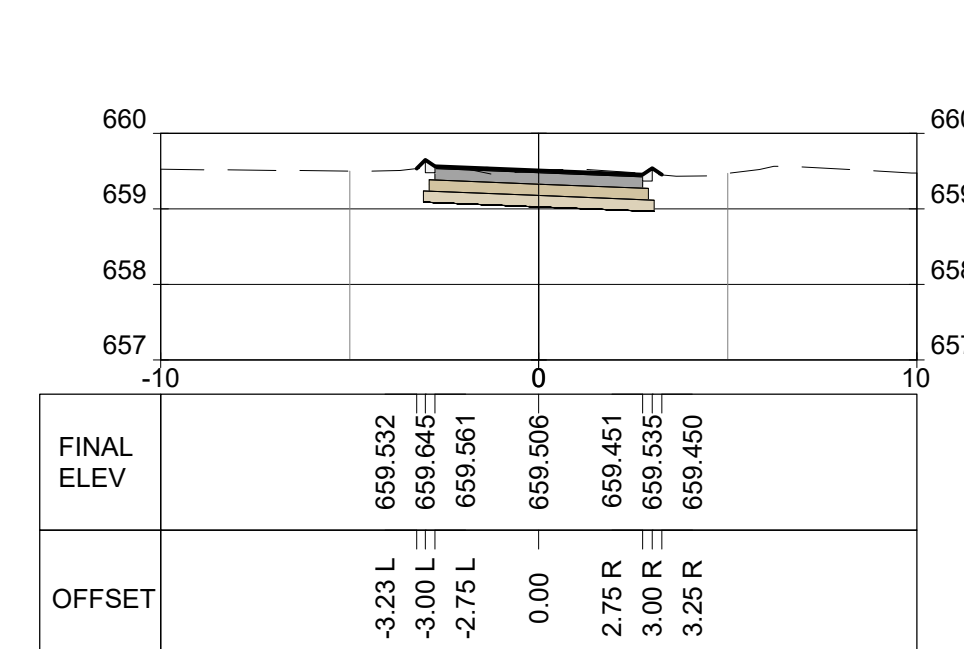
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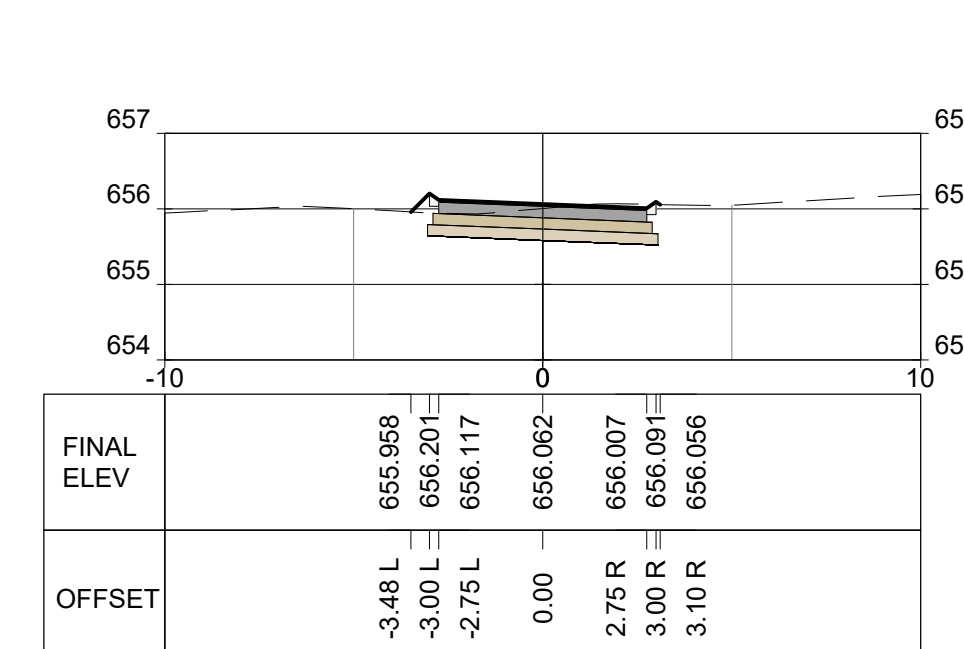
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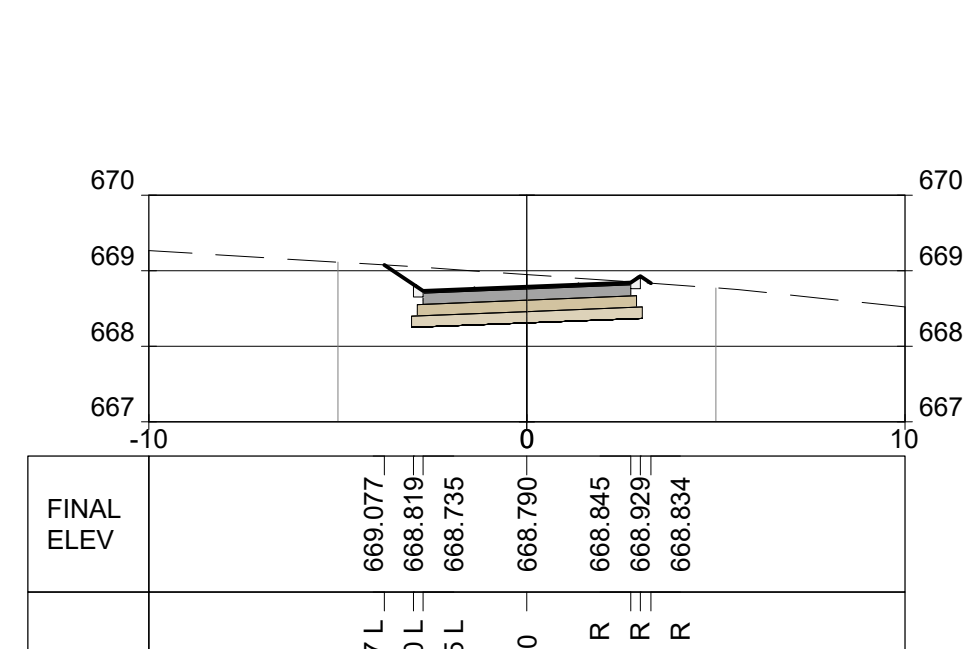
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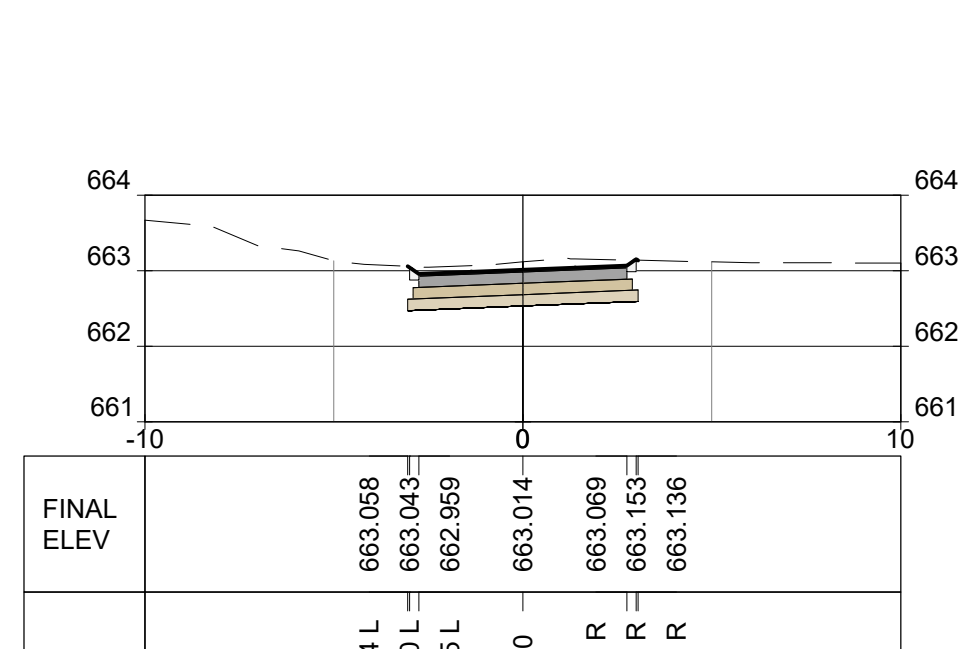
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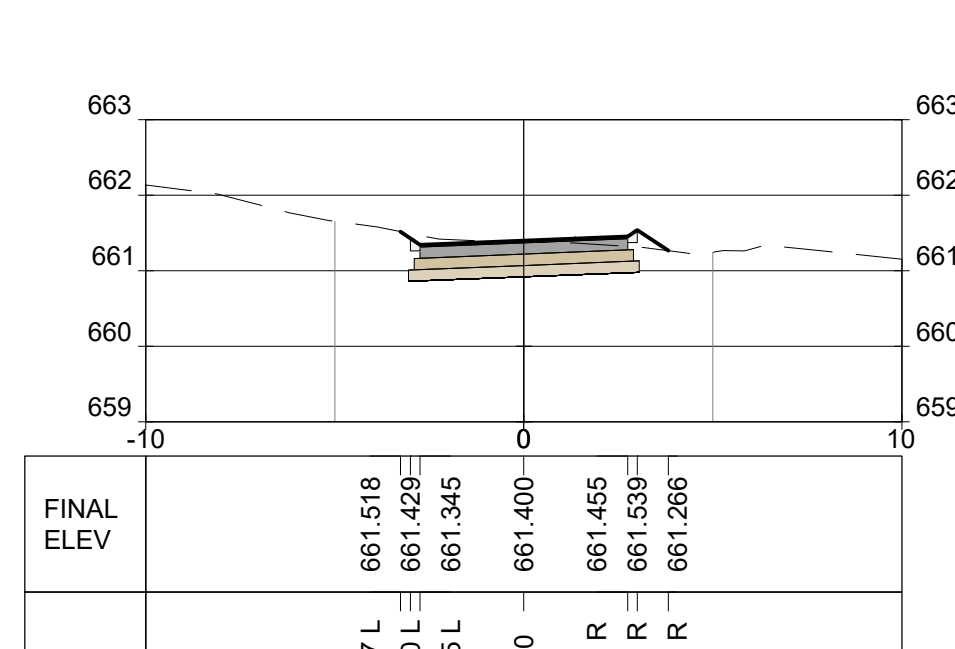
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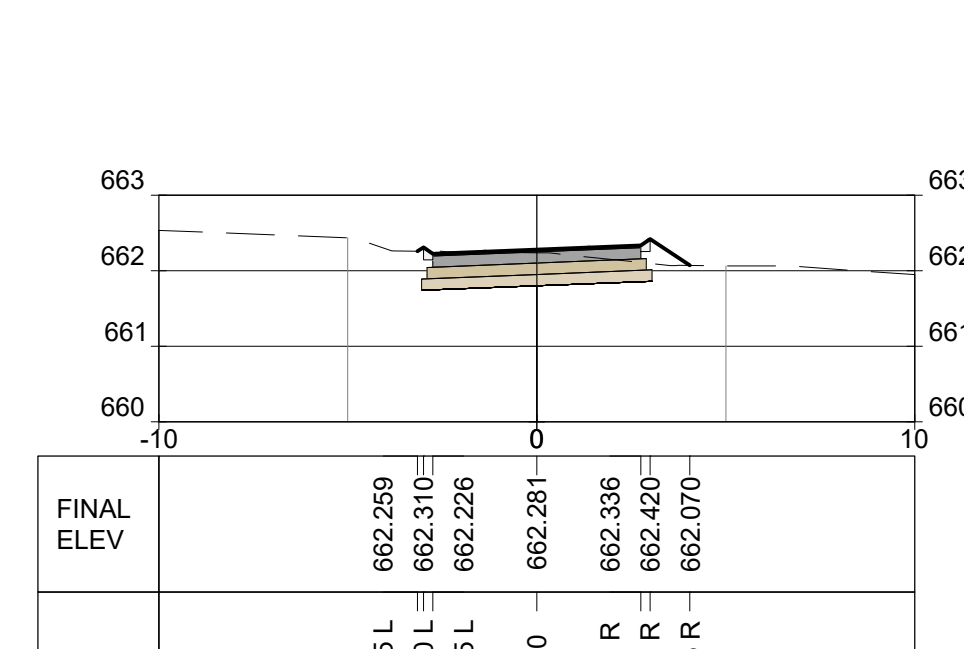
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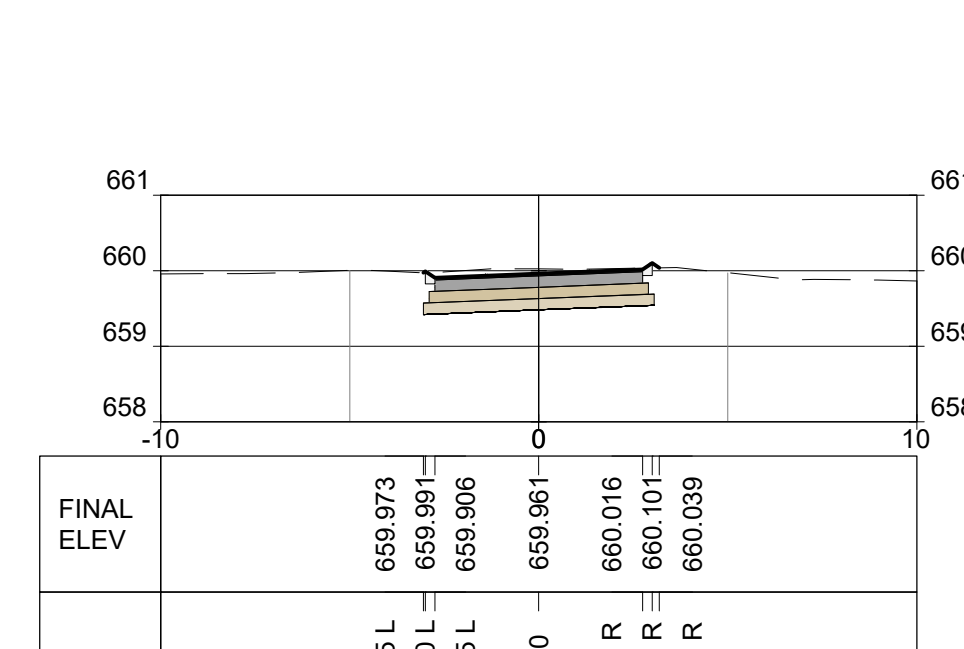
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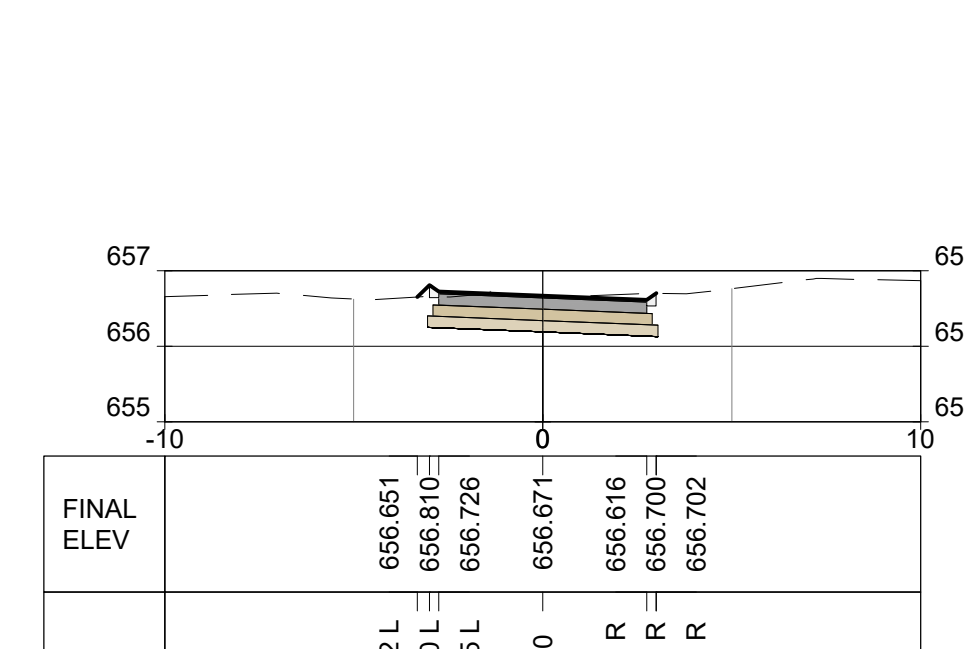
km 0.240



km 0.360



km 0.480



km 0.600

No.	DATE	REVISIONS	BY	CHECKED	RY

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RCE **RALEMA**
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S. Bapela-Pr Tech Eng
DESIGNED
I. Tihasi
DRAWN
S. Bapela-Pr Tech Eng
CHECKED

RALEMA CONSULTING	DEPARTMENT
ISSUED BY:	RECEIVED BY:
DATE:	DATE:

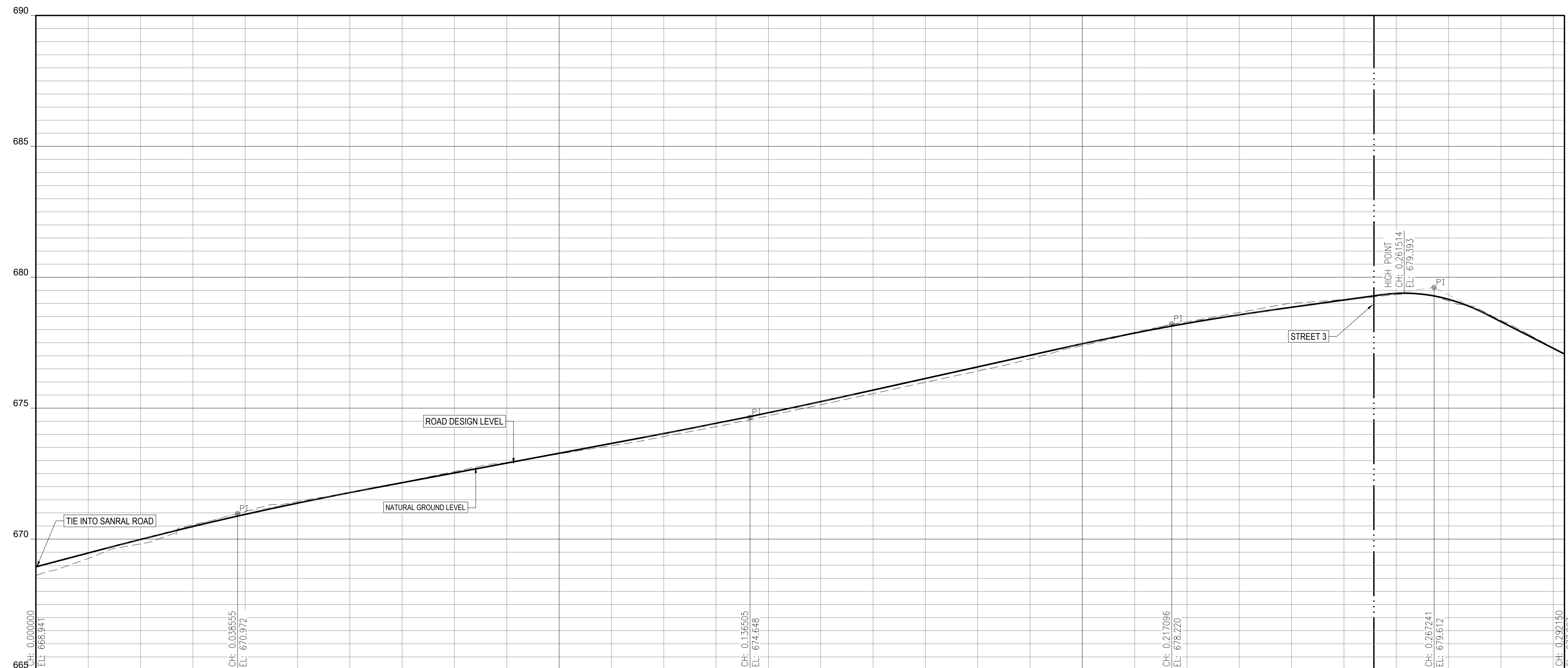
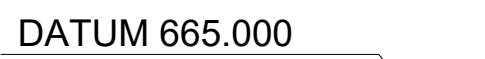
CLIENT ADDRESS

THOHOYANDOU PRIVATE BAG X5006
THOHOYANDOU 0950

Tel: (015) 962 1828
Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 1 OF 2
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	STREET 1 : Km 0+000 to 0+700: CROSS SECTIONS			

SCALE	TYPES OF PLANNING	STATUS
1:200	● PLANNING ● CONSTRUCTION ● AS-BUILT	● PLANNING
REVISION	PLAN No.	
0	RCE_78_MLM_1CS_01	

[illegible][illegible]

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 **RALEMA**
CONSULTING ENGINEERS

C08/06 PHOENIX VIEW ESTATES Tel: (011) 312 0673
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S. Bapela-Pr Tech Eng DESIGNED	RALEMA CONSULTING	DEPARTMENT
I. Tihasi DRAWN	ISSUED BY:	RECEIVED BY:
S. Bapela-Pr Tech Eng CHECKED	DATE:	DATE:

CLIENT ADDRESS

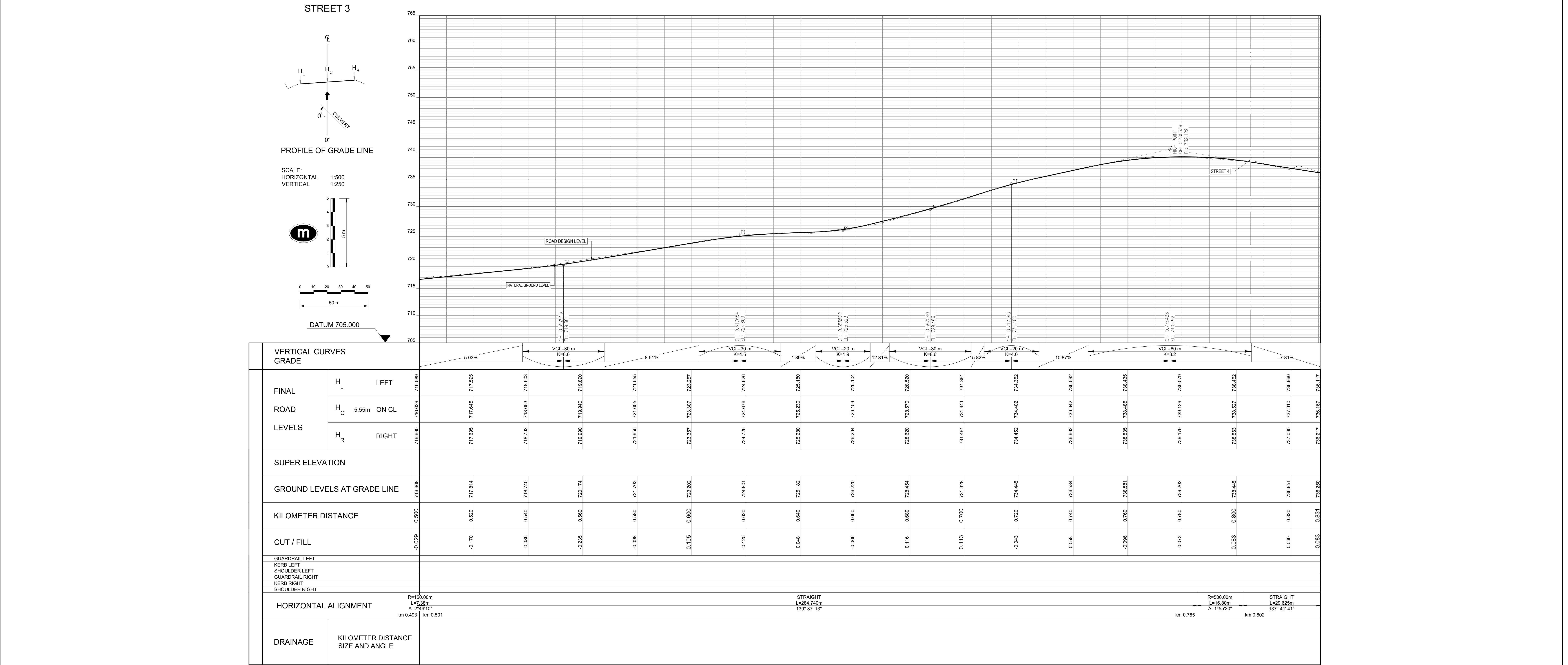
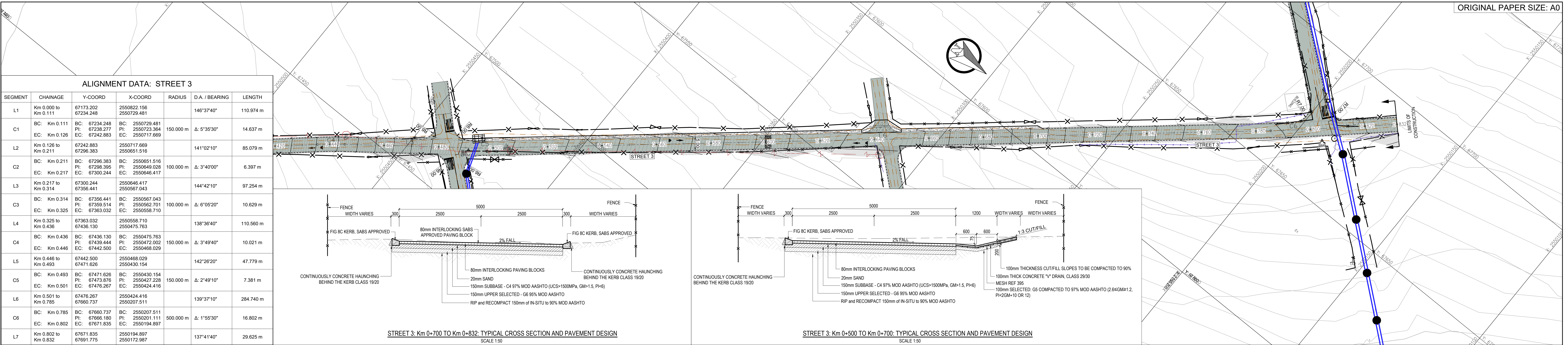

 THOHOYANDOU
 PRIVATE BAG X5006
 THOHOYANDOU
 0950

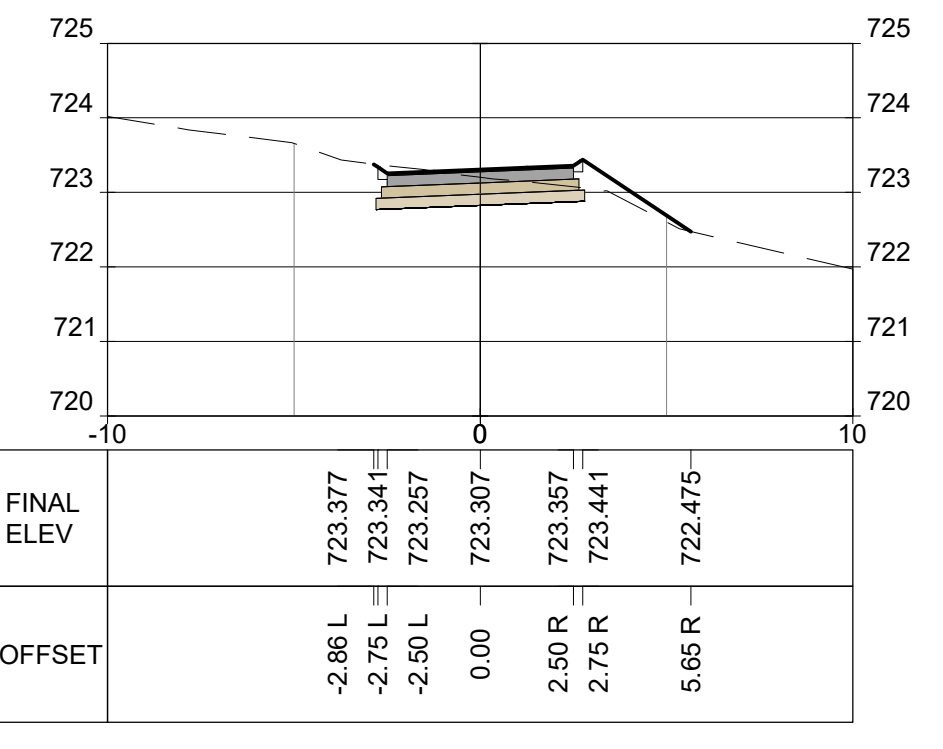
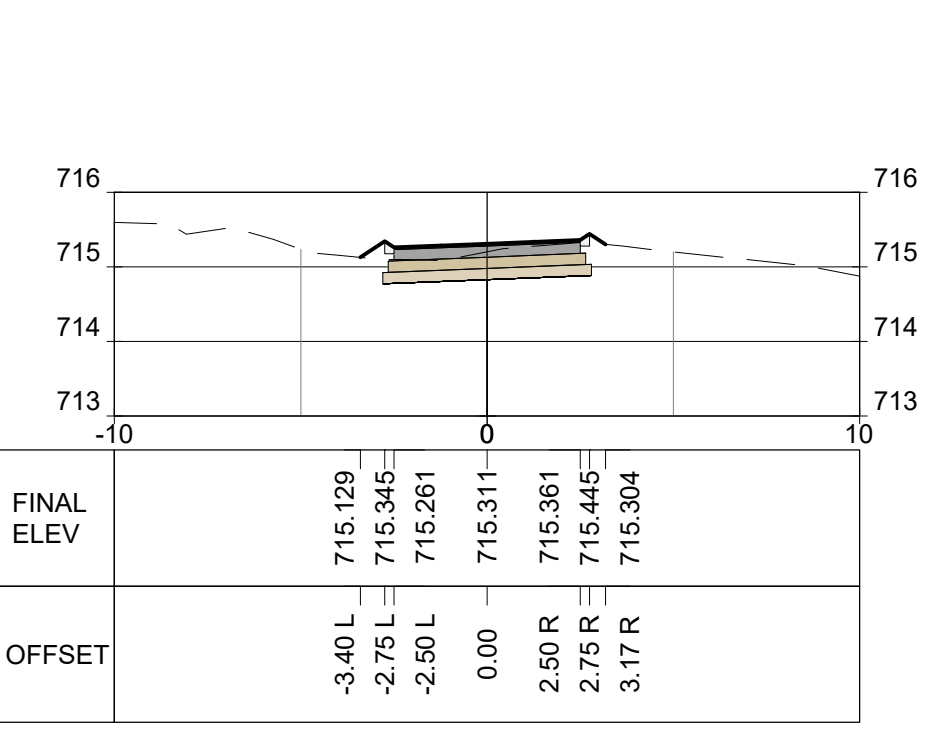
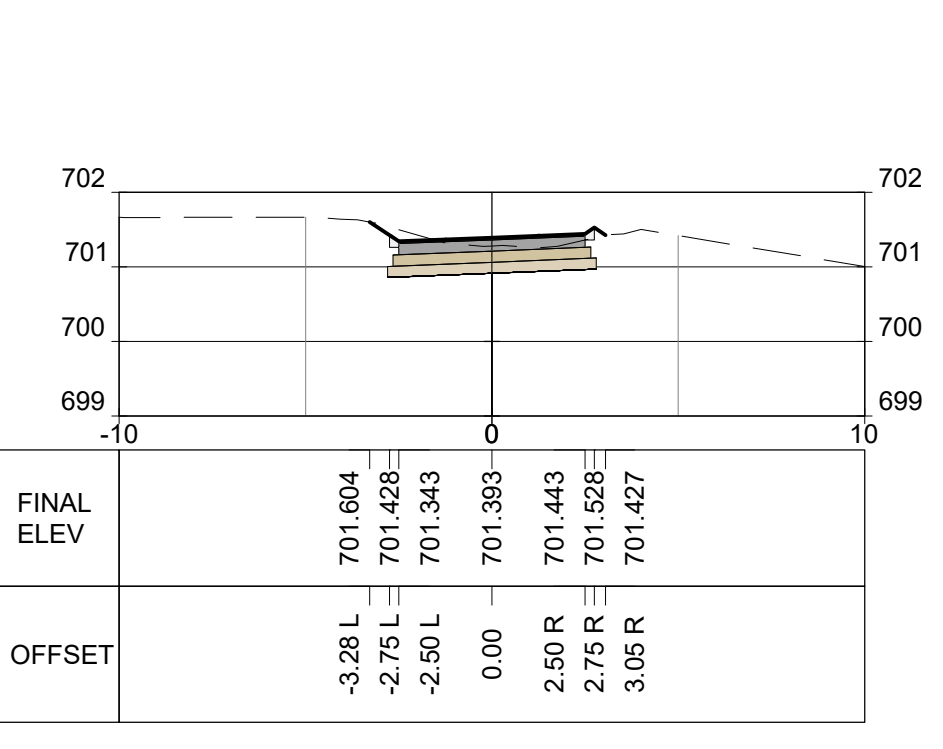
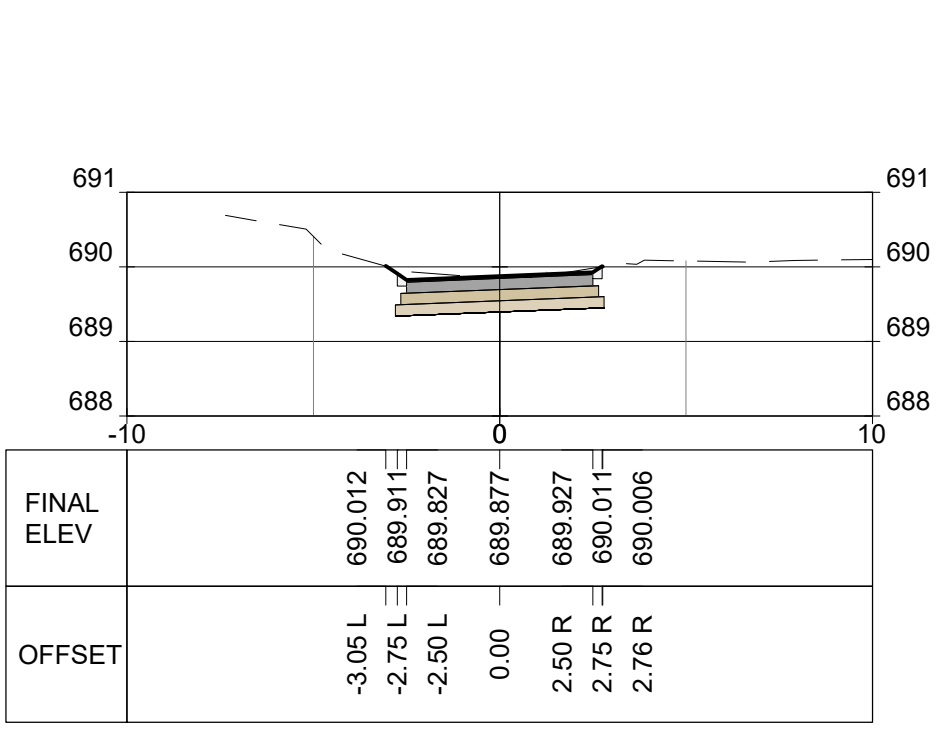
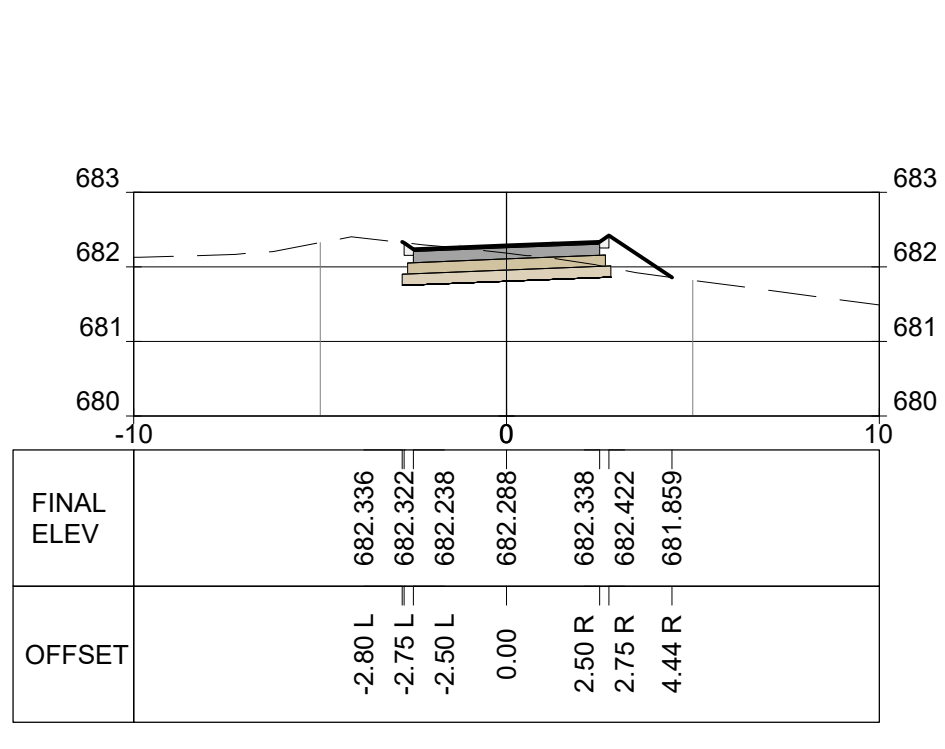
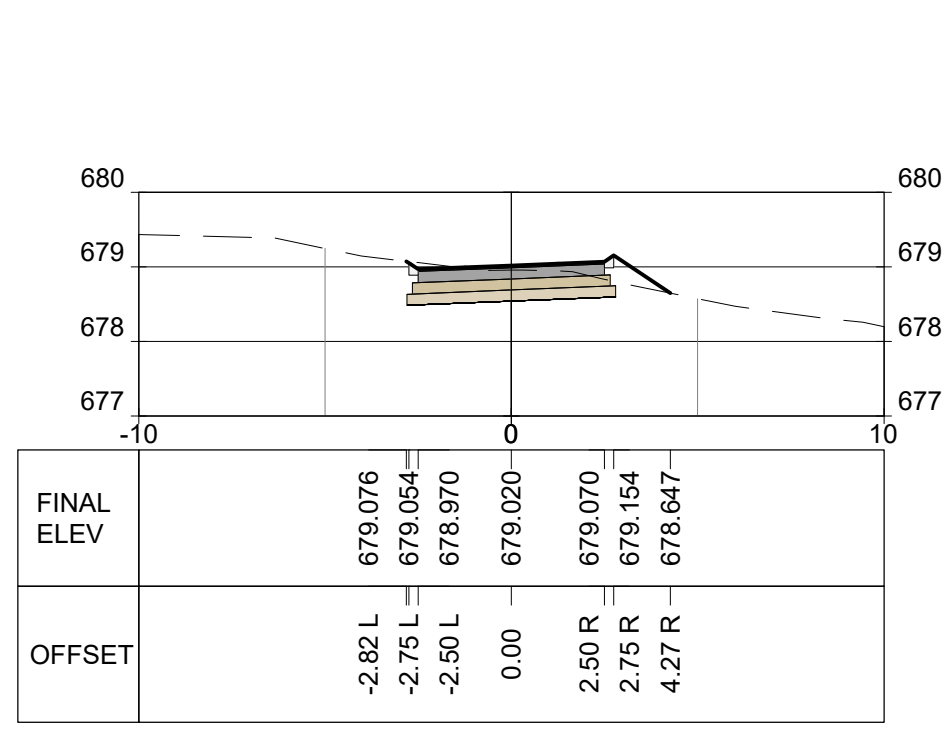
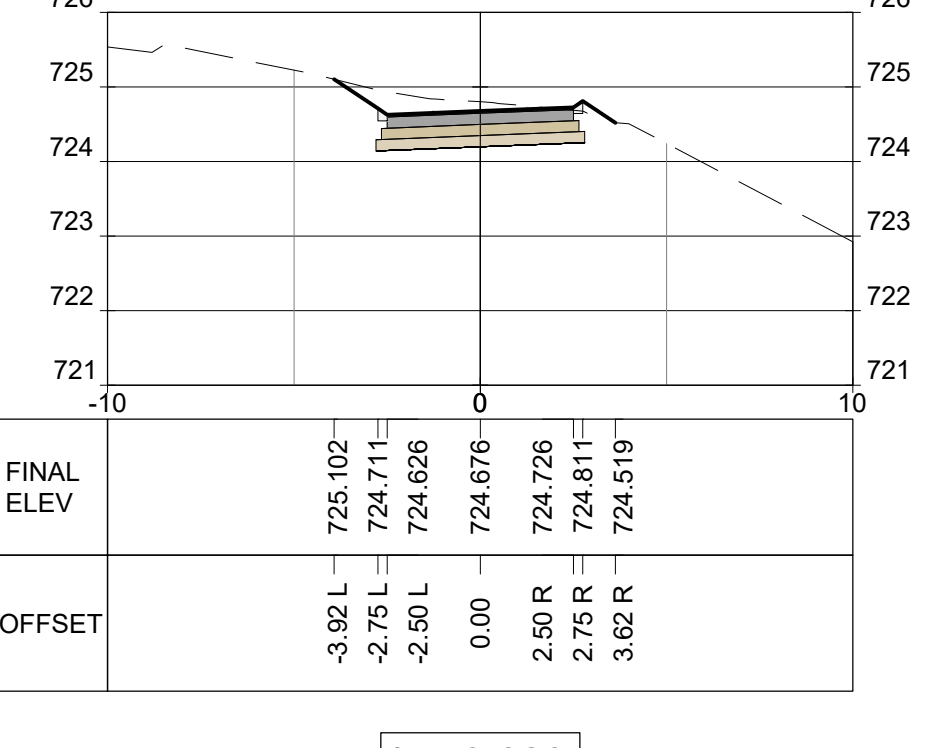
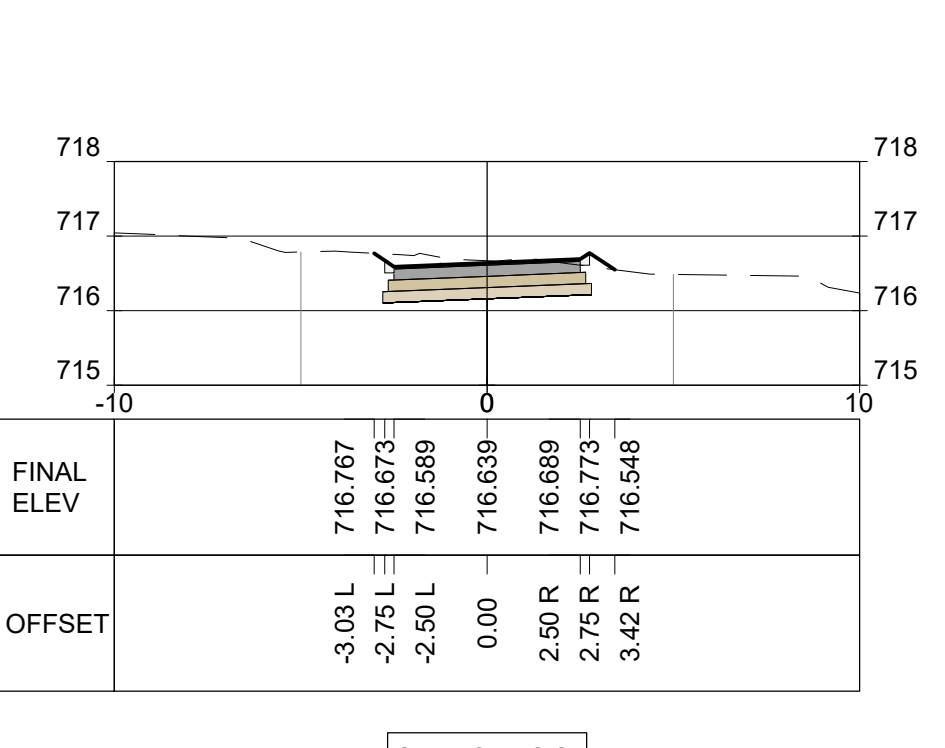
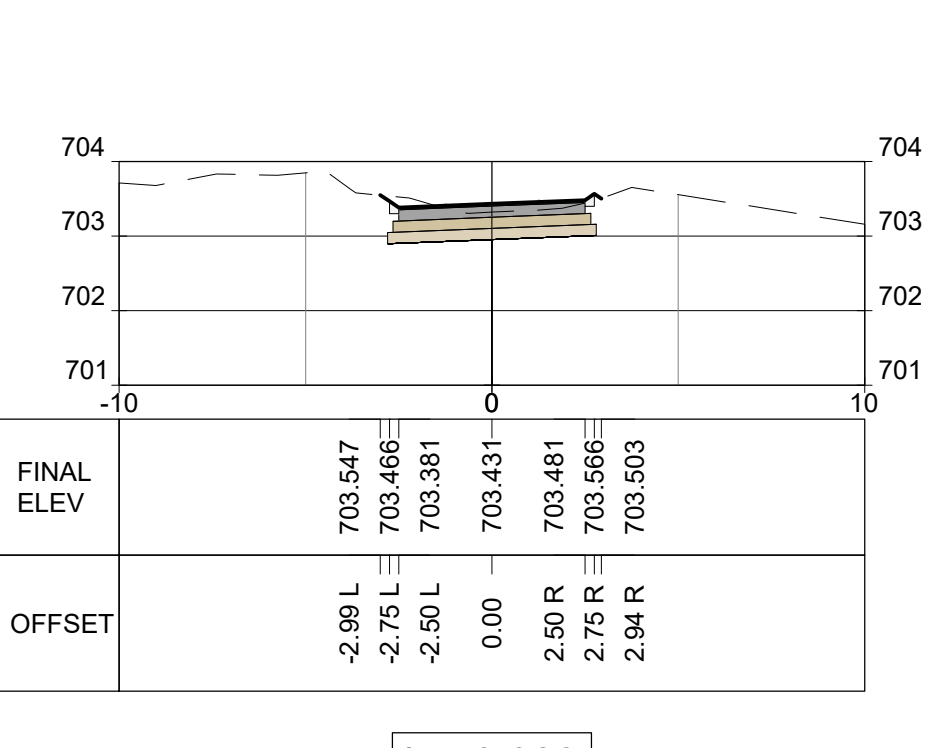
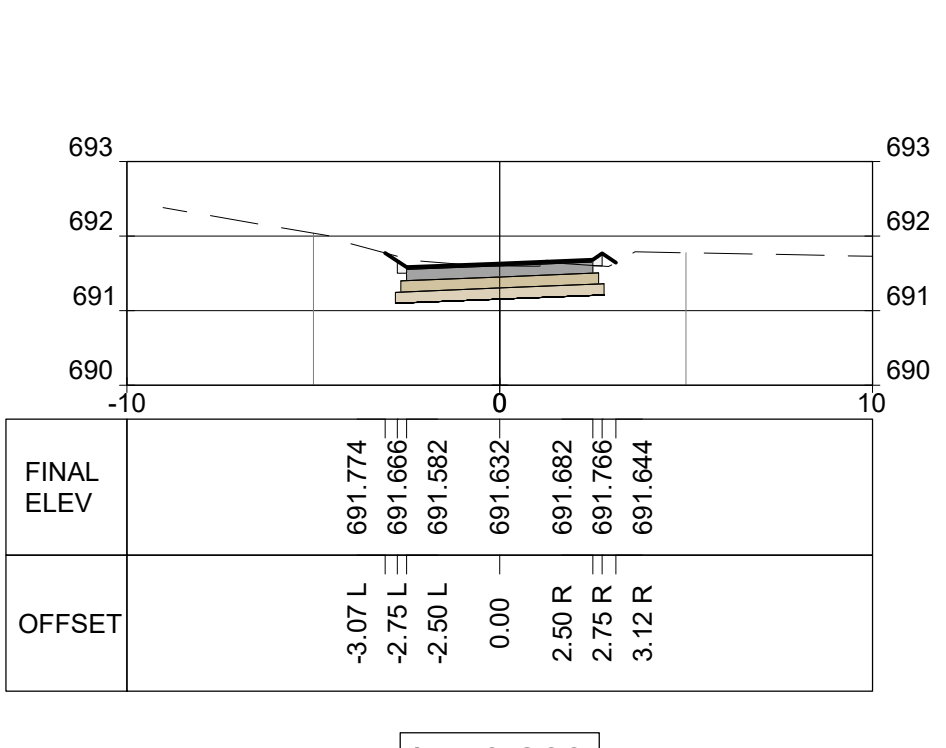
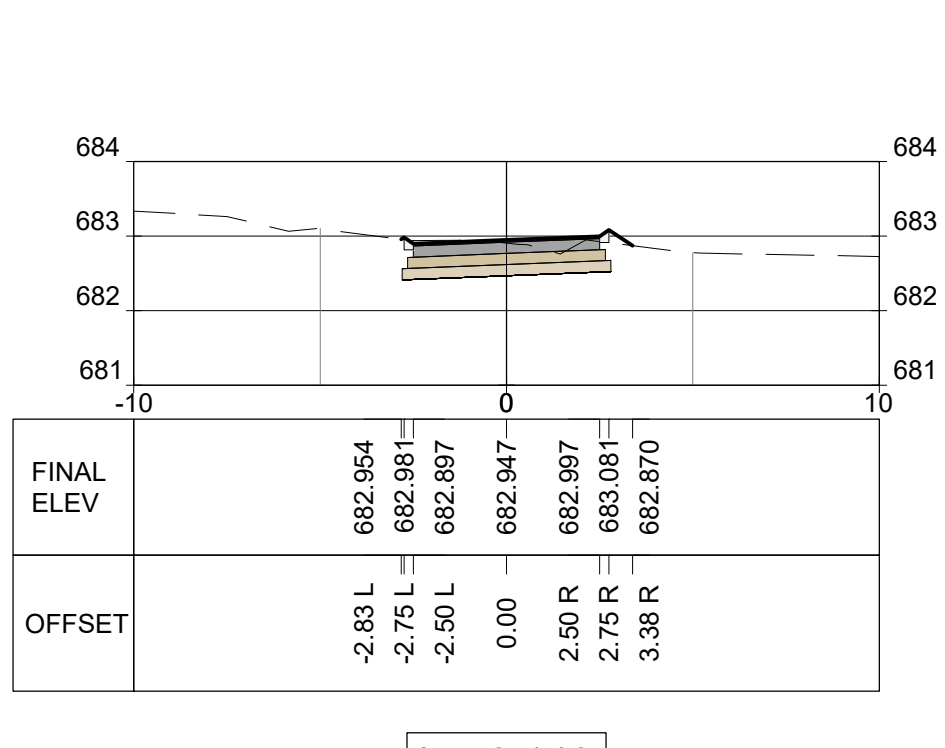
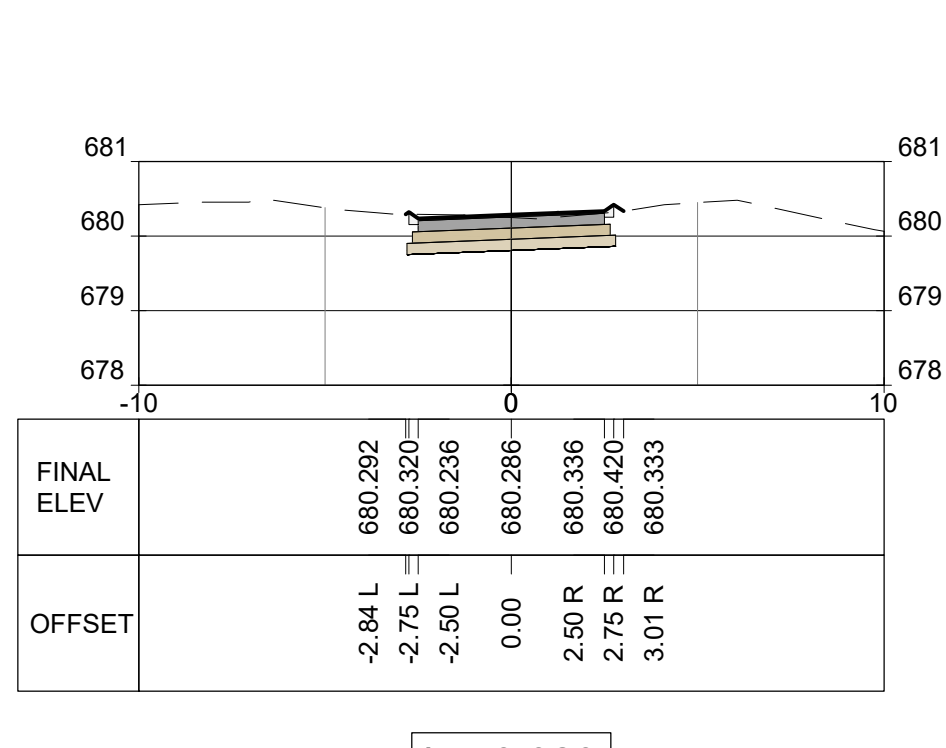
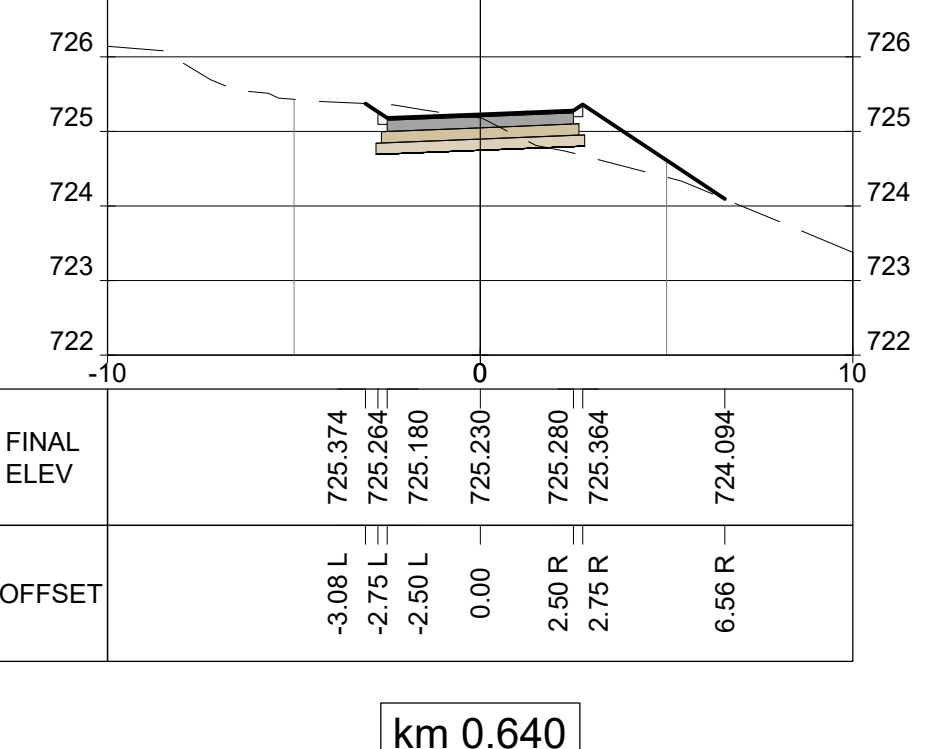
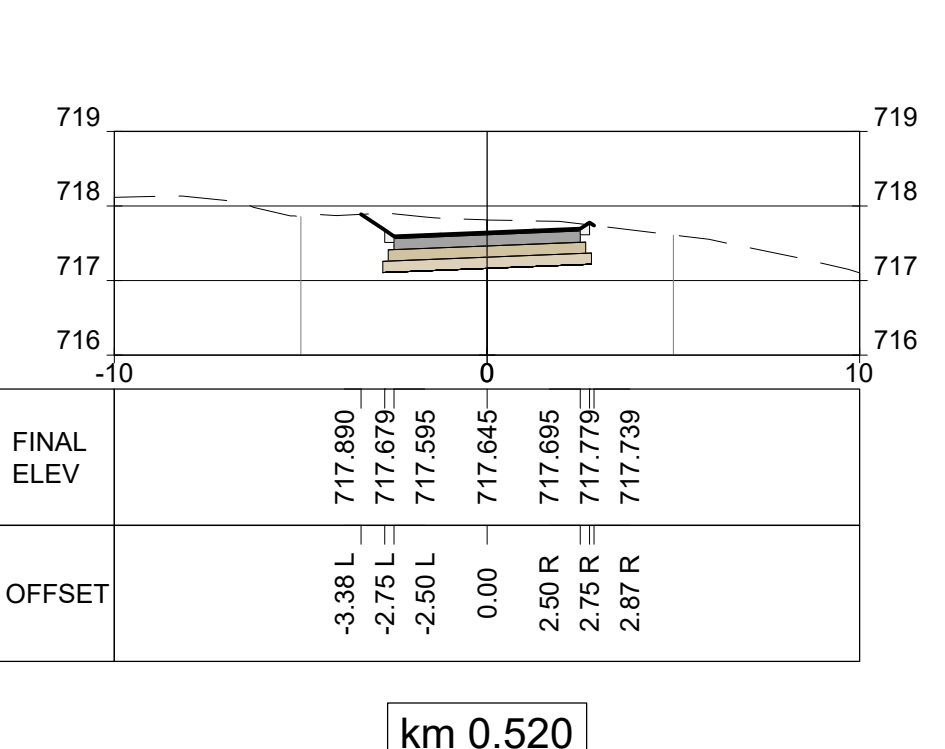
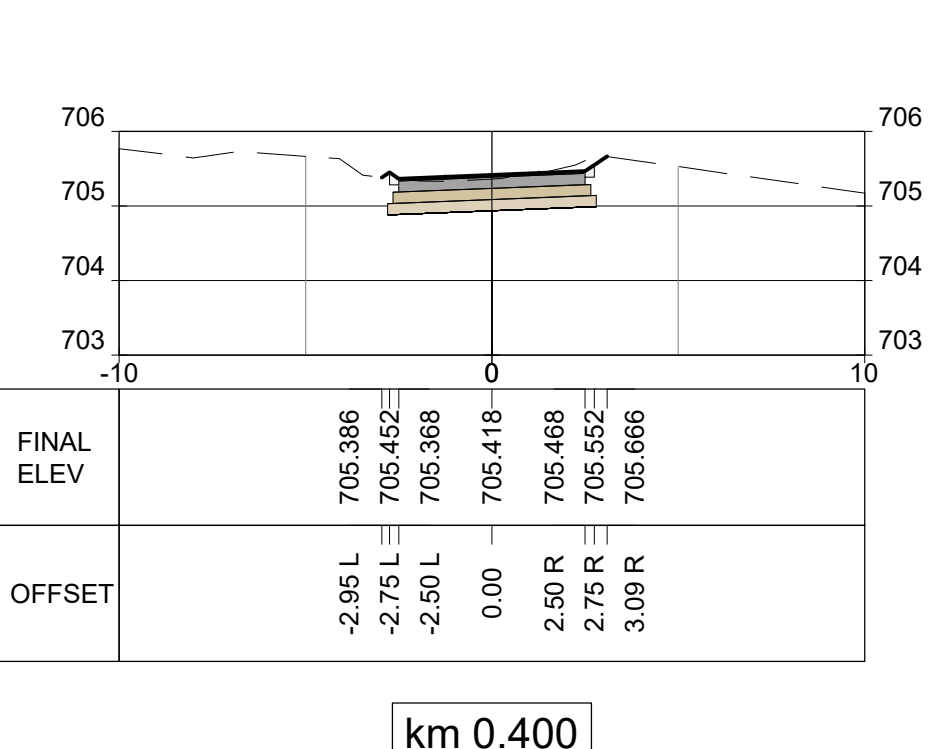
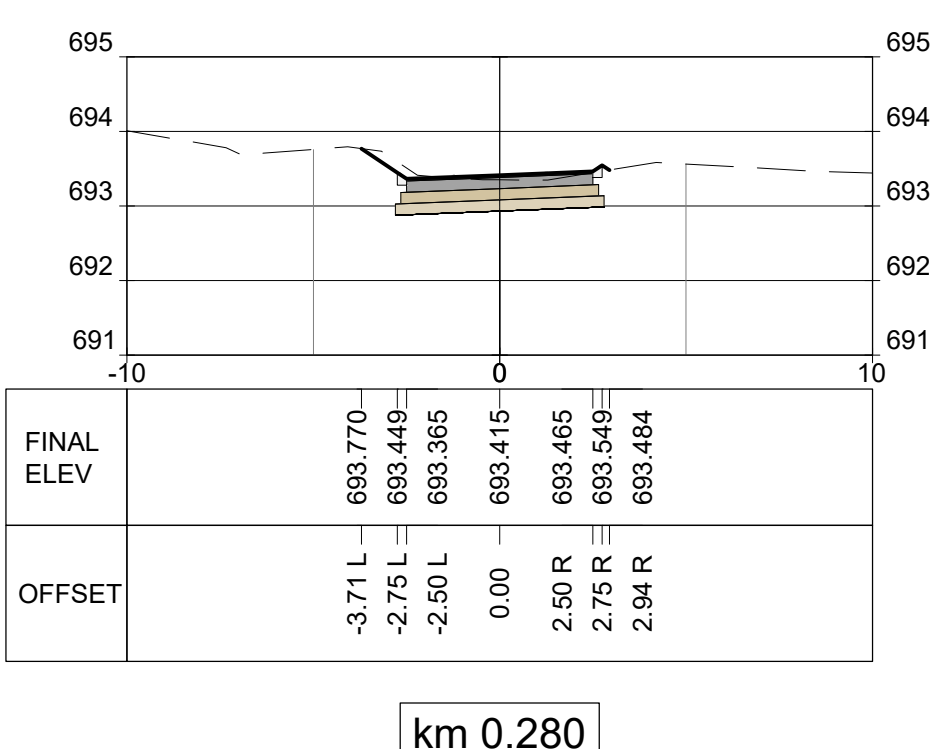
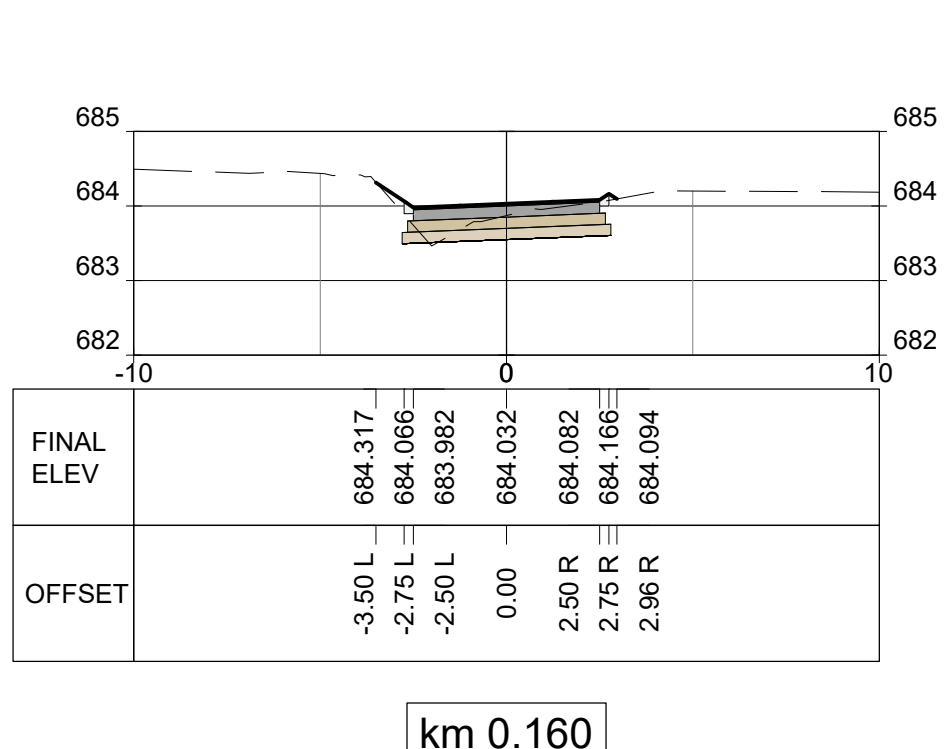
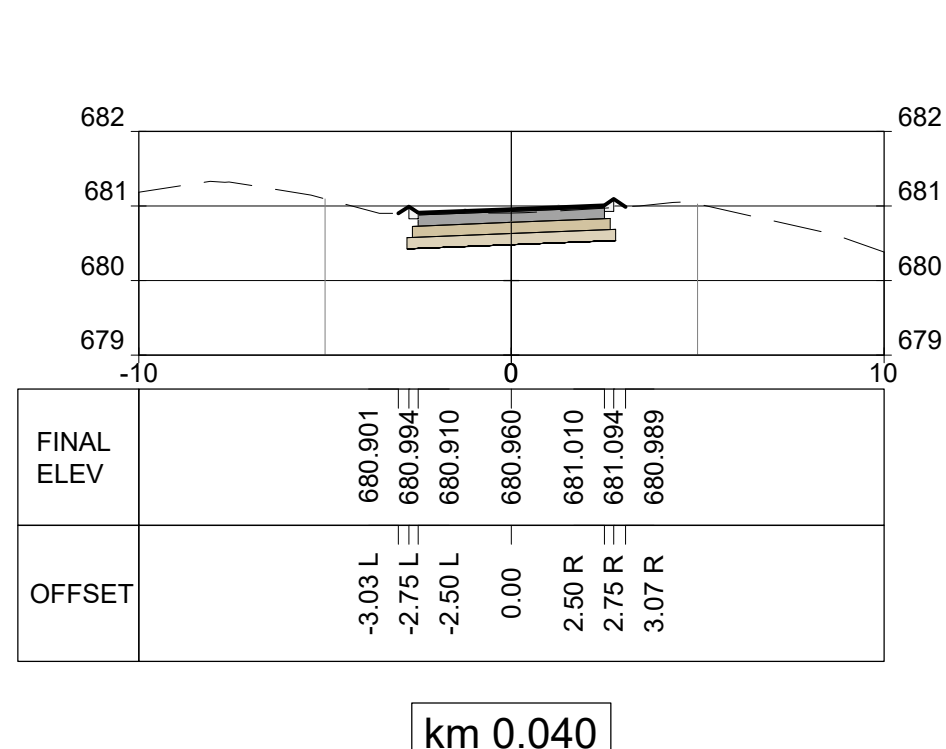
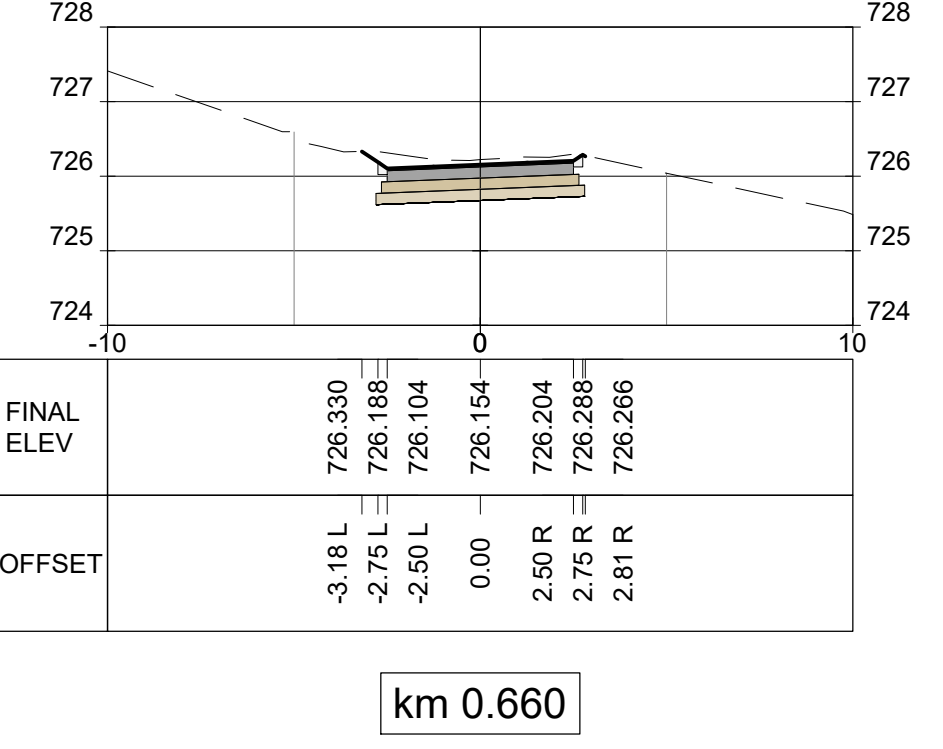
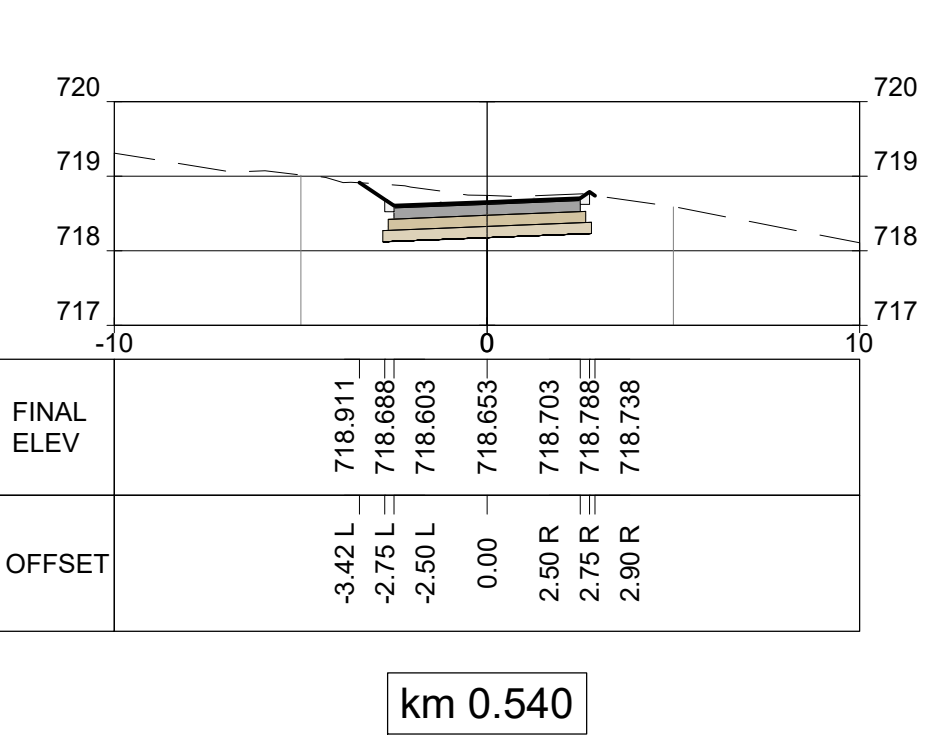
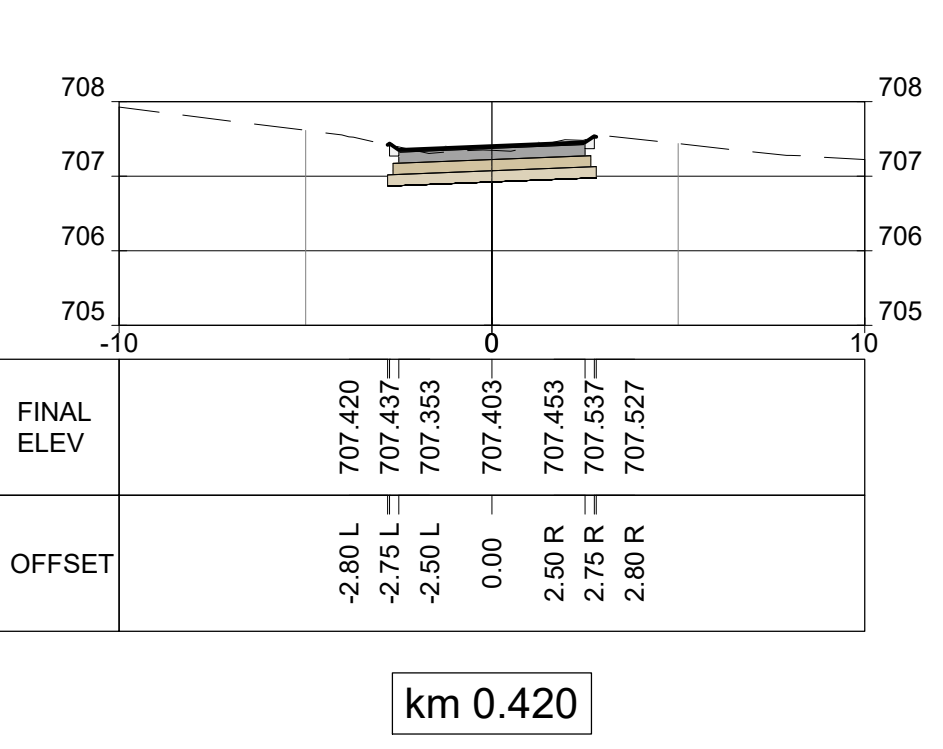
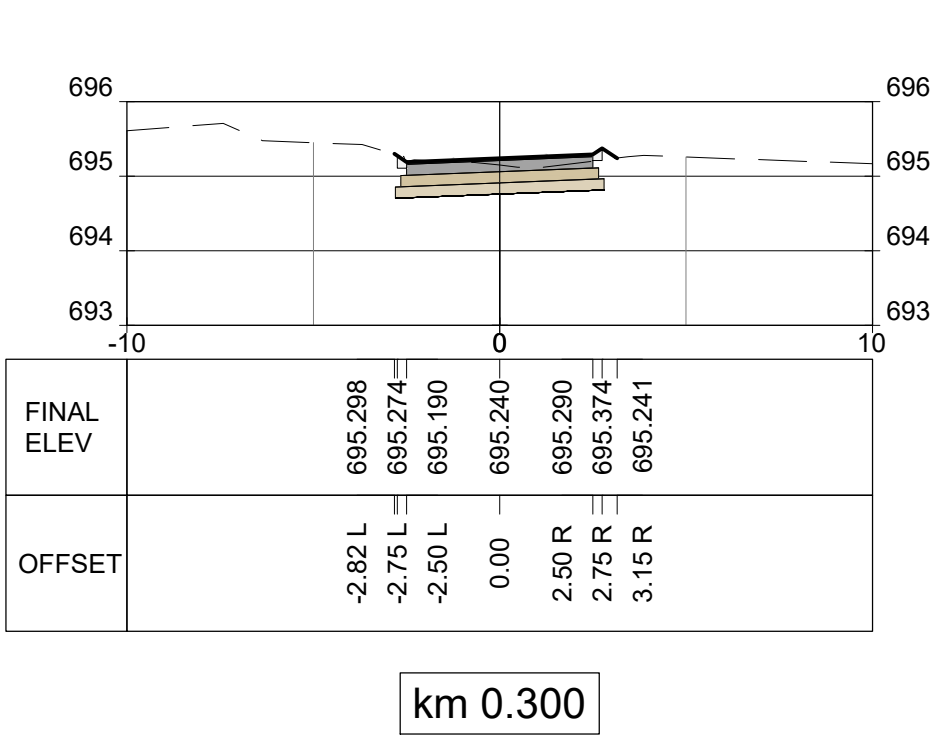
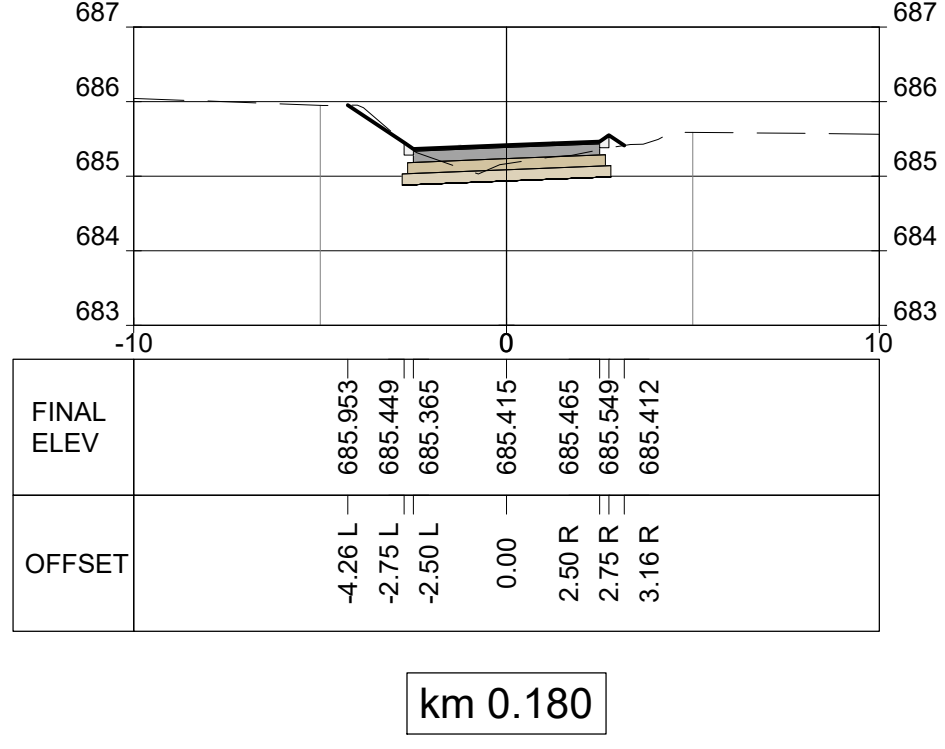
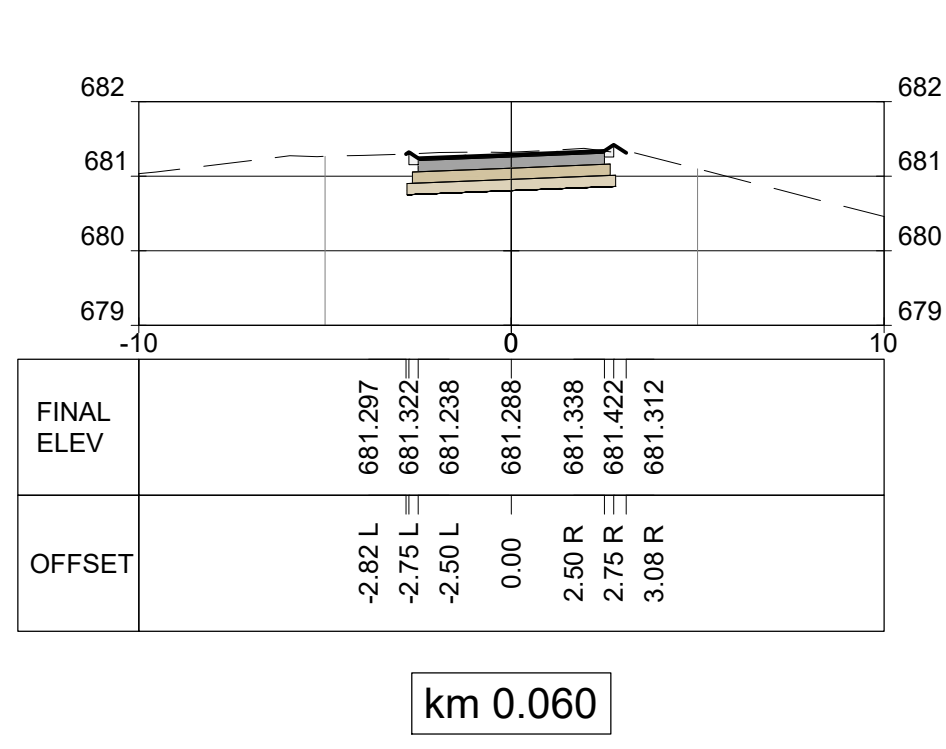
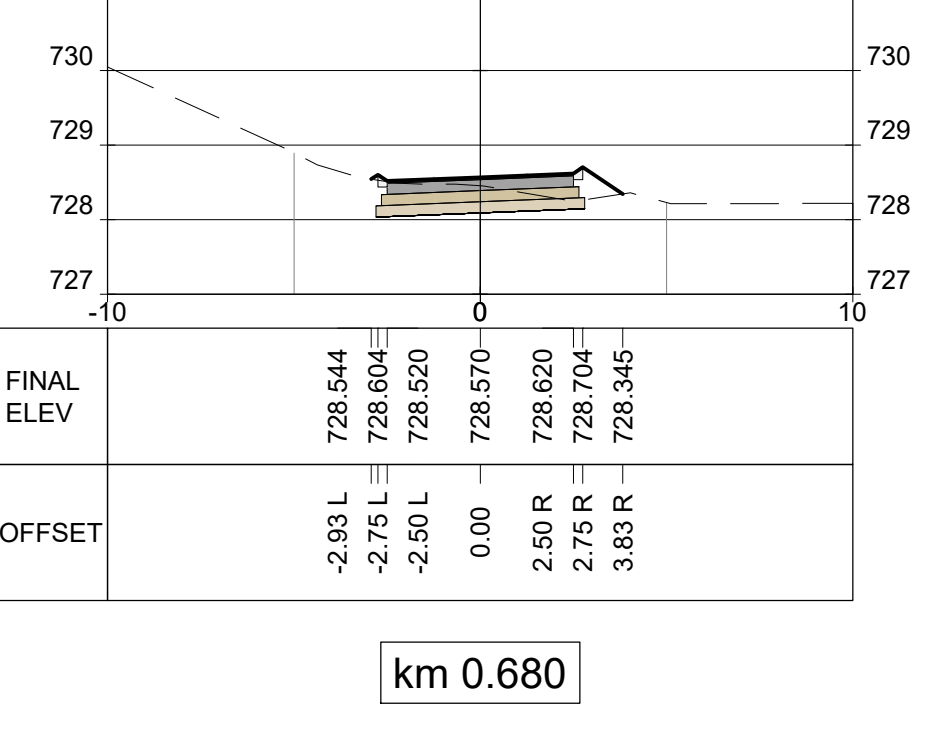
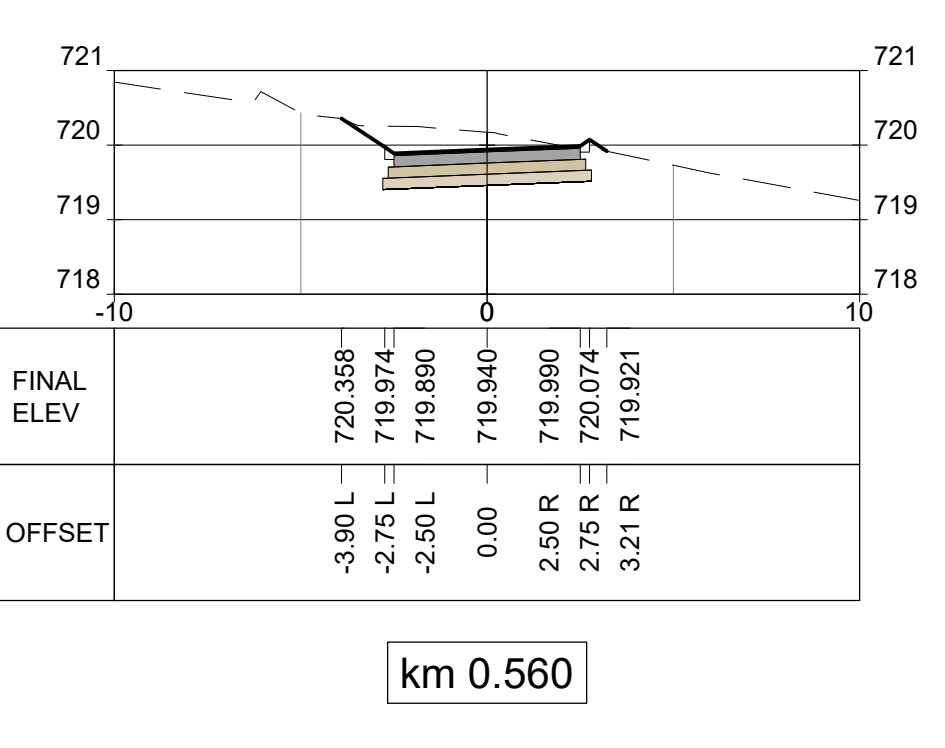
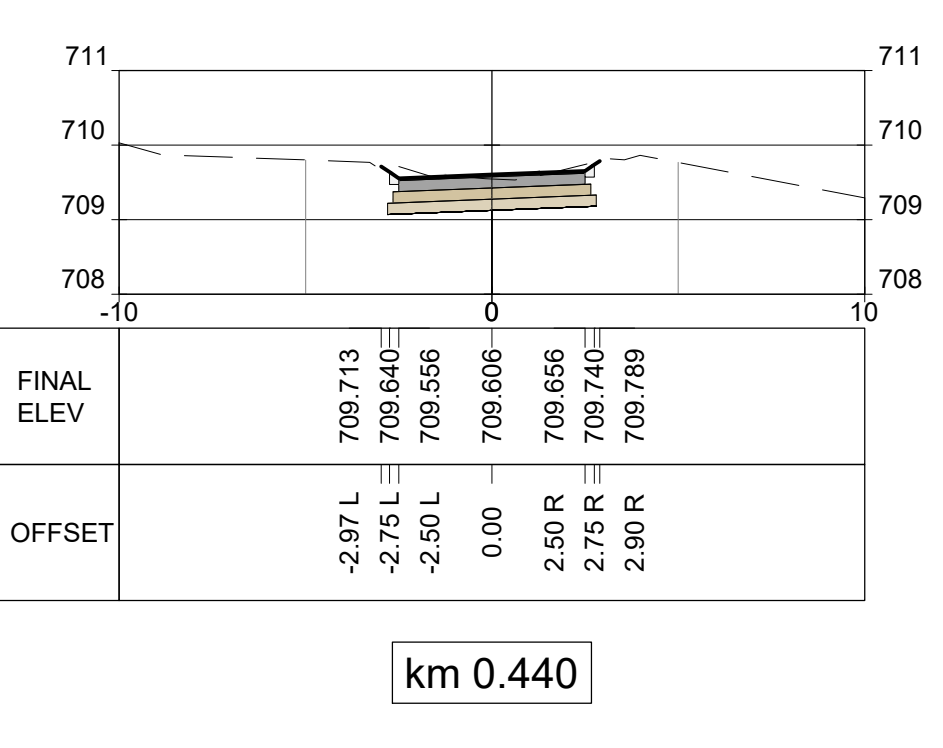
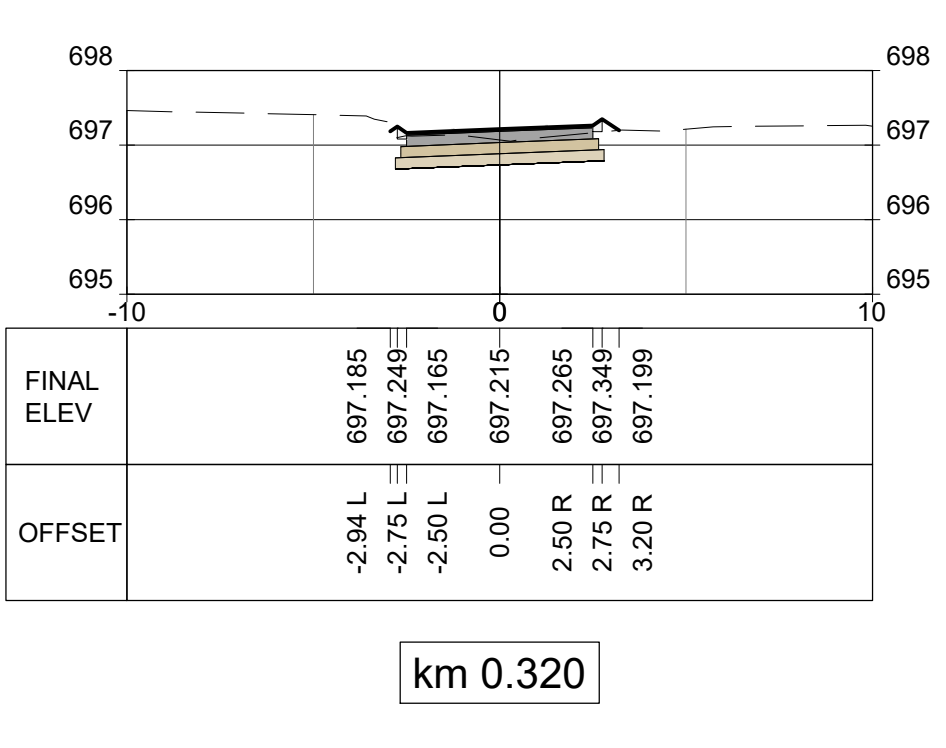
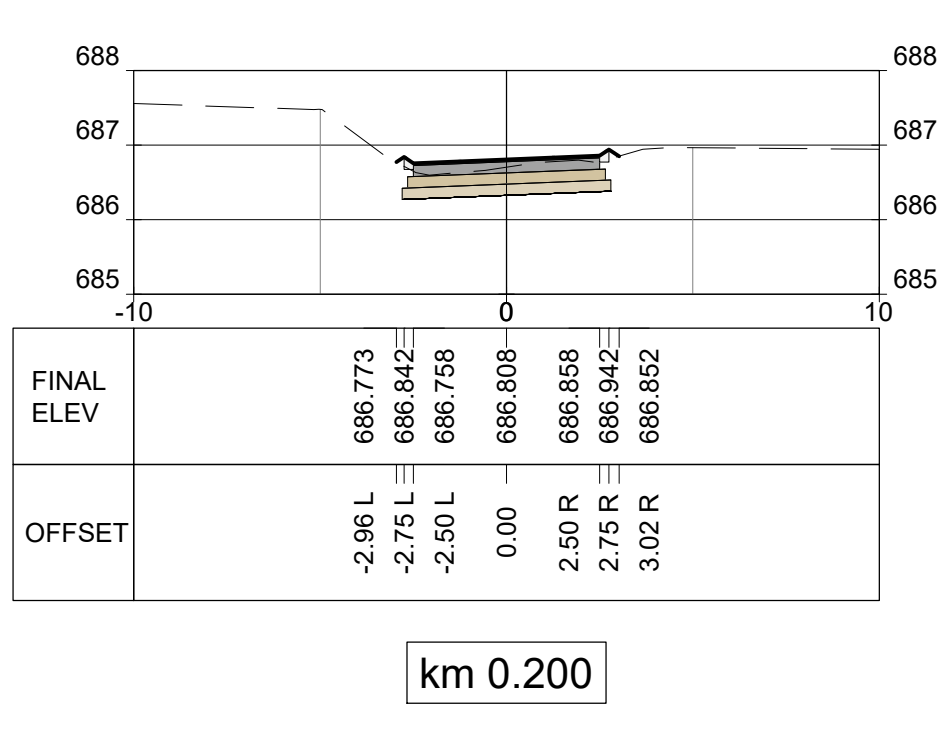
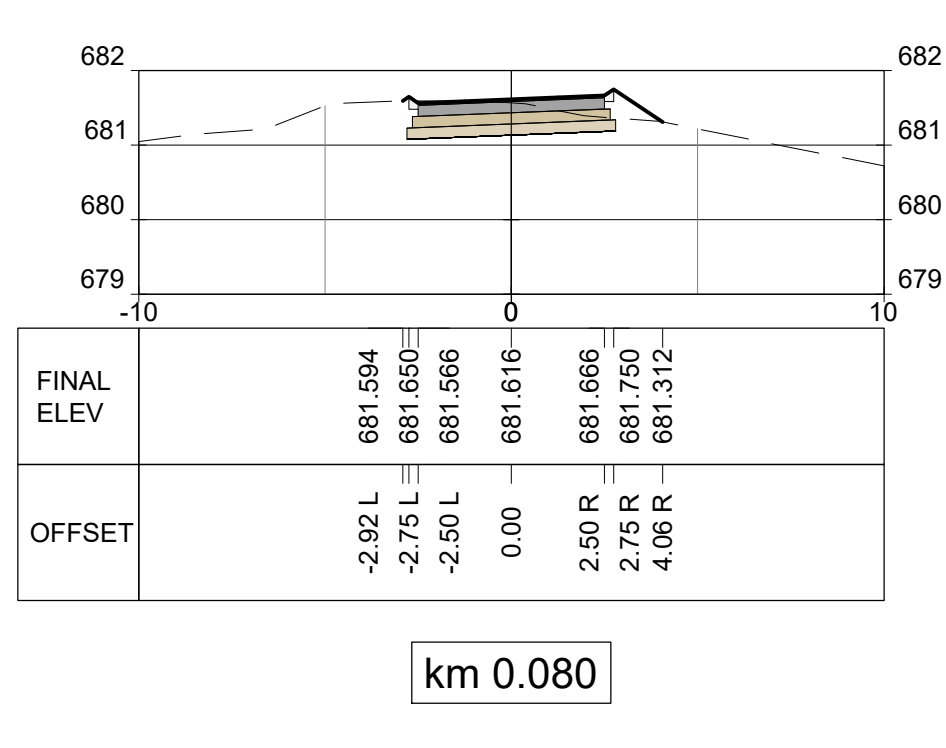
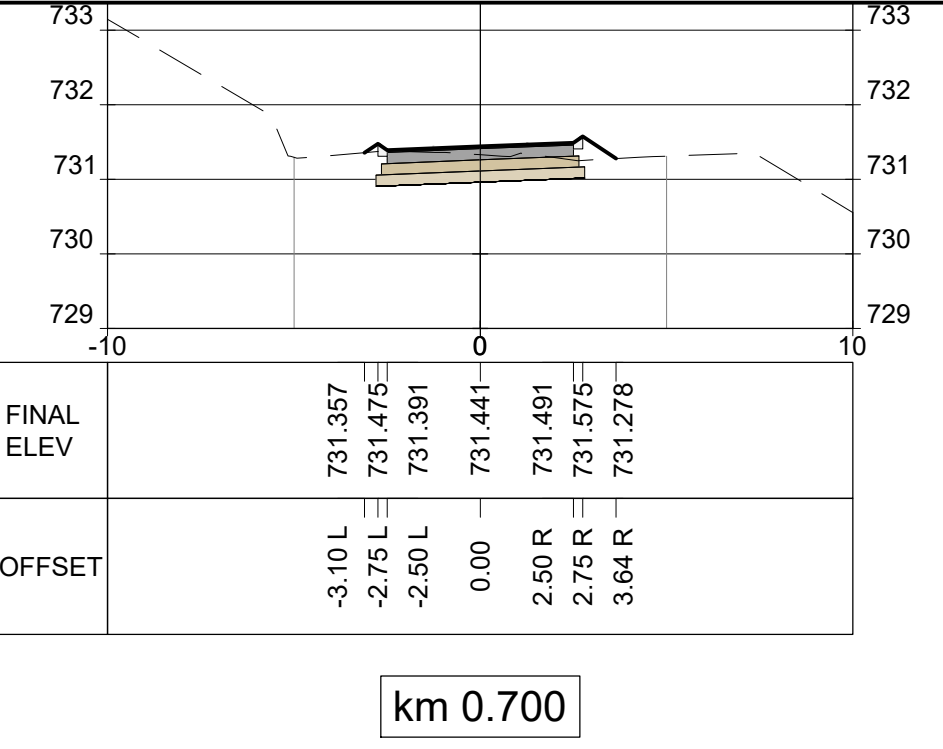
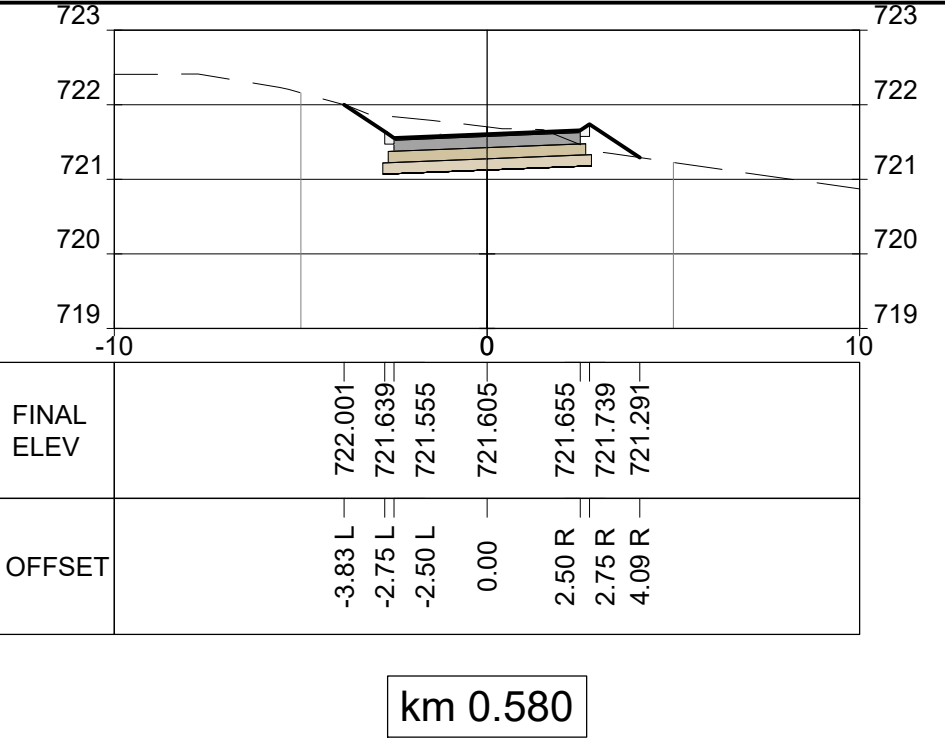
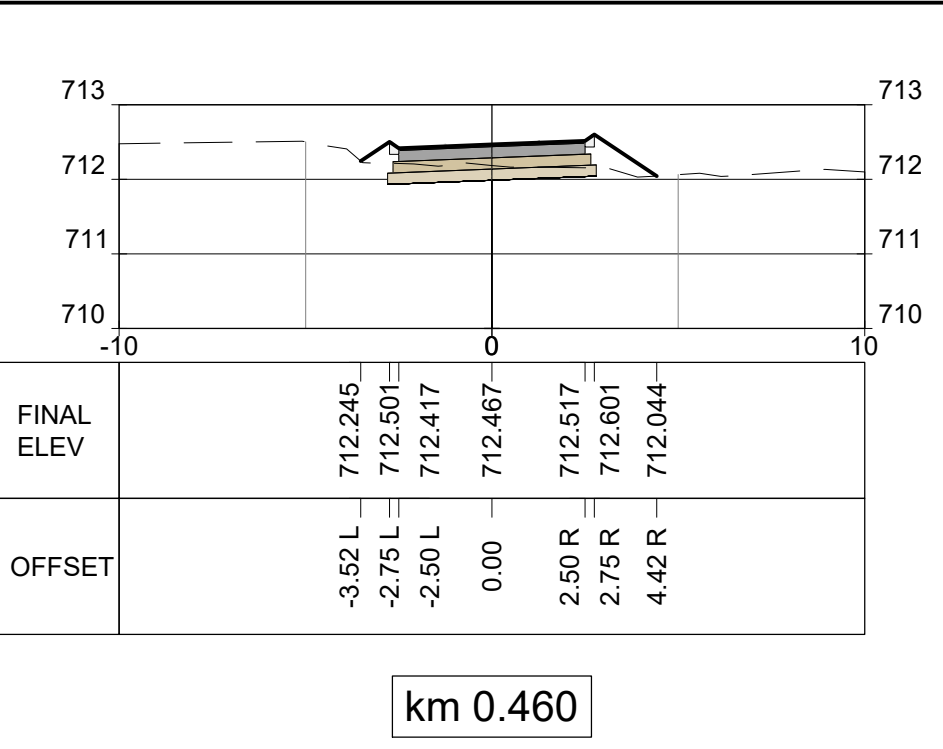
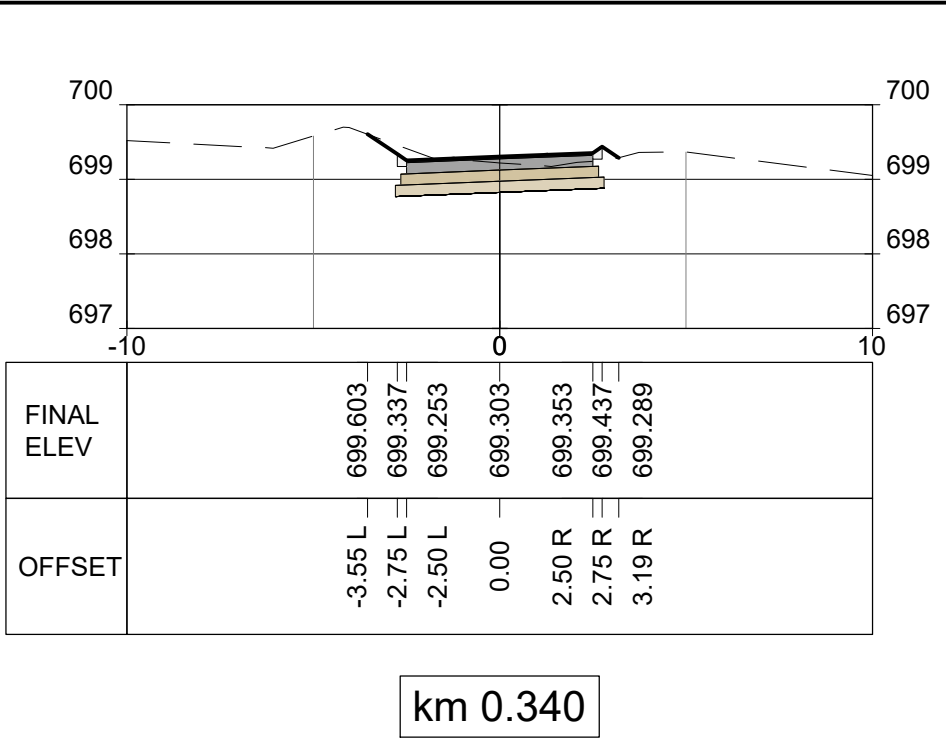
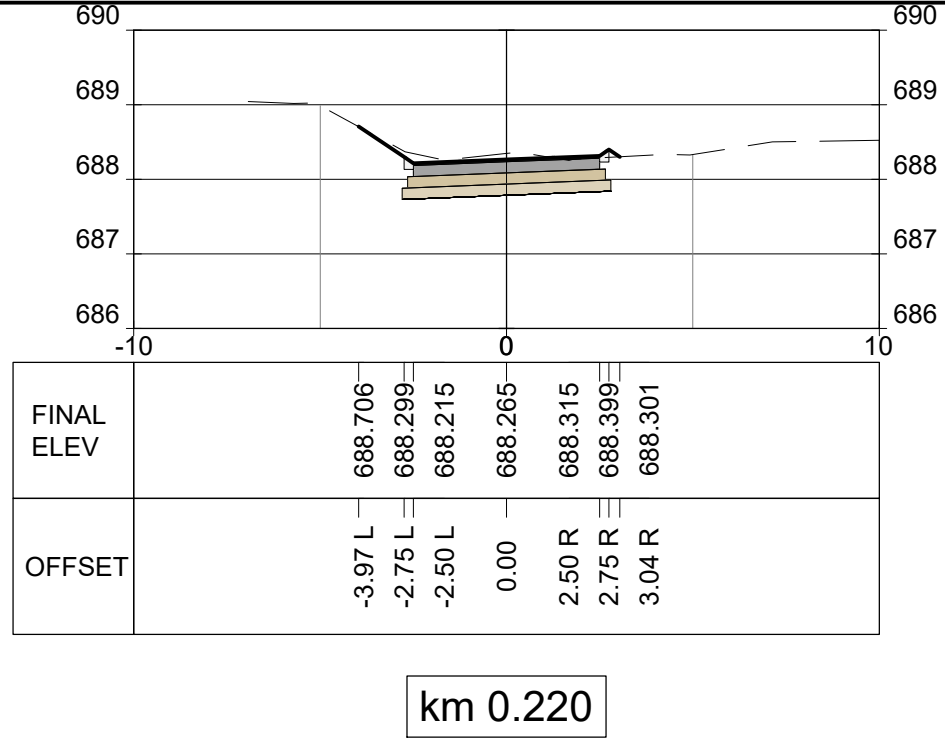
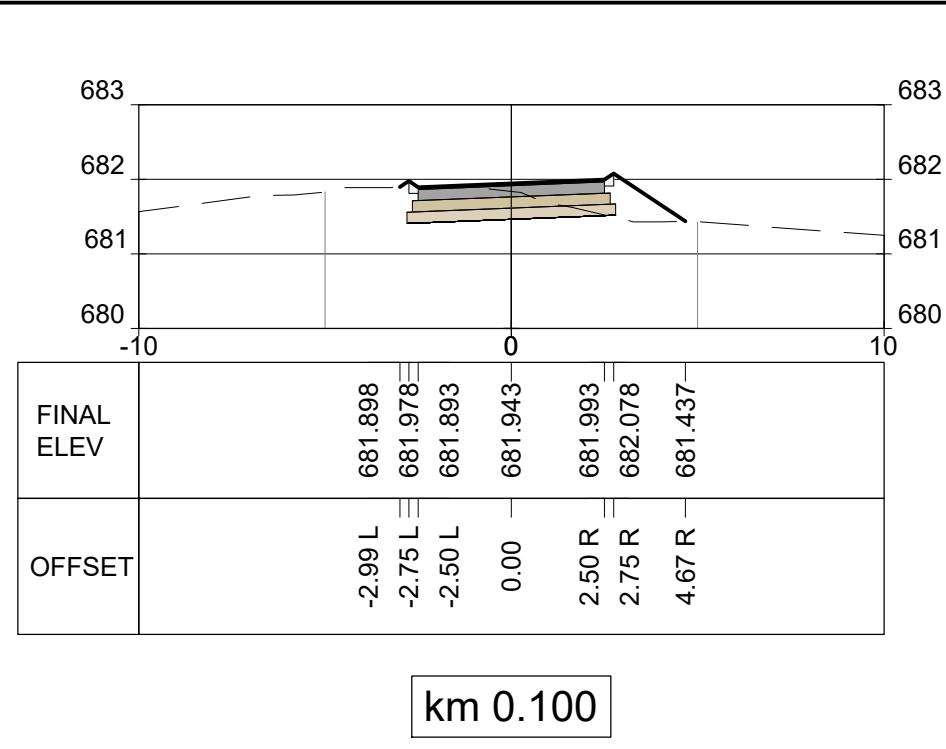
Tel: (015) 962 1828
 Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No. *****	IPW No. ----	SHEET 1 OF 1
PROJECT TITLE		UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1		
DRAWING TITLE		STREET 2 : LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION		

SCALE	TYPES OF PLANNING	STATUS
1:500	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
0	RCE_78_MLM_2LS_01	







No.	DATE	REVISIONS	BY	CHECKED	BY

DESIGNED BY: RALEMA CONSULTING ENGINEERS

RCE **RALEMA**
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S. Bapela-Pr Tech Eng DESIGNED	RALEMA CONSULTING	DEPARTMENT
I. Thiasi DRAWN	ISSUED BY:	RECEIVED BY:
S. Bapela-Pr Tech Eng CHECKED	DATE:	DATE:

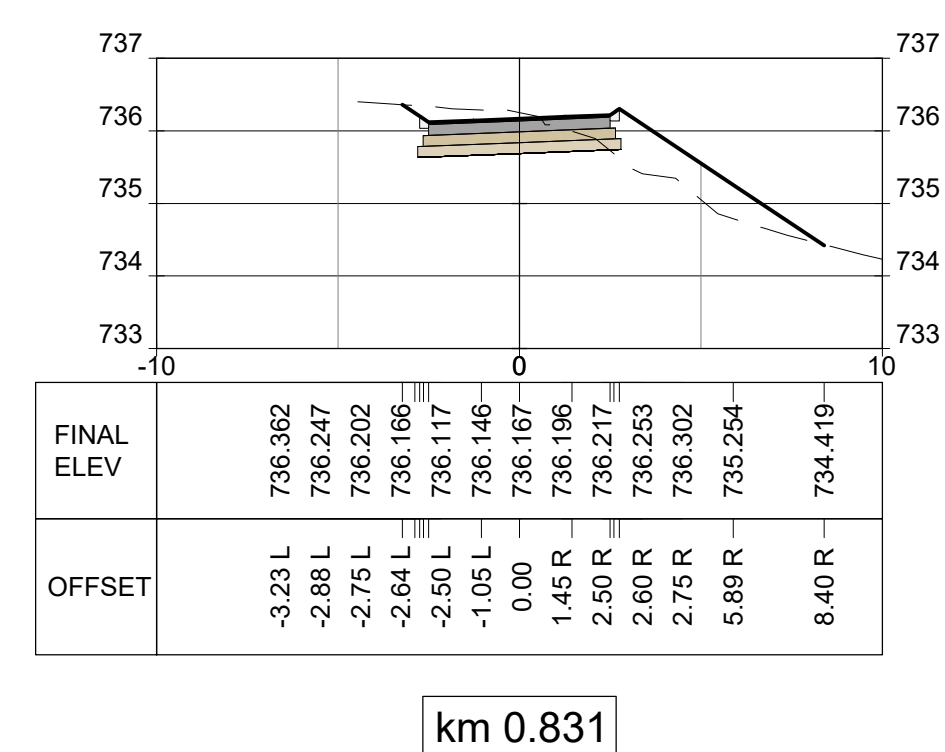
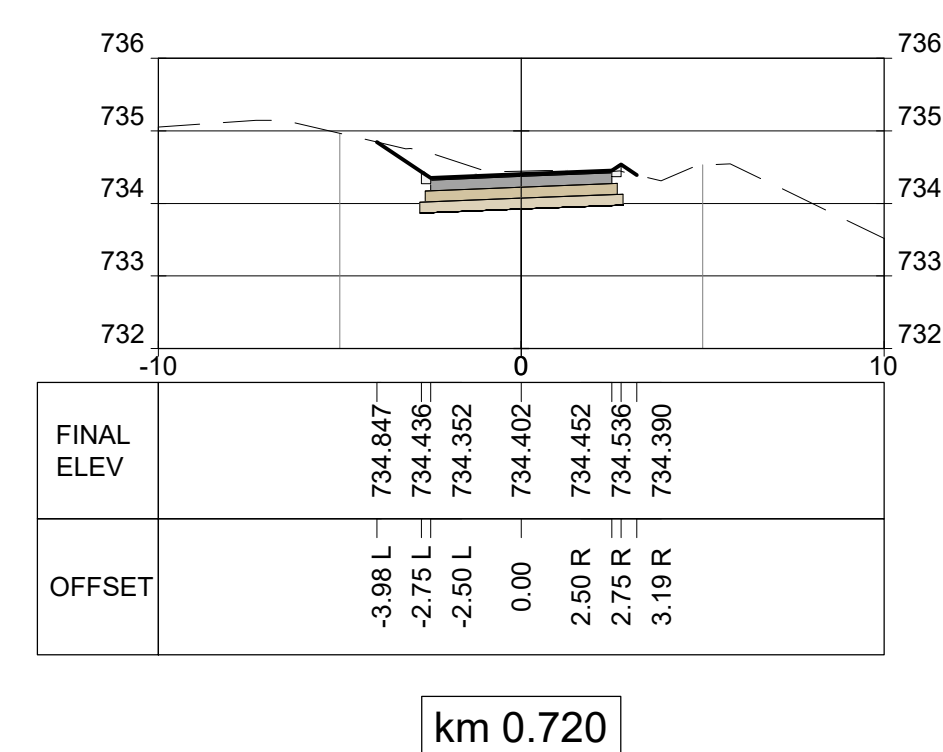
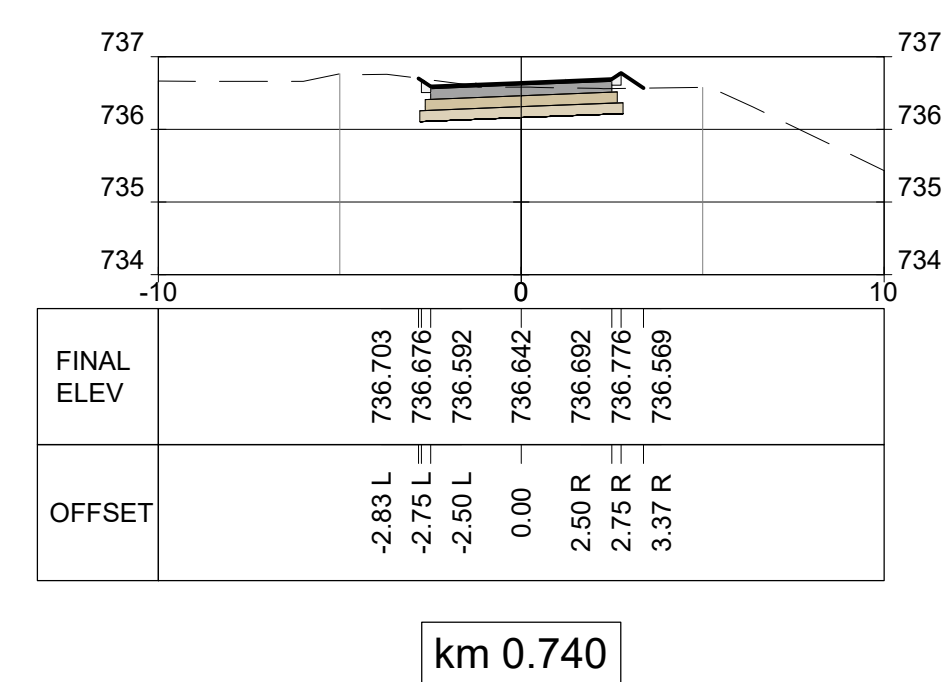
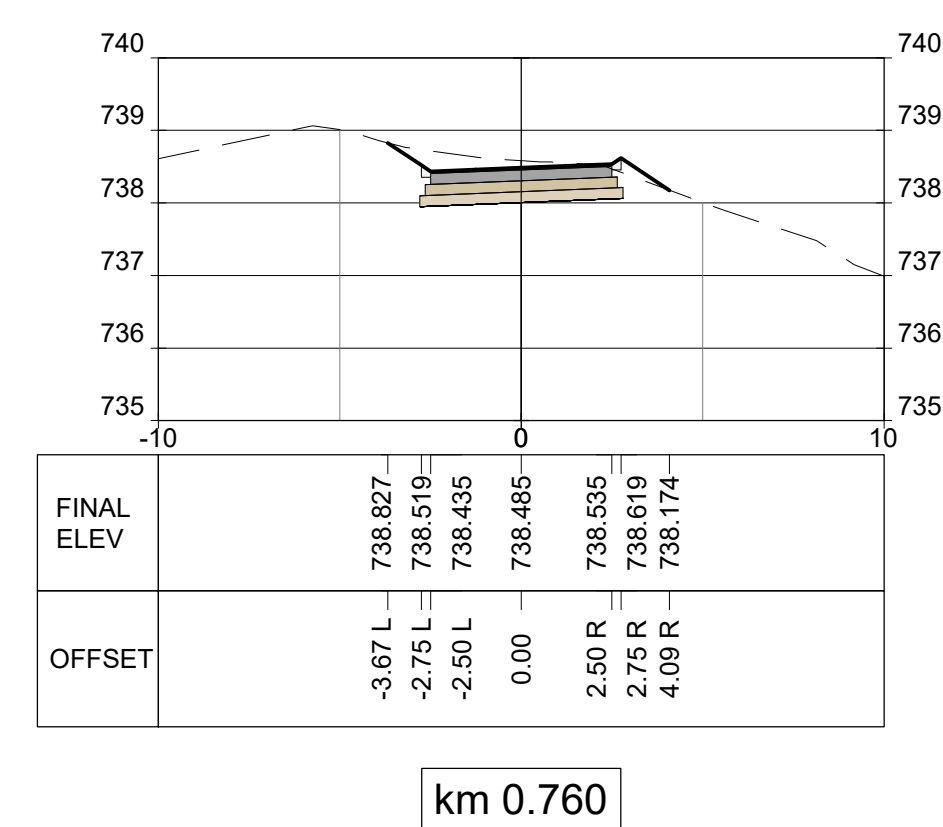
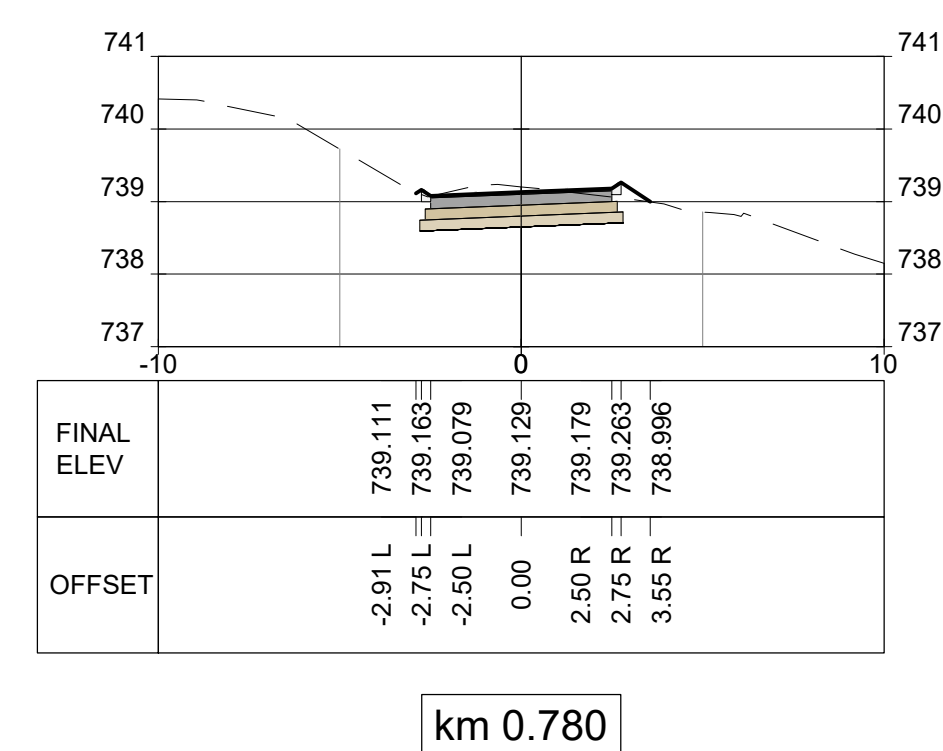
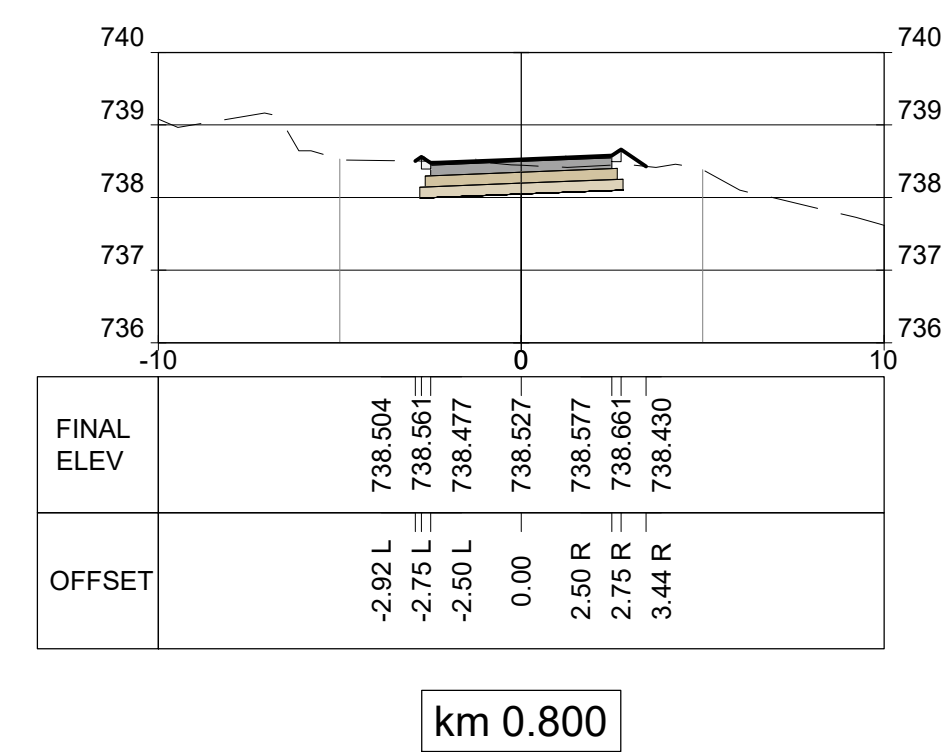
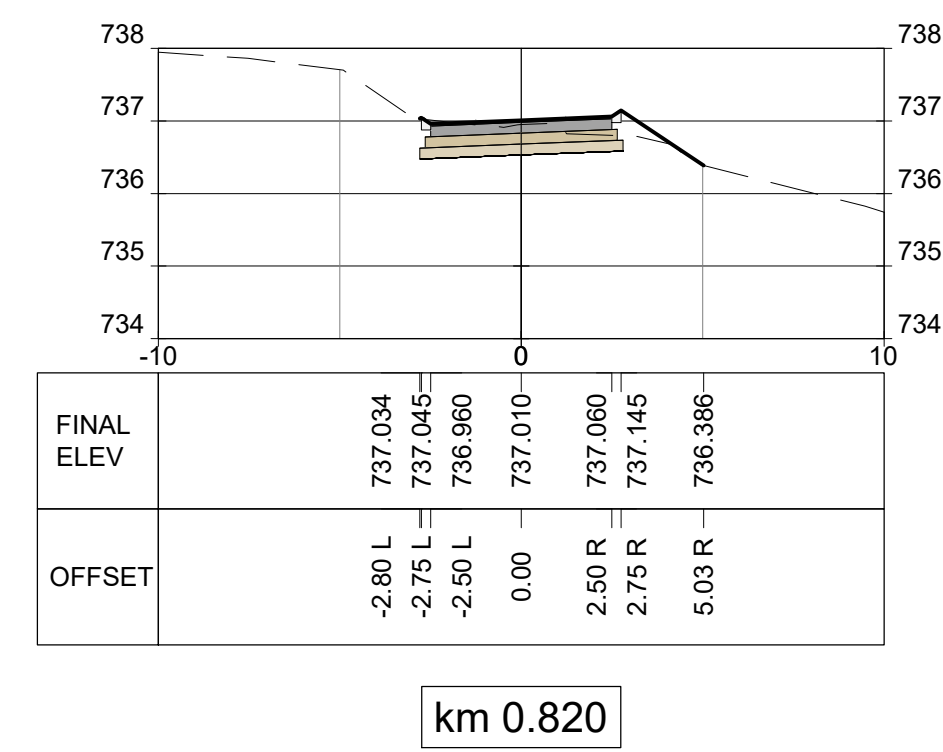
CLIENT ADDRESS

THOHOYANDOU
PRIVATE BAG X5006
THOHOYANDOU
0950

Tel: (015) 962 1828
Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1	*****	*****	1 OF 2
DRAWING TITLE	STREET 3 : Km 0+000 to 0+700: CROSS SECTIONS			

SCALE	TYPES OF PLANNING	STATUS
1:200	PLANNING CONSTRUCTION AS-BUILT	PLANNING
REVISION	PLAN No.	
0	RCE_78_MLM_3CS_01	

[illegible]

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



 RALEMA
CONSULTING ENGINEERS

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Cnr RIVERSIDE & 14TH STREET Fax: (086) 537 7440
NOORDWYK X95 Email: admin@ralemacons.co.za
1863

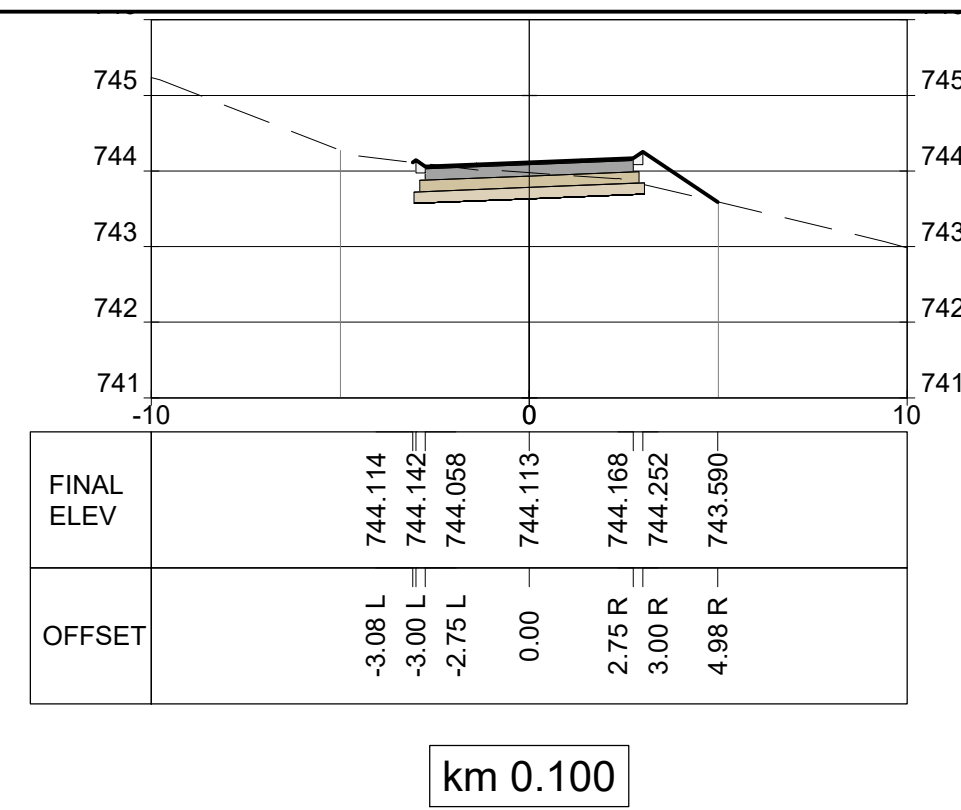
S. Bapela-Pr Tech Eng
DESIGNED
I. Tihasi
DRAWN
S. Bapela-Pr Tech Eng
CHECKED

RALEMA CONSULTING	DEPARTMENT
ISSUED BY:	RECEIVED BY:
DATE:	DATE:

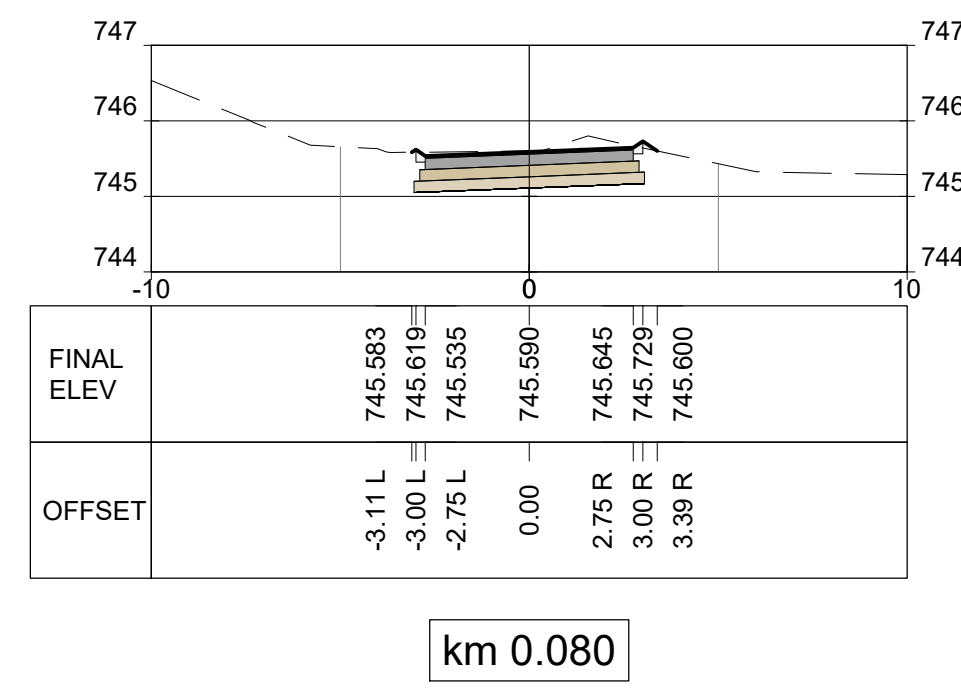
CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No. *****	I/PW No. *****	SHEET 2 OF 2
PROJECT TITLE UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1				
DRAWING TITLE STREET 3 : Km 0+720 to 0+831: CROSS SECTIONS				

SCALE	TYPES OF PLANNING	STATUS
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REVISION	PLAN No.	
0	RCE_78_MLM_3CS_02	

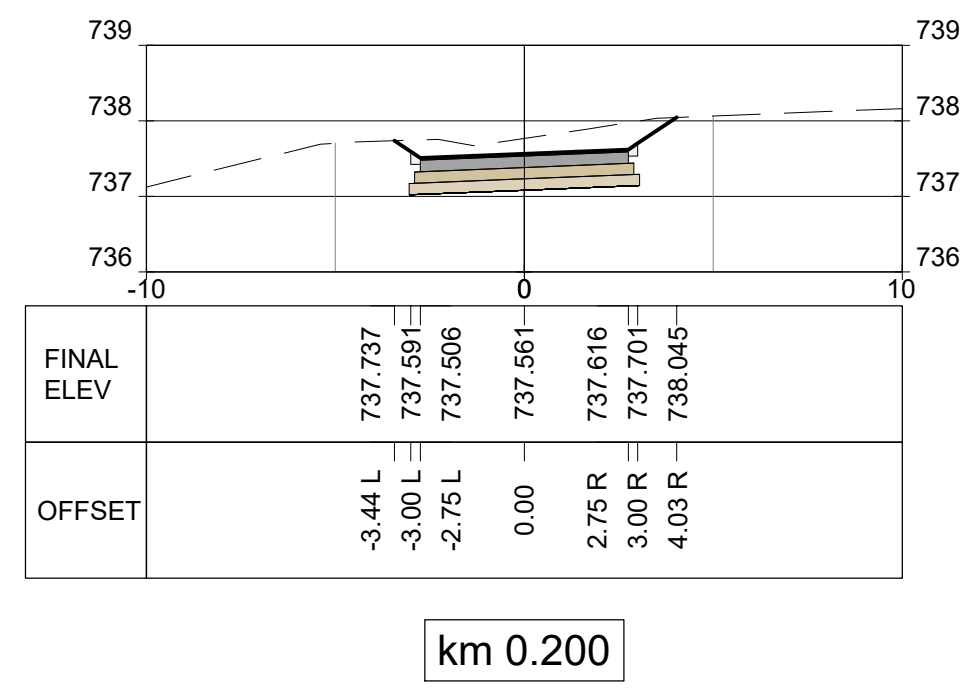




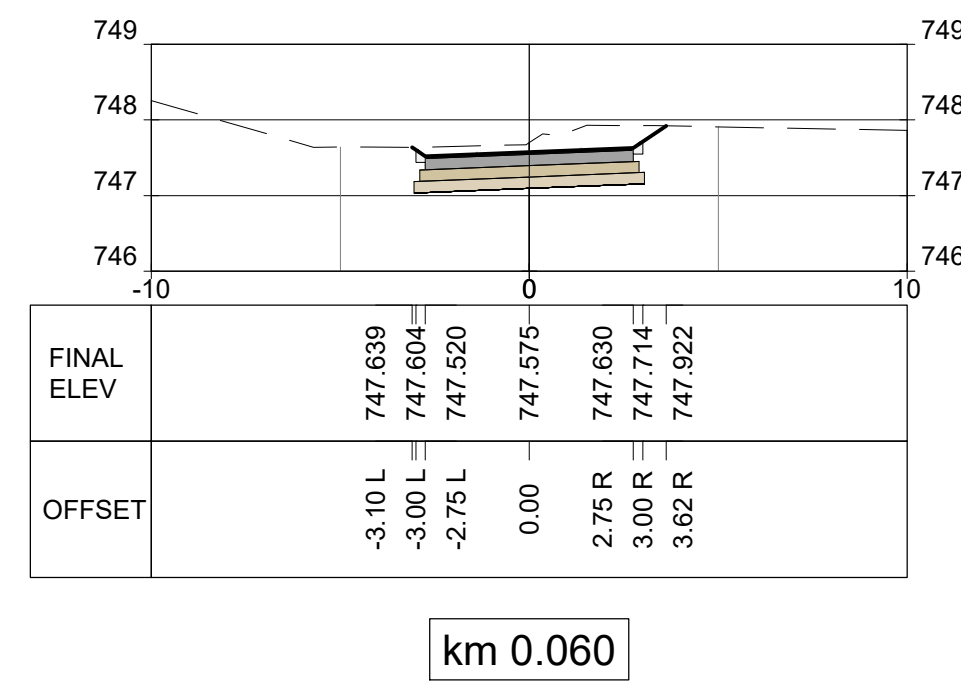
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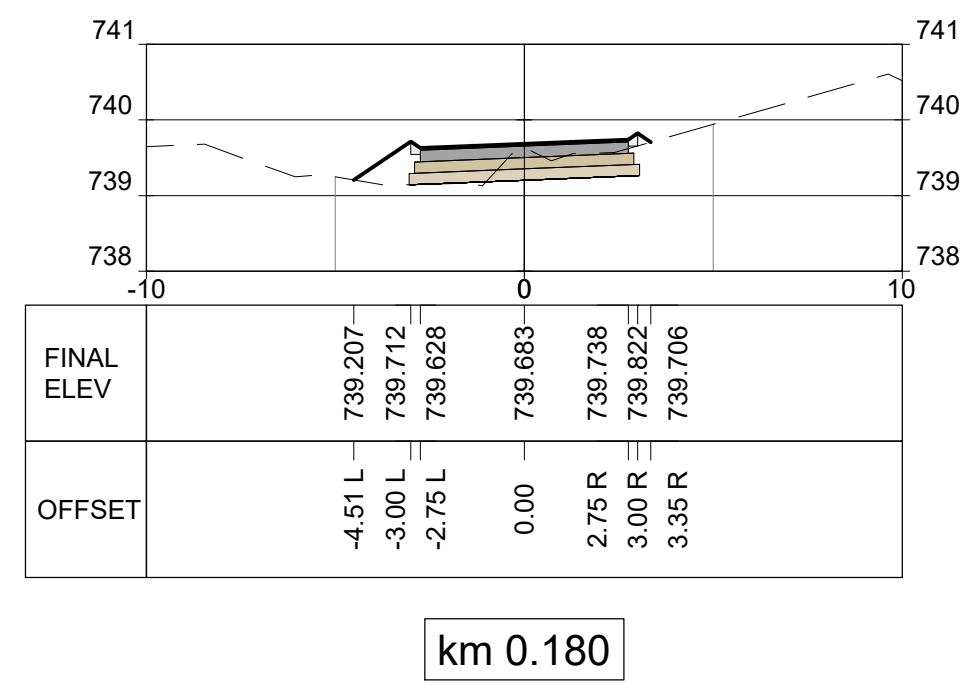
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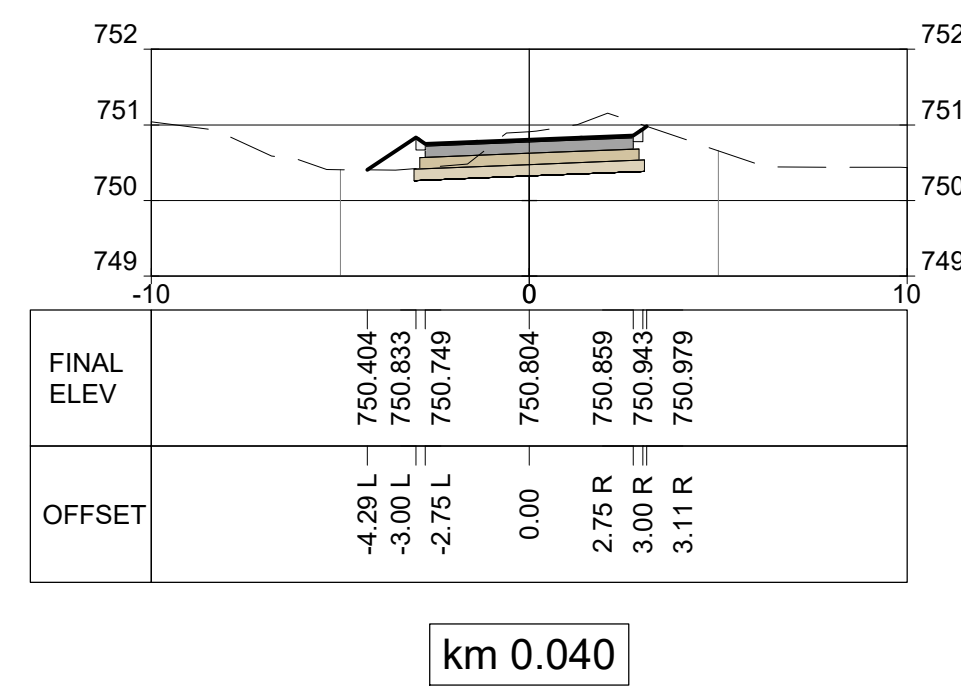
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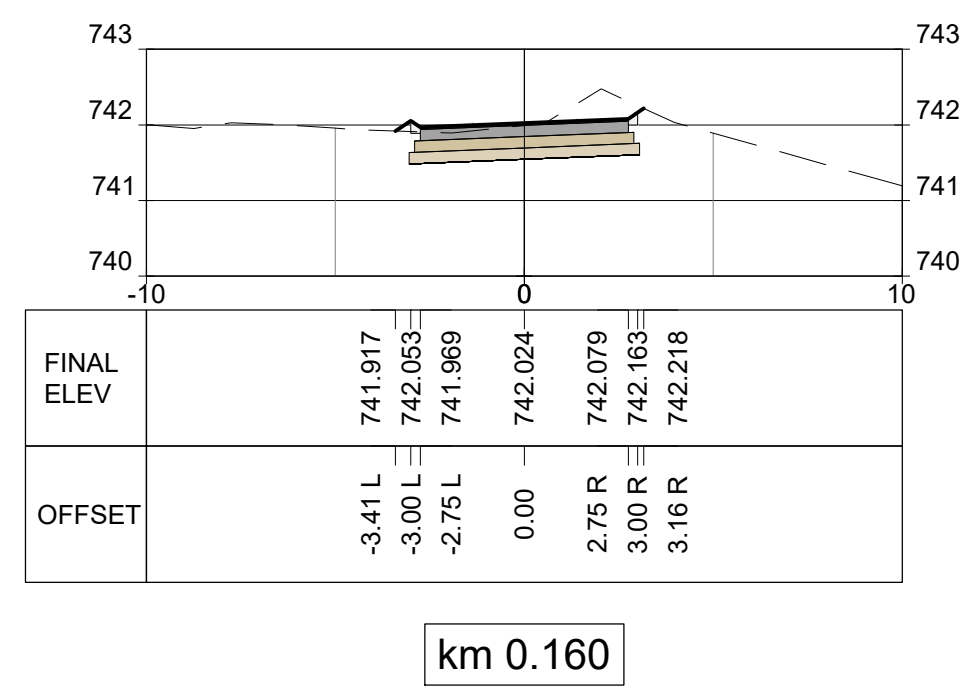
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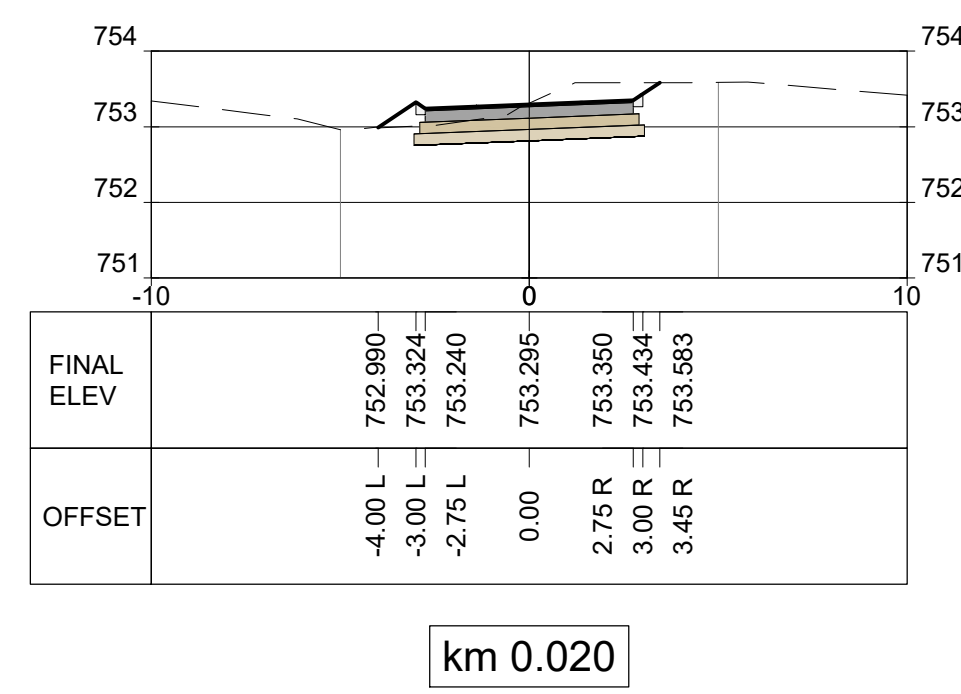
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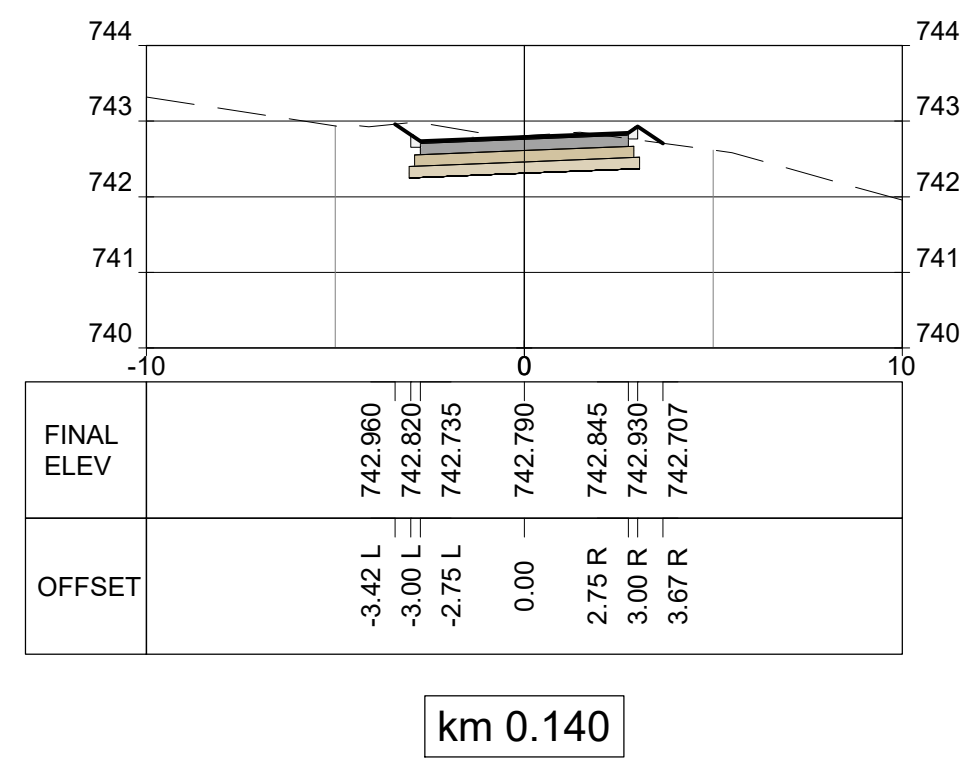
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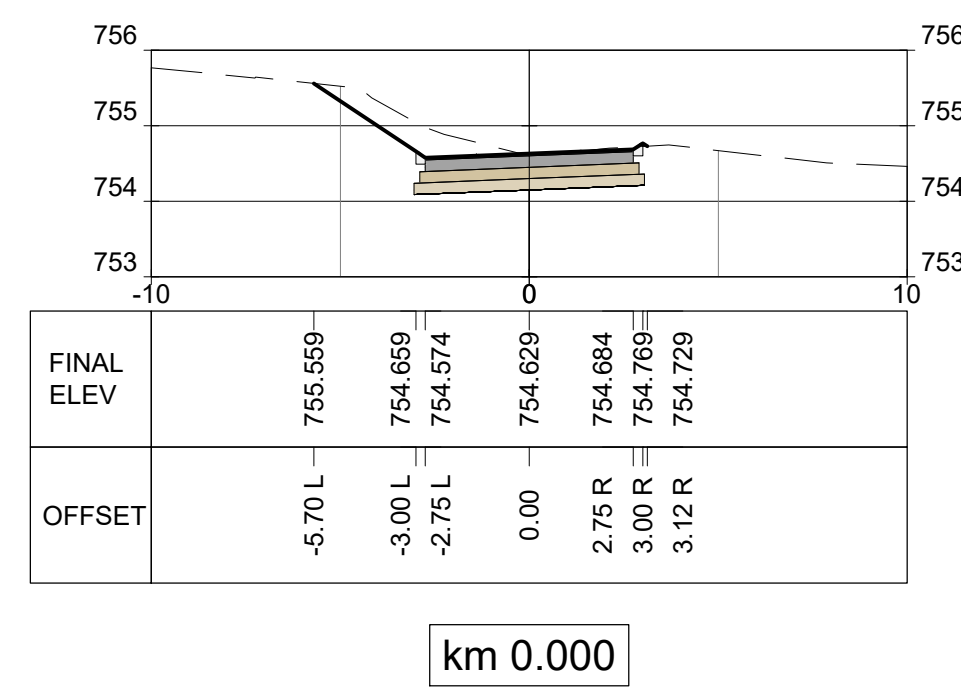
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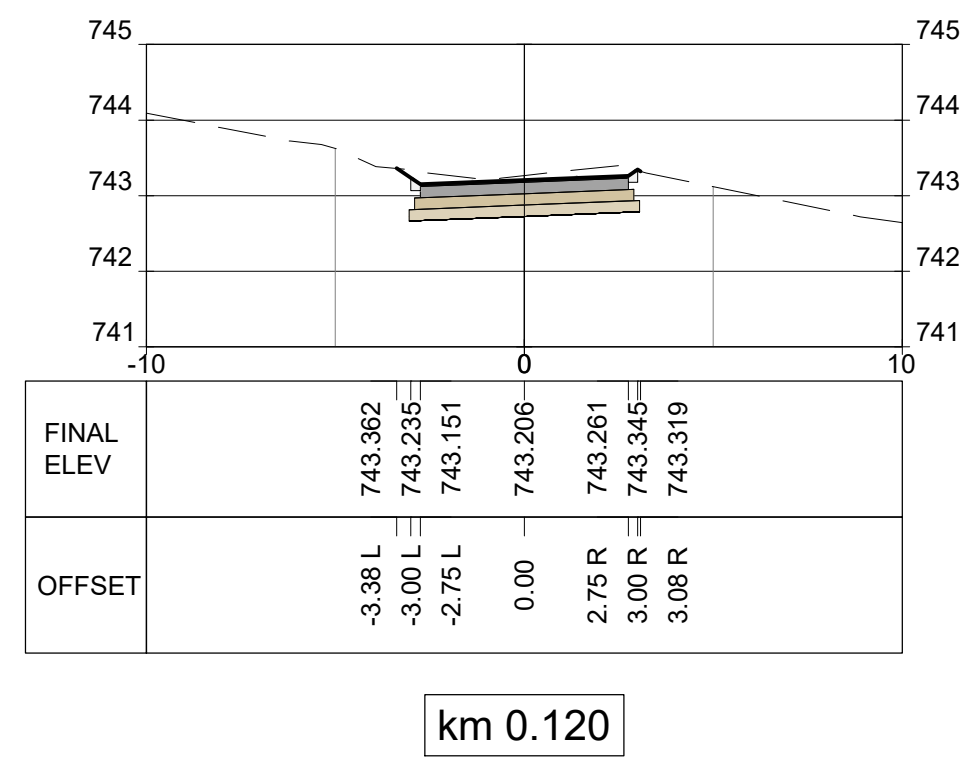
km 0.020



km 0.140



km 0.000



km 0.120

[illegible]

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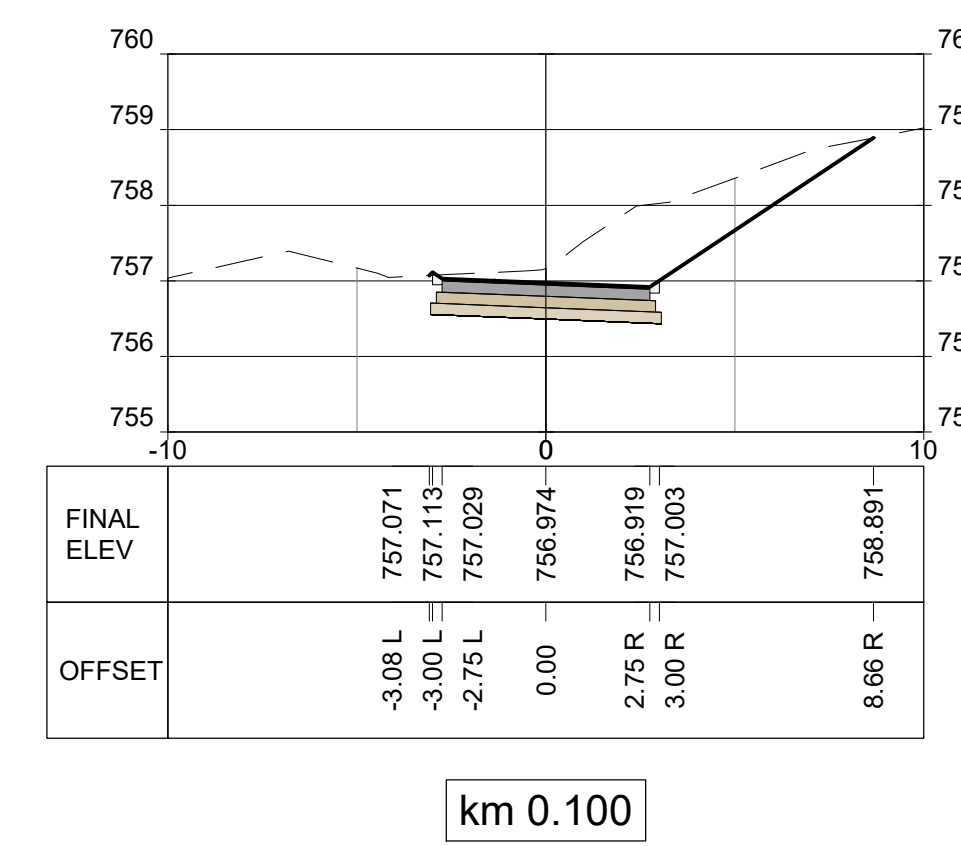
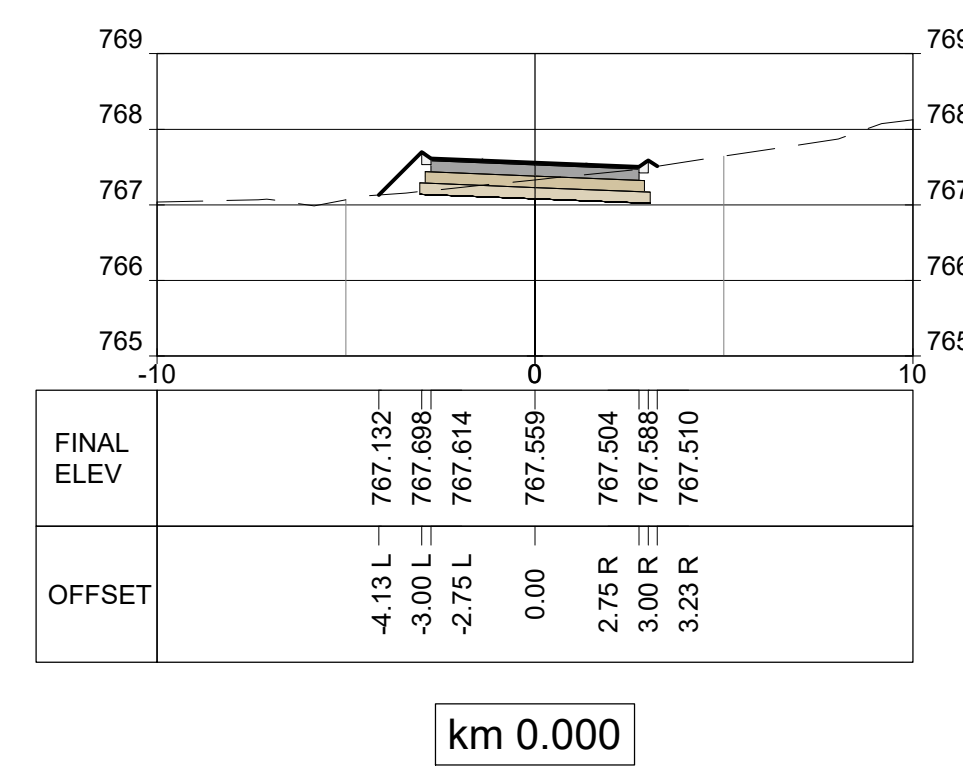
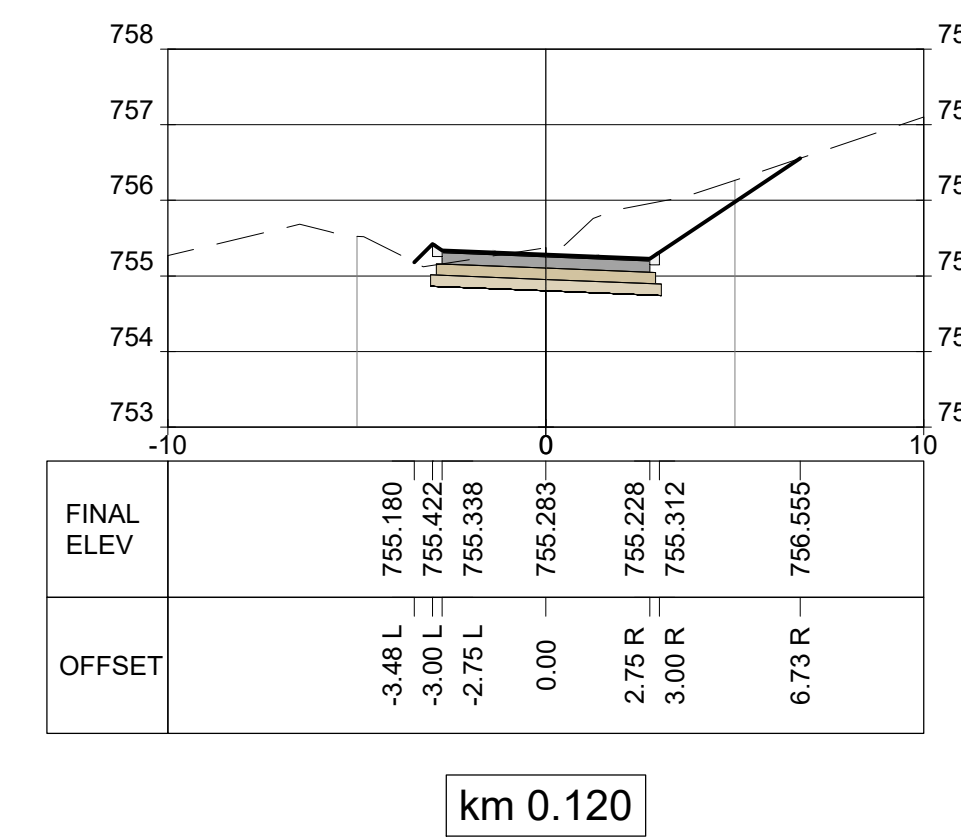
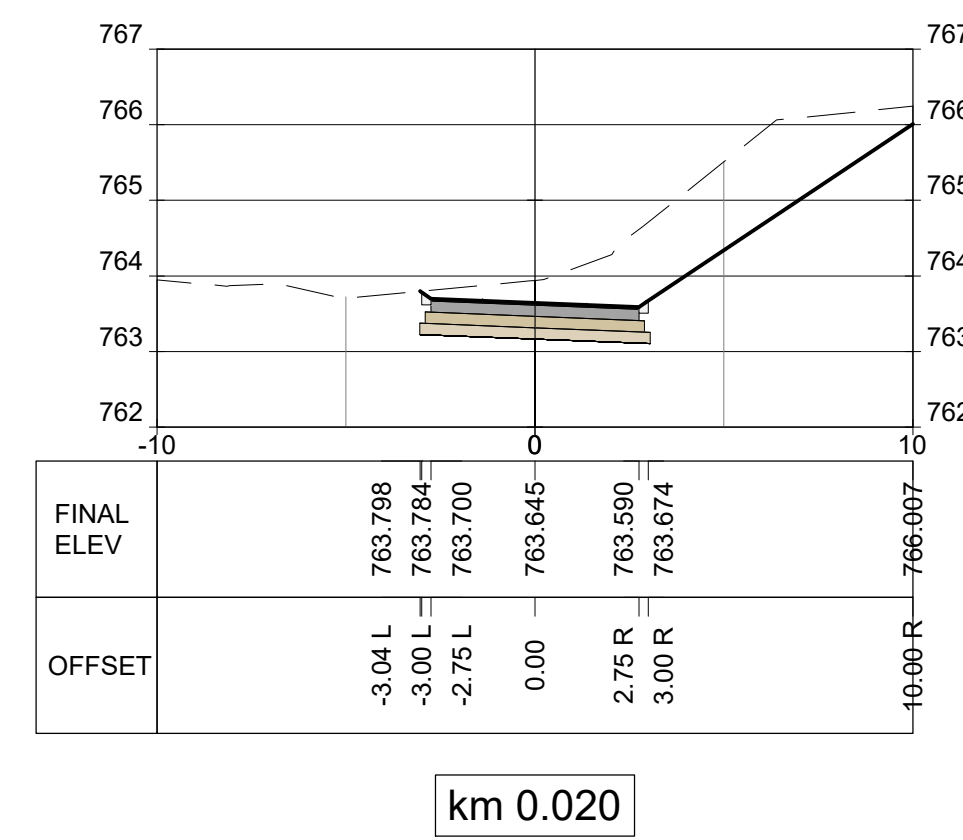
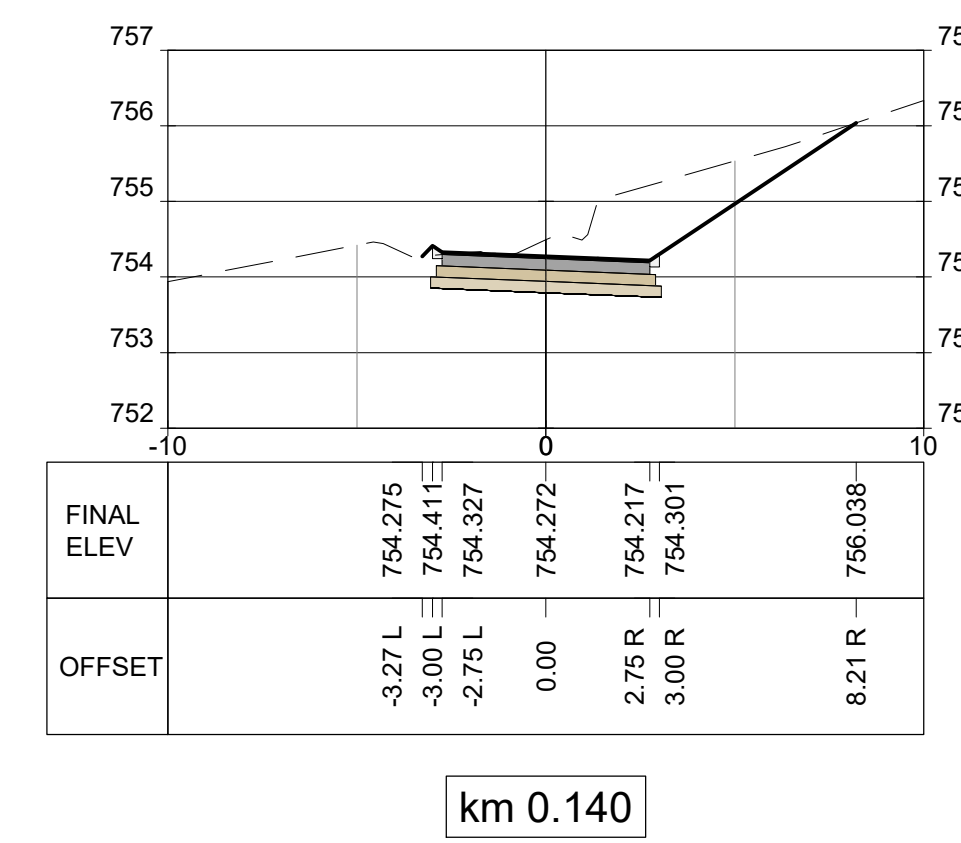
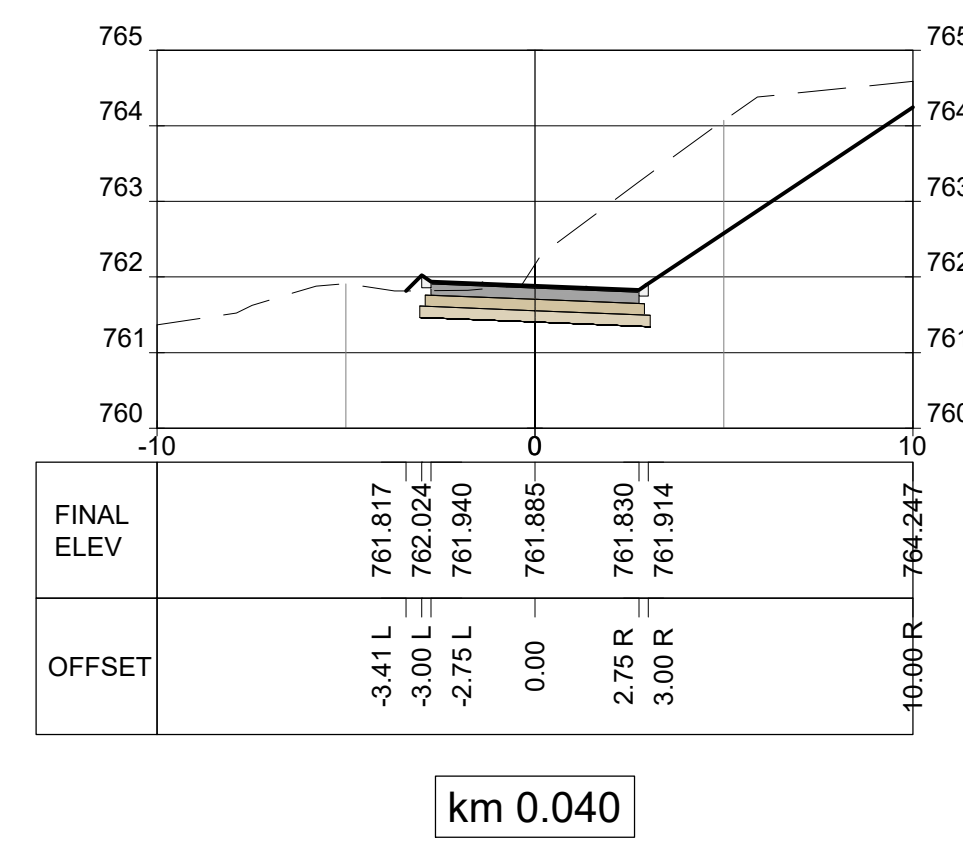
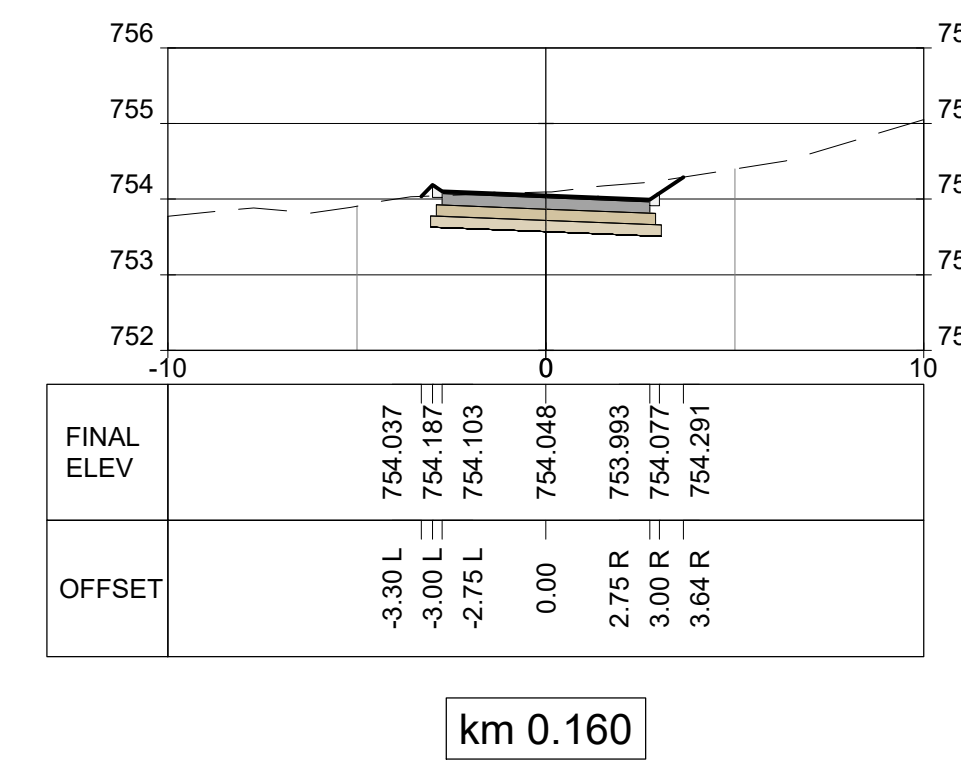
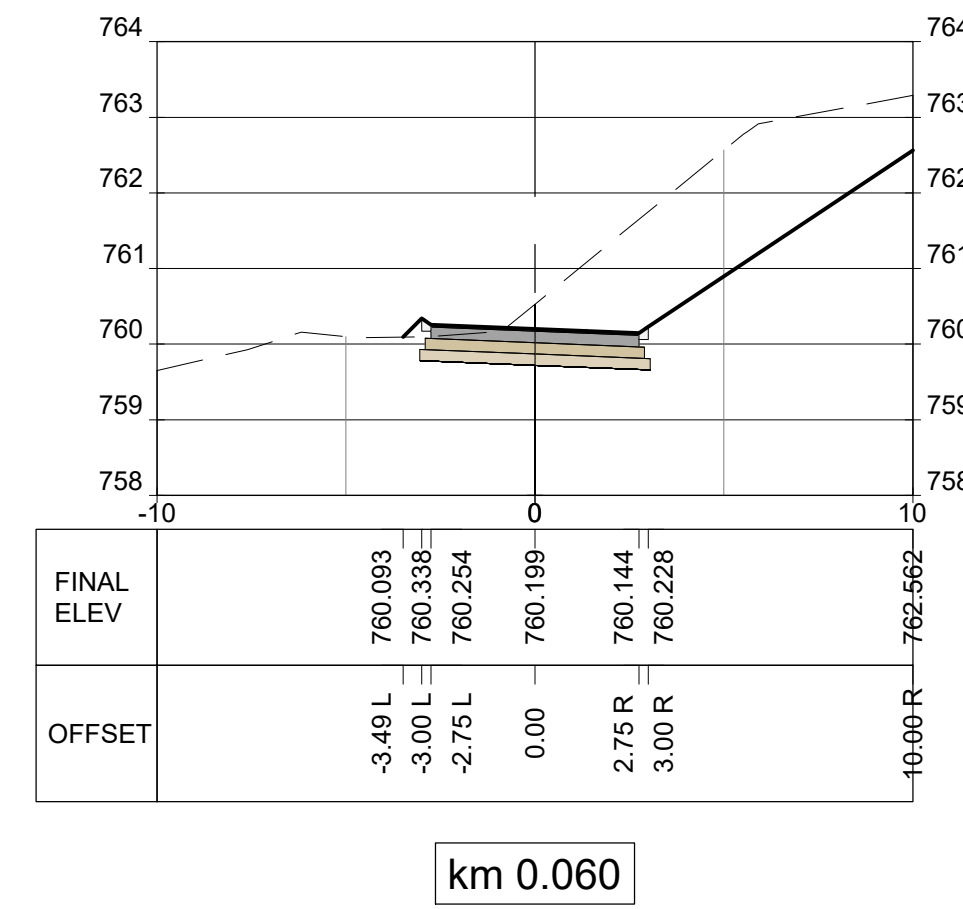
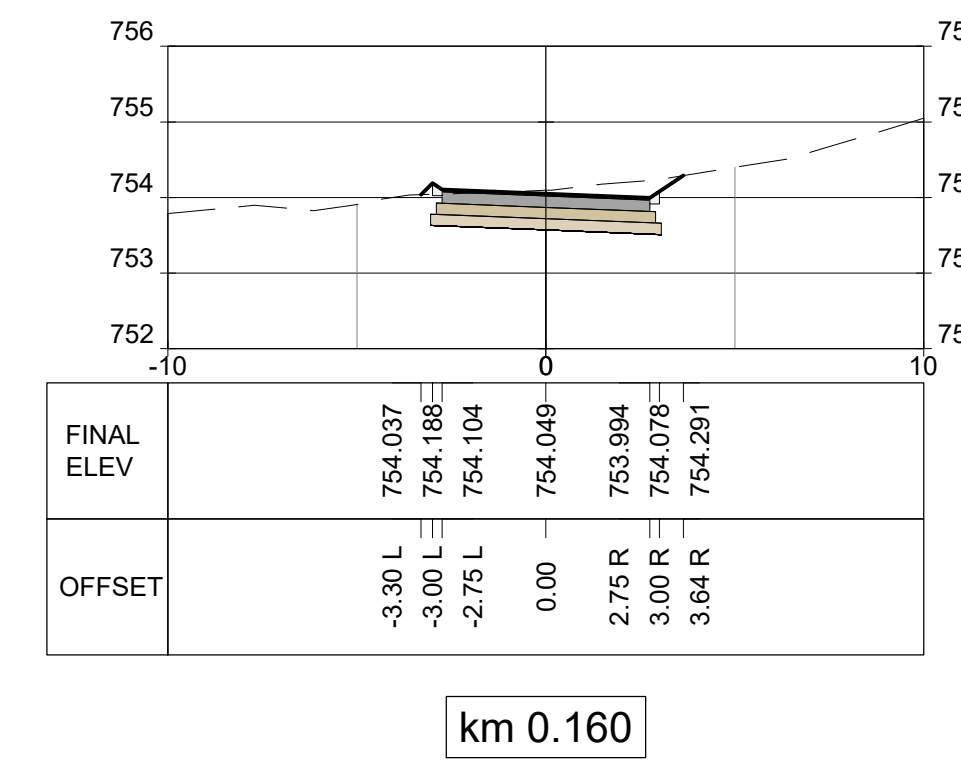
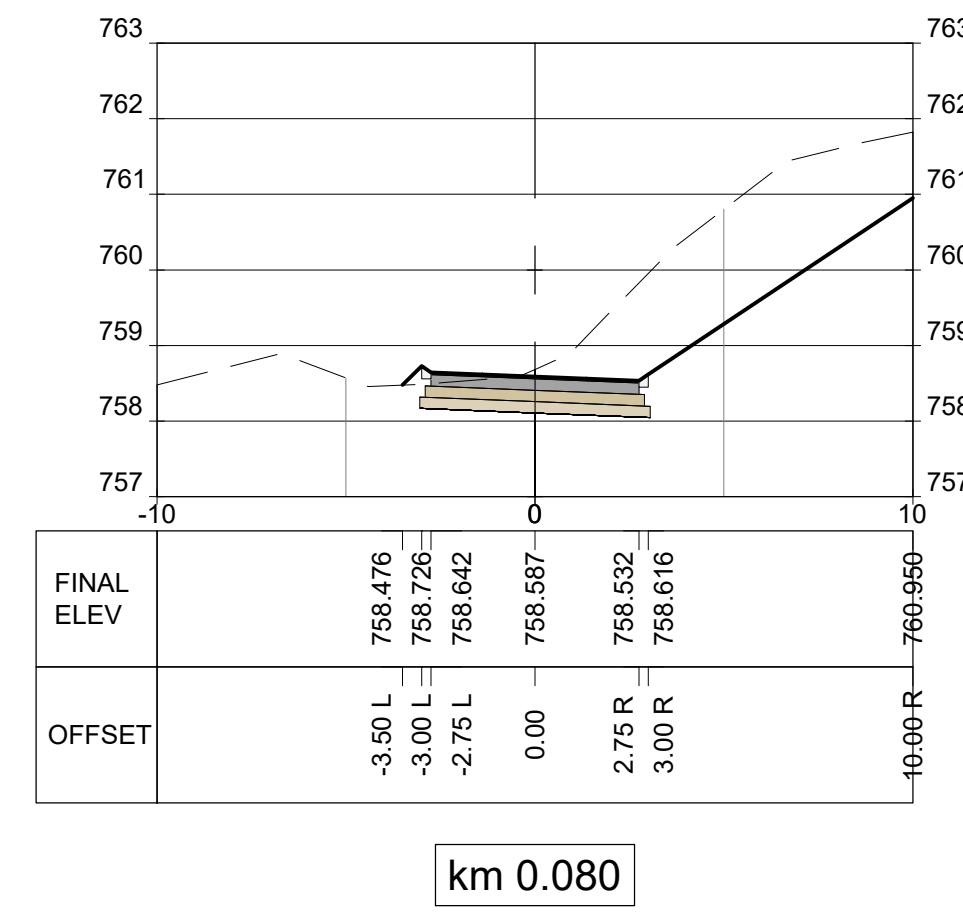
C08/06 PHOENIX VIEW ESTATES Tel: (011) 312 0873
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I. Thasi
DRAWN		
S. Bapela-Pr Tech Eng	DATE:	DATE:
CHECKED		

CLIENT ADDRESS	
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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No. *****	IPW No. ****	SHEET 1 OF 1
PROJECT TITLE UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1				
DRAWING TITLE		STREET 4 : CROSS SECTIONS		

SCALE	TYPES OF PLANNING	STATUS
1:200	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
0	RCE_78_MLM_4CS_01	

[illegible]

DESIGNED BY: RALEMA CONSULTING ENGINEERS

 **RALEMA**
CONSULTING ENGINEERS

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I. Thiasi		
DRAWN		
S. Bapela-Pr Tech Eng	DATE:	DATE:
CHECKED		

CLIENT ADDRESS


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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 1 OF 1
PROJECT TITLE		UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1		
DRAWING TITLE		STREET 5 : CROSS SECTIONS		





SCALE	TYPES OF PLANNING	STATUS
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REVISION	PLAN No.	
0	RCE_78_MLM_5CS_01	

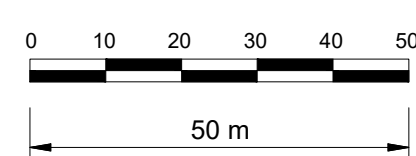
Diagram illustrating the cross-section of a 5500mm wide interlocking paving block driveway, bordered by a fence on both sides. The diagram shows the following layers and dimensions:

- Top Layer:** 80mm INTERLOCKING SABS - APPROVED PAVING BLOCK
- Subbase:** 150mm SUBBASE - C-97 90% MUD AASHTO (UCS > 1500 kPa, Gm > 1.5, PI < 6)
- Upper Layer:** 150mm UPPER SELECTED - G6 92% MUD AASHTO
- Base:** RIP and RECOMPACT 150mm of in-SITU to 90% MUD AASHTO
- Dimensions:**
 - Total width: 5500mm
 - Segment lengths: 2750mm (left), 300mm (center gap), 2750mm (right)
 - Edge distance from fence: 300mm
 - Drainage: 2% FALL
- Notes:**
 - FIG 8C KERB, SABS APPROVED
 - CONTINUOUSLY CONCRETE HAUNCHING BEHIND THE KERB CLASS 19/20

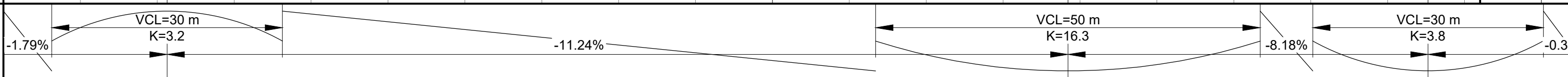
Plan view of the proposed street layout for Street 6. The plan shows the intersection of Street 6 with Rd 60 and Rd 70. Key features include:

- Street 6:** A horizontal street with stationing from 0+000 to 0+1200. It is labeled "STREET 6" and "LIMITS OF CONSTRUCTION".
- Rd 60:** A vertical street intersecting Street 6 at station 0+1200. It is labeled "RD 60" and "LIMITS OF CONSTRUCTION".
- Rd 70:** A vertical street intersecting Street 6 at station 0+1200. It is labeled "RD 70" and "LIMITS OF CONSTRUCTION".
- Proposed Street:** A new street, labeled "PROPOSED STREET", is shown running parallel to Street 6, intersecting Rd 60 and Rd 70.
- Stationing:** Stationing is marked along the proposed street, including 0+000, 0+020, 0+040, 0+060, 0+080, 0+100, 0+120, 0+140, 0+160, 0+180, 0+200, 0+220, 0+240, 0+260, 0+280, 0+300, 0+320, 0+340, 0+360, 0+380, 0+400, 0+420, 0+440, 0+460, 0+480, 0+500, 0+520, 0+540, 0+560, 0+580, 0+600, 0+620, 0+640, 0+660, 0+680, 0+700, 0+720, 0+740, 0+760, 0+780, 0+800, 0+820, 0+840, 0+860, 0+880, 0+900, 0+920, 0+940, 0+960, 0+980, 0+1000, 0+1020, 0+1040, 0+1060, 0+1080, 0+1100, 0+1120, 0+1140, 0+1160, 0+1180, 0+1200.
- North Arrow:** A north arrow is located in the upper right corner of the plan.
- Other Features:** The plan includes various symbols for construction limits, existing structures, and topographic features.

SCALE:
HORIZONTAL
VERTICAL



VERTICAL CURVES GRADE																																
FINAL ROAD LEVELS	H _L LEFT	765.525																														
	H _C 5.55m ON CL	765.380																														
	H _R RIGHT	765.435																														
SUPER ELEVATION																																
GROUND LEVELS AT GRADE LINE		765.380																														
KILOMETER DISTANCE		0.000																														
CUT / FILL		0.000																														
GUARDRAIL LEFT																																
KERB LEFT																																
SHOULDER LEFT																																
GUARDRAIL RIGHT																																
KERB RIGHT																																
SHOULDER RIGHT																																
HORIZONTAL ALIGNMENT			<div>STRAIGHT</div> <div>L=135.835m</div> <div>210° 56' 21"</div>										<div>R=100.00m</div> <div>L=45.93m</div> <div>Δ=2° 35' 40"</div> <div>km 0.136 km 0.140</div>										<div>STRAIGHT</div> <div>L=65.718m</div> <div>217° 23' 42"</div>									
		km 0.000																														
DRAINAGE	KILOMETER DISTANCE SIZE AND ANGLE																															

VERTICAL CURVES GRADE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
FINAL ROAD LEVELS	H _L	LEFT	765.525																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

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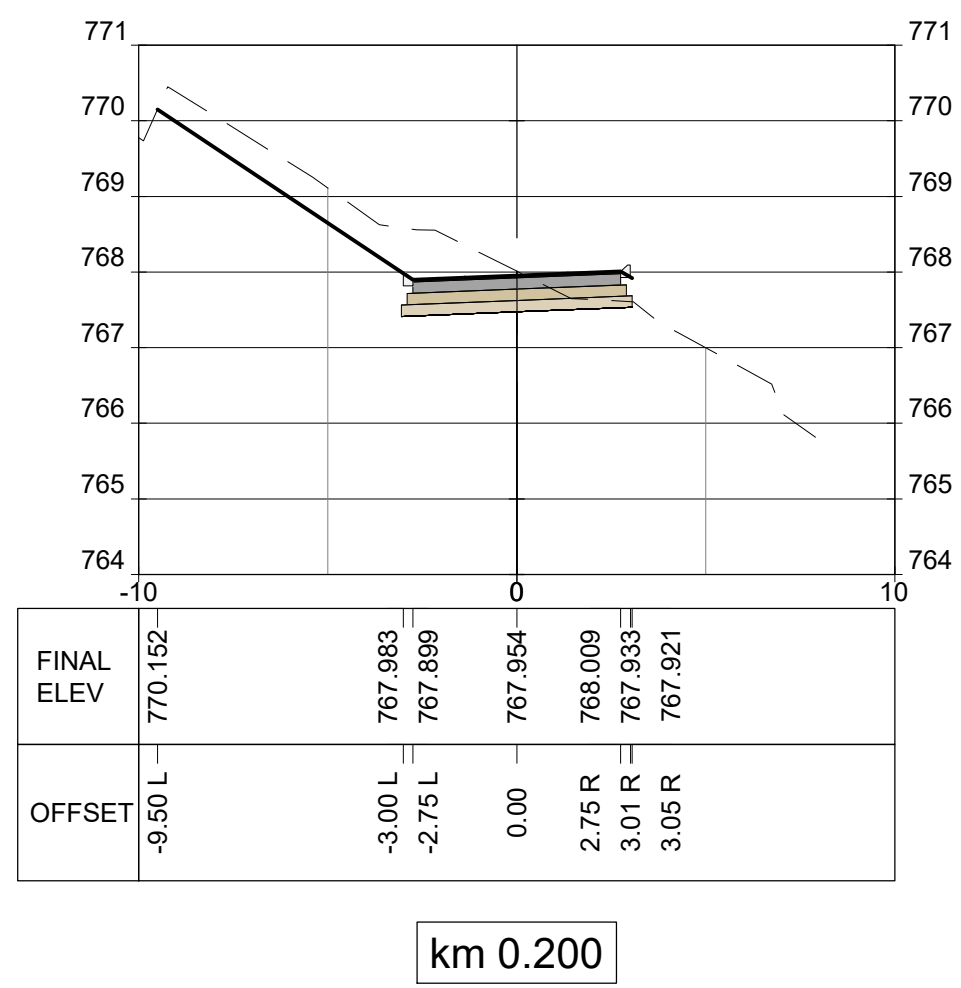
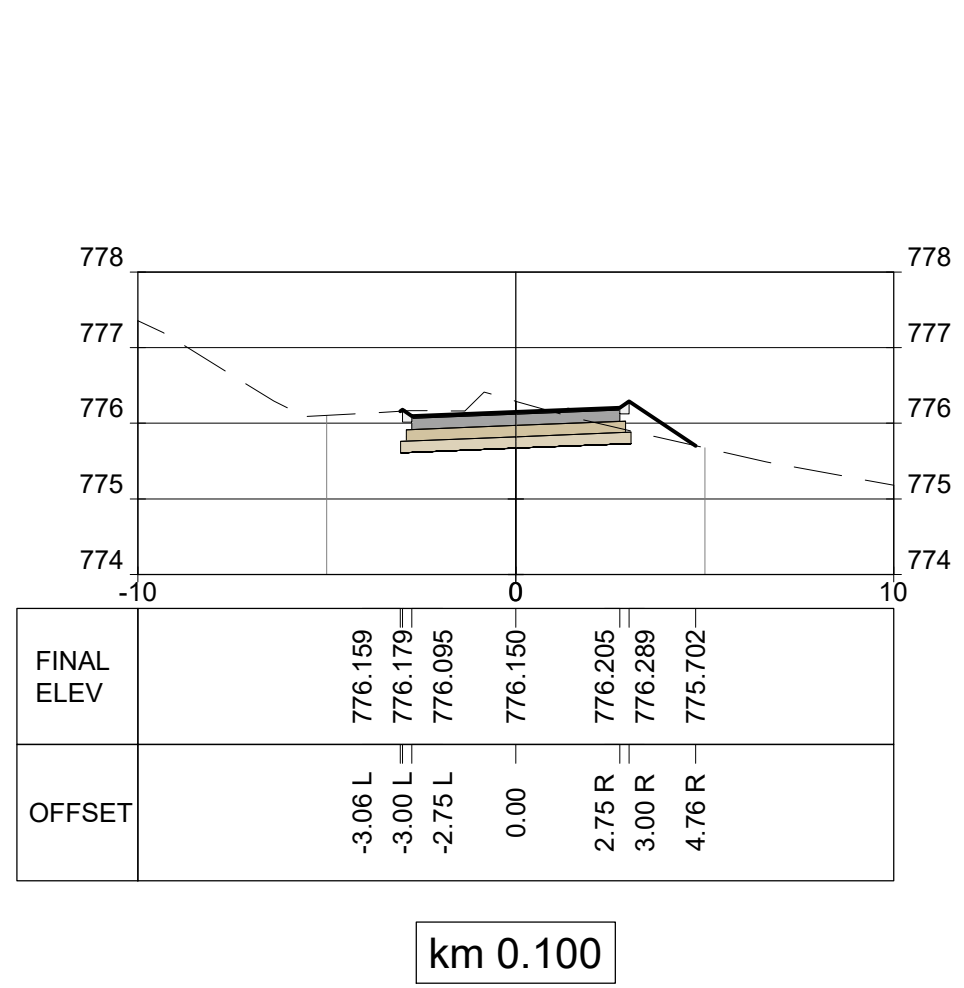
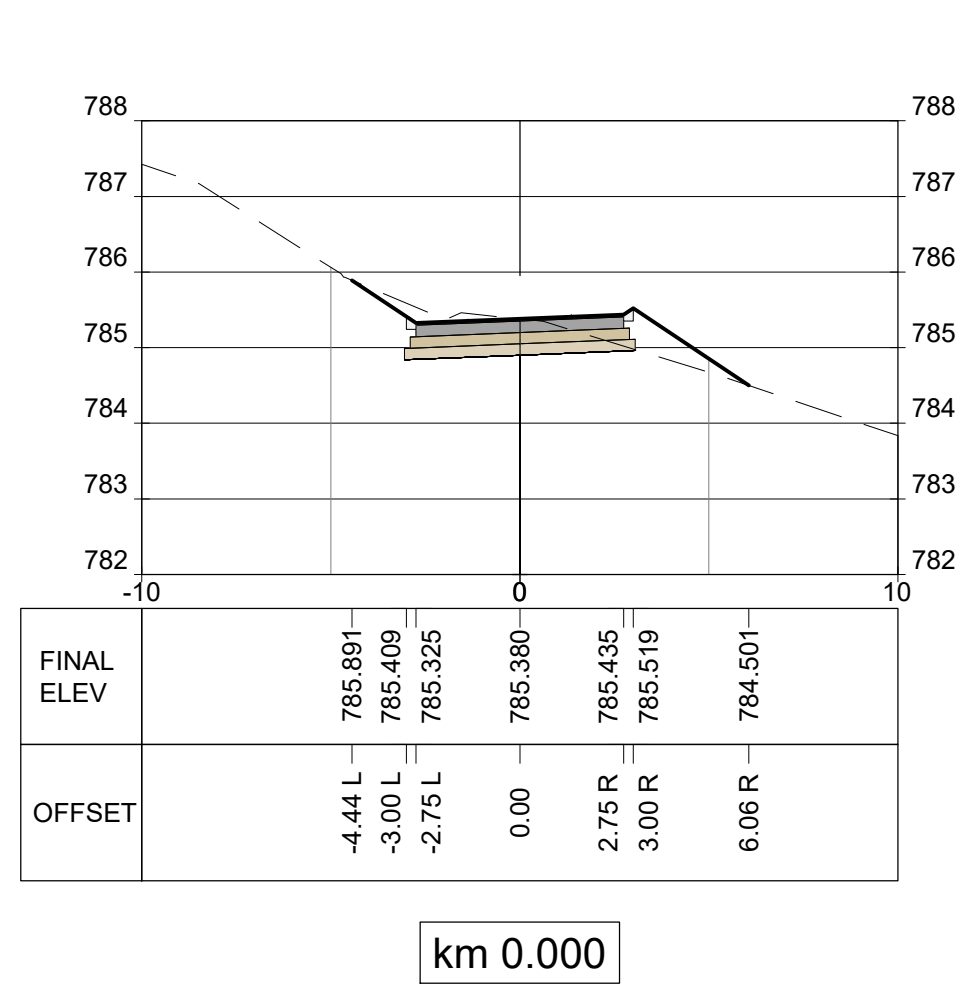
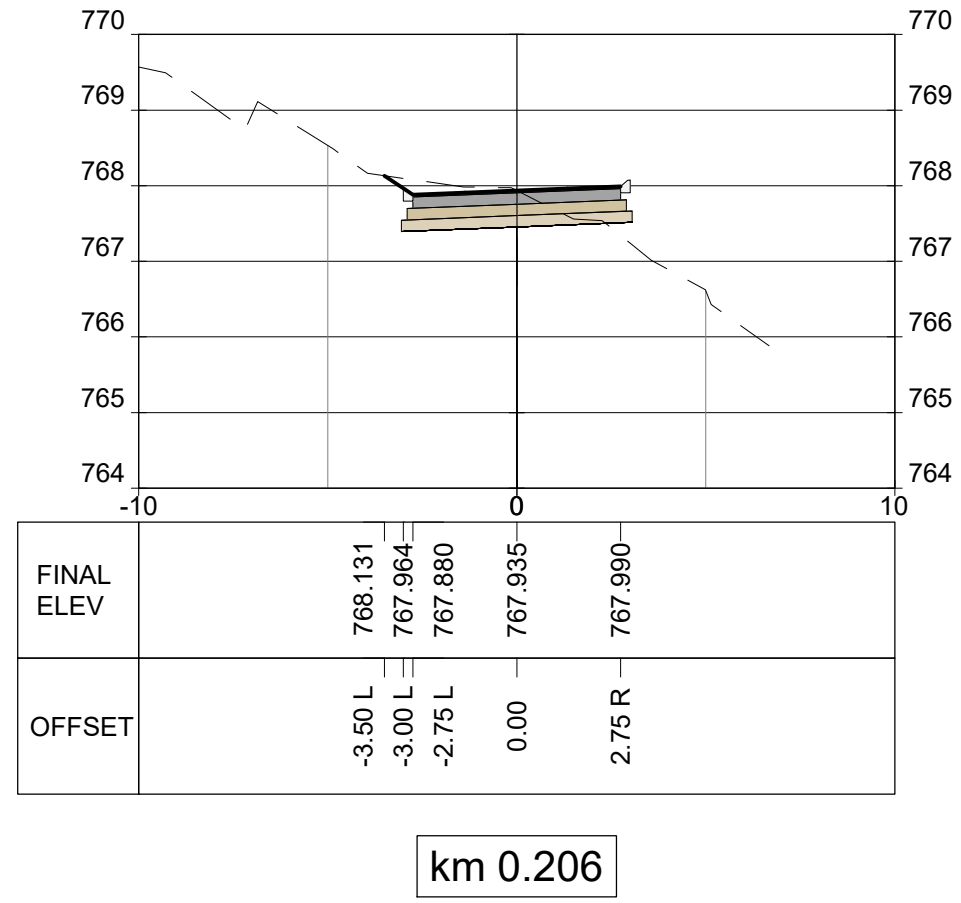
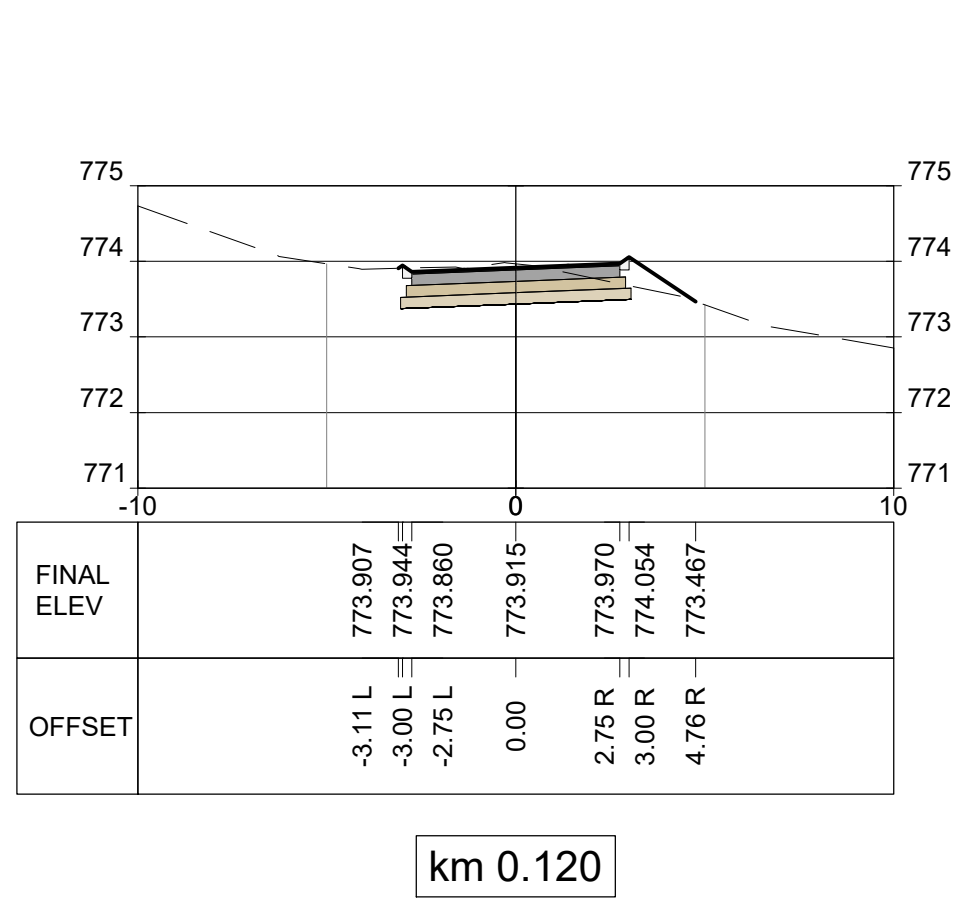
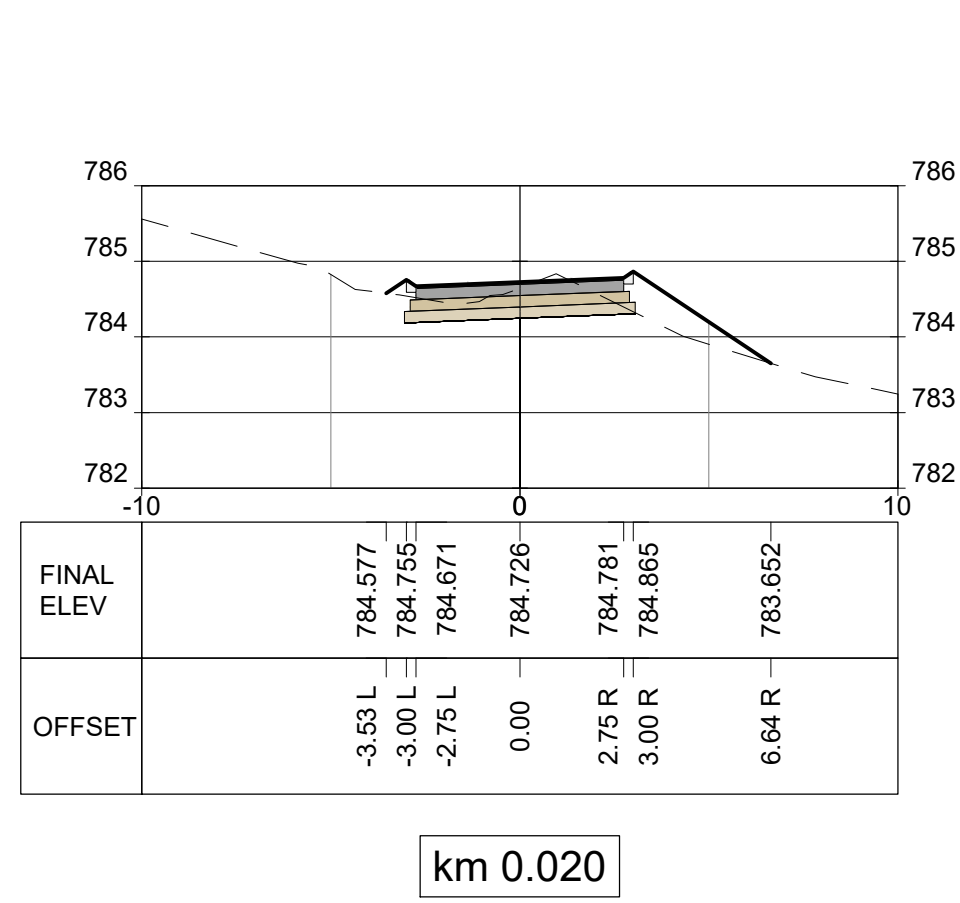
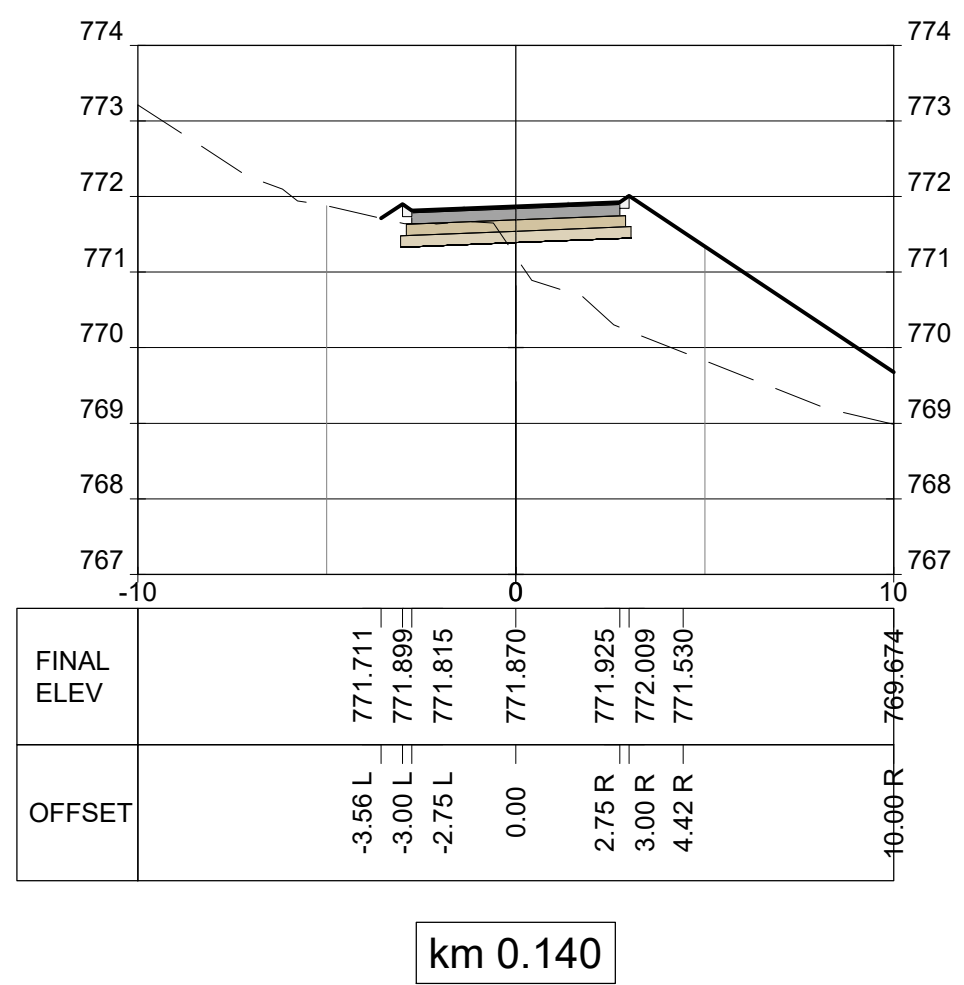
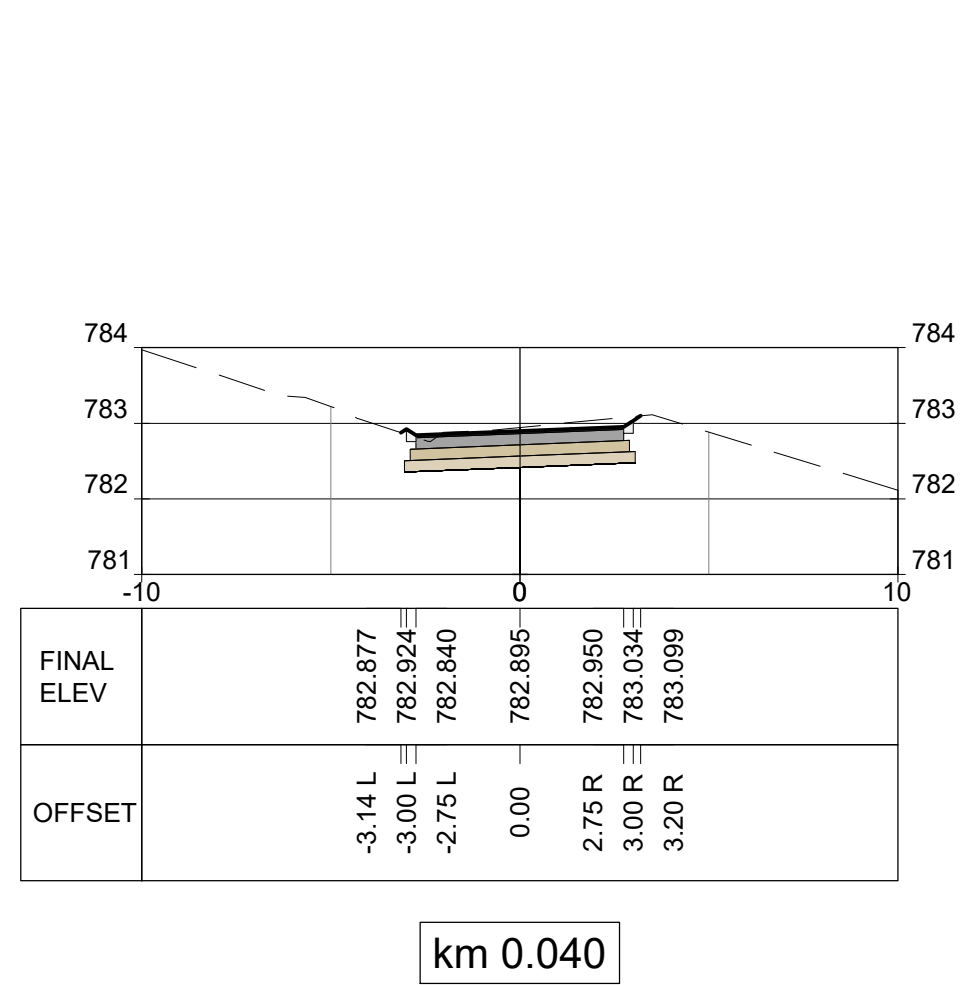
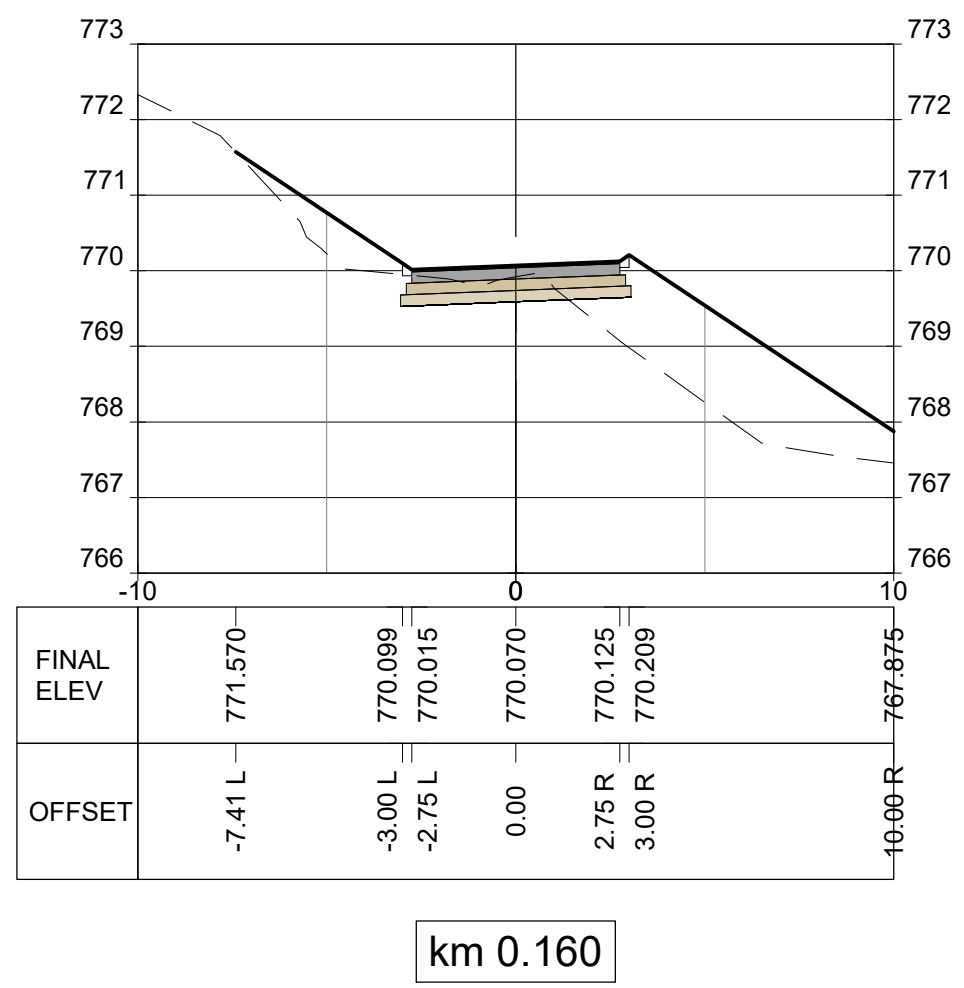
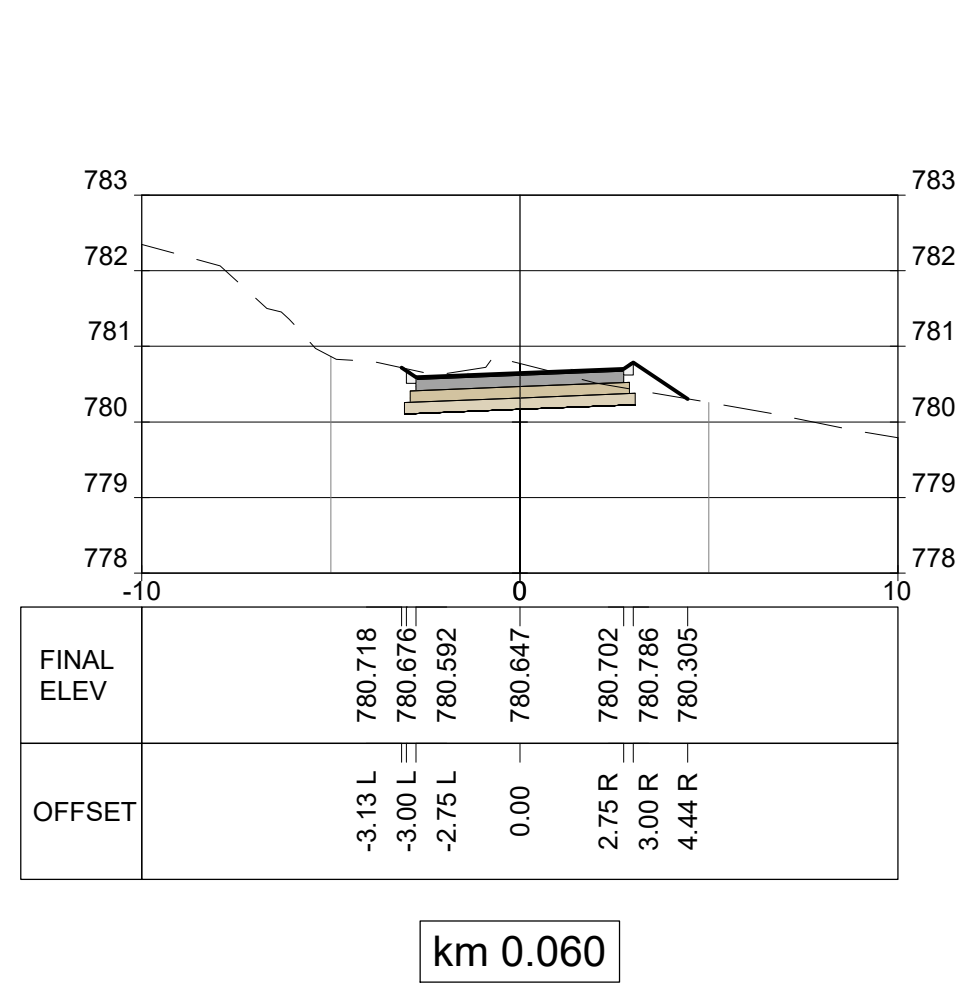
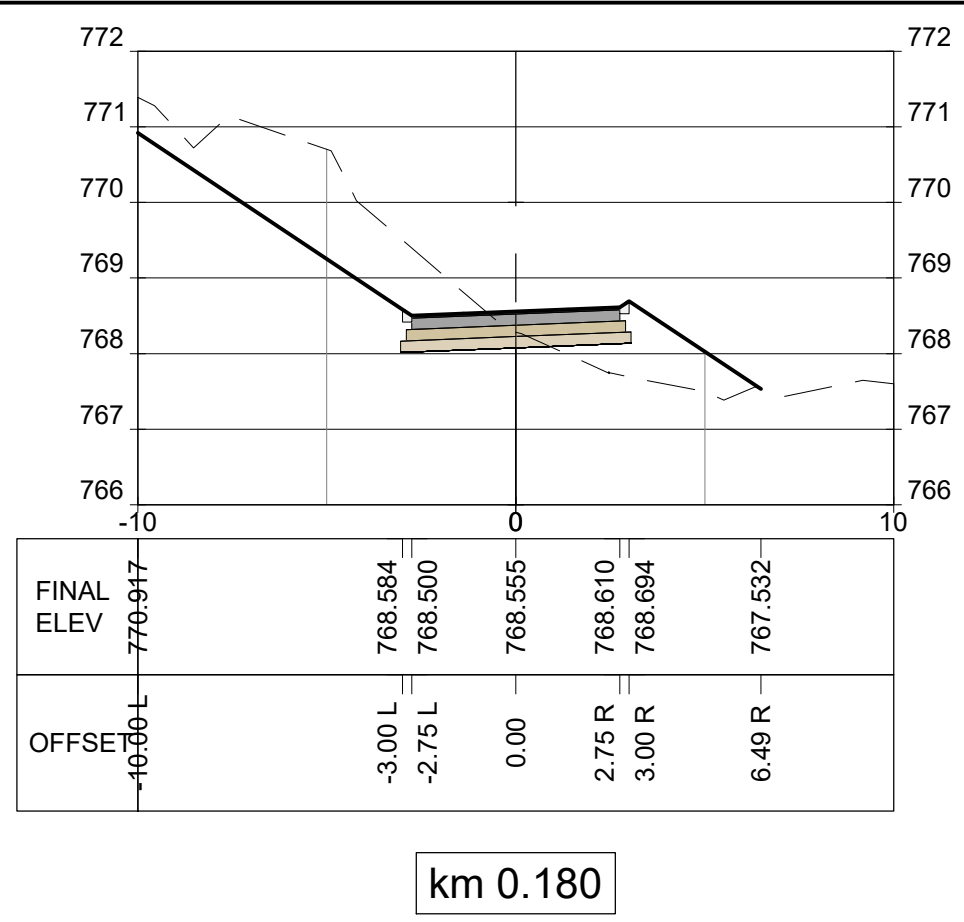
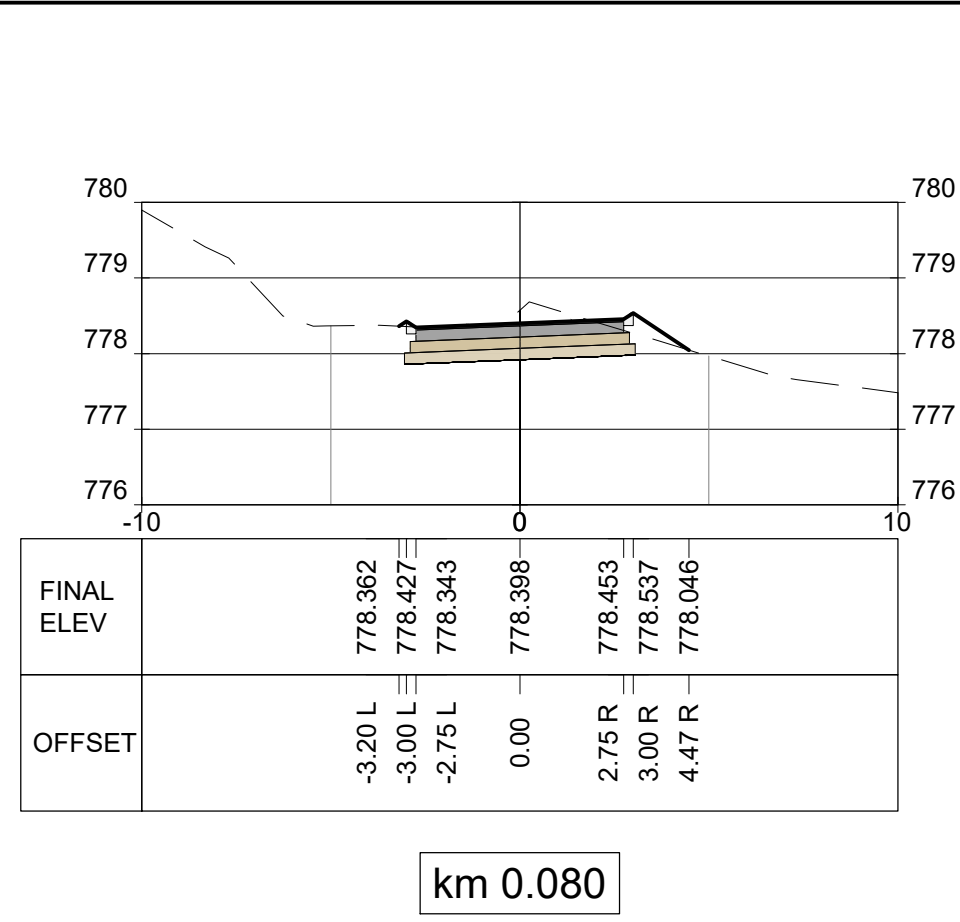
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SCALE	TYPES OF PLANNING	STATUS
1:500	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
0	RCE_78_MLM_6LS_01	



No.	DATE	REVISIONS	BY	CHECKED	BY

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S. Bapela-Pr Tech Eng DESIGNED	RALEMA CONSULTING	DEPARTMENT
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S. Bapela-Pr Tech Eng CHECKED	DATE:	DATE:

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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 1 OF 1
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	STREET 6 : CROSS SECTIONS			

SCALE	TYPES OF PLANNING	STATUS
1:200	● PLANNING ● CONSTRUCTION ● AS-BUILT	● PLANNING
REVISION	PLAN No.	
0	RCE_78_MLM_6CS_01	

FIG 8C KERB, SABS APPROVED

2% FALL

1:3 CUTFILL

300 2750 5500 2750 1900 950 950 200

FENCE WIDTH VARIES

CONTINUOUSLY CONCRETE HAUNCHING BEHIND THE KERB CLASS 19/20

80mm INTERLOCKING PAVING BLOCKS

20mm SAND

150mm SUBBASE - C4 97% MOD AASHTO (UCS>1500MPa, G_m>1.5, P_w<6)

150mm UPPER SELECTED - G6 95% MOD AASHTO

RIP and RECOMPACT 150mm of IN SITU to 90% MOD AASHTO

100mm THICKNESS CUTFILL SLOPES TO BE COMPACTED TO 90%

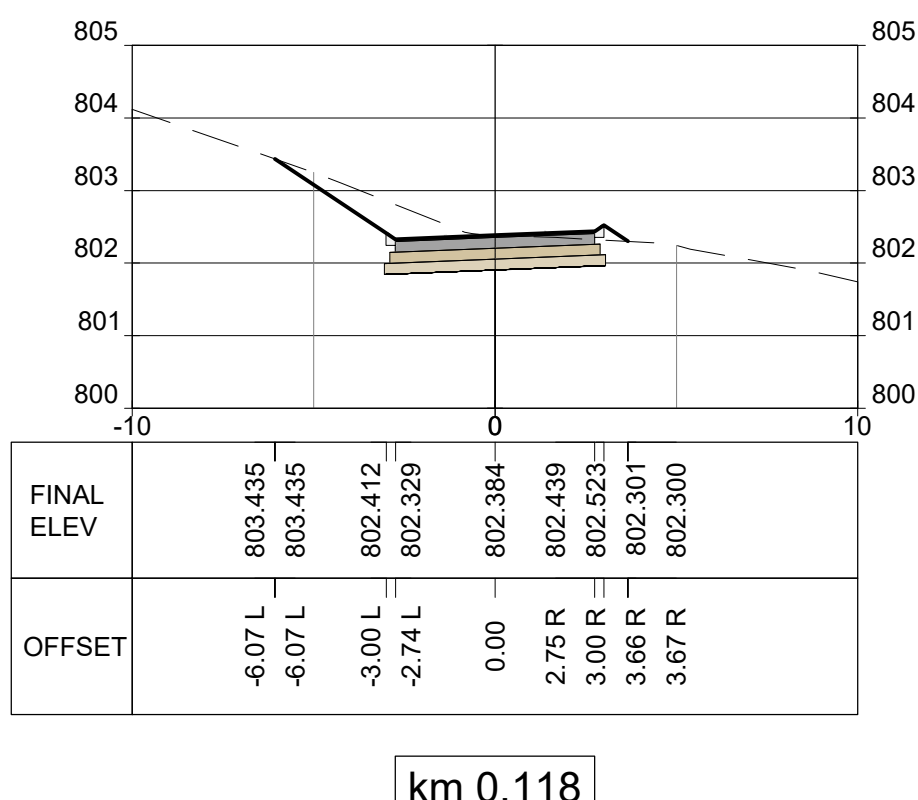
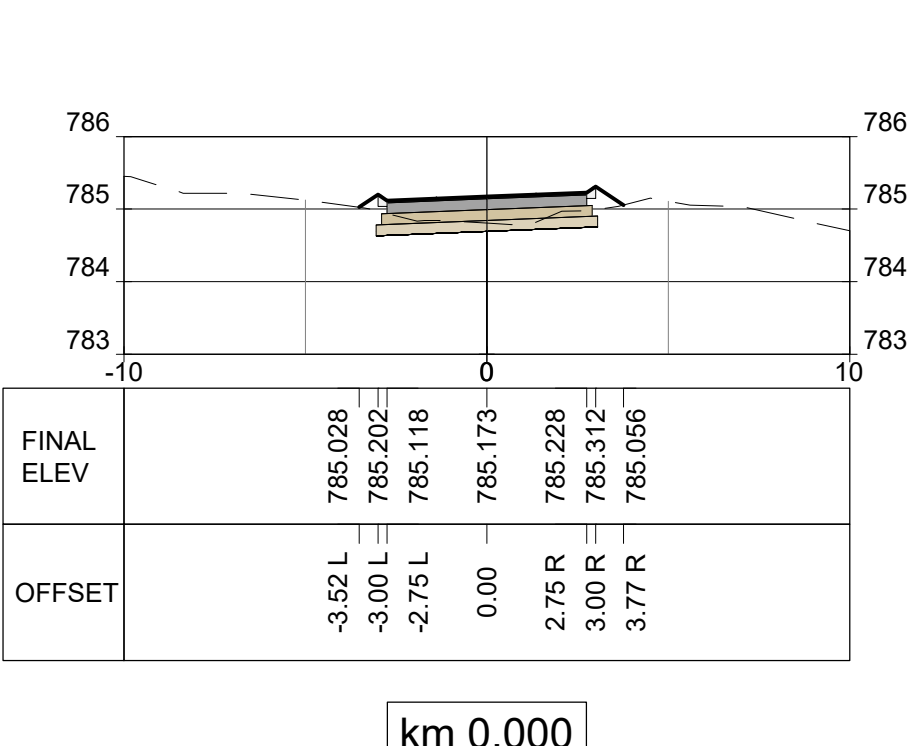
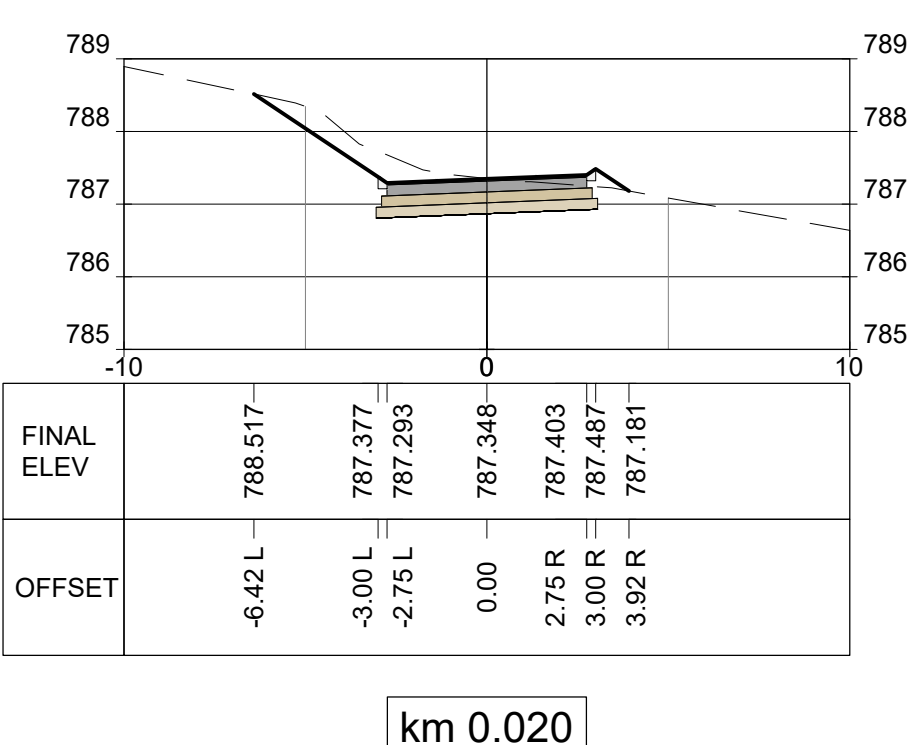
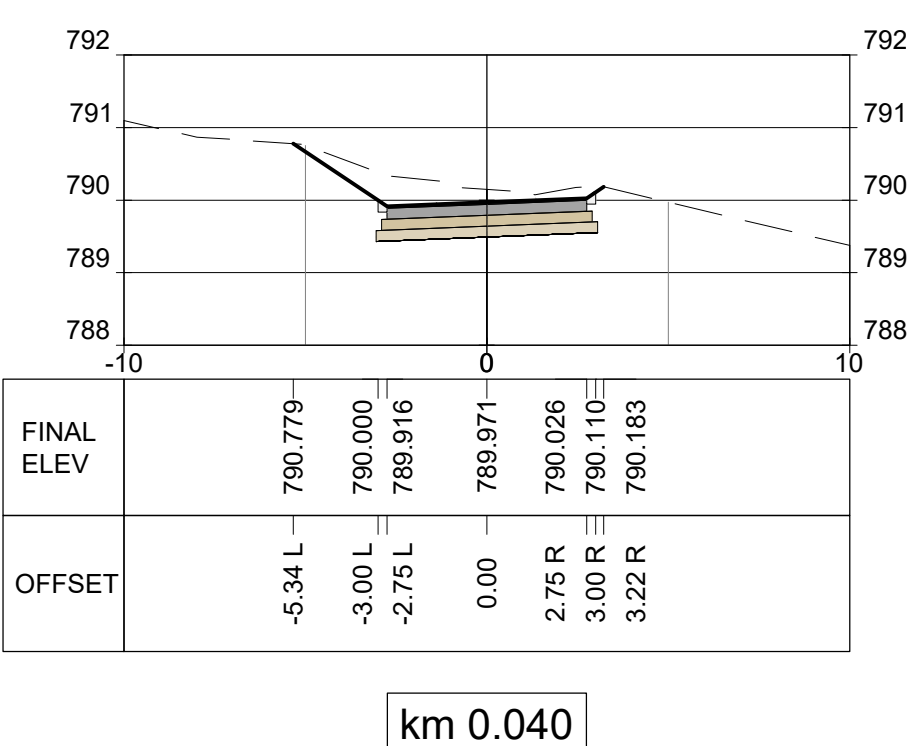
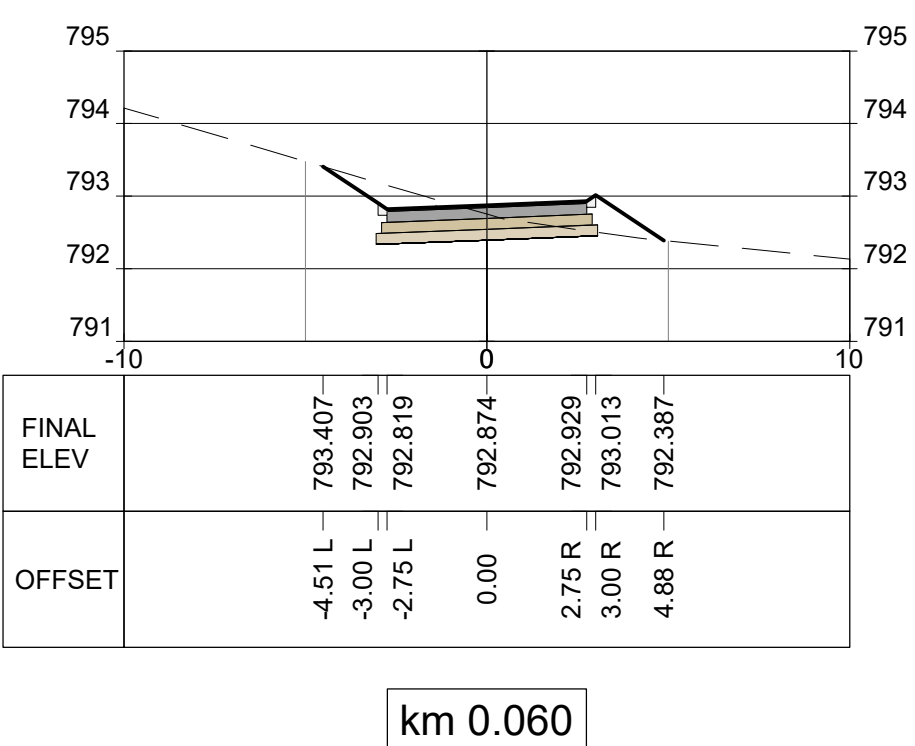
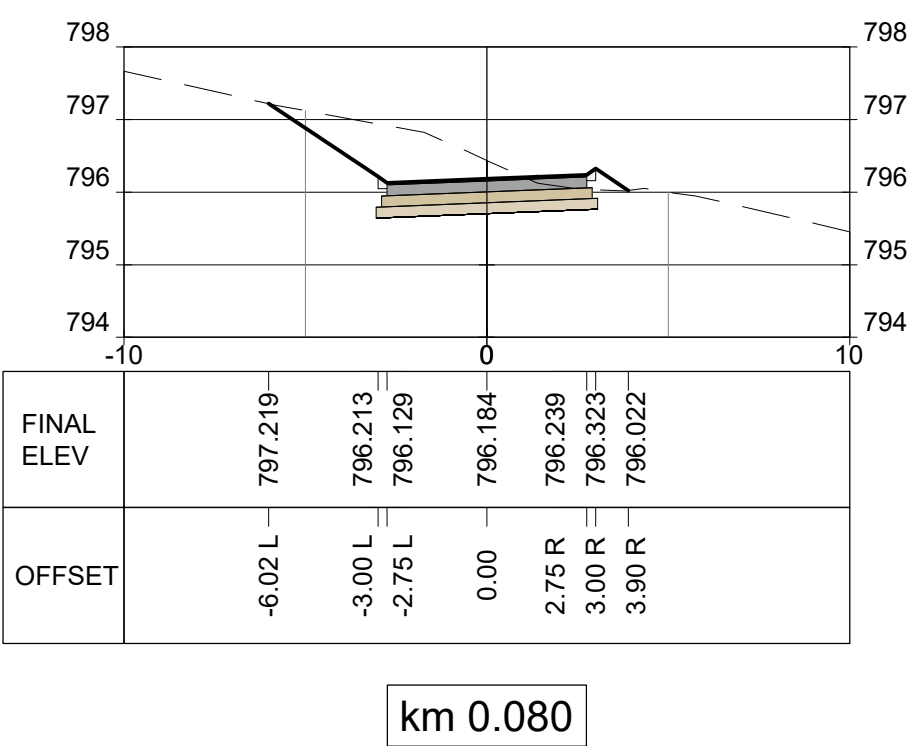
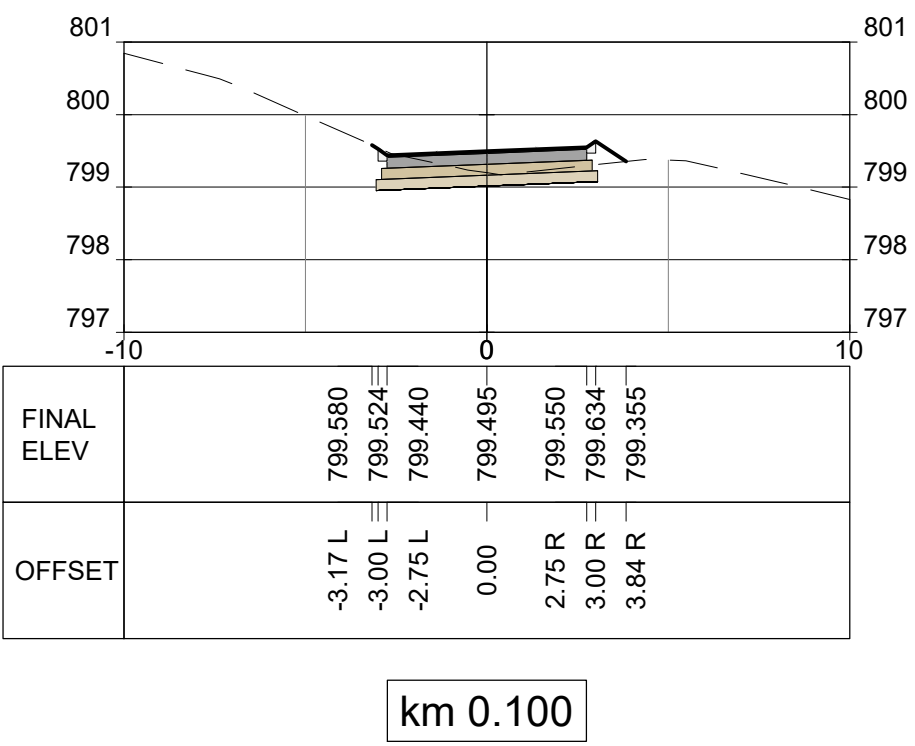
100mm THICK CONCRETE "Y" DRAIN, CLASS 29/30

MESH 395

100mm SELECTED: G6 COMPACTED TO 97% MOD AASHTO (2.65G_m>1.2, P_w<10-10 OR 12)

STREET 4: TYPICAL CROSS SECTION AND PAVEMENT DESIGN

SCALE 1:50



No.	DATE	REVISIONS	BY	CHECKED BY	

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I. Tihasi DRAWN	ISSUED BY:	RECEIVED BY:
S. Bapela-Pr Tech Eng CHECKED	DATE:	DATE:

CLIENT ADDRESS

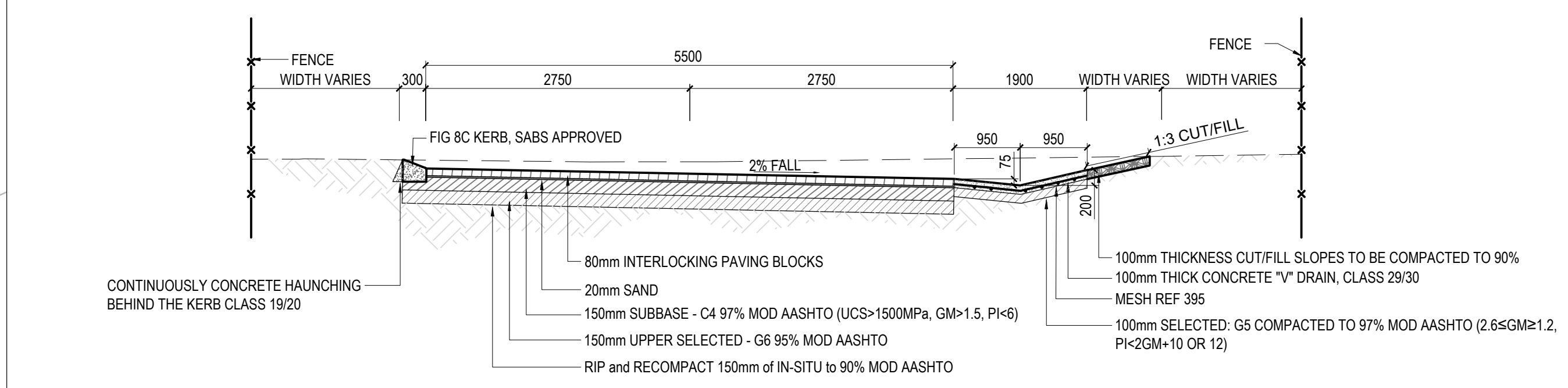


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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
		*****	*****	1 OF 1
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	STREET 7 : CROSS SECTIONS			

SCALE	TYPES OF PLANNING	STATUS
1:200	<div><div>PLANNING</div><div>CONSTRUCTION</div><div>AS-BUILT</div></div>	<div>PLANNING</div>
REVISION	PLAN No.	
0	RCE_78_MLM_7CS_01	



SCALE 1:50



ALIGNMENT DATA: STREET 7A

SEGMENT	CHAINAGE	Y-COORD	X-COORD	RADIUS	D.A./BEARING	LENGTH
L1	Km 0.000 to Km 0.049	683527.722 68311.086	2550572.454 2550558.066		250° 56'20"	49.476 m
C1	BC: Km 0.049 EC: Km 0.144	BC: 68311.086 PI: 68273.253 EC: 68273.253	BC: 2550558.066 PI: 2550471.847 EC: 2550471.847	???	Δ: 77°	94.155 m
L2	Km 0.144 to Km 0.192	68273.253 68242.883	2550471.847 255024.584		219° 10'50"	48.682 m
C2	BC: Km 0.192 EC: Km 0.289	BC: 68242.883 PI: 68164.259 EC: 68164.259	BC: 2550434.584 PI: 2550378.855 EC: 2550378.855	???	Δ: 77°	96.372 m
L3	Km 0.289 to Km 0.304	68164.259 68153.532	2550378.855 2550398.537		226° 06'40"	14.939 m
C3	BC: Km 0.304 EC: Km 0.406	BC: 68153.532 PI: 68091.144 EC: 68091.144	BC: 2550398.537 PI: 2550287.383 EC: 2550287.383	???	Δ: 77°	102.363 m

[illegible][illegible]

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I. Tlhlasi DRAWN	ISSUED BY:	RECEIVED BY:
S. Bapela-Pr Tech Eng CHECKED	DATE:	DATE:

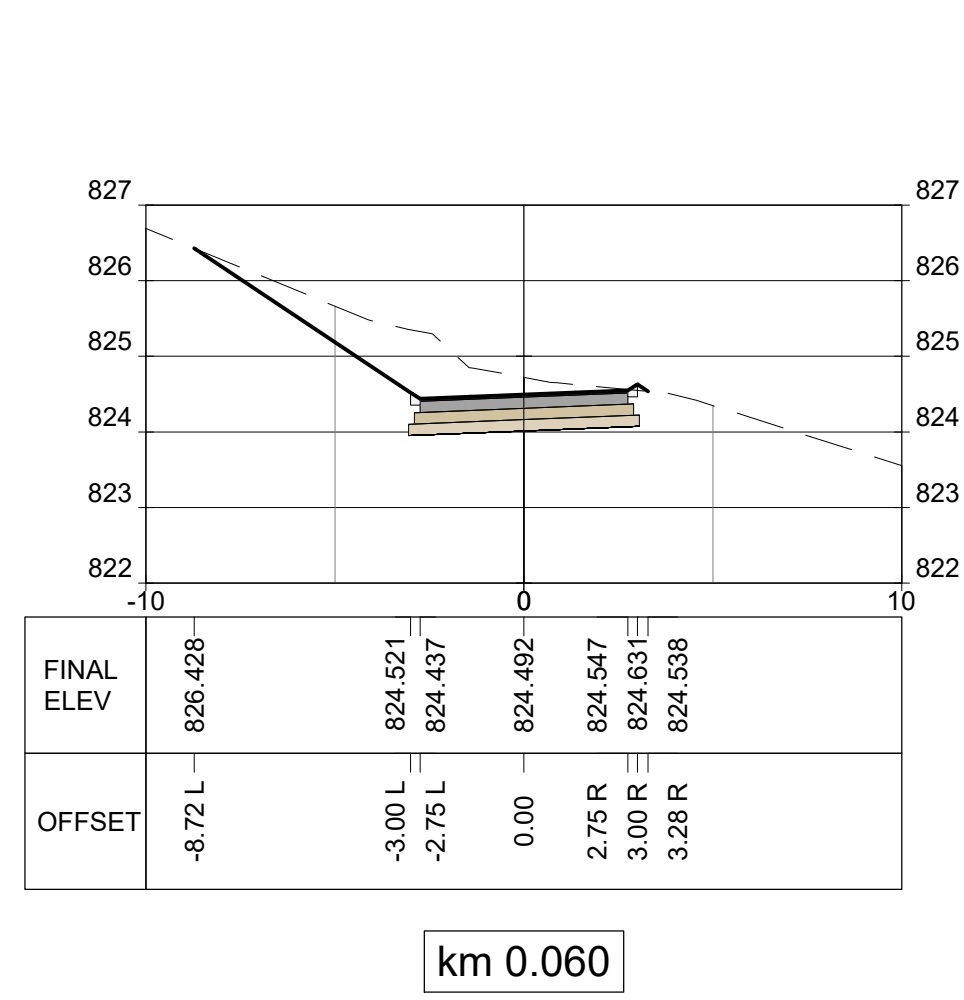
CLIENT ADDRESS

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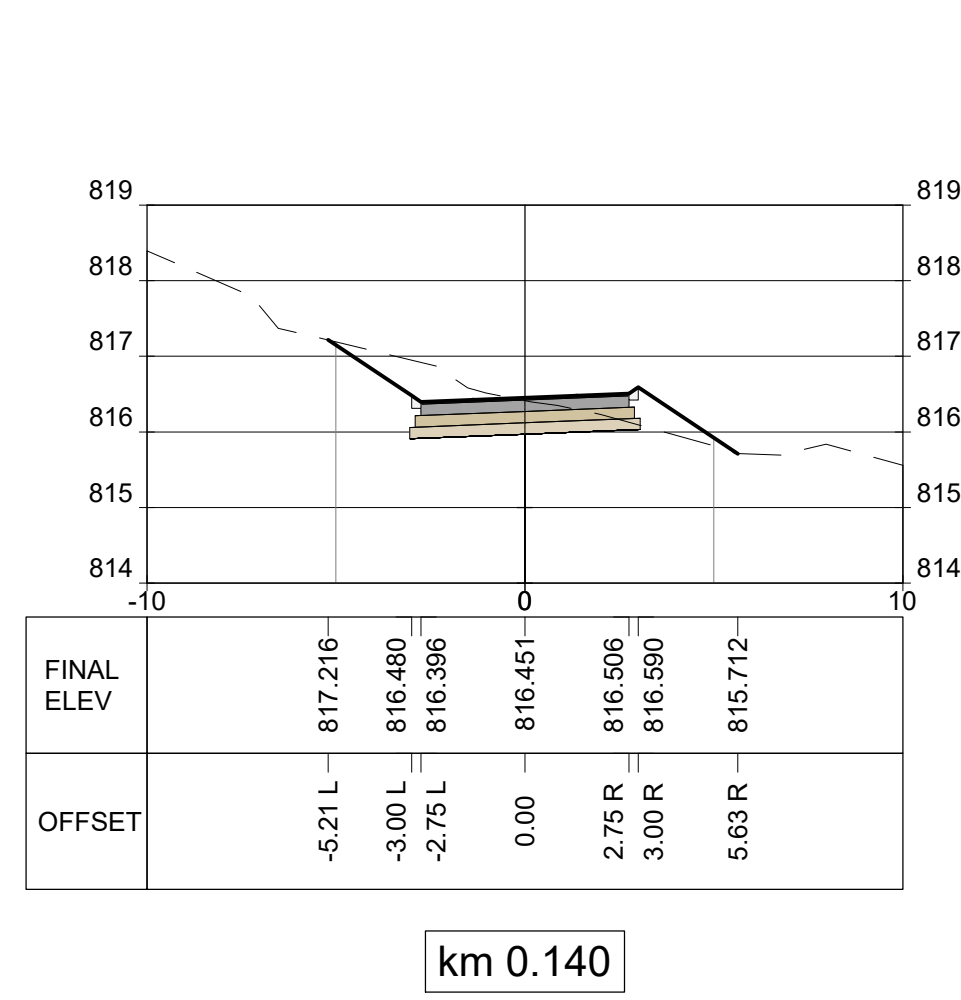
Tel: (015) 962 1828
Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No. *****	IPW No. *****	SHEET 1 OF 1
PROJECT TITLE UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1				
DRAWING TITLE STREET 7A : LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION				

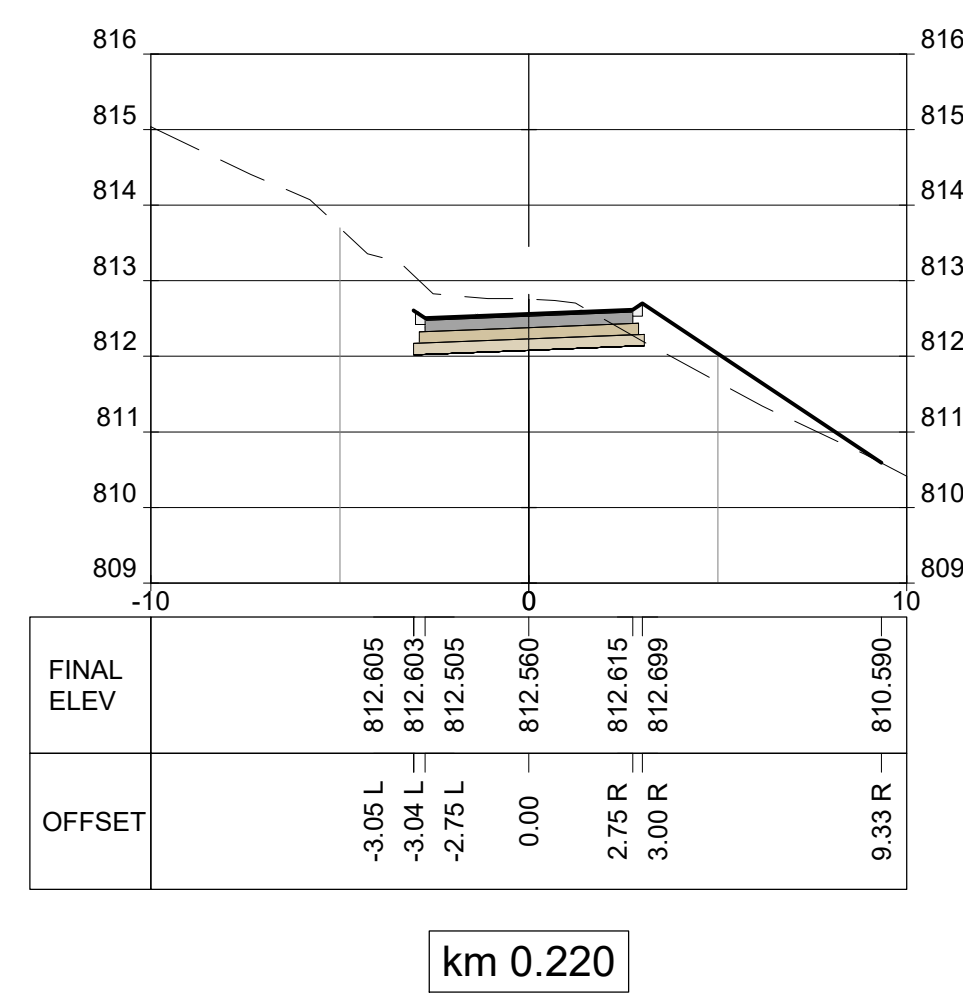
SCALE	TYPES OF PLANNING	STATUS
1:500	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
0	RCE_78_MLM_7ALS_01	



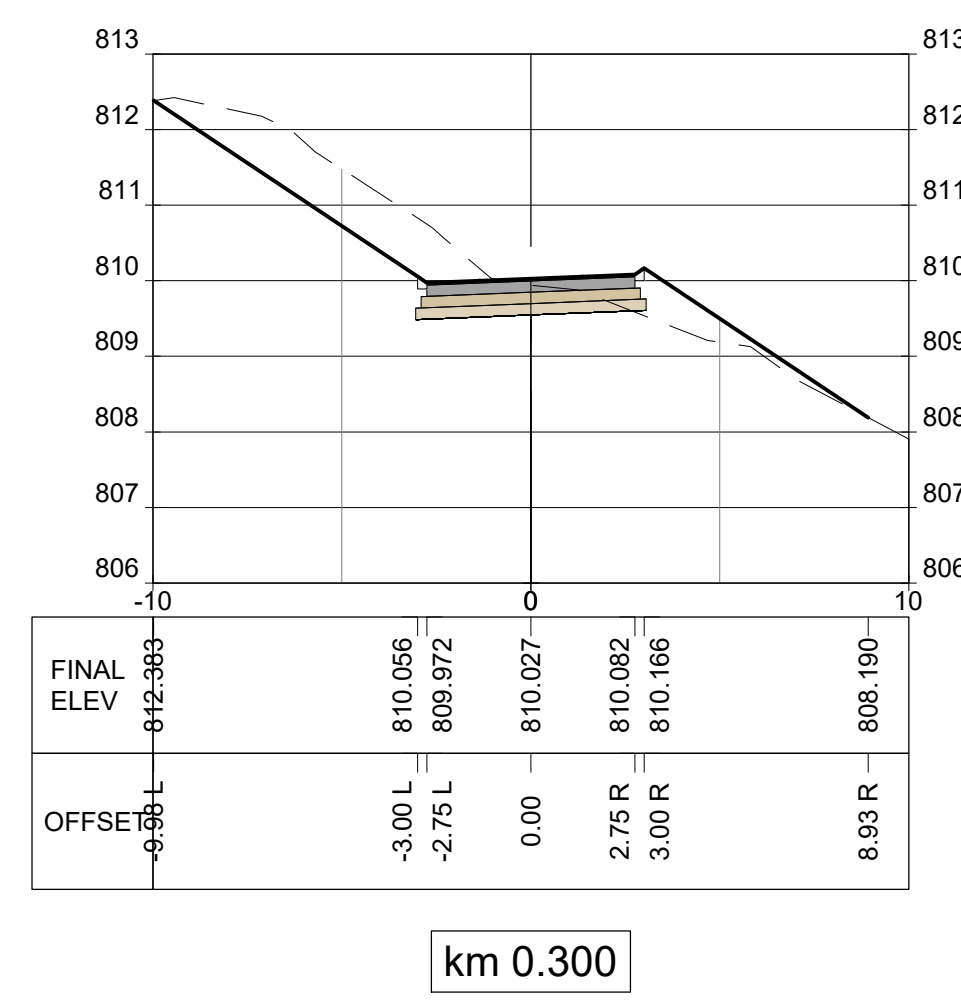
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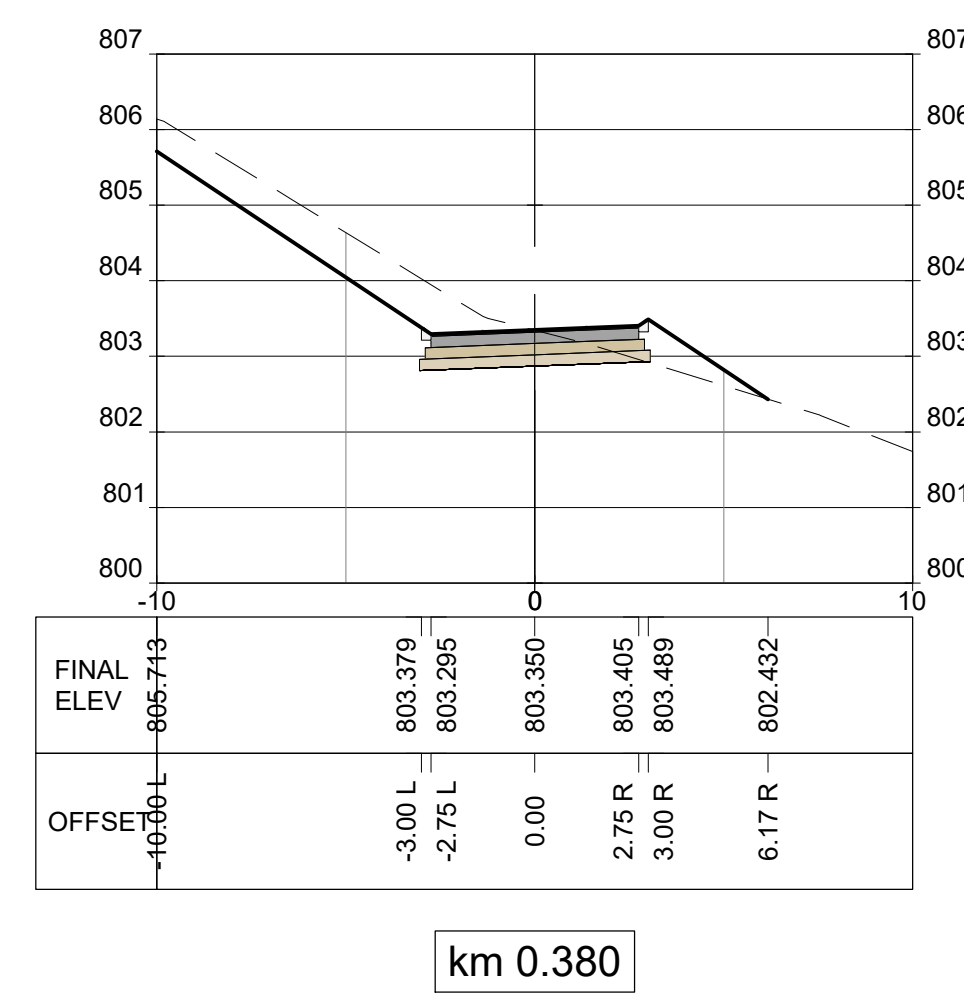
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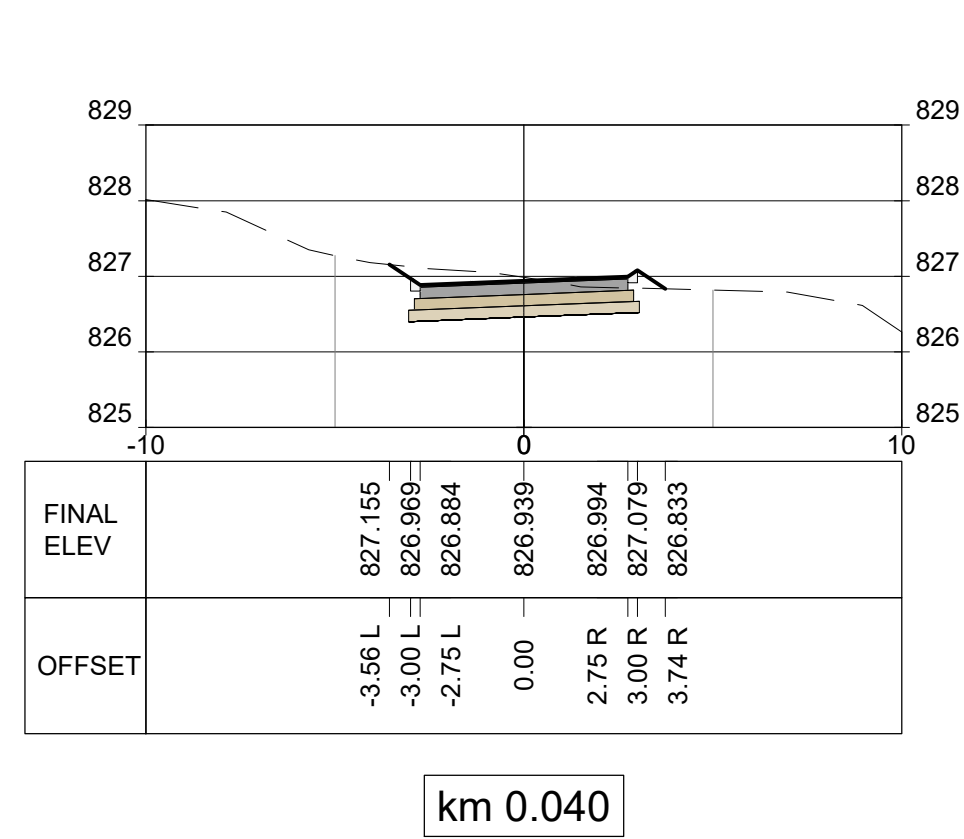
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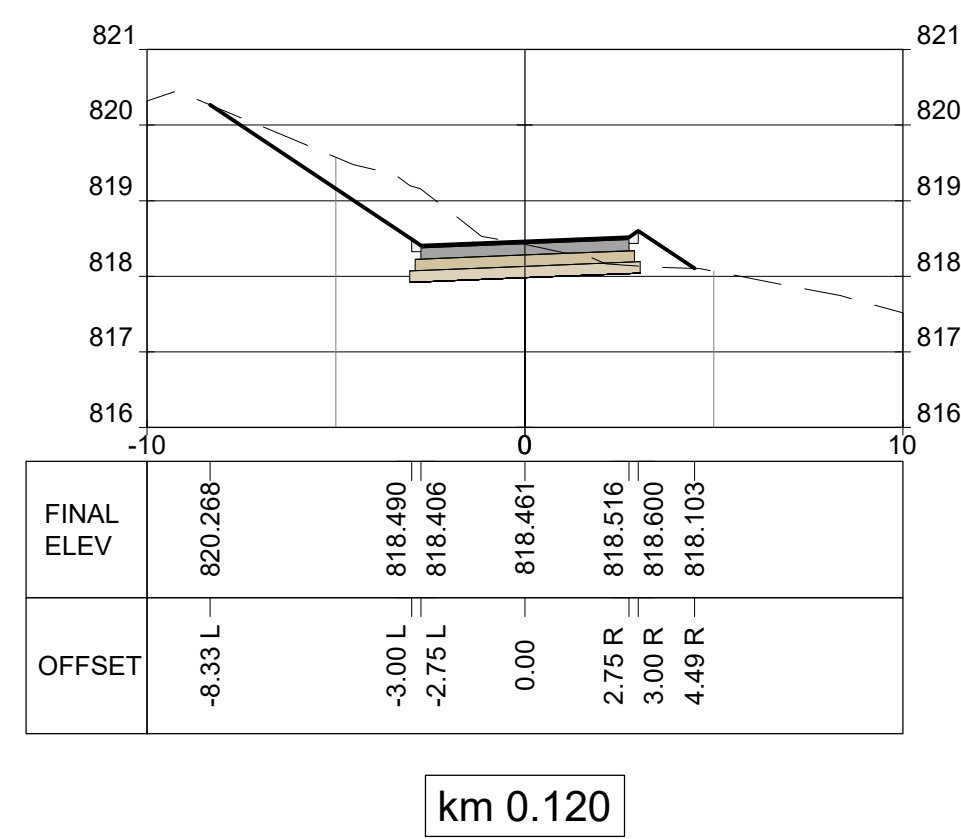
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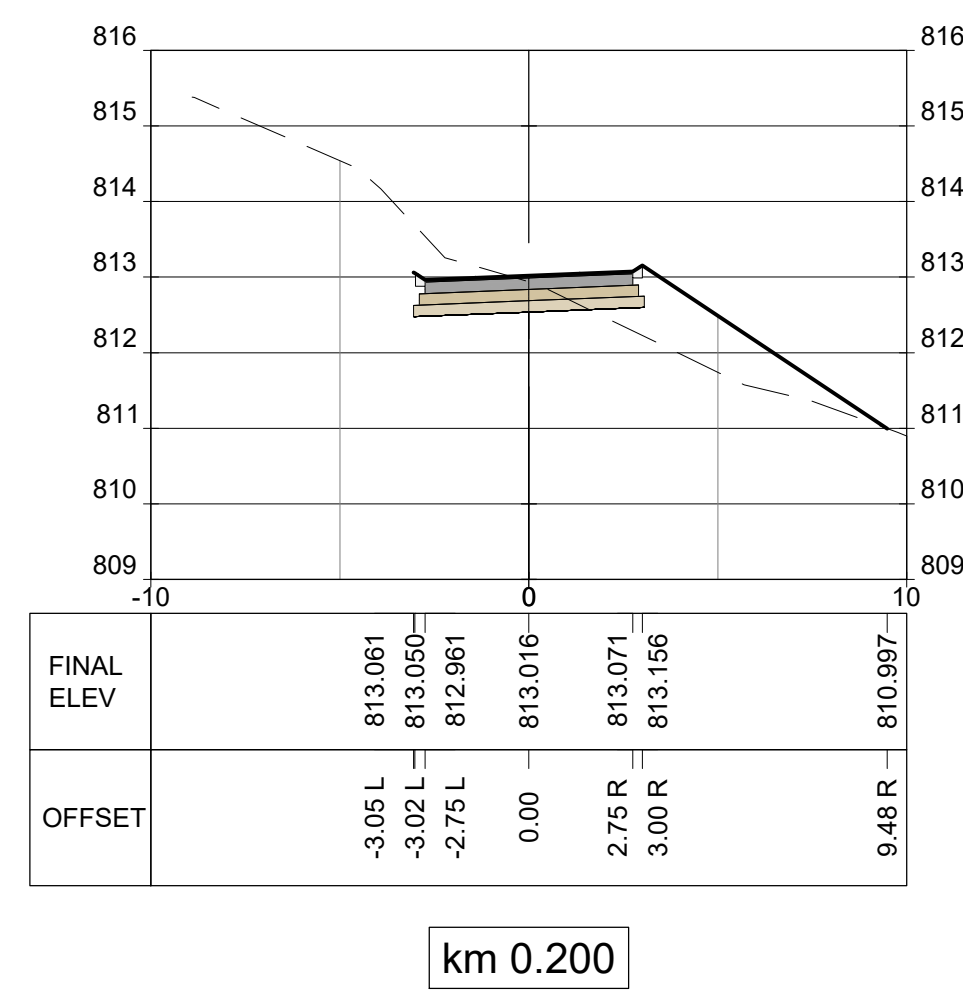
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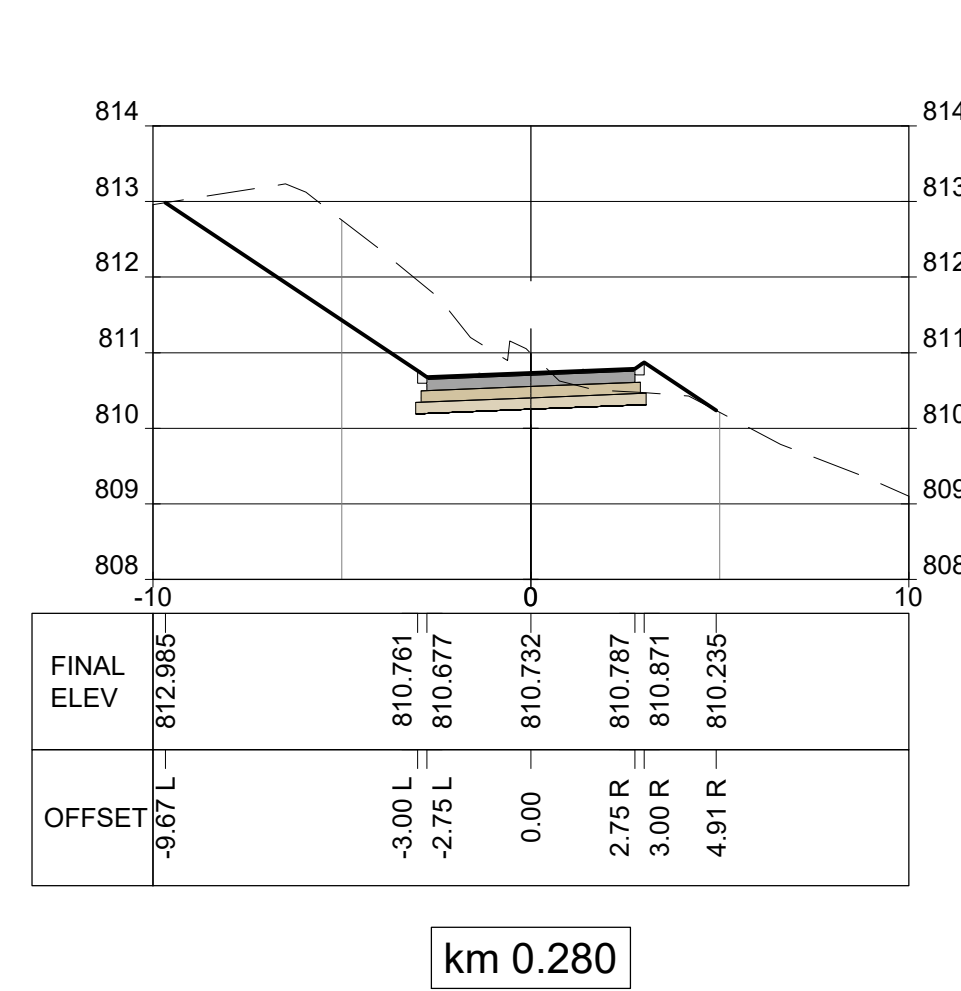
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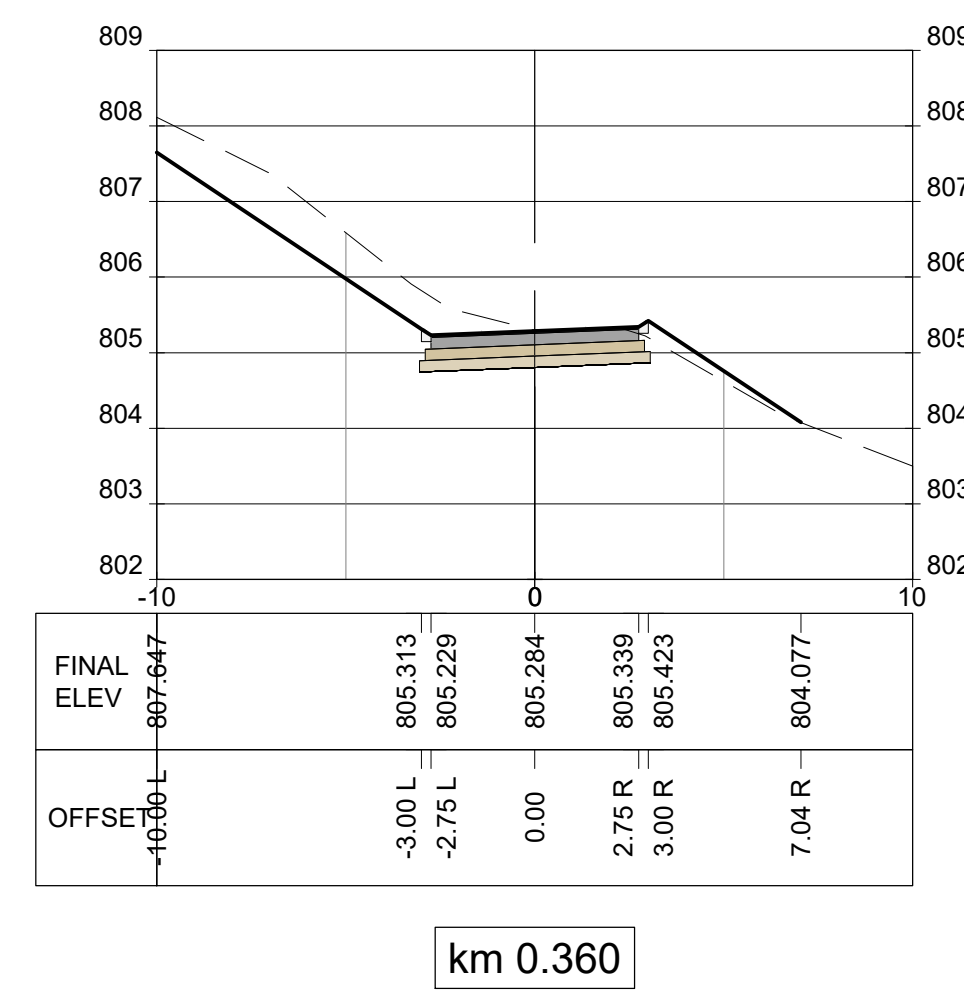
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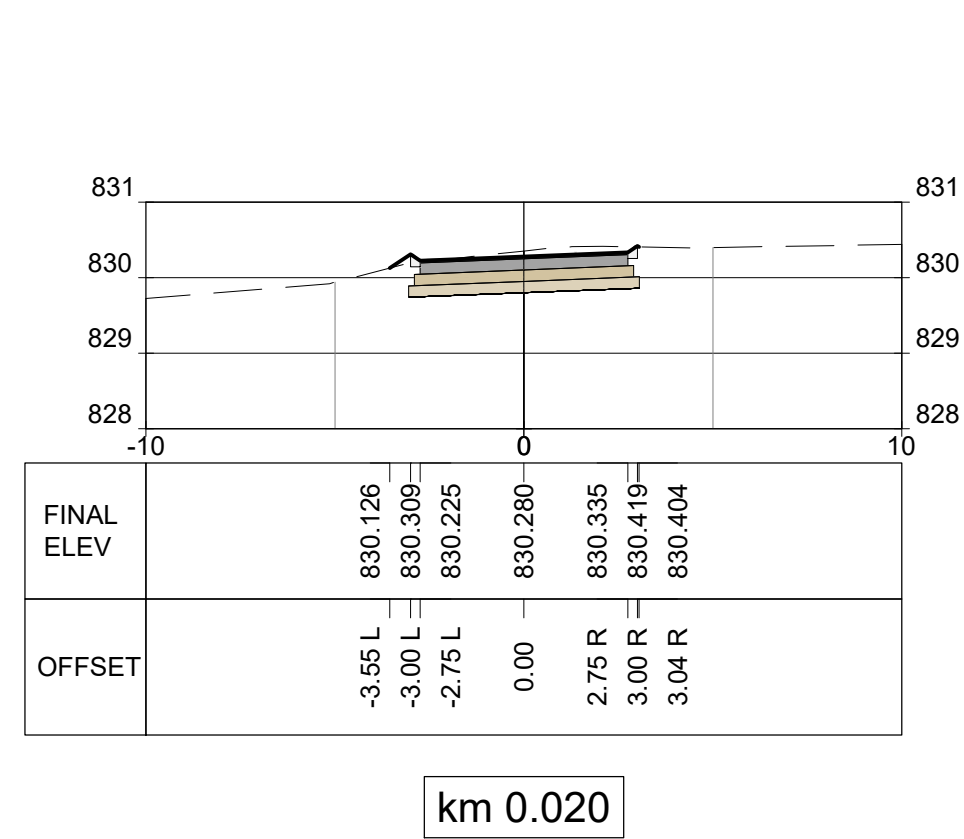
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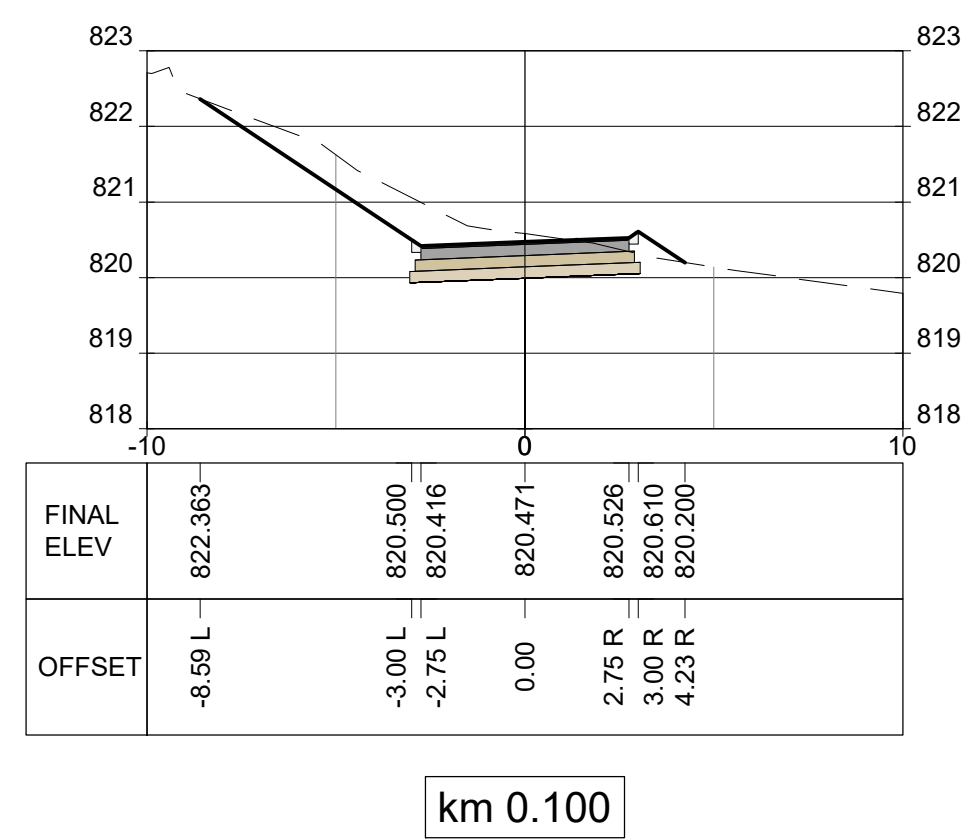
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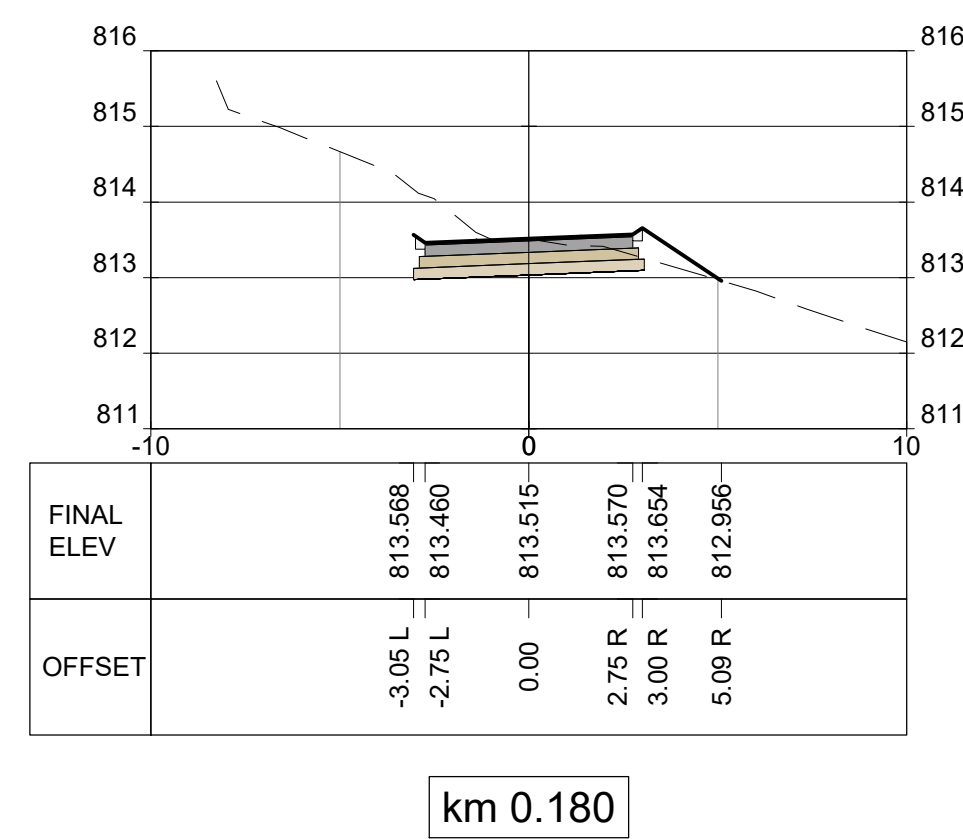
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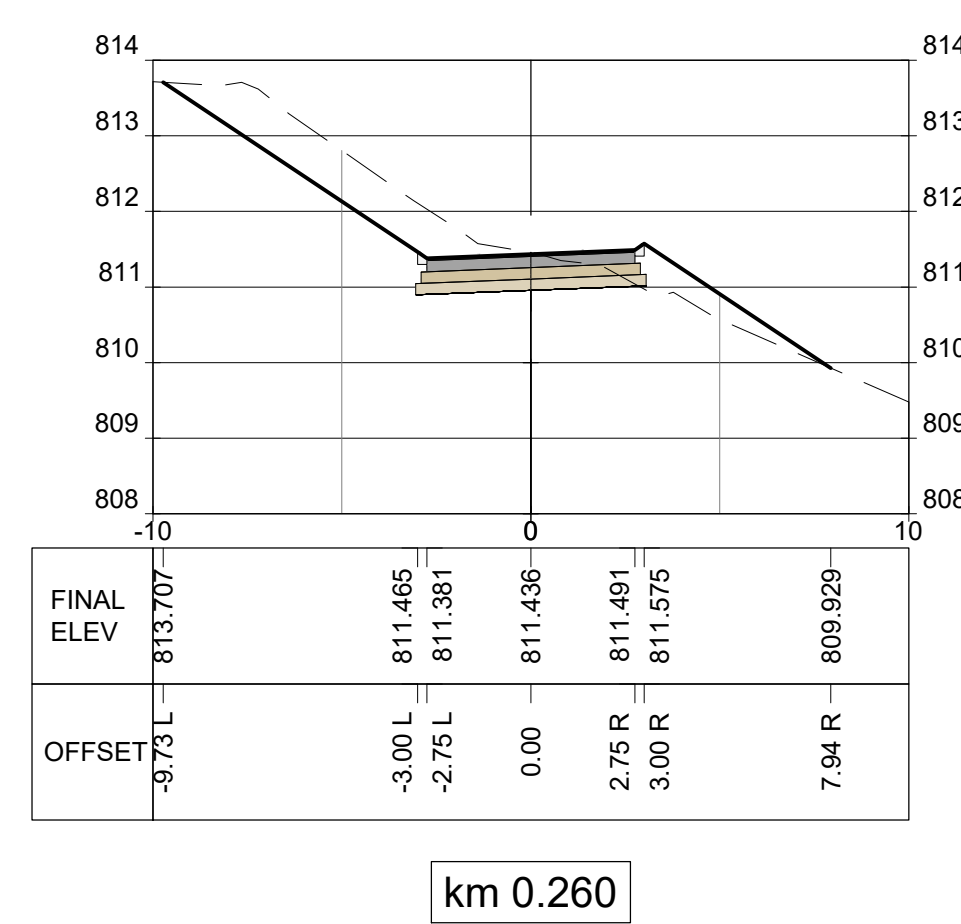
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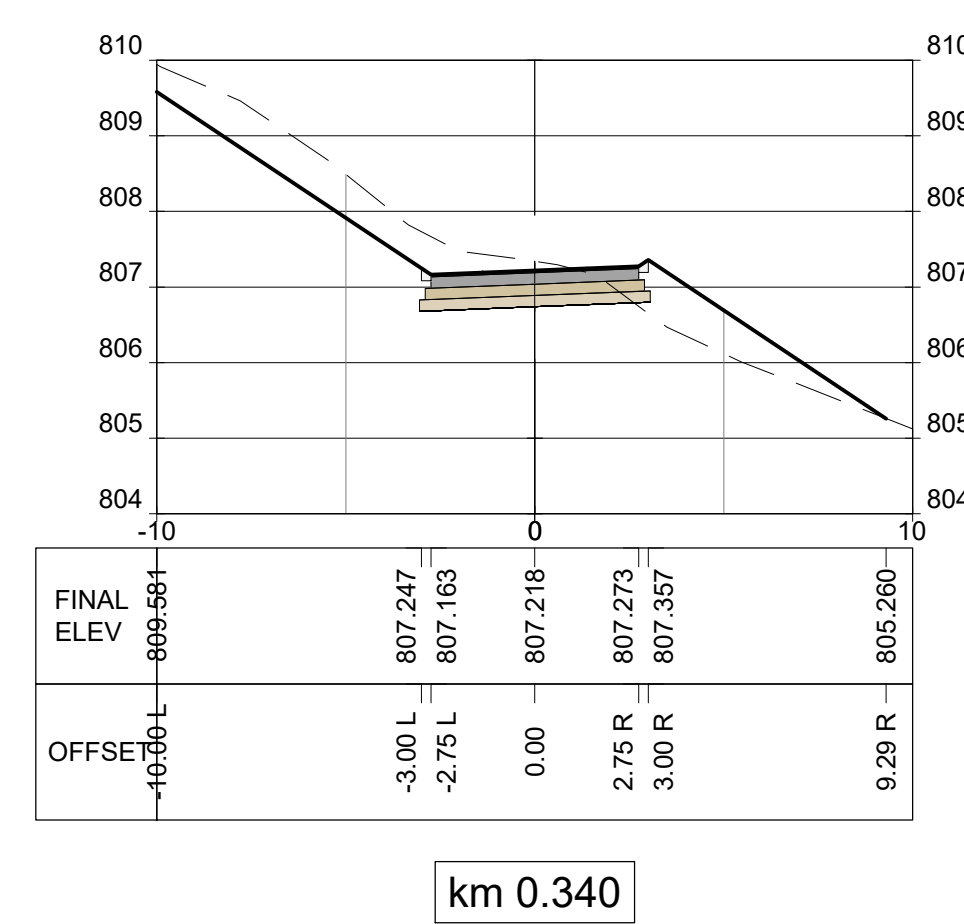
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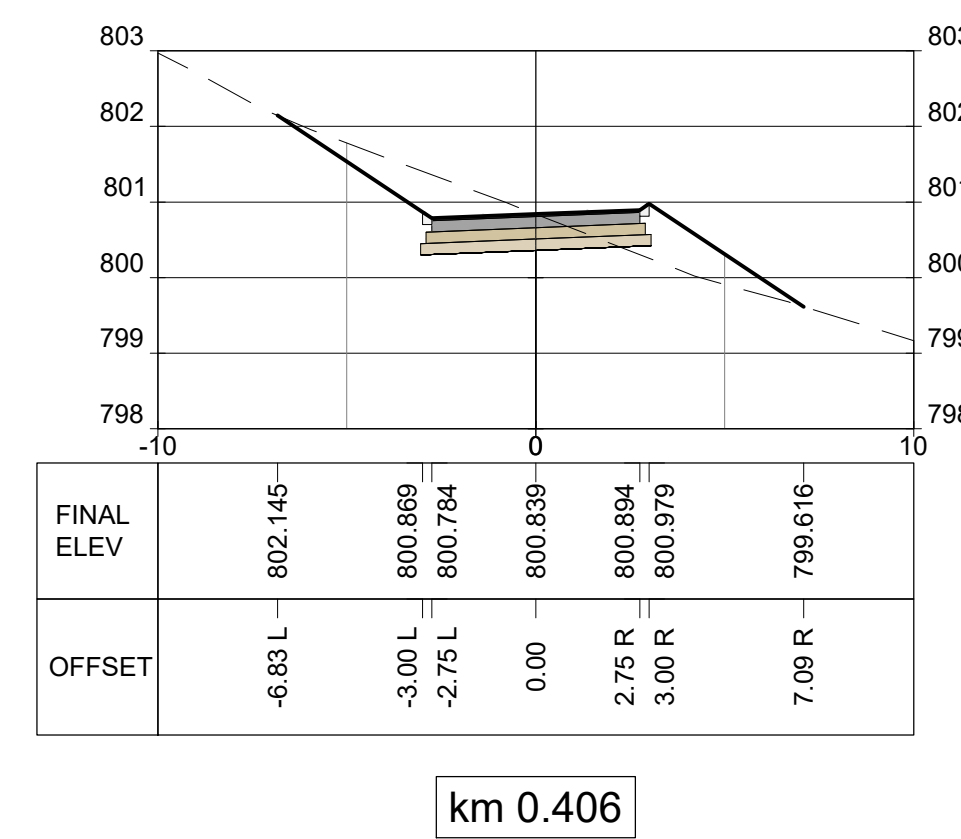
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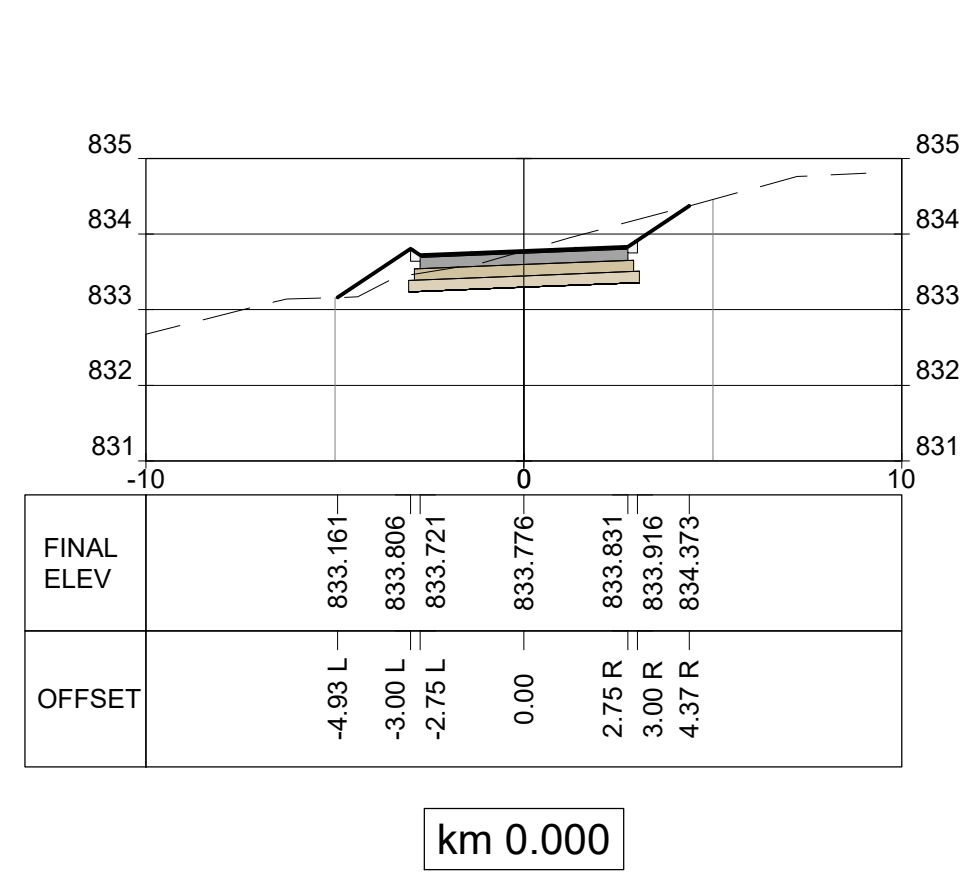
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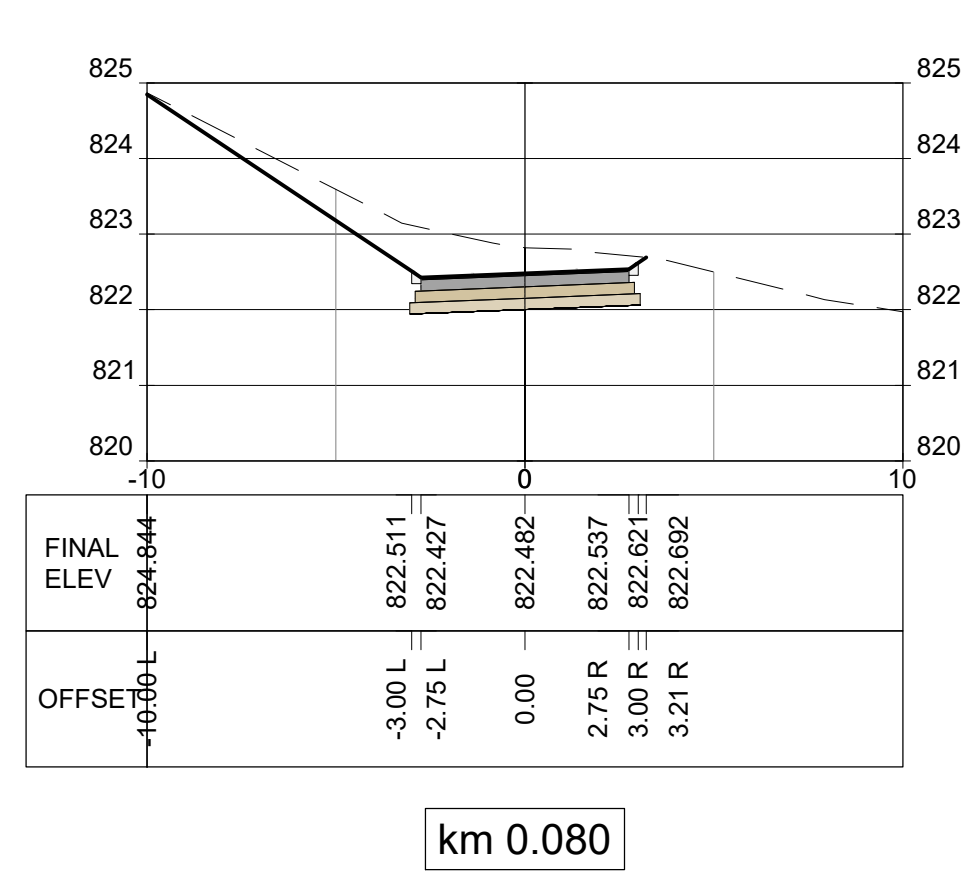
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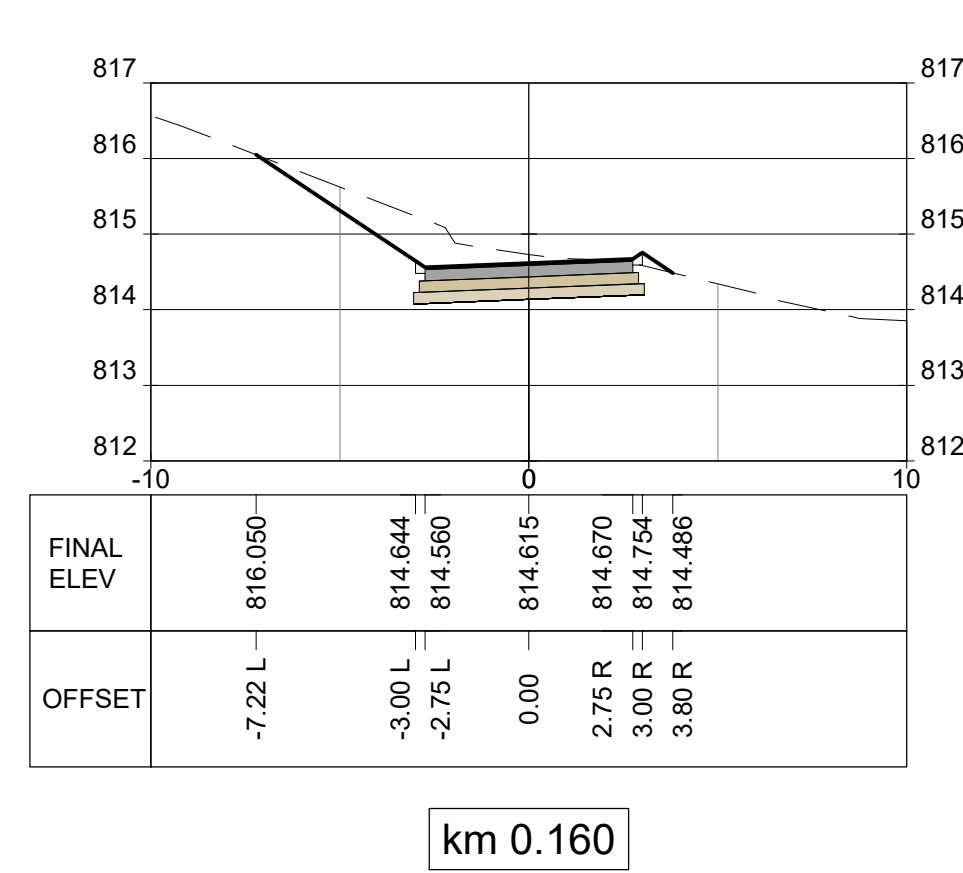
km 0.406



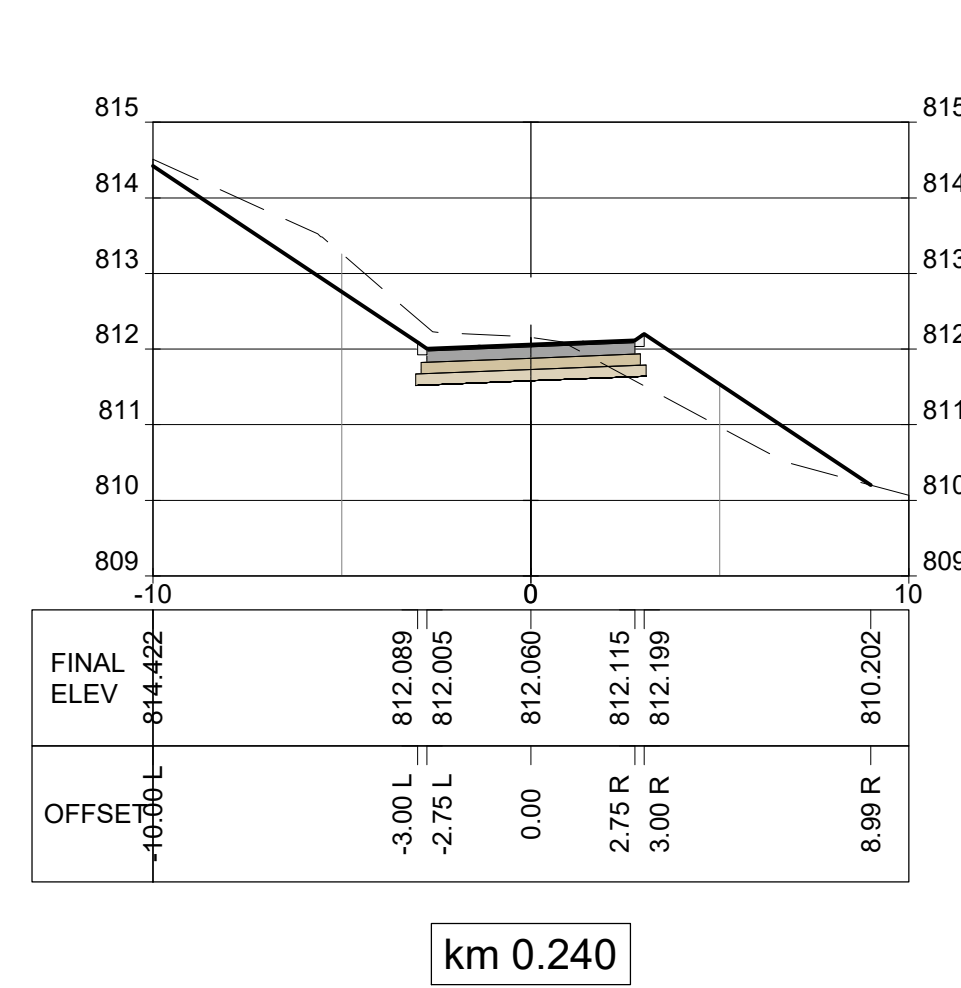
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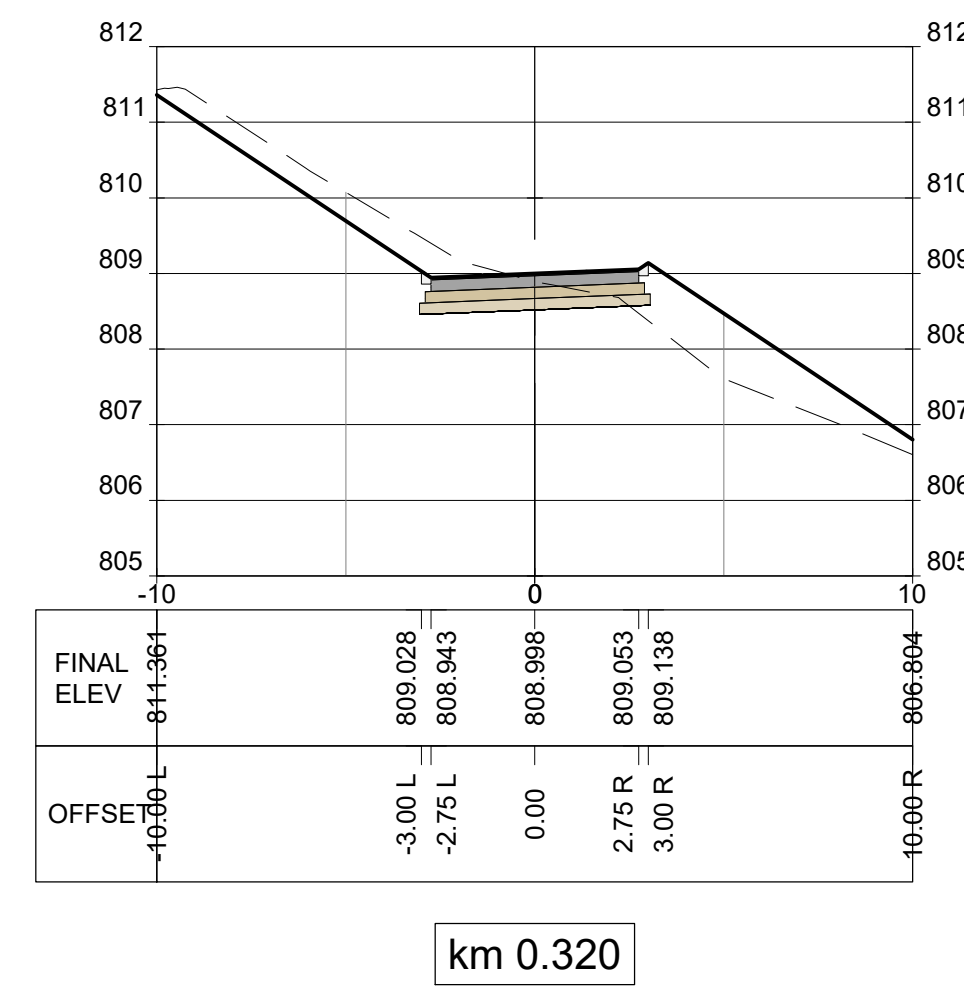
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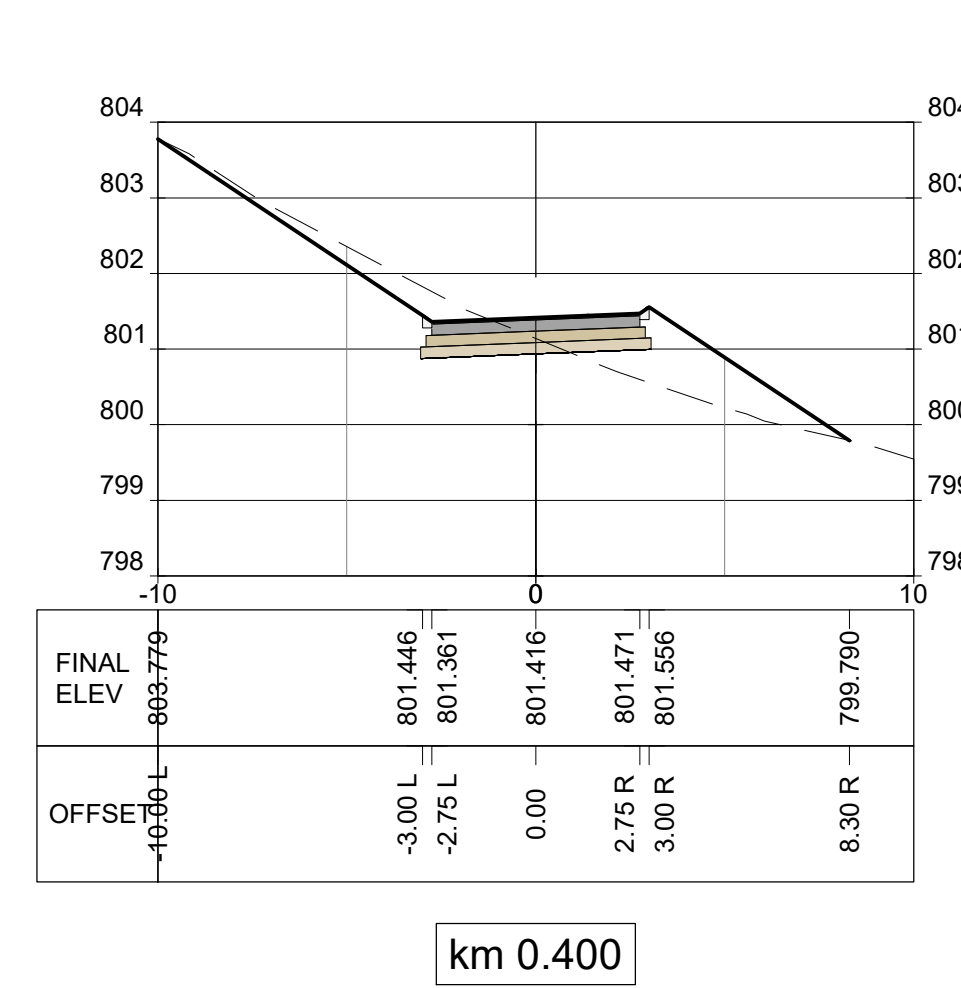
km 0.160



km 0.240



km 0.320



km 0.400

No.	DATE	REVISIONS	BY	CHECKED BY

DESIGNED BY: RALEMA CONSULTING ENGINEERS

RALEMA
CONSULTING ENGINEERS

C08/06 PHOENIX VIEW ESTATES
C/R RIVERSIDE & 14TH STREET
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S. Bapela-Pr Tech Eng DESIGNED
I. Tihasi DRAWN
S. Bapela-Pr Tech Eng CHECKED

RALEMA CONSULTING	DEPARTMENT
ISSUED BY:	RECEIVED BY:
DATE:	DATE:

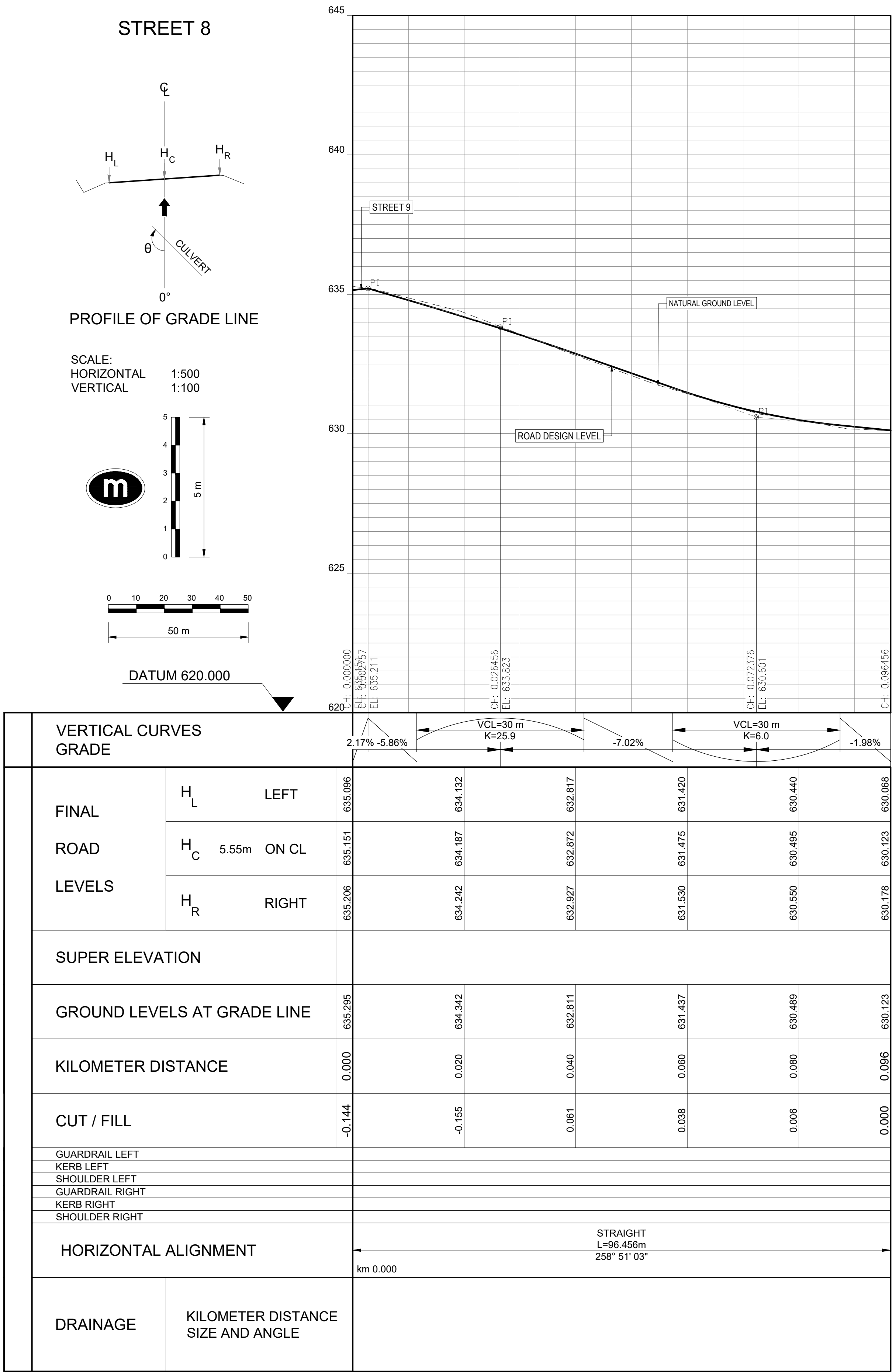
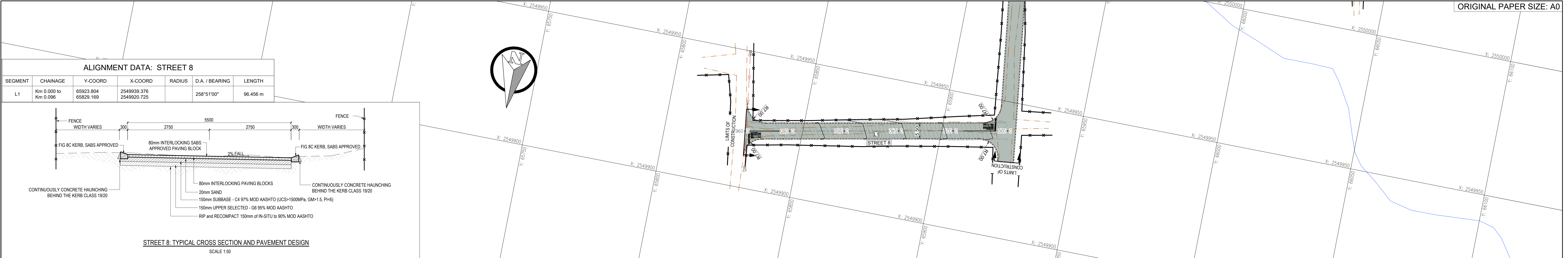
CLIENT ADDRESS

THOHOYANDOU
PRIVATE BAG X5006
THOHOYANDOU
0950

Tel: (015) 962 1828
Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 1 OF 1
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	STREET 7A : CROSS SECTIONS			

SCALE	TYPES OF PLANNING	STATUS
1:200	PLANNING CONSTRUCTION AS-BUILT	
REVISION	PLAN No.	
0	RCE_78_MLM_7ACS_01	



No.	DATE	REVISIONS	BY	CHECKED BY	

DESIGNED BY: RALEMA CONSULTING ENGINEERS

RCE **RALEMA** CONSULTING ENGINEERS

C08/06 PHOENIX VIEW ESTATES Tel: (011) 312 0873
Off RIVERSIDE & 14TH STREET Fax: (086) 537 7440
N00RDWYK X05 Email: admin@ralemacons.co.za
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S. Bapela-Pr Tech Eng DESIGNED	RALEMA CONSULTING	DEPARTMENT
I. Thasi DRAWN	ISSUED BY:	RECEIVED BY:
S. Bapela-Pr Tech Eng CHECKED	DATE:	DATE:

CLIENT ADDRESS

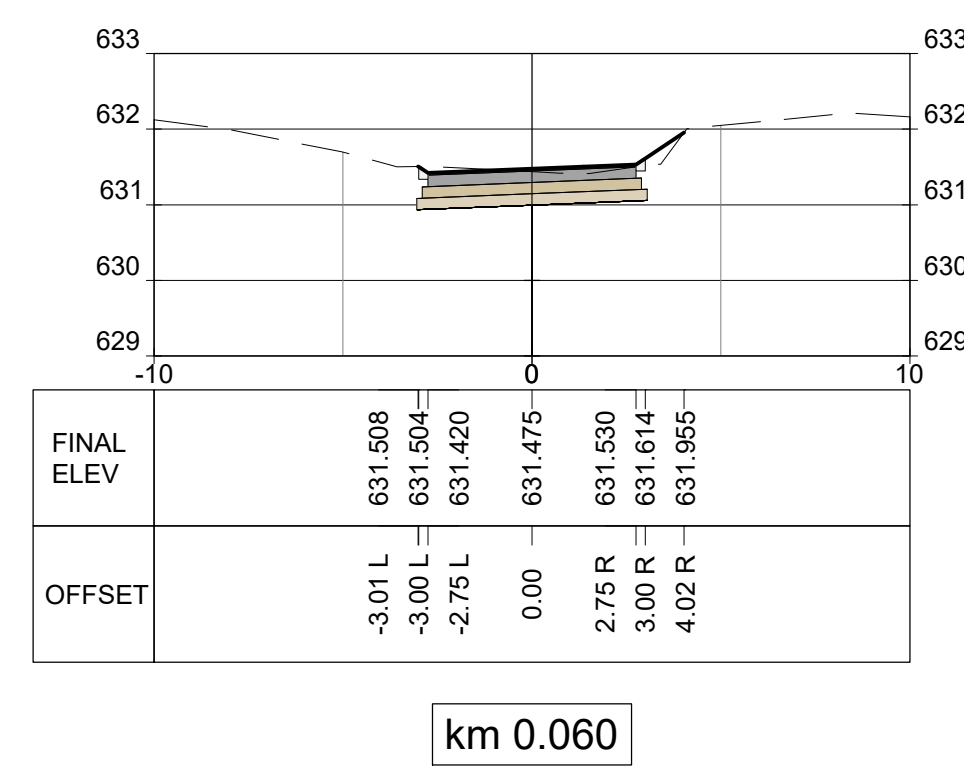
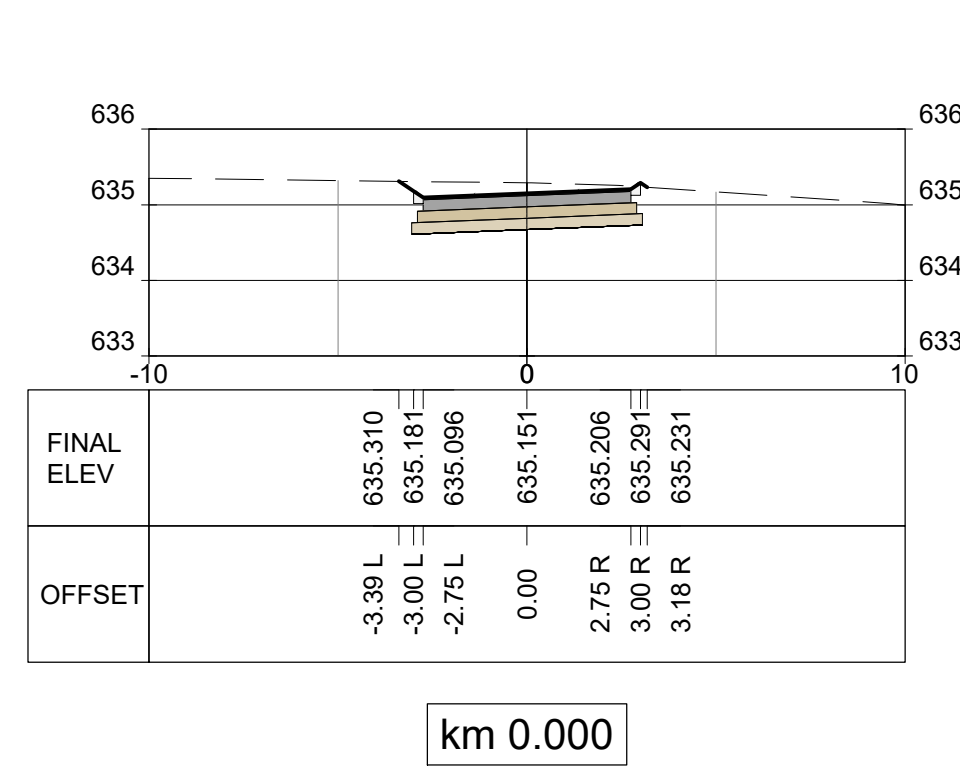
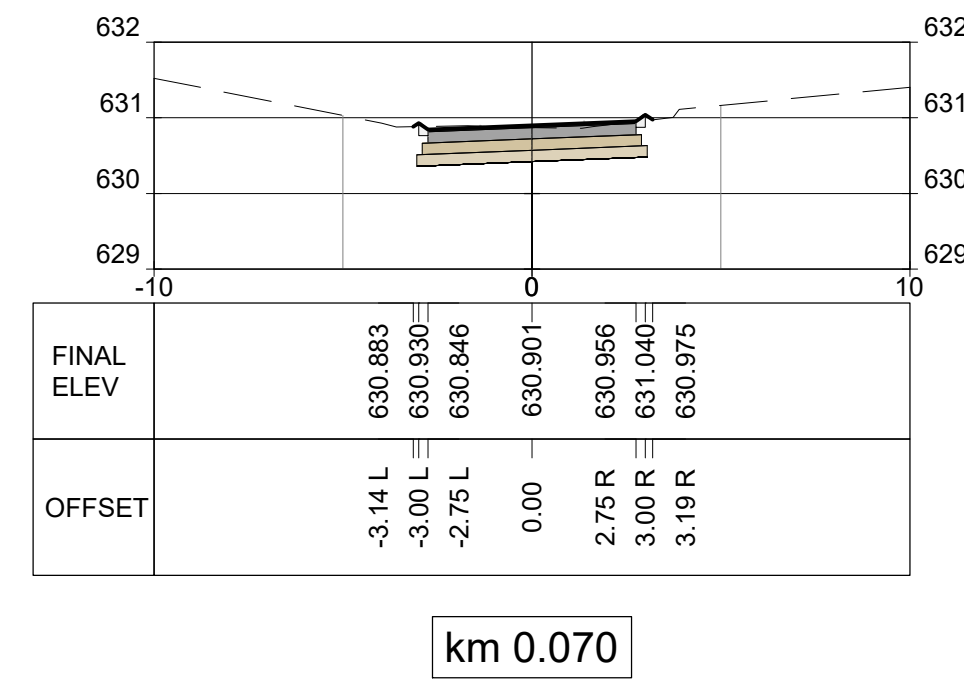
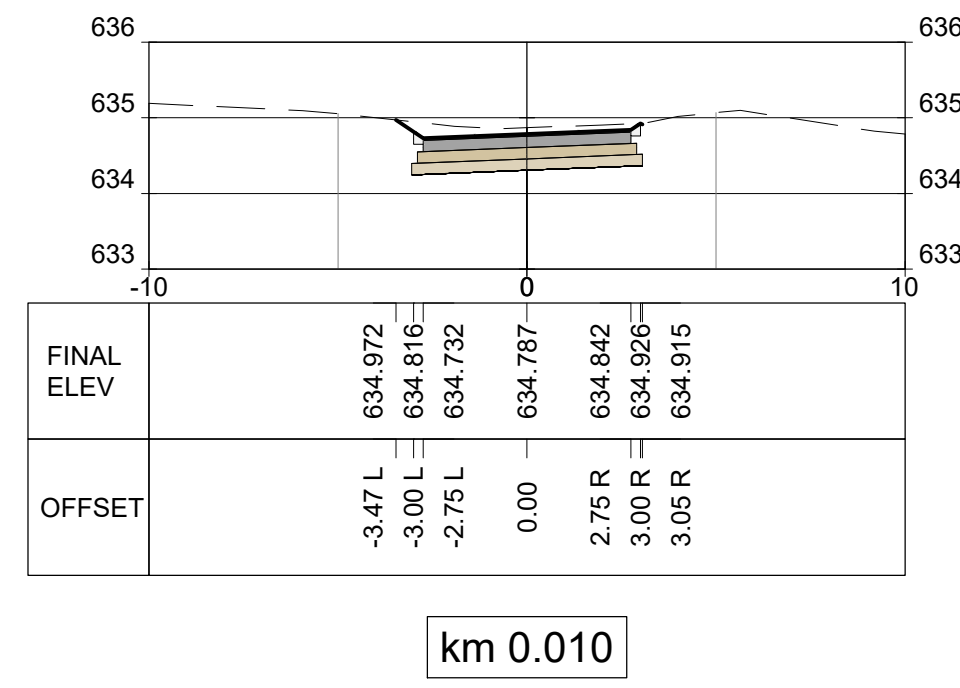
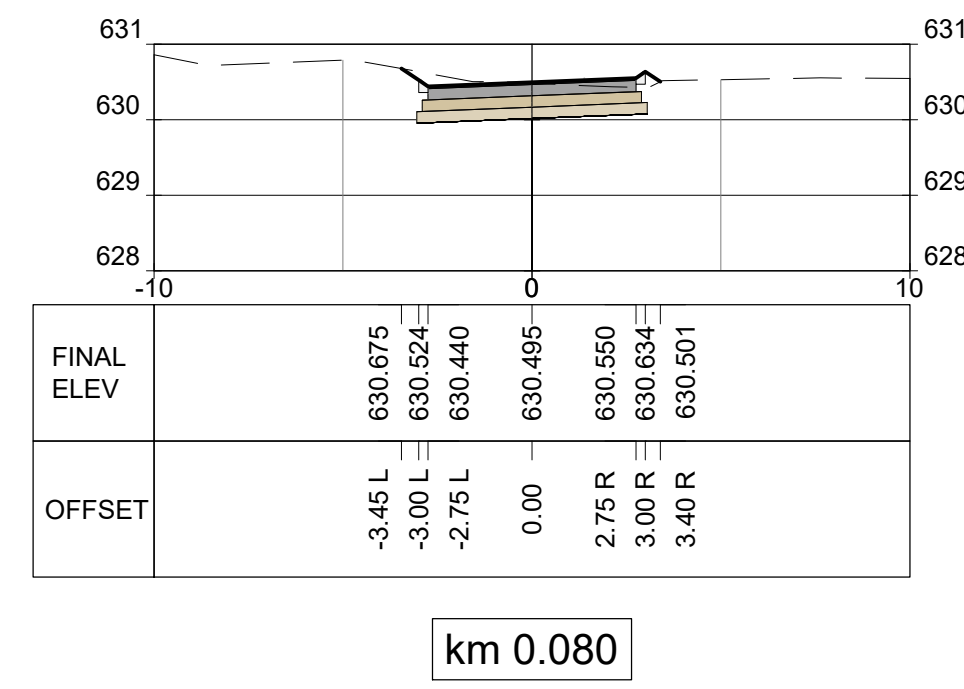
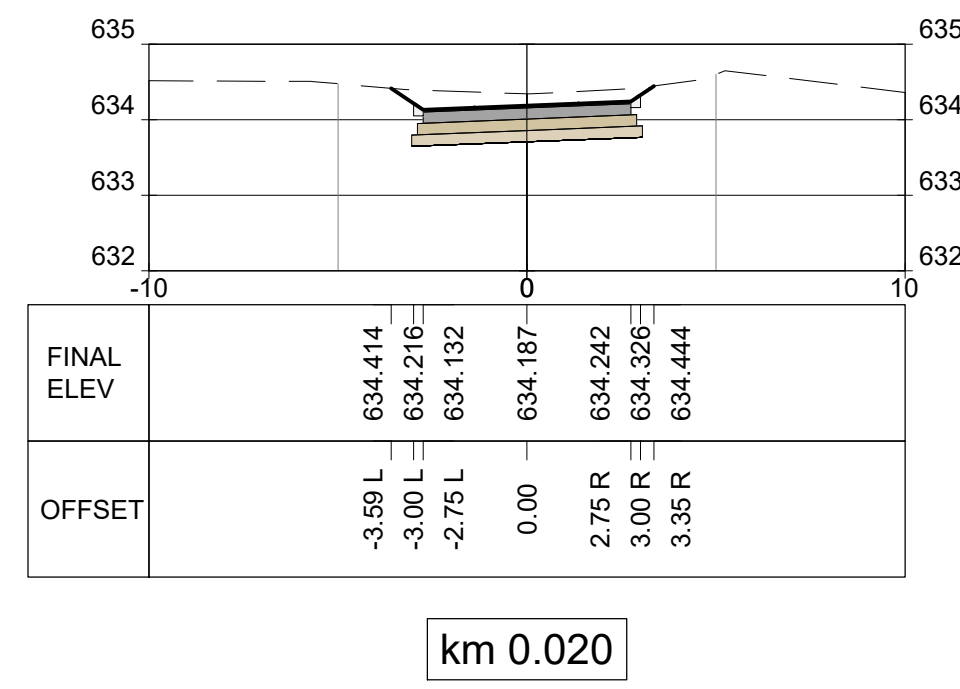
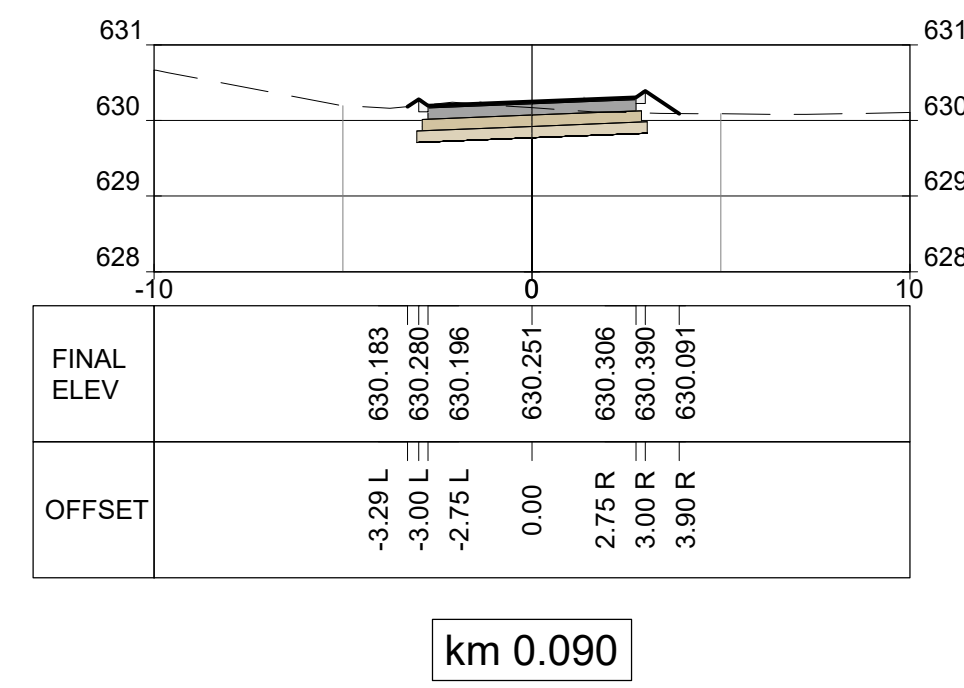
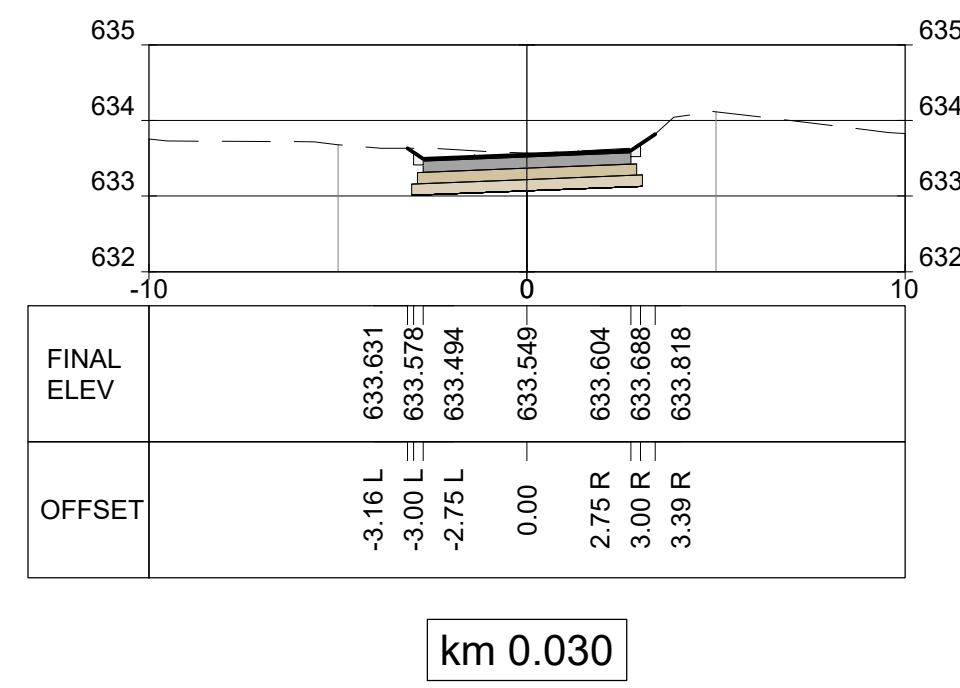
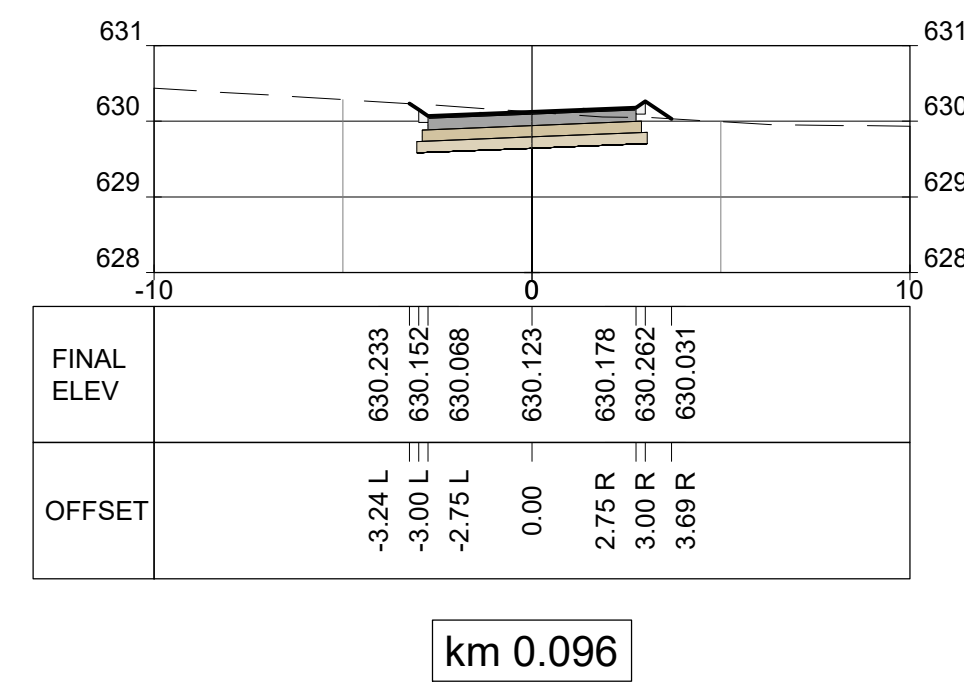
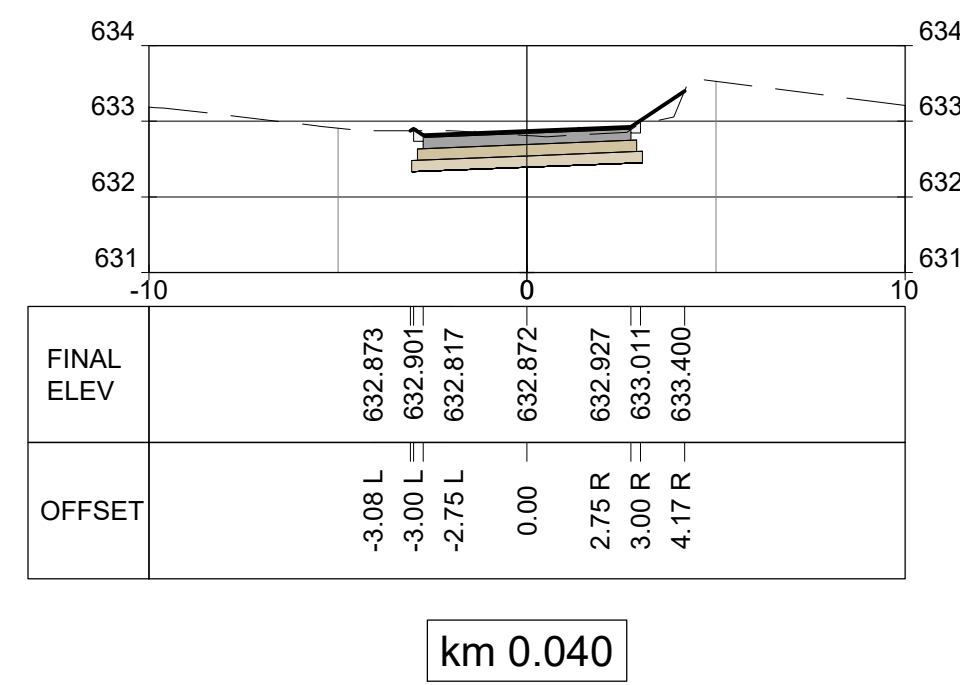
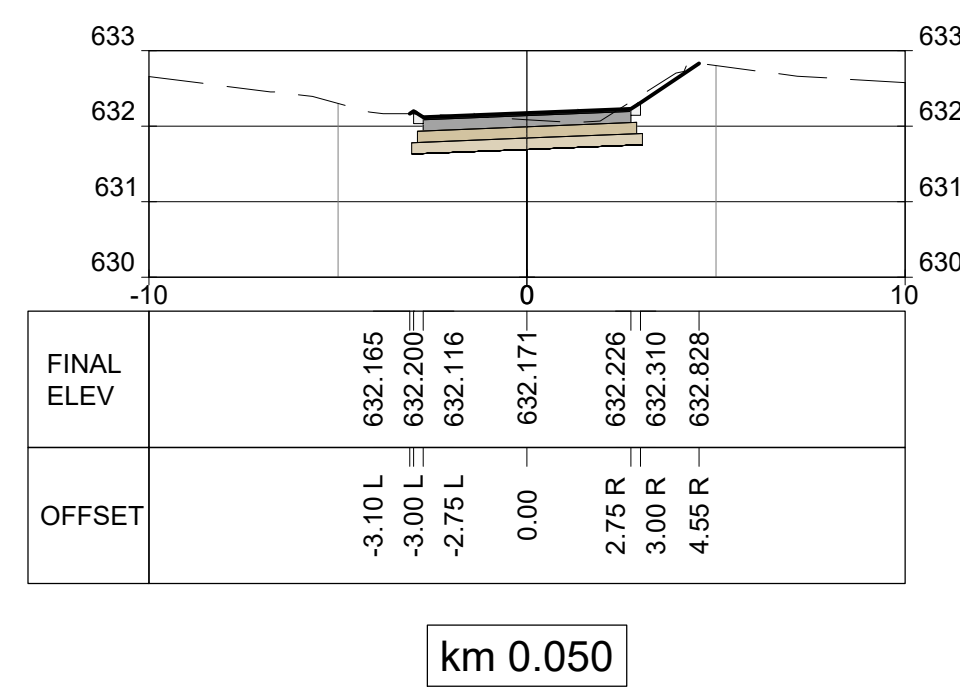
THOHOYANDOU
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THOHOYANDOU
0950

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Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 1 OF 1
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	STREET 8 : LAYOUT PLAN, SETTING OUT AND LONGITUDINAL SECTION			

SCALE	1:500	TYPES OF PLANNING	PLANNING
REVISION	0	PLAN No.	RCE_78_MLM_8LS_01



[illegible]

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I. Thasi DRAWN	ISSUED BY:	RECEIVED BY:
S. Bapela-Pr Tech Eng CHECKED	DATE:	DATE:

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 THOHOYANDOU
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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 1 OF 1
PROJECT TITLE		UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1		
DRAWING TITLE		STREET 8 : CROSS SECTIONS		

SCALE	TYPES OF PLANNING	STATUS
1:200	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
0	RCE_78_MLM_8CS_01	

STREET 9 PAVEMENT LAYERS

175mm THICK, 30MPa CONCRETE SLAB

BOX CULVERT
8 x 0.90m x 0.90m

80mm INTERLOCKING PAVING BLOCKS

20mm SAND

150mm SUBBASE - C4 97% MOD AASHTO (UCS>1500MPa, GMI>1.5, PI<6)

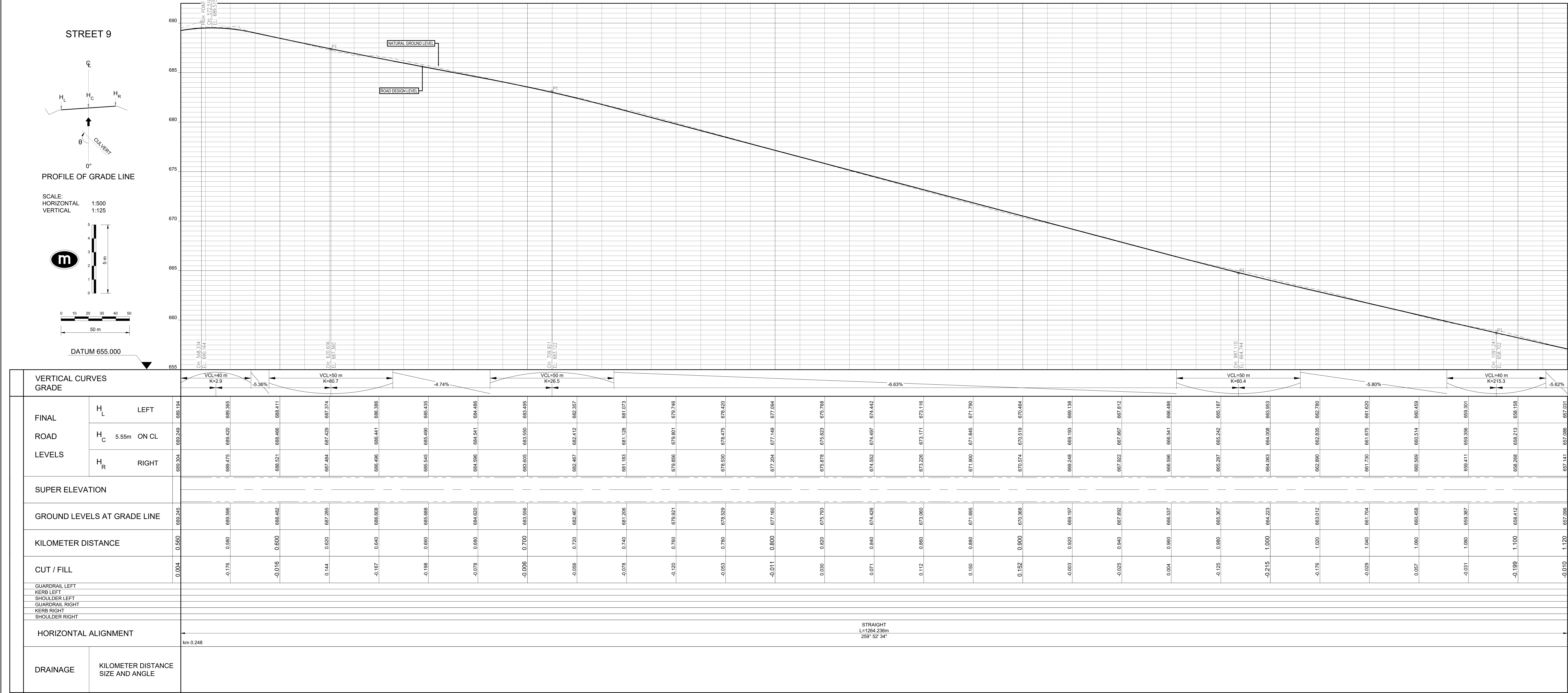
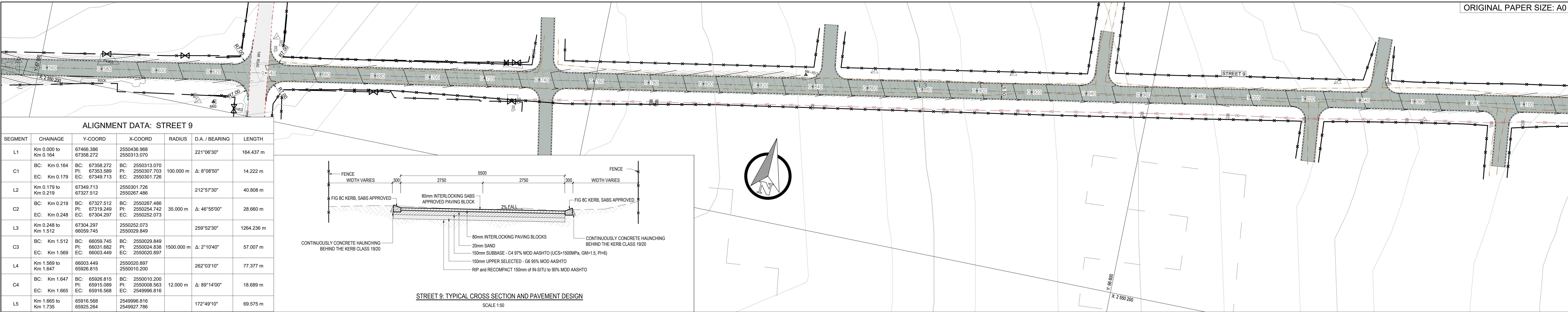
150mm UPPER SELECTED - G6 98% MOD AASHTO

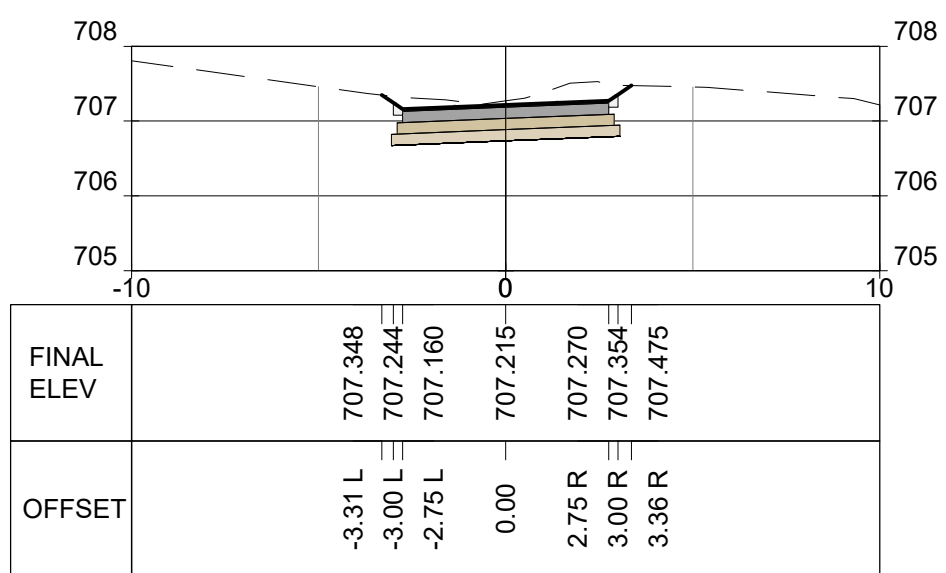
RIP and RECOMPACT 150mm of IN-SITU to 90% MOD AASHTO

STREET 9 PAVEMENT LAYERS

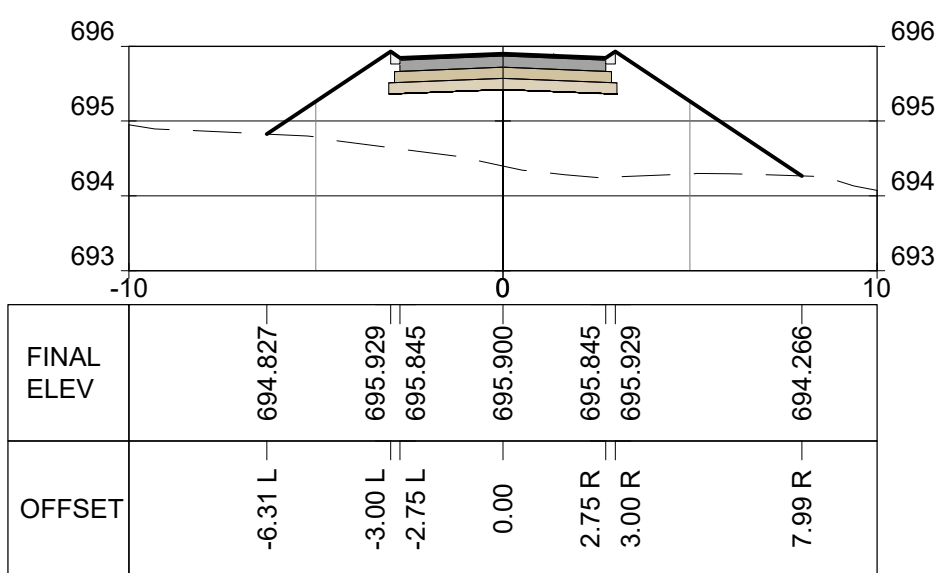
SECTION A-A

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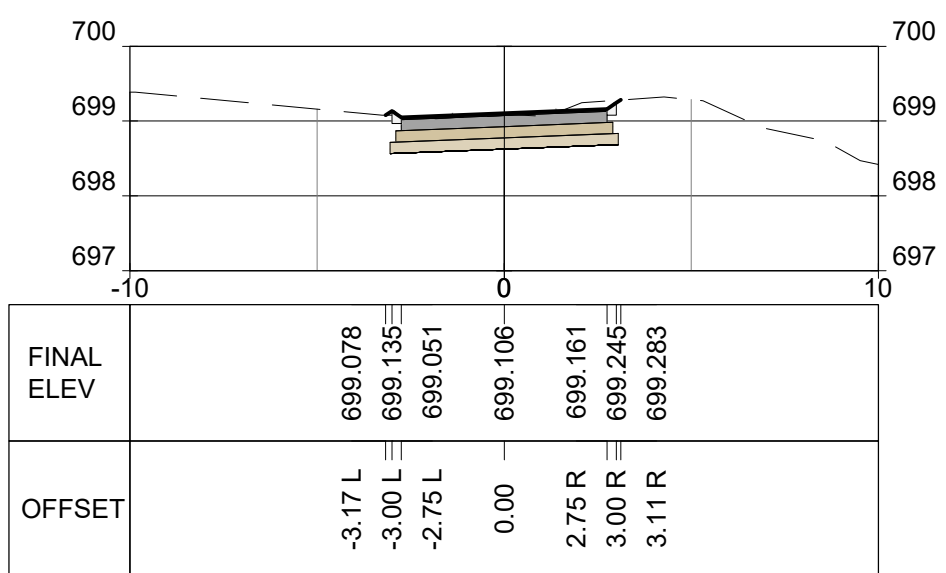




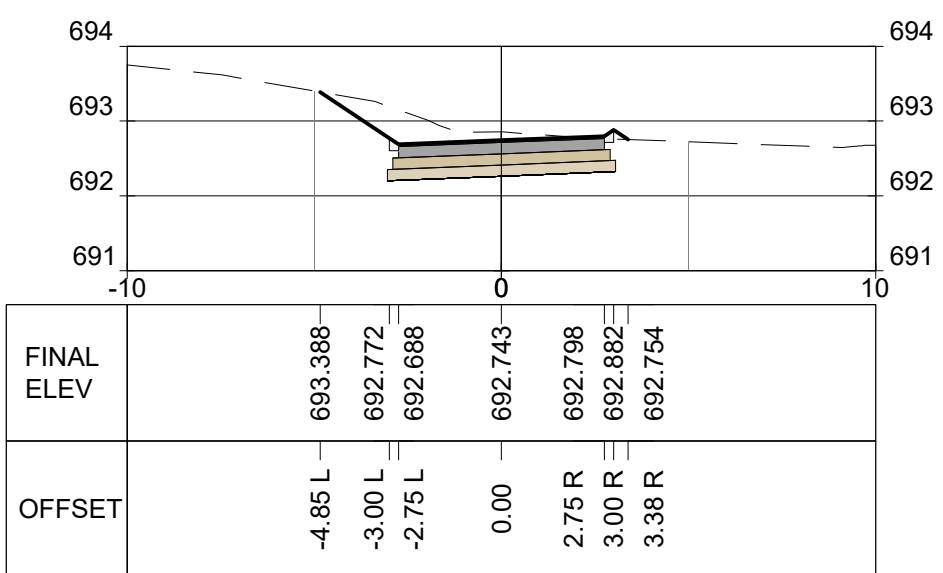
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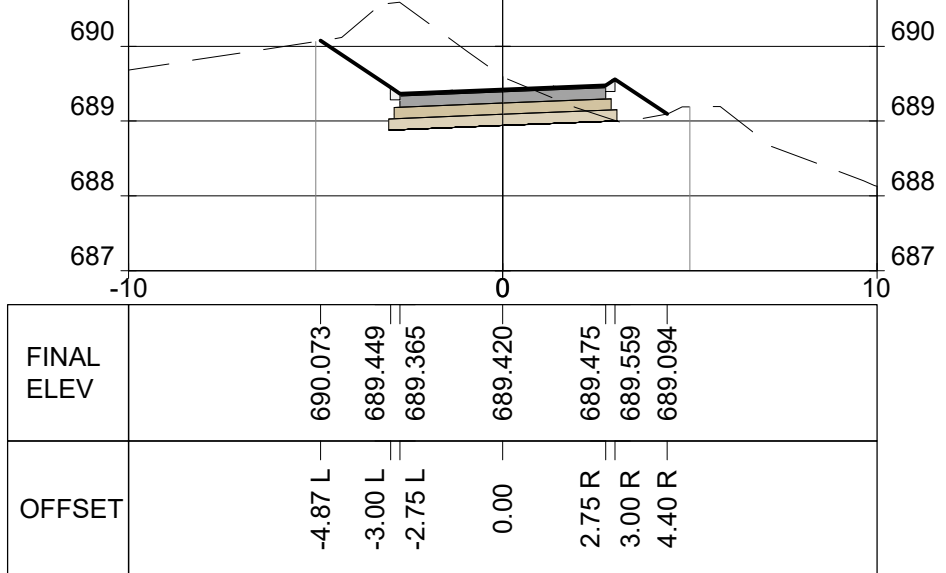
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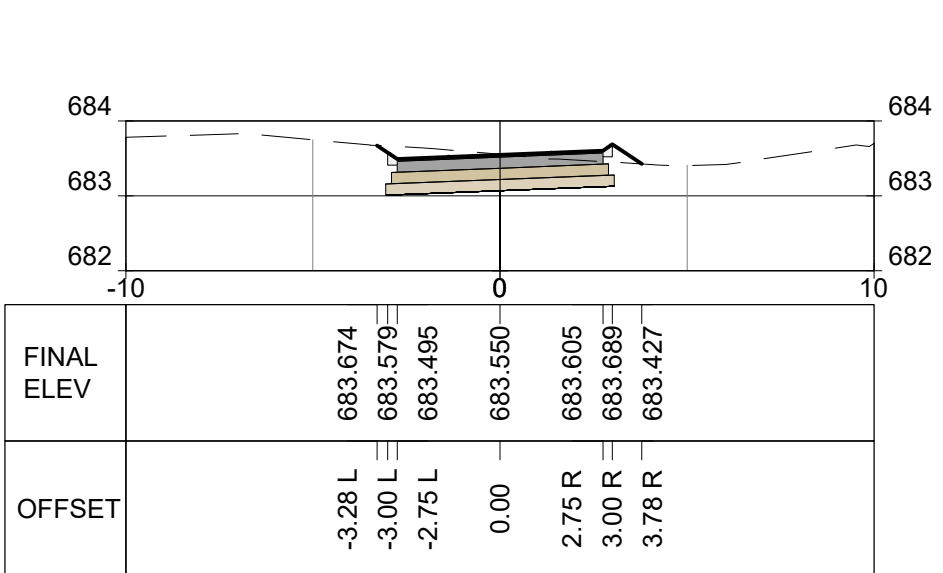
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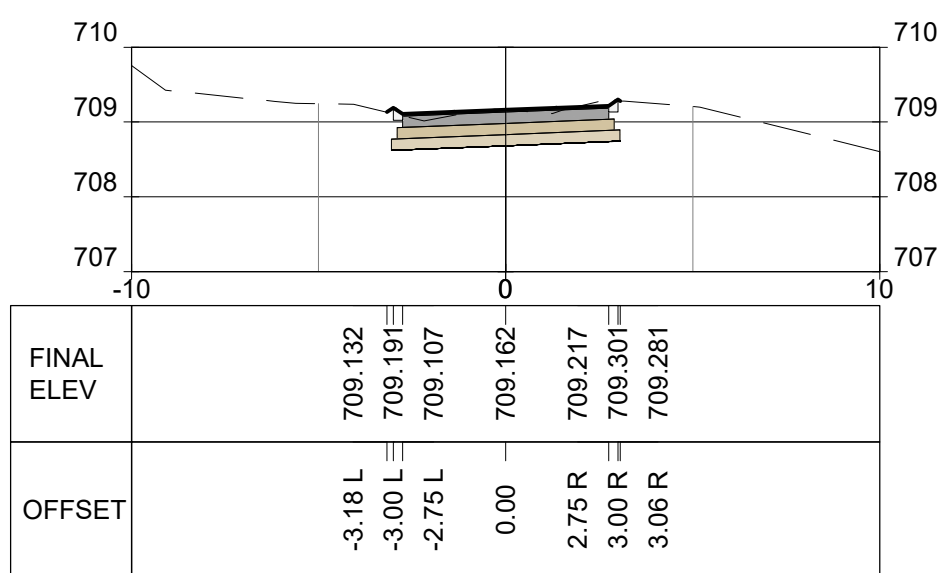
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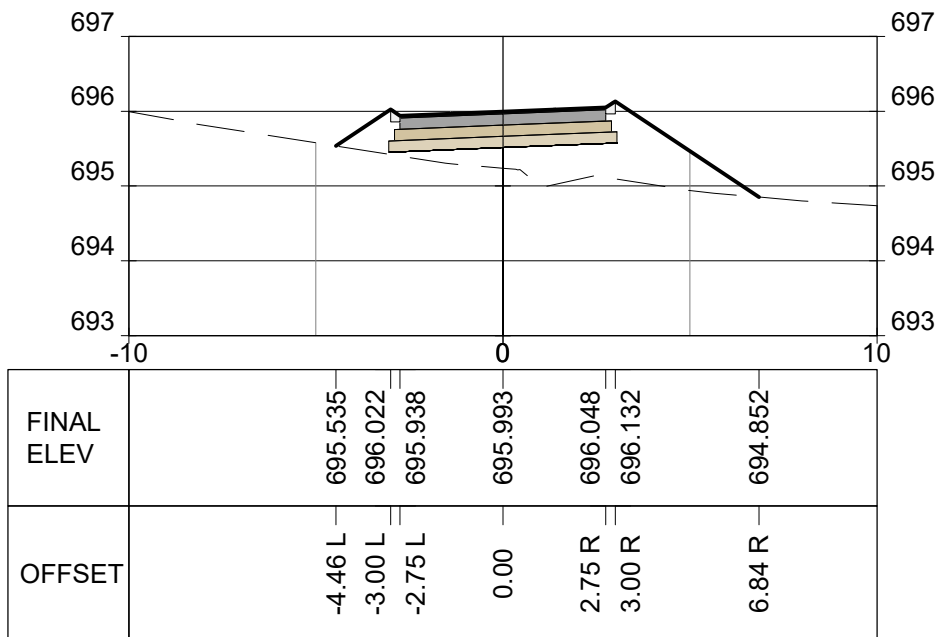
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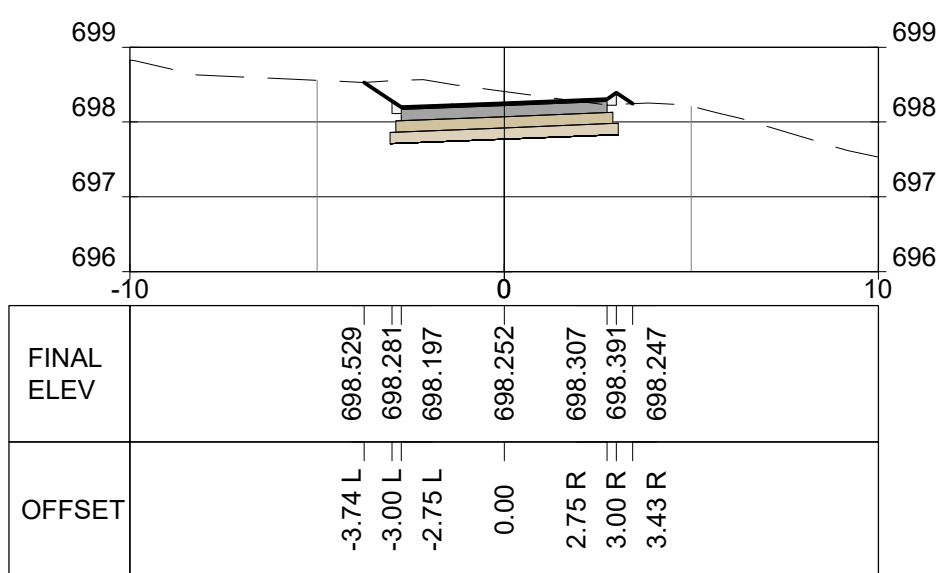
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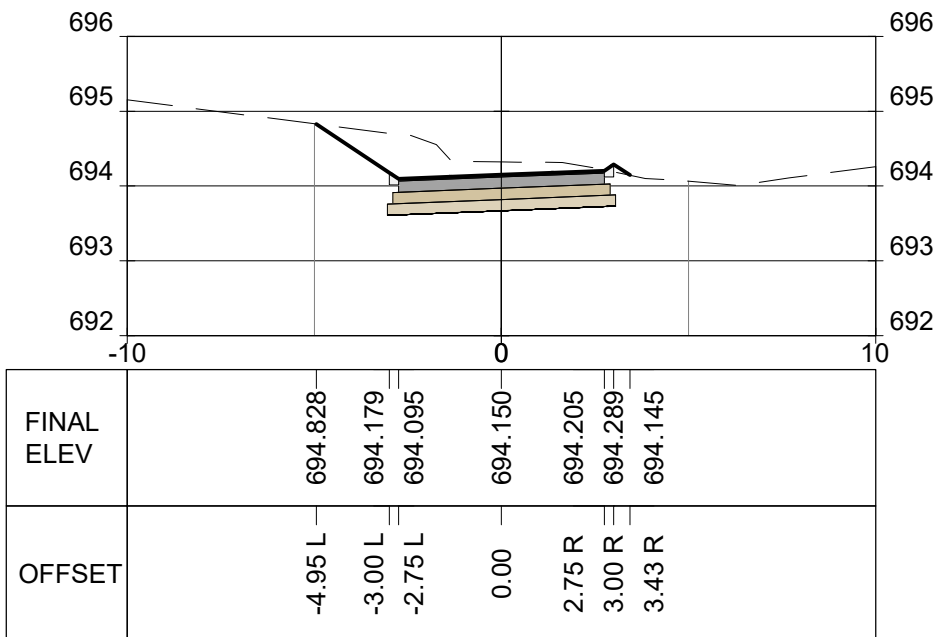
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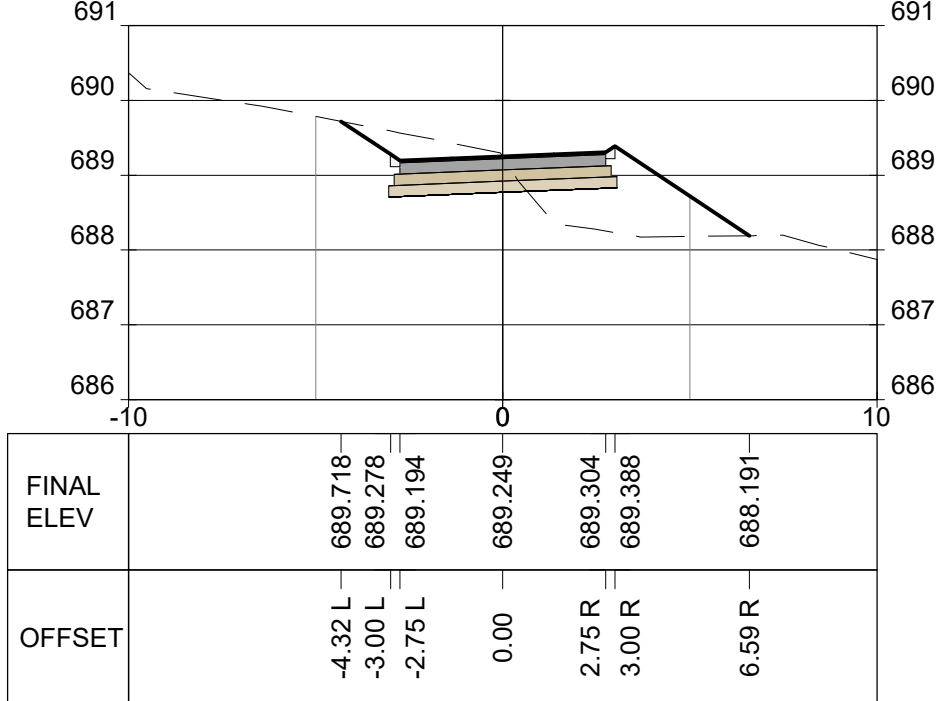
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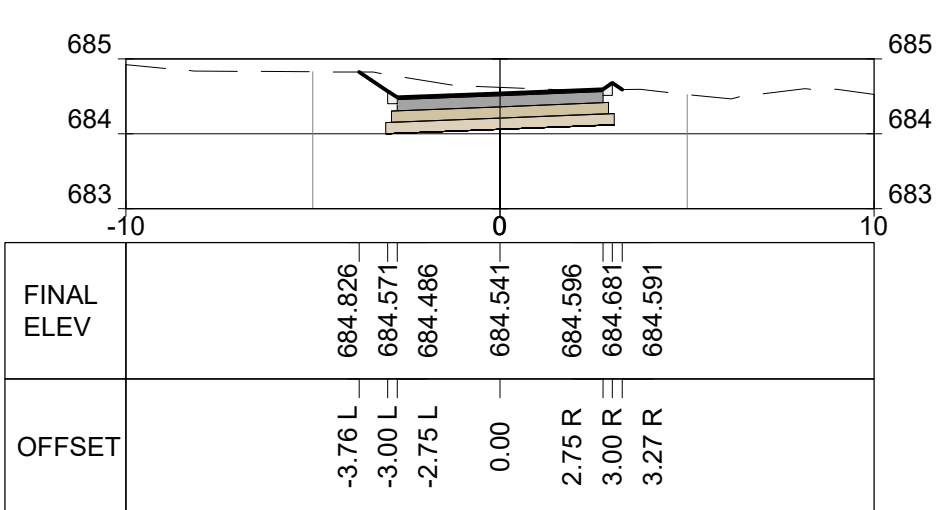
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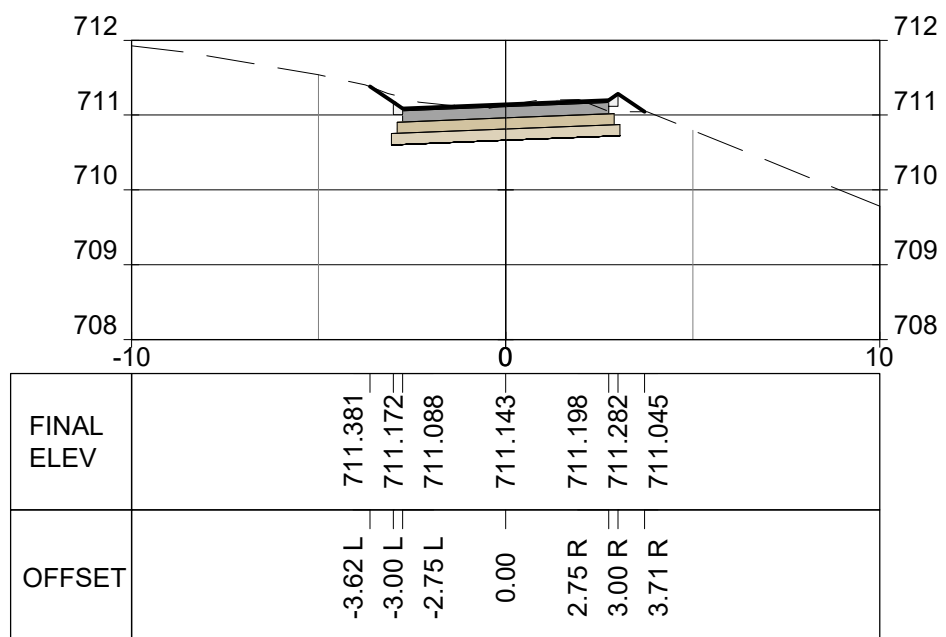
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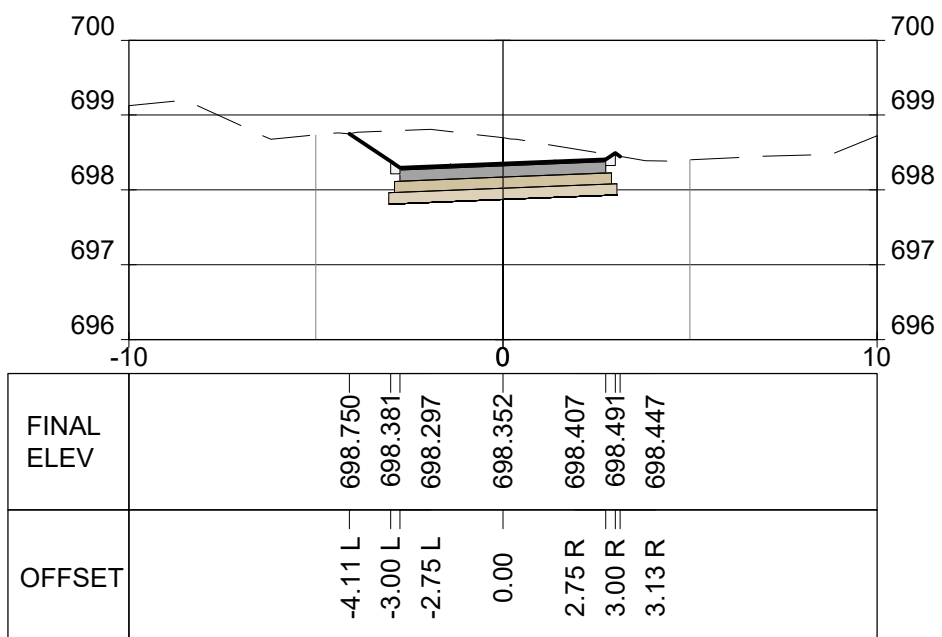
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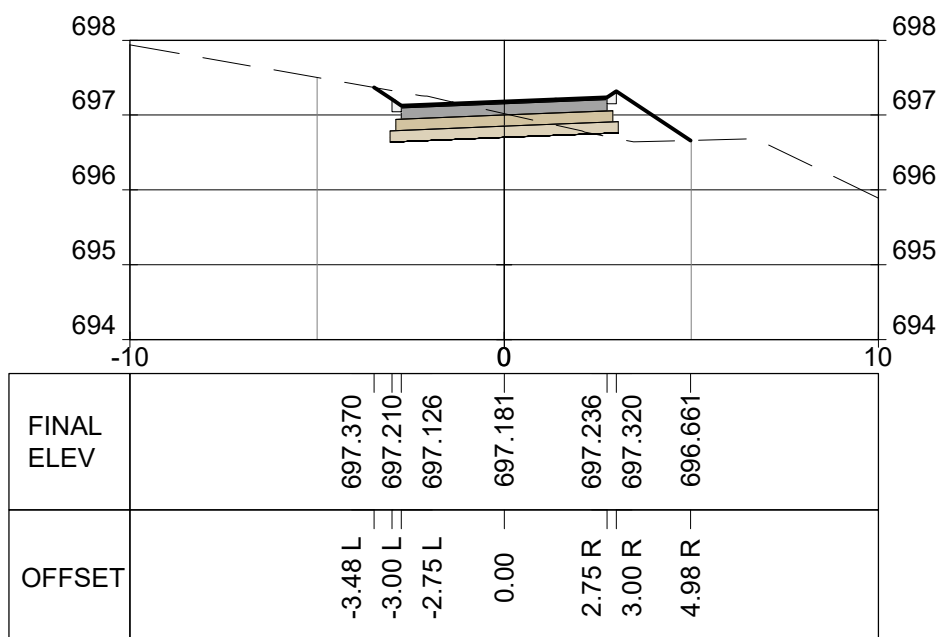
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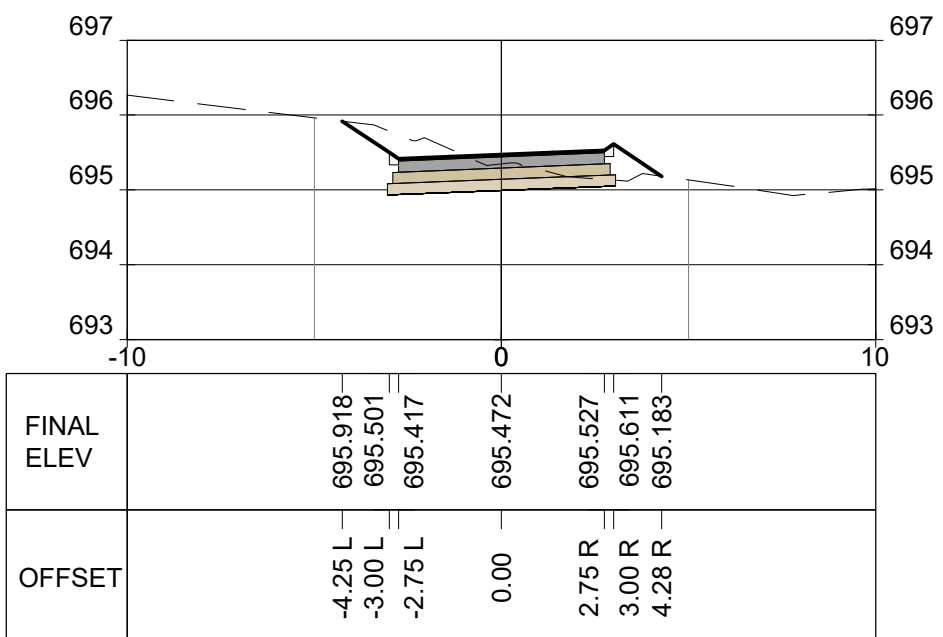
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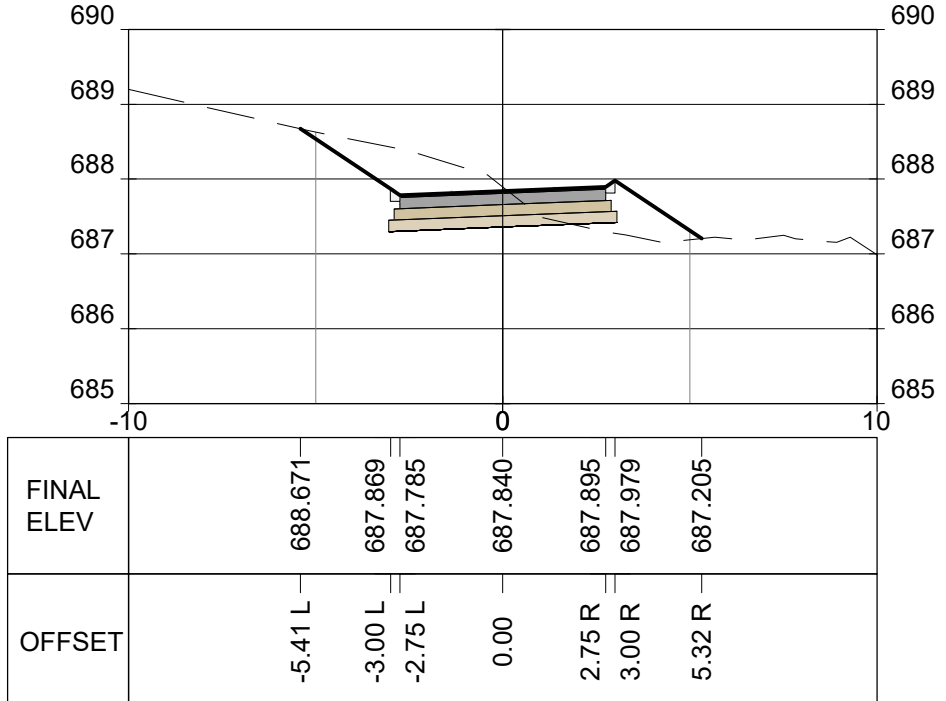
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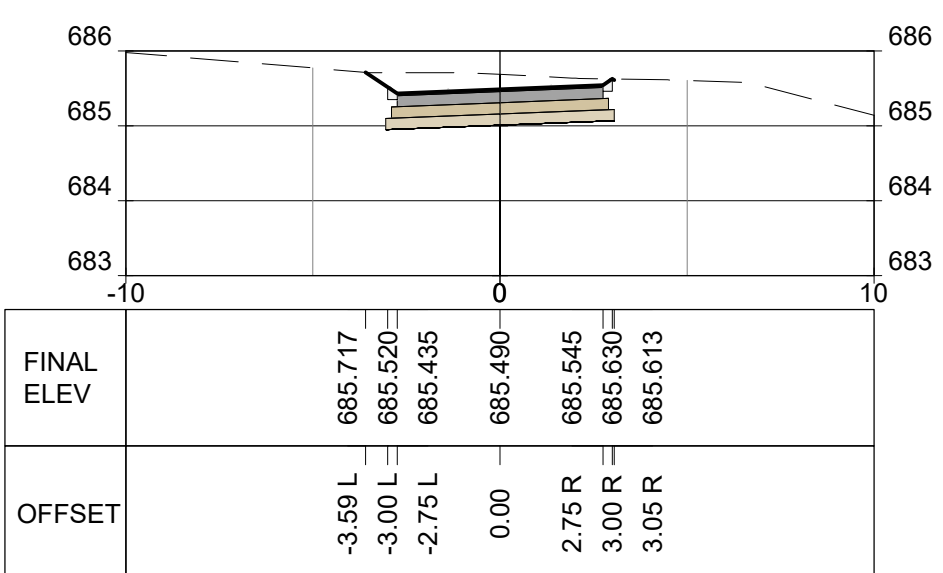
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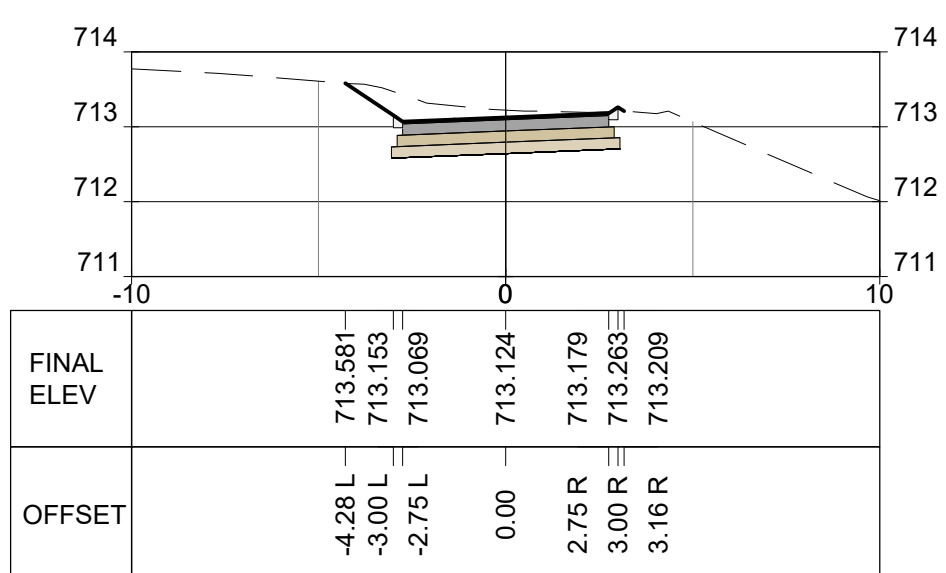
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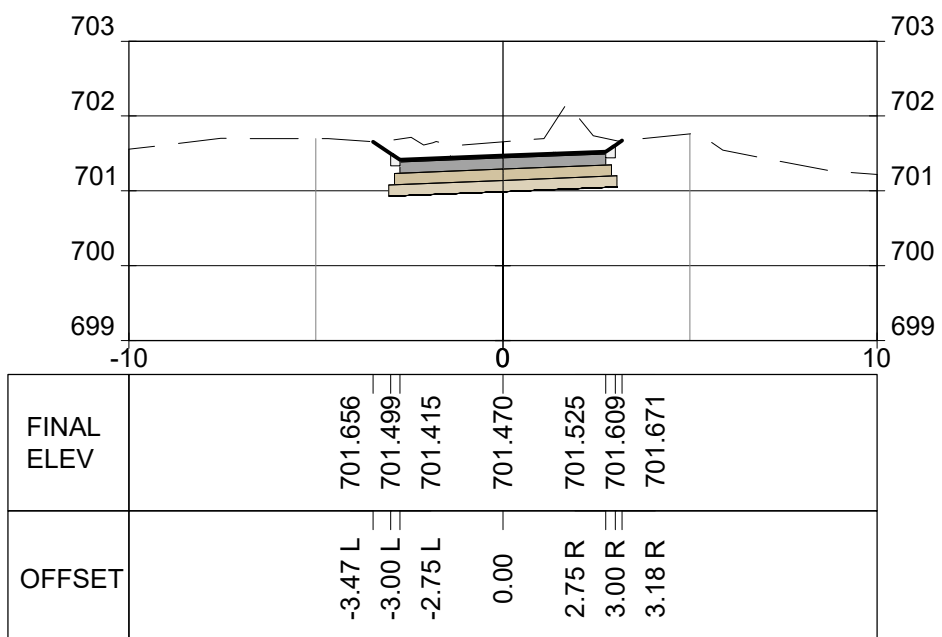
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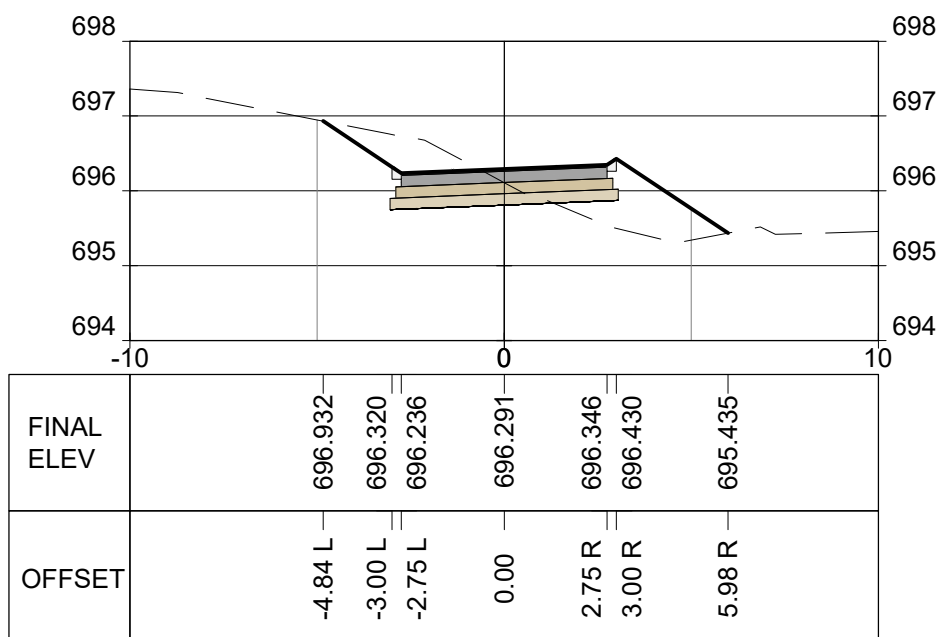
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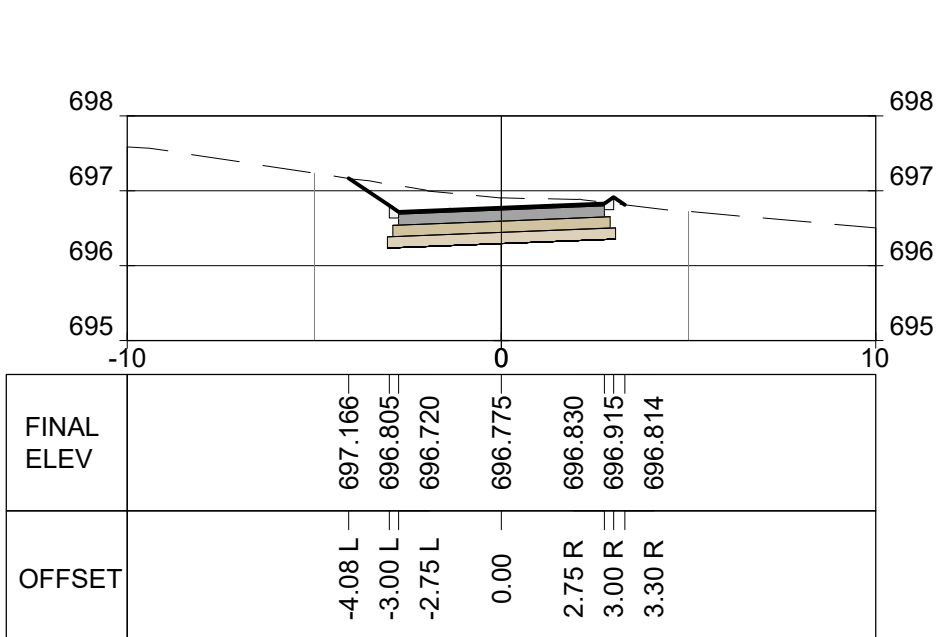
km 0.040



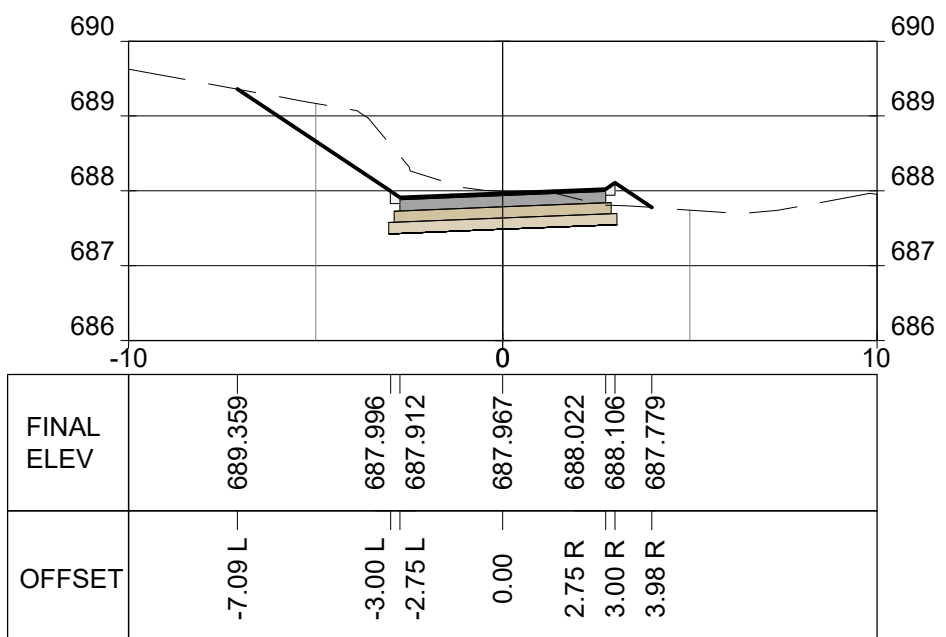
km 0.160



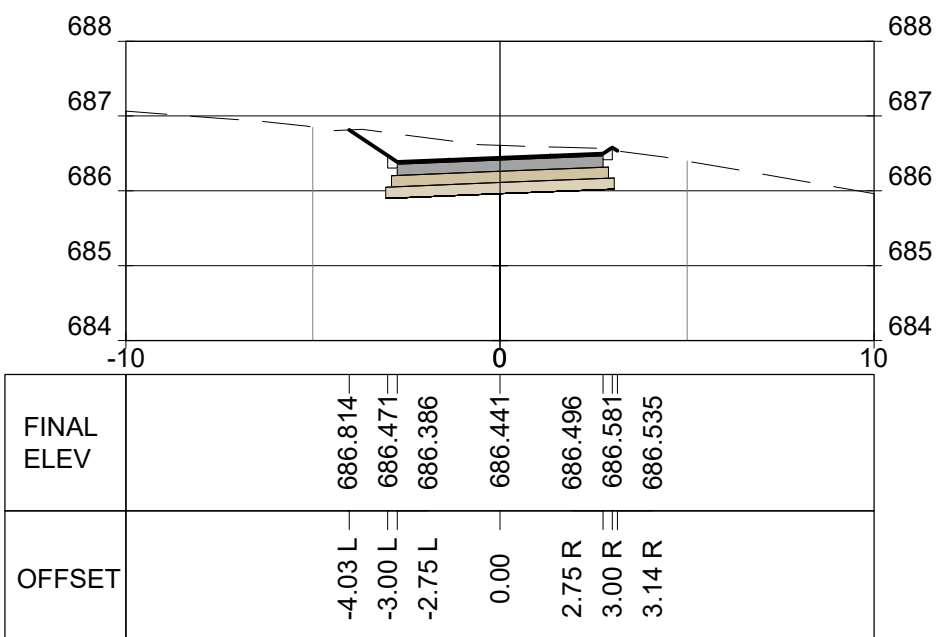
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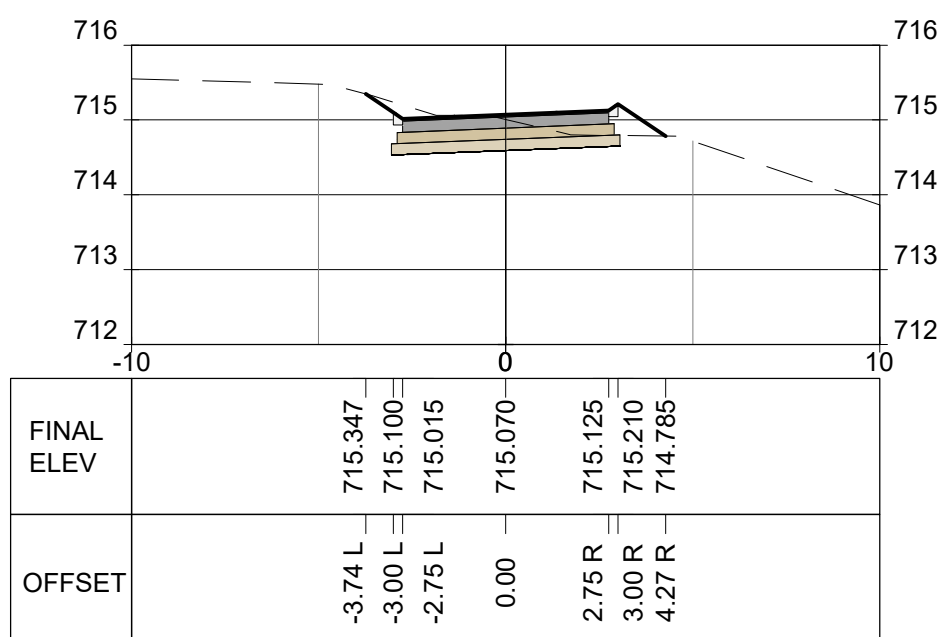
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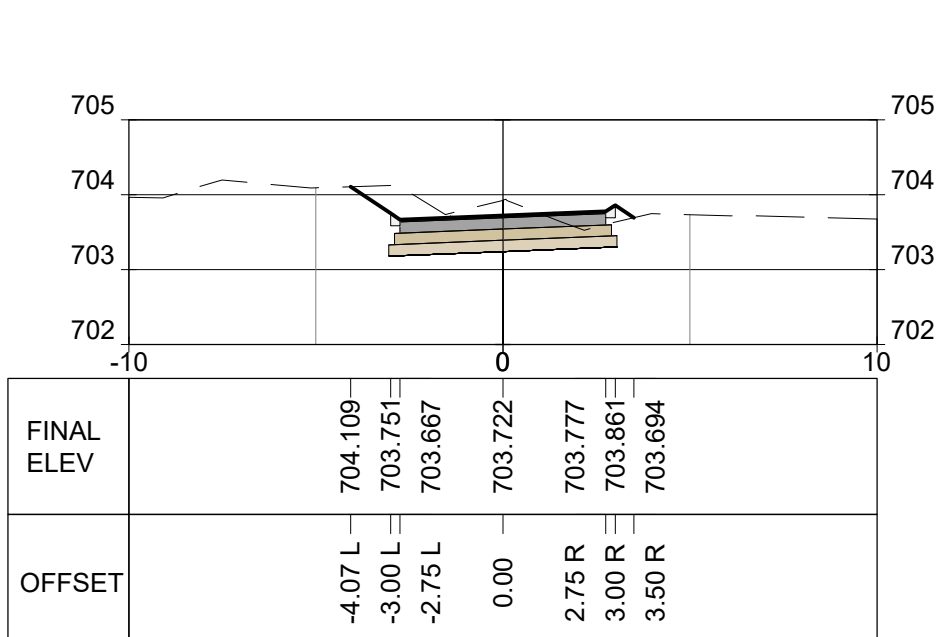
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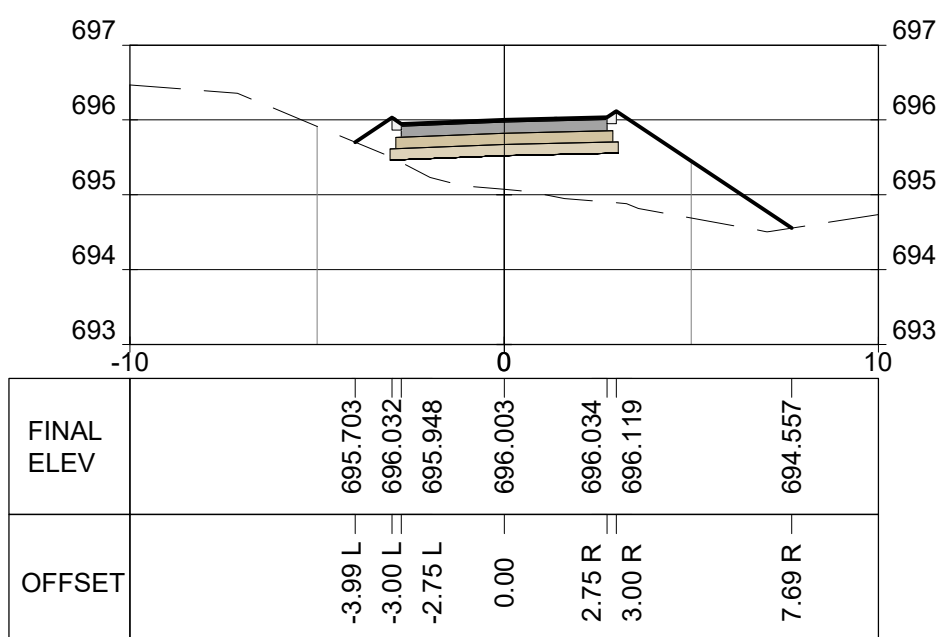
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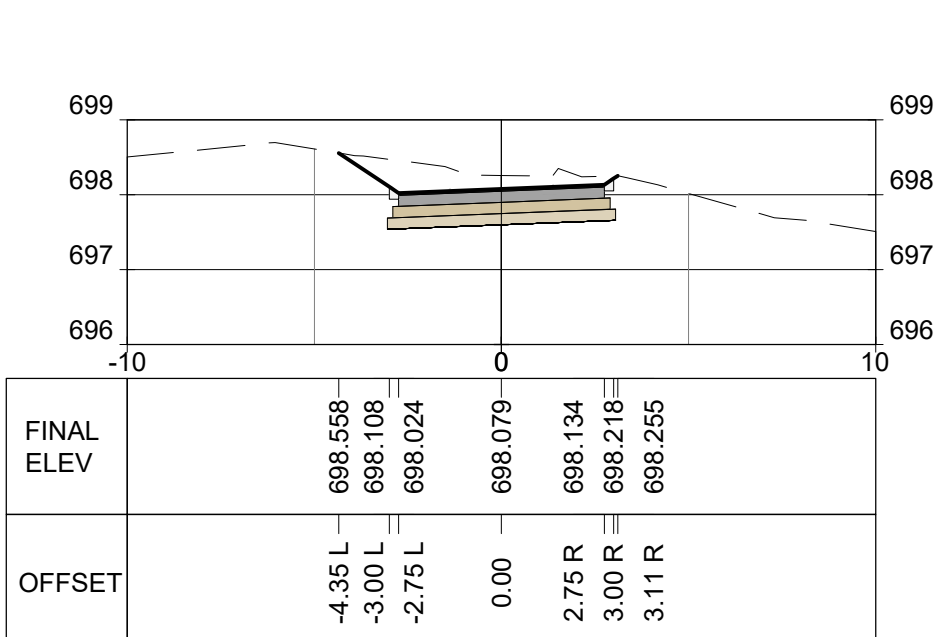
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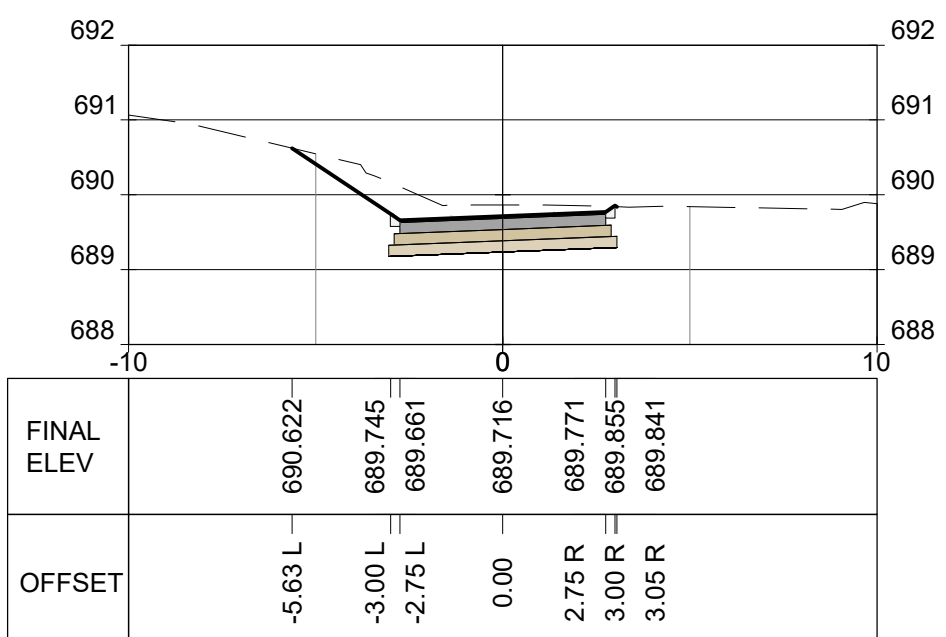
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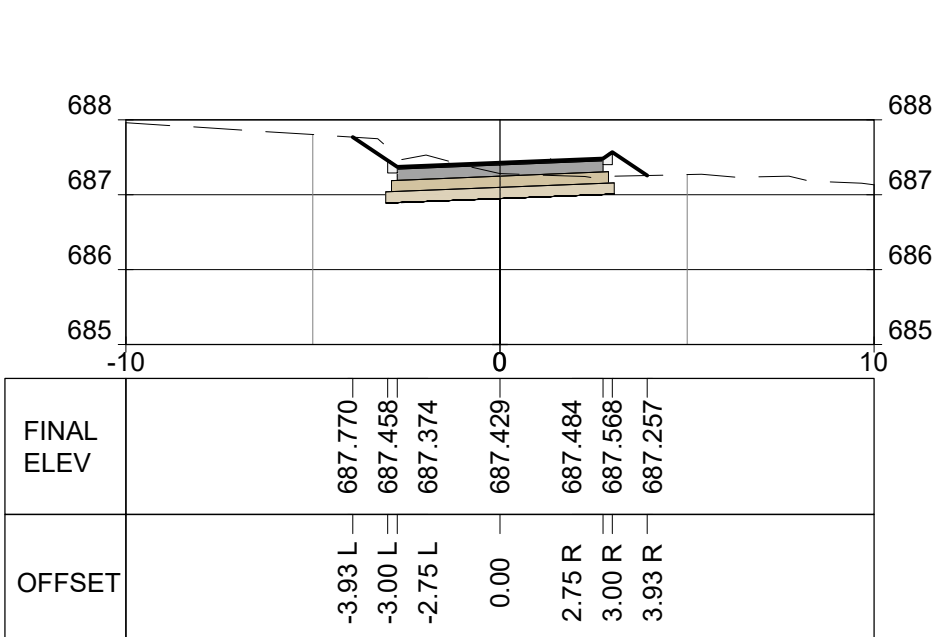
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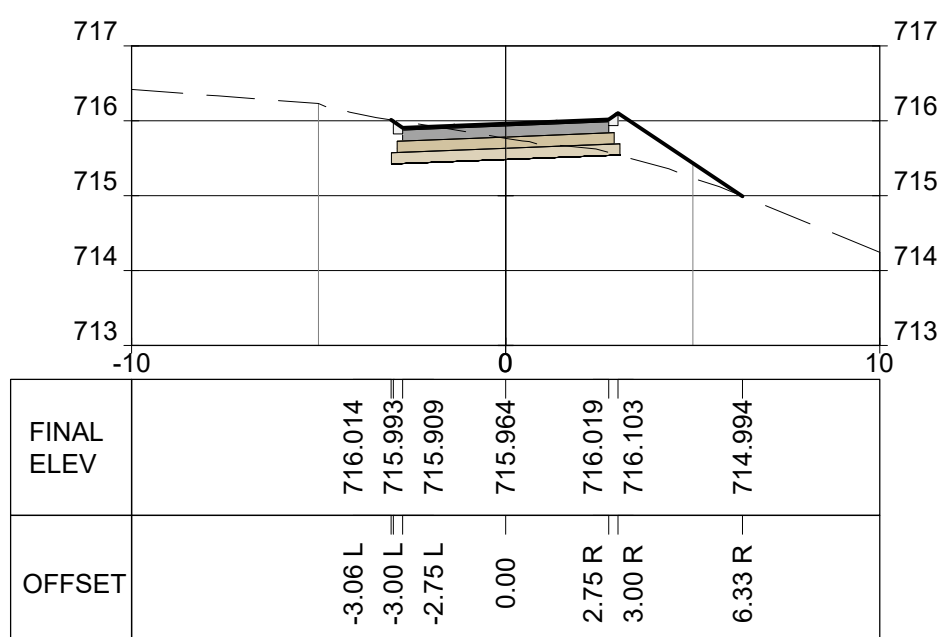
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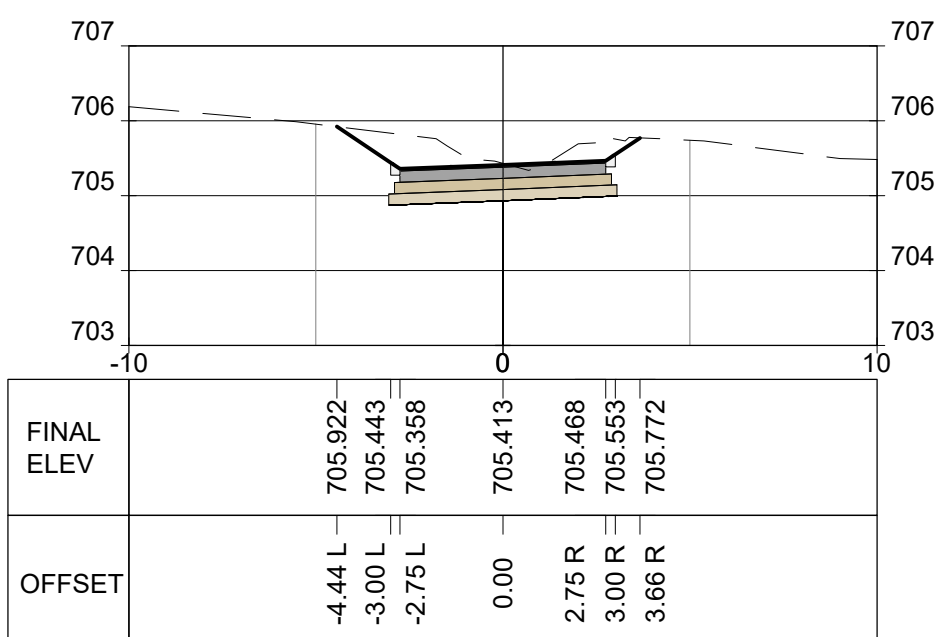
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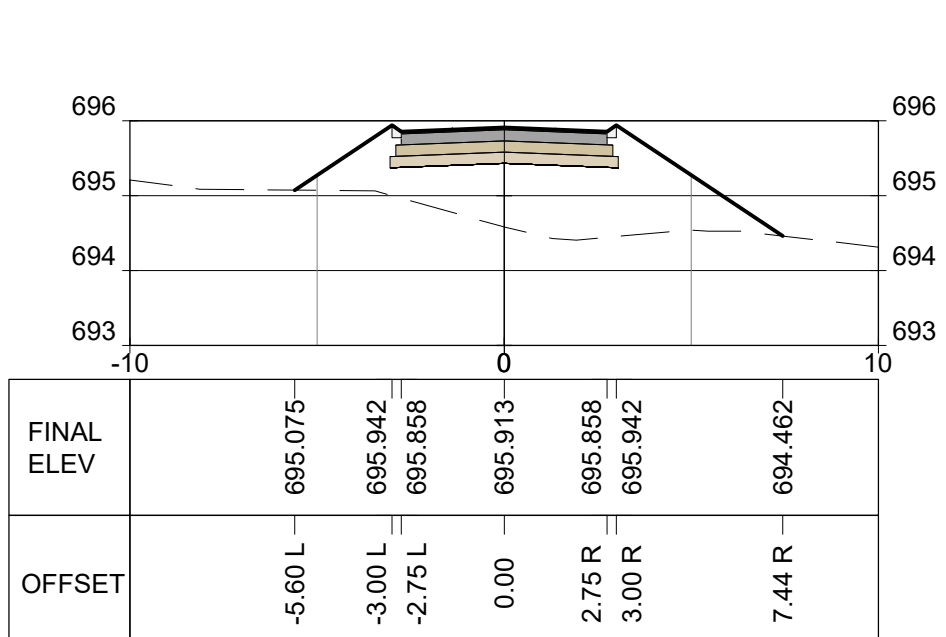
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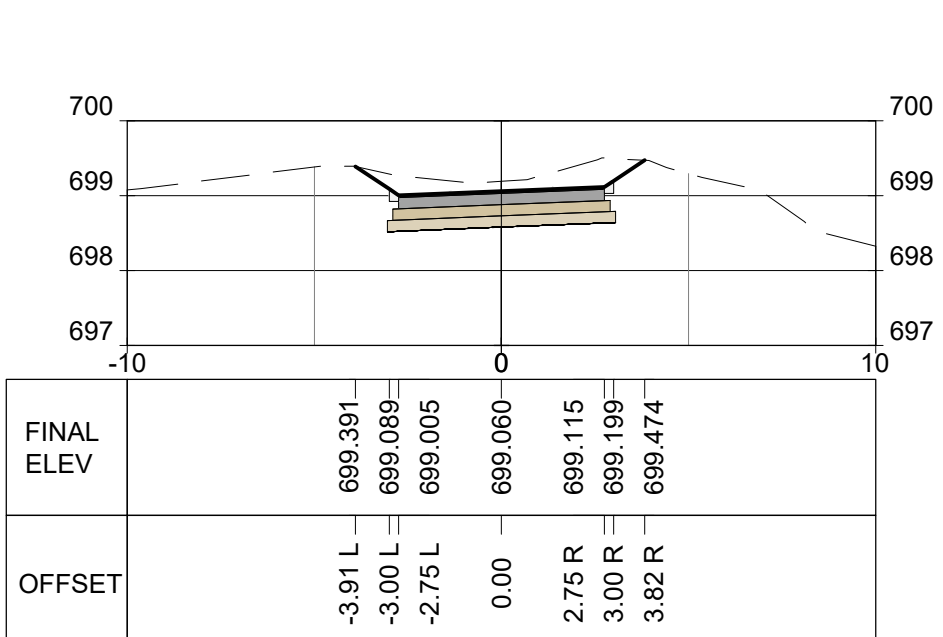
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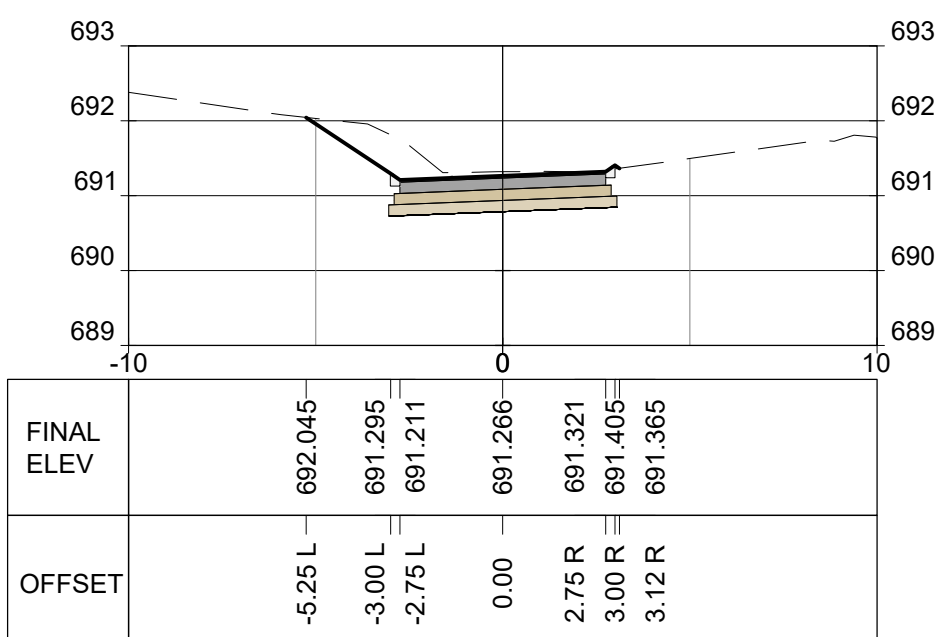
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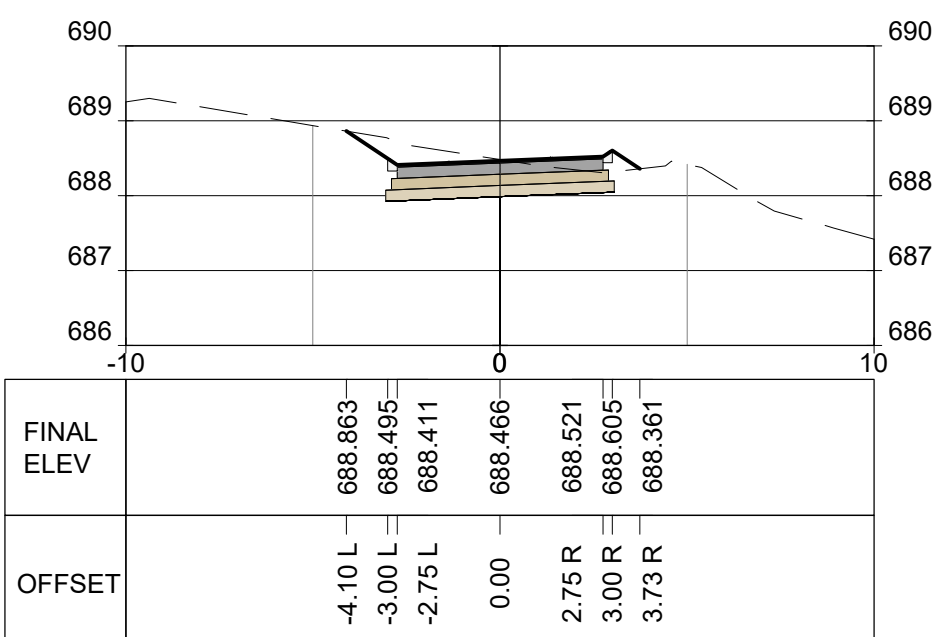
km 0.240



km 0.360



km 0.480



km 0.600

No.	DATE	REVISIONS	BY	CHECKED

DESIGNED BY: RALEMA CONSULTING ENGINEERS

**RALEMA**
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I. Tihasi DRAWN	ISSUED BY:	RECEIVED BY:
S. Bapela-Pr Tech Eng CHECKED	DATE:	DATE:

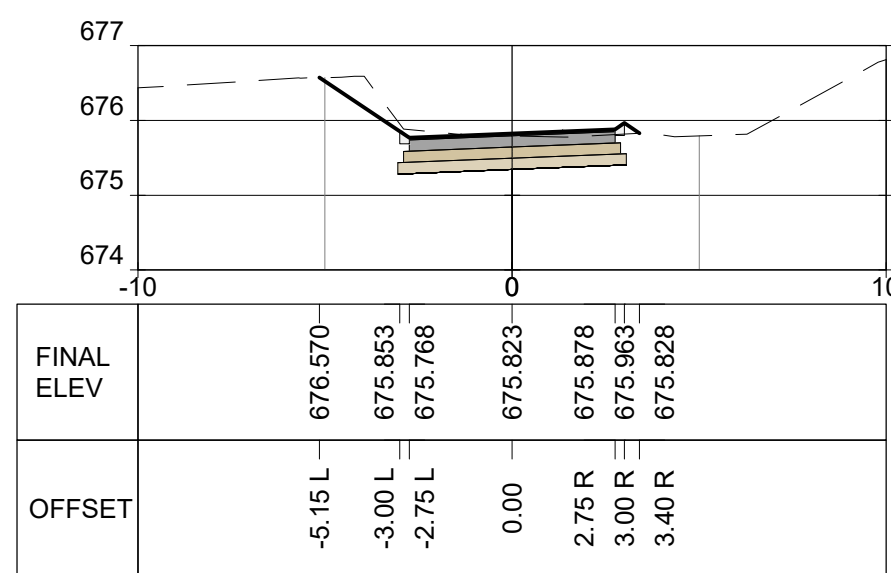
CLIENT ADDRESS

**MAKHADO**
TSHOHOYANDOU
PRIVATE BAG X5006
TSHOHOYANDOU
0950

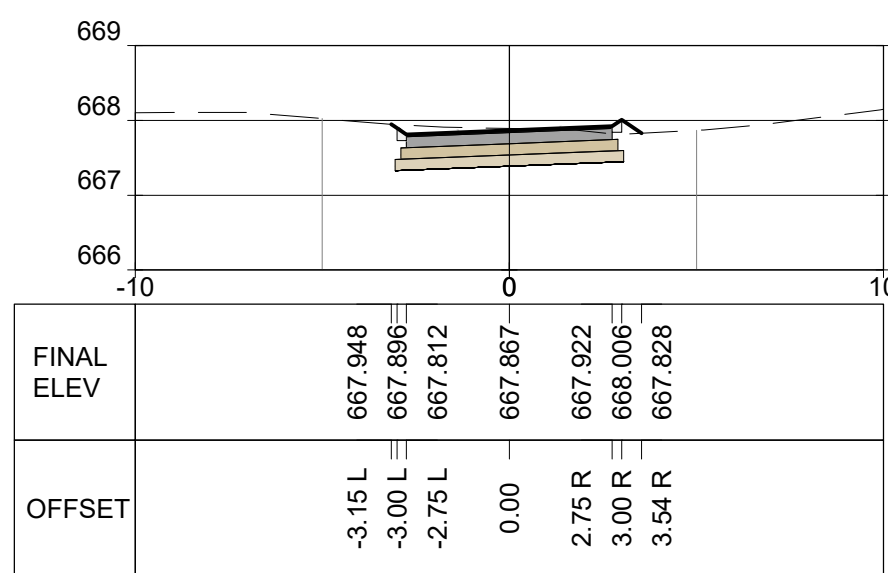
Tel: (015) 962 1828
Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 1 OF 3
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	STREET 9 : Km 0+000 to 0+700: CROSS SECTIONS			

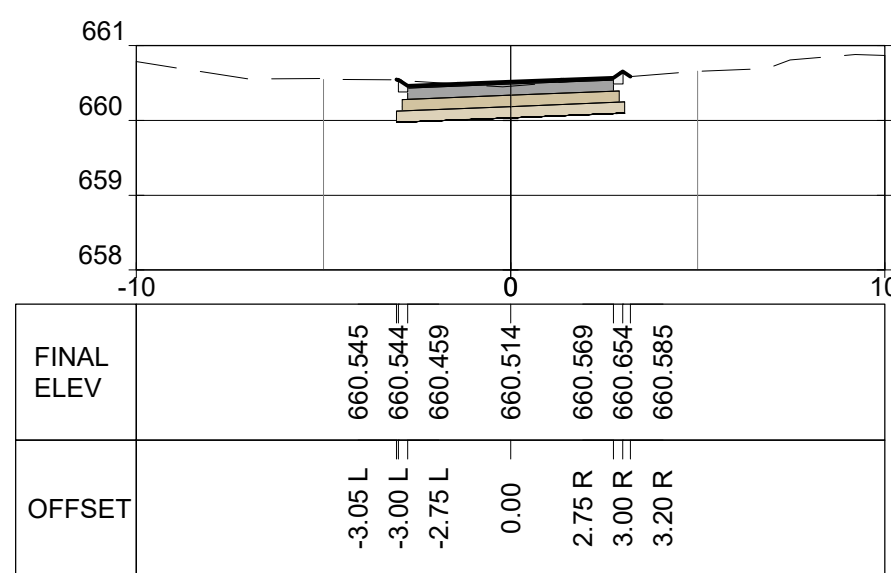
SCALE	TYPES OF PLANNING	STATUS
1:200	● PLANNING ● CONSTRUCTION ● AS-BUILT	● PLANNING
REVISION	PLAN No.	
0	RCE_78_MLM_9CS_01	



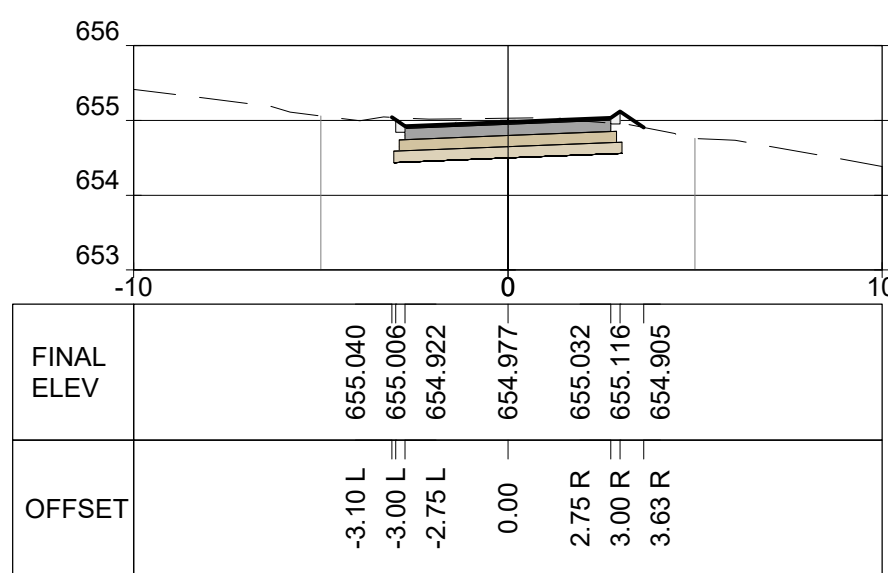
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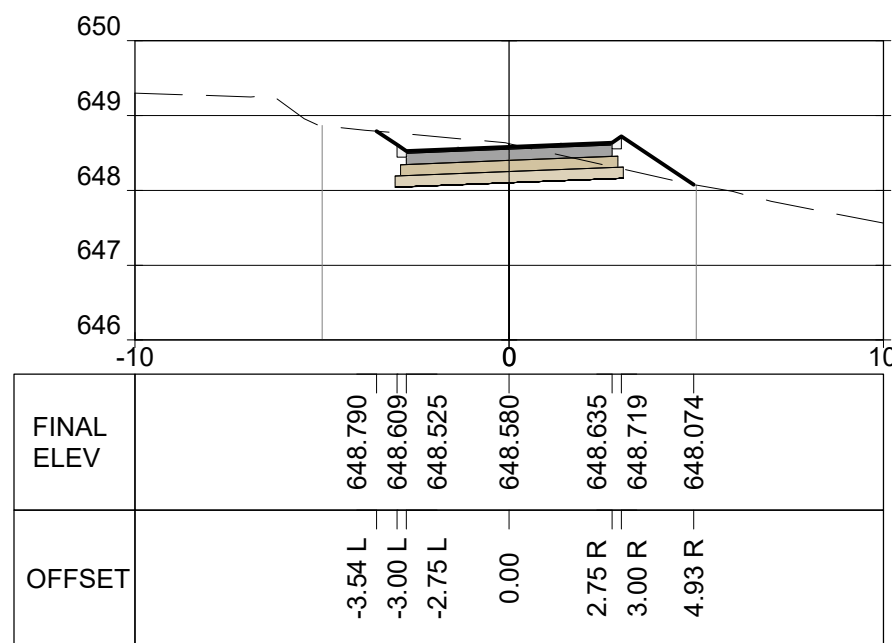
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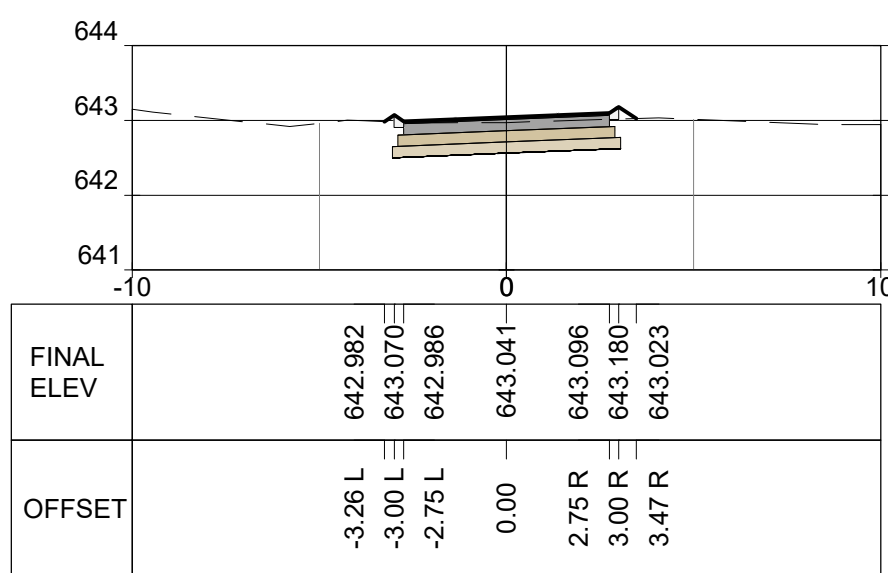
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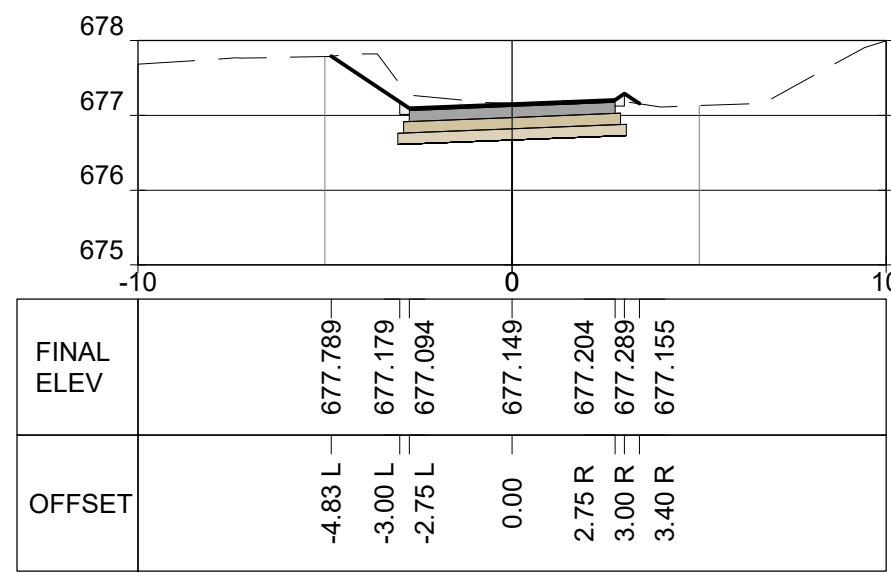
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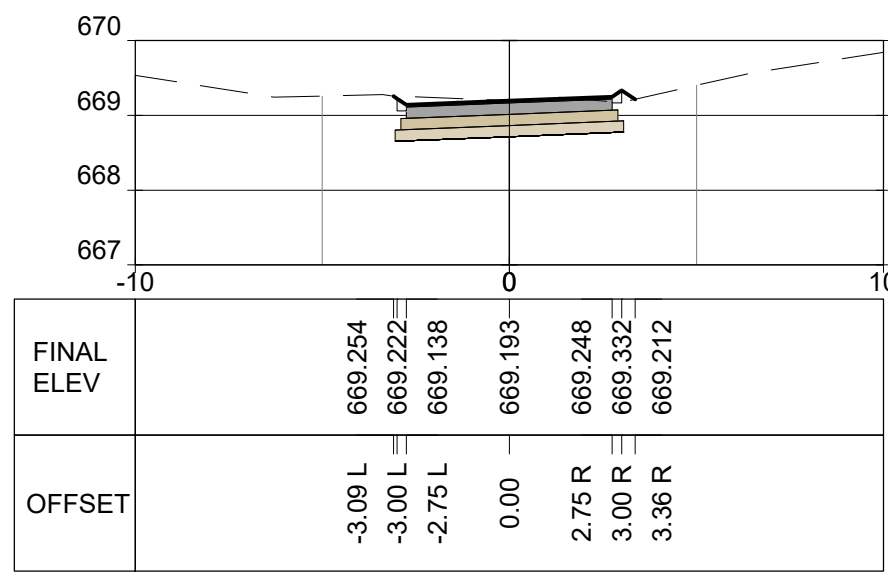
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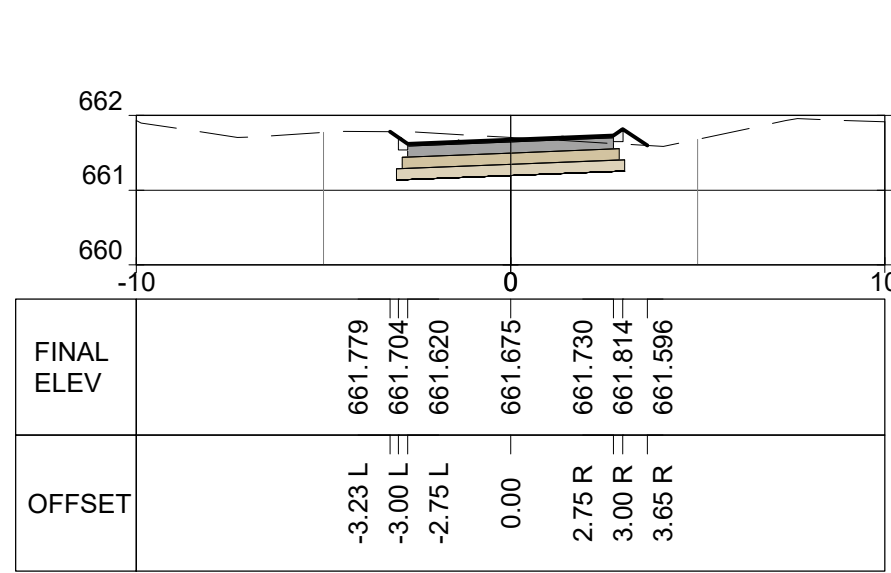
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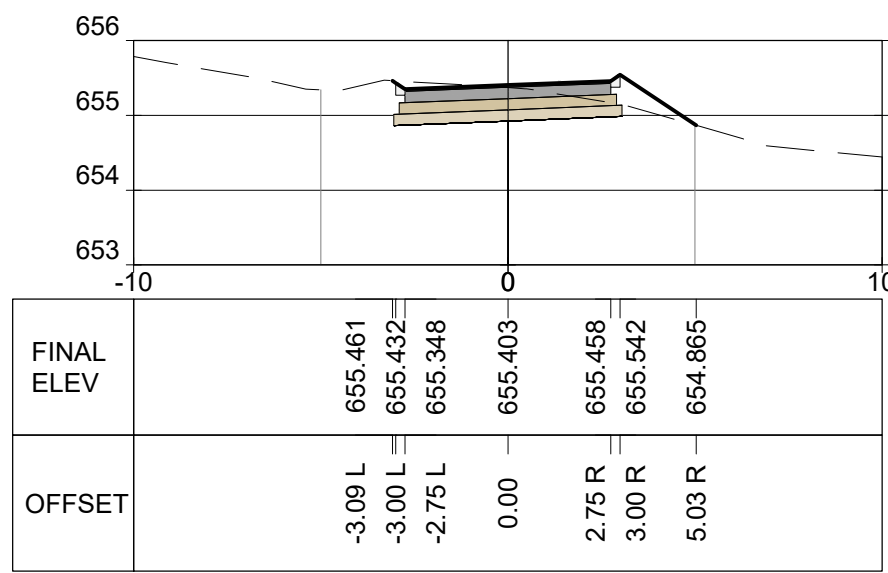
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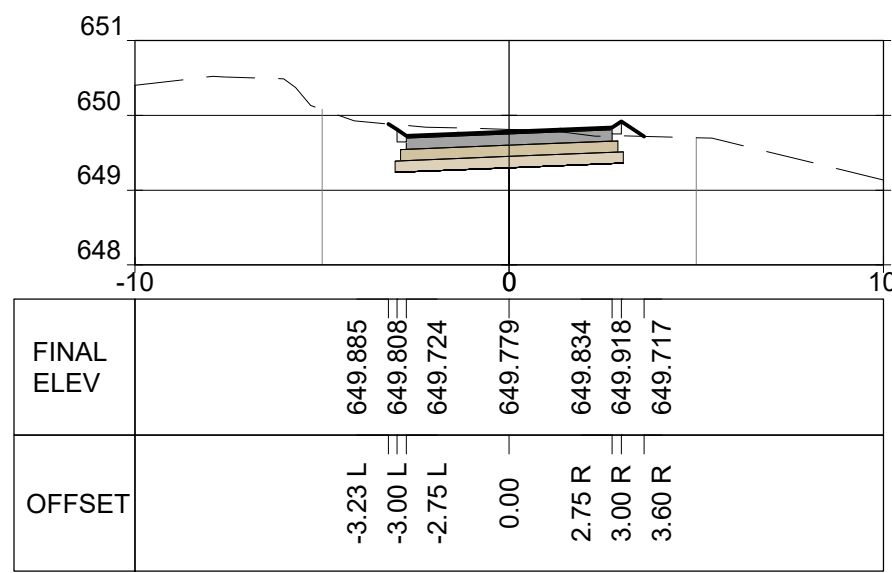
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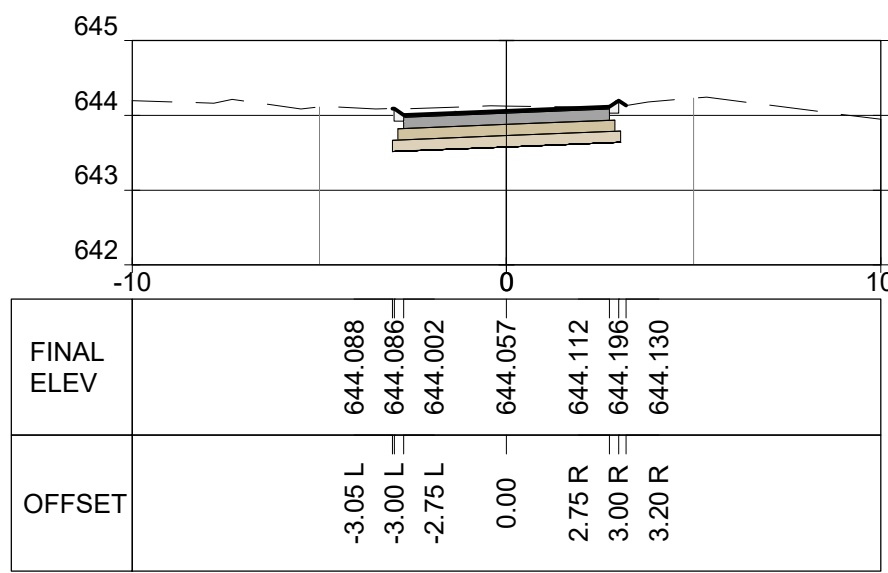
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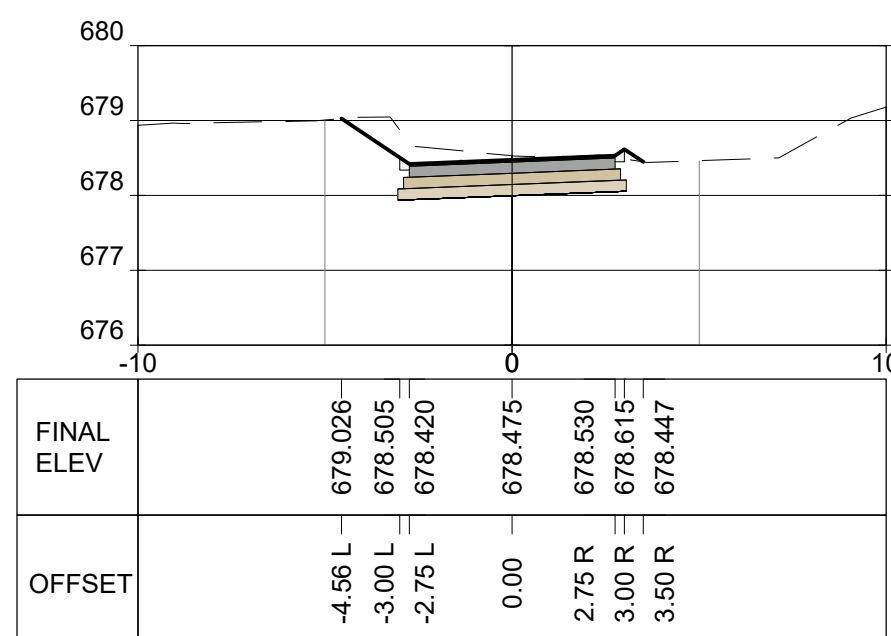
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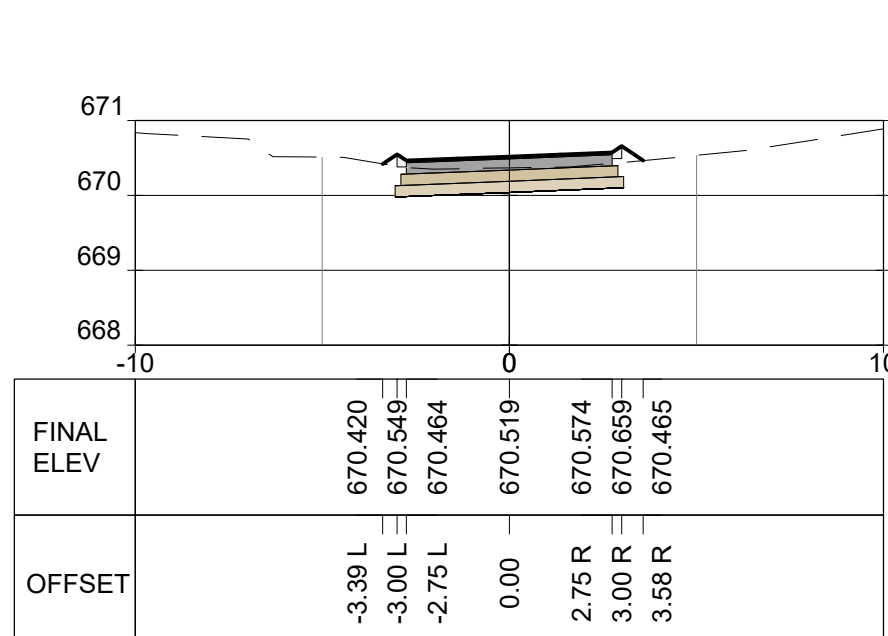
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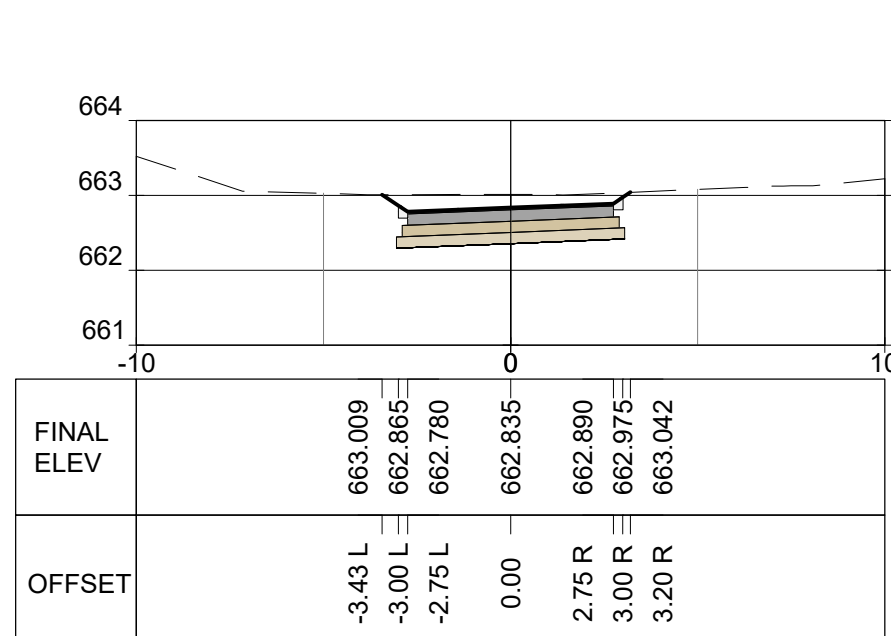
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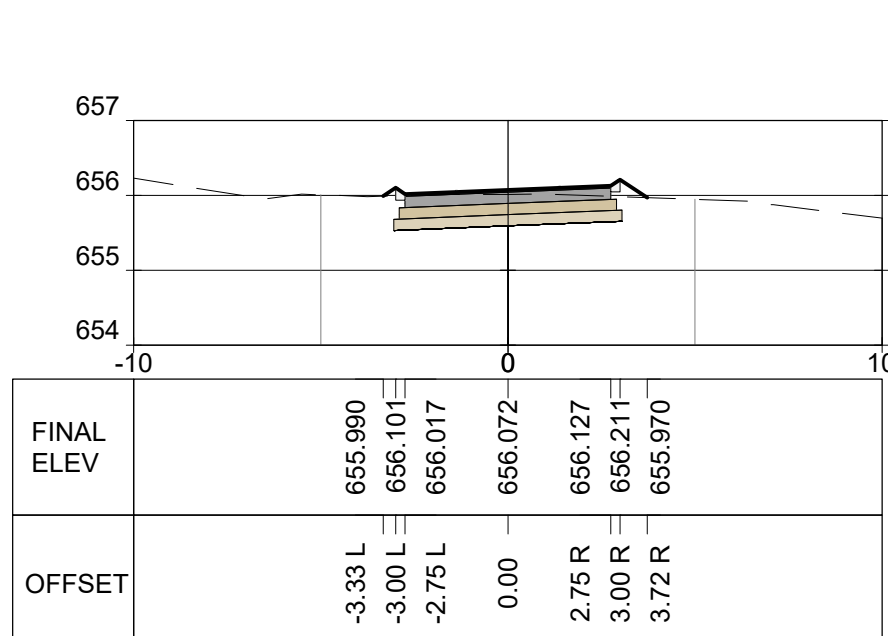
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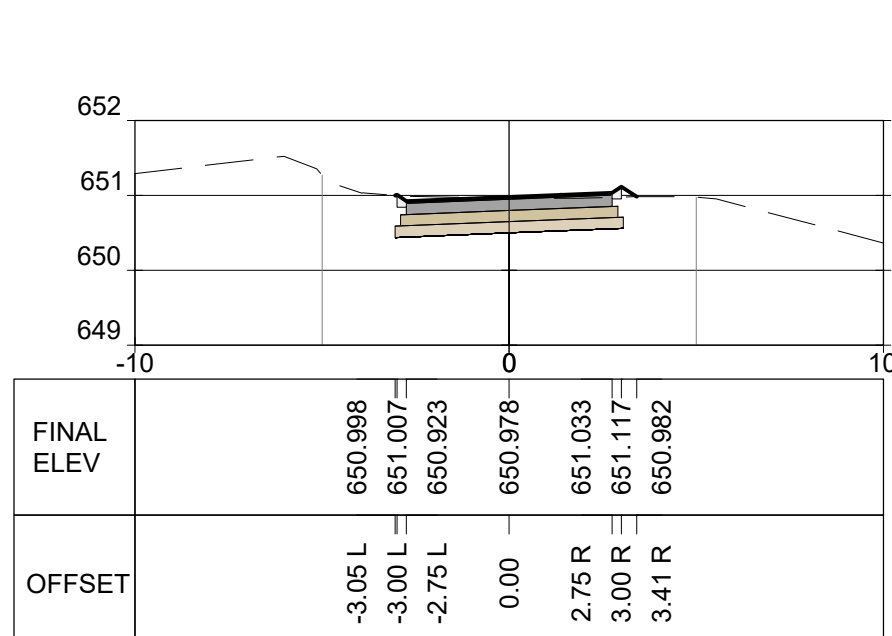
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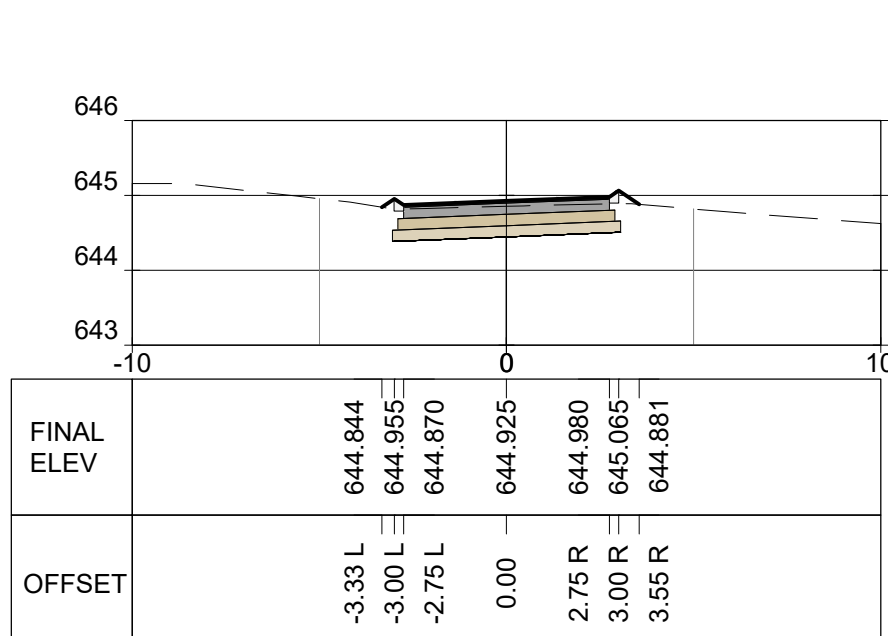
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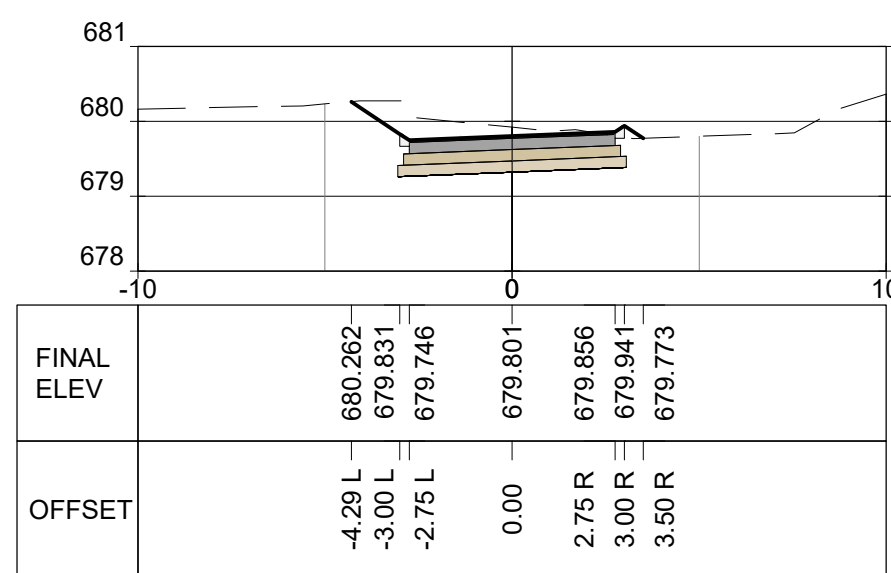
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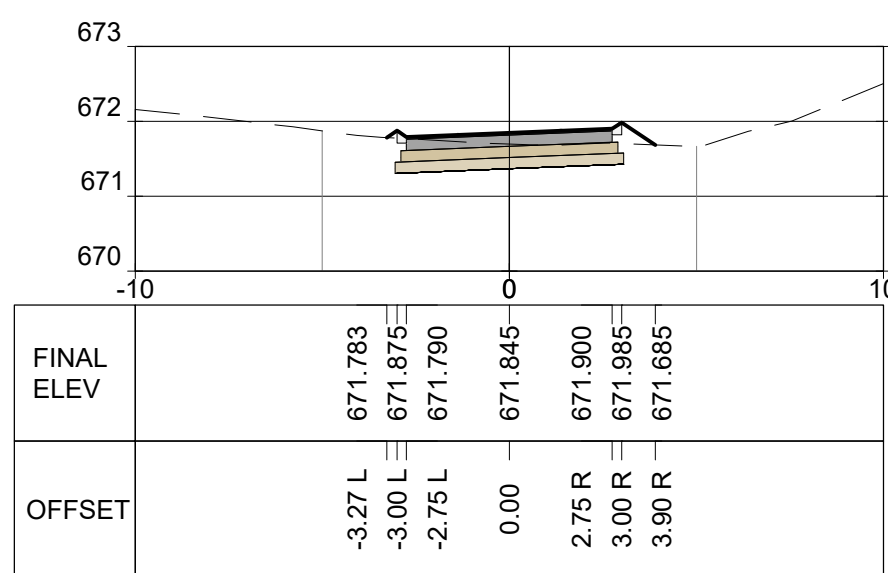
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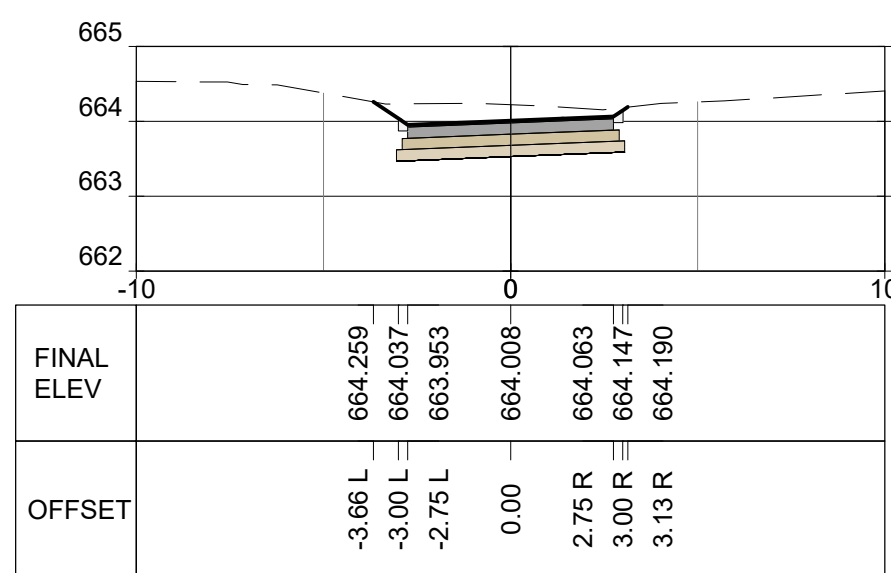
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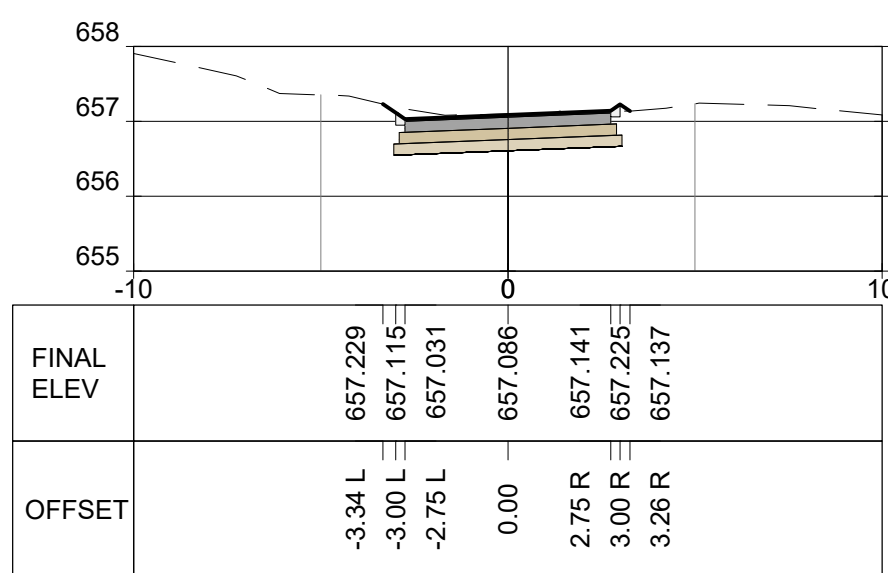
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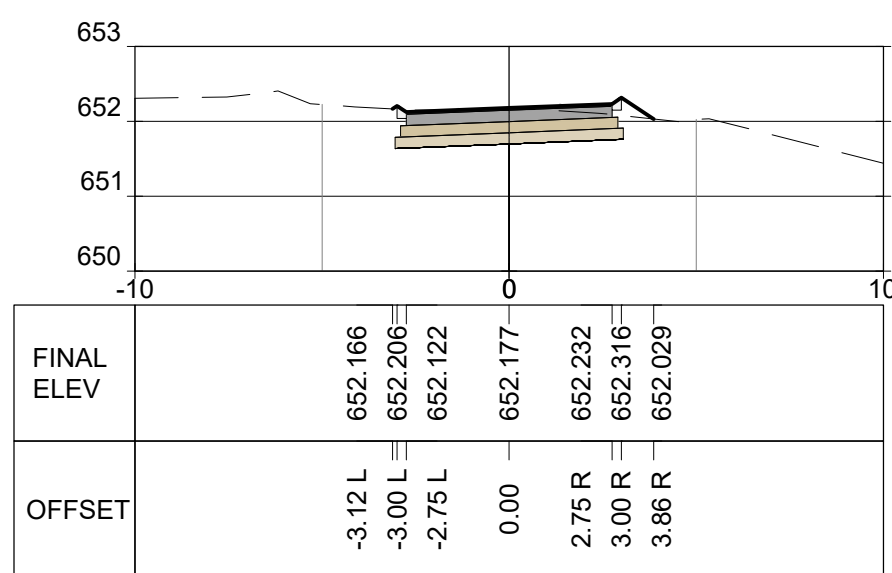
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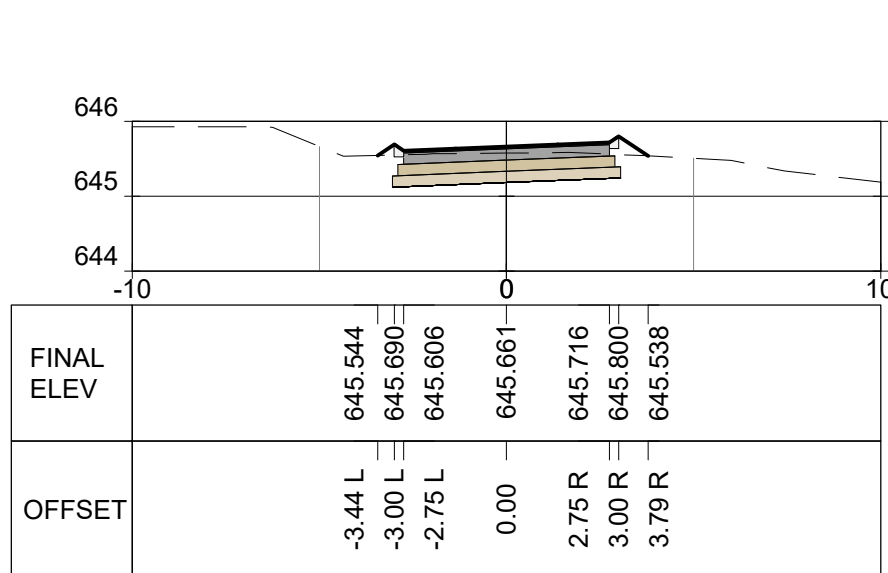
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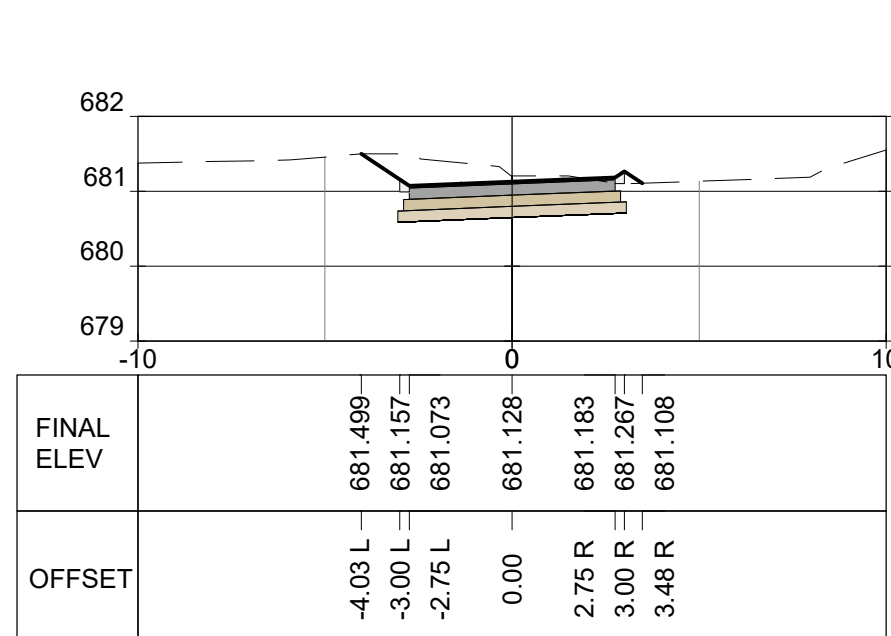
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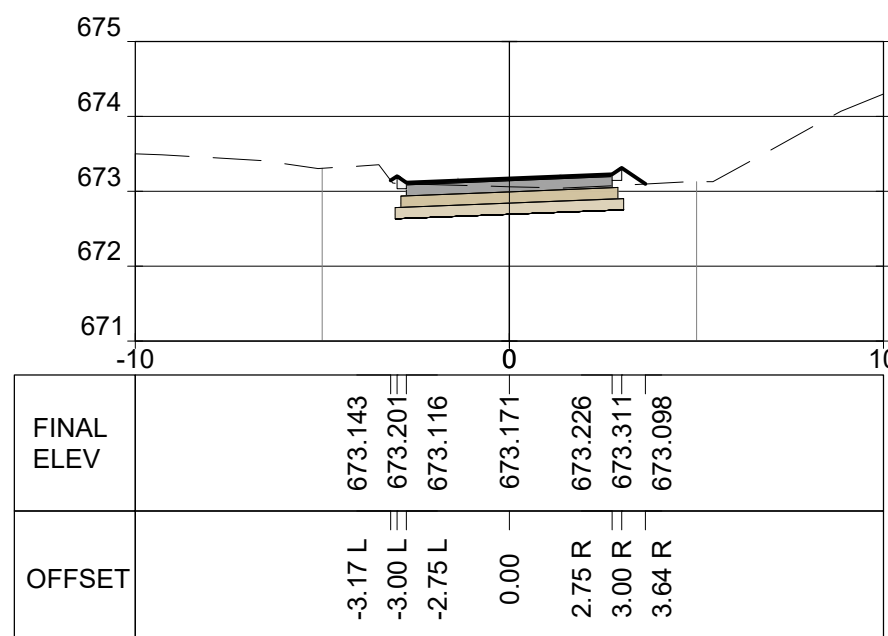
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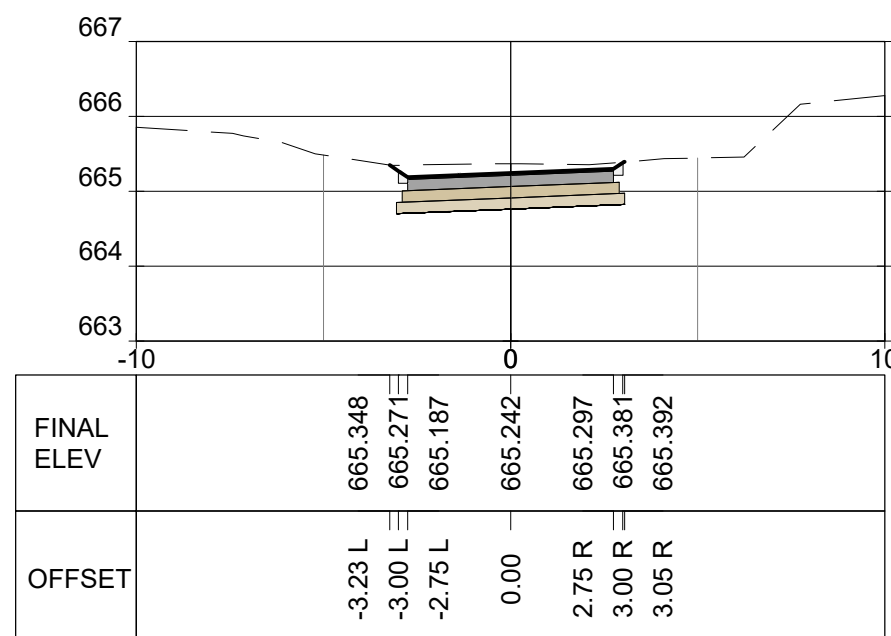
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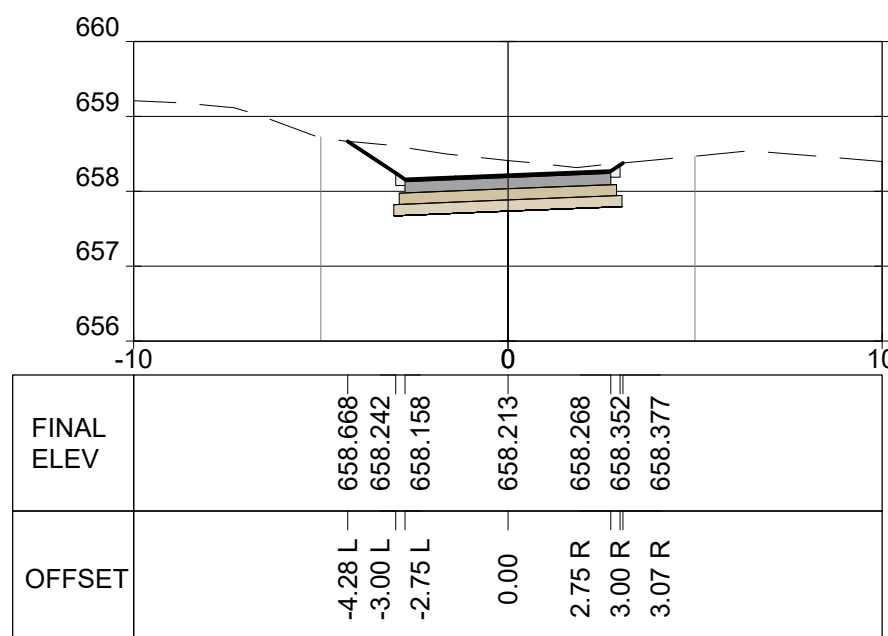
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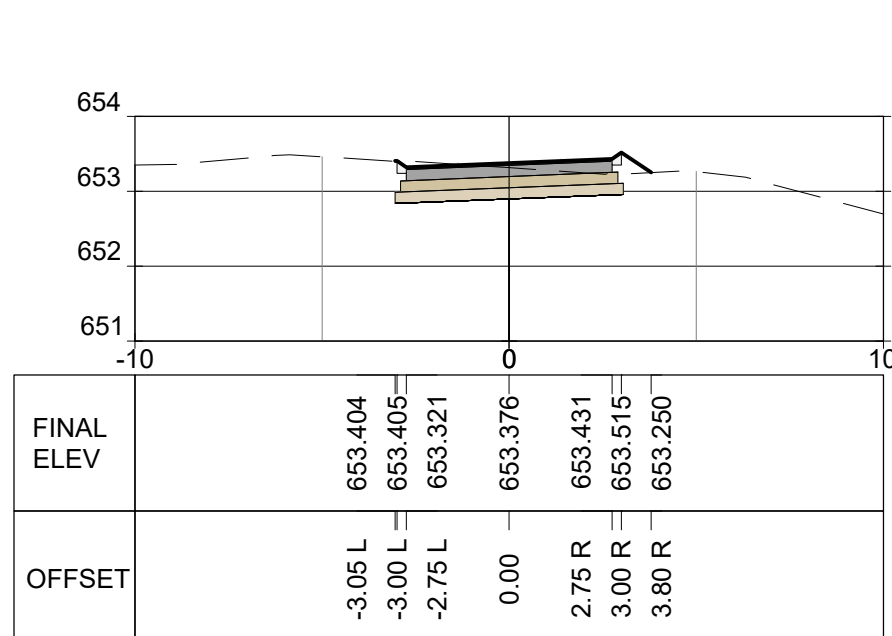
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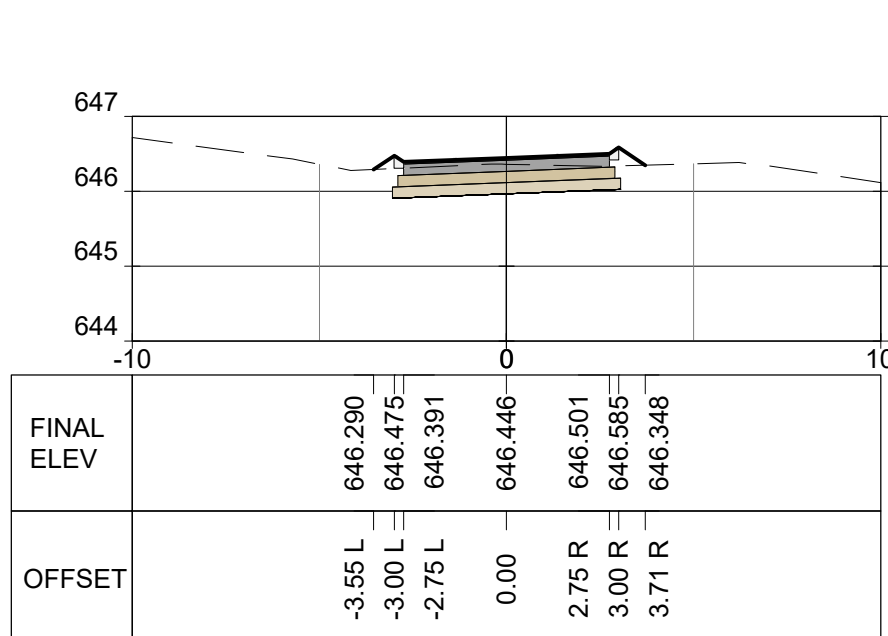
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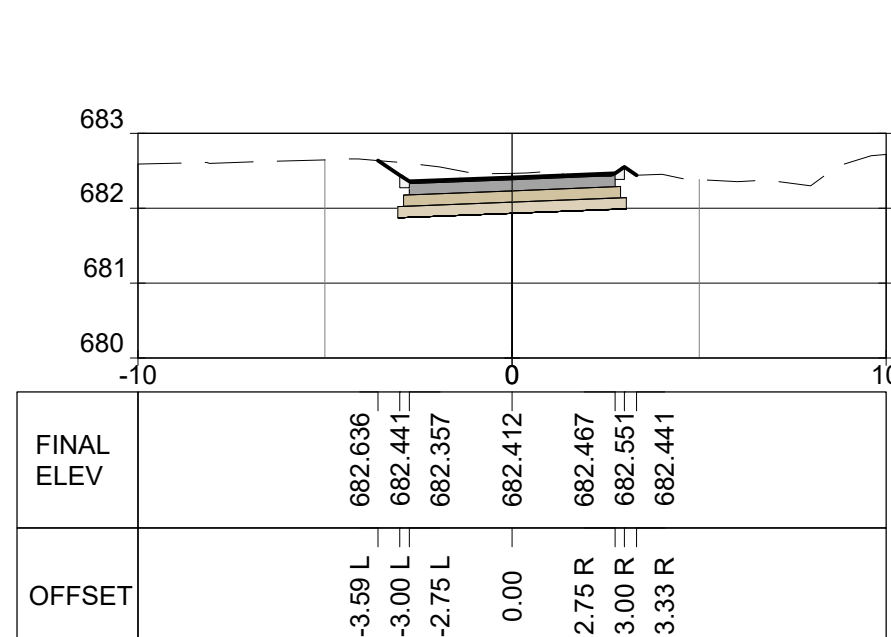
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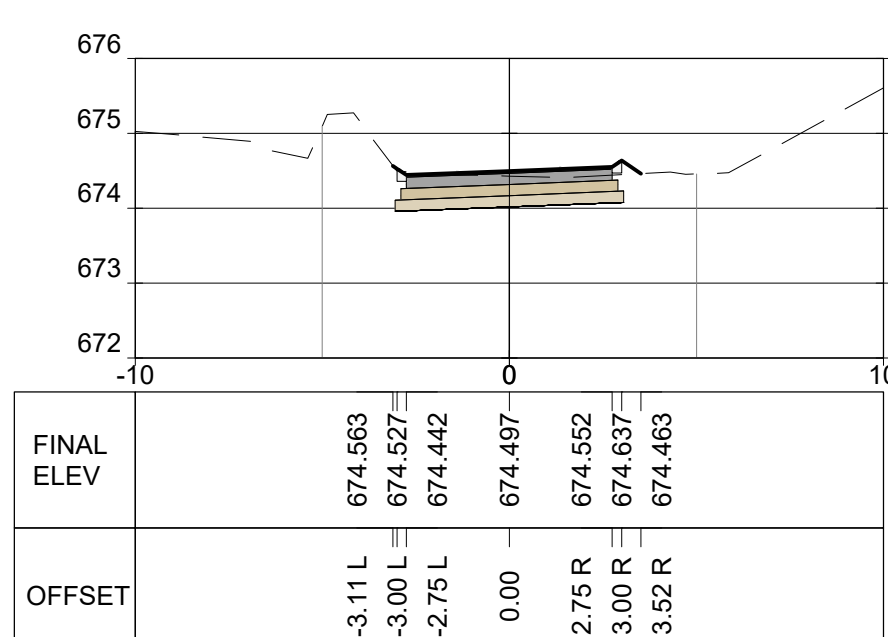
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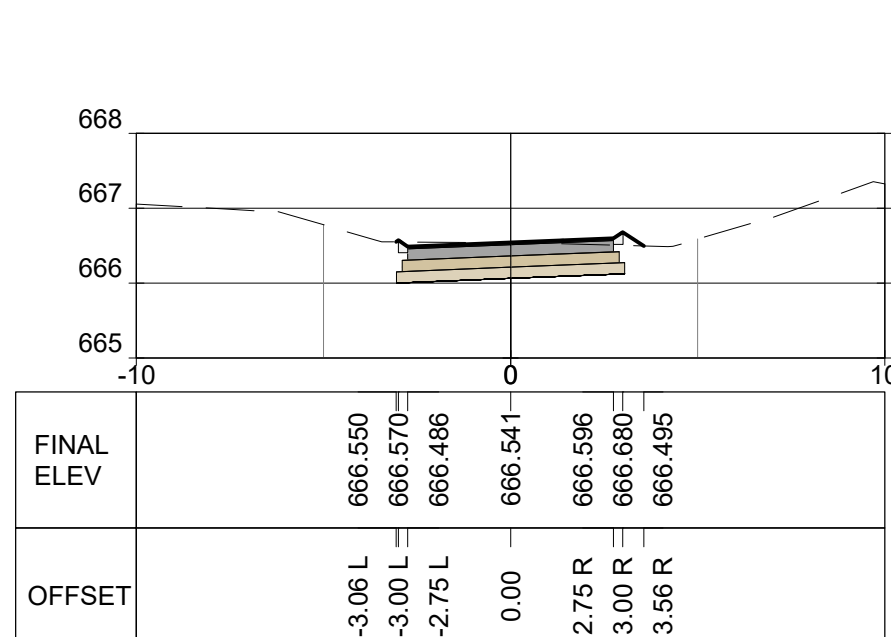
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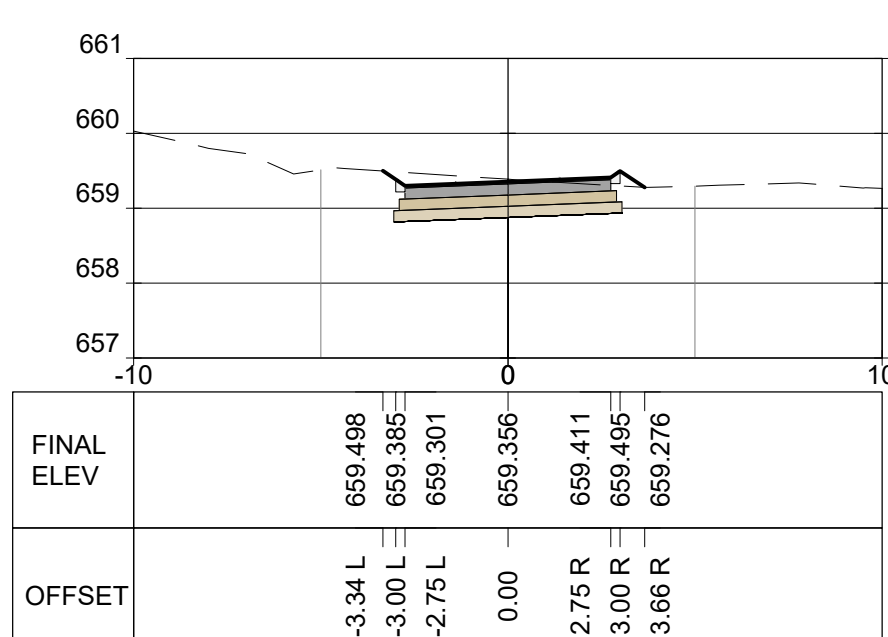
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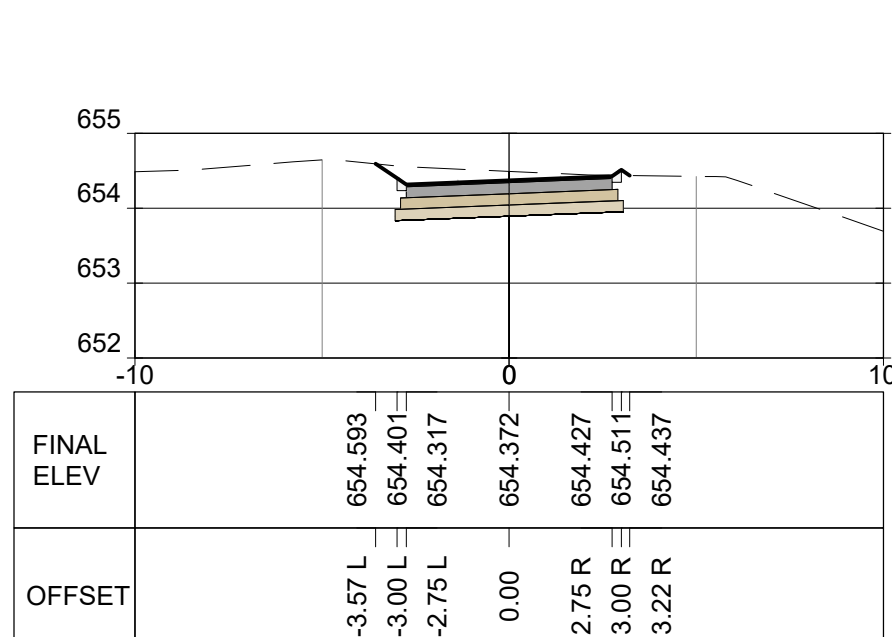
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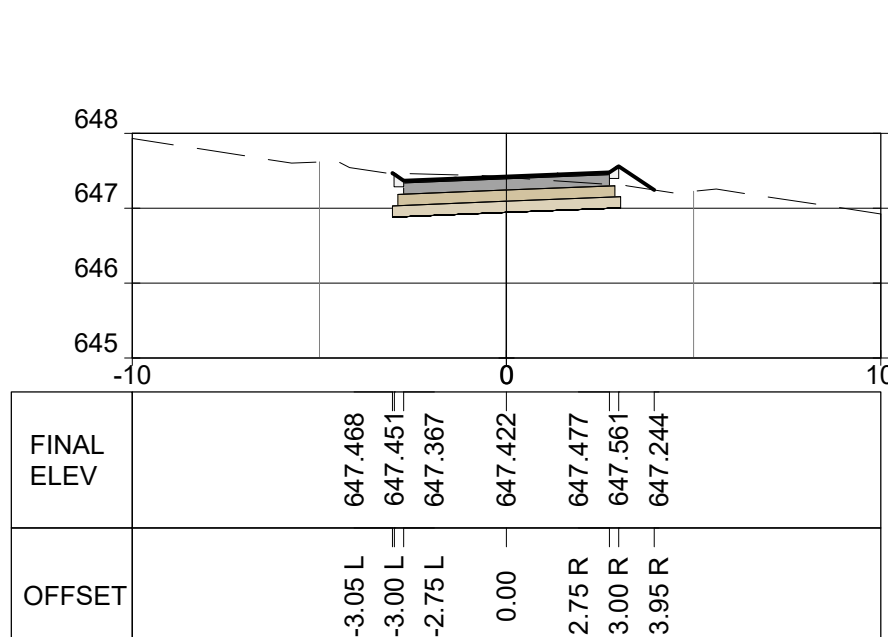
km 0.960



km 1.080



km 1.200



km 1.320

No.	DATE	REVISIONS	BY	CHECKED

DESIGNED BY: RALEMA CONSULTING ENGINEERS



C08/06 PHOENIX VIEW ESTATES
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I. Thasi DRAWN	ISSUED BY:	RECEIVED BY:
S. Bapela-Pr Tech Eng CHECKED	DATE:	DATE:

CLIENT ADDRESS

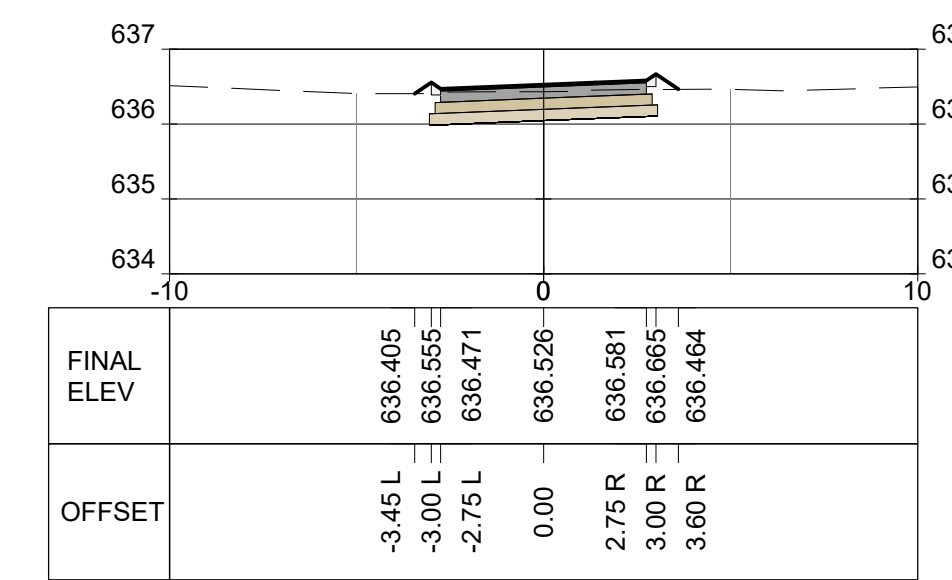


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PRIVATE BAG X5006
THOHOYANDOU
0950

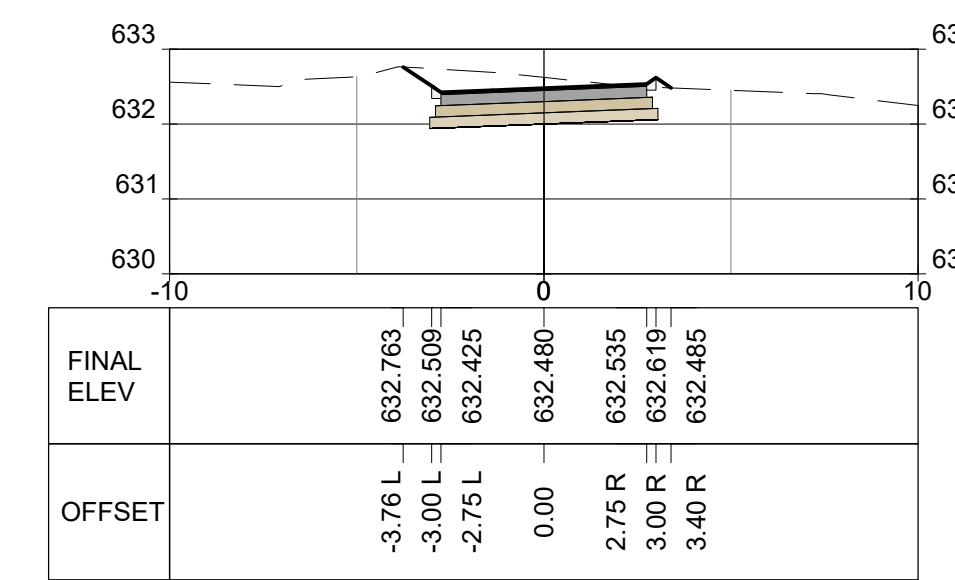
Tel: (015) 962 1828
Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 2 OF 3
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	STREET 9 : Km 0+720 to 1+420: CROSS SECTIONS			

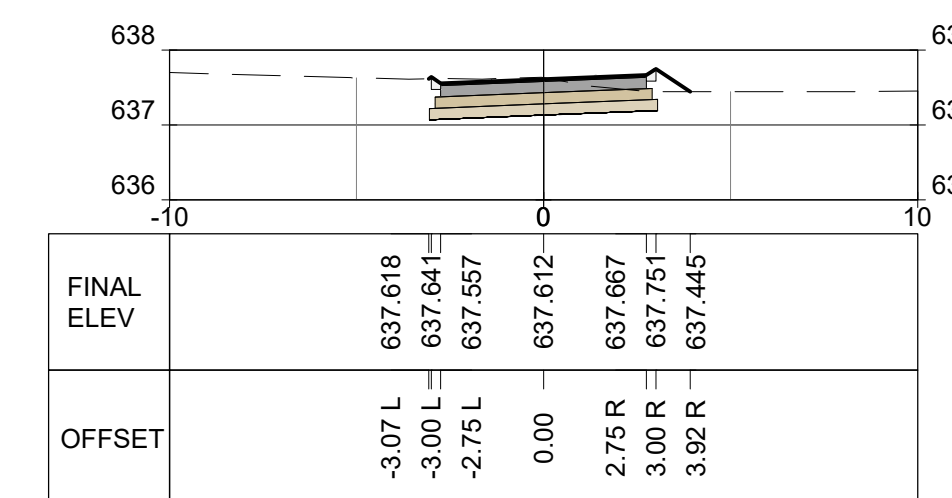
SCALE	TYPES OF PLANNING	STATUS
1:200	PLANNING CONSTRUCTION AS-BUILT	PLANNING
REVISION	PLAN No.	
0	RCE_78_MLM_9CS_02	



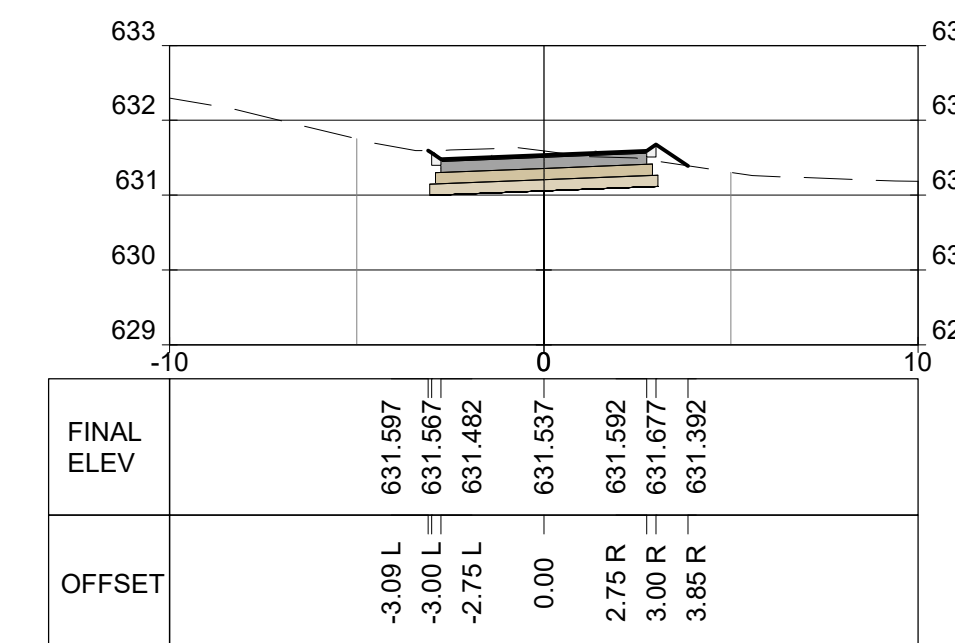
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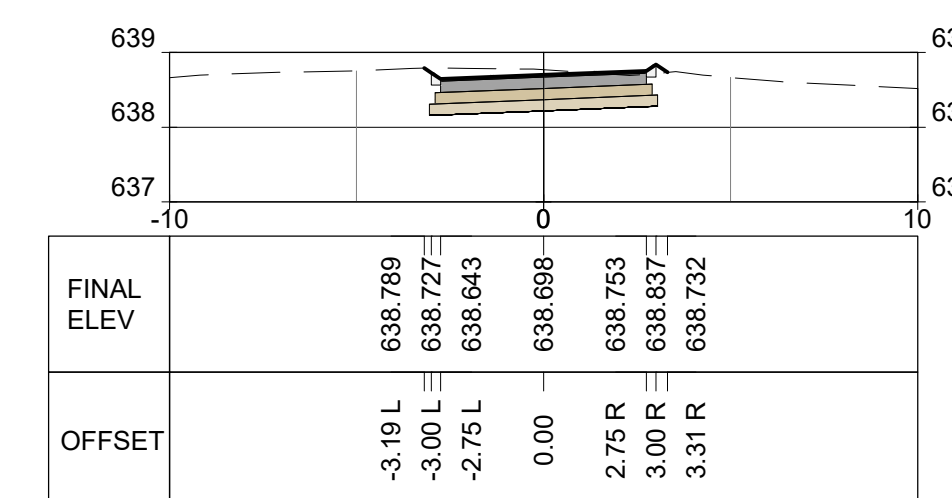
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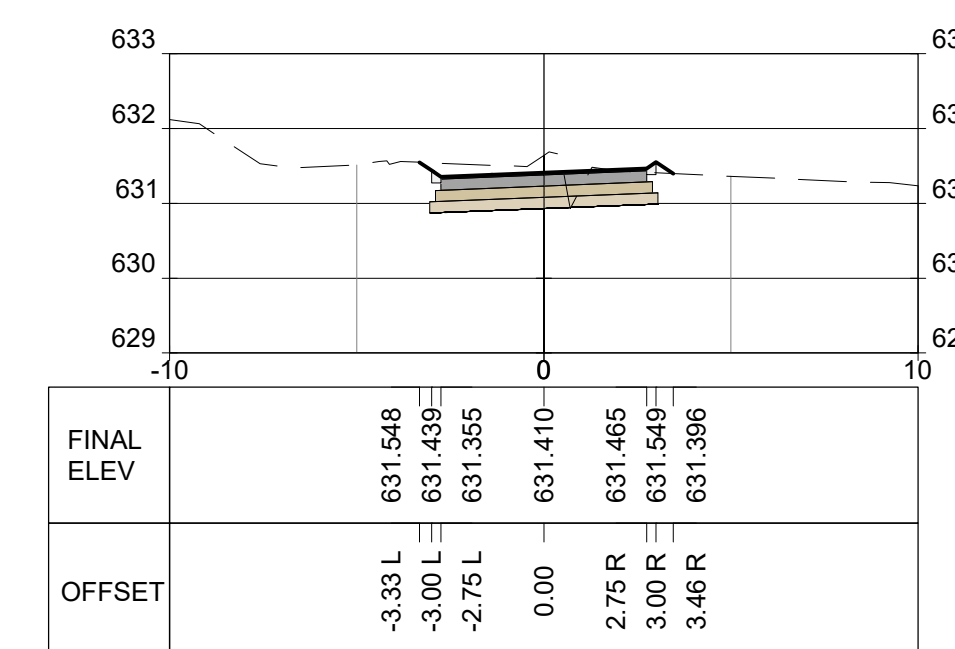
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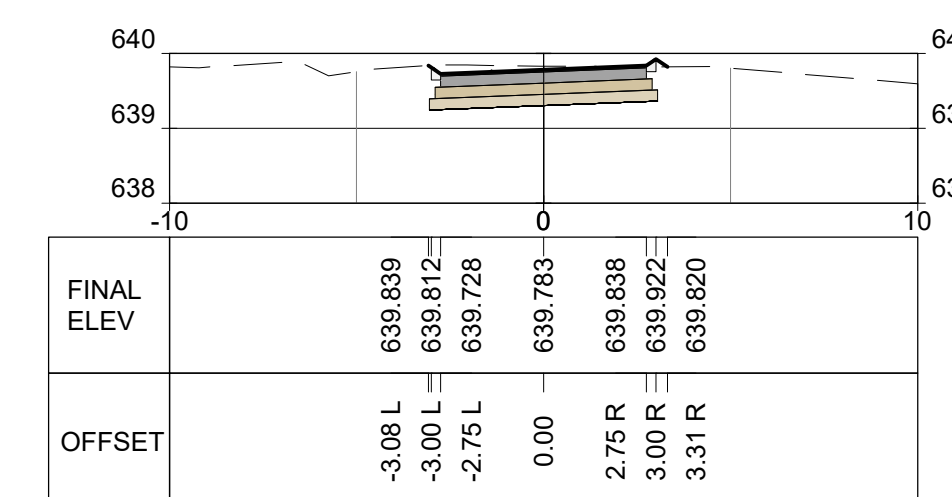
km 1.640



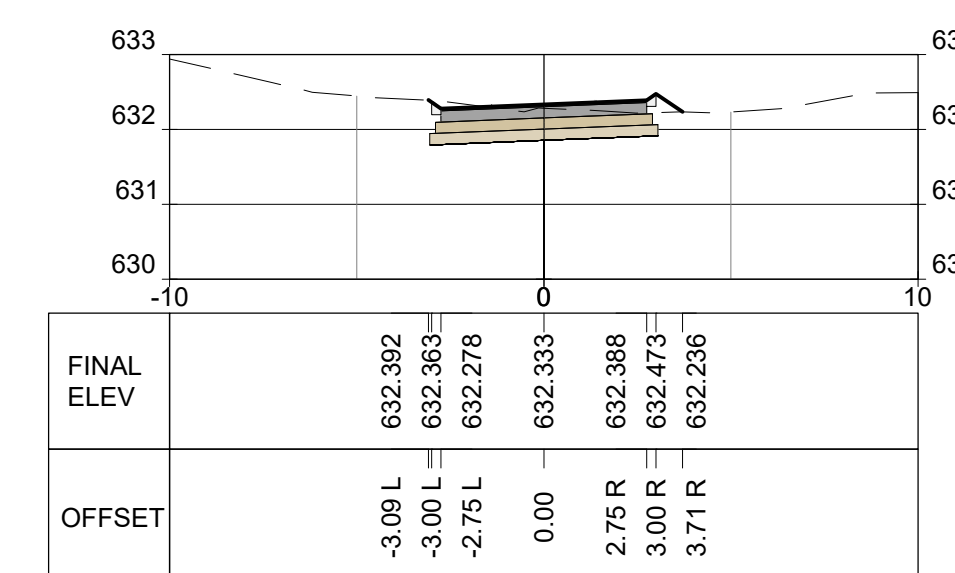
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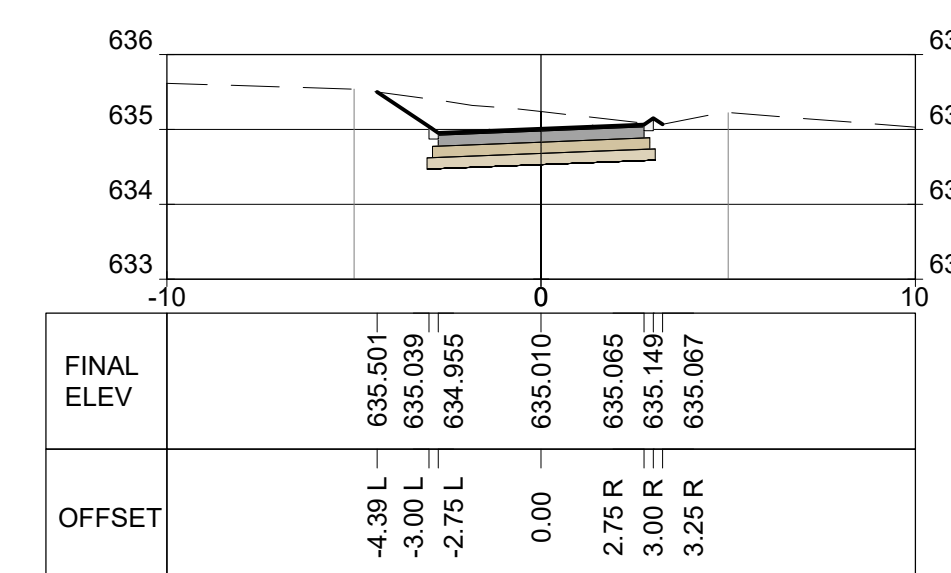
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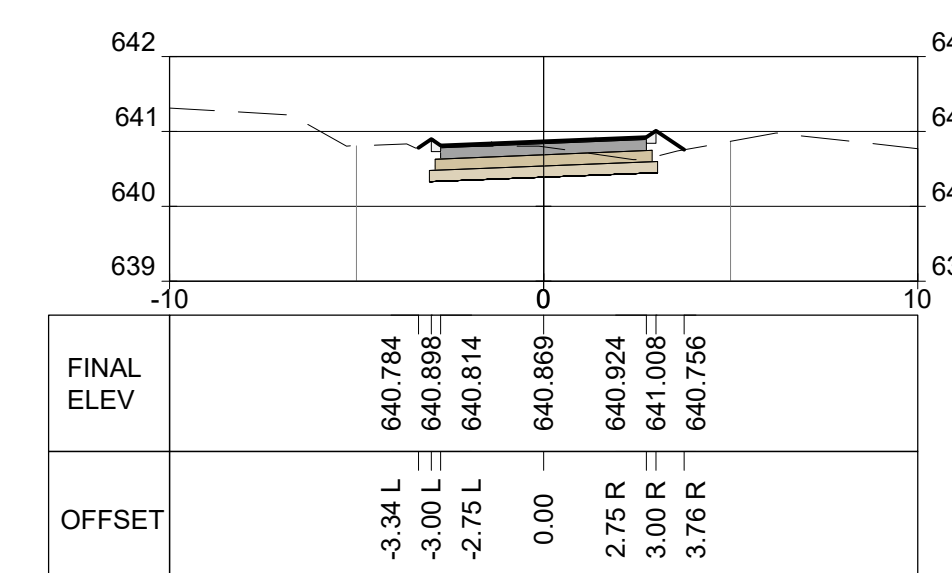
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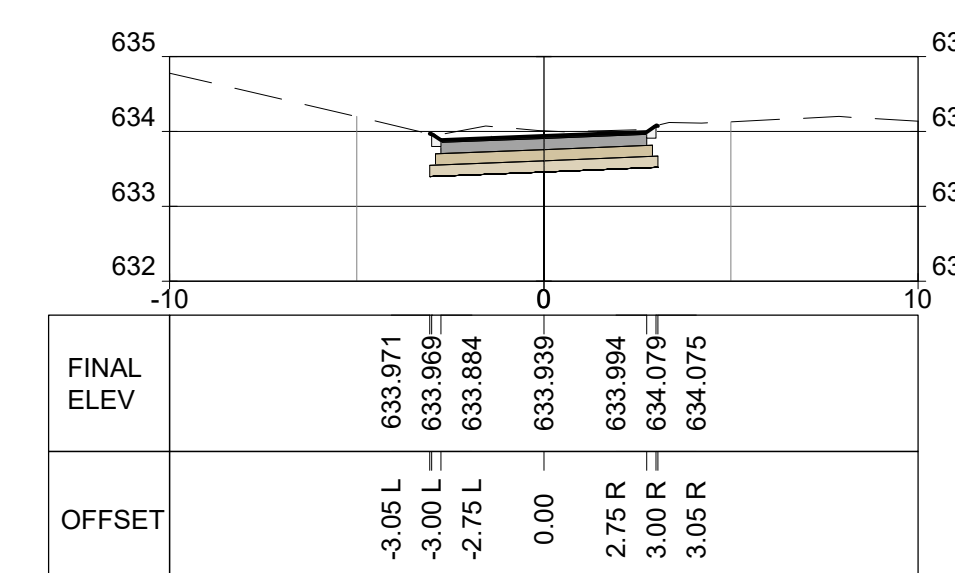
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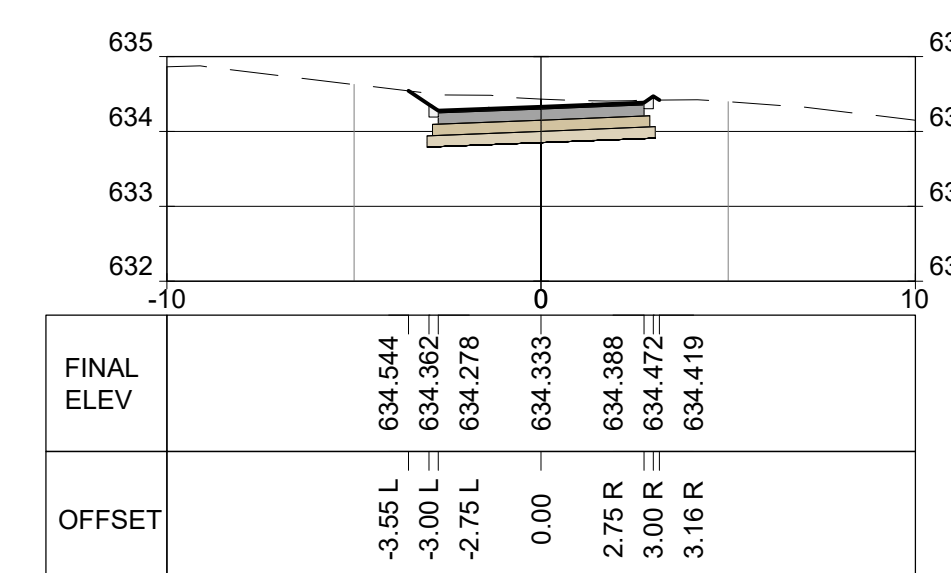
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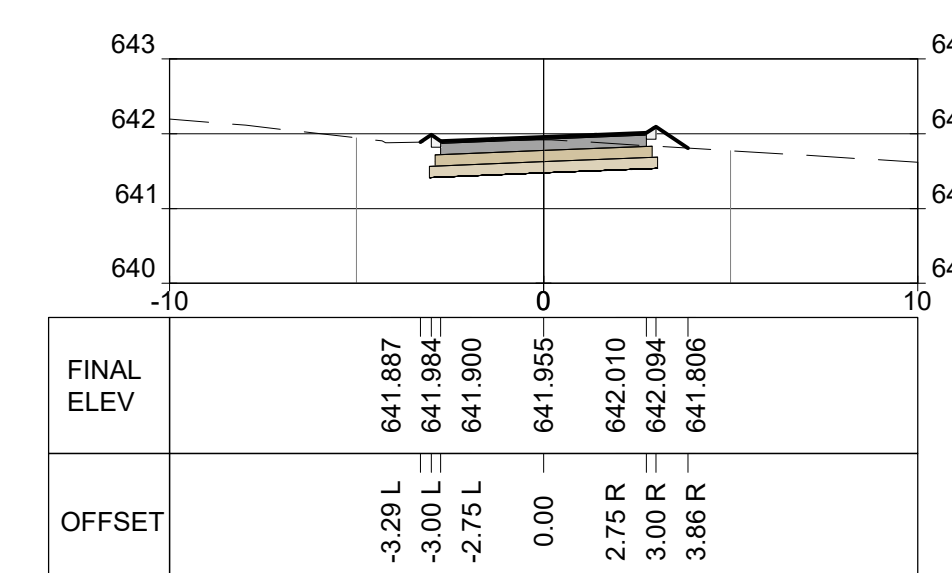
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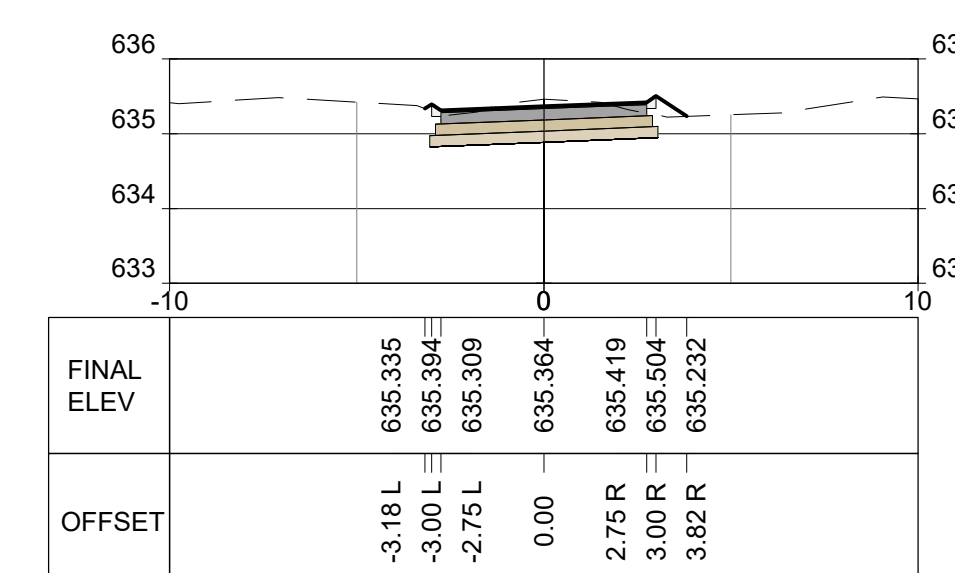
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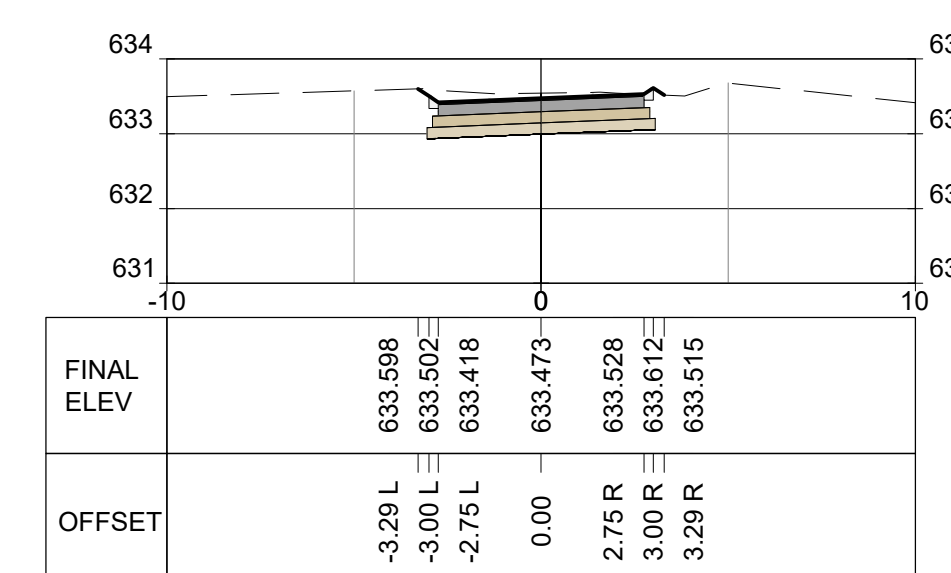
km 1.700



km 1.440



km 1.560



km 1.680

[illegible]

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I. Tihasi
DRAWN
S. Bapela-Pr Tech Eng
CHECKED





RALEMA CONSULTING	DEPARTMENT
ISSUED BY:	RECEIVED BY:
DATE:	DATE:

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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 3 OF 3
PROJECT TITLE				
UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1				
DRAWING TITLE				
STREET 9 : Km 1+440 to 1+738: CROSS SECTIONS				

SCALE	TYPES OF PLANNING	STATUS
1:200	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
0	RCE_78_MLM_9CS_03	



FINAL ELEV	OFFSET
586.514	-4.45 L
586.500	-3.00 L
586.500	-2.75 L
586.501	0.00
586.501	2.75 R
586.500	3.00 R
586.500	4.05 R

FINAL ELEV	588.782	589.912	589.628	589.773	589.718	589.802	589.658
OFFSET	-3.26 L	-3.00 L	-2.75 L	0.00	2.75 R	3.00 R	3.43 R

FINAL ELEV	OFFSET
591.458	-3.32 L
591.616	-3.00 L
591.532	-2.75 L
591.477	0.00
591.422	2.75 R
591.506	3.00 R
591.466	3.32 R

FINAL ELEV	OFFSET
593.291	-3.65 L
593.615	-3.00 L
593.531	-2.75 L
593.476	0.00
593.421	2.75 R
593.905	3.00 R
593.378	3.38 R

The diagram shows a cross-section of a bridge deck with a central void. The vertical axis represents elevation in feet, ranging from 591 to 594. The horizontal axis represents offset in feet, ranging from -10 to 10. The bridge deck is shown with a central void and side walls. The elevation of the top of the deck is 593.176 feet. The elevation of the bottom of the deck is 592.75 feet. The elevation of the side walls is 593.175 feet. The elevation of the bottom of the side walls is 593.120 feet. The elevation of the top of the side walls is 593.065 feet. The elevation of the bottom of the side walls is 593.150 feet. The elevation of the top of the side walls is 593.115 feet. The elevation of the bottom of the side walls is 593.115 feet.

FINAL ELEV	593.176	593.260	593.175	593.120	593.065	593.150	593.115
OFFSET	-3.17 L	-3.00 L	-2.75 L	0.00	2.75 R	3.00 R	3.10 R

FINAL ELEV	OFFSET
587.669	-3.86 L
588.098	-3.00 L
588.014	-2.75 L
587.959	0.00
587.904	2.75 R
587.849	3.00 R
587.825	4.39 R

FINAL ELEV	590	589	588	587
590				
589				
588				
587				
10				
0				
-10				

FINAL ELEV	590	589	588	587
590				
589				
588				
587				
10				
0				
-10				

FINAL ELEV	590	589	588	587
590				
589				
588				
587				
10				
0				
-10				

FINAL ELEV	590	589	588	587
590				
589				
588				
587				
10				
0				
-10				

FINAL ELEV	590	589	588	587
590				
589				
588				
587				
10				
0				
-10				

FINAL ELEV	590	589	588	587
590				
589				
588				
587				
10				
0				
-10				

FINAL ELEV	590	589	588	587
590				
589				
588				
587				
10				
0				
-10				

FINAL ELEV	590	589	588	587
590				
589				
588				
587				
10				
0				
-10				

FINAL ELEV	590	589	588	587
590				
589				
588				
587				
10				
0				
-10				

FINAL ELEV	590	589	588	587
590				
589				
588				
587				
10				
0				
-10				

FINAL ELEV	590	589	588	587
590				
589				
588				
587				
10				
0				
-10				

FINAL ELEV	590	589	588	587
590				
589				
588				
587				
10				
0				
-10				

FINAL ELEV	590	589	588	587
590				

FINAL ELEV	591.168	591.402	591.318	591.263	591.208	591.252	591.285
OFFSET	-3.47 L	-3.00 L	-2.75 L	0.00	2.75 R	3.00 R	3.02 R

The diagram shows a cross-section of a bridge deck with a central roadway and two side areas. The central roadway has a width of 30.00 L and 30.00 R. The side areas have widths of 3.55 L and 3.08 R. The total width is 36.63 L and 36.08 R. The elevation of the top of the deck is 592.853 L and 592.853 R. The elevation of the bottom of the deck is 592.812 L and 592.812 R. The elevation of the centerline is 592.812. The elevation of the bottom of the side areas is 592.816 L and 592.816 R. The elevation of the bottom of the side areas is 592.988 L and 592.988 R. The elevation of the bottom of the side areas is 592.988 L and 592.988 R.

FINAL ELEV	592.853	593.126	593.042	592.887	592.932	593.016	592.988
OFFSET	-3.55 L	-3.00 L	-2.75 L	0.00	2.75 R	3.00 R	3.08 R

The diagram shows a cross-section of a bridge deck with a central roadway and two side areas. The vertical axis represents elevation in feet, ranging from 592 to 595. The horizontal axis represents offset in feet, ranging from -10 to 10. The central roadway is flanked by two side areas, each with a width of 3.24 feet. The side areas are separated from the central roadway by a 3.00-foot offset. The central roadway has a width of 2.75 feet. The side areas are separated from the central roadway by a 3.00-foot offset. The side areas are separated from the central roadway by a 3.00-foot offset. The side areas are separated from the central roadway by a 3.00-foot offset.

FINAL ELEV	OFFSET
593.718	-3.24 L
593.837	-3.00 L
593.753	-2.75 L
593.898	0.00
593.643	2.75 R
593.727	3.00 R
593.775	3.24 R

Figure 10

FINAL ELEV	OFFSET
588.520	-3.58 L
588.808	-3.00 L
588.724	-2.75 L
588.660	0.00
588.614	2.75 R
588.698	3.00 R
588.612	3.56 R

FINAL ELEV	590.029	591.186	591.102	591.047	590.992	591.076	591.046
OFFSET	-3.51 L	-3.00 L	-2.75 L	0.00	2.75 R	3.00 R	3.09 R

FINAL ELEV		592.677	592.741	592.657	592.602	592.547	592.634	592.697	
OFFSET		-3.13 L	-3.00 L	-2.75 L	0.00	2.75 R	3.00 R	3.20 R	

FINAL ELEV	OFFSET
594.966	-3.20 L
594.966	-3.00 R
594.281	-2.75 L
594.226	0.00
594.171	2.75 R
594.556	3.00 R
594.051	3.61 R

FINAL ELEV	590.272	590.417	590.233	590.178	590.123	590.207	590.030
OFFSET	-3.09 L	-3.00 L	-2.75 L	0.00	2.75 R	3.00 R	3.53 R

FINAL ELEV	587.662	587.553	587.569	587.714	587.759	587.543	587.744
OFFSET	-3.58 L	-3.00 L	-2.75 L	0.00	2.75 R	3.00 R	3.50 R

FINAL ELEV	590.673	590.930	590.848	590.791	590.736	590.920	590.746
OFFSET	-3.51 L	-3.00 L	-2.75 L	0.00	2.75 R	3.00 R	3.22 R

FINAL ELEV	592.394	592.431	592.431	592.447	592.447	592.462	592.462	592.477	592.477	592.492
OFFSET	-3.07 L	-3.00 J	-3.00 J	-2.75 L	-2.75 L	0.00	2.75 R	3.00 R	3.00 R	3.11 R

The diagram shows a cross-section of a bridge deck with a central span and two side spans. The elevation is marked on the left and right sides, ranging from 593 to 596. The horizontal axis is marked from -10 to 10. Below the diagram, a table provides the final elevation and offset for various points.

	FINAL ELEV	OFFSET
	594.707	-3.36 L
	594.687	-3.00 L
	594.603	-2.75 L
	594.748	0.00
	594.693	2.75 R
	594.777	3.00 R
	594.745	3.10 R

The diagram shows a cross-section of a bridge deck with a central span and two side spans. The elevation is marked on the left and right sides, ranging from 589 to 592. The horizontal axis is marked from -10 to 10. Below the diagram, a table provides the final elevation and offset for various points.

	FINAL ELEV
591.223	
591.236	
591.152	
591.097	
591.042	
591.126	
591.226	

	OFFSET
-3.03 L	
-3.00 L	
-2.75 L	
0.00	
2.75 R	
3.00 R	
3.30 R	

FINAL ELEV	OFFSET
586.565	-4.00 L
587.065	-3.00 L
586.891	-2.75 L
586.926	0.00
586.871	2.75 R
586.955	3.00 R
586.622	4.00 R

FINAL ELEV	590.359	590.616	590.534	590.475	590.424	590.508	590.434
OFFSET	-3.52 L	-3.00 L	-2.75 L	0.00	2.75 R	3.00 R	3.22 R

FINAL ELEV	OFFSET
592.055	-3.14 L
592.126	-3.00 L
592.042	-2.75 L
591.987	0.00
591.932	2.75 R
592.016	3.00 R
591.959	3.14 R

FINAL ELEV	OFFSET
595.00	-3.23 L
595.00	-3.00 L
595.00	-2.75 L
595.00	0.00
595.00	2.75 R
595.00	3.00 R
595.00	3.20 R

FINAL ELEV	592.02	591.68	591.88	591.83	591.75	591.65	591.88
OFFSET	-3.09 L	-3.00 L	-2.75 L	0.00	2.75 R	3.00 R	3.21 R

FINAL ELEV	584.439	586.049	586.365	586.510	586.455	586.539	586.454
OFFSET	-7.42 L	-3.00 L	-2.75 L	0.00	2.75 R	3.00 R	3.25 R

FINAL ELEV	OFFSET
590.067	-3.40 L
590.066	-3.00 L
590.182	-2.75 L
590.127	0.00
590.072	2.75 R
590.195	3.00 R
590.048	3.32 R

FINAL ELEV	OFFSET
591.700	-3.30 L
591.653	-3.00 L
591.769	-2.75 L
591.714	0.00
591.659	2.75 R
591.743	3.00 R
591.697	3.14 R

FINAL ELEV	OFFSET
593.697	-3.73 L
594.061	-3.00 L
593.977	-2.75 L
593.822	0.00
593.867	2.75 R
593.951	3.00 R
593.817	3.40 R

[illegible]

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ISSUED BY:	RECEIVED BY:
*****	*****
DATE: *****	DATE: *****

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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 1 OF 1
PROJECT TITLE				
UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1				
DRAWING TITLE				
STREET 10 : CROSS SECTIONS				

SCALE	TYPES OF PLANNING	STATUS
1:200	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
0	RCE_78_MLM_10CS_01	



No.	DATE	REVISIONS	BY	CHECKED BY	

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DEPARTMENT
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CLIENT	MAKHADO LOCAL MUNICIPALITY
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1
DRAWING TITLE	STORMWATER CONCERNS LAYOUT PLAN

CONTRACT No.	IPW No.	SHEET 1 OF 4
SCALE	TYPES OF PLANNING	STATUS
1:1000	<div><div></div> PLANNING</div> <div><div></div> CONSTRUCTION</div> <div><div></div> AS-BUILT</div>	<div><div></div> PLANNING</div>
REVISION	PLAN No.	
0	RCE_78_MLM_SWCLP_01	



No.	DATE	REVISIONS	BY	CHECKED BY	

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S. Bapela-Pi Tech Eng DESIGNED	RALEMA CONSULTING	DEPARTMENT
I. Tihasi DRAWN	ISSUED BY:	RECEIVED BY:
S. Bapela-Pi Tech Eng CHECKED	DATE:	DATE:

CLIENT ADDRESS



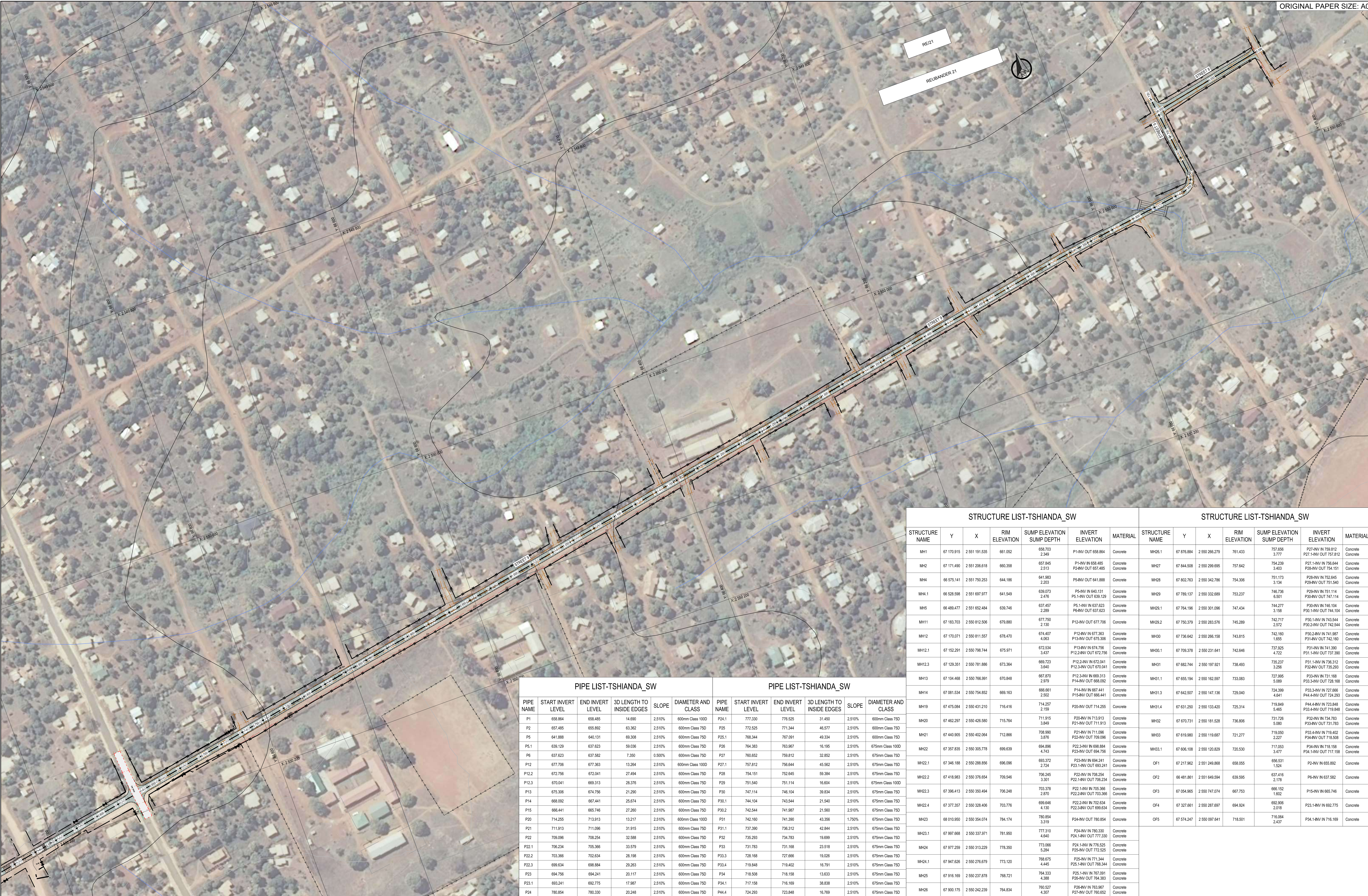
THOHOYANDOU
PRIVATE BAG X5006
THOHOYANDOU
0950

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Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 2 OF 4
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	STORMWATER CONCERN LAYOUT PLAN			

SCALE	1:1000	TYPES OF PLANNING	STATUS
		● PLANNING ● CONSTRUCTION ● AS-BUILT	● PLANNING
REVISION	0	PLAN No.	RCE_78_MLM_SWCLP_02

[illegible]



ORIGINAL PAPER SIZE: A0

STRUCTURE LIST-TSHIANDA_SW							STRUCTURE LIST-TSHIANDA_SW						
STRUCTURE NAME	Y	X	RIM ELEVATION	SUMP ELEVATION	INVERT ELEVATION	MATERIAL	STRUCTURE NAME	Y	X	RIM ELEVATION	SUMP ELEVATION	INVERT ELEVATION	MATERIAL
MH1	67 170.915	2 551 191.535	661.052	658.703 2.349	P1-NV OUT 658.864	Concrete	MH26.1	67 876.684	2 550 286.270	761.433	757.896 3.777	P27-1NV IN 759.812 P27-1NV OUT 757.812	Concrete
MH2	67 171.490	2 551 206.618	660.358	657.845 2.513	P14-NV IN 658.485 P24-NV OUT 657.485	Concrete	MH27	67 844.508	2 550 299.695	757.642	754.239 3.403	P27-1NV IN 756.644 P28-NV OUT 754.151	Concrete
MH4	66 575.141	2 551 750.253	644.186	641.983 2.203	P5-NV OUT 641.888	Concrete	MH28	67 802.763	2 550 342.786	754.306	751.173 3.134	P28-NV IN 752.645 P29-NV OUT 751.540	Concrete
MH4.1	66 528.596	2 551 697.977	641.549	639.073 2.476	P5-NV IN 640.131 P5-1NV OUT 639.129	Concrete	MH29	67 789.137	2 550 332.680	753.237	746.736 6.501	P29-NV IN 751.114 P30-NV OUT 747.114	Concrete
MH5	66 489.477	2 551 652.484	639.746	637.457 2.289	P5-1NV IN 637.823 P6-NV OUT 637.823	Concrete	MH29.1	67 764.196	2 550 301.096	747.434	744.277 3.158	P30-NV IN 746.104 P30-1NV OUT 744.104	Concrete
MH11	67 183.703	2 550 812.506	679.880	677.750 2.130	P12-NV OUT 677.706	Concrete	MH29.2	67 750.379	2 550 283.576	745.289	742.717 2.572	P30-1NV IN 743.544 P30-2NV OUT 742.544	Concrete
MH12	67 170.071	2 550 811.557	678.470	674.407 4.063	P12-NV IN 677.363 P13-NV OUT 675.306	Concrete	MH30	67 736.642	2 550 266.156	743.815	742.160 1.655	P30-2NV IN 741.987 P31-NV OUT 742.160	Concrete
MH12.1	67 152.291	2 550 798.744	675.971	672.534 3.437	P13-NV IN 674.756 P12-2NV OUT 672.756	Concrete	MH30.1	67 709.376	2 550 221.641	742.646	737.925 4.722	P31-NV IN 741.390 P31-1NV OUT 737.390	Concrete
MH12.3	67 129.351	2 550 781.886	673.364	666.723 6.640	P12-2NV IN 672.041 P12-3NV OUT 670.041	Concrete	MH31	67 682.744	2 550 197.921	738.493	735.237 3.256	P31-1NV IN 736.312 P32-NV OUT 735.250	Concrete
MH13	67 104.466	2 550 766.991	670.848	667.870 2.978	P12-3NV IN 669.313 P14-NV OUT 666.052	Concrete	MH31.1	67 655.194	2 550 162.597	733.083	727.895 5.089	P32-NV IN 731.168 P33-1NV OUT 728.168	Concrete
MH14	67 081.534	2 550 754.852	669.163	666.661 2.502	P14-NV IN 667.441 P15-NV OUT 666.441	Concrete	MH31.3	67 642.507	2 550 147.136	729.040	724.399 4.641	P33-1NV IN 727.666 P44-4NV OUT 724.293	Concrete
MH19	67 475.084	2 550 431.210	716.416	714.257 2.159	P20-NV OUT 714.255	Concrete	MH31.4	67 631.250	2 550 133.420	725.314	719.849 5.465	P44-4NV IN 723.848 P33-4NV OUT 719.848	Concrete
MH20	67 462.297	2 550 426.580	715.764	711.915 3.849	P20-NV IN 713.913 P21-NV OUT 711.913	Concrete	MH32	67 670.731	2 550 181.528	736.806	731.726 5.080	P33-2NV IN 734.783 P33-NV OUT 731.783	Concrete
MH21	67 440.905	2 550 402.064	712.866	708.990 3.876	P21-NV IN 711.096 P22-NV OUT 709.096	Concrete	MH33	67 619.860	2 550 118.887	721.277	719.050 2.227	P33-4NV IN 719.402 P34-NV OUT 716.508	Concrete
MH22	67 357.835	2 550 305.778	699.639	694.896 4.743	P22-3NV IN 698.884 P23-NV OUT 694.756	Concrete	MH33.1	67 606.106	2 550 120.820	720.530	717.053 3.477	P34-NV IN 718.158 P34-1NV OUT 717.158	Concrete
MH22.1	67 346.188	2 550 288.856	696.096	693.372 2.724	P23-NV IN 694.241 P23-1NV OUT 693.341	Concrete	OF1	67 217.962	2 551 249.866	668.056	665.531 2.524	P2-NV IN 655.892	Concrete
MH22.2	67 418.983	2 550 376.654	709.546	706.245 3.301	P22-NV IN 706.254 P22-1NV OUT 706.254	Concrete	OF2	66 481.861	2 551 648.594	639.595	637.418 2.178	P6-NV IN 637.582	Concrete
MH22.3	67 396.413	2 550 350.494	708.248	703.379 4.869	P22-1NV IN 705.396 P22-2NV OUT 703.396	Concrete	OF3	67 054.965	2 550 747.074	667.753	666.152 1.602	P15-NV IN 665.746	Concrete
MH22.4	67 377.357	2 550 328.406	703.776	699.846 4.130	P22-2NV IN 702.634 P22-3NV OUT 699.634	Concrete	OF4	67 327.661	2 550 287.697	694.924	692.906 2.018	P23-1NV IN 692.775	Concrete
MH23	68 010.950	2 550 354.074	784.174	780.854 3.319	P24-NV OUT 780.854	Concrete	OF5	67 574.247	2 550 097.641	718.501	716.064 2.437	P34-1NV IN 716.169	Concrete
MH23.1	67 997.666	2 550 337.971	781.950	777.310 4.640	P24-NV IN 780.330 P24-1NV OUT 777.330	Concrete							
MH24	67 977.259	2 550 313.229	778.350	773.066 5.284	P24-1NV IN 778.525 P25-NV OUT 772.525	Concrete							
MH24.1	67 947.626	2 550 276.679	773.120	768.675 4.445	P25-NV IN 771.344 P25-1NV OUT 768.344	Concrete							
MH25	67 916.169	2 550 237.878	768.721	764.333 4.388	P25-1NV IN 767.091 P26-NV OUT 764.383	Concrete							
MH26	67 900.175	2 550 242.239	764.834	760.527 4.307	P26-NV IN 763.967 P27-NV OUT 760.652	Concrete							

PIPE LIST-TSHIANDA_SW						PIPE LIST-TSHIANDA_SW					
PIPE NAME	START INVERT LEVEL	END INVERT LEVEL	3D LENGTH TO INSIDE EDGES	SLOPE	DIAMETER AND CLASS	PIPE NAME	START INVERT LEVEL	END INVERT LEVEL	3D LENGTH TO INSIDE EDGES	SLOPE	DIAMETER AND CLASS
P1	658.864	658.485	14.690	2.510%	600mm Class 100D	P24.1	777.330	776.525	31.450	2.510%	600mm Class 75D
P2	657.485	655.892	63.362	2.510%	600mm Class 75D	P25	772.525	771.344	46.577	2.510%	600mm Class 75D
P5	641.888	640.131	69.308	2.510%	600mm Class 75D	P25.1	768.344	767.091	49.334	2.510%	600mm Class 75D
P5.1	639.129	637.823	59.036	2.510%	600mm Class 75D	P26	764.383	763.967	16.195	2.510%	675mm Class 100D
P6	637.823	637.582	7.350	0.500%	600mm Class 75D	P27	760.652	759.812	32.852	2.510%	675mm Class 75D
P12	677.706	677.363	13.264	2.510%	600mm Class 100D	P27.1	757.812	756.644	45.562	2.510%	675mm Class 75D
P12.2	672.756	672.041	27.494	2.510%	600mm Class 75D	P28	754.151	752.645	59.384	2.510%	675mm Class 75D
P12.3	670.041	669.313	28.376	2.510%	600mm Class 75D	P29	751.540	751.114	16.604	2.510%	675mm Class 100D
P13	675.306	674.756	21.290	2.510%	600mm Class 75D	P30	747.114	746.104	39.834	2.510%	675mm Class 75D
P14	668.092	667.441	25.674	2.510%	600mm Class 75D	P30.1	744.104	743.544	21.540	2.510%	675mm Class 75D
P15	666.441	665.746	27.260	2.510%	600mm Class 75D	P30.2	742.544	741.987	21.560	2.510%	675mm Class 75D
P20	714.255	713.913	13.217	2.510%	600mm Class 100D	P31	742.160	741.390	43.356	1.750%	675mm Class 75D
P21	711.913	711.096	31.915	2.510%	600mm Class 75D	P31.1	737.390	736.312	42.844	2.510%	675mm Class 75D
P22	709.096	708.254	32.588	2.510%	600mm Class 75D	P32	735.293	734.783	19.699	2.510%	675mm Class 75D
P22.1	706.234	705.396	33.579	2.510%	600mm Class 75D	P33	731.783	731.168	23.516	2.510%	675mm Class 75D
P22.2	703.366	702.634	28.198	2.510%	600mm Class 75D	P33.3	728.168	727.886	19.026	2.510%	675mm Class 75D
P22.3	699.634	698.884	29.263	2.510%	600mm Class 75D	P33.4	719.848	719.402	16.791	2.510%	675mm Class 75D
P23	694.756	694.241	20.117	2.510%	600mm Class 75D	P34	718.508	718.158	13.633	2.510%	675mm Class 75D
P23.1	693.241	692.775	17.987	2.510%	600mm Class 75D	P34.1	717.158	716.169	38.836	2.510%	675mm Class 75D
P24	780.854	780.330	20.248	2.510%	600mm Class 75D	P44.4	724.293	723.848	16.769	2.510%	675mm Class 75D

No.	DATE	REVISIONS	BY	CHECKED BY	

DESIGNED BY: RALEMA CONSULTING ENGINEERS



RALEMA CONSULTING ENGINEERS

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I. Thasi DRAWN	ISSUED BY:	RECEIVED BY:
S. Bapela-Py Tech Eng CHECKED	DATE:	DATE:

CLIENT ADDRESS

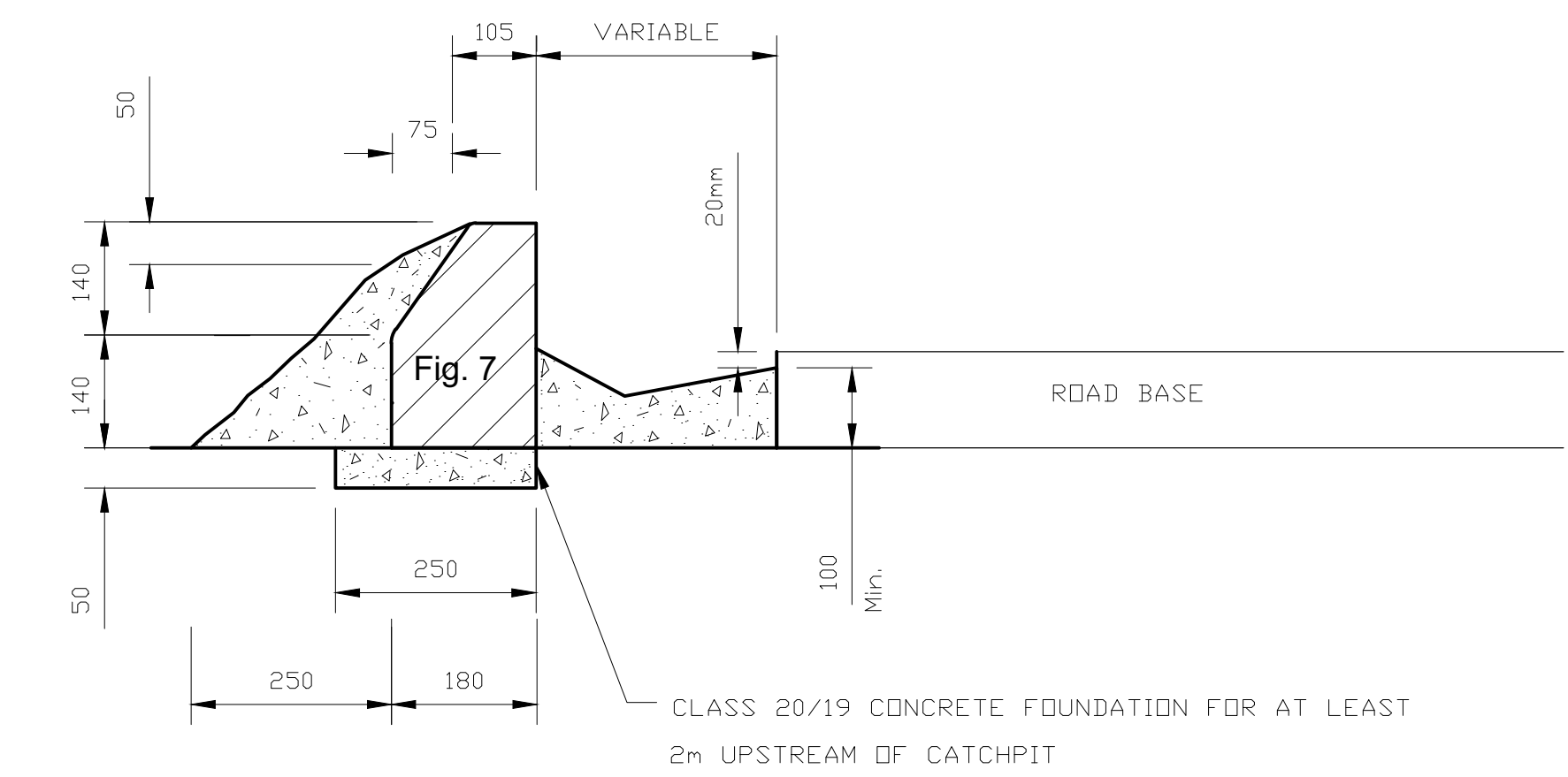
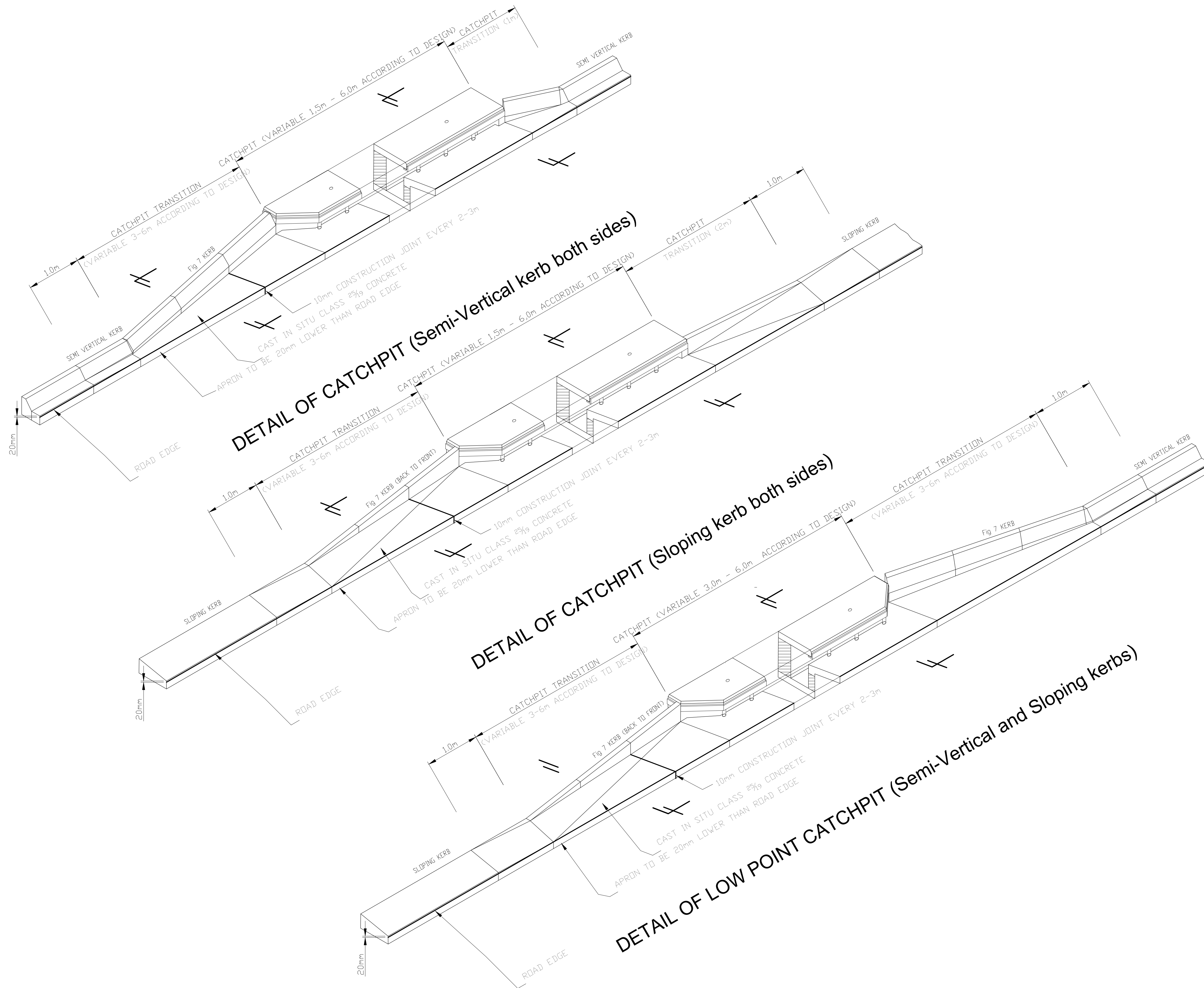


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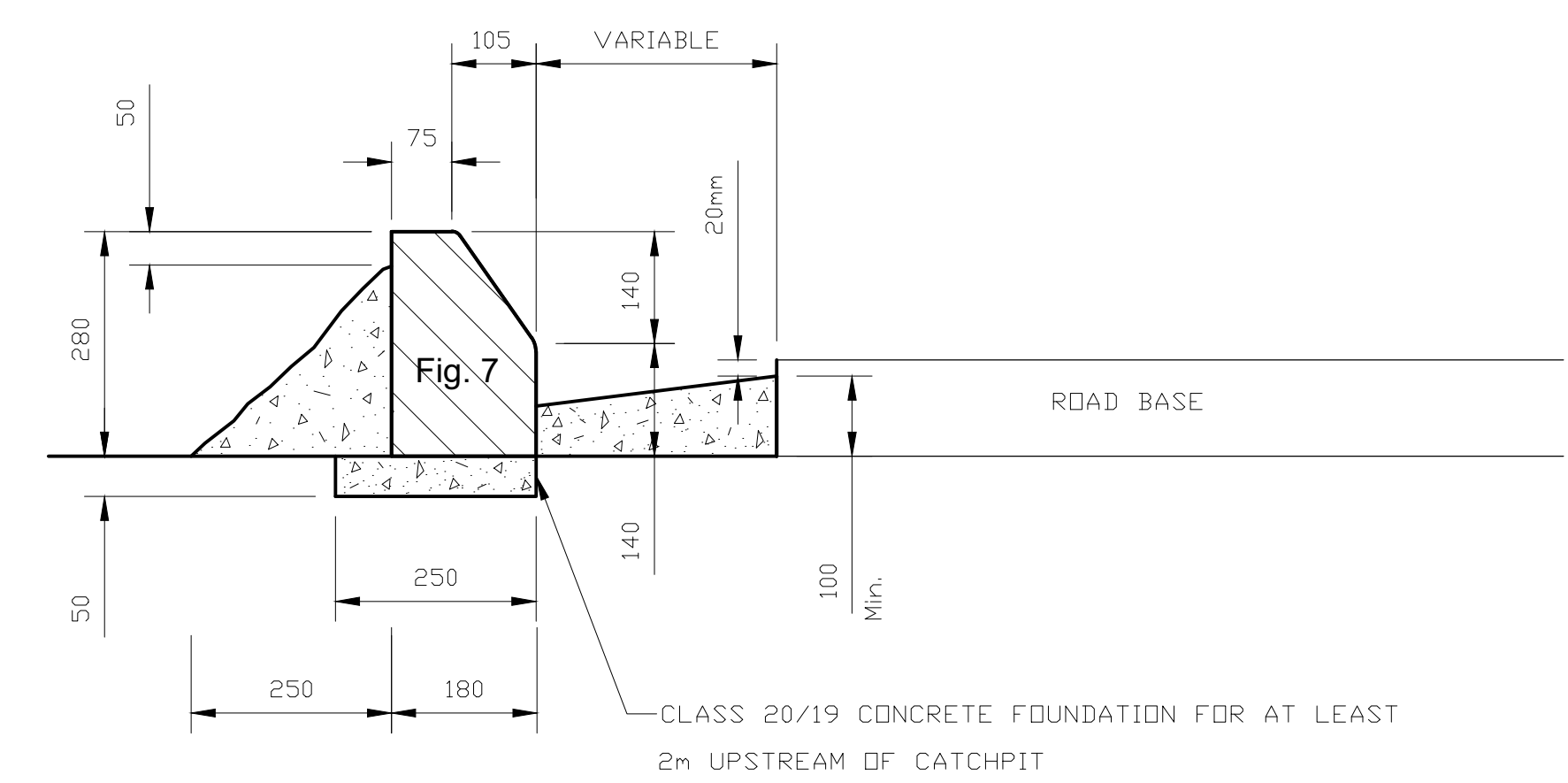
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Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET 4 OF 4
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	STORMWATER LAYOUT PLAN			

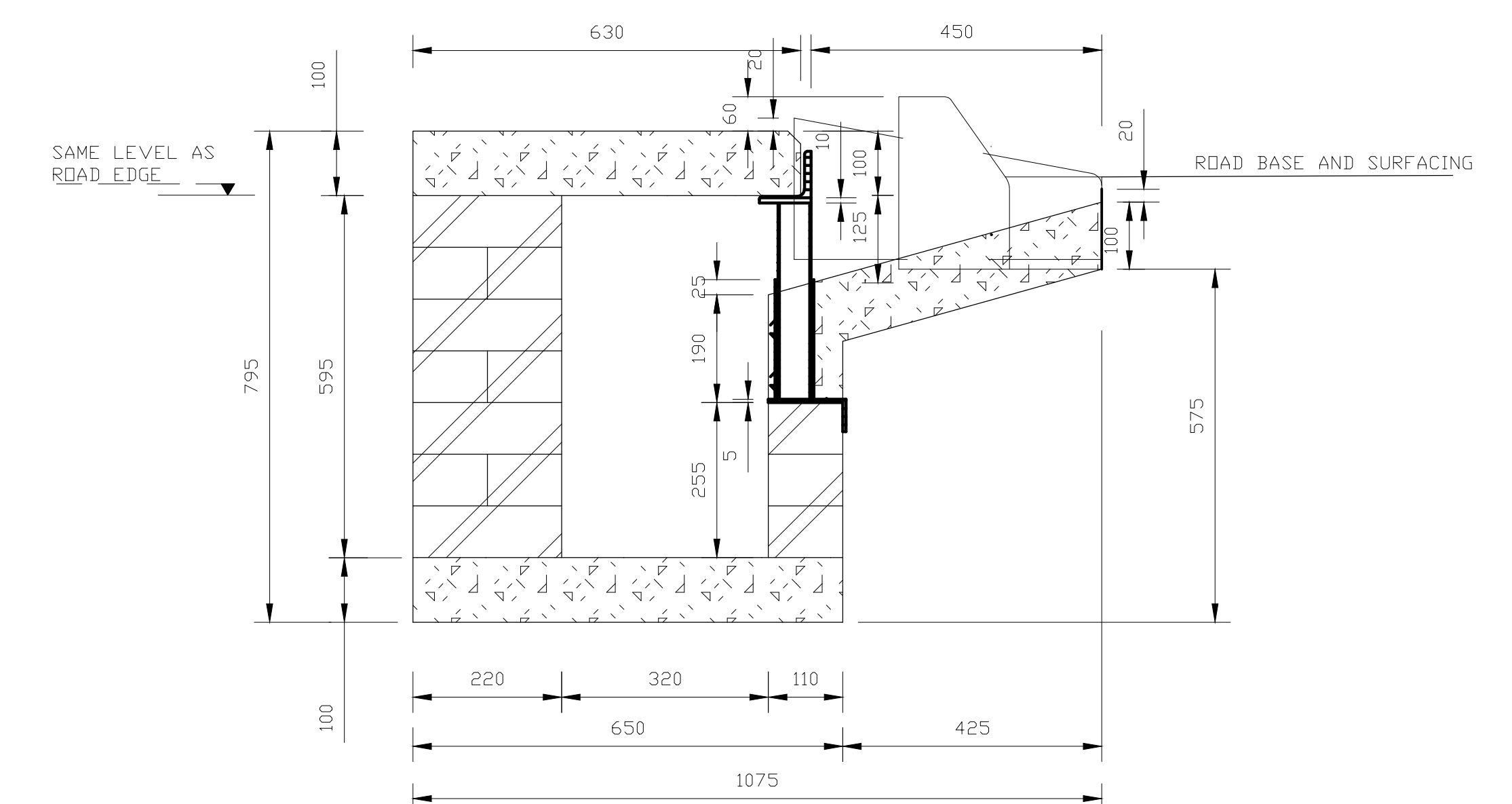
SCALE	TYPES OF PLANNING	STATUS
1:1000	<div><div>PLANNING</div><div>CONSTRUCTION</div><div>AS-BUILT</div></div>	<div><div>PLANNING</div></div>
REVISION	PLAN No.	
0	RCE_78_MLM_SWLP_04	



SECTION B-B



SECTION A-A



SECTION C-C

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S. Bapela-Pr Tech Eng	CHECKED

<p>RALEMA CONSULTING</p>	
<p>ISSUED BY:</p> <p>.....</p>	
<p>DATE:</p>	

DEPARTMENT _____

RECEIVED BY: _____





DATE: _____

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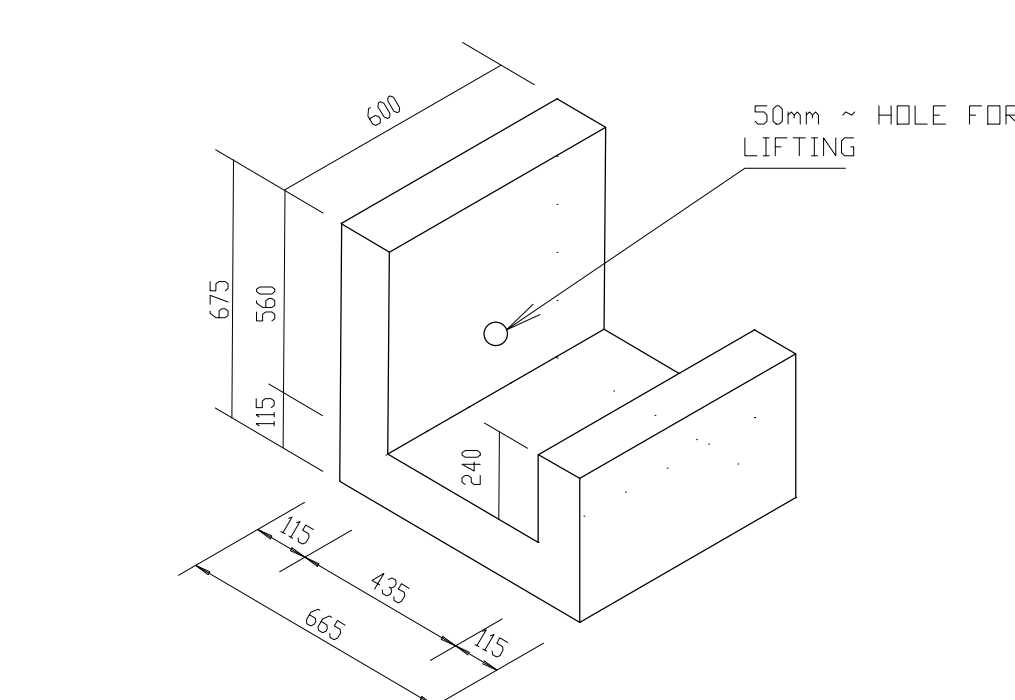
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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE				
UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1				
DRAWING TITLE		CATCHPIT DETAILS: ISOMETRIC VIEW AND CROSS SECTIONS		

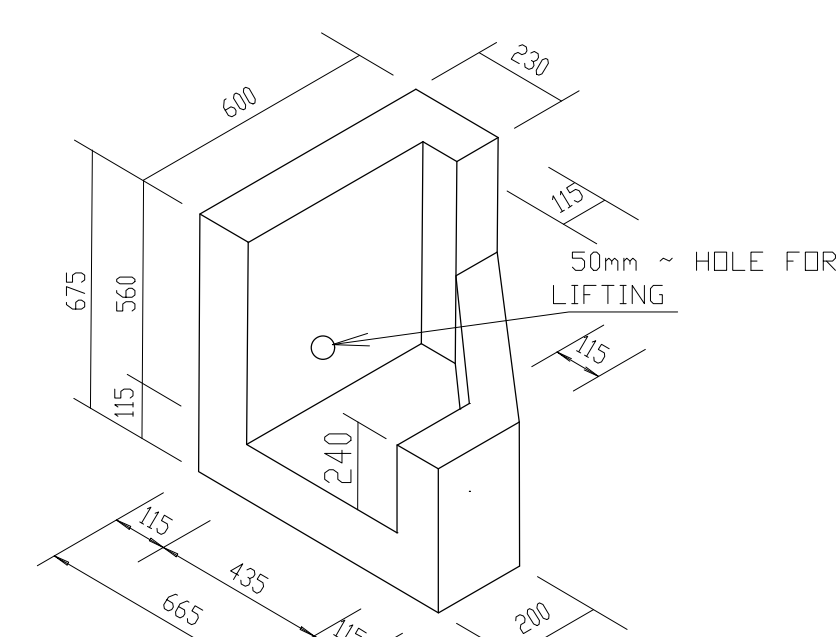
SCALE	TYPES OF PLANNING	STATUS
	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
00	RCE 78_MLM_STD_3	

MEMBER	NO. OF	TYPE, SIZE & SHAPE	NO. OF IN	TOTAL NO. OF	CUTTING LENGTH (mm)	CODE	A mm	B mm	C mm	D mm	E/R	MASS
L = 1500 SPALTED CORNER		Y10-01	2		185	20	185					
		Y10-02	2		335	20	335					
		Y10-03	2		485	20	485					
		Y10-04	14		580	20	580					
		Y10-05	2		1050	20	1050					
		Y10-06	2		1205	20	1205					
		Y10-07	2		1355	20	1355					
		Y10-08	4		1450	20	1450					
		R10-09	6		450	83	150	55	100			
L = 2000 SPALTED CORNER		Y10-01	2		185	20	185					
		Y10-02	2		335	20	335					
		Y10-03	2		485	20	485					
		Y10-04	22		580	20	580					
		Y10-05	2		1550	20	1550					
		Y10-06	2		1705	20	1705					
		Y10-07	2		1855	20	1855					
		Y10-08	4		1950	20	1950					
		R10-09	6		450	83	150	55	100			
L = 2500 SPALTED CORNER		Y10-01	2		185	20	185					
		Y10-02	2		335	20	335					
		Y10-03	2		485	20	485					
		Y10-04	28		580	20	580					
		Y10-05	2		2050	20	2050					
		Y10-06	2		2205	20	2205					
		Y10-07	2		2355	20	2355					
		Y10-08	4		2450	20	2450					
		R10-09	6		450	83	150	55	100			

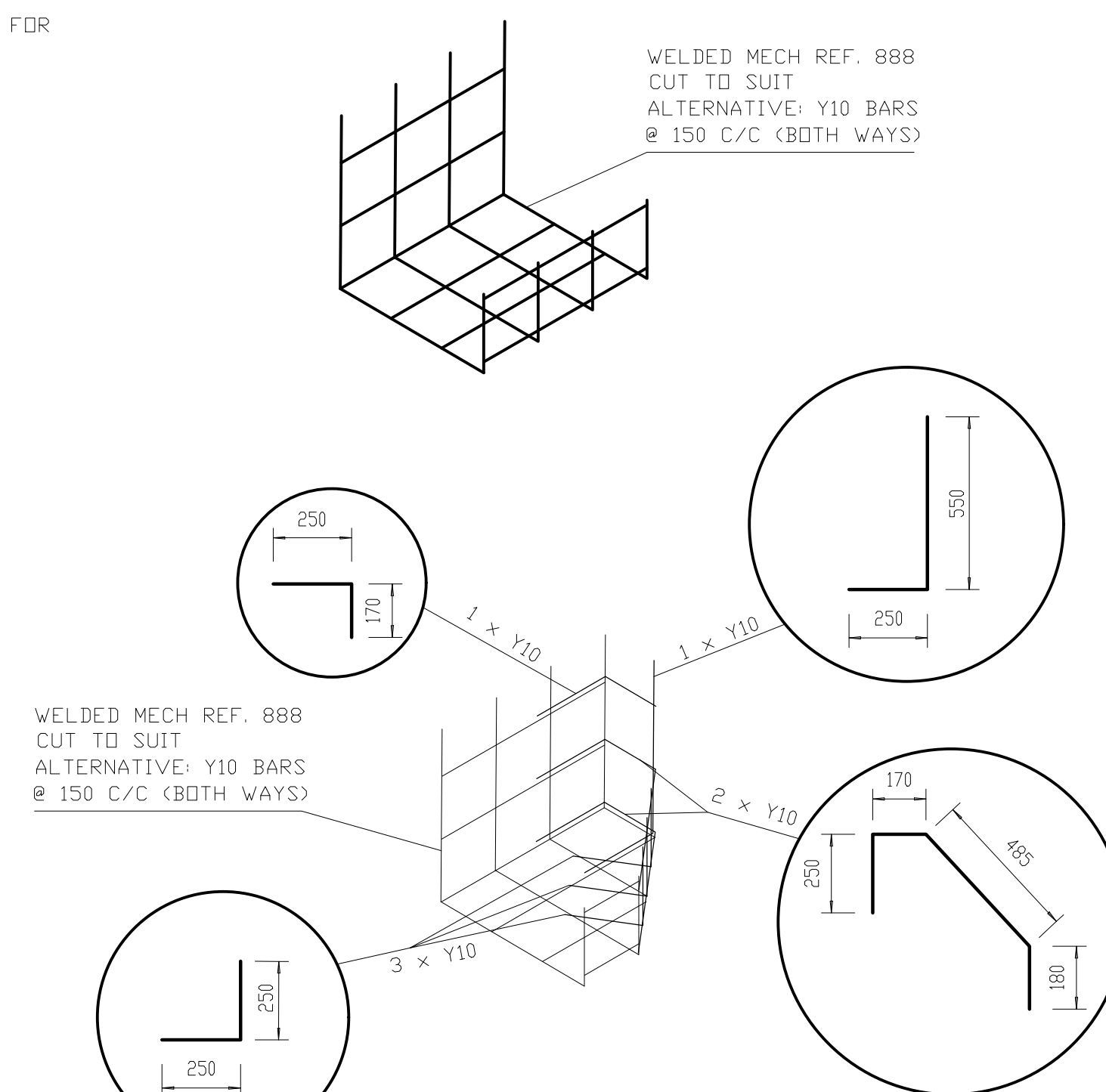
MERGER	NO. OFF	TYPE, SIZE & SHAPE	NO. OFF IN EACH	TOTAL NO OFF	CUTTING LENGTH (mm)	CODE	A mm	B mm	C mm	D mm	E/R mm	MASS
L = 1500 RECTANGULAR PANEL		Y10-01 Y10-02 R10-03	22 5 6		580 1450 450	20 20 83	580 1450 150		55 100			
L = 2000 RECTANGULAR PANEL		Y10-01 Y10-02 R10-03	28 5 6		580 1950 450	20 20 83	580 1950 150		55 100			
L = 2500 RECTANGULAR PANEL		Y10-01 Y10-02 R10-03	34 5 6		580 2450 450	20 20 83	580 2450 150		55 100			



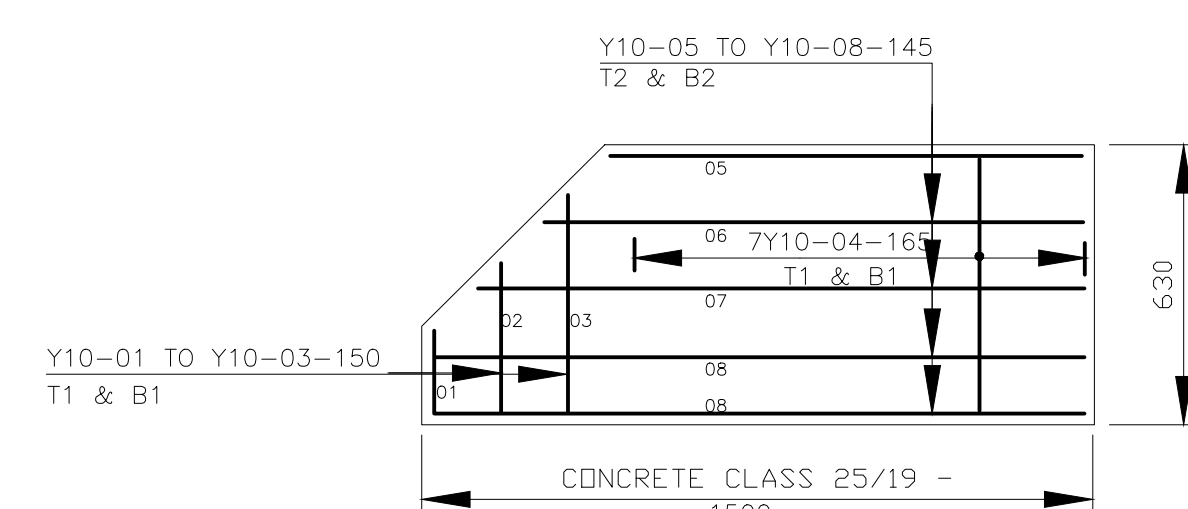
TYPE 1 STRAIGHT UNIT



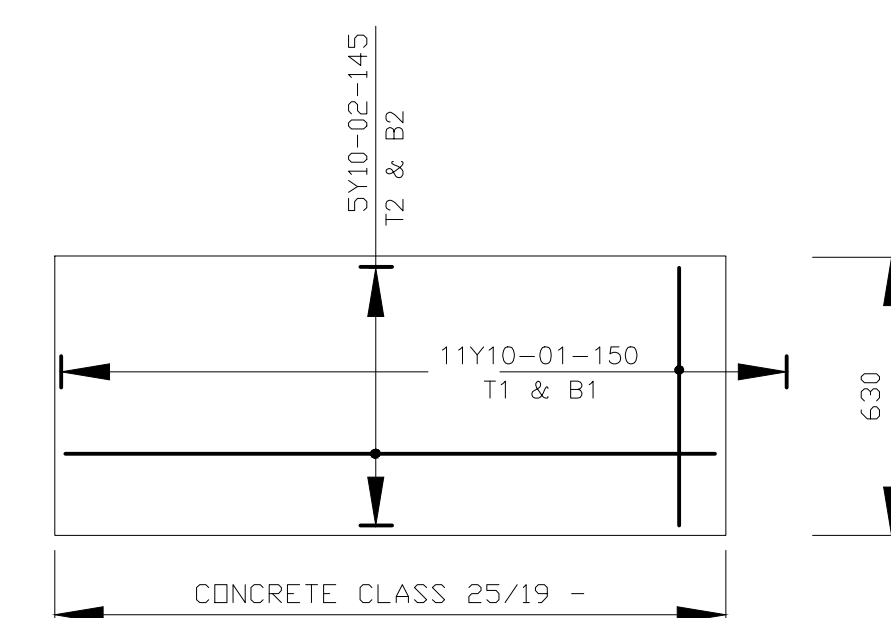
TYPE 2 ANGLED UNIT



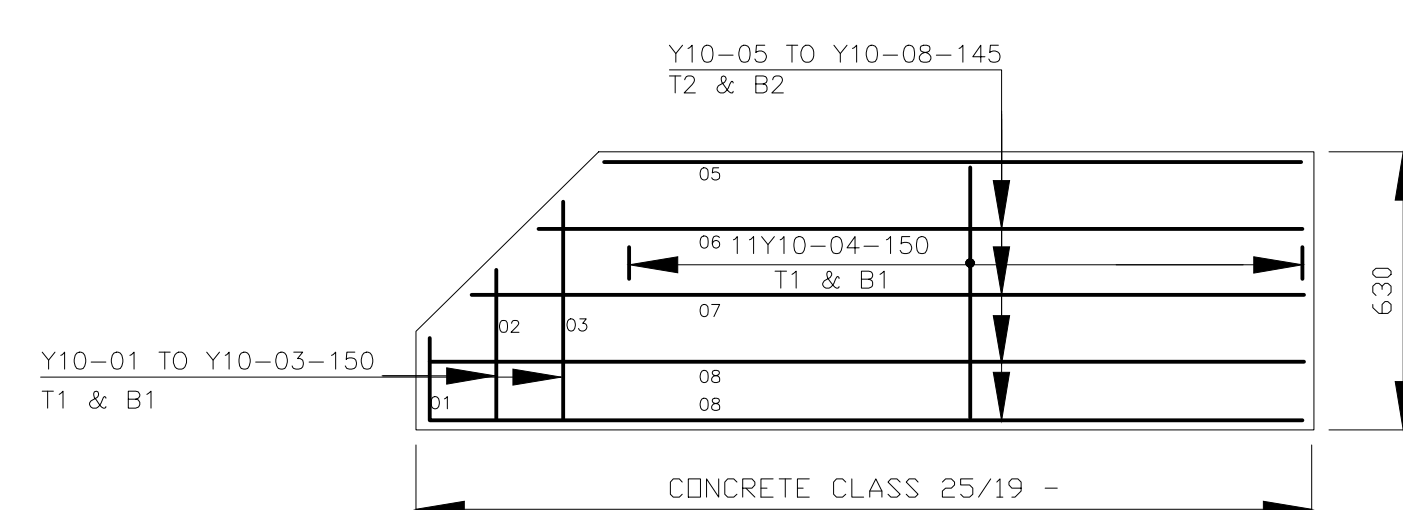
PRECAST BOTTOM FOR KERB INLET



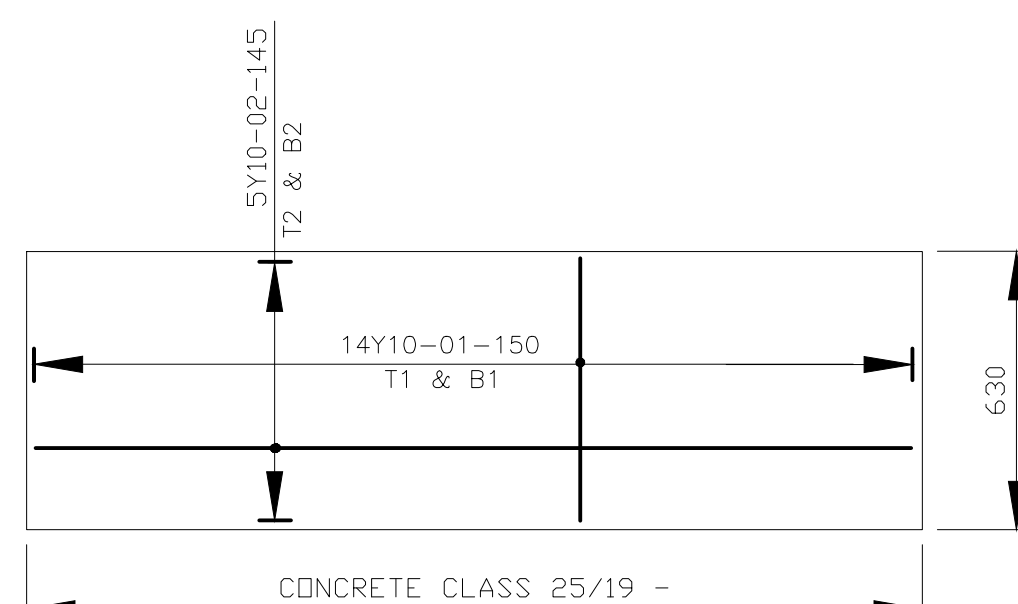
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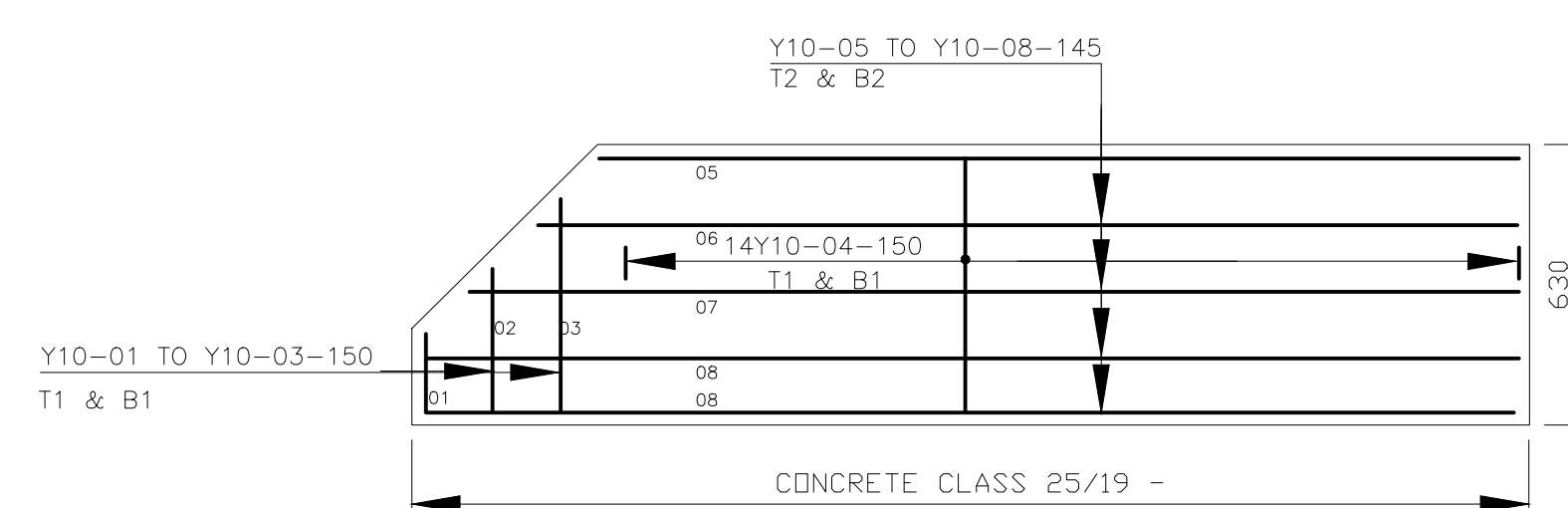
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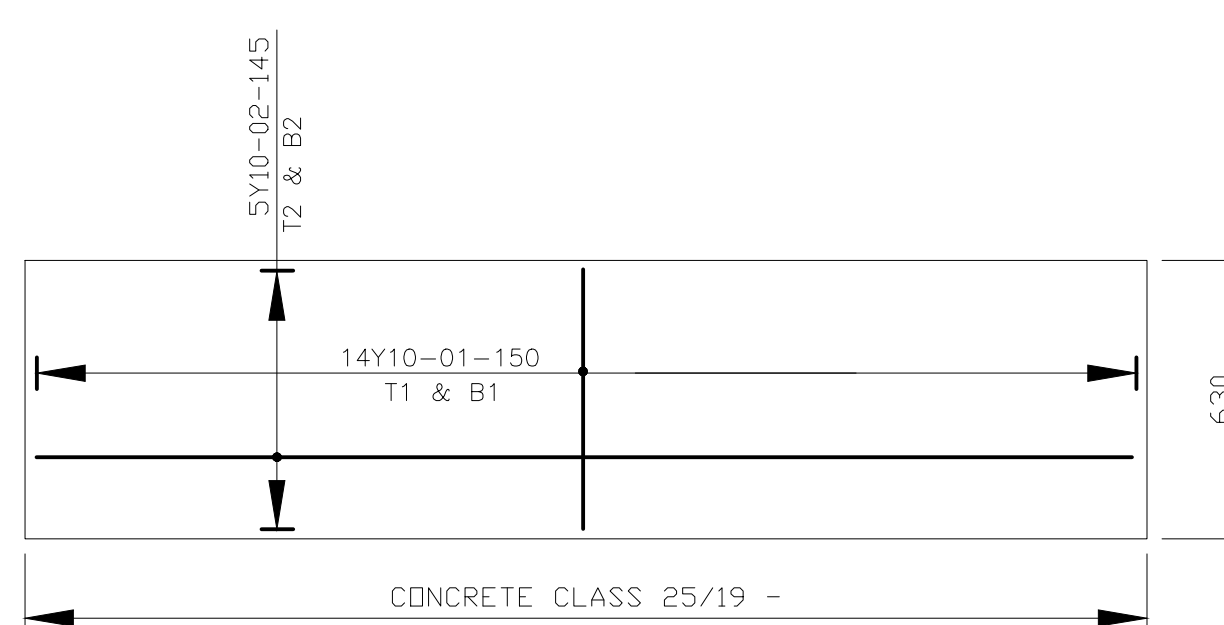
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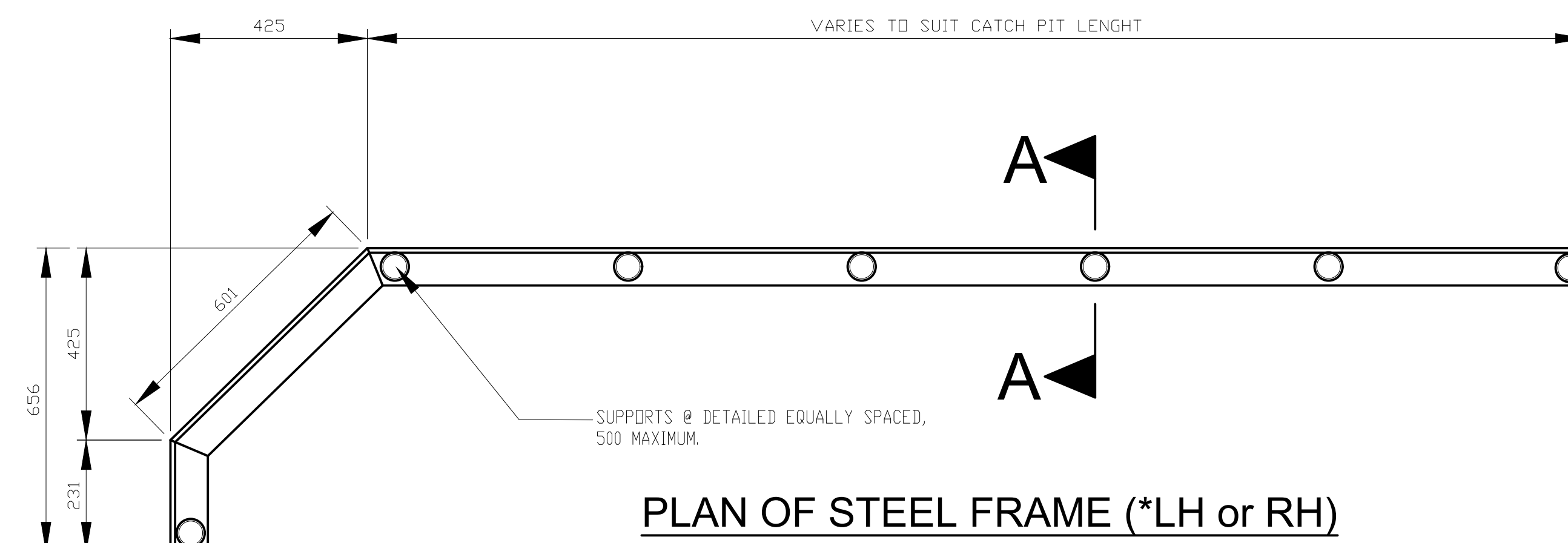
RECTANGULAR PANEL L=2000



SPLAYED CORNER L=2500



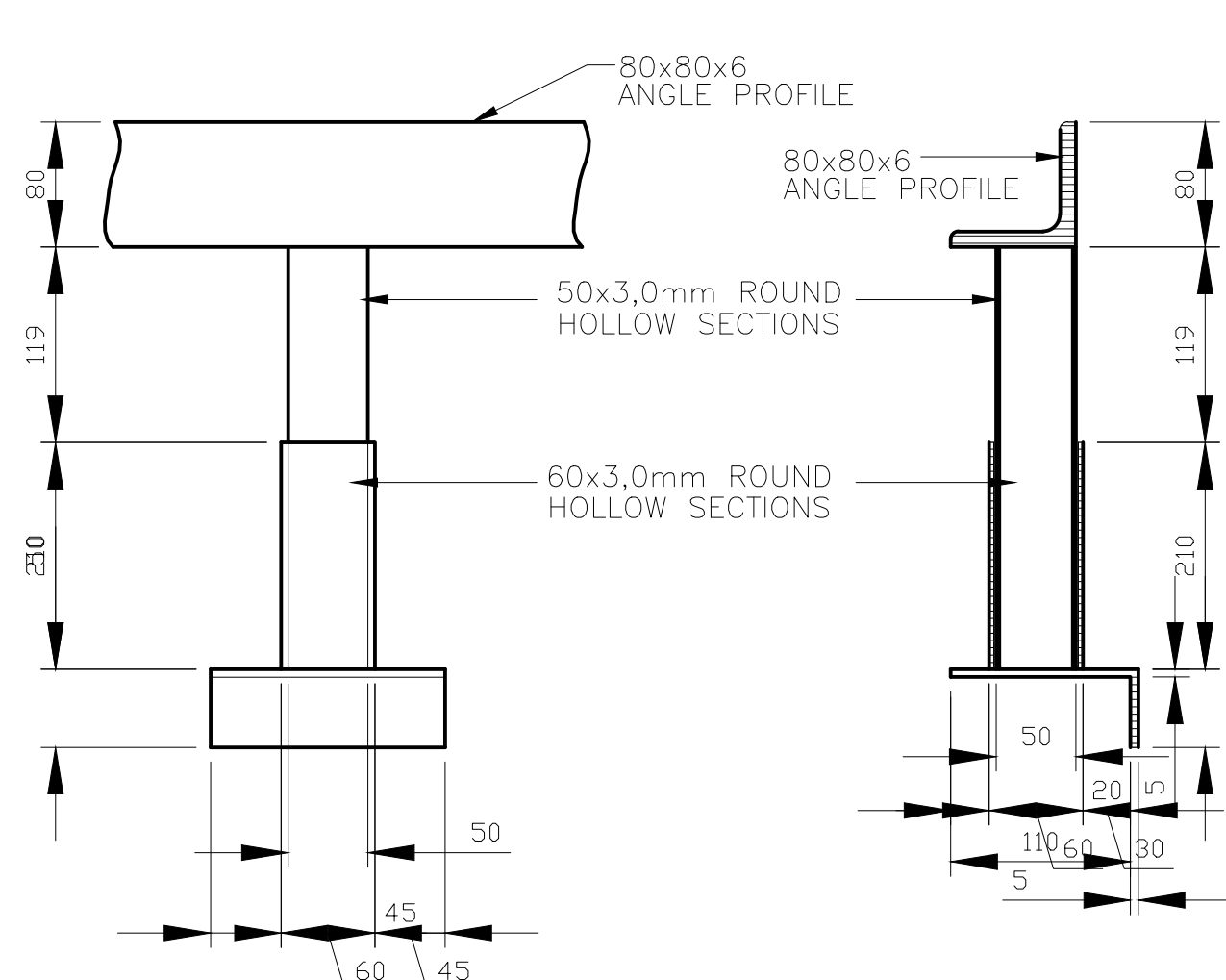
RECTANGULAR PANEL L=2500



PLAN OF STEEL FRAME (*LH or RH)

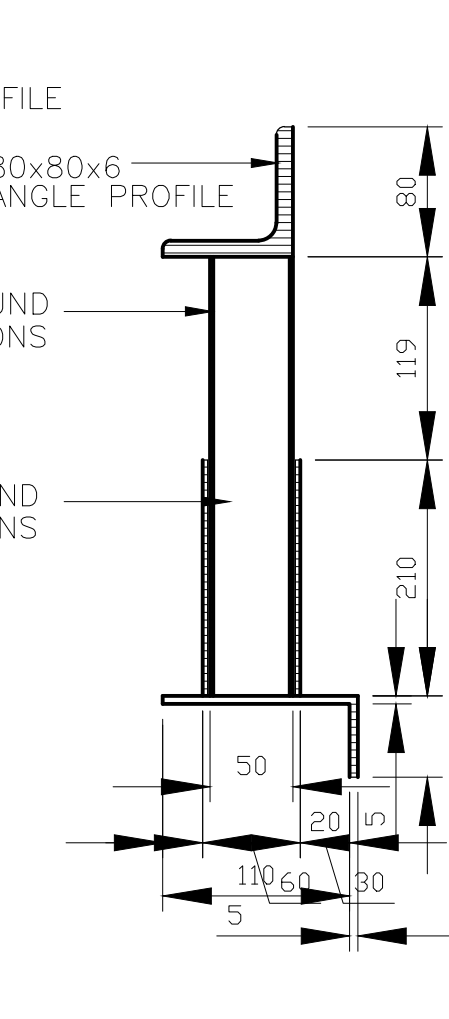
* LH = LEFT HAND : RH = RIGHT HAND

NTS



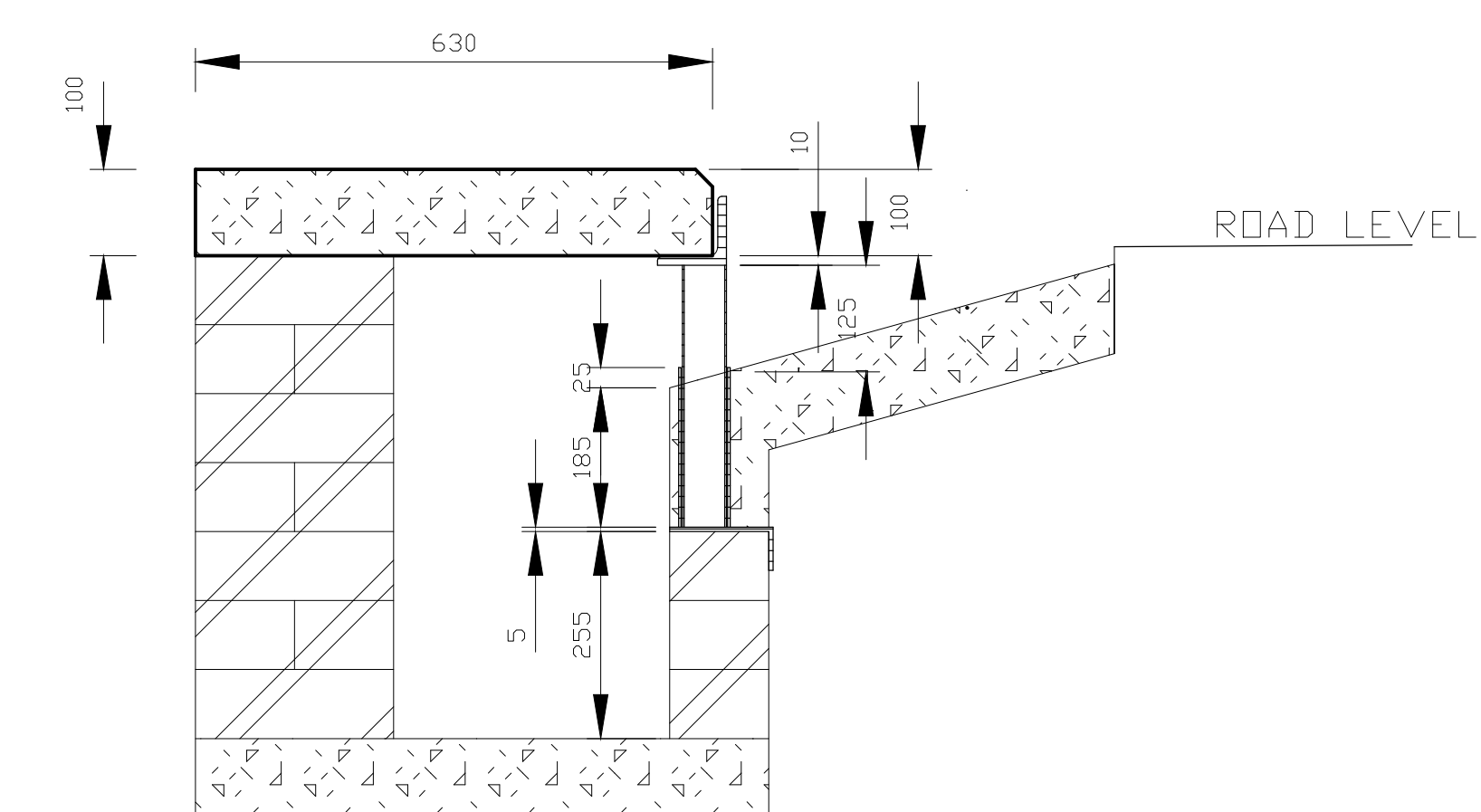
ELEVATION OF STEEL FRAME

NTS



SECTION A-A

NTS



CATCHPIT X-SECTION

NTS

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CONSULTING ENGINEERS

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I. Tihasi
DRAWN
S. Bapela-Pr Tech Eng
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RALEMA CONSULTING	DEPARTMENT
ISSUED BY:	RECEIVED BY:
*****	*****
DATE: *****	DATE: *****





CLIENT ADDRESS

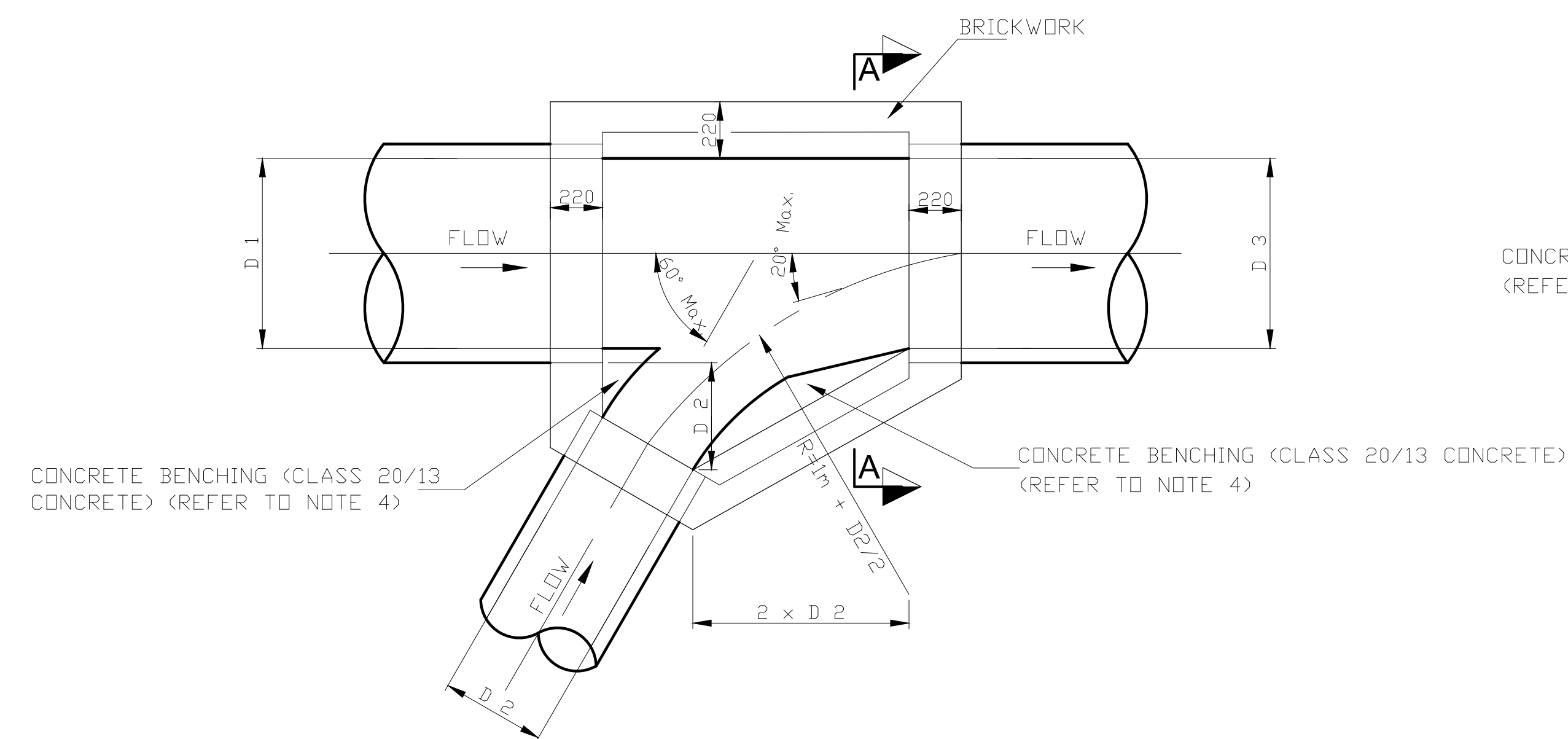
The logo of Makhado Municipality is a shield-shaped emblem. At the top, the word 'MAKHADO' is written in a blue arc. The center features a stylized sun with rays, a green field, and a blue river. Below the shield is a blue ribbon with the motto 'PEACE HARMONY PROGRESS' in white capital letters.

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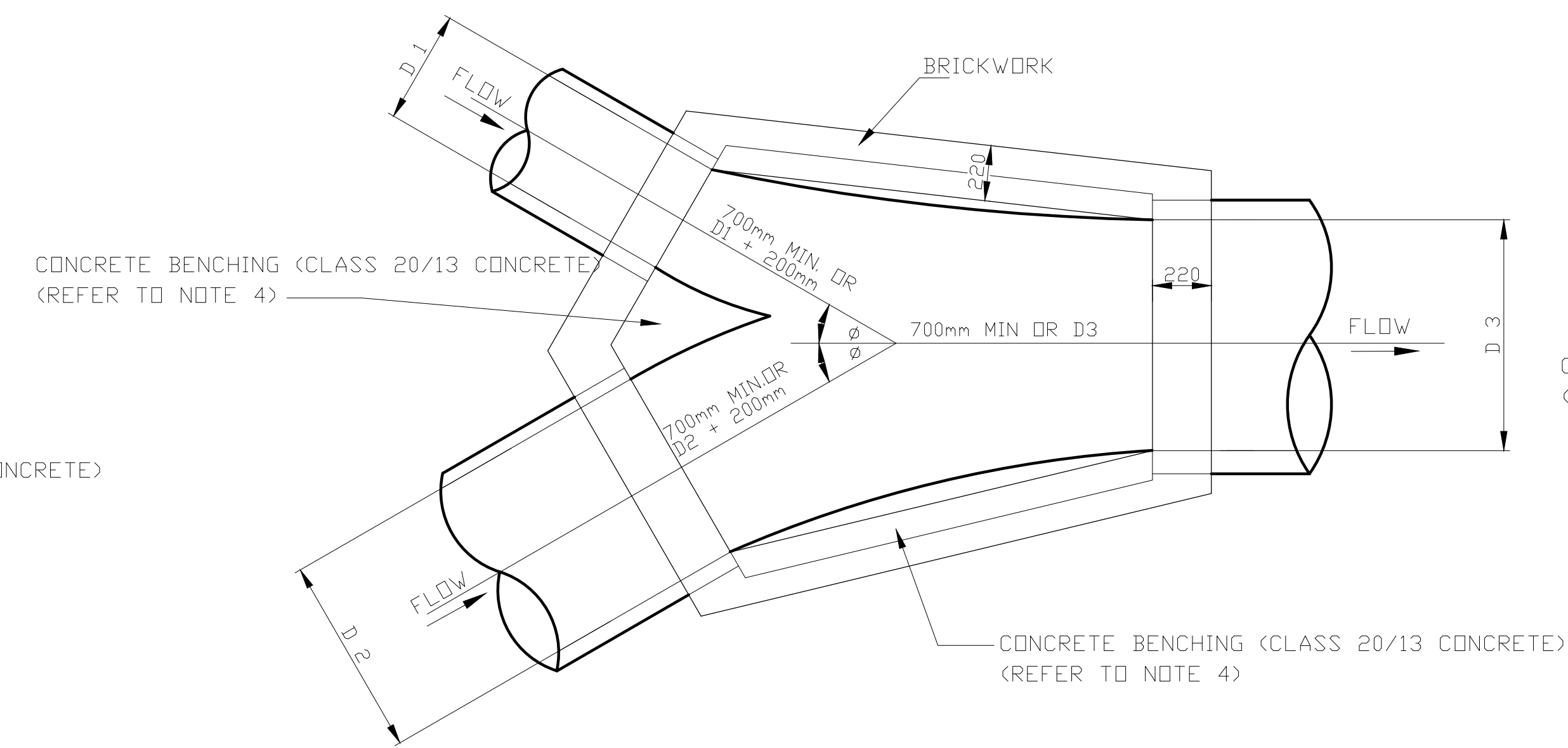
Tel: (015) 962 1828
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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	CATCHPIT DETAILS DETAILS OF STEEL FRAME AND PRECAST COVER SLABS			

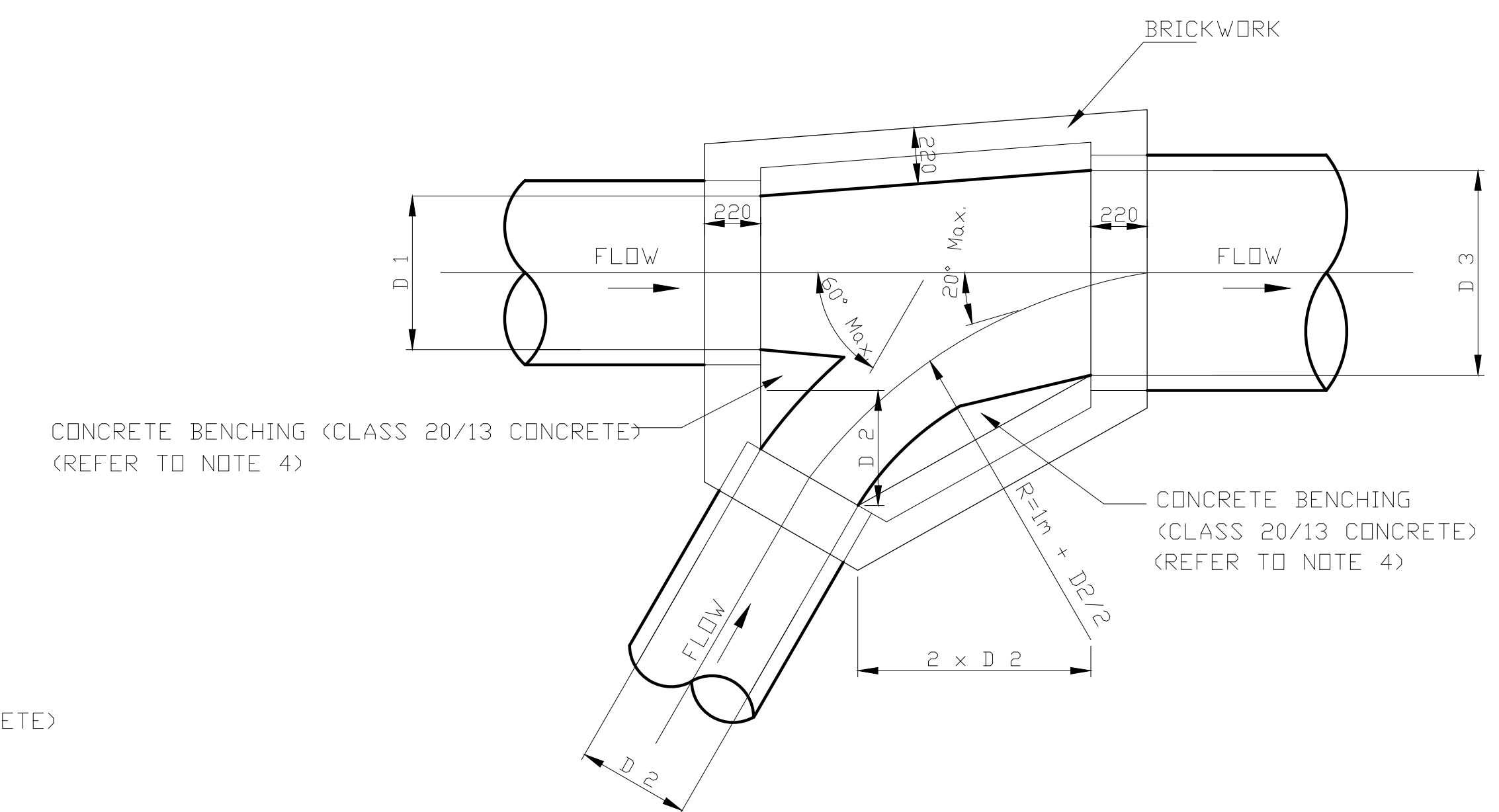
SCALE	TYPES OF PLANNING	STATUS
	 PLANNING  CONSTRUCTION  AS-BUILT	PLANNING 
REVISION	PLAN No.	
00	RCE 78_MLM_STD_4	



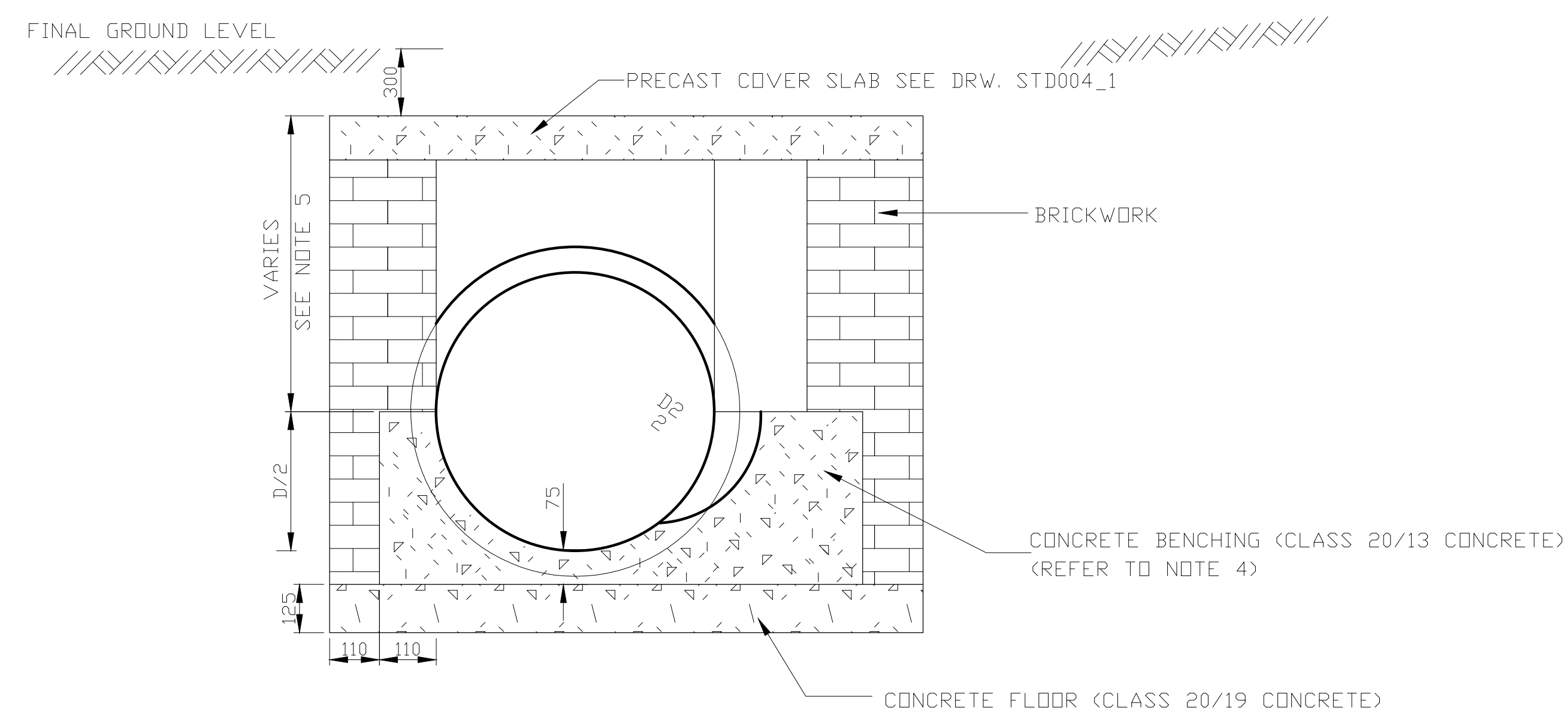
PLAN OF TYPE C JUNCTION BOX (WITHOUT COVER SLAB)
D 1 = D 3 AND D 2 VARIES



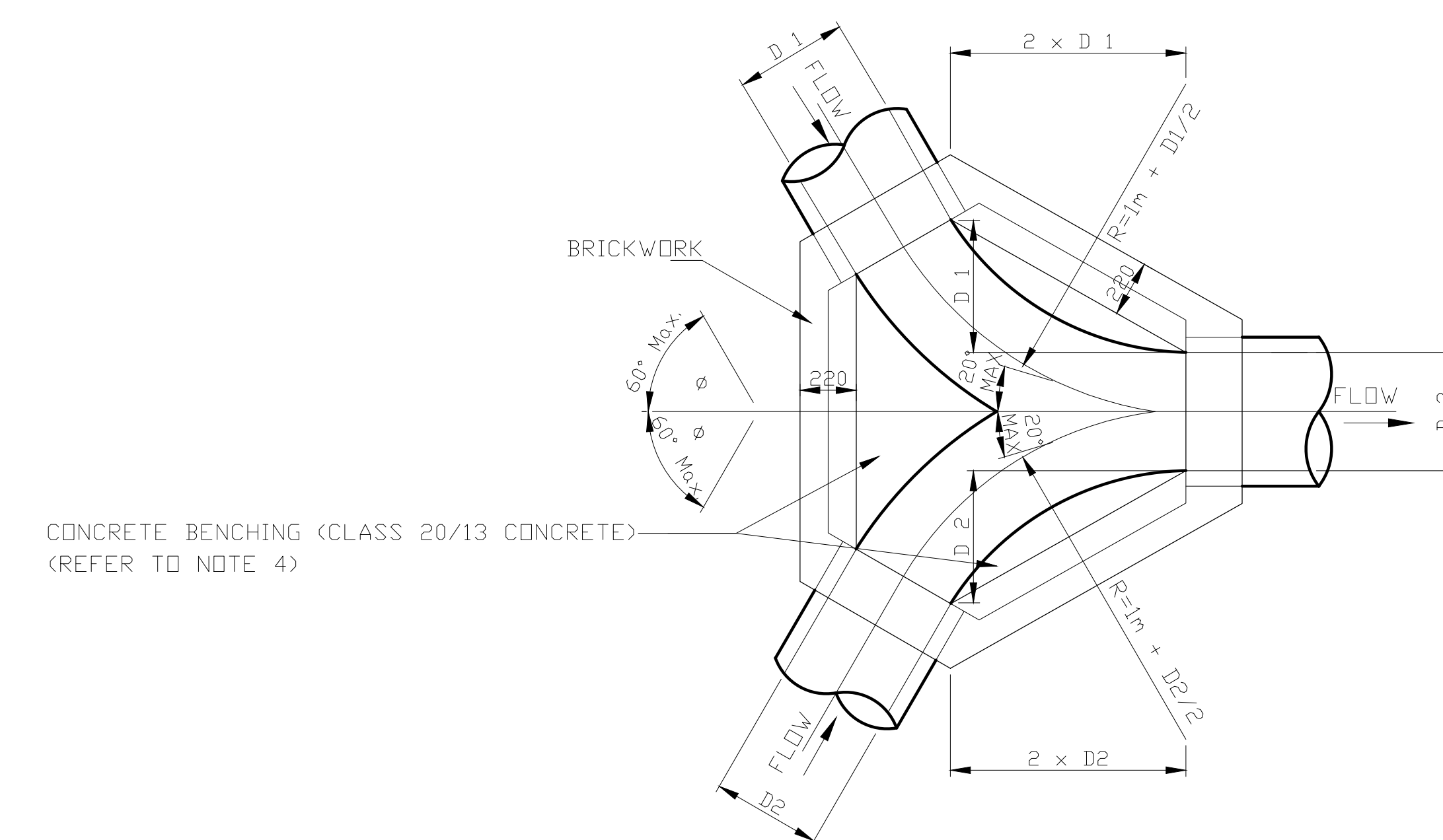
PLAN OF TYPE C JUNCTION BOX (WITHOUT COVER SLAB)
D 1 ≠ D2 ≠ D 3 AND Ø < 30°



PLAN OF TYPE C JUNCTION BOX
(WITHOUT COVER SLAB)
D 1 ≠ D 3 AND D 2 VARIES



SECTION A-A



PLAN OF TYPE C JUNCTION BOX (WITHOUT COVER SLAB)
D 1 = D 2 = D 3 AND $\emptyset \nless 30^\circ$

[illegible]

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DATE: *****	DATE: *****





CLIENT ADDRESS



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









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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE				
UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1				
DRAWING TITLE				
JUNCTION BOX AND MANHOLE DETAILS: TYPE C JUNCTION BOX				

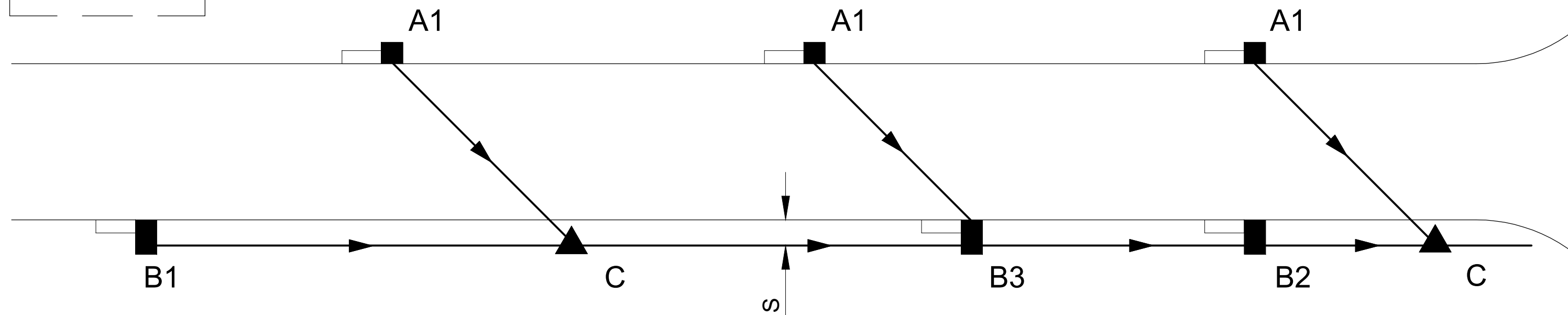
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	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
00	RCE 78_MLM_STD_5	

TYPICAL JUNCTION BOX CONFIGURATIONS

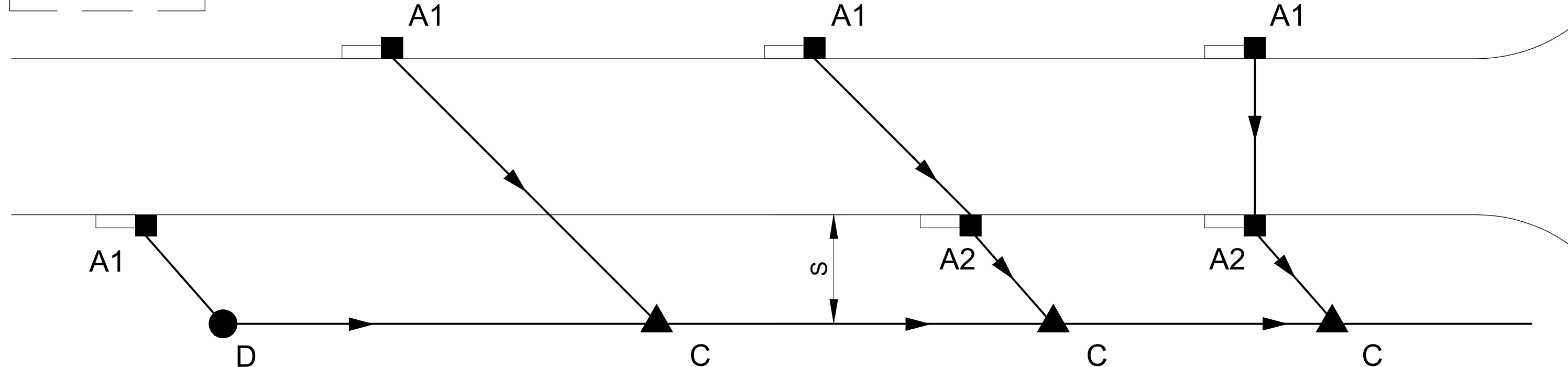
LEGEND:

- | | |
|---|--|
|  | A – TYPE JUNCTION BOX TO CONNECT CATCHPIT WITH PIPES, SIZE: 900mm x 600mm |
|  | B – TYPE JUNCTION BOX TO CONNECT CATCHPIT WITH PIPES, SIZE: 900mm x VARIES |
|  | CONNECTING 1 PIPE TO JUNCTION BOX AT CATCHPIT |
|  | CONNECTING 2 PIPES TO JUNCTION BOX AT CATCHPIT |
|  | CONNECTING 3 PIPES TO JUNCTION BOX AT CATCHPIT |
|  | C – TYPE JUNCTION BOX CONNECTING 3 PIPES (NO CATCHPIT), SIZE VARIES |
|  | D – TYPE JUNCTION BOX CONNECTING 2 PIPES (NO CATCHPIT), SIZE VARIES |
|  | ROAD EDGE |
|  | STORMWATER PIPE AND DIRECTION OF FLOW |
|  | CATCHPIT |
|  | DISTANCE FROM ROAD EDGE TO FURTHEST WALL OF PIPE OF CULVERT |

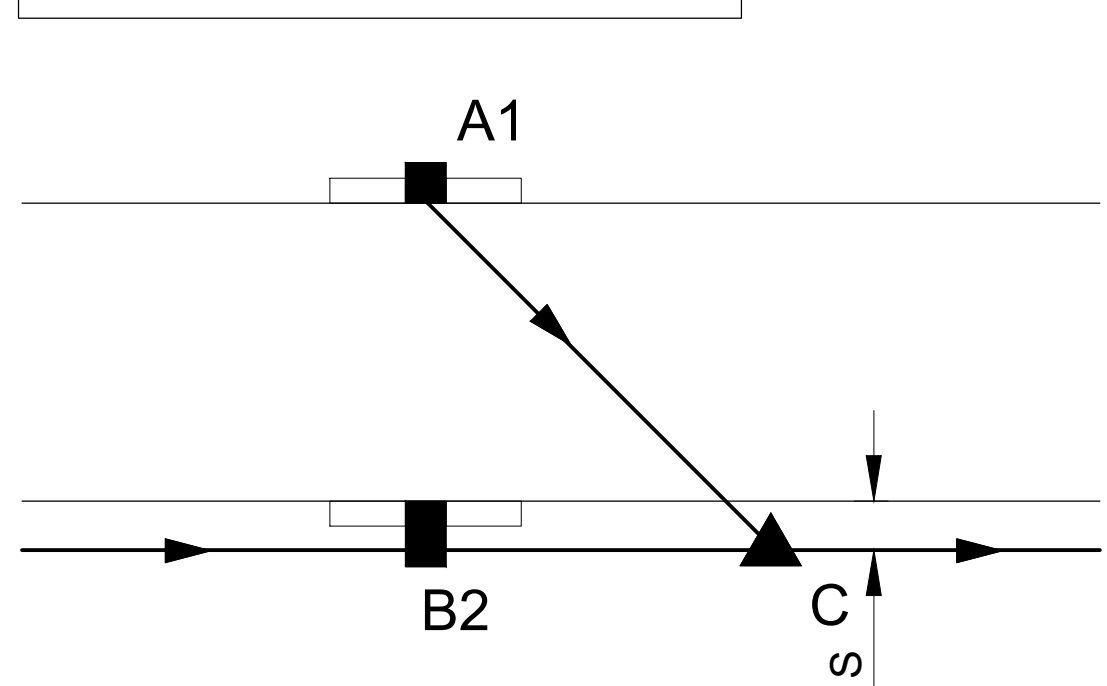
S < 2400mm



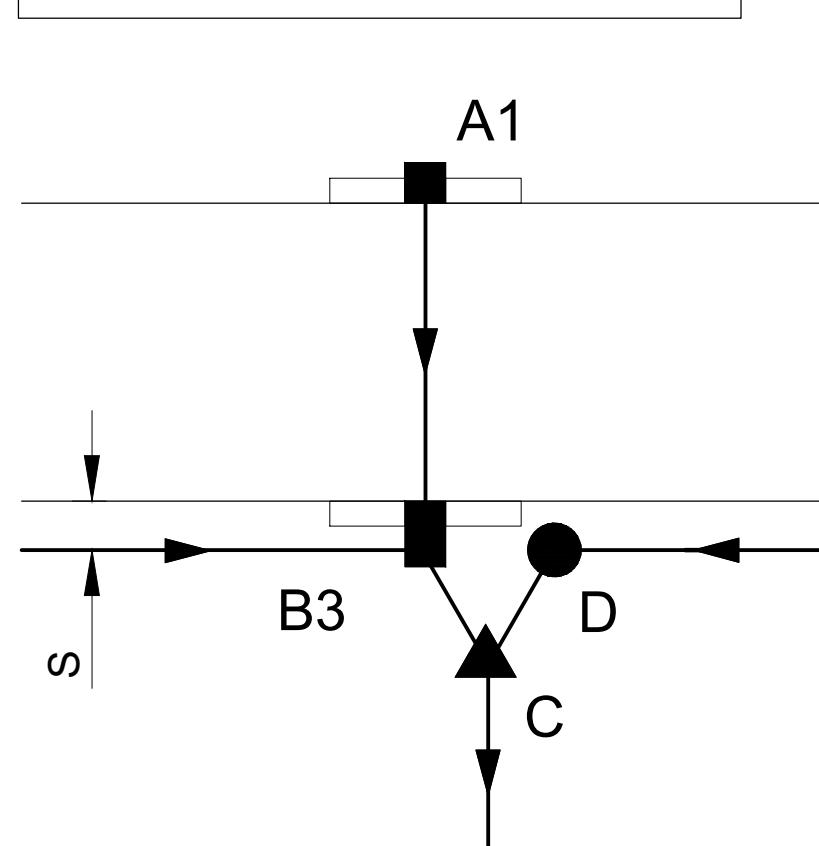
S > 2400mm



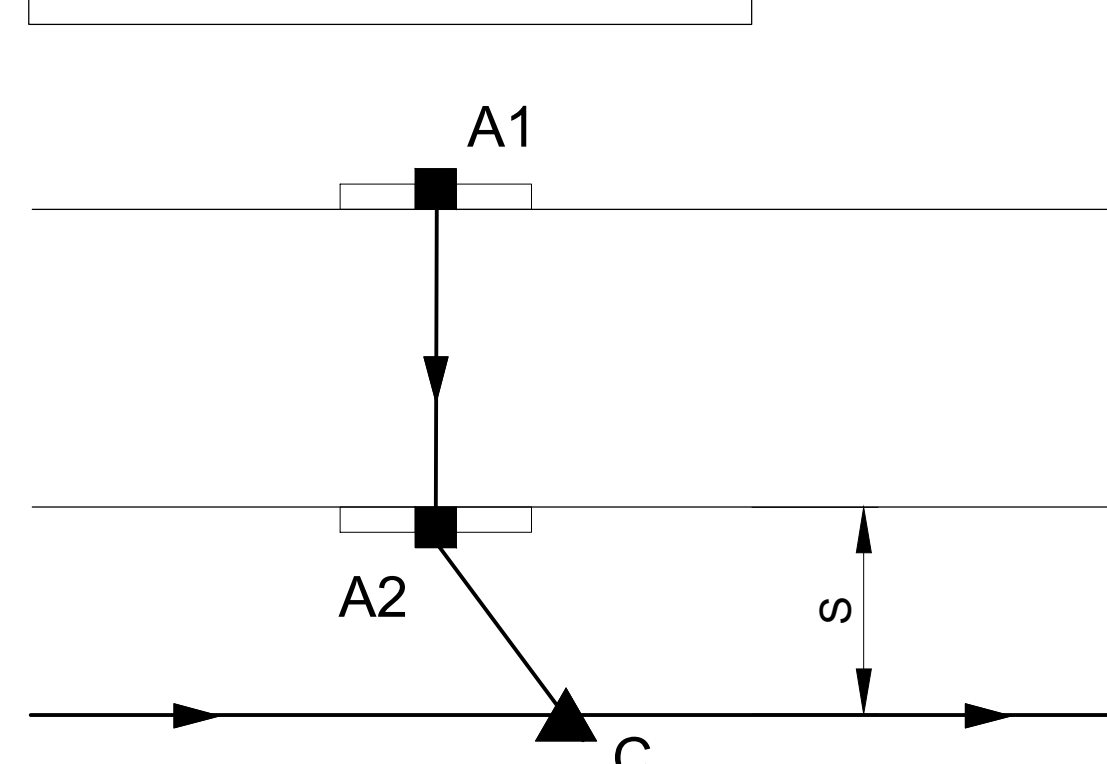
LOW POINT, $S < 2400\text{mm}$



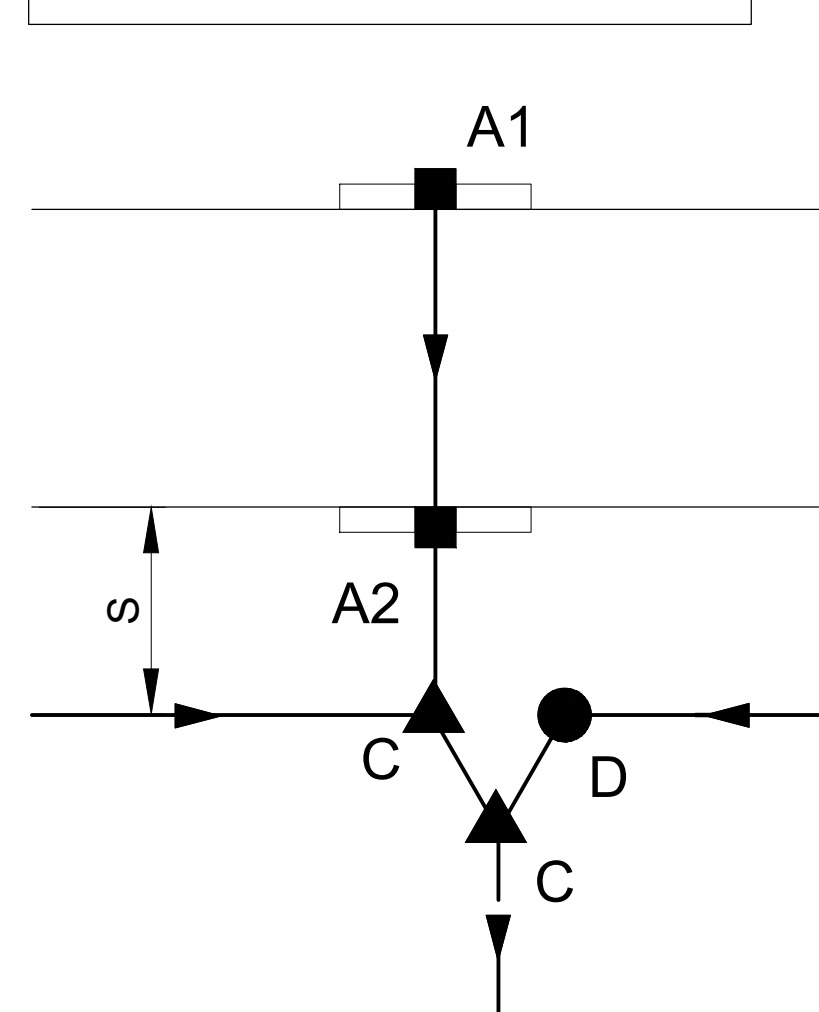
LOW POINT, $S < 2400\text{mm}$



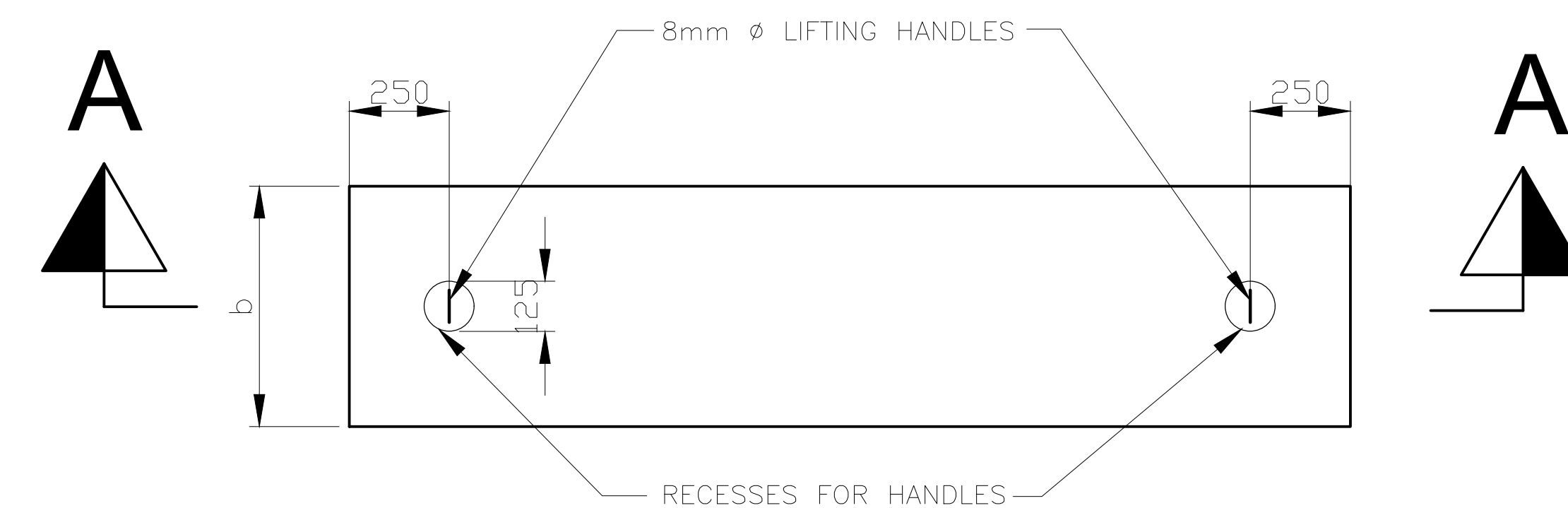
LOW POINT, S >2400mm



LOW POINT, $S > 2400\text{mm}$

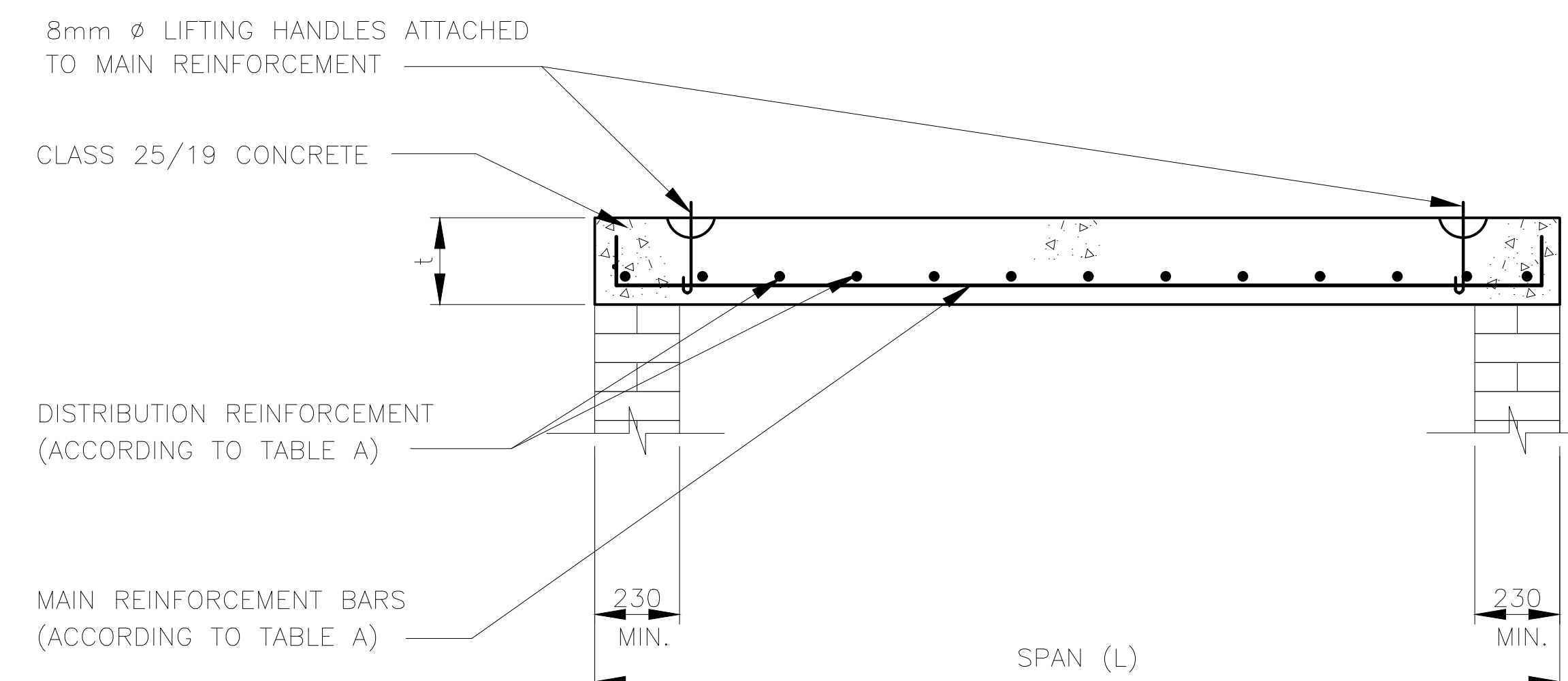


PRECAST COVER SLAB FOR JUNCTION BOXES



PLAN OF PRECAST COVER SLAB

SCALE 1: 20



SECTION A-A

SCALE 1: 20

TABLE A: PRECAST COVER SLAB REINFORCEMENT DETAILS

Span (mm) L	Thickness (mm) t	Main Reinforcement	
		b = 450	b = 600
Up to 500	125	4Y12 -125	5Y12 -125
Up to 1000	150	5Y12 -100	5Y12 - 125
Up to 1250	150	4Y16 -125	5Y12 - 125
Up to 1500	175	4Y 16 -125	5Y12 - 125
Up to 1750	175	4Y16 -125	5Y16 - 125
Up to 2000	200	4Y16 -125	5Y16 - 125
Up to 2250	200	4Y 16 -125	5Y16 - 125
Up to 2500	200	5Y16 -100	5Y16 - 125
Up to 2750	225	5Y16 -100	5Y16 - 125
Up to 3000	225	5Y16 -100	6Y16 - 125

Distribution reinforcement: Y10 bars @ 125 c/c for all spans

Refer to notes for bending details.

1. JUNCTION BOX CONFIGURATION

- 1.1 Symbols used to indicate the junction box types are only for purposes of this drawing, and not applicable to working drawings.

2. PRECAST COVER SLABS

- 2.1 Concrete to be class 25/19 (25MPa)
- 2.2 Concrete to be cured for a minimum period of 7 days.
- 2.3 Minimum cover to reinforcement = 20mm
- 2.4 Lifting handles as specified or otherwise approved by the Engineer.
- 2.5 Reinforcement
 - i) Type, bar and spacing as specified in Table A.
 - ii) Main reinforcement to be shape code 38, with hook length (A dimension) not less than 1 – 60, except for slabs with a span not exceeding 1000mm, where no hooks are required and shape code 20 is used.
- 2.6 Also refer to section 502, 702, 703 and 704 of the Standard Specifications for Municipal Civil Engineering Works, 3rd Edition, 2005.

[illegible]

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*****	*****
DATE: *****	DATE: *****





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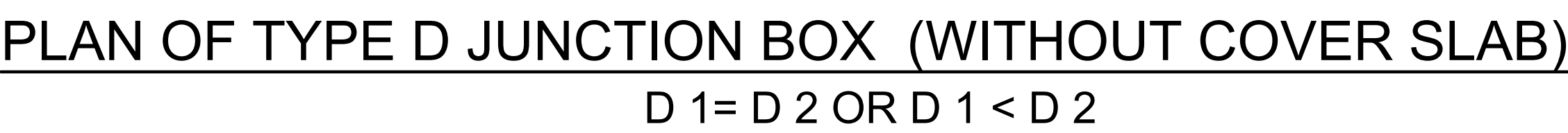
Tel: (015) 962 1828
Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE				
UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1				
DRAWING TITLE	JUNCTION BOX AND MANHOLE DETAILS TYPICAL JUNCTION BOX CONFIGURATION AND COVER SLAB DETAIL			

SCALE	TYPES OF PLANNING	STATUS
	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
00	RCE 78_MLM_STD_6	



D 2 DIAMETER OF DOWN STREAM PIPE	DISTANCE P
450	700
525	700
600	750
675	780
750	800
825	825
900	850
1050	870
1200	925
1350	1000
1500	1100

[illegible]

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	ISSUED BY: 	RECEIVED BY:
	DATE:	DATE:

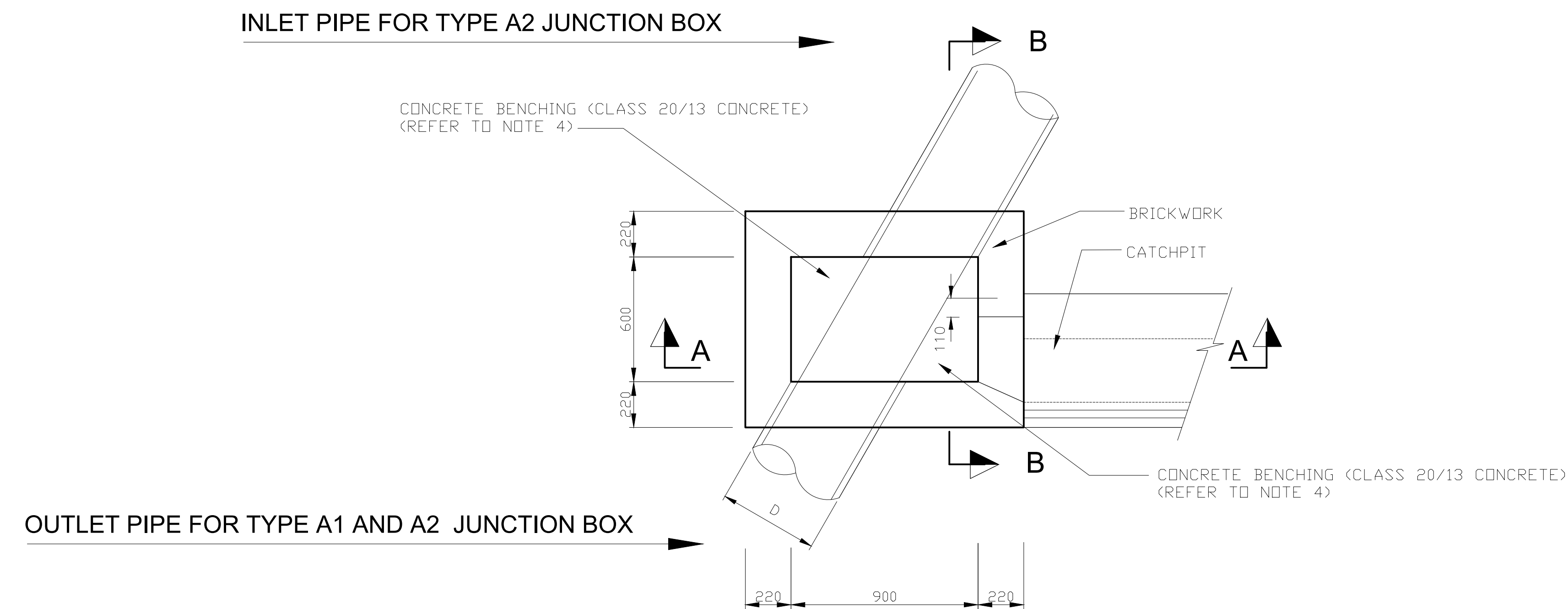
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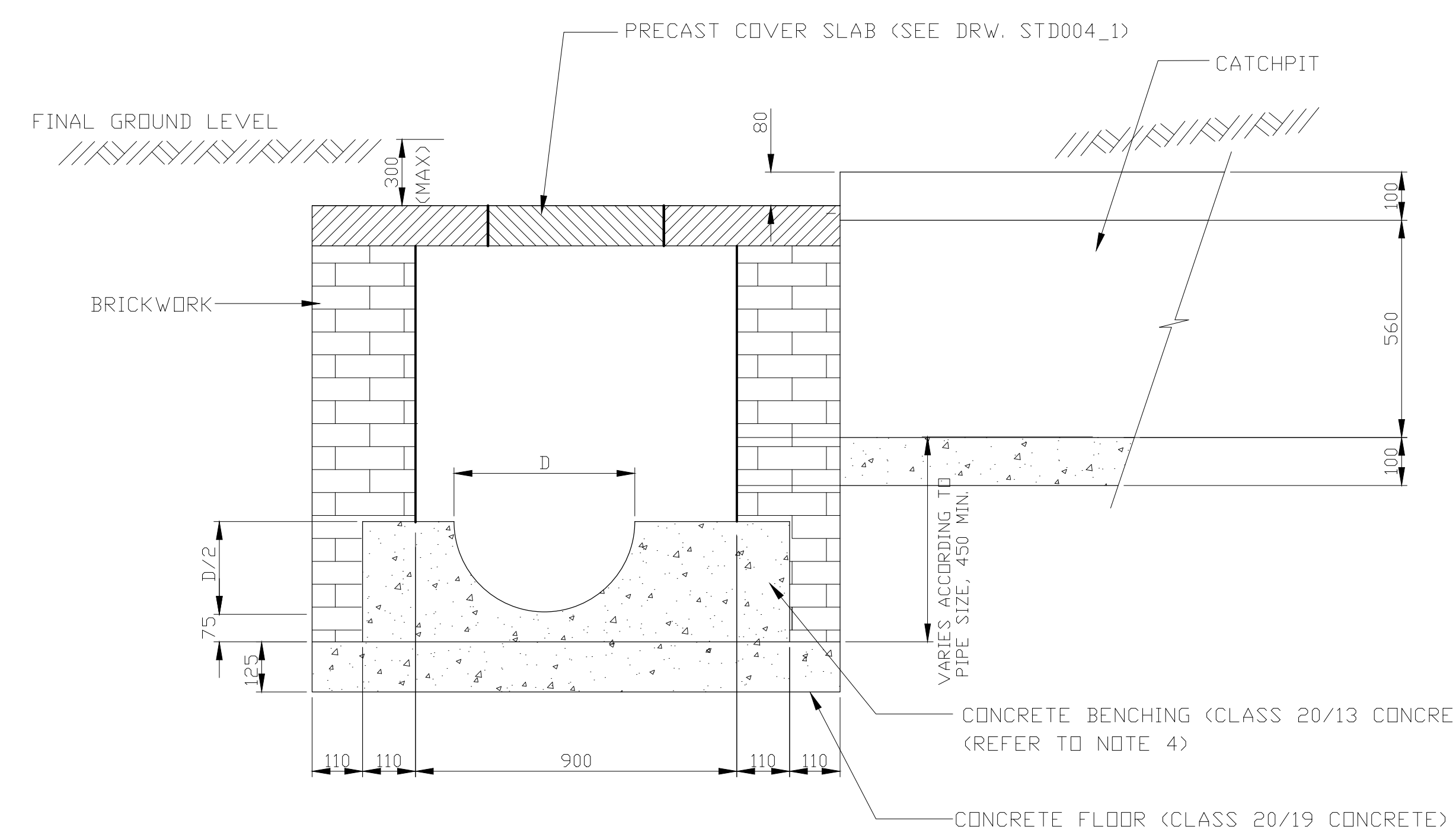
Tel: (015) 962 1828
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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	JUNCTION BOX AND MANHOLE DETAILS:TYPE D JUNCTION BOX			

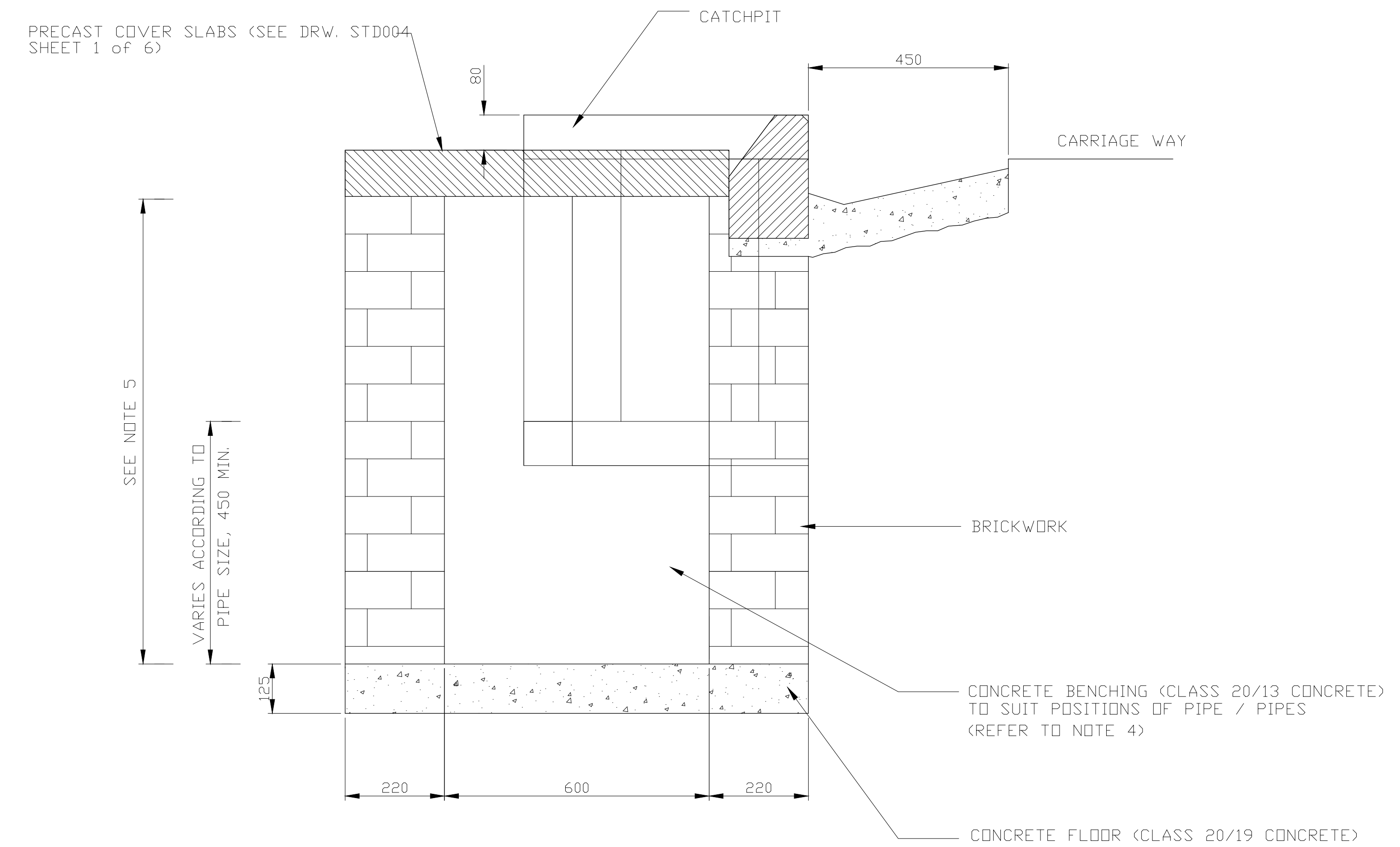
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	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
00	RCE 78_MLM_STD_7	



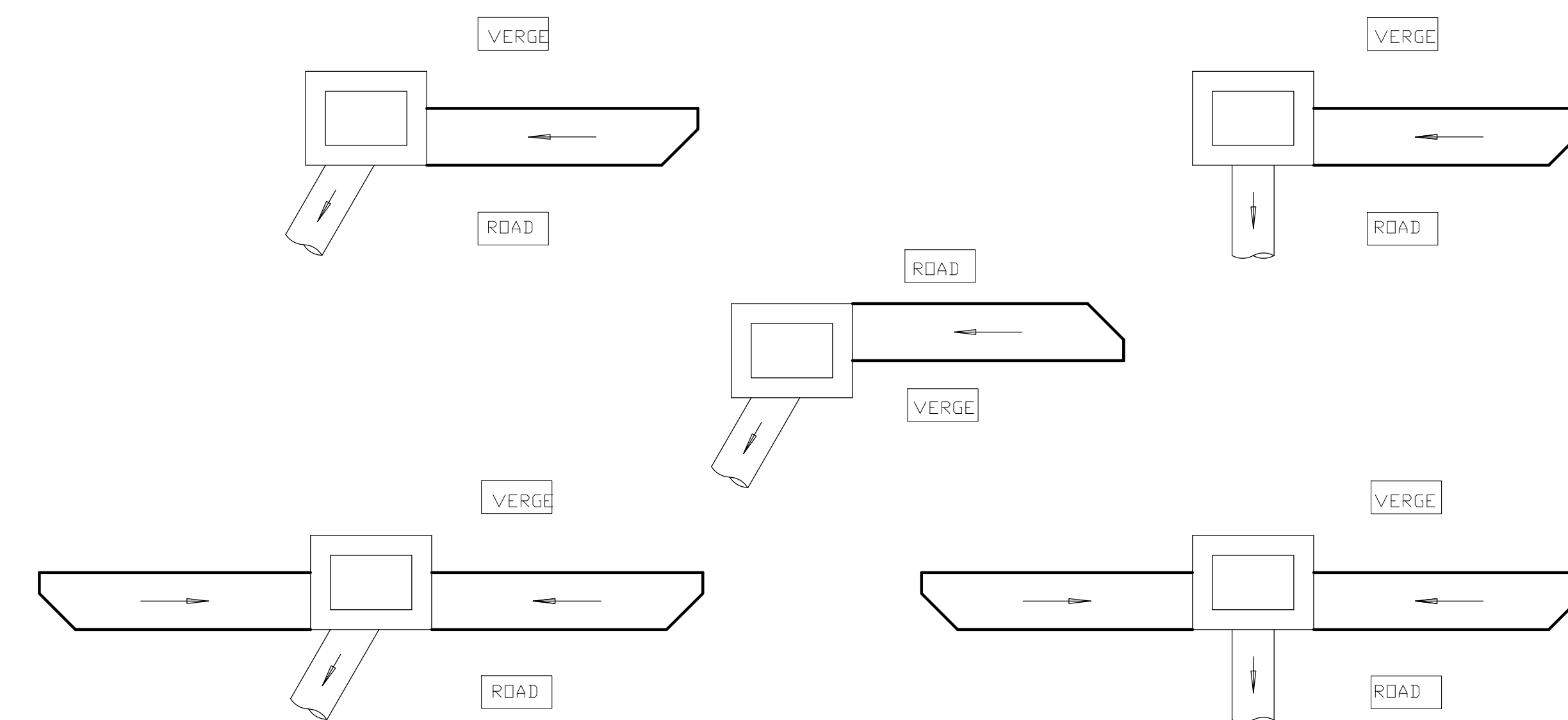
PLAN OF TYPE A JUNCTION BOX (WITHOUT COVER SLAB)



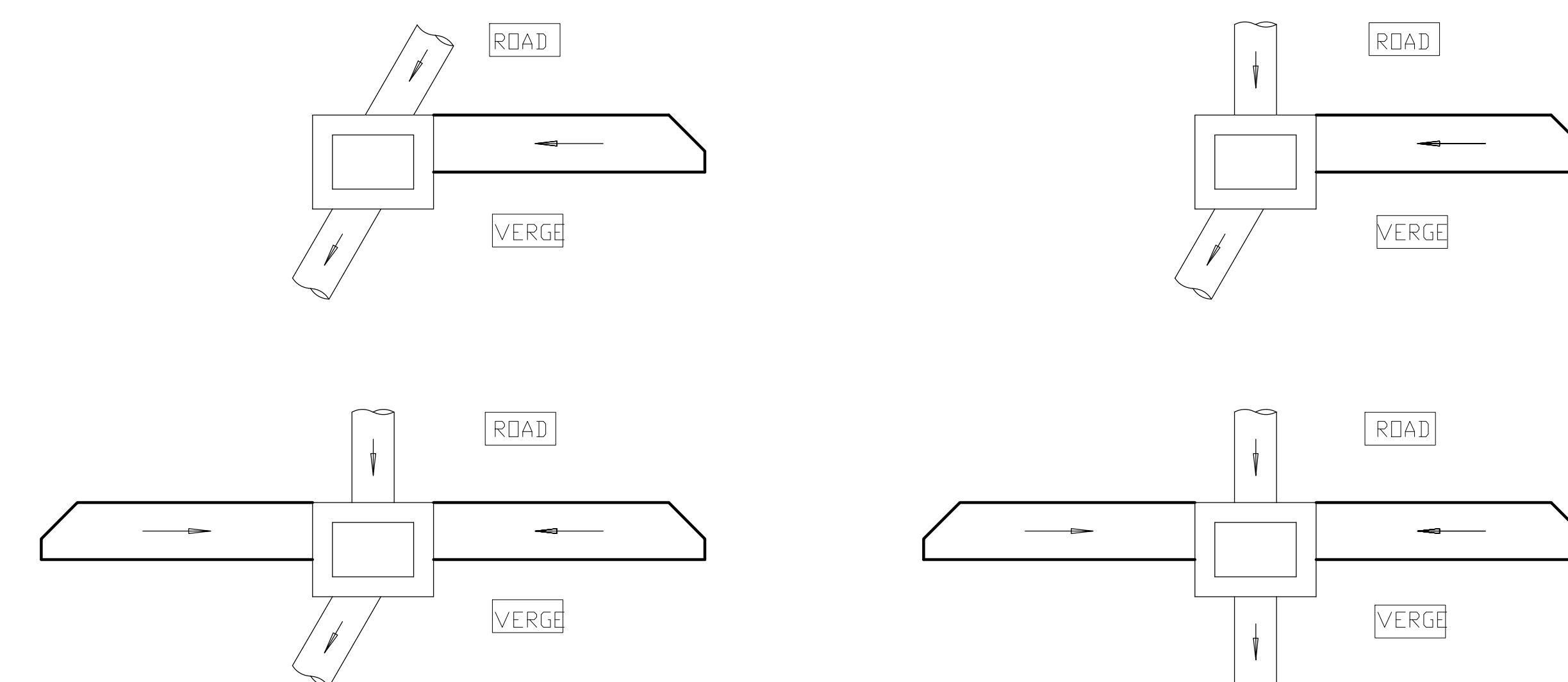
SECTION A-A
(INLET / OUTLET PIPES NOT SHOWN)



SECTION B-B
(CONCRETE BENCHING NOT SHOWN)



TYPE A1 JUNCTION BOX



TYPE A2 JUNCTION BOX

[illegible]

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CHECKED		





CLIENT ADDRESS

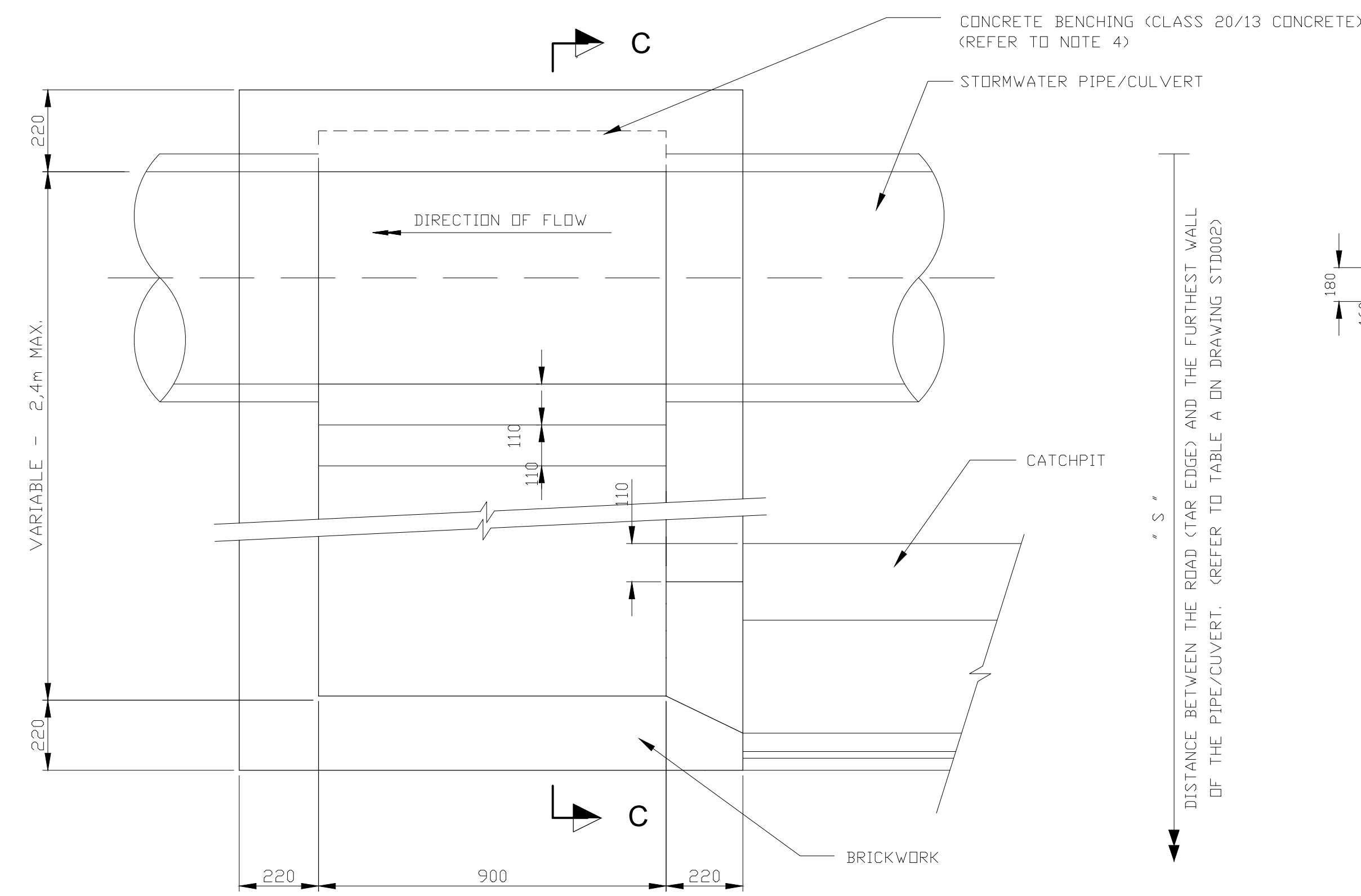


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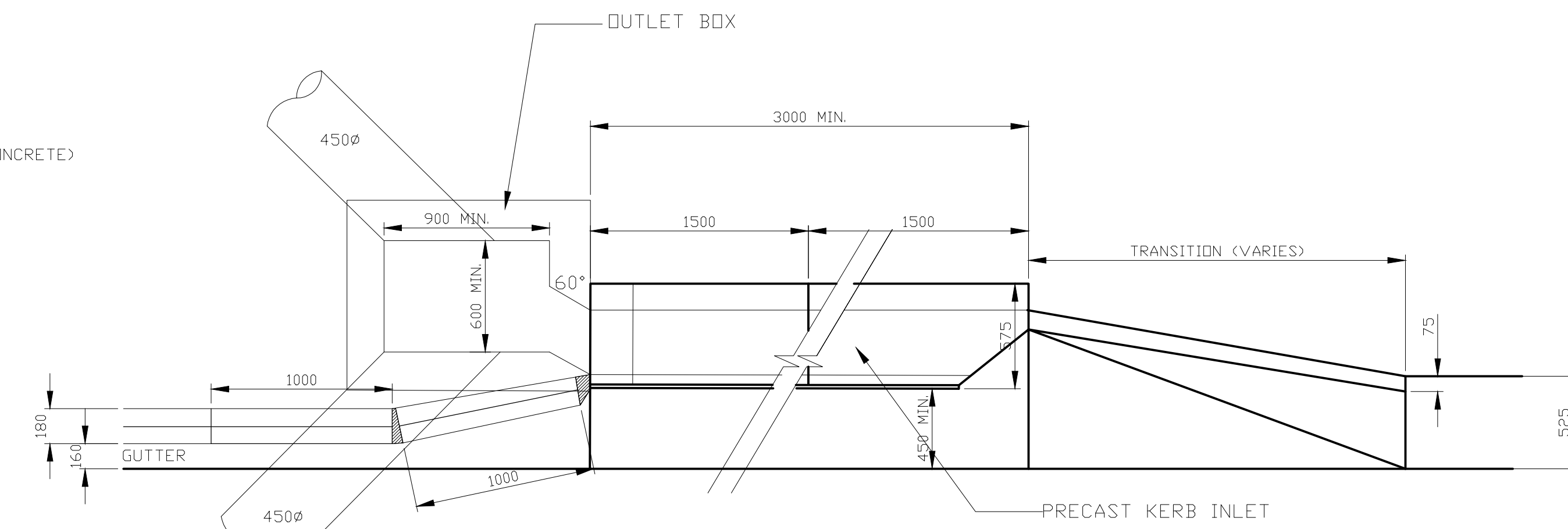
Tel: (015) 962 1828
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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE				
UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1				
DRAWING TITLE				
JUNCTION BOX AND MANHOLE DETAILS: TYPE A JUNCTION BOX				

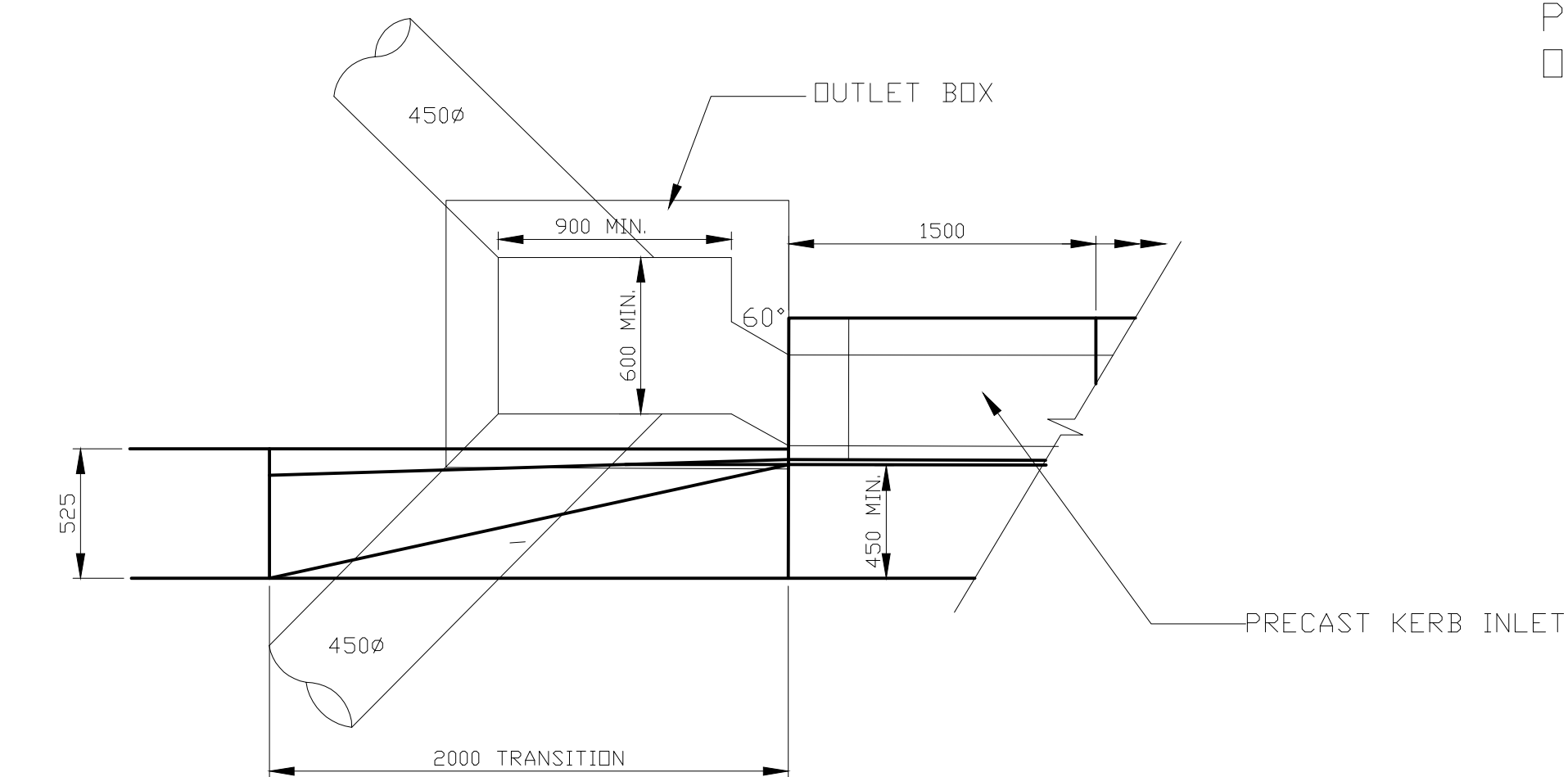
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	 PLANNING  CONSTRUCTION  AS-BUILT	PLANNING 
REVISION	PLAN No.	
00	RCE 78_MLM_STD_8	



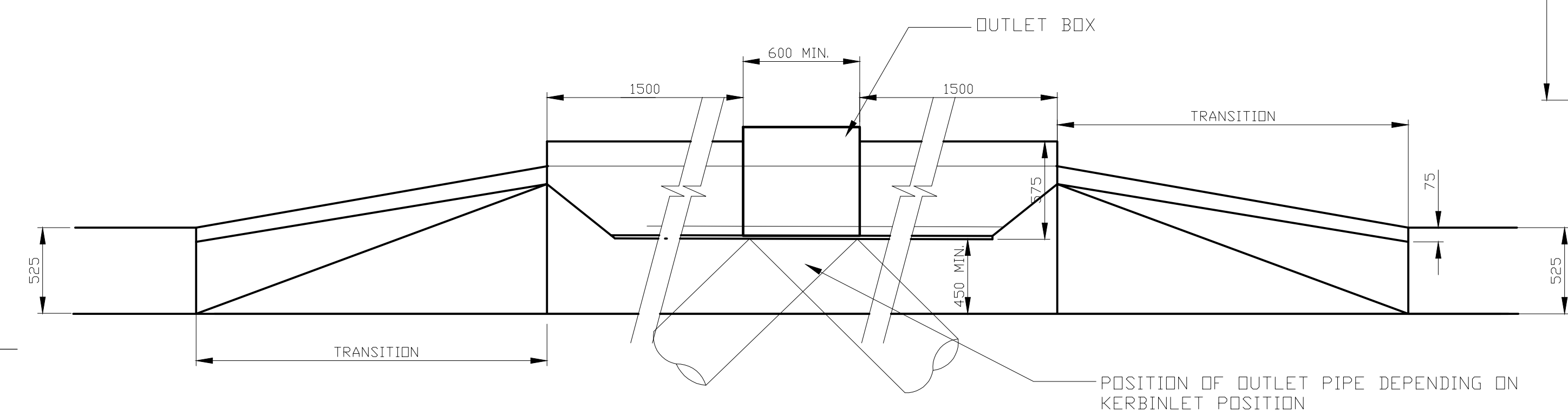
PLAN OF TYPE B JUNCTION BOX (WITHOUT COVER SLAB)



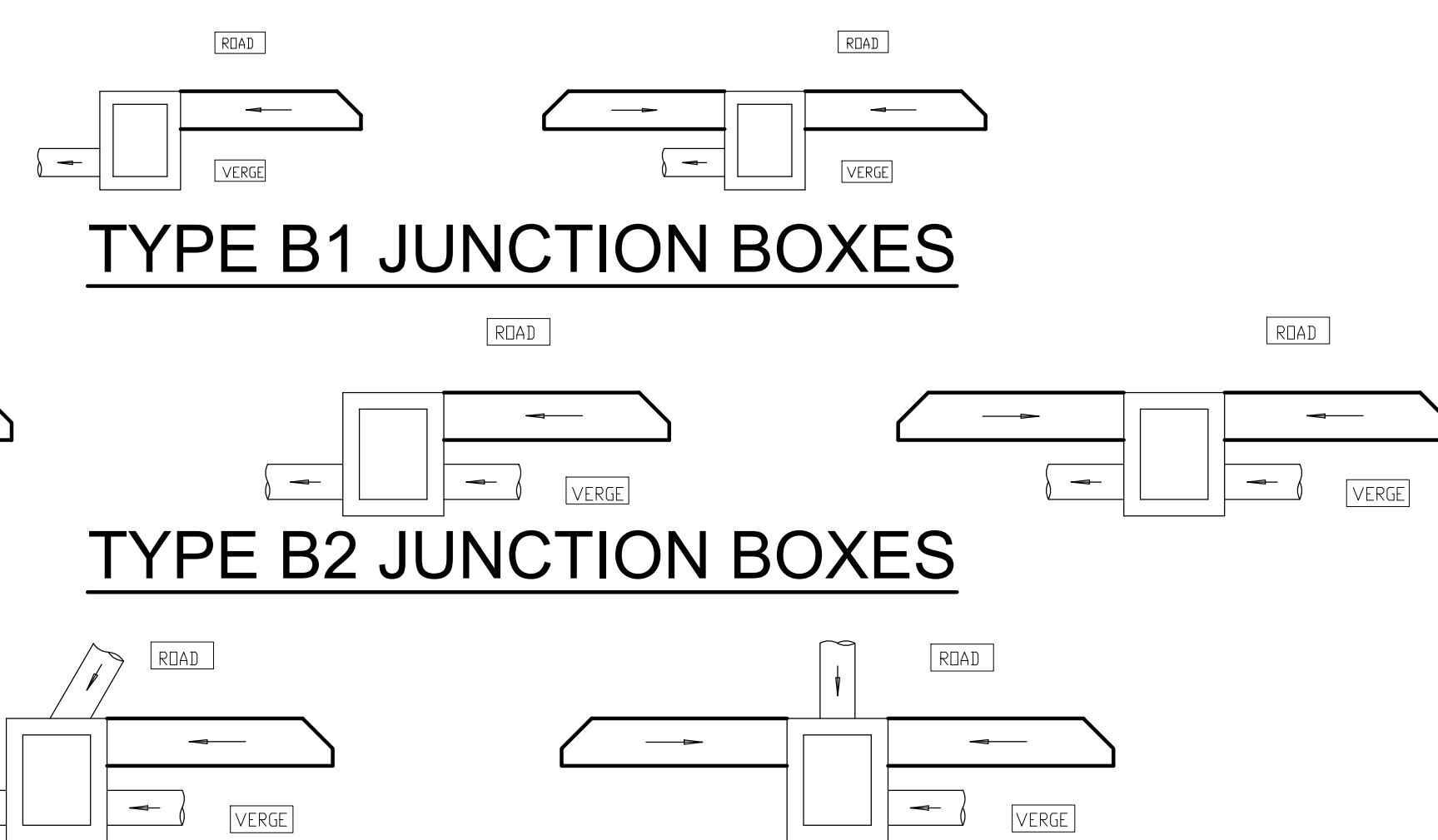
PLAN OF KERB INLET SHOWING OUTLET BOX POSITION UNDER VERTICAL KERB



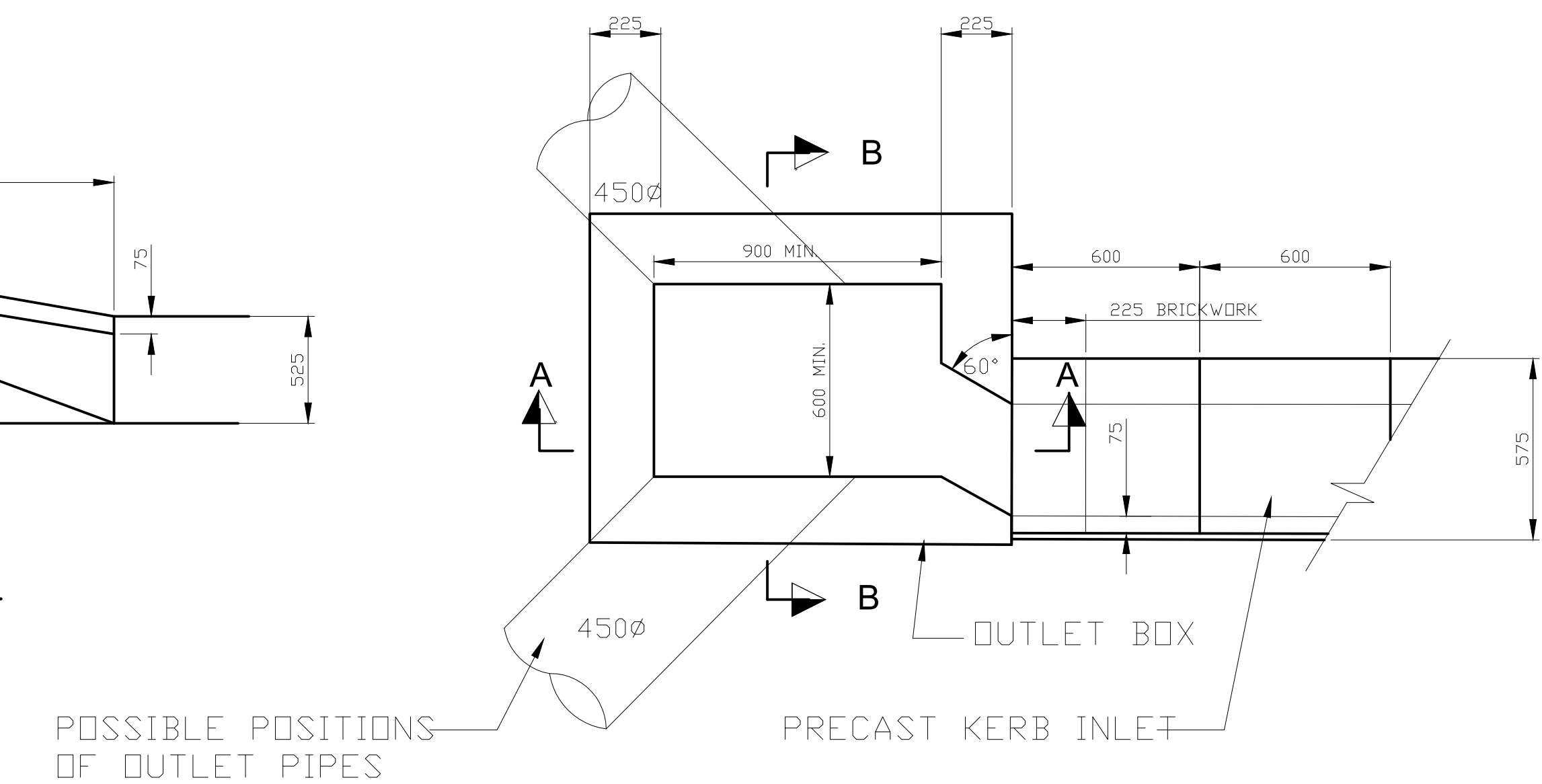
PLAN OF KERB INLET SHOWING OUTLET BOX
POSITION UNDER SLOPING KERB



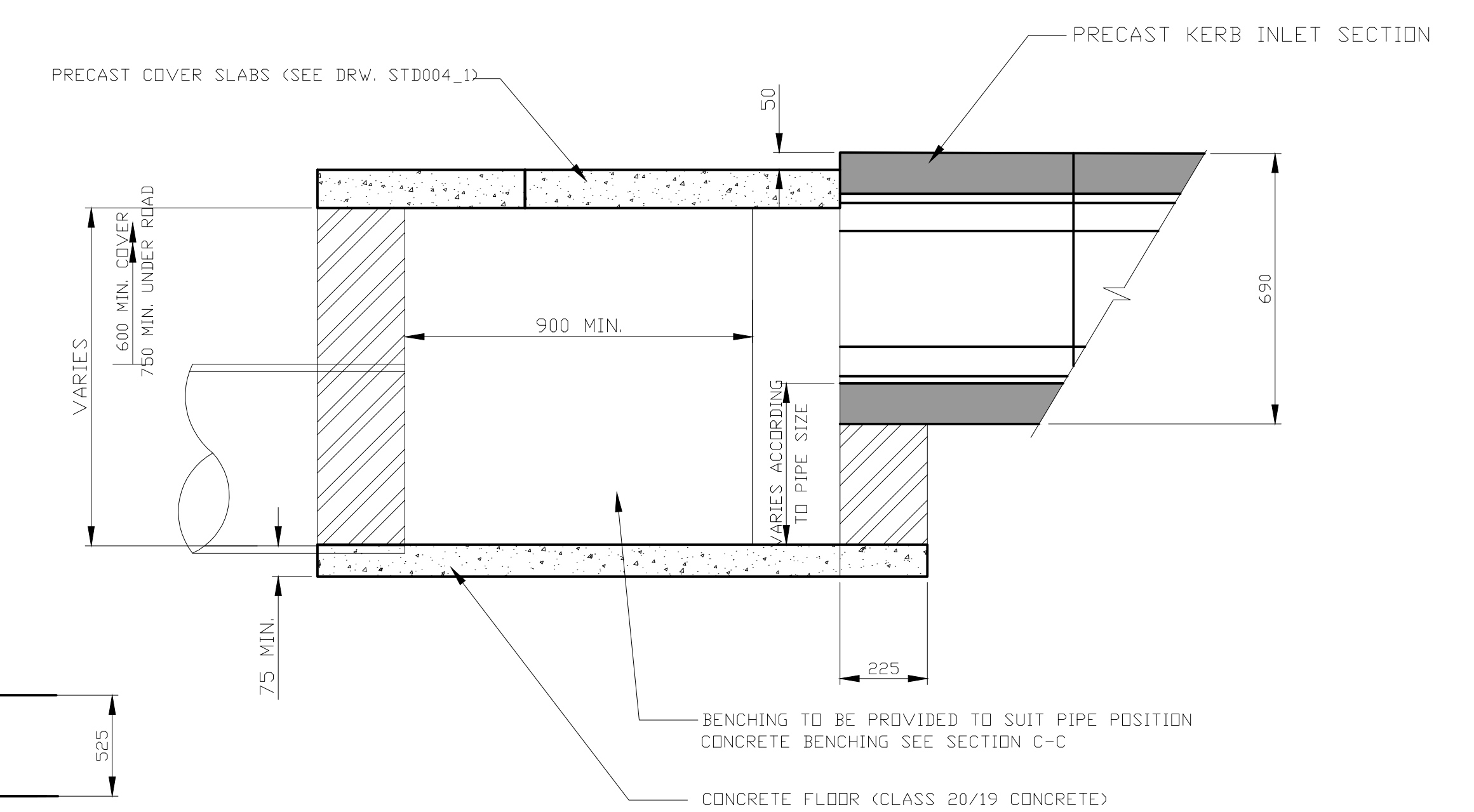
PLAN OF KERB INLET AT A LOW POINT SHOWING
POSITION OF OUTLET BOX



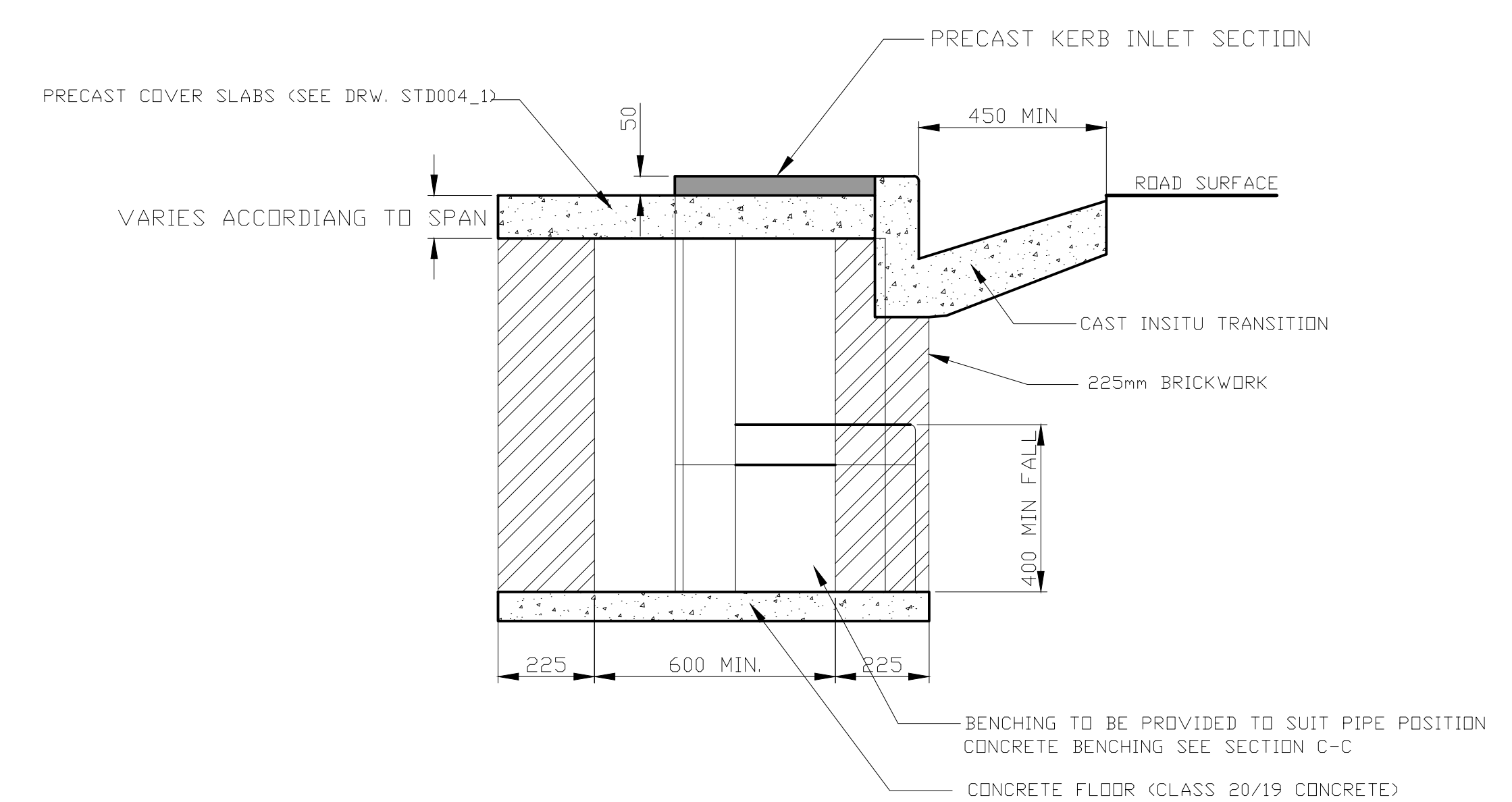
TYPE B3 JUNCTION BOXES



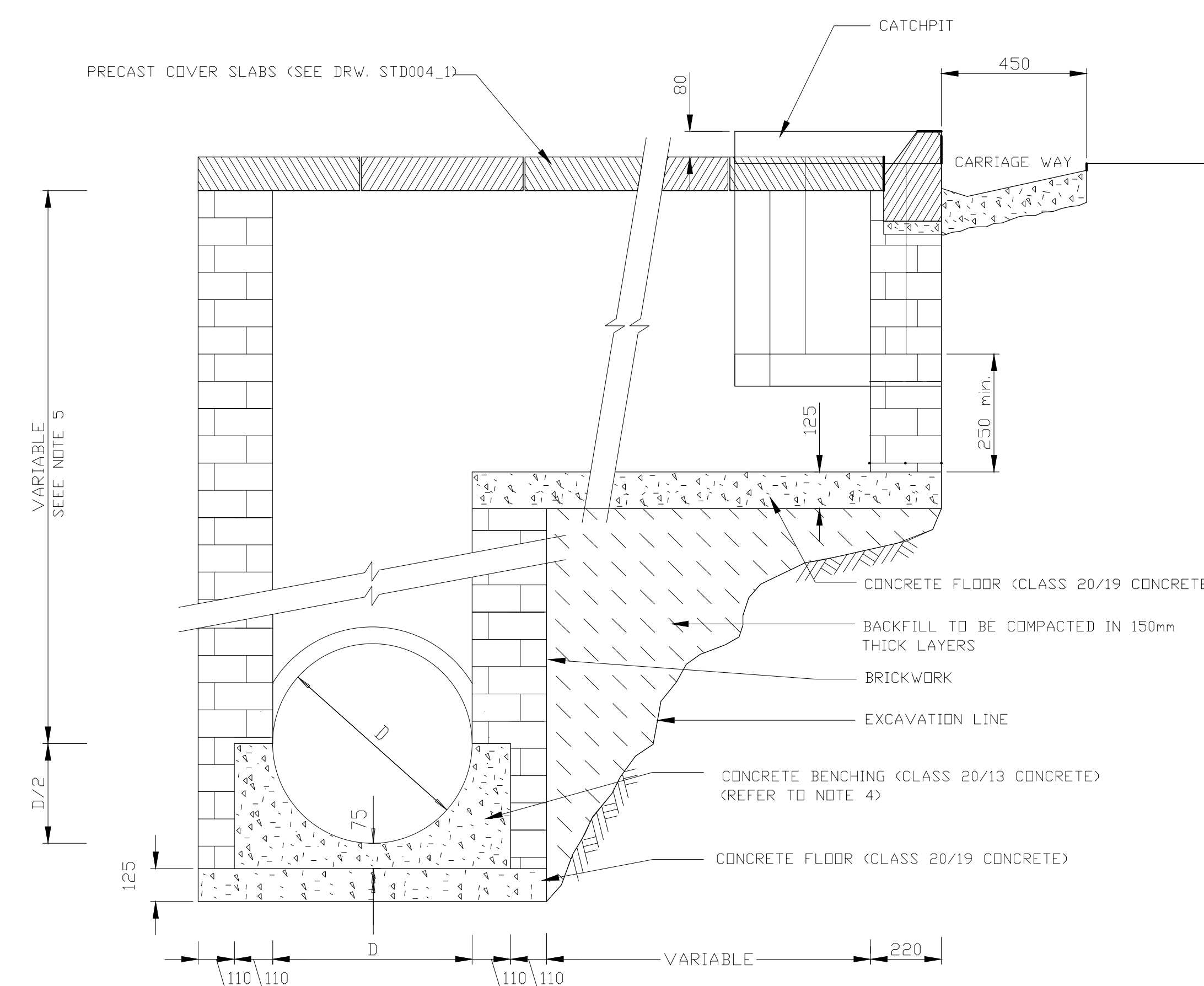
PLAN OF KERB INLET NOT DISCHARGING DIRECTLY INTO MAIN STORMWATER DRAIN (WITHOUT COVER)



SECTION A-A



SECTION B-B



SECTION C-C

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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	JUNCTION BOX AND MANHOLE DETAILS: TYPE B JUNCTION BOX			

SCALE	TYPES OF PLANNING	STATUS
	 PLANNING  CONSTRUCTION  AS-BUILT	PLANNING 
REVISION	PLAN No.	
00	RCE 78_MLM_STD_9	

NOTES

CONSTRUCTION METHOD: SPEED HUMPS

1. Setting out of hump - few days before construction.
2. Saw cuts one to two days before construction.

ON CONSTRUCTION DAY:

3. Remove 500 mm asphalt strips.
4. Start erecting road signs and paint warning road marking.
5. Place asphalt in strips and compact with two passes without vibrator.
6. Place templates – both sides of one lane at a time.
7. Place asphalt and rake till slightly higher than templates.
8. Shape asphalt with straight edge (channel section 6 m long).
9. Remove templates and compact without vibrator (three passes)
10. Measure profile and rectify if necessary.
11. Final compaction with three to four passes with vibrator.
12. Place road studs.
13. Paint speed hump the next day.

- 2.1 Only galvanised bolts and nuts to be used on W

- 2.2 All signs must be according to the Road Traffic Signs Manuals but use 900Φ STOP (60km/h zone) for 3-way and 4-way stops

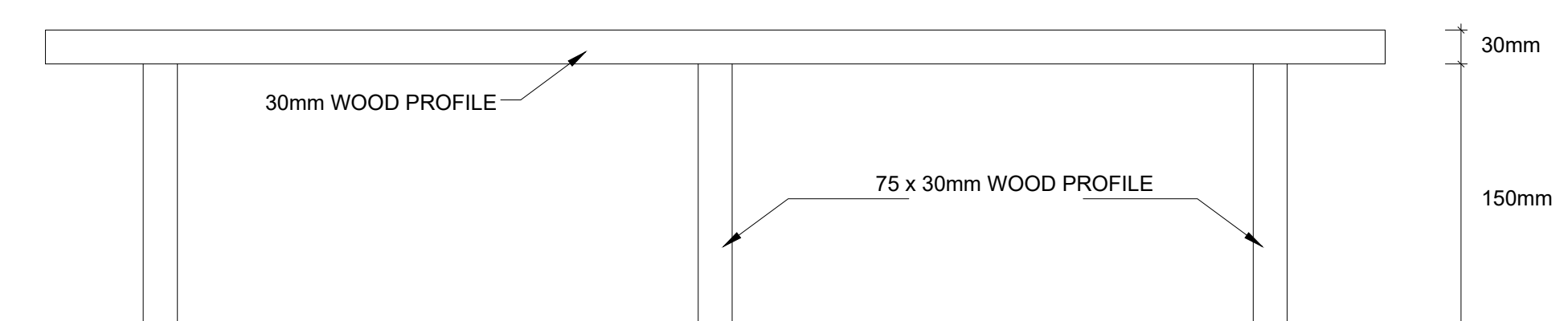
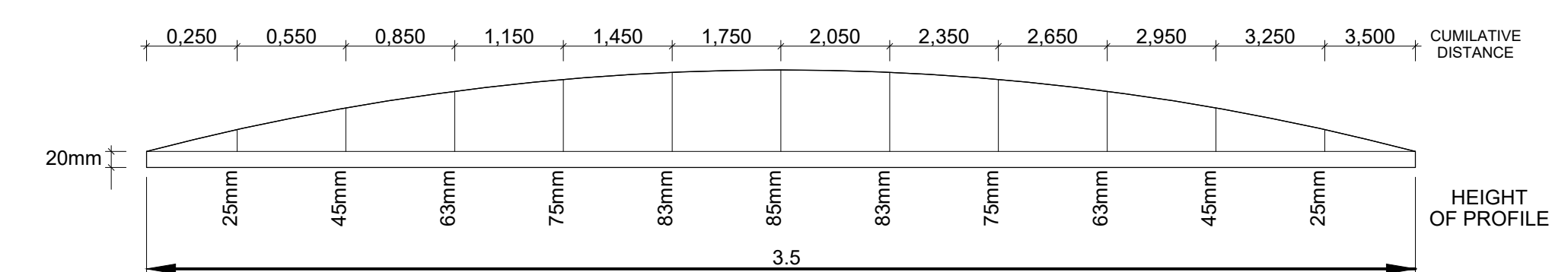
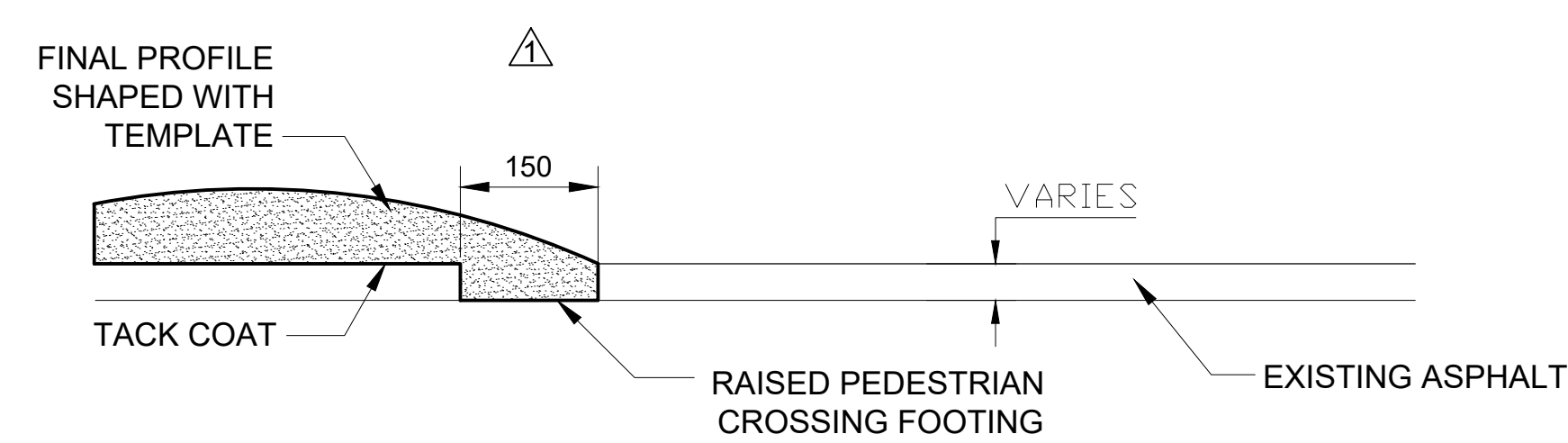
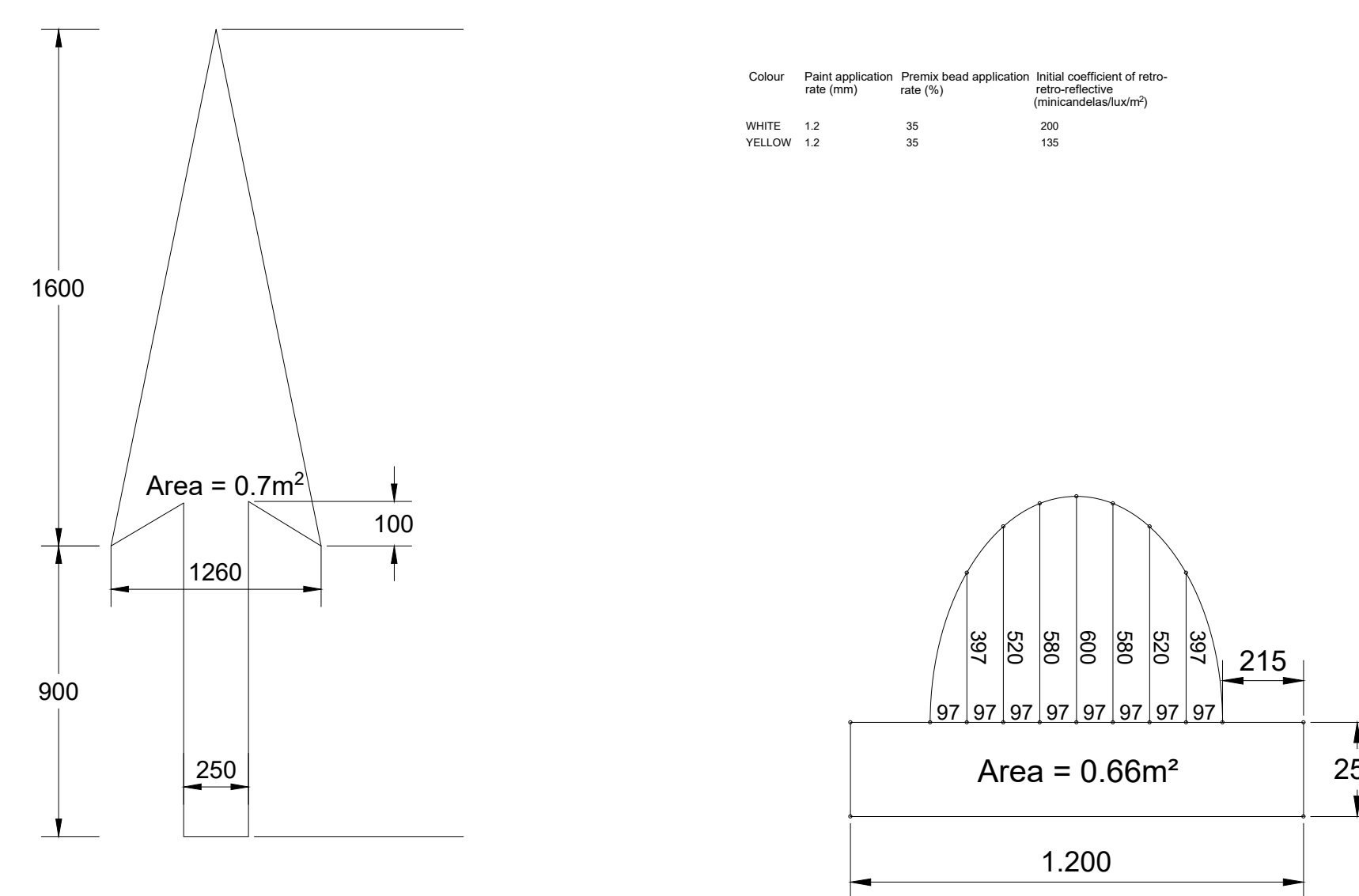
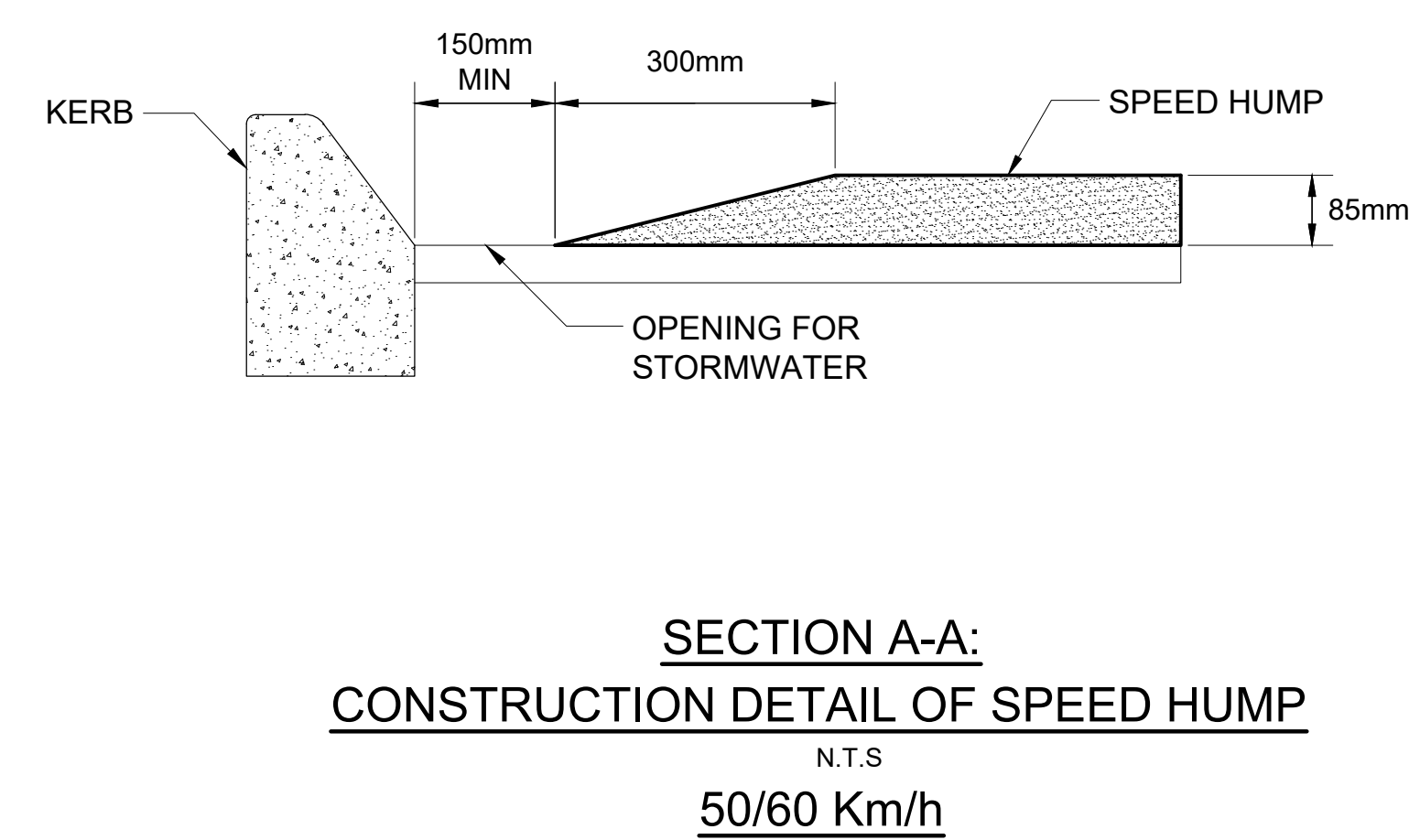
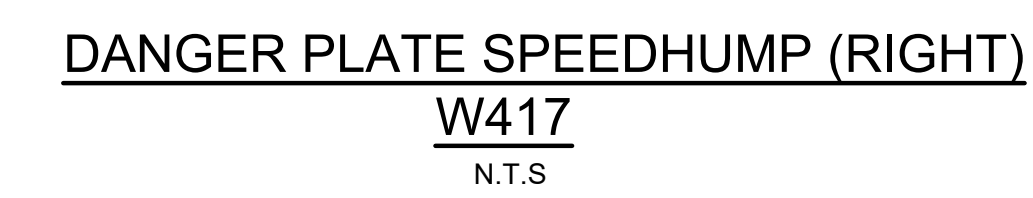
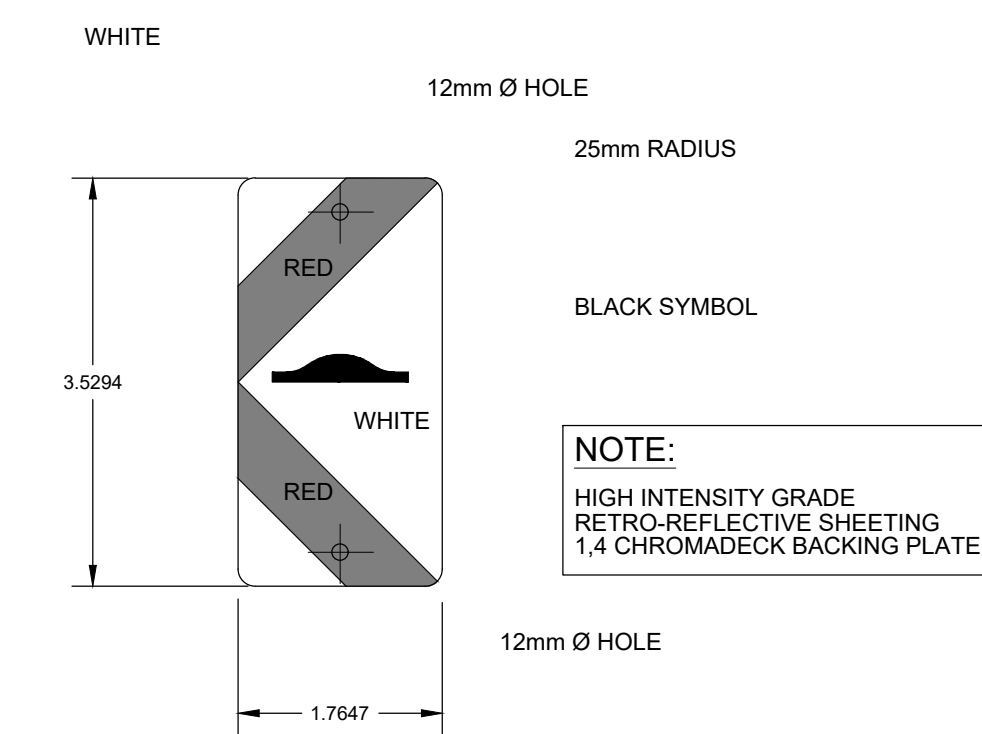
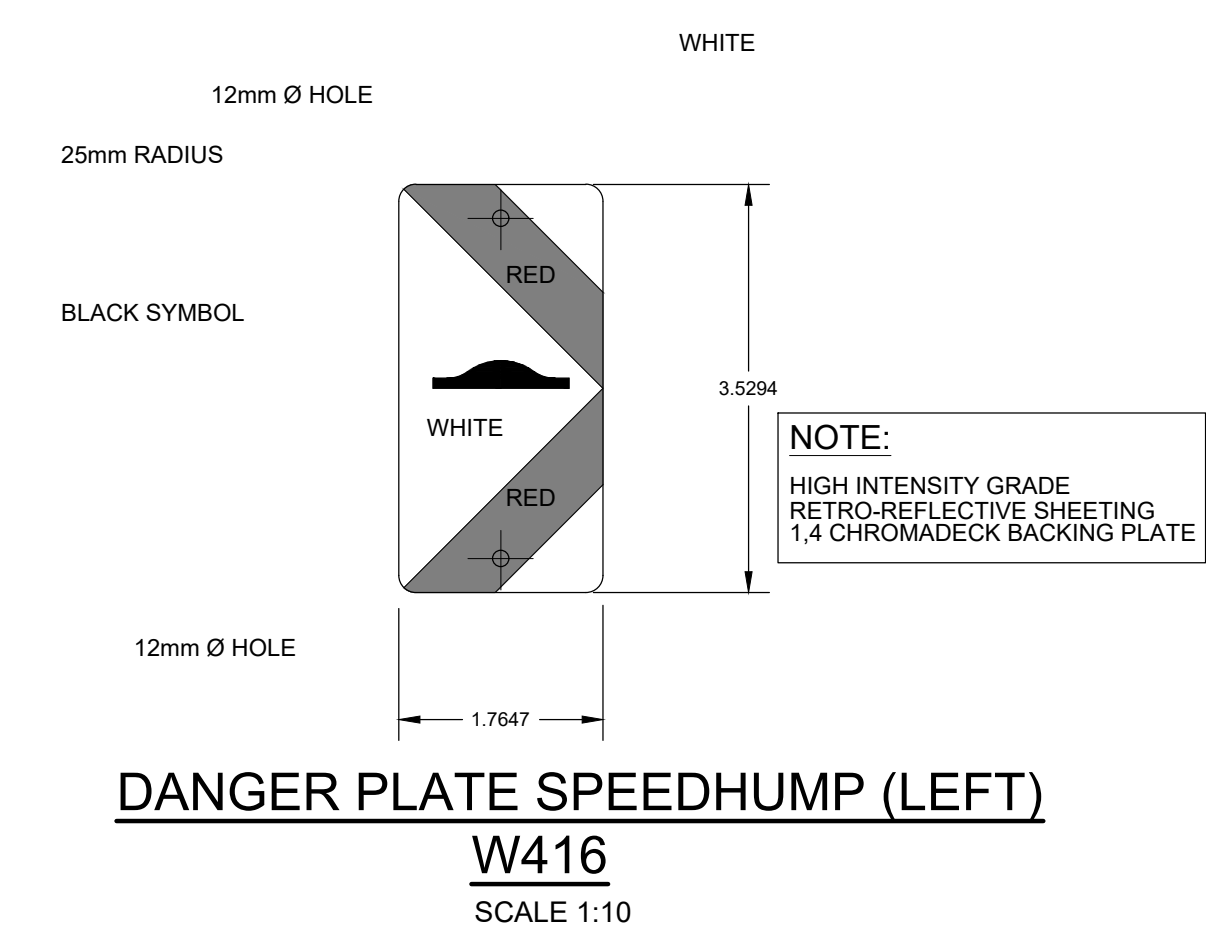
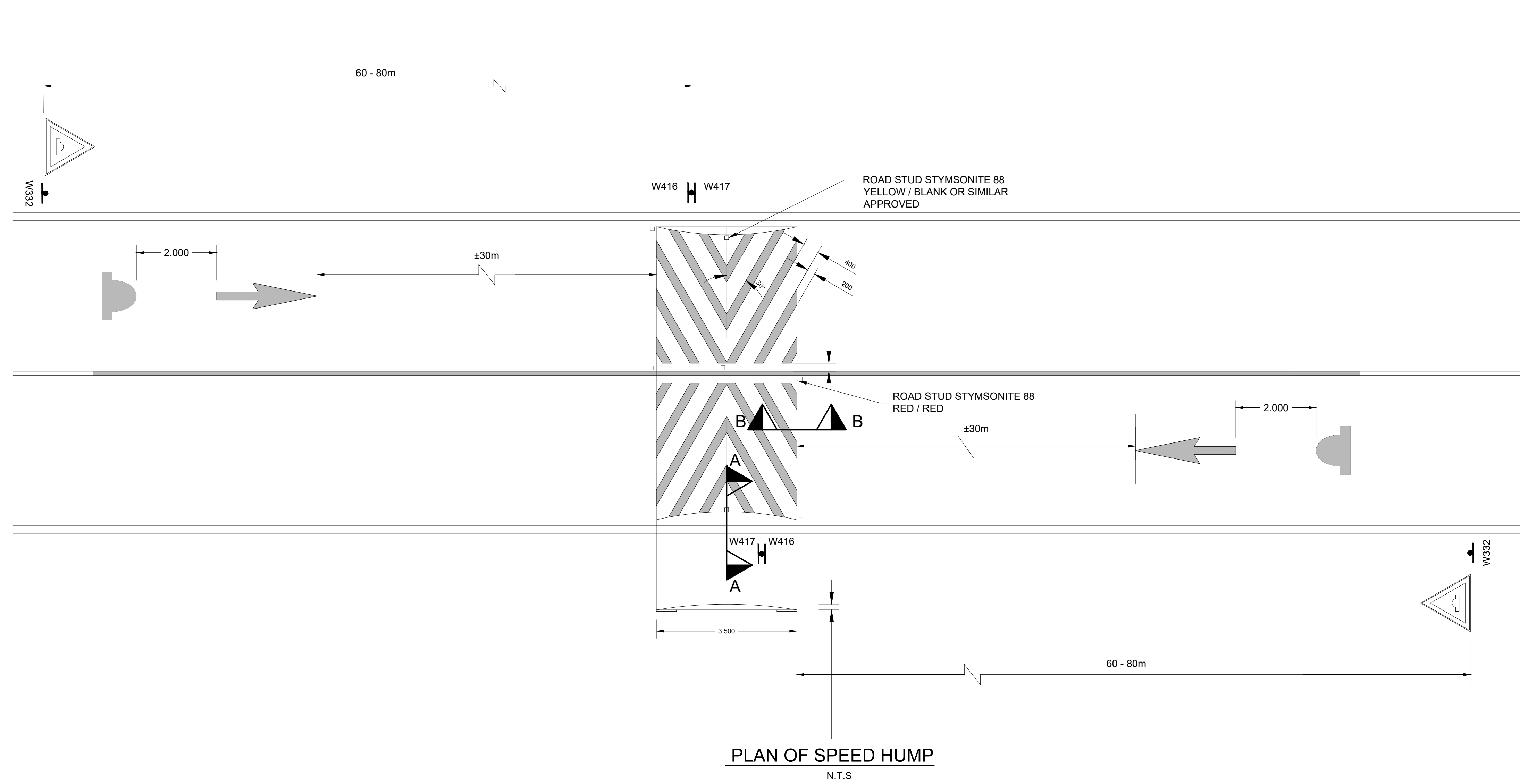
- 2.3 All signs excluding R1 series must have rounded edges

3. **ROADMARKINGS:**
All new road markings in thermoplastic

Colour	Paint application rate (mm)	Premix bead application rate (%)	Initial coefficient of retro-reflectivity (minicandela/m ²)
WHITE	1.2	35	200
YELLOW	1.2	35	135

NOTE:

The Traffic Engineering and Operation section must always be consulted to assist with the setting out of speed humps.



TEMPLATE DETAIL FOR CONSTRUCTION OF SPEED HUMPS
N.T.S

[illegible]

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<p>RALEMA CONSULTING</p>	
<p>ISSUED BY:</p> <p>.....</p>	
<p>DATE:</p>	

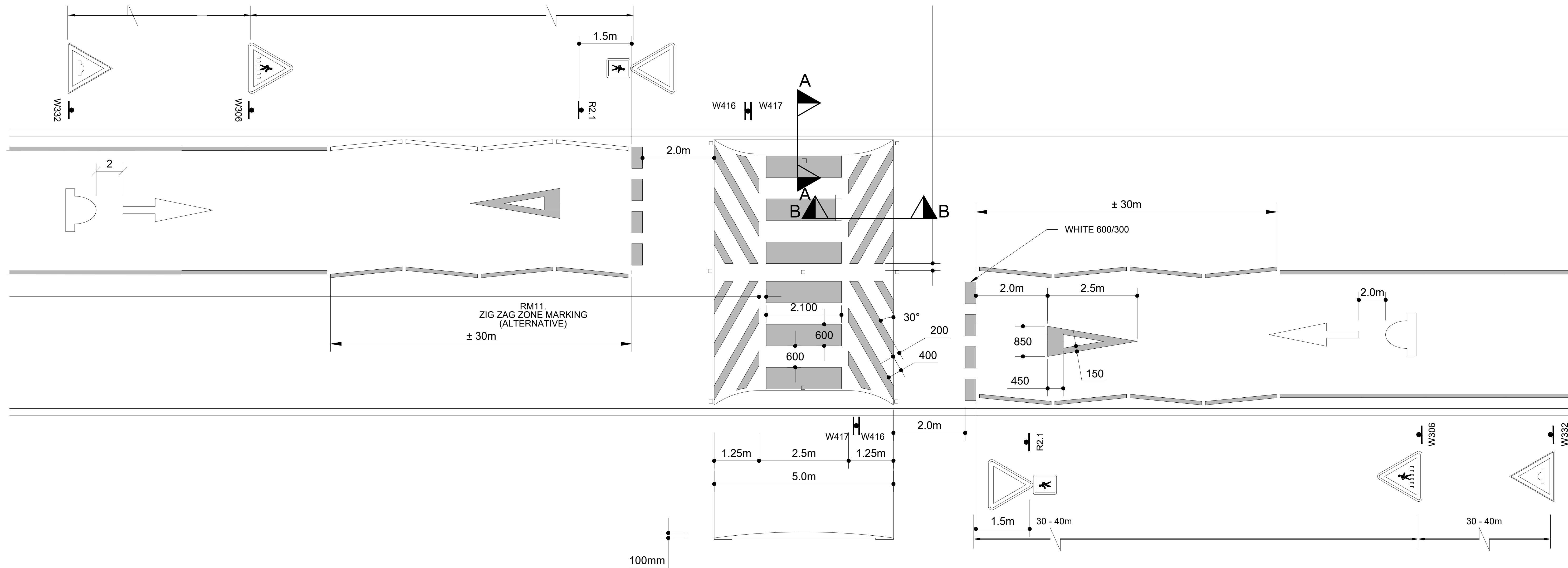
DEPARTMENT _____

RECEIVED BY: _____

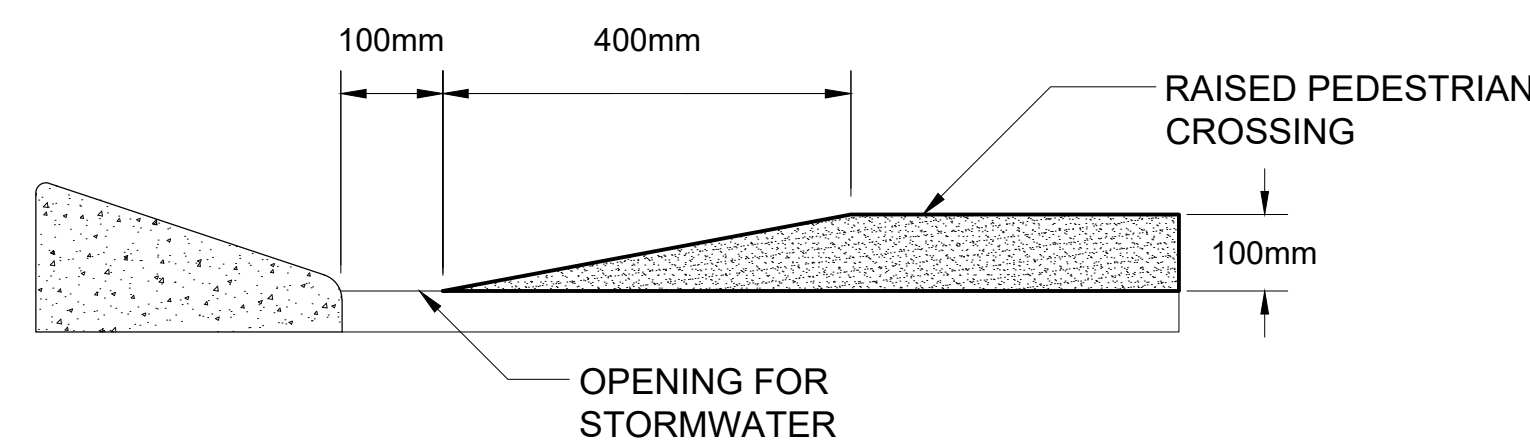
DATE: _____

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE				
UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1				
DRAWING TITLE				
TYPICAL SPEED HUMPS AND ROAD MARKINGS DETAIL				

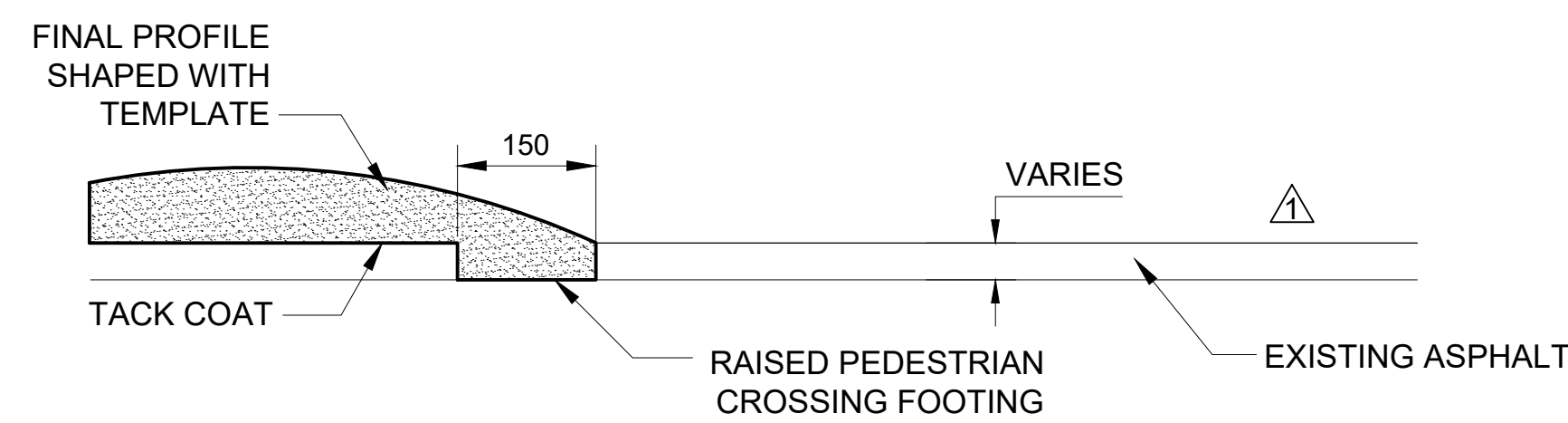
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		PLANNING 
REVISION	PLAN No.	
00	RCE 78_MLM_STD_28	



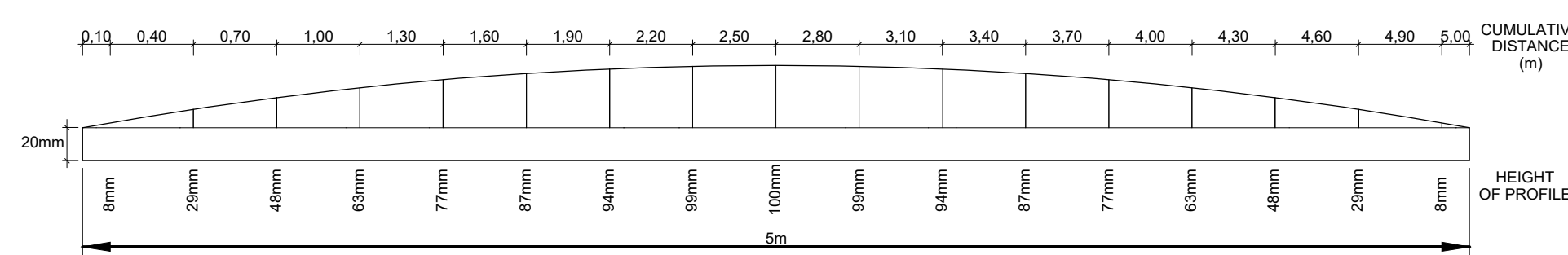
PLAN OF RAISED PEDESTRIAN CROSSING (RPC)
N.T.S.



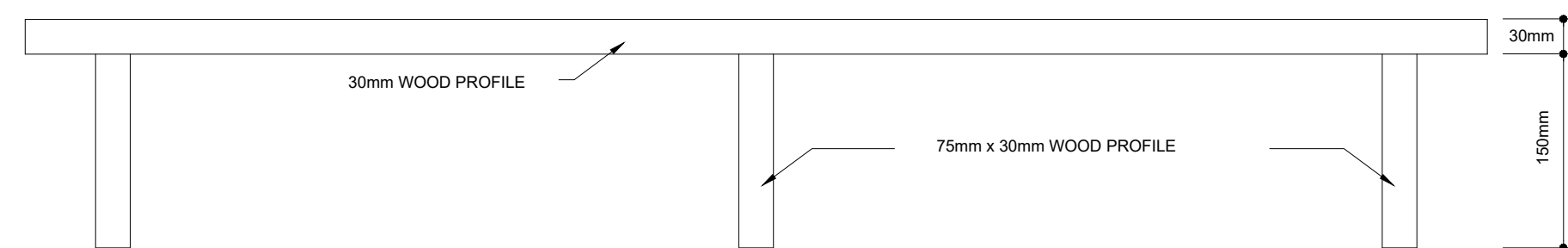
SECTION A-A:
CONSTRUCTION DETAIL OF RPC
N.T.S.



SECTION B-B:
CONSTRUCTION DETAIL OF RPC
N.T.S.

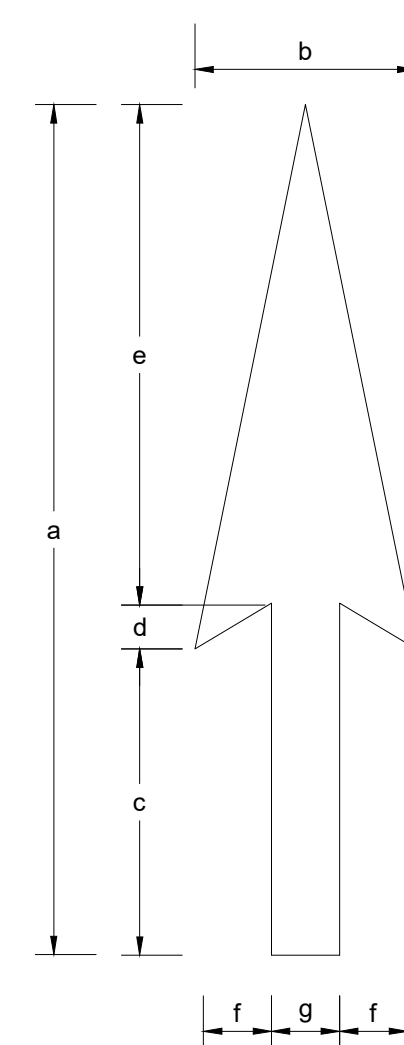


SIDE ELEVATION



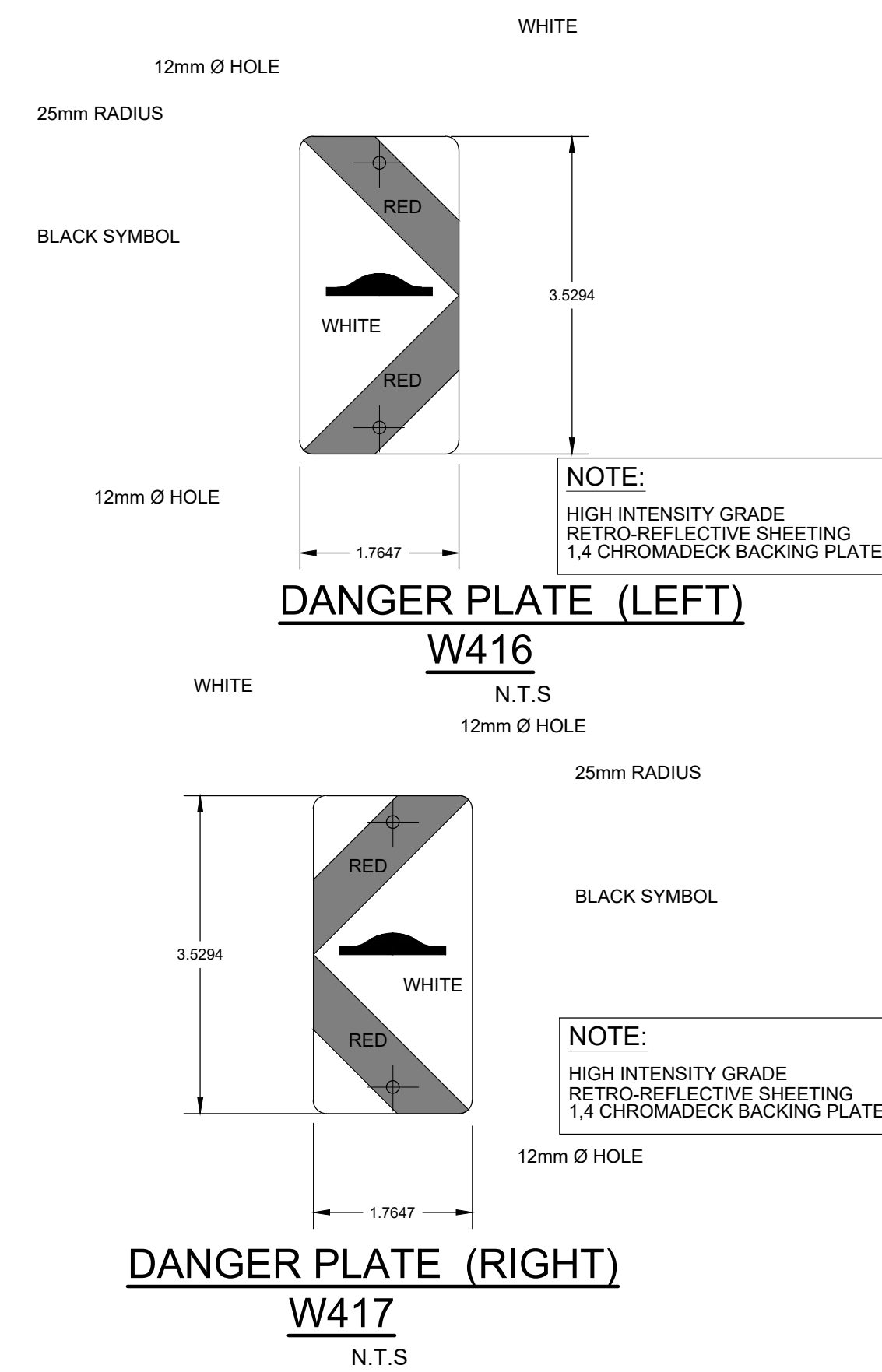
PLAN

TEMPLATE DETAIL FOR CONSTRUCTION OF RPC
N.T.S.



DIMENSIONS (mm)		TYPICAL APPLICATIONS							
OPERATING SPEED (km/h)	QTY CENTRE	a	a'	b	c	c'	d	e	f
31-45	QTY CENTRE	1250	2000	1250	450	400	50	750	800
51-60	URBAN	2000	4000	1250	300	600	100	1000	800

DETAIL OF ROAD MARKING
N.T.S.



NOTES

CONSTRUCTION METHOD: SPEED HUMPS

- Setting out of hump - few days before construction.
- Saw cuts one to two days before construction.

ON CONSTRUCTION DAY:

- Remove 500 mm asphalt strips.
- Start erecting road signs and paint warning road marking.
- Place asphalt in strips and compact with two passes without vibrator.
- Place templates - both sides of one lane at a time.
- Place asphalt and rake till slightly higher than templates.
- Shape asphalt with straight edge (channel section 6 m. long).
- Remove templates and compact without vibrator (three passes).
- Measure profile and rectify if necessary.
- Final compaction with three to four passes with vibrator.
- Place road studs.
- Paint speed hump the next day.

TRAFFIC SIGNS:

- Only galvanised bolts and nuts to be used on W and R series (no uni-struts).

- All signs must be according to the Road Traffic Signs Manuals but use 6009 STOP (60km/h zone) for 3-way and 4-way stops.

- All signs excluding R1 series must have rounded edges.

ROADMARKINGS:

All new road markings in thermoplastic.

Colour	Paint application rate (mm)	Plastic bead application rate (%)	Initial coefficient of retro-reflectance (mcd/m ² /sr)
WHITE	1.2	35	200
YELLOW	1.2	35	150

NOTE:

The Traffic Engineering and Operation section must always be consulted to assist with the setting out of speed humps.

No.	DATE	REVISIONS	BY	CHECKED BY

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RALEMA CONSULTING ENGINEERS

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S. Bapela-Pr Tech Eng DESIGNED	RALEMA CONSULTING	DEPARTMENT
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S. Bapela-Pr Tech Eng CHECKED	DATE:	DATE:

RALEMA CONSULTING	DEPARTMENT
ISSUED BY:	RECEIVED BY:
DATE:	DATE:

CLIENT ADDRESS

MAKHADO LOCAL MUNICIPALITY

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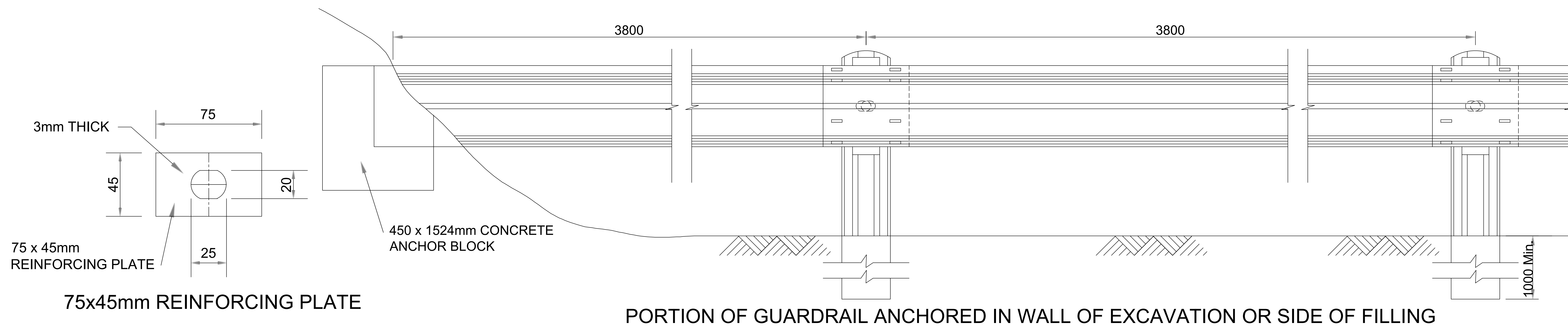
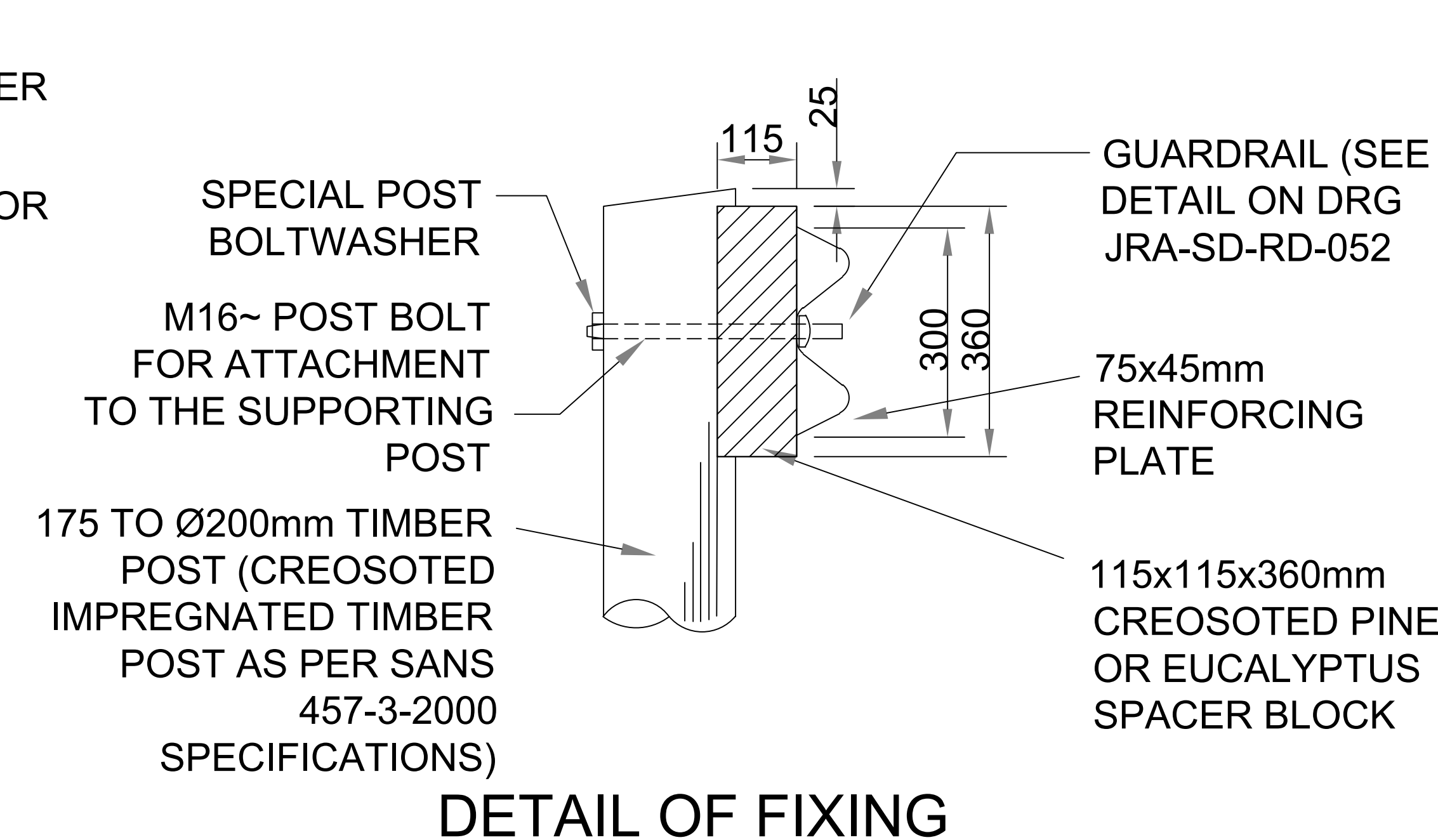
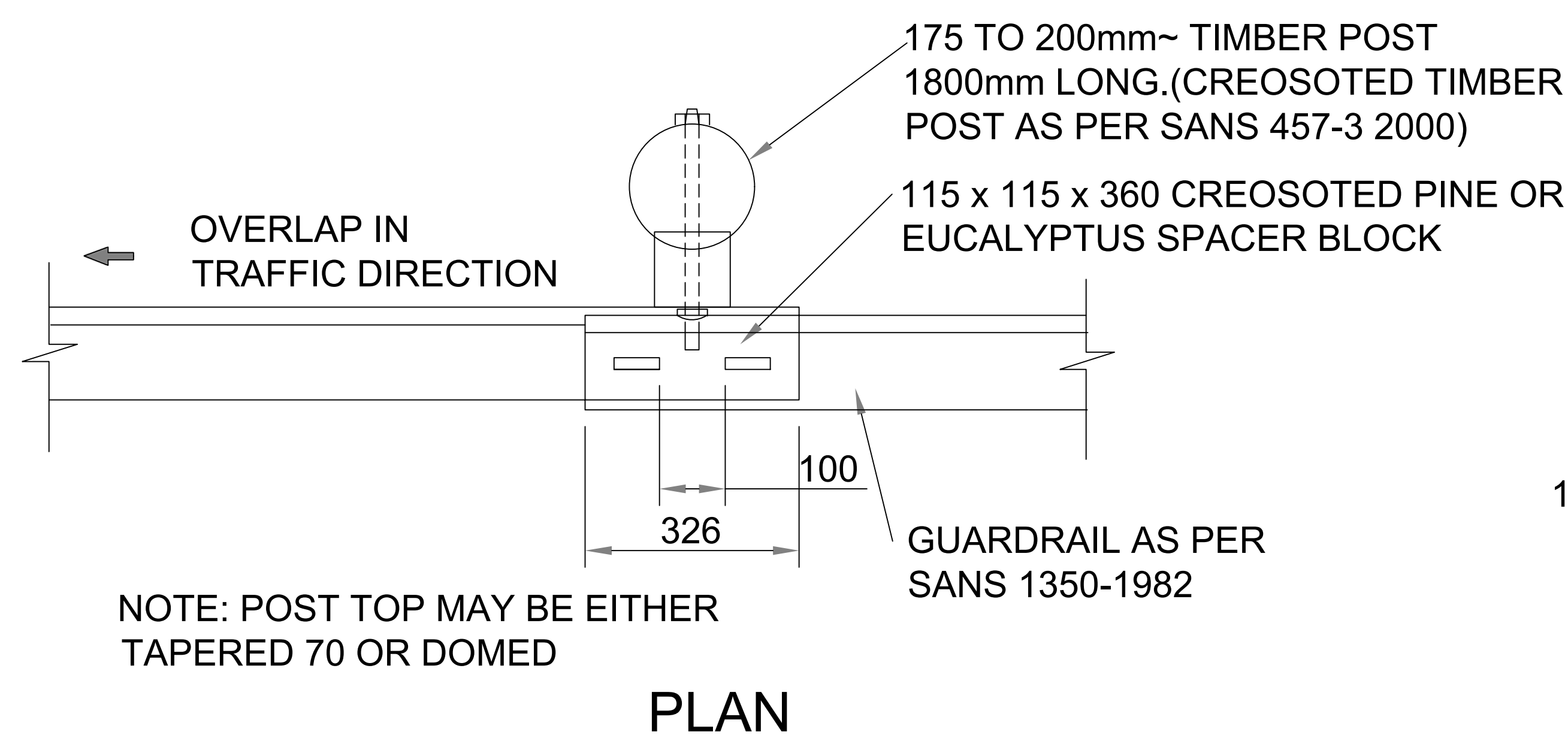
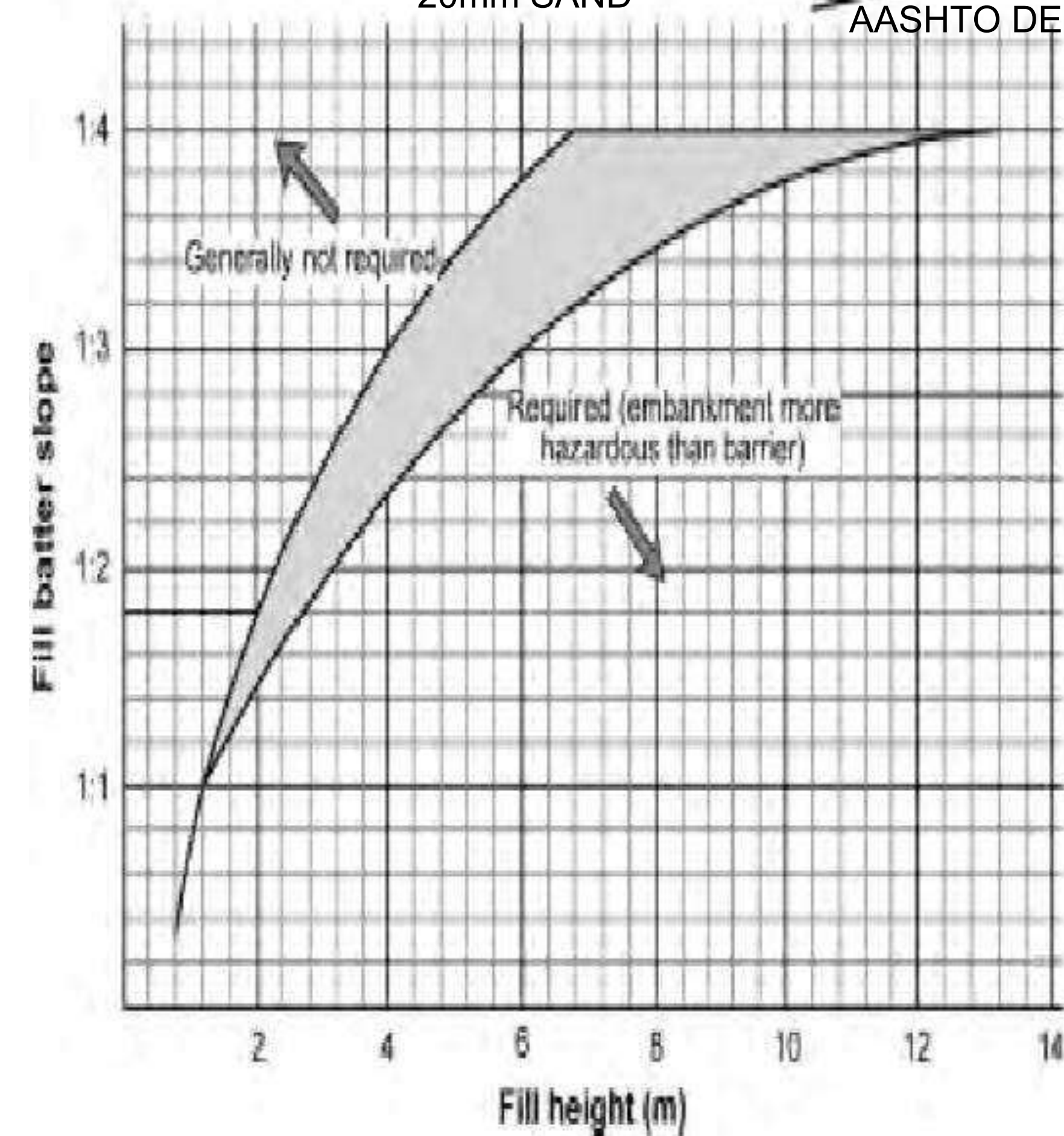
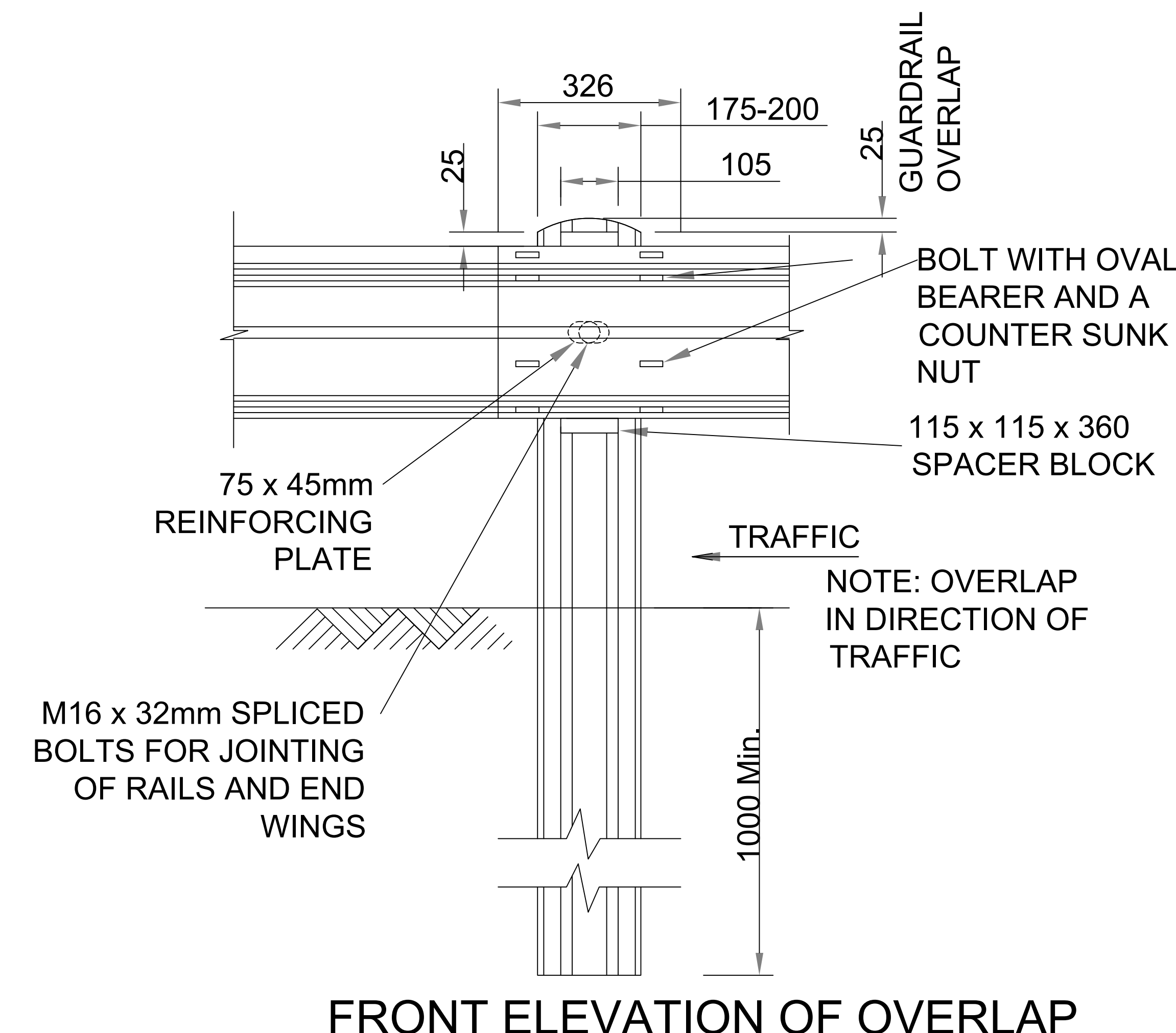
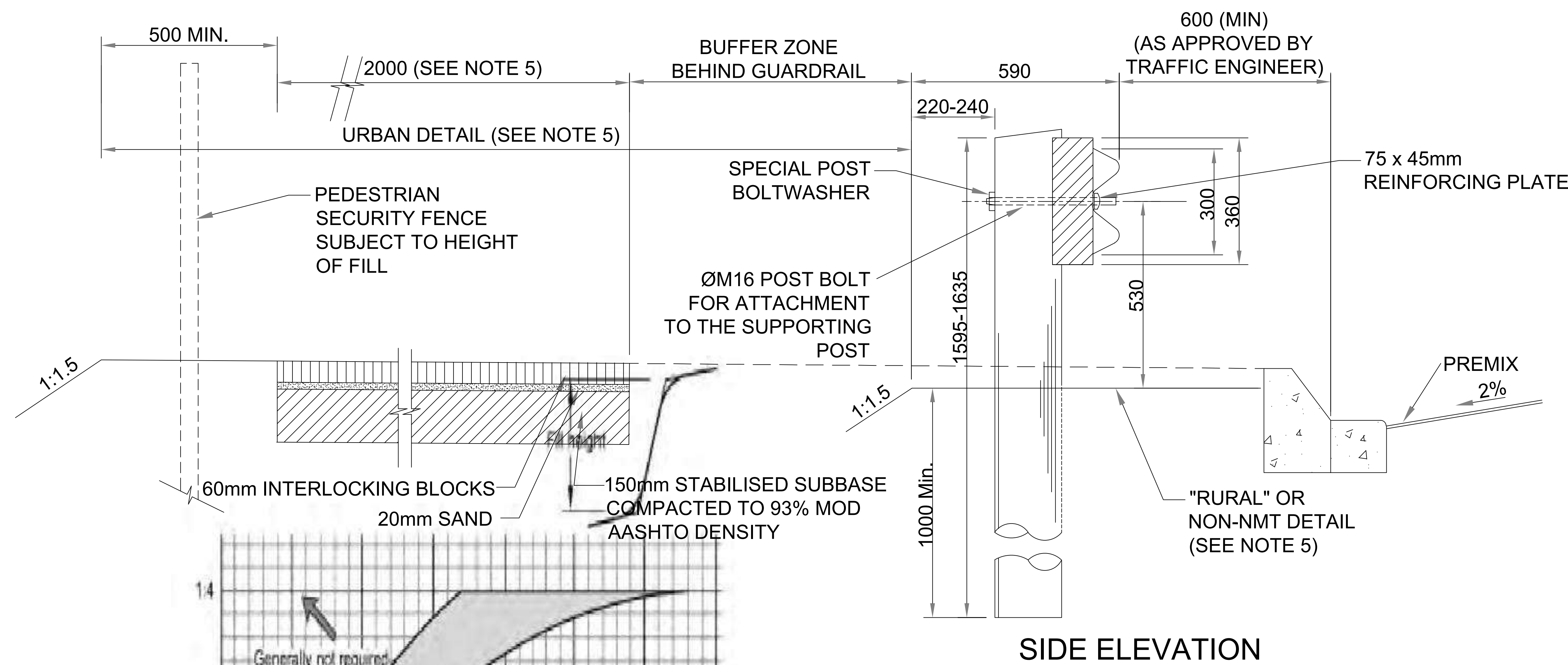
CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	TRAFFIC CALMING MEASURES - TYPICAL RAISED PEDESTRIAN CROSSING			

SCALE	TYPES OF PLANNING	STATUS
00	PLANNING CONSTRUCTION AS-BUILT	PLANNING
REVISION	PLAN No.	
00	RCE 78_MLM_STD_29	

LEGEND

NOTES

- GUARDRAILS ARE REQUIRED IN THE FOLLOWING CASES:
 - WHERE WATER NEXT TO THE RD FORMATION IS DEEPER THAN 1,5m.
 - AT ALL BRIDGES ON SIDE OF ROAD.
 - ON THE OUTSIDE OF CURVES WITH RADII LESS THAN 300m WITHOUT RECOVERY AREAS.
 - WHERE OBSTRUCTIONS ARE LESS THAN 1m FROM THE SHOULDER BREAKPOINT.
 - WHERE AN OBSTRUCTION APPEARS TO BE MORE DANGEROUS THAN A GUARDRAIL WOULD BE.
 - IN THE CASE OF EMBANKMENTS / FILLS, THE WARRANTS DIAGRAM WILL APPLY.
- BEFORE GUARDRAILS ARE ERECTED APPROVAL MUST BE OBTAINED FROM THE EXECUTIVE DIRECTOR: ROADS AND STORMWATER.
- SPECIFICATIONS:
 - BOLT : HIGH TENSILE STEEL 16mm
 - WASHER : STEEL SPRING 10mm THICK.
 - CREOSOTE SHALL COMPLY WITH SANS 538 OR SANS 539.
 - SPACERBLOCK : GUM OR PINE. TREATED WITH CREOSOTE ACCORDING TO ANY METHOD IN SANS 1999.
 - POLE : 150mm TO 230mm GUM OR PINE TREATED WITH CREOSOTE ACCORDING TO ANY METHOD IN SANS 1999.
 - ALL GUARDRAILS SHALL BE GALVANIZED AS SPECIFIED (NOT PAINTED).
 - ALL STRUCTURAL STEEL, INCLUDING TUBES, SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF SANS 32/EN 10240 FOR TYPE A1 OR B1 ARTICLES AS APPLICABLE (OR LATEST).
- ALSO REFER TO SECTION 611 OF THE STANDARD SPECIFICATION FOR MUNICIPAL CIVIL ENGINEERING WORKS, 3rd EDITION, 2005.
- NMT FACILITIES SHALL BE PROVIDED IN TERMS OF RISFSA ROAD CLASSIFICATION (SEE RCS-010 AND RCS-011). IF A CYCLIST FACILITY IS "OFF-ROAD" SURFACING SHALL BE AN APPROPRIATE QUALITY PREMIX NOT INTERLOCKING BRICKS.



No.	DATE	REVISIONS	BY	CHECKED BY

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DESIGNED	ISSUED BY:	RECEIVED BY:
I. Tihasi	DATE:	DATE:
DRAWN		
S. Bapela-Pr Tech Eng		
CHECKED		

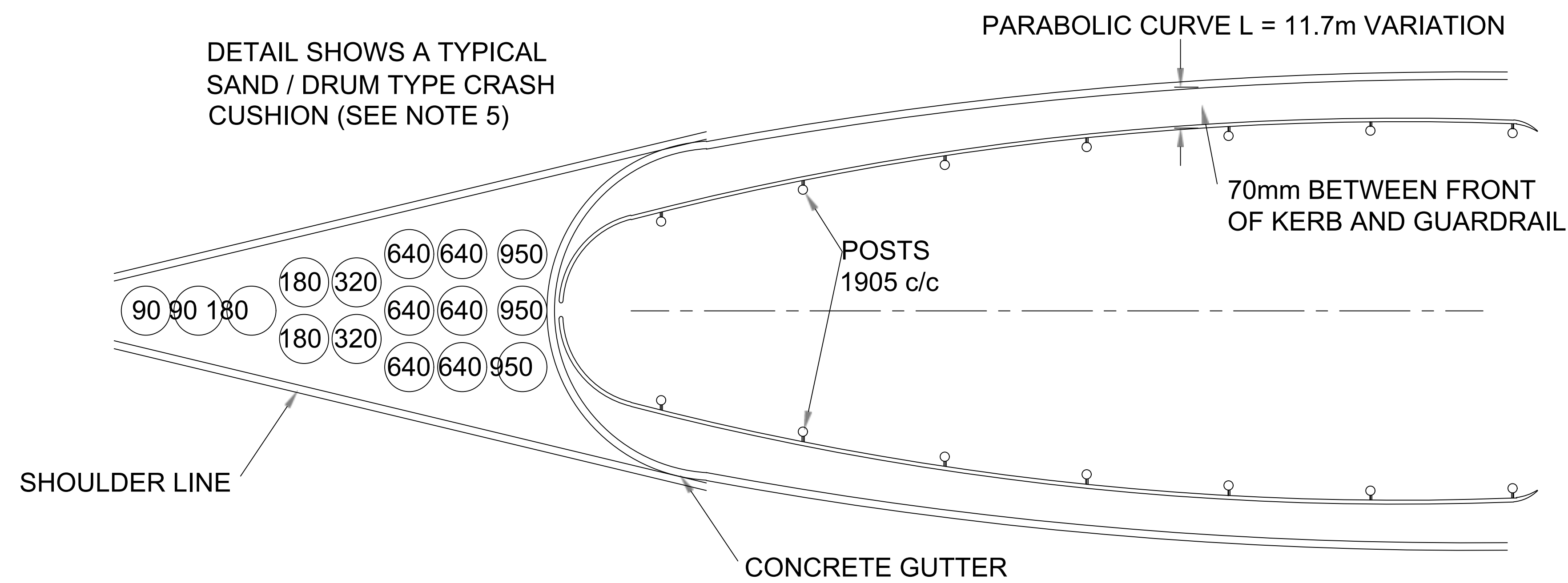
CLIENT ADDRESS	
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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	GUARDRAILS - 1			

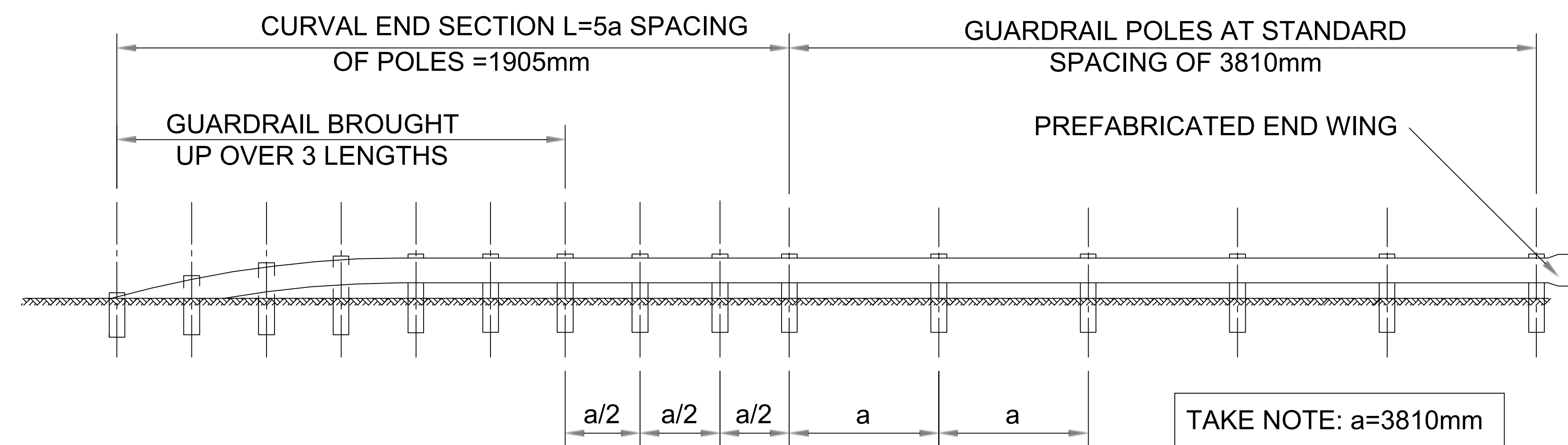
SCALE	TYPES OF PLANNING	STATUS
	PLANNING CONSTRUCTION AS-BUILT	PLANNING
REVISION	PLAN No.	
00	RCE 78_MLM_STD_36	

NOTES

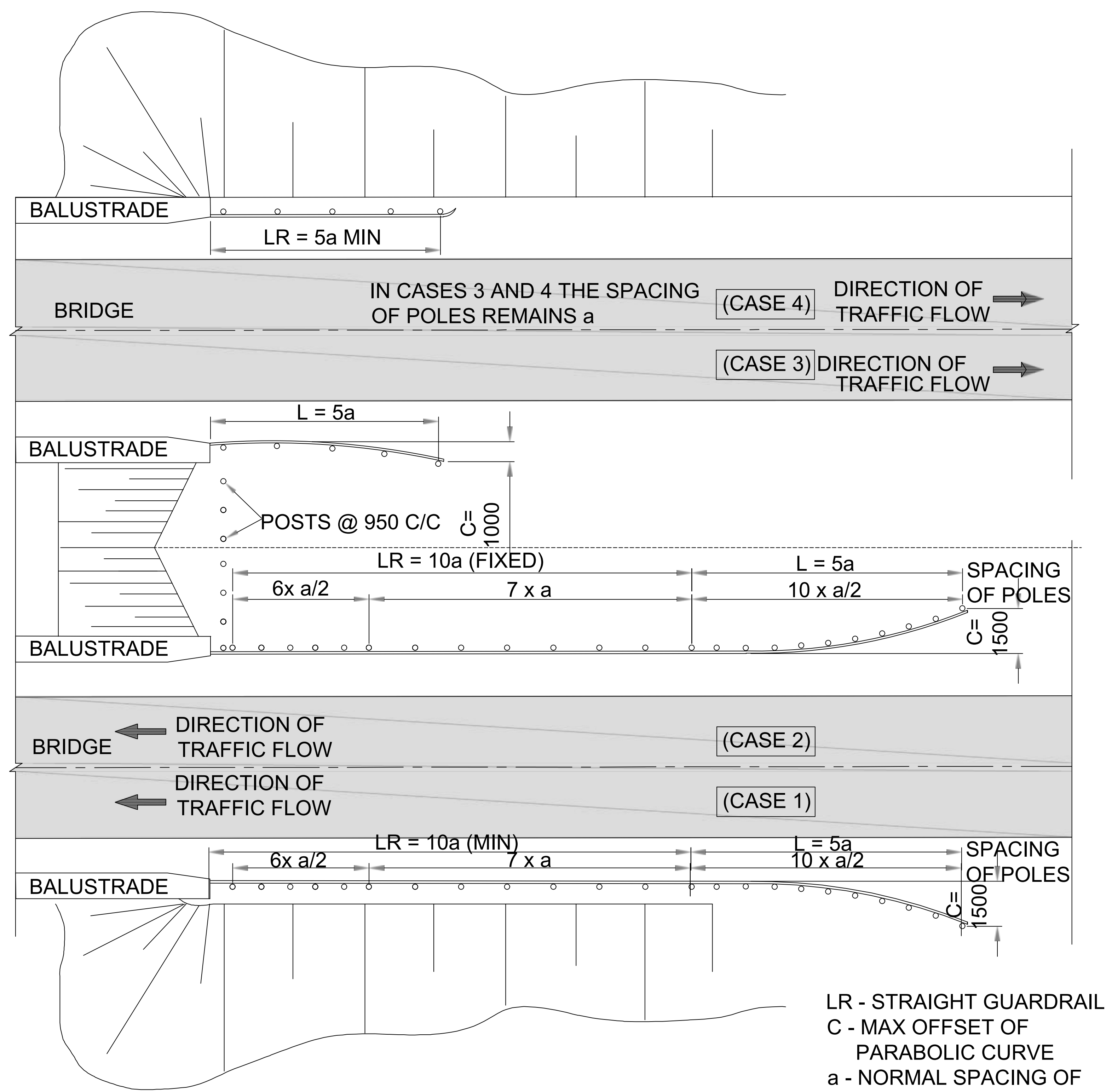
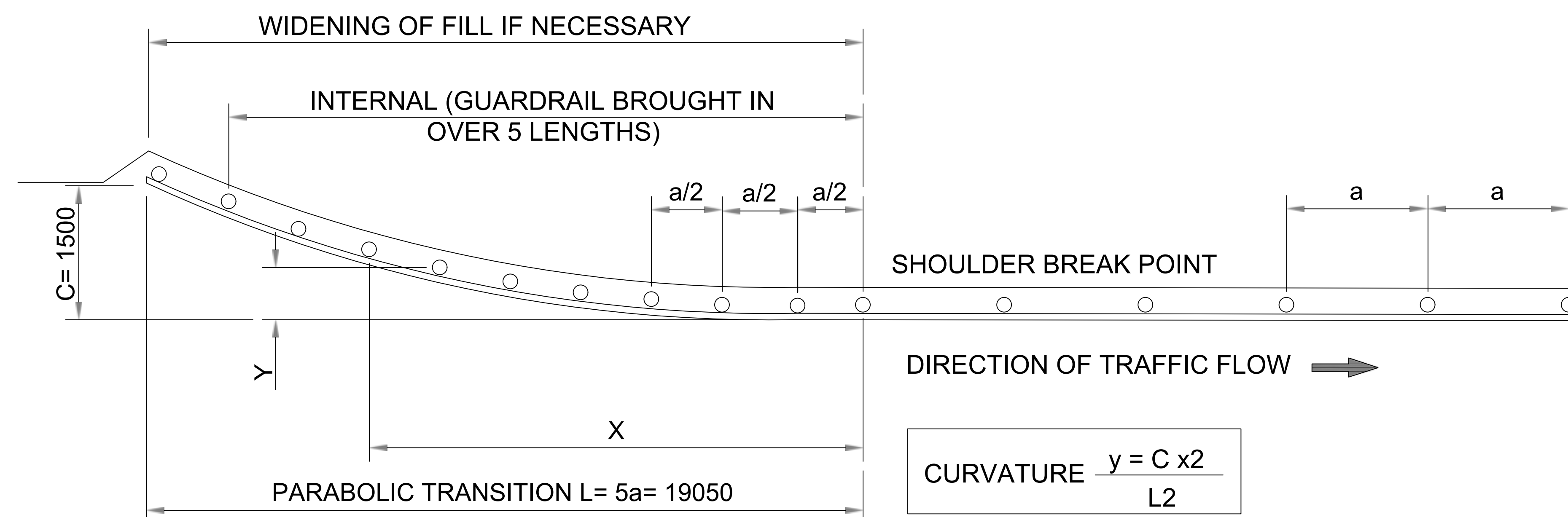
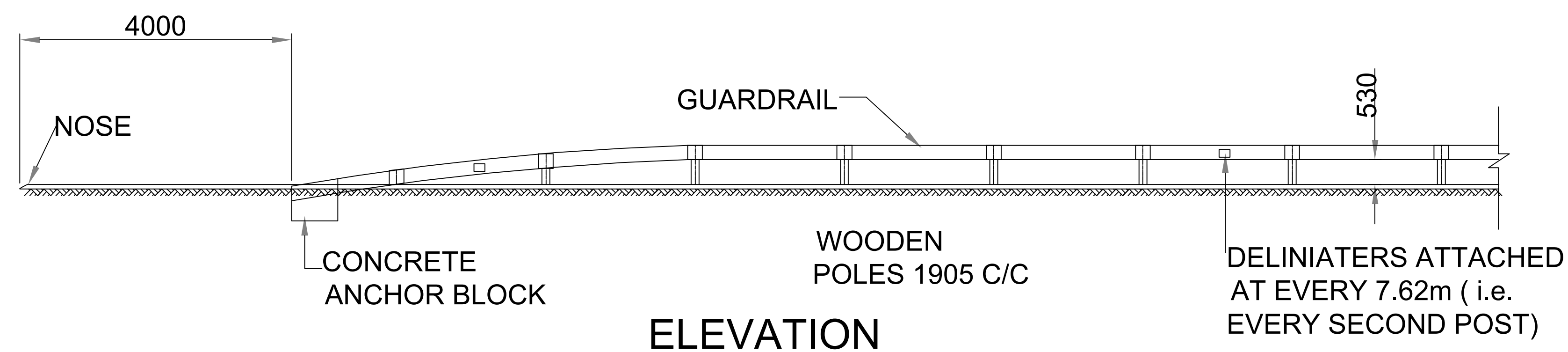
- GUARDRAILS ARE REQUIRED IN THE FOLLOWING CASES:
 - WHERE WATER NEXT TO THE RD FORMATION IS DEEPER THAN 1,5m.
 - AT ALL BRIDGES ON SIDE OF ROAD.
 - ON THE OUTSIDE OF CURVES WITH RADII LESS THAN 300m WITHOUT RECOVERY AREAS.
 - WHERE OBSTRUCTIONS ARE LESS THAN 1m FROM THE SHOULDER BREAKPOINT.
 - WHERE AN OBSTRUCTION APPEARS TO BE MORE DANGEROUS THAN A GUARDRAIL WOULD BE.
 - IN THE CASE OF EMBANKMENTS / FILLS, THE WARRANTS DIAGRAM WILL APPLY.
- BEFORE GUARDRAILS ARE ERECTED APPROVAL MUST BE OBTAINED FROM THE EXECUTIVE DIRECTOR: ROADS AND STORMWATER.
- SPECIFICATIONS:
 - BOLT : HIGH TENSILE STEEL 16mm
 - WASHER : STEEL SPRING 10mm THICK.
 - SPACERBLOCK : GUM OR PINE. TREATED WITH CREOSOTE ACCORDING TO ANY METHOD IN SANS 10005-1999.
 - POLE : 150mm TO 230mm GUM OR PINE TREATED WITH CREOSOTE ACCORDING TO ANY METHOD IN SANS 10005-1999.
 - CREOSOTE SHALL COMPLY WITH THE PROVISIONS OF SANS 538 OR SANS 539.
 - ALL GUARDRAILS SHALL BE GALVANIZED AS SPECIFIED (NOT PAINTED).
 - ALL STRUCTURAL STEEL, INCLUDING TUBES, SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF SANS 32 / EN 10240 FOR TYPE A1 OR B1 ARTICLES AS APPLICABLE (OR LATEST).
- ALSO REFER TO SECTION 611 OF THE STANDARD SPECIFICATION FOR MUNICIPAL CIVIL ENGINEERING WORKS, 3rd EDITION, 2005.
- THE USE OF A CRASH CUSHION SHALL BE SUBJECT TO ENGINEERING ASSESSMENT AND DESIGN. SPECIFIC CUSHION TYPE SHOULD BE BASED ON JRA REQUIREMENTS.



TYPICAL GUARDRAIL AT NOSE WITH CRASH CUSHION



FRONT ELEVATION

LAYOUT PLAN
DETAIL OF MINIMUM GUARDRAIL LAYOUT AT STRUCTURES

No.	DATE	REVISIONS	BY	CHECKED BY

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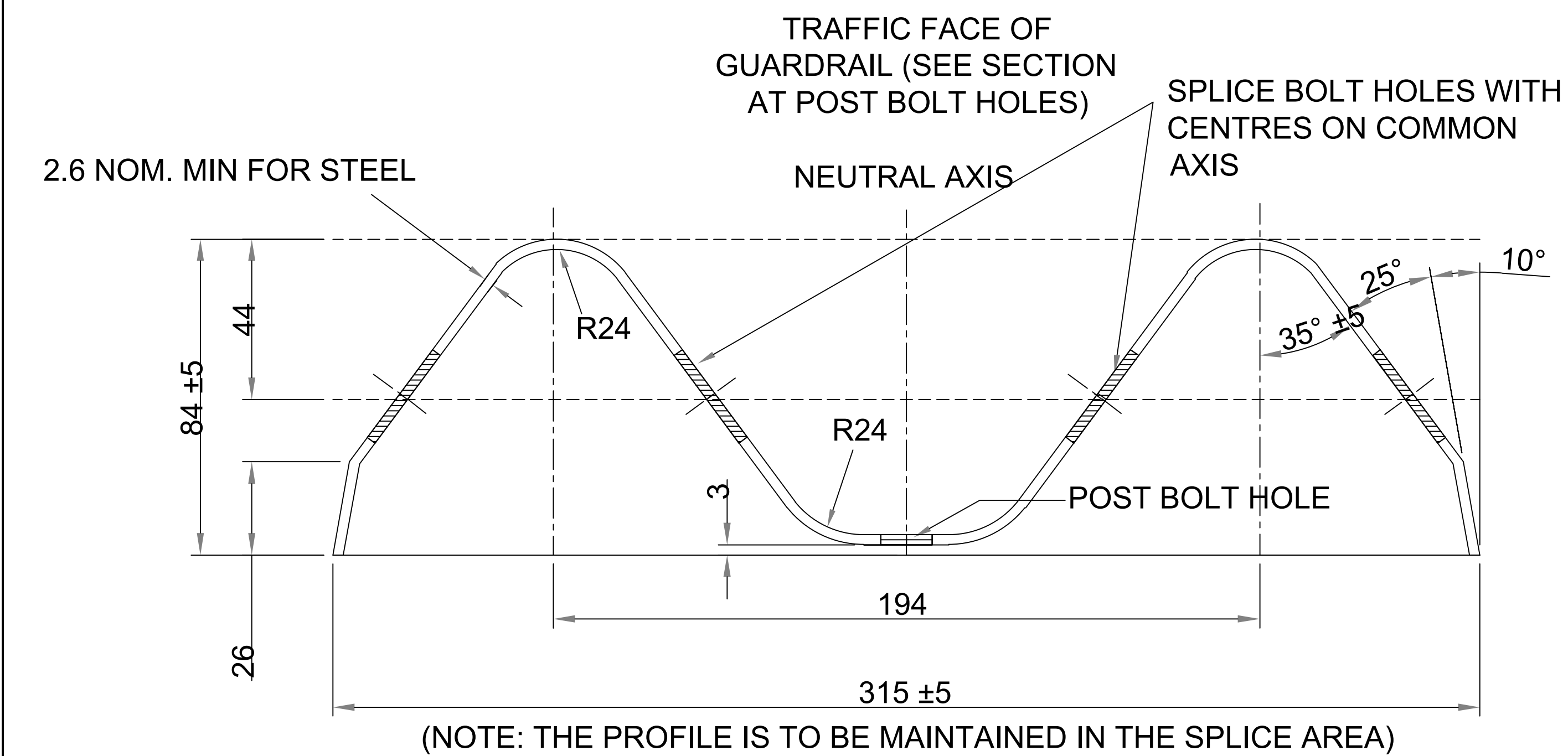
CLIENT ADDRESS

THOHOYANDOU
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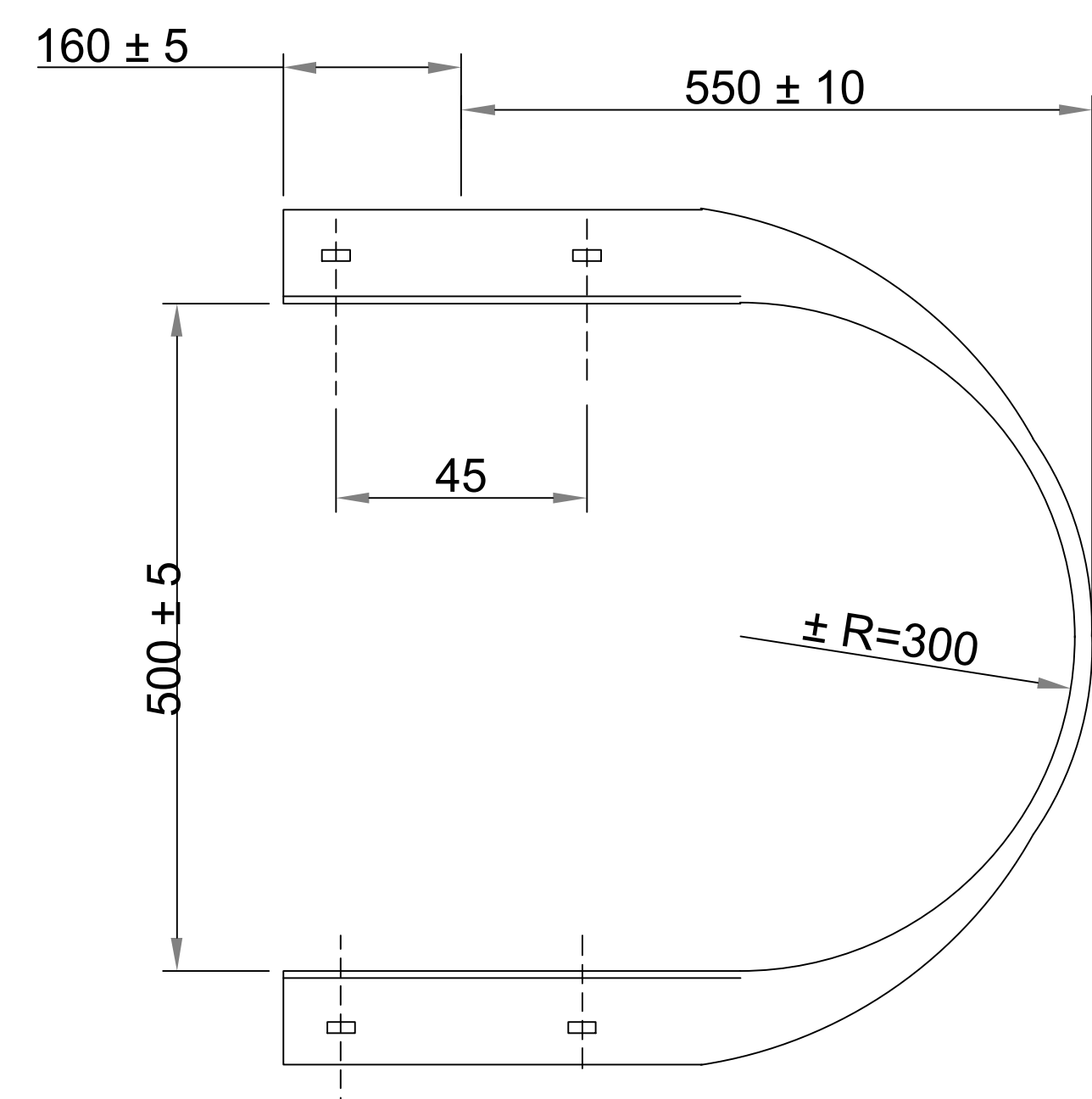
Tel: (015) 962 1828
Fax: (015) 962 1017

CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE	UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1			
DRAWING TITLE	GUARDRAILS - 2			

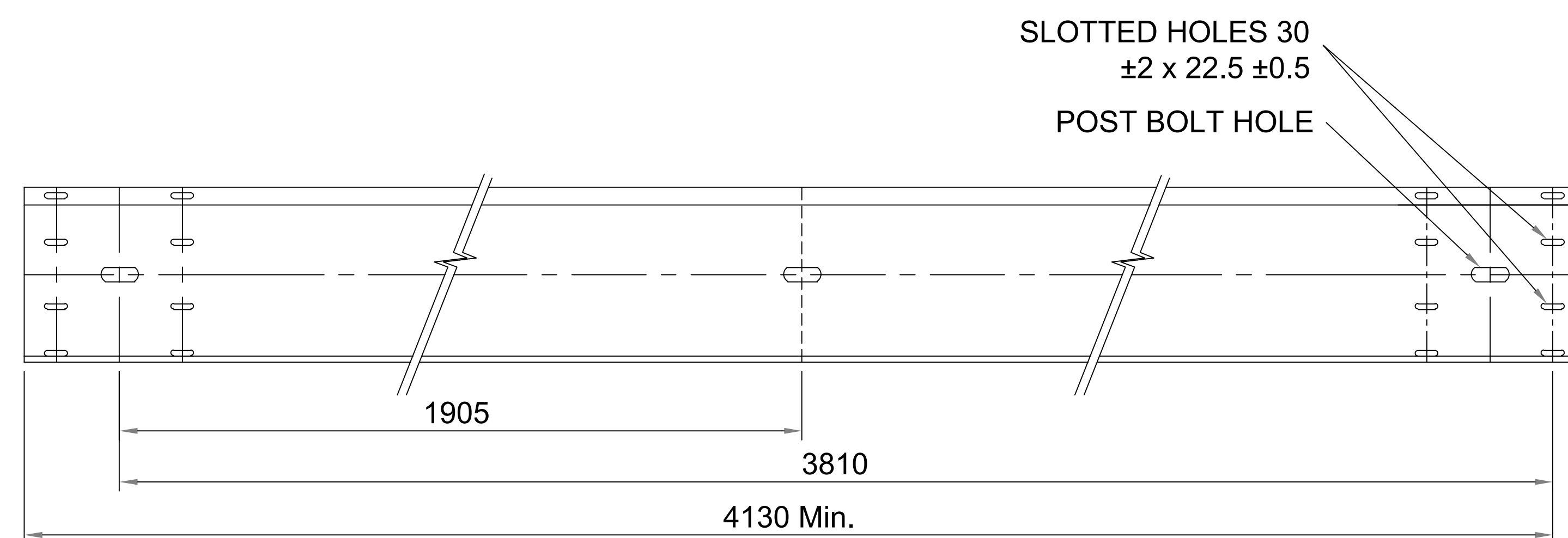
SCALE	TYPES OF PLANNING	STATUS
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REVISION	PLAN No.	
00	RCE 78_MLM_STD_37	



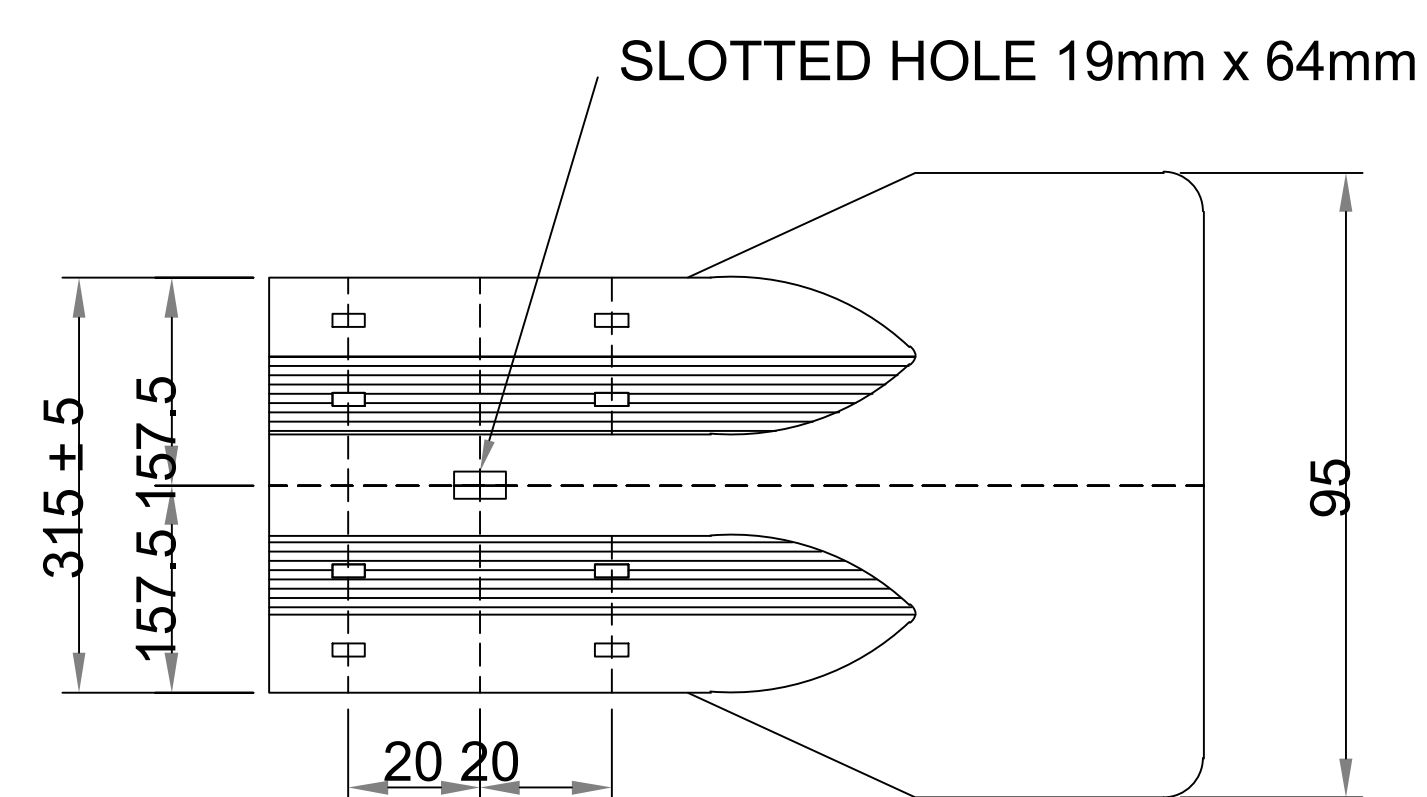
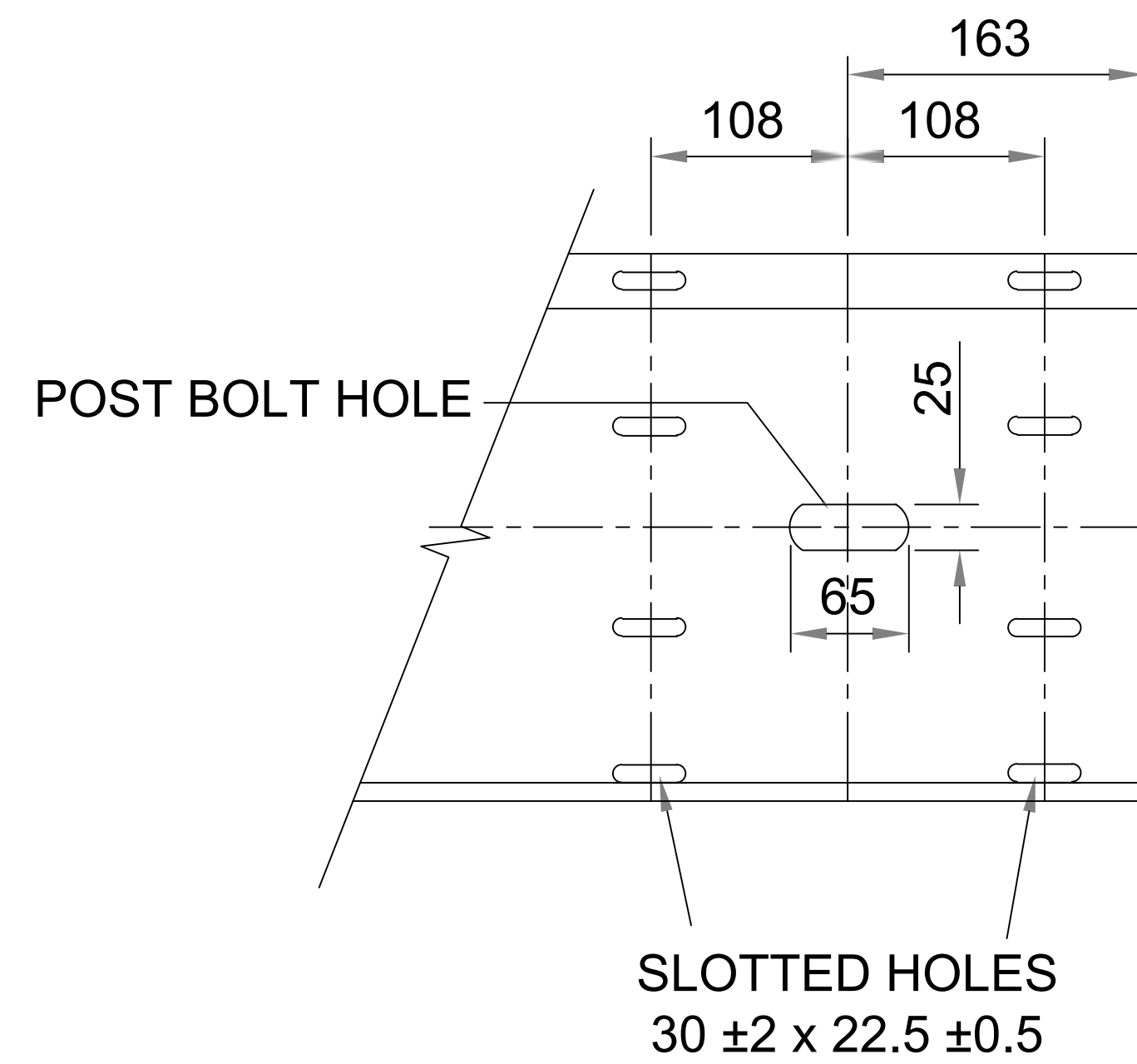
CROSS-SECTION OF GUARDRAIL



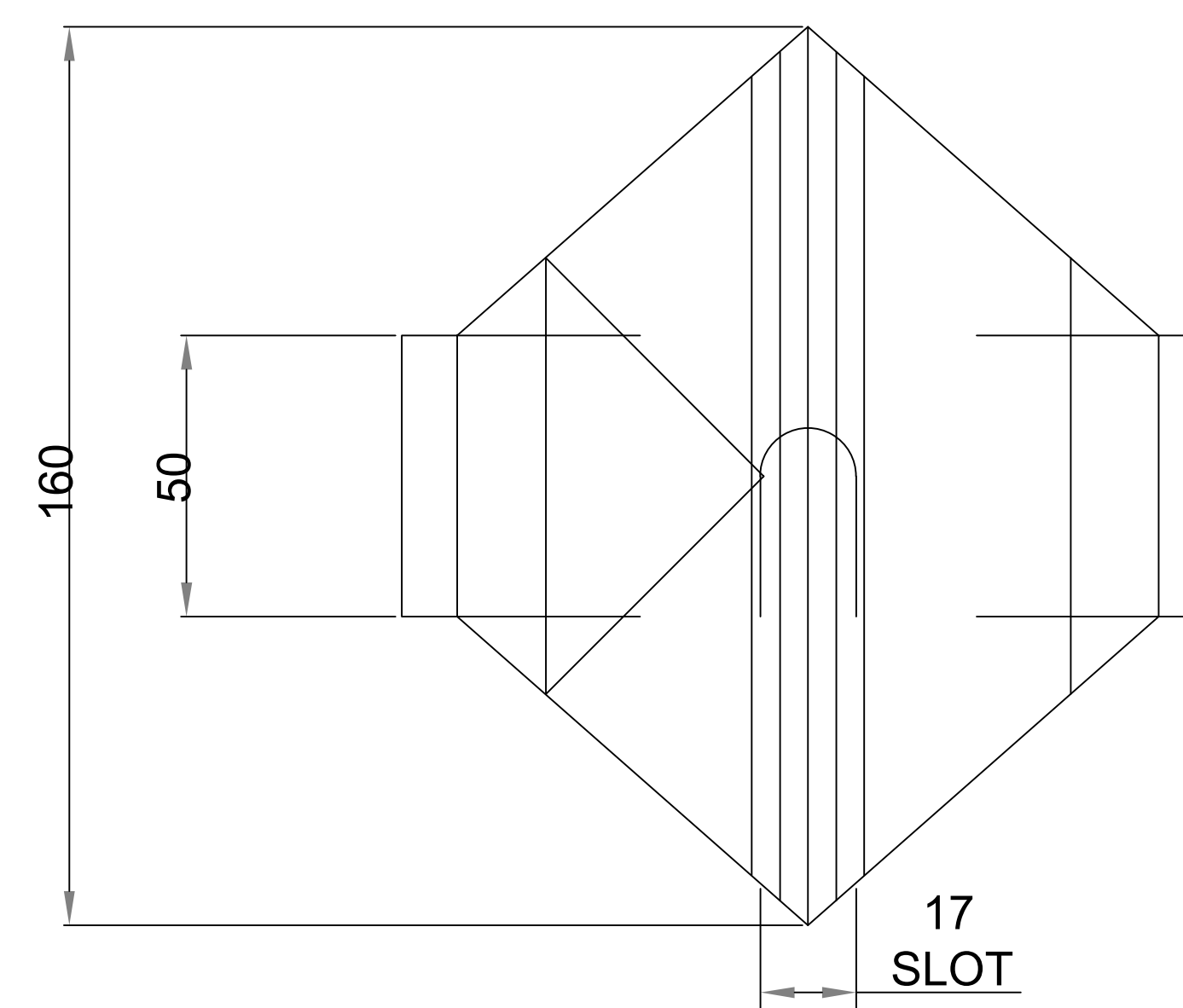
BULLNOSE ENDWING - PLAN



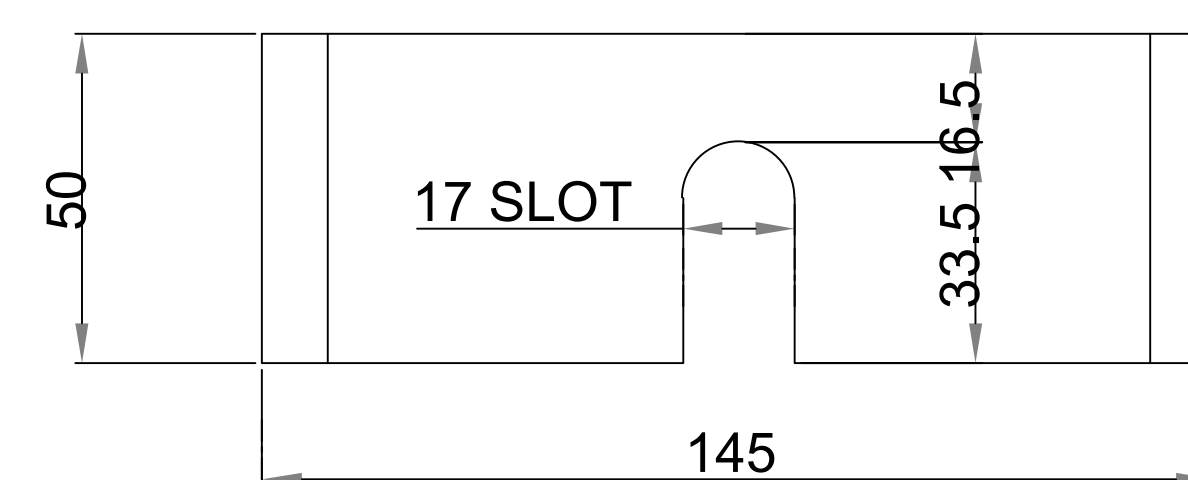
GUARDRAIL



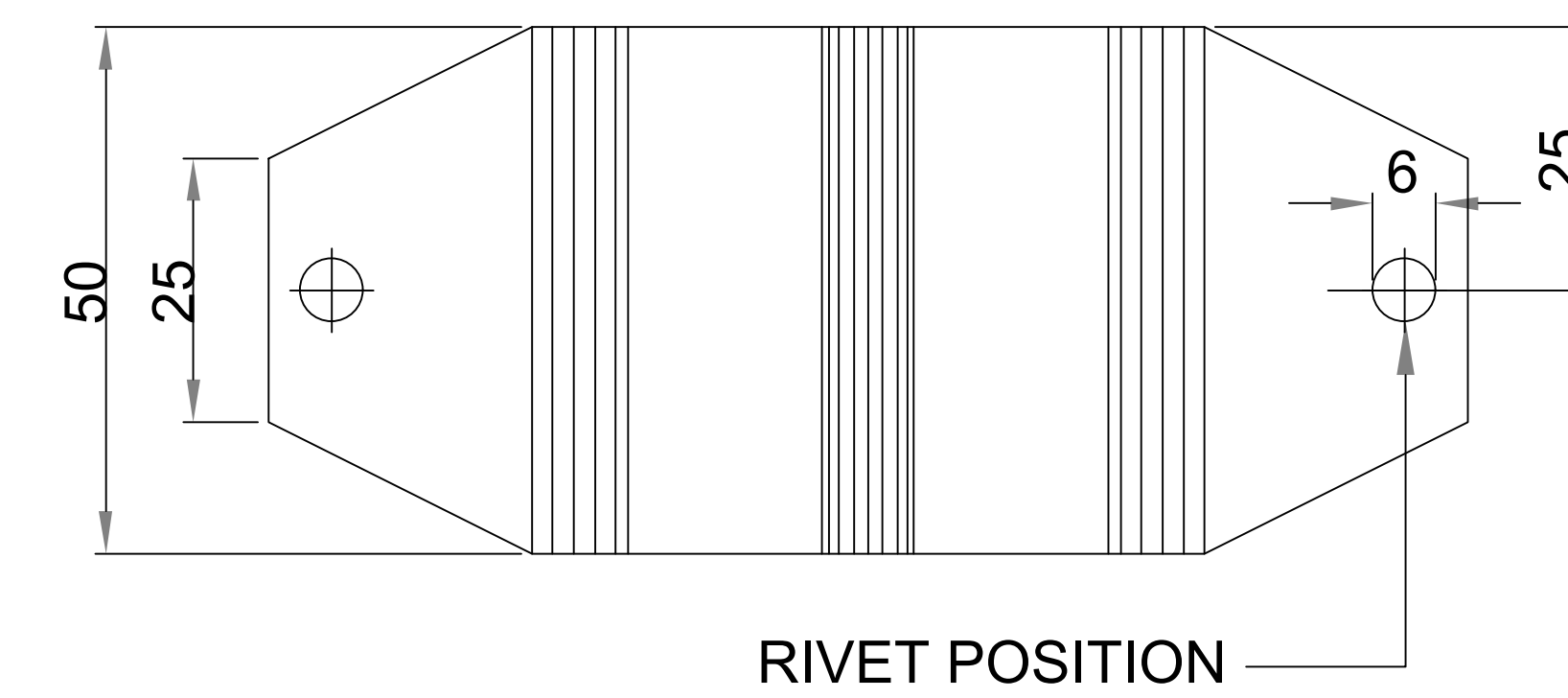
STANDARD TYPICAL FLARED ENDWING



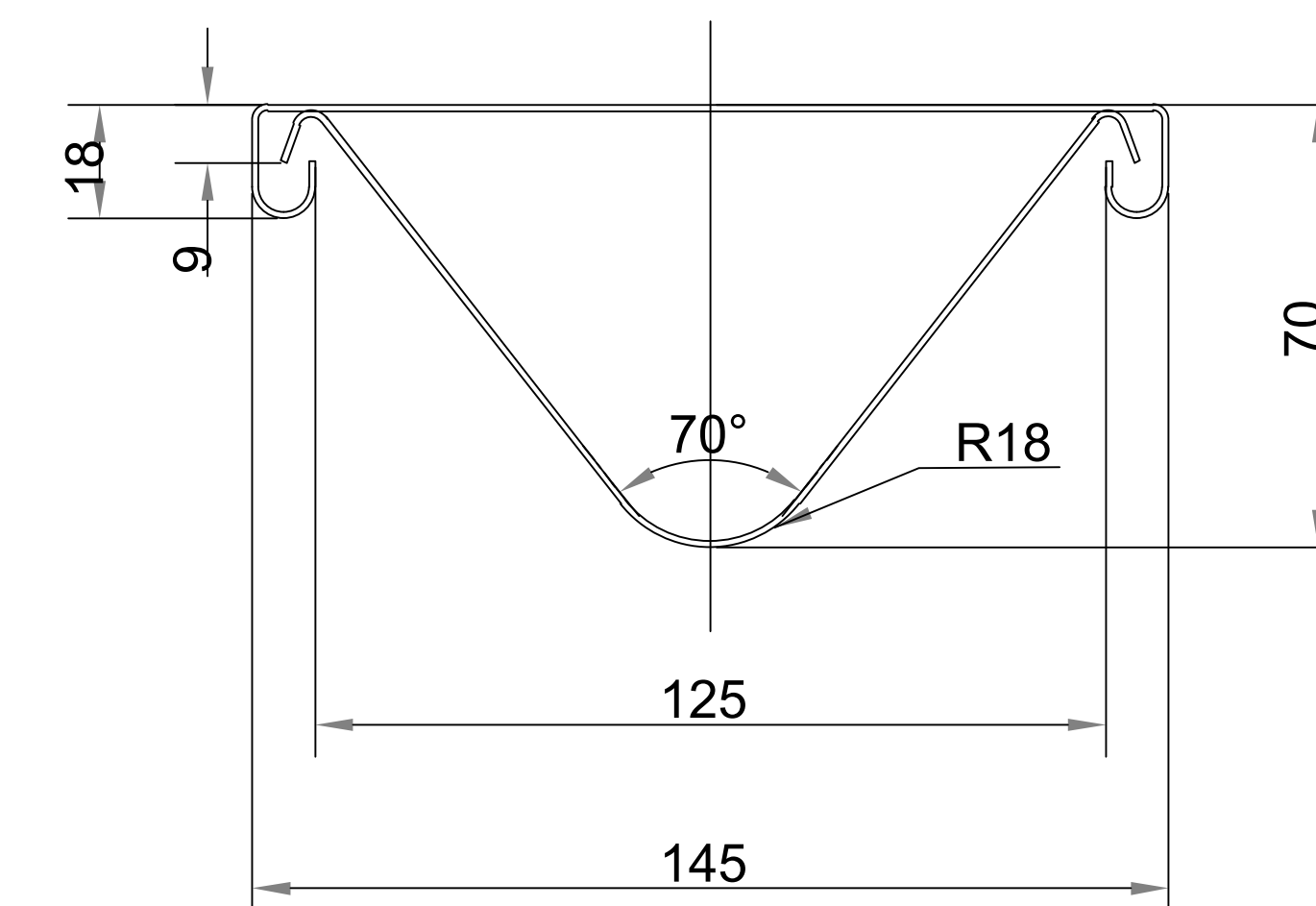
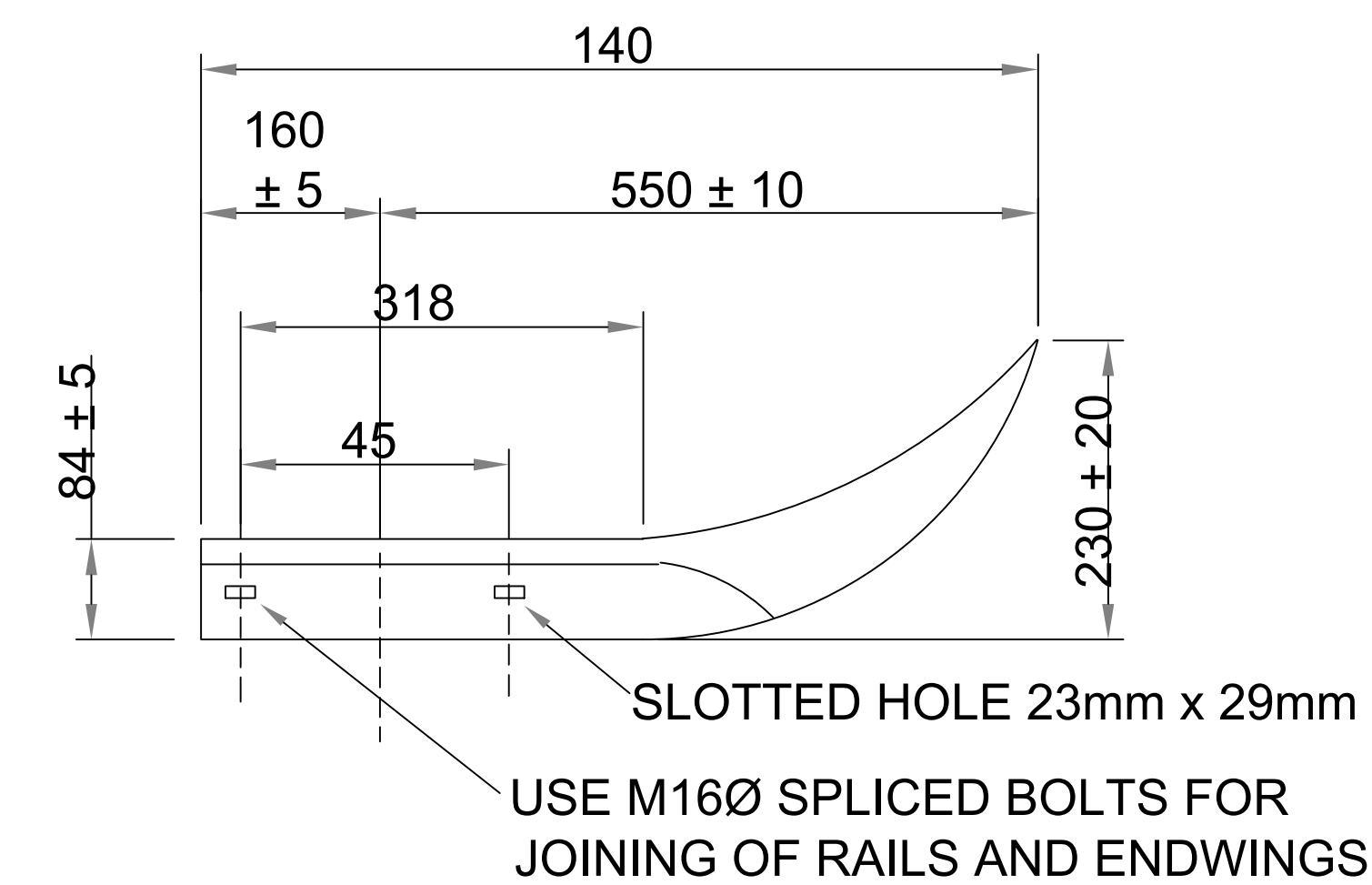
FRONT ELEVATION



BASEPLATE



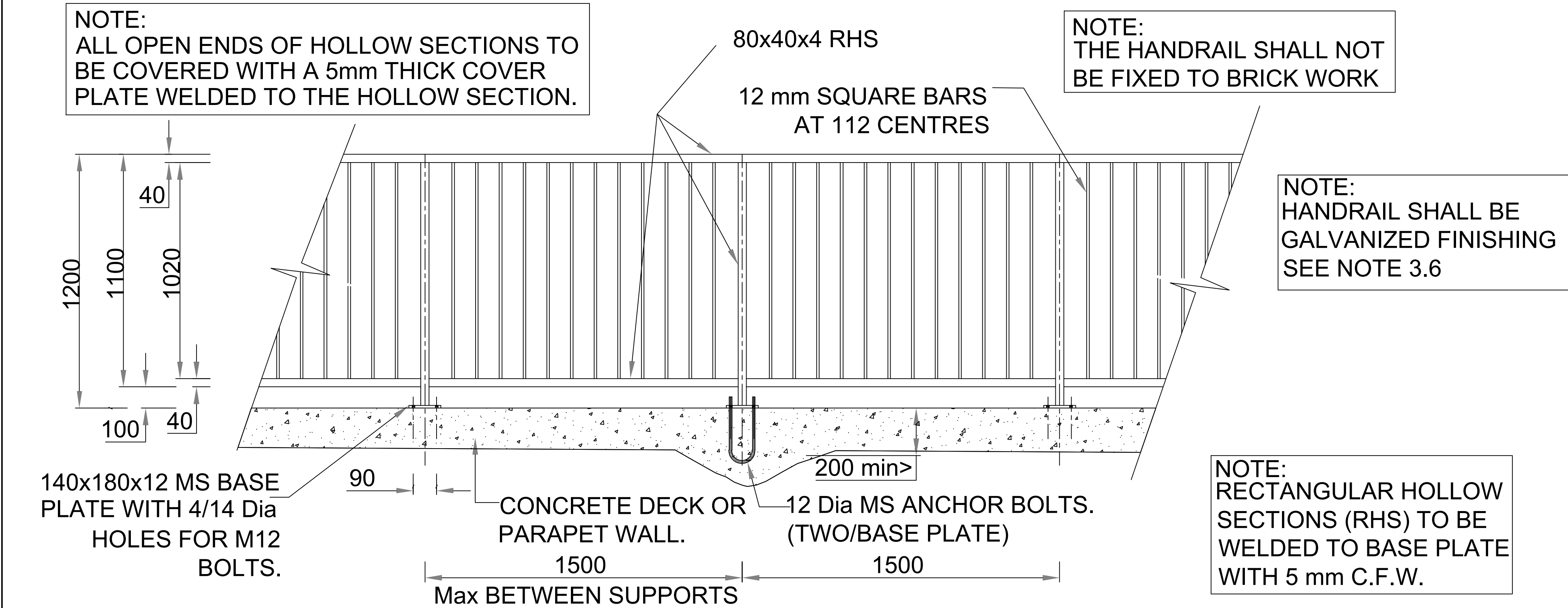
FRONT ELEVATION



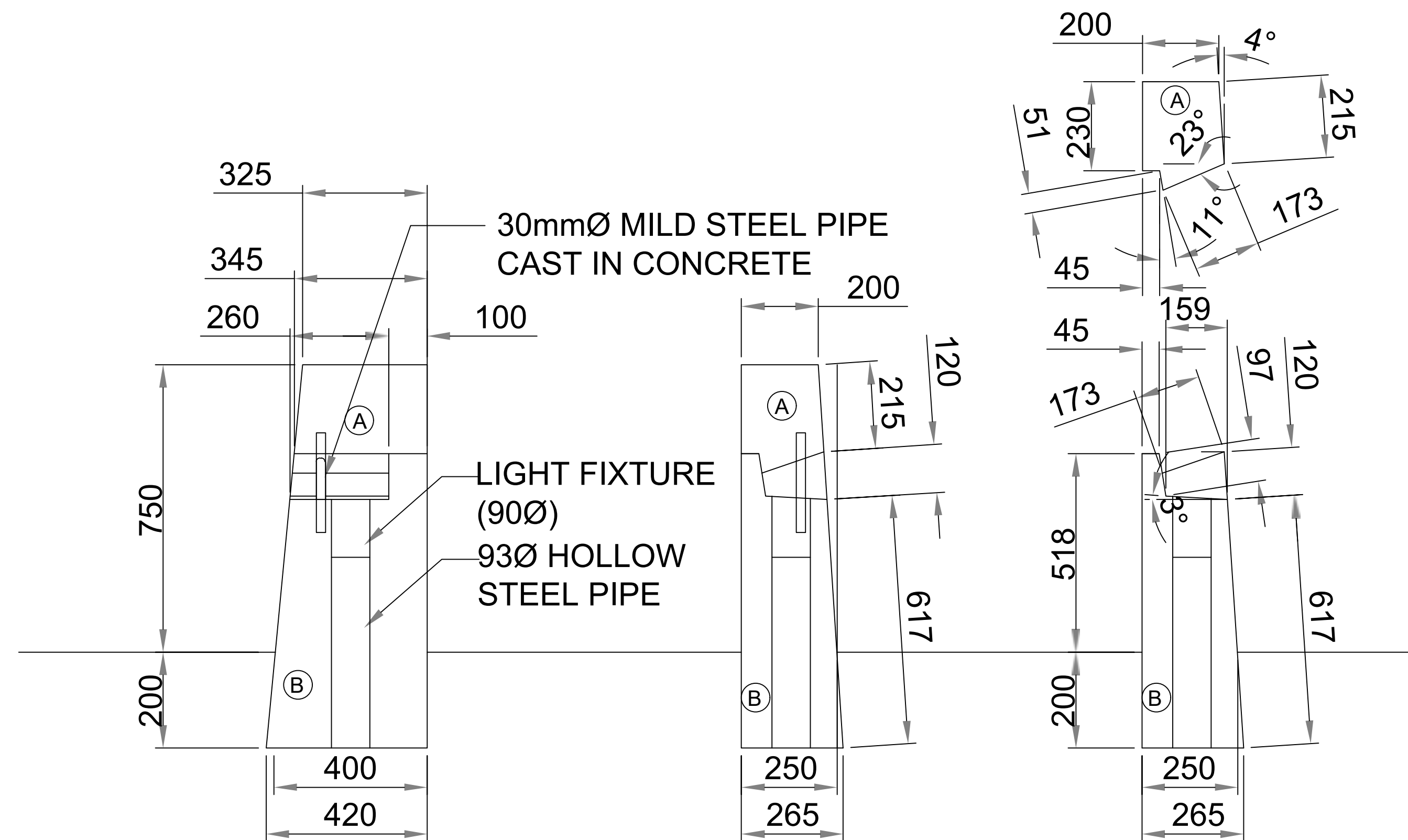
SECTIONAL PLAN OF ASSEMBLY

- | LEGEND |
|--|
| |
| NOTES |
| <p>1. GUARDRAILS ARE REQUIRED IN THE FOLLOWING CASES:</p> <p>1.1. WHERE WATER NEXT TO THE RD FORMATION IS DEEPER THAN 1,5m.</p> <p>1.2. AT ALL BRIDGES ON SIDE OF ROAD.</p> <p>1.3. ON THE OUTSIDE OF CURVES WITH RADII LESS THAN 300m WITHOUT RECOVERY AREAS.</p> <p>1.4. WHERE OBSTRUCTIONS ARE LESS THAN 1m FROM THE SHOULDER BREAKPOINT.</p> <p>1.5. WHERE AN OBSTRUCTION APPEARS TO BE MORE DANGEROUS THAN A GUARDRAIL WOULD BE.</p> <p>1.6. IN THE CASE OF EMBANKMENTS / FILLS, THE WARRANTS DIAGRAM WILL APPLY.</p> <p>2. BEFORE GUARDRAILS ARE ERECTED APPROVAL MUST BE OBTAINED FROM THE EXECUTIVE DIRECTOR: ROADS AND STORMWATER.</p> <p>3. SPECIFICATIONS:</p> <p>3.1. BOLT : HIGH TENSILE STEEL 16mm</p> <p>3.2. WASHER : STEEL SPRING 10mm THICK.</p> <p>3.3. SPACERBLOCK : GUM OR PINE. TREATED WITH CREOSOTE ACCORDING TO ANY METHOD IN SANS 1999.</p> <p>3.4. POLE : 150mm TO 230mm GUM OR PINE TREATED WITH CREOSOTE ACCORDING TO ANY METHOD IN SANS 1999.</p> <p>3.5. CREOSOTE SHALL COMPLY WITH THE PROVISIONS OF SANS 538 OR SANS 539.</p> <p>3.6. ALL GUARDRAILS SHALL BE GALVANIZED AS SPECIFIED (NOT PAINTED).</p> <p>3.7. ALL STRUCTURAL STEEL, INCLUDING TUBES, SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF SANS 32/EN 10240 FOR TYPE A1 OR B1 ARTICLES AS APPLICABLE (OR LATEST).</p> <p>4. ALSO REFER TO SECTION 611 OF THE STANDARD SPECIFICATION FOR MUNICIPAL CIVIL ENGINEERING WORKS, 3rd EDITION, 2005.</p> |

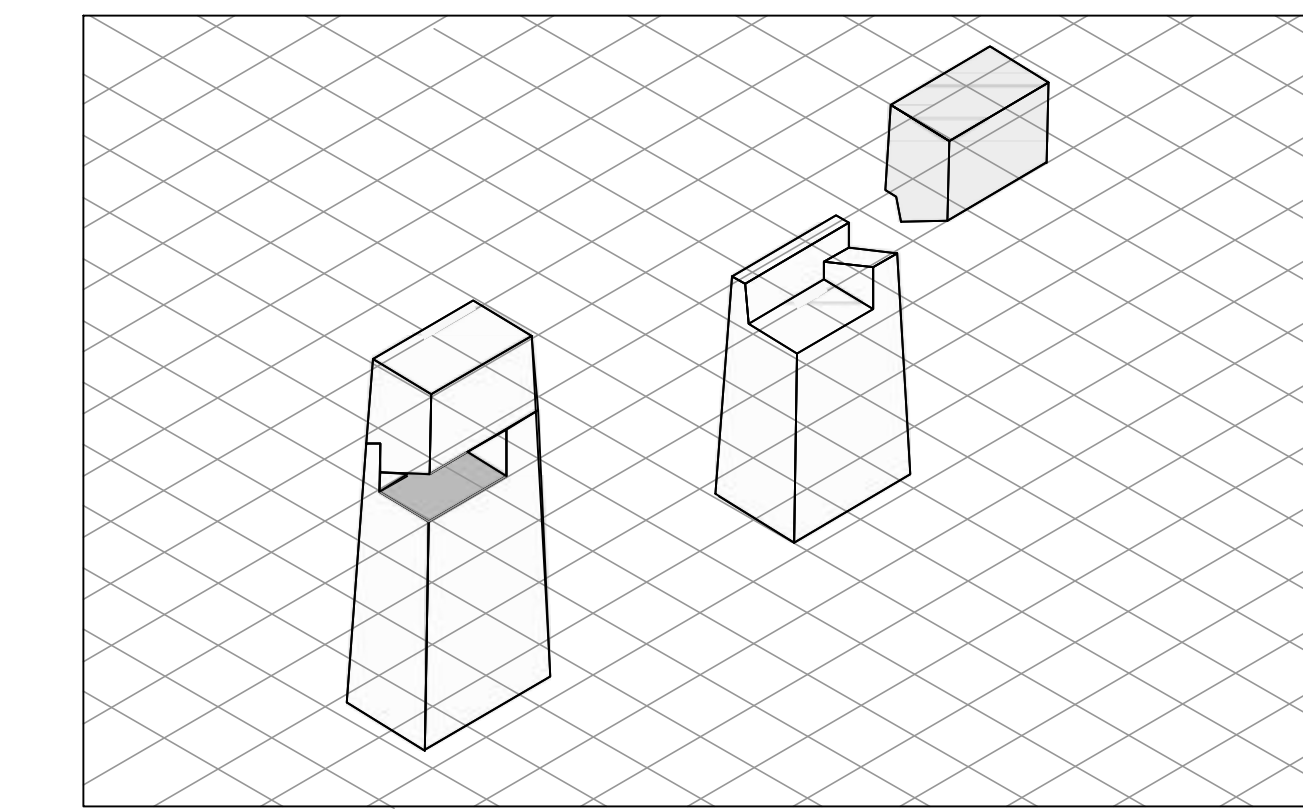
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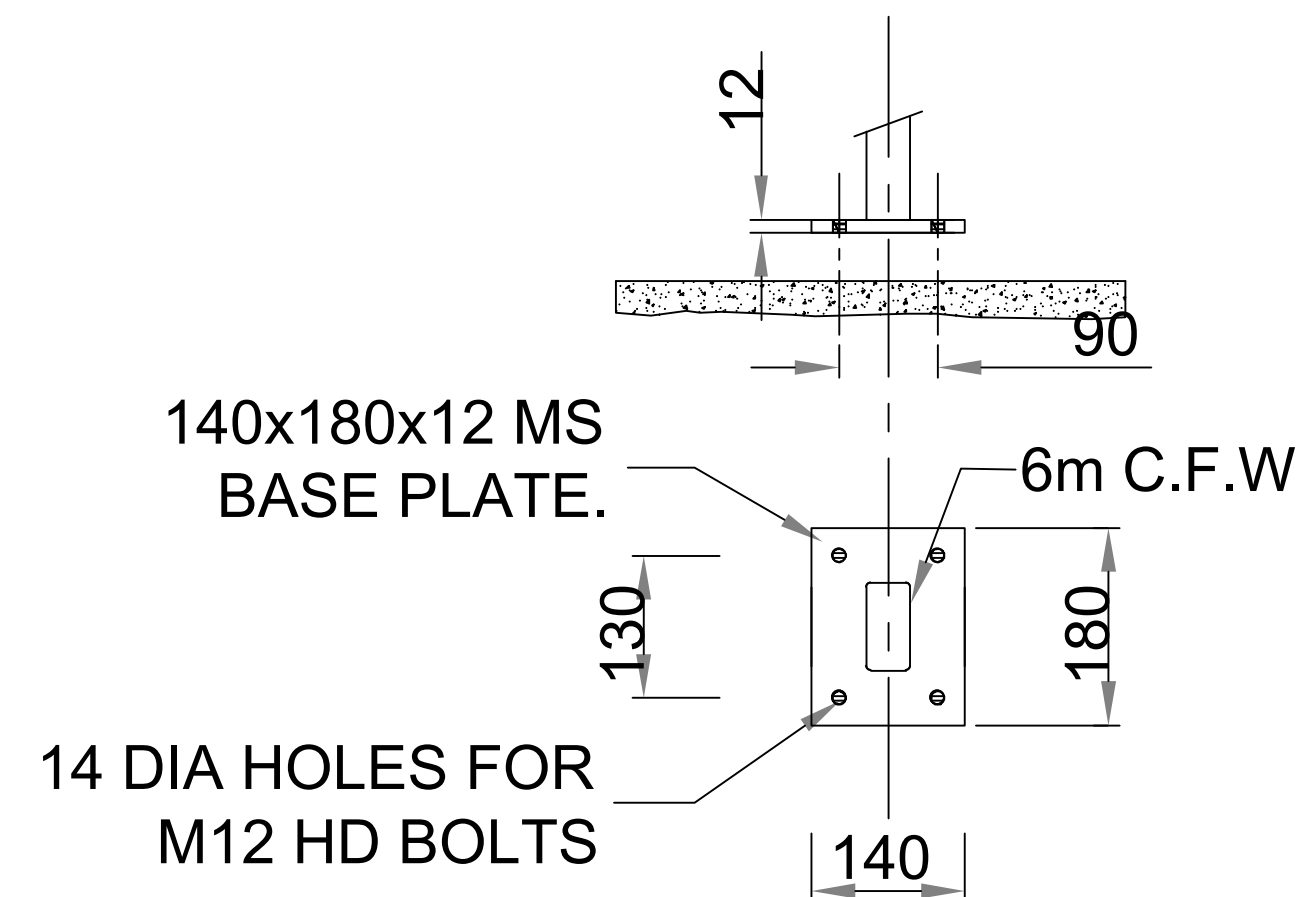
ELEVATION ON HANDRAIL/BALUSTRADE



FRONT AND SIDE ELEVATION



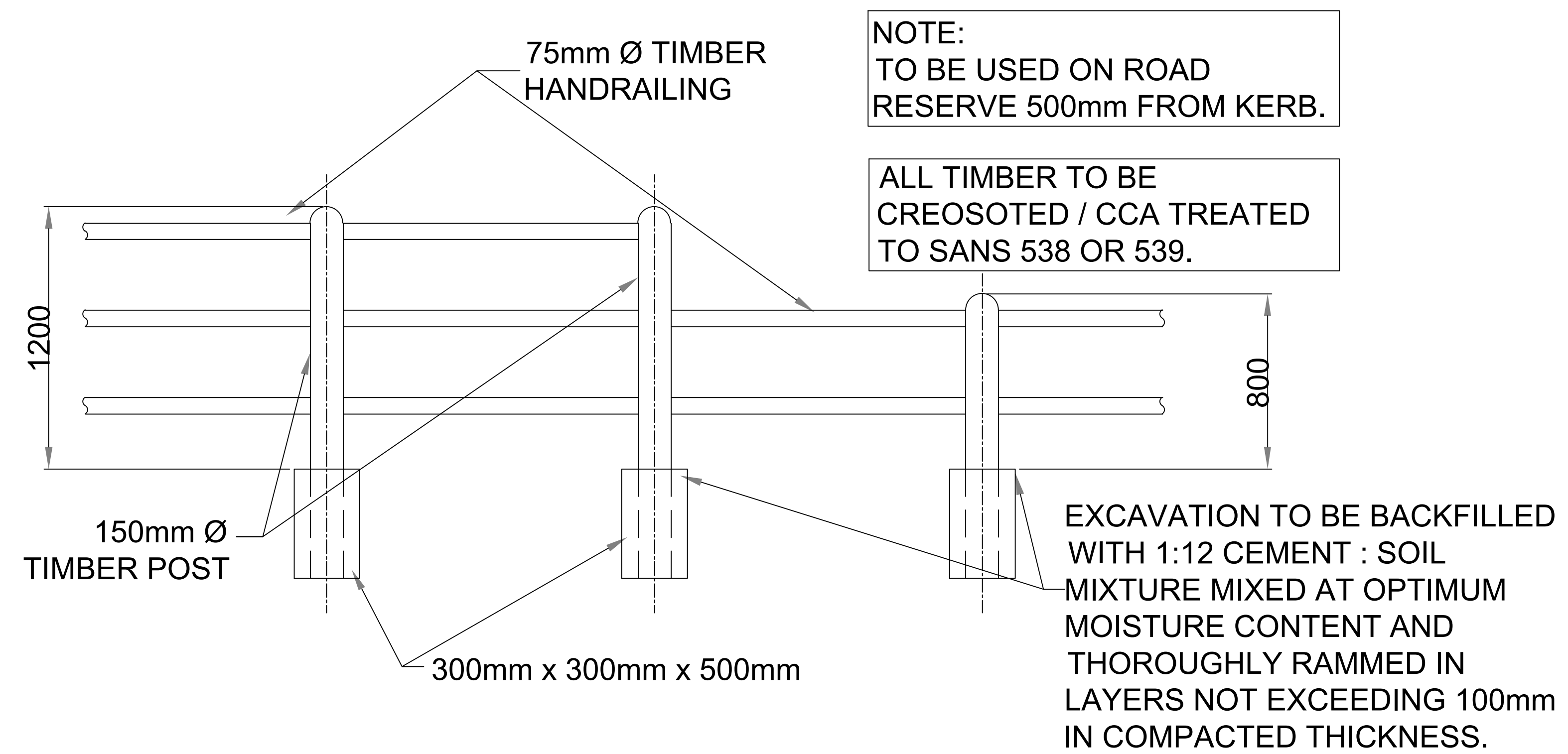
3D VIEW CONCRETE BOLLARD (EXPOSED AGGREGATE FINISH)



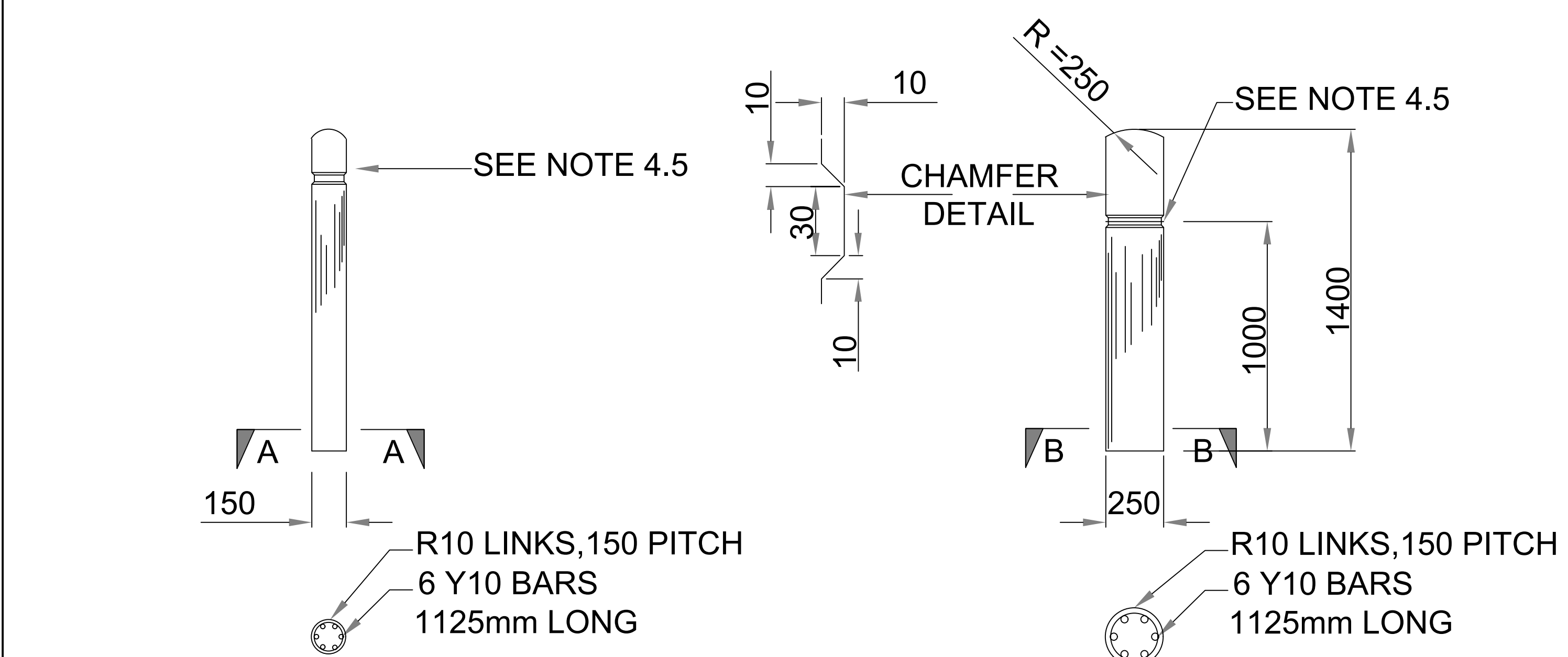
BASE PLATE DETAIL FOR STEEL HANDRAIL

HOLDING DOWN BOLTS.

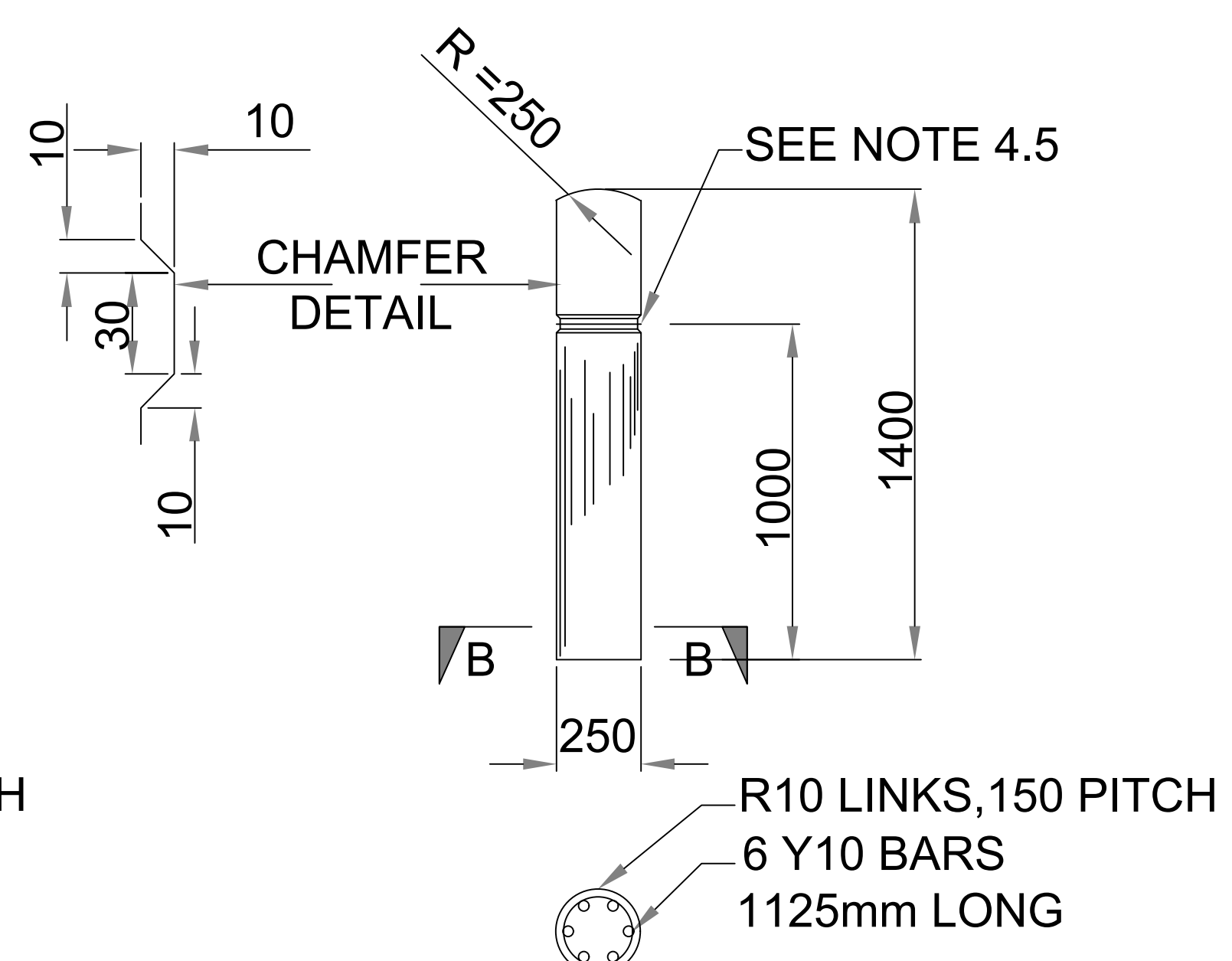
1. THE FOLLOWING SHALL APPLY TO HOLDING DOWN BOLTS:
 - (i) BOLT AND WASHER PLATE MATERIAL SHALL BE GRADE 43 UNLESS OTHERWISE SPECIFIED.
 - (ii) BOLTS SHALL BE KEPT IN POSITION WHILE CONCRETING BY MEANS OF A TEMPLATE.
 - (iii) ROUND WASHERS TO BE USED UNDER NUTS SHALL BE OF SUFFICIENT SIZE TO PROVIDE ADEQUATE BEARING ON BASE PLATE.
 - (iv) BOLT SHANKS SHALL BE DEGREASED BEFORE EMBEDDING IN CONCRETE.
2. NOTE: IF HILTI, RAWLBOLTS OR A SIMILAR TYPE OF BOLT IS USED, EACH BOLT MUST BE ABLE TO RESIST A FORCE IN DIRECT TENSION OF NOT LESS THAN 10kN.



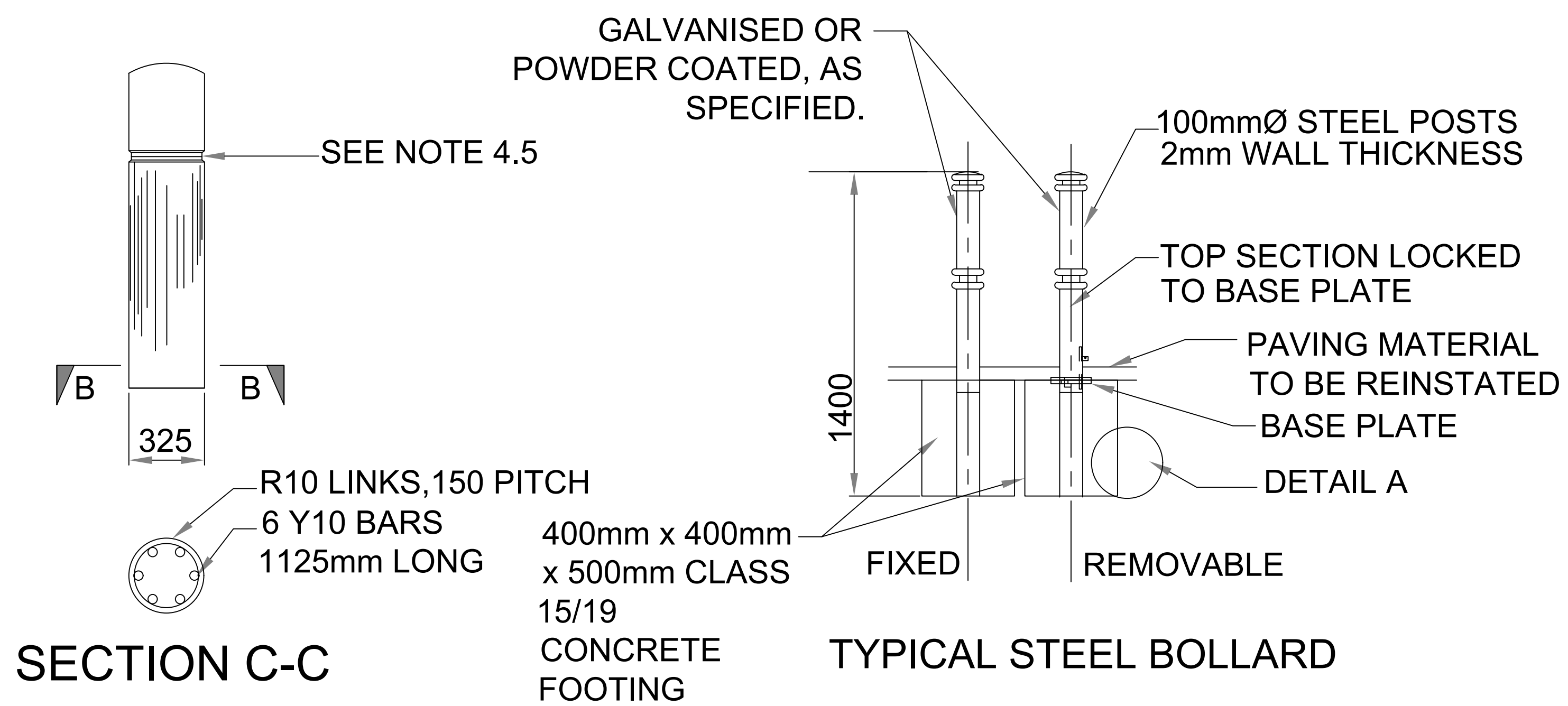
TYPICAL POST AND RAIL TIMBER BALUSTRADE



SECTION A-A
150 CONCRETE BOLLARD
(SMOOTH FINISH)

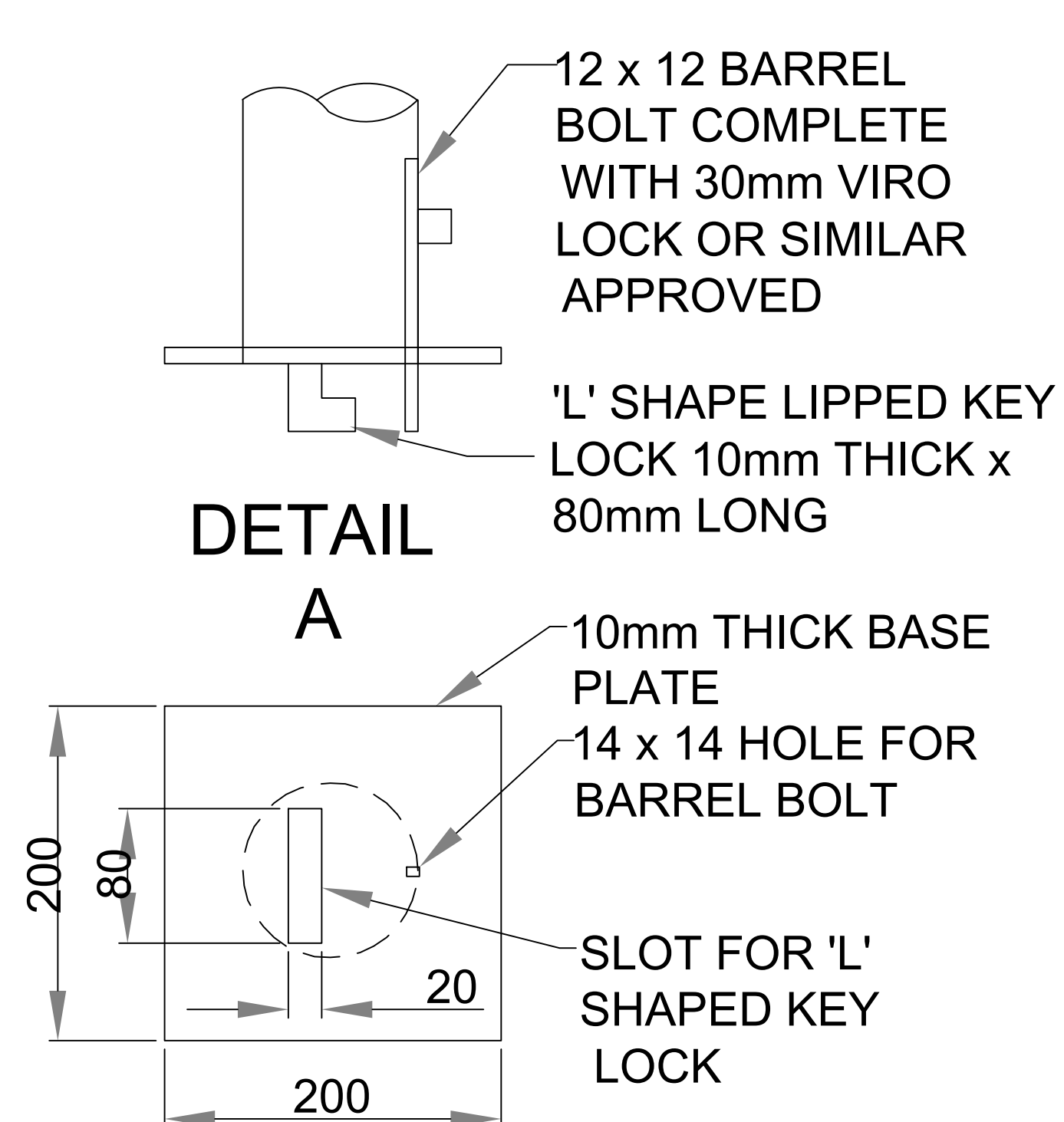


SECTION B-B
250 CONCRETE BOLLARD
(SMOOTH OR EXPOSED
AGGREGATE FINISH)



SECTION C-C

TYPICAL STEEL BOLLARD



BASE PLATE DETAIL

LEGEND
NOTES
<p>1. GENERAL:</p> <p>1.1 ALL MATERIAL AND WORKMANSHIP MUST COMPLY WITH THE REQUIREMENTS OF THE LATEST RELEVANT SANS REQUIREMENTS.</p> <p>1.2 ALL DIMENSIONS ARE IN MILLIMETERS. (UNLESS OTHERWISE SPECIFIED)</p> <p>1.3 ALL DIMENSIONS MUST BE CHECKED AND APPROVED ON SITE.</p> <p>2. REINFORCED CONCRETE:</p> <p>2.1 REINFORCED CONCRETE WORK SHALL BE IN STRICT ACCORDANCE WITH SECTIONS 702, 703 AND 704 OF THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, 3rd EDITION, 2005.</p> <p>2.2 CONCRETE COVER SHALL BE AS INDICATED ON THE DRAWINGS OR SPECIFICATIONS.</p> <p>3. STRUCTURAL STEELWORK:</p> <p>3.1 STRUCTURAL STEELWORK SHALL BE IN STRICT ACCORDANCE WITH SECTION 809 OF THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, 3rd EDITION, 2005.</p> <p>3.2 STRUCTURAL STEEL SHALL BE GRADE 300W UNLESS OTHERWISE INDICATED OR SPECIFIED.</p> <p>3.3 COLD FORMED SECTIONS SHALL BE MADE FROM COMMERCIAL QUALITY STEEL UNLESS OTHERWISE SPECIFIED.</p> <p>3.4 HOLDING DOWN BOLTS SHALL BE OF THE GRADE SPECIFIED ON THE DRAWINGS.</p> <p>3.5 PAINTING OF STRUCTURAL STEELWORK SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF SECTION 806 OF THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, 3rd EDITION, 2005.</p> <p>3.6 ALL STRUCTURAL STEEL, INCLUDING TUBES, SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF SANS 121/ISO1461 AND SANS 32/EN10240 FOR TYPE A1 OR B1 ARTICLES AS APPLICABLE (OR LATEST).</p> <p>4. CONCRETE BOLLARDS:</p> <p>4.1 CONCRETE TYPE CLASS 30/19.</p> <p>4.2. CONCRETE FINISH AS SPECIFIED ON DRAWINGS.</p> <p>4.3. STEEL REINFORCEMENT TO BE 6Y10 BARS WITH R10 LINKS AT 150mm PITCH.</p> <p>4.4. 20mm CONCRETE COVER TO REINFORCEMENT.</p> <p>4.5. UNLESS OTHERWISE SPECIFIED, REFLECTIVE TAPE MUST BE FIXED IN THE RECESS TO ENHANCE VISIBILITY.</p> <p>4.6. EXPOSED CONCRETE BACKFILL AROUND BOLLARD SPACE TO BE DETERMINED BY PAVING PROFILE.</p>

[illegible]

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S. Bapela-Pr Tech Eng CHECKED	DATE:	DATE:

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CLIENT	MAKHADO LOCAL MUNICIPALITY	CONTRACT No.	IPW No.	SHEET
PROJECT TITLE		UPGRADING OF GRAVEL ROADS TO SURFACED ROAD IN TSHIANDA AND MARUNDU PHASE 1		
DRAWING TITLE		HANDRAILS/BALUSTRADE AND BOLLARDS		

SCALE	TYPES OF PLANNING	STATUS
	 PLANNING  CONSTRUCTION  AS-BUILT	 PLANNING
REVISION	PLAN No.	
00	RCE 78_MLM_STD_39	

