



## MAKHADO LOCAL MUNICIPALITY

BID NO. 68 OF 2022

# BID DOCUMENT

FOR

**THE CONSTRUCTION OF THE ASSOCIATED WORKS  
FOR THE REHABILITATION AND CLOSURE OF THE  
VONDELING LANDFILL SITE**

**OCTOBER 2022**

**VOLUME 1 of 2**

NAME OF TENDERER : \_\_\_\_\_  
TENDERED AMOUNT : \_\_\_\_\_  
TEL NUMBER : \_\_\_\_\_  
FAX NUMBER : \_\_\_\_\_  
CIDB GRADING : \_\_\_\_\_

ISSUED BY:	COMPILED BY:
The Municipal Manager Makhado Local Municipality CIVIC CENTRE 83 Koch Street LOUIS TRICHARDT 0920	Infraburo (Pty) Ltd Old Library Building SIBASA 0699
Private Bag X2596 LOUIS TRICHARDT Limpopo 0920 Tel: 015 519 3000	PO Box 4338 THOHOYADOU Limpopo 0950 Tel: (082) 878- 5552

**CLOSING DATE: 08<sup>TH</sup> OF NOVEMBER 2022 AT 12H00**

**BID NO.: 68 of 2022**

**FOR**

**THE CONSTRUCTION OF THE ASSOCIATED WORKS FOR THE REHABILITATION AND  
CLOSURE OF THE VONDELING LANDFILL SITE**

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Initial:	Tenderer	Witness	Employer	Witness
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# THE TENDER

## PART T1

## TENDERING PROCEDURES

Initial:	Tenderer	Witness	Employer	Witness
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## T1.1: INVITATION TO TENDER

Initial:	Tenderer	Witness	Employer	Witness
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# MAKHADO 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 from 13 October 2022 at non-refundable amount of **R600.00** per document at the Procurement Office No. B043 Ground Floor, 83 Krogh Street, Civic Centre, Makhado or can be downloaded from e-tender portal for free <https://etenders.treasury.gov.za/content/advertised-tender> or [www.makhado.gov.za](http://www.makhado.gov.za).

BID NO:	DESCRIPTION	COMPULSORY BRIEFING SESSION	SPECIAL REQUIREMENT	TECHNICAL ENQUIRIES	REFERENCE AND NOTICE NO.	CLOSING DATE AND TIME
67 of 2022	Design, Printing, Supply and Delivery of Diaries, Posters and Calendars			<b>Director Corporate Services:</b> Mr SG Maguga or Mr NP Muthambi at 015 519 3000	Ref : 8/3/2/1911 Notice no: 126/2022	24 October 2022 at 12H00pm
68 of 2022	Rehabilitation of Vondeling landfill site	14 October 2022 at 11:00am at old vondeling landfill site (portion 7 of the farm Bergvleit 288LS next to Kutama Sinthumule prison)	• CIDB grading 06CE or higher • Attach three years audited financial statement (only for those who are required by-law)	<b>Director Technical Services:</b> Ms DG Siboiboi or Ms L Thulare at 015 519 3000	Ref : 8/3/2/1912 Notice no: 127/2022	08 November 2022 at 12H00pm
69 of 2022	Construction of Landfill site Makhado and Recycling centre (Additional mega cell and stormwater infrastructure)	14 October 2022 at 14:30am at Makhado new landfill site. Tshikota location (Lat:23° 3' 33.40"S) (Long: 29° 50' 33.43"E)	• CIDB grading 05CE or higher	<b>Director Technical Services:</b> Ms DG Siboiboi or Ms L Thulare at 015 519 3000	Ref : 8/3/2/1913 Notice no: 128/2022	08 November 2022 at 12H00pm
70 of 2022	Makatu to Tshikota access Road	17 October 2022 at 10:00am At intersection of road 523 (P278-1) and entrance to Mphephu high school (Lat:22° 53' 5.91" S) (Long: 30° 09' 14.6" E)	• CIDB grading 07CE or higher • Attach three years audited financial statement (only for those who are required by-law)	<b>Director Technical Services:</b> Ms DG Siboiboi or Ms L Thulare at 015 519 3000	Ref : 8/3/2/1914 Notice no: 129/2022	08 November 2022 at 12H00pm
71 of 2022	Rehabilitation of Breda Street	17 October 2022 at 14:30am Cnr Breda Street and Anderson Street (Lat: 23° 2' 4.48" S) (Long: 29° 54' 30.31" E)	• CIDB grading 06CE or higher • Attach three years audited financial statement (only for those who are required by-law)	<b>Director Technical Services:</b> Ms DG Siboiboi or Ms L Thulare at 015 519 3000	Ref : 8/3/2/1915 Notice no: 130/2022	08 November 2022 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 on 80/20 preferential points with functionality.

**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 report.

**NB:** • Service provider must submit their certified BBBEE verification certificate from verification agency accredited by South African National Accreditation system (SANAS) or sworn affidavit.

- 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.

**ONLY TENDER NO: 70 OF 2022 MAKATU TO TSHIKOTA ACCESS ROAD:**

**PRE-QUALIFICATION CRITERIA FOR PREFERENTIAL PROCUREMENT WILL BE CONSIDERED. NOTE: ONLY A TENDERER**

- Subcontracting a minimum of 30% to an EME or QSE which is at least 51% owned by black people including youth, women, people with disabilities, people living in rural areas or townships, and military veterans.
- A tender that fails to meet pre-qualifying criteria stipulated in this advert and tender document is unacceptable tender.

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

Initial:	Tenderer	Witness	Employer	Witness
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## INVITATION TO BID

### BID NO.: 68 of 2022

### THE CONSTRUCTION OF THE ASSOCIATED WORKS FOR THE REHABILITATION AND CLOSURE OF THE VONDELING LANDFILL SITE

Bids are hereby invited for **THE CONSTRUCTION OF THE ASSOCIATED WORKS FOR THE REHABILITATION AND CLOSURE OF THE VONDELING LANDFILL SITE**

It is compulsory for bidders to be registered with the CIDB. Only bids from bidders who have a CIDB contractor grading of **6CE** or higher will be considered.

Bid documents with detailed specifications and detailed information are obtainable at the offices of Makhado Local Municipality (Office hours: 08h00 to 13h00 and 14h00 to 16h00) situated at, CIVIC CENTRE, 83 Kroch Street, LOUIS TRICHARDT, from **Thursday, 13 October 2022**. A non-refundable deposit of **R 600-00** is required on collection of the bid documents.

A compulsory Tender briefing meeting and site inspection will be conducted at **11h00 on Friday, 14 October** at the Vondeling Landfill Site situated to the east of Louis Trichardt. The site is reached by turning right on the Vondeling Road approximately 400m before the first 4-way stop when reaching Louis Trichardt along the N1. The site is reached after driving for approximately 1,43km along the Vondeling Road. (GPS Co-ordinates – Long.: 23°03'25" (S) and Lat.: 29°55'44" (E)).

Sealed Bids clearly marked "**BID No.: 68 of 2022: THE CONSTRUCTION OF THE ASSOCIATED WORKS FOR THE REHABILITATION AND CLOSURE OF THE VONDELING LANDFILL SITE**" must be placed in the tender box situated at the offices of the Makhado Local Municipality, Civic Centre, 83 Kroch Street, LOUIS TRICHARDT, on or before **12:00 on Thursday, 08 November 2022** at which time the bids will be opened in public.

Service Providers must also be registered on the web based **Central Supplier Database (CSD)**. Bids received from service providers not registered on the **CSD** shall therefore be regarded as non-responsive and will not be further evaluated.

The MAKHADO LOCAL MUNICIPALITY does not bind itself to accept the lowest or any bid and reserves the right to accept the whole or part of any bid and further reserves the right re-advertise if it so wishes to. No reasons for the acceptance or rejection of any bid will be given. Bids shall be valid for a period of **90** calendar days

Bids will be adjudicated according to the Makhado Local Municipality Supply Chain Management Policy, the Preferential Procurement Policy Act (Act 5 of 2000) as well as the Broad Based Black Economic Empowerment Act (Act 53 of 2003), Act 46 of 2013: Broad Based Black Economic Empowerment Amendment Act, 2013 as well as the Preferential Procurement Regulations, 2017.

Technical Enquiries may be directed to Ms DG Siboiboi or Ms. L Thulare at **015 519 3000**

THE MUNICIPAL MANAGER  
MAKHADO LOCAL MUNICIPALITY  
CIVIC CENTRE  
83 Kroch Street  
**LOUIS TRICHARDT**

Initial:	Tenderer	Witness	Employer	Witness
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## PART T1: TENDERING PROCEDURES

### T1.2 TENDER DATA

Initial:	Tenderer	Witness	Employer	Witness
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## **T 1.2: TENDER DATA**

### **1. CONDITIONS OF TENDER**

The Conditions of Tender are the standard conditions of tender as contained in annex F of SANS 294: 2004, published by Standards South Africa, Private Bag X191, Pretoria 0001, Tel 012 428 7911.

The standard conditions of tender for procurements make several references to the Tender Data. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of tender.

Where applicable, items of data given here below are cross-referenced to the sub-clause in the standard conditions of tender to which it applies.

### **2. EMPLOYER (Cl. F.1.1)**

The "Employer" is "**Makhado Local Municipality**".

### **3. TENDER DOCUMENTS (Cl. F.1.2)**

The tender document issued by the Employer is a **single** document and comprises the following:

<b>Portion</b>	<b>Part</b>	<b>Heading</b>
<b>1</b>	<b>T1</b>	<b><u>TENDER</u></b>
	<b><u>Tendering Procedures</u></b>	
	T1.1	Invitation to Tender
	T1.2	Tender Data
<b>2</b>	<b>T2</b>	<b><u>Returnable Documents</u></b>
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	<b>C1</b>	<b><u>CONTRACT</u></b>
	<b><u>Agreements and Contract Data</u></b>	
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	C1.2	Contract Data
	<b>C2</b>	<b><u>Pricing Data</u></b>
	C2.1	Pricing Instructions
	C2.2	Schedules of Quantities
	<b>C3</b>	<b><u>Scope of Works</u></b>
	<b>C4</b>	<b><u>Site Information &amp; Tender Drawings</u></b>

Initial:	Tenderer	Witness	Employer	Witness
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#### 4. **EMPLOYER'S AGENT (Cl. F.1.4)**

The Employer's agent is:

Infraburo (Pty) Ltd

Physical address:	Postal Address:	Contact Details:
OLD LIBRARY BUILDING, THOHOYANDOU UNIT A SIBASA 0950	PO Box 4338 THOHOYANDOU 0950	Tel.: 082 878 5552 Cell: 082 878 5552 E-mail: <a href="mailto:rudzani@infraburo.co.za">rudzani@infraburo.co.za</a>

#### 5. **TENDERER'S OBLIGATIONS**

##### 5.1 **Eligibility (Cl. F.2.1)**

A tender offer may only be submitted if the Tenderer satisfies the criteria stated in the Tender Data and if the Tenderer, or any of his principals, is not under any restriction to do business with the Employer.

##### 5.2 **Site Visit and Clarification Meeting (Cl. F.2.7)**

The arrangements for a **compulsory** pre-tender briefing are:

A compulsory tender briefing will be held on **Friday 14 October 2022 at 11h00** at the Vondeling Landfill Site situated approximately 1,43km along the Vondeling Road. The Vondeling Road turns off to the right from the N1 approximately 400m before reaching the first 4-way stop in Louis Trichardt when driving from Polokwane.

(GPS Co-ordinates – Long.: 23°03'25" (S) and Lat.: 29°55'44" (E)

After the briefing, an inspection of the site will be conducted.

The Adjusted Alert Level 1 COVID-19 regulations, as published in Government Gazette 45715, on 30 December 2021 will be strictly adhered to

##### 5.3 **Insurance (Cl. F.2.9)**

No insurance cover will be provided by the Employer.

##### 5.4 **Alternative Tender Offers (Cl. F.2.12)**

Unless anything to the contrary has been determined in the Contract Data, a Tenderer may, together with his tender for the original designs contained in the contract documents, submit alternative designs and tender offers for consideration. All designs, calculations, drawings and Operation and Maintenance manuals shall be fully endorsed by a third-party registered engineer, accomplished in such specific field of practice and the cost thereof shall be borne solely by the Contractor. Such alternative designs and offers shall be subject to the following conditions and requirements:

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#### 5.4.1 Tenders

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

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

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

#### 5.4.2 Preliminary calculations

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

#### 5.4.3 Preliminary drawings

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

#### 5.4.4 Quantities

Each alternative offer shall be accompanied by a modified priced schedule of quantities compiled in accordance with the specifications, in so far as it is applicable, which clearly shows the manner in which the price for the alternative offer has been determined and the items in the original schedule of quantities which fall away or are being changed. In addition to the schedule of quantities, a set of calculations shall be supplied to show how the quantities have been determined. All assumptions in regard to factors which will determine quantities shall be clearly and conspicuously marked by underlining or colouring and shall indicate whether or not the assumptions have been based on information furnished in the Contract Data (with the necessary references).

#### 5.4.5 Further details

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

#### 5.4.6 Preliminary adjudication of alternative designs

The Employer's Agent will undertake a preliminary scrutiny of any alternative designs for compliance with the specified requirements of the Employer. Should he find any mistakes or unsatisfactory aspects, he may afford the Tenderer the opportunity to rectify them within a period to be determined by the Employer's Agent. However, it is

Initial:	Tenderer	Witness	Employer	Witness
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emphasized that the preliminary scrutiny of the design and tender by the Employer's Agent, by its very nature, cannot be comprehensive, and no guarantee can be given in this regard that all the mistakes made by the Tenderer will in fact be detected. Any correction of such mistakes shall be made with the tender price of the tenderer being retained, and, wherever necessary, the priced schedule of quantities for the alternative design shall be adjusted accordingly.

#### 5.4.7 Acceptance of alternative design

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

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

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

Within three weeks of having received the above, the Employer's Agent will indicate which drawings, calculations, quantities, prices and other particulars are acceptable to him and which not, with reasons furnished. The Contractor shall then submit to the Employer's Agent in good time any modified drawings and other particulars for approval, for which he will require two weeks. Any delay arising from the fact that the amended particulars do not meet the requirements shall be the responsibility of the Contractor.

No work which will be affected by an alternative design may be commenced, unless the drawings, schedule of quantities and prices for such alternative design have been approved. Should the Contractor fail to modify any drawings, calculations, quantities, prices or any other particulars to the satisfaction of the Employer's Agent, the alternative design will be rejected, and the original design shall be constructed for the same amount as has been tendered for the alternative design.

#### 5.4.9 Responsibility for alternative design

The approval of a design by the Employer's Agent shall not in any way relieve the Tenderer of his responsibility to produce a design which conforms in all respects to all the specified requirements, and which will be suitable for the purpose envisaged.

Should it appear later during construction or during the maintenance period that the design does not conform to the specified requirements, the Contractor only, shall be liable for any damage arising there from alternative design and he shall, at his own expense, do all the necessary work to ensure that the Works conforms to all the specified requirements.

#### 5.4.10 Indemnity

Once the alternative design has been approved, the Contractor shall indemnify and hold harmless the Employer, its agents and assigns, against all claims howsoever arising out of the said design whether in contract or delict.

Initial:	Tenderer	Witness	Employer	Witness
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**5.5 Submitting a Tender Offer (Cl. F.2.13.1)****5.5.1 Whole of the Works (Cl. F.2.13.1)**

Tenderers shall offer to provide for the whole of the Works identified.

**5.5.2 Original tender documents (Cl. F.2.13.3)**

The original tender document, issued to the Tenderer, shall be submitted in its entirety. No copies are required.

**5.5.3 Marking of Tender Submissions (Cl. F.2.13.5)**

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

**BID No.: 68 of 2022: THE CONSTRUCTION OF THE ASSOCIATED WORKS FOR THE REHABILITATION AND CLOSURE OF THE VONDELING LANDFILL SITE**

**CLOSING TIME: 12:00**  
**CLOSING DATE: 08 NOVEMBER 2022**

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

Makhado Local Municipality  
Civic Centre  
83 Kroch Street  
**LOUIS TRICHARDT**

**5.5.4 Two envelope system (Cl. F.2.13.6)**

A two-envelope procedure will **not** be followed.

**5.5.5 Closing time (Cl. F.2.15)**

The closing time for submission of tender offers is:

**12:00 on 8<sup>th</sup> OF NOVEMBER 2022**

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

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

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

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

Delete the last part of the second sentence, commencing with the word "and". Furthermore, delete the last two sentences of Cl. F.2.17.

Add the following sentence:

"The rates stated by the Tenderer shall be binding".

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

Initial:	Tenderer	Witness	Employer	Witness
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Upon request by the Employer, the Tenderer shall promptly supply any other material that has a bearing on the tender offer, the tenderer's commercial position (including, where applicable, notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the Employer for the purpose of a full and fair assessment. Should the Tenderer not provide the information or material called for, by the time for submission stated in the Employer's request, the Employer will regard the tender offer as being non-responsive.

#### 5.5.9 Certificates (Cl. F.2.23)

The following certificates are to be provided with this tender:

- a) Original and valid Tax Clearance Certificate
- b) Compensation Fund Registration Certificate
- c) Certificate of Contractor Registration issued by the Construction Industry Development Board (CIDB) or a copy of the application Form for registration in terms of the Construction Industry Development Board Act (Form F006).

A minimum grading of **6CE** is required.

In the event of a Joint Venture submitting a tender, every member of the joint venture must submit proof of registration with the CIDB with the tender; and the lead partner must have a minimum contract grading designation in the **6CE** class of construction work.

#### **Important Note:**

Failure to provide the required particulars as per the above listed certificates implies a non-responsive tender and warrants rejection of the tender on account of non-compliance with the requirements of the Tender Data.

### 6. **EMPLOYER'S UNDERTAKING**

#### 6.1 **Opening of tender submissions** (Cl. F.3.4)

The time and location for opening of the tender offers are:

**Time:** 12:00 on 08 NOVEMBER 2022

**Location:** Makhado Local Municipality  
Civic Centre  
83 Kroch Street  
**LOUIS TRICHARDT**

#### 6.2 **Arithmetical errors** (Cl. F.3.9.1)

Delete paragraphs (b) and (c) of Cl. F.3.9.1 and replace with:

- b) If a bill of quantities (or schedule of quantities or schedule of rates) applies and there is an error in the line item resulting from the product of the unit rate and the quantity, the rate shall be binding, and the error of extension as entered in the tender offer will be corrected by the Employer in determining the Contract Price.
- c) Where there is an error in addition, either as a result of other corrections required by this checking process or in the Tenderer's addition of prices, such error will be corrected by the Employer in determining the Contract Price.

Initial:	Tenderer	Witness	Employer	Witness
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- d) The Contract Price for the completed Contract shall be computed from the actual quantities of authorised work done and compliant with the Contract Data, valued at rates contracted against the respective items in the bill of quantities, schedule of Quantities or schedule of rates and shall include such authorised Provisional Sums and items of extra work as have become payable in terms of the Contract Data.

Initial:	Tenderer	Witness	Employer	Witness
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### 6.3 **Evaluation of tender offers (Cl. F.3.11)**

#### 6.3.1 **General (F.3.11.1)**

Appoint an evaluation panel of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate it using the tender evaluation methods that are indicated in the tender data and described as methods 1, 2, 3 and 4.

The evaluation procedure consists of three phases:

- Phase 1: Tenders will be evaluated for responsiveness to the tender requirements. Tenderers who do not comply will be disqualified;
- Phase 2: Tenderers will be evaluated for functionality/quality. Tenderers who do not meet the minimum requirements will be eliminated; and
- Phase 3: Tenderers will be evaluated based on financial proposals and preference. The Tenderers with the highest points scored will be appointed.

**The procedure for the evaluation of responsive tenders is Method 4: Financial offer, quality/functionality, and preference.** Tenderers must however score a minimum of 70% of the quality/functionality points prior to being evaluated on financial offer and preference. Failure to achieve the minimum functionality score will invalidate the tender and the submission will be rejected.

##### 6.3.1.1 **Method 1: In the case of a financial offer: (F.3.11.1.1)**

- a) Rank tender offers from the most favourable to the least favourable comparative offer.
- b) Recommend the highest ranked tenderer for award of the contract, unless there are compelling and justifiable reasons not to do so.

##### 6.3.1.2 **Method 2: In the case of a financial offer and preference (F.3.11.1.2)**

- a) Score tender evaluation points for each financial offer.
- b) Confirm that tenderers are eligible for the preferences claimed and, if so, score tender evaluation points for preferencing.
- c) Calculate total tender evaluation points ( $T_{EV}$ ) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_P$$

Where:  $N_{FO}$  is the number of tender evaluation points awarded for the financial offer made in accordance with 6.3.3.

$N_P$  is the number of tender evaluation points awarded for preference claimed in accordance with 6.3.4.

- d) Rank tender offers from the highest number of tender evaluation points to the lowest.
- e) 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.
- f) Rescore and re-rank all tenders 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.

Initial:	Tenderer	Witness	Employer	Witness
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**6.3.1.3 Method 3: In the case of 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.3.11.3 and F.3.11.2, rejecting all tender offers that fail to score the minimum number of evaluation points for quality in the tender data, if any.
- b) Calculate the total number of tender evaluation points ( $T_{EV}$ ) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_Q$$

Where:  $N_{FO}$  is the number of tender evaluation points awarded for the financial offer made in accordance with 6.3.3;

$N_Q$  is the number of tender evaluation points awarded for quality offered in accordance with 6.3.2.

- 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 tenders 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.

**6.3.1.4 Method 4: In the case of a financial offer, quality/functionality and preference:**

- a) Score quality, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.
- b) Score tender evaluation points for each financial offer.
- c) Confirm that tenderers are eligible for the preferences claimed and, if so, score tender evaluation points for preferencing.
- d) Calculate the tender evaluation points  $T_{EV}$  in accordance with the following formula:

$$T_{EV} = N_{FO} + N_P + N_Q$$

Where:  $N_{FO}$  is the number of tender evaluation points awarded for the financial offer made in accordance with 6.3.3;

$N_P$  is the number of tender evaluation points awarded for preference claimed in accordance with 6.3.4.

$N_Q$  is the number of tender evaluation points awarded for quality offered in accordance with 6.3.2.

- e) Rank tender offers from the highest number of tender evaluation points to the lowest.
- f) 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.
- g) Rescore and re-rank all tenders 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.

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

Initial:	Tenderer	Witness	Employer	Witness
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### 6.3.2 Scoring Quality / Functionality (F.3.11.2)

Score quality in each of the categories in accordance with the tender data and calculate the total score for quality. The contractor is required to score a minimum of 70% or 70 out of a maximum of 100 points for functionality to qualify.

## COMPETENCE ACHIEVEMENT/FUNCTIONALITY SCHEDULE

### 6.3.2.1 REPUTATION AND REFERENCES

TARGETED GOALS		Max Points to be Scored	Points Claimed by Tenderer	Allocated Points
Name reference with contact details (Previous 3 years, Projects involving, Roads, Bulk Earthworks or Landfill Rehabilitation)				
1	Project 1	10		
2	Project 2	10		
3	Project 3	10		
4	Project 4	10		
Sub-total Reputation and References		40		

**NOTE: The Tenderer should attach appointment letters and completion certificates as proof of having completed such projects. Points for each project will be allocated as follows:**

6 CE: 10 points  
 5CE: 8 points  
 4CE: 6 points  
 3CE: 5 points  
 2CE: 4 points  
 1CE: 2points

### 6.3.2.2 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 Registered financial Institution's full details as guarantor in the amount of 10% as specified for surety purposes shall be submitted	3		
Sub-Total: Financial References	10		

Initial:	Tenderer	Witness	Employer	Witness
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**6.3.2.3 EXPERIENCE AND QUALIFICATION OF KEY STAFF****(i) Experience (F.3.11.2.1)**

Description	Points Allocation	Points Claimed by Tenderer	Points Allocated
Contract Manager: 10 years of experience in roads projects, bulk earthworks projects or landfill rehabilitation projects	>10 yrs = 5	5	
	6 to 9 yrs = 3	7	
	3 to 5 yrs = 2	3	
	1 to 2 yrs = 1	0	
Site Agent: 8 years of experience in roads projects, bulk earthworks projects or landfill rehabilitation projects	>8 yrs = 5	5	
	5 to 7 yrs = 3	3	
	3 to 4 yrs = 2	2	
	1 to 2 yrs = 1	1	
Foreman: 5 years of experience in roads projects, bulk earthworks projects or landfill rehabilitation projects	>5 yrs = 3	10	
	4 yrs = 1.5	7	
	3 yrs = 1	3	
	01 to 2 yrs = 0.5	0	
OHS Officer: 5 years of experience as OHS in Civil Engineering Construction	>5yrs = 2	10	
	4 yrs = 1	7	
	3 yrs = 0.5	3	
	1 to 2 yrs = 0.5	0	
<b>Sub-Total Experience</b>	<b>15</b>		

**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**

Initial:	Tenderer	Witness	Employer	Witness
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**(ii) Qualifications**

TARGETED GOALS	Tendered Goal	Points Claimed by Tenderer	Points Allocated
Contract Manager: Civil Engineering or Construction Management	BSc = 5	5	
	B-Tech/PrCMP = 5	7	
	ND = 3		
	N6 = 2	3	
	Any Cert = 1	0	
Site Agent: Civil Engineering or Construction Management or project management (Must have at least NQF 5)	BSc/B-Tech = 5	5	
	ND = 4	3	
	NQF5/7 = 3	2	
	N6 = 2	1	
	Any Cert 1		
Foreman: Civil Engineering – Roads and Earthworks	ND = 3	10	
	NQF7 = 2	7	
	N6 = 2	3	
	N3 = 1.5	0	
	NQF5 = 1.5		
	NQF4 = 1		
	NQF3 = 0.5		
OHS Officer: 5 years of experience as OHS in Roads and Earthworks projects	ND = 2	10	
	Cert = 0.5	0	
<b>Sub-Total: Qualifications</b>	<b>15</b>		

**6.3.2.4 PLANT AND EQUIPMENT (Maximum of 20 points) (F.3.11.2.4)**

The Contractor will Score maximum points if the basic plant and equipment listed in the table below are owned by the Contractor and will score half the points if the plant and equipment is to be hired.

TARGETED GOALS	TENDERED GOAL	Points Claimed by Tenderer	Allocated Points
1 TLB4 (1 of)	2		
2 Water Tanker (2 of)	2		
3 26ton Excavator (1 of)	2		
4 10m <sup>3</sup> Tipper Truck (6 of)	5		
5 6 Ton Flatbed Truck (1 of)	2		
6 140G Grader (1 of)	2		
7 Bomag 90 Walk Behind Compactor (2 of)	1		
8 Pad Foot Roller 8 ton (1 of)	2		
9 Vibratory Roller (12ton)	2		
<b>Sub-Total Plant and Equipment</b>	<b>20</b>		

Initial:	Tenderer	Witness	Employer	Witness
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**Note: Tenderers should attach certified proof of ownership certificates for the plant mentioned above if they own the 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 become a successful bidder. The hiring company should also provide proof of ownership of such plant. (For hiring, tenderers will only receive 50% of the full points for Plant and Equipment)**

### 6.3.2.5 SUMMARY

DESCRIPTION	Maximum Points to be allocated	Points Claimed by Tenderer	Allocated Points
REPUTATION AND EXPERIENCE OF THE COMPANY: 6.3.2.1			
FINANCIAL REFERENCES: 6.3.2.2			
EXPERIENCE OF JEY STAFF: 6.3.2.3 (i)			
QUALIFICATION OF KEY STAFF: 6.3.2.3 (ii)			
PLANT AND EQUIPMENT: 6.3.2.4			
<b>TOTAL</b>	<b>100</b>		

**Minimum functionality requirements of seventy (70%) or 70 points required for further evaluation.**

**The 80/20 point scoring system will be used on financial and preferential evaluation.**

Score each of the criteria and sub-criteria for quality/functionality in accordance with the provisions of the Tender Data.

Calculate the total number of tender evaluation points for quality using the following formula:

$$N_Q = W_2 \times S_Q / M_S$$

Where:  $S_Q$  is the score for quality allocated to the submission under consideration;

$M_S$  is the maximum possible score for quality in respect of a submission; and

$W_2$  is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data (=60%)

### 6.3.3 Scoring Financial Offers (F.3.11.3)

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

$$N_{FO} = W_1 \times A$$

Where:  $N_{FO}$  = the number of tender evaluation points awarded for the financial offer.

Initial:	Tenderer	Witness	Employer	Witness
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$W_1$  = the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data (=90).

A = a number calculated using either formulas 1 or 2 below as stated in the Tender Data.

Formula	Comparison aimed at achieving	Option 1	Option 2
1	Highest price or discount	$A = \frac{(1 + (P - P_m))}{P_m}$	$A = P/P_m$
2	Lowest price or percentage commission/fee	$A = \frac{(1 - (P - P_m))}{P_m}$	$A = P_m/P$

Where:

$P_m$  = the comparative offer of the most favourable tender offer.

P = the comparative offer of the tender offer under consideration.

#### 6.3.4 Scoring Preferences (Maximum of 20 points for this Tender) (F.3.11.4)

Confirm that the 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 the preferences claimed in accordance with the provisions of the tender data.

#### 6.4 Acceptance of Tender Offer (Cl. F.3.13)

Tender offers will only be accepted if:

- the tenderer has in his or her possession an original valid Tax Compliance PIN Certificate issued by the South Africa Revenue Services;
- the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation;  
A minimum grading of **6CE** or higher is required;
- the tenderer or any of its principals is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; and
- the tenderer has not abused the Employer's Supply Chain Management System,
- the tenderer has not failed to perform on any previous contract.

#### 6.5 Provide copies of the Contract Document (Cl. F.3.18)

The number of paper copies of the signed Contract to be provided by the Employer to the successful tenderer is **one (1)**.

#### 6.6 Available Budget (Cl. F.3.19)

Add the following new clause F.3.19:

Initial:	Tenderer	Witness	Employer	Witness
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"The Employer has a limited budget available with respect to this project. Should the tender amount offered exceed the available budget, the Client reserves the right to reduce the scope of work in order to meet the available budget. The reduction of the tender amount shall not be subject to any claim for revised rates are additional compensation in terms of Clause 6.11 of the General Conditions of Contract.

The reduced scope of work shall be agreed upon before acceptance of the offer from the Tenderer by the Employer. The revised tender amount shall subsequently be subject to the stipulations of Clause 6.11 of the General Conditions of Contract."

Initial:	Tenderer	Witness	Employer	Witness
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## **T1.3 ANNEXURES TO THE TENDER DATA**

Initial:	Tenderer	Witness	Employer	Witness
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**APPLICATION FOR TAX COMPLIANCE STATUS PIN  
CERTIFICATE  
(IN RESPECT OF TENDERS)**

IT IS A CONDITION OF TENDER THAT:-

1. It is an absolute requirement that the taxes of the successful tenderer MUST be in order, or that suitable arrangements have been made with the Receiver of Revenue to satisfy them.
2. The form, Application for Tax Compliance Status PIN (in respect of tenders), must be completed by the tenderer in all respects and submitted to the Receiver of Revenue where the tenderer is registered for income tax purposes. That Receiver of Revenue will then furnish the tenderer with a Tax Compliance Status PIN. This Tax Compliance Status Pin document issued must be submitted with the tender, that is before the closing time and - date of the tender. The PIN will be used to confirm the Tax Compliance of the Tenderer. Failure to submit a valid Tax Compliance Status Pin may invalidate your tender.
3. Each party to a Consortium, Joint Venture or Sub-contractors must complete a separate application form, obtain a Tax Compliance Status Pin document which should be submitted with the Tender. Copies of the Application for Tax Clearance Certificate are available at any Receiver's Office.

Initial:	Tenderer	Witness	Employer	Witness
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## APPLICATION FOR TAX COMPLIANCE STATUS PIN (IN RESPECT OF TENDERS)

1. Name of taxpayer / Tenderer: .....
2. Trade name: .....
3. Identification number:
4. Company / Close Corporation registration number:
5. Income tax reference number:
6. VAT registration number (if applicable):
7. PAYE employer's registration number (if applicable):

Contact person requiring Tax Clearance Certificate: Signature: .....

Name: .....

Telephone Number: Code: ..... Number: .....

Address: .....

.....

.....

Date: 20 \_\_\_\_ / \_\_\_\_ / \_\_\_\_

PLEASE NOTE THAT THE COMMISSIONER FOR THE SOUTH AFRICAN REVENUE SERVICE (SARS) WILL NOT EXERCISE HIS DISCRETIONARY POWERS IN FAVOUR OF ANY PERSON WITH REGARD TO ANY INTEREST, PENALTIES AND / OR ADDITIONAL TAX LEVIABLE DUE TO THE LATE- OR UNDERPAYMENT OF TAXES, DUTIES OR LEVIES OR THE RENDITION RETURNS BY ANY PERSON AS A RESULT OF ANY SYSTEM NOT BEING YEAR 2000 COMPLIANT.

Initial:	Tenderer	Witness	Employer	Witness
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**PART T2:**      **RETURNABLE DOCUMENTS****INDEX**

<b><u>Section</u></b>		<b><u>Colour</u></b>	<b><u>Page</u></b>
T2.1	List of Returnable Documents	Yellow	T2.2
T2.2	Returnable Schedules	Yellow	T2.5

Initial:	Tenderer	Witness	Employer	Witness
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## **T2.1: LIST OF RETURNABLE DOCUMENTS**

Initial:	Tenderer	Witness	Employer	Witness
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## **T2.1 LIST OF RETURNABLE DOCUMENTS**

### **1. GENERAL**

This section refers to documents that are returned with this single document and constitute a tender. Whilst many of the returnables are required for the purpose of evaluating tenders, some will form part of the subsequent contract, as they form the basis of the tender offer. It is therefore of paramount importance that tenderers return all information requested.

### **2. RETURNABLE SCHEDULES REQUIRED FOR TENDER EVALUATION PURPOSES**

The returnable schedules, listed here below, are contained in Section 2 of this Part 2 of the tender document, referenced "Appendix A":

- A1 : Certificate of Attendance at Site Briefing Meeting and Site Visit
- A2 : Certificate of Authority of Signatory
- A3 : Certificate of Registration with the Construction Industry Development Board
- A4 : Record of Addenda to Tender Documents
- A5 : Form of Intent to Provide a Demand Guarantee
- A6 : Health and Safety Plan: Declaration by Tenderer
- A7 : Schedule of Proposed Subcontractors
- A8 : Quality Assurance Programme
- A9 : Insurance Statement
- A10 : Schedule of Available Infrastructure, Resources and Experience
- A11 : Financial Information of Tenderer
- A12 : Commercial Equity Declaration
- A13 : Joint Venture Disclosure Form (where applicable)
- A14 : Declaration of Interest
- A15 : Rates of labour and Materials (Daywork Rates)
- A16 : Alterations by Tenderer
- A17 : Declaration in Terms of the MFMA (No. 56 of 2003) in Terms of Municipal Rates and Services
- A18 : Preferencing Schedule Where Preference are Granted in Respect of B-BBEE
- A19 : Certificate of Independent Bid Determination
- A20 : Declaration of Bidder's Past Supply Chain Management Practices

Initial:	Tenderer	Witness	Employer	Witness
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### **3. OTHER DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES**

#### **3.1 Tax Clearance Certificate**

- a) It is a condition of tender that any responsive tenderer demonstrates compliance with respect to tax obligations with the SARS, or that arrangements therefore have been made to the satisfaction of the Receiver of Revenue.
- b) The Form, Application for Tax Clearance Certificate (in respect of tenders), must be completed by the Tenderer in all respects and submitted to the Receiver of Revenue where the Tenderer is registered for income tax purposes. The Receiver of Revenue will then furnish the Tenderer with a Tax Clearance Certificate that will be valid for a period six (6) months from date of issue.  
This Tax Clearance Certificate must be submitted in the original format with the tender, that is before the closing time and -date of the tender. Failure to submit an original and valid Tax Clearance Certificate may invalidate a tender.
- c) Each Party to a Consortium/Sub-Contractors must complete a separate Tax Clearance Certificate. Copies of the Application for Tax Clearance Certificate are available at any Receiver's Office.

#### **3.2 Compensation Fund**

The Tenderer is required to submit with his tender, proof of registration and good standing with the Compensation Fund.

#### **3.3 Contractor Registration**

The Tenderer is required to submit with his tender, proof of registration and grading with the Construction Industry Development Board.

### **4. RETURNABLE SCHEDULES THAT WILL BE INCORPORATED INTO THE CONTRACT**

- 4.1 Curricula vitae of personnel
- 4.2 Schedule of Proposed Sub-contractors
- 4.3 Schedule of Available Infrastructure, Resources and Experience
- 4.4 Commercial Equity Declaration
- 4.5 Rates of labour and Materials (Daywork Rates)

### **5. OTHER SCHEDULES AND AFFIDAVITS THAT WILL BE INCORPORATED INTO THE CONTRACT**

- 5.1 Offer and Acceptance
- 5.2 Contract Data
- 5.3 Schedule of Bills

Initial:	Tenderer	Witness	Employer	Witness
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## **T2.2:     RETURNABLE SCHEDULES**

Initial:	Tenderer	Witness	Employer	Witness
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**APPENDIX A1: CERTIFICATE OF ATTENDANCE OF SITE BRIEFING MEETING**

This is to certify that:

..... (Tenderer)

of ..... (Address)

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

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

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

Particulars of person(s) attending the meeting:

Name ..... Signature .....

Capacity .....

Name ..... Signature .....

Capacity .....

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

Attendance of the above persons at the meeting is confirmed by the representative of Infraburo (Pty) Ltd, namely:

Name ..... Signature .....

Capacity ..... Date .....

Time .....

Initial:	Tenderer	Witness	Employer	Witness
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## APPENDIX A2 : CERTIFICATE OF AUTHORITY OF SIGNATORY

Indicate the status of the Tenderer by ticking the appropriate box hereunder. The Tenderer must complete the certificate set out below for the relevant category.

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

### A. Certificate for company

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

As witnesses:

1. ....  
Chairman  
.....  
Print Name  
.....  
Print Name

2. ....  
Date  
.....  
Print Name

### B. Certificate of partnership

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

Name	Address	Signature	Date

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

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------



**C. Certificate for Joint Venture**

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

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

Name of Firm	Address	Authorising	
		Signature	Name
Lead Partner			

**D. Certificate for sole proprietor**

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

As witnesses:-

- .....  
Signature: Sole Owner

.....  
Print Name
- .....  
Date

.....  
Print Name

**E. Certificate for Close Corporation**

We, the undersigned, being the key members in the business trading as .....  
..... hereby authorise Mr/Ms ....., acting in  
the capacity of ....., to sign all documents in connection with

Initial:	Tenderer	Witness	Employer	Witness
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the tender for Contract ..... and any contract resulting from  
it on our behalf.

Name	Address	Signature	Date

Note: This Certificate is to be completed and signed by each and all of the key members upon  
whom rests the direction of the affairs of the Close Corporation as a whole.

Initial:	Tenderer	Witness	Employer	Witness
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**APPENDIX A3: CERTIFICATE OF REGISTRATION WITH THE CONSTRUCTION INDUSTRY DEVELOPMENT BOARD****1. General**

The Register of Contractors is established by the Construction Industry Development Board in terms of the CIDB Act 38 of 2000 and Construction Industry Development Regulations as published in Government Gazette number 26427 of 2004.

The Act makes it mandatory for public sector clients to apply this register when considering tenders. Any enterprise that submits a tender or enters into contract for construction works with the public sector, must be registered.

Once-off joint ventures do not have to register, provided that each partner of the joint venture is separately registered.

**2. Status**

Tenderers shall fill in the following sections of this form, depending on their status:

**2.1 Section A**

Tenderers who have accomplished registration and can provide proof of their grading designation.

**2.2 Section B**

Tenderers who are in the process of registration of an update to an existing registration or a renewal.

**2.3 Section C**

Tenderers who have submitted the first application.

**2.4 Section D**

Tenderers submitting this Tender offer in Joint Venture and can provide proof that each partner of the Joint Venture is separately registered.

**Note: Only complete one of Sections A, B, C or D.**

Initial:	Tenderer	Witness	Employer	Witness
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## SECTION A

I, ..... Acting in capacity of .....  
was authorised to sign all documents in connection with this tender and any contract resulting from

It on behalf of the following entity: .....  
hereby declare that the above mentioned entity has achieved registration with the Construction  
Industry Development Board on date ..... and declare that the grading  
designation is reflected in the following **symbols** on the registration certificate.

Contract Value	
----------------	--

Type of Work		
--------------	--	--

.....  
Signature of Tenderer

.....  
Signature of Witness

.....  
Print Name

.....  
Print Name

Initial:

Tenderer

Witness

Employer

Witness

**SECTION B**

I, ..... acting in capacity of .....  
was authorised to sign all documents in connection with this tender and any contract resulting from it on

behalf of the following entity: .....  
hereby declare that the above mentioned entity has achieved registration with the Construction Industry Development Board on date ....., furthermore declare that the existing grading designation is:

Contract Value	
----------------	--

Type of Work		
--------------	--	--

and the following update has been applied for:

Amendment of category status	
Change of Particulars	
Annual confirmation of Particulars	
Renewal of Registration	

mark with "✱"

.....  
Signature of Tenderer

.....  
Signature of Witness

.....  
Print Name

.....  
Print Name

Initial:	Tenderer	Witness	Employer	Witness
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### SECTION C

I, ..... acting in capacity of .....  
was authorised to sign all documents in connection with this tender and any contract resulting from it on

behalf of the following entity: .....  
hereby declare that the above mentioned entity has submitted its FIRST APPLICATION FOR  
REGISTRATION with the Construction Industry Development board on date .....

I furthermore accept that failure to achieve registration with the Construction Industry Development Board in a category stipulated in the Tender Data within 10 days from the date of closing this tender, implies a non-responsive tender and warrants rejection of the Tender on account of non-compliance with the requirements of the Tender Data.

.....  
Signature of Tenderer

.....  
Signature of Witness

.....  
Print Name

.....  
Print Name

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

### SECTION D

I, ..... acting in capacity of the LEAD PARTNER in the Joint Venture

.....  
was authorised to sign all documents in connection with this tender and any contract resulting from it, hereby declare that each partner of the Joint Venture is separately registered with the Construction Industry Development Board and declare that the grading designation is reflected in the following **symbols** on the registration certificates:

Name of Lead Partner:		
Contract Value		
Type of Work		

Name of 2 <sup>nd</sup> Partner:		
Contract Value		
Type of Work		

Name of 3 <sup>rd</sup> Partner:		
Contract Value		
Type of Work		

.....  
Signature of Tenderer

.....  
Signature of Witness

.....  
Print Name

.....  
Print Name

Initial:	Tenderer	Witness	Employer	Witness
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**APPENDIX A4 : RECORD OF ADDENDA TO TENDER DOCUMENTS**

We confirm that the following communications received from the Procuring Department 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.		
9.		
10.		

Attach additional pages if more space is required.

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

Print Name ..... Position .....

Tenderer .....

Initial:	Tenderer	Witness	Employer	Witness
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**APPENDIX A5 : FORM OF INTENT TO PROVIDE A DEMAND GUARANTEE**

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

(\*) Insurance Company (name) .....

(of address) .....

.....

(\*) Commercial Bank (Name) .....

(Branch) .....

(of address) .....

.....

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

(\*): delete whichever is not applicable.

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

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

**Note:** A certified copy of the letter of intent from the above financial institution must be attached to this page.

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

Print Name ..... Position .....

Tenderer .....

Initial:	Tenderer	Witness	Employer	Witness
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## APPENDIX A6: HEALTH AND SAFETY PLAN: DECLARATION BY TENDERER

I/we declare that we have read and understand the health and safety specifications contained in the Contract Data and undertake to:

- provide and demonstrate to the Employer a suitably and sufficiently documented health and safety plan, which shall be applied from the date of commencement of and for the duration of the construction work,
- appoint a full-time competent employee in writing as the Construction Supervisor from the date of commencement of and for the duration of construction work,
- appoint a full time/part time competent employee in writing as the Construction Safety Officer from the date of commencement of and for the duration of construction work.

I/we undertake to rectify all non-conforming conditions for which we are responsible. I/we accept that, should I/we not rectify these timeously, they will be corrected by the Employer and the cost subtracted from any amounts due to me/us in terms of the Contract Data.

I/we confirm that I/we am/are registered and in good standing with the Compensation Fund and our

registration number is: .....

alternatively (delete whichever is not applicable), my/our licensed compensation insurer is:

(Name) .....

(Address) .....

.....

To this effect, I/we attach proof of registration and good standing.

I/we certify that to the best of my/our knowledge and belief, the curricula vitarum of our proposed key health and safety personnel cited hereinafter correctly describe their qualifications and experience.

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

Print Name ..... Position .....

Tenderer .....

Initial:	Tenderer	Witness	Employer	Witness
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## Curriculum Vitae of Construction Supervisor

[illegible]

Initial:	Tenderer	Witness	Employer	Witness
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## Curriculum Vitae of Construction Safety Officer

[illegible]

Initial:	Tenderer	Witness	Employer	Witness
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## APPENDIX A7 : SCHEDULE OF PROPOSED SUB-CONTRACTORS

We notify you that it is our intention to employ the following Sub-Contractors 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 Sub-Contractors in accordance with requirements in the Contract for such appointments. If there are not such requirements in the Contract, then your written acceptance of this list shall be binding between us.

	Name and Address of Proposed Sub-Contractor	Nature and Extent of Work	Previous Experience with Sub-Contractor
1			
2			
3			
4			
5			

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

Print  
Name ..... Position .....

Tenderer .....

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

## SUB-CONTRACTING UNDERTAKING

LETTER OF UNDERTAKING TO PERFORM AS A SUB-CONTRACTOR  
(Copy as many as necessary)

Contract Number: .....

From: (Name and address of Sub-contractor)

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

To: (Name and address of Contractor)

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

The undersigned undertakes to \*perform work/provide services/supply goods in connection with the above Contract as a \*close corporation/sole proprietor/partnership/company and is prepared to perform in connection with the above-named Contract as Sub-contractor to the Contractor, the following \*work/provide the following services/supply the following goods:  
**\*(delete that which is not applicable)**

.....  
.....

for an estimated amount of R..... excluding VAT, subject to the terms of any agreement made between us for the purpose of the Contract.

Signature: .....

Name: .....

Designation: .....

Date: .....

who duly warrants that he/she is authorised to sign this letter.

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

## SUB-CONTRACTING UNDERTAKING

### LETTER OF UNDERTAKING TO PERFORM AS A SUB-CONTRACTOR (Copy as many as necessary)

Contract Number: .....

From: (Name and address of Sub-contractor)

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

To: (Name and address of Contractor)

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

The undersigned undertakes to \*perform work/provide services/supply goods in connection with the above Contract as a \*close corporation/sole proprietor/partnership/company and is prepared to perform in connection with the above-named Contract as Sub-contractor to the Contractor, the following \*work/provide the following services/supply the following goods:

**\*(delete that which is not applicable)**

.....  
.....

for an estimated amount of R..... excluding VAT, subject to the terms of any agreement made between us for the purpose of the Contract.

Signature: .....

Name: .....

Designation: .....

Date: .....

who duly warrants that he/she is authorised to sign this letter.

Initial:	Tenderer	Witness	Employer	Witness
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**APPENDIX A8: QUALITY ASSURANCE PROGRAMME**

Tenderer to submit details here below of his Quality Assurance Policy whereby he shall demonstrate that he has the following:

- (a) An Operating Quality Management System based on SABS/ISO 9000 international standards, if not, state alternative.
- (b) Proof of Quality Assurance Co-ordination.
- (c) Proven technical capabilities and resources to ensure Quality Management.
- (d) A recent assessment/audit report on his Quality Management and Quality Control System(s).

Contractor's details with respect to items a), b), c) and d):

SIGNATURE OF TENDERER ..... DATE .....

.....  
Print Name of Signatory

ON BEHALF OF: ..... (the Tenderer)

Initial:	Tenderer	Witness	Employer	Witness
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**APPENDIX A9: INSURANCE STATEMENT****TENDERER'S DECLARATION OF INSURANCES**

I/We hereby declare that the insurances enumerated below have been effected by me/us.

I/We further declare that all premiums in respect of the insurances are fully paid up to date.

Cover Effected	Insurer and Policy Number	Expiry Date	Limits of Indemnity / Sums Insured	Deductibles
Contractor's All Risks				
Occupational Injuries and Diseases				
Unemployment Insurance				
Motor Vehicle Insurance				
Other:				

We submit herewith a letter of good standing from the Workman's Compensation Commissioner in respect of Occupational Injuries and Diseases Insurance.

Tenderer: .....

.....  
Signature of Tenderer

.....  
Print Name of Signatory

.....  
Capacity

Initial:	Tenderer	Witness	Employer	Witness
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## APPENDIX A10: SCHEDULE OF AVAILABLE INFRASTRUCTURE AND RESOURCES

### A10.1 Tenderer's Plant and Equipment

The Tenderer must list below all the items of major Plant and Equipment which he guarantees will be provided on Site in perfect working order to complete the Works. This list shall include, or additional lists shall be supplied to include all Plant provided by sub-contractors.

The lists of items of Equipment shall provide the Tenderer's warranty of ownership of such Plant unless specifically endorsed herein to the contrary as "hired" or "hire purchase".

This Schedule must be accurately completed. Phrases such as 'adequate equipment will be provided', will not be accepted.

Year of Manufacture	Make & Description (Mass, condition, etc)	Ownership

### A10.2 Tenderer's List of Third-Party Design Engineers

In the event that the Tenderer desires to design all or part of the Works or submit any alternative, he/she shall list here following, the Design Engineers, accomplished in the specific field of practice, which he/she proposes to employ for the purpose of third party certification of all works designed by the Tenderer for the Works.

- Notes: (i) All costs of third-party designs shall be borne solely by the Tenderer.  
(ii) This Schedule must be accurately completed. Phrases such as "to be advised" will not be accepted.

Initial:	Tenderer	Witness	Employer	Witness
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Section of Works	Name and Address of Registered Engineer	ECSA Registration No.

**A10.3 Tenderer's Personnel Profile**

Key Staff Permanently employed, of foreman level and above	Number of staff
Sub-Total	
Other Permanent Staff	Number of staff
Sub-Total	
Temporary Staff	Number of staff
Sub-Total	

Initial:	Tenderer	Witness	Employer	Witness
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**A10.4 List the Firms who provide the following services:**

Service	Name	Contact Person	Telephone
Accounting			
Auditing			
Insurance			
Legal			

**A10.5 Identify any amounts of money loaned to your enterprise, indicating the loan source, date and amount**

Loan Source	Address	Date of Loan	Loan Amount

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

**A10.6 List a maximum of five similar contracts which your enterprise is engaged in and has not yet completed**

Contract Description	Location	Client	Contract Amount	Expected Completion (month & year)

**A10.7 List the four largest similar assignments completed by your enterprise in the last three years**

Nature of Work Performed	Client	Consultant Contact Person	Telephone No.	Contract Amount

**A10.8 Address of workshop facilities from where maintenance of works will be undertaken**

.....  
.....

**A10.9 Address of Branch Offices in the RSA**

.....  
.....

**A10.10 Address of Nearest Representative to Burgersfort/Steelpoort**

.....  
.....

**A10.11 Has work previously been performed for the Employer?**

YES/NO\* - Specify

.....  
.....

**A10.12 Tenderer's Financial Ability to execute and complete the Works**

Provide the estimated cash flow on the project in terms of submissions of payment certificates or payment schedules of the Employer.

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

- (i) Value added tax to be included in all amounts
- (ii) Assume for the purpose of this estimate, payment of certificates within 30 days after receipt by the Employer.
- (iii) In calculation of the last column,
- |           |           |
|-----------|-----------|
| j = d     | m = l + g |
| k = j + e | n = m + h |
| l = k + f | etc       |
- (iv) Failure to detail the required information, shall automatically signify that the Tenderer lacks the infrastructure and resources necessary to execute and complete the Works.

Month No. in Contract Period	Estimated amount in Rands (VAT included)			
	a Received	b Payments made	a-b Net cash flow	Cumulative cash flow
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
Maximum negative cash flow. Take the largest negative number in the last column and write in here → → → → →				

Tenderer .....

Initial:	Tenderer	Witness	Employer	Witness
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## APPENDIX A11 : FINANCIAL INFORMATION OF TENDERER

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

### Tenderer / Tender Details

Tender Description : .....

Contract Period : .....

Name of Tenderer : .....

Bank Account Number : .....

Tendered Amount : .....

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

If yes, state amount of Demand Guarantee: R .....

### Financial Institution

Name of Commercial Bank : .....

Branch : .....

Name of Bank Manager : .....

Telephone Number : .....

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

..... (Tenderer)

has operated an account with us for the last ..... years.

We have been requested to provide a bank rating based in relation to the financial capability of the Tenderer, taking into account directives set out in the following two tables.

### **Financial Capability**

Maximum value of contract that the Tenderer is considered capable of	Value on which Bank Rating must be used
up to R300 000	R24 000
R1 000 000	R78 000
R3 000 000	R240 000
R5 000 000	R480 000
R10 000 000	R900 000
R30 000 000	R2 400 000
R100 000 000	R7 800 000

Initial:	Tenderer	Witness	Employer	Witness
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## BANK RATING

Bank Code	Description of Bank Code
A	Undoubted for the amount of enquiry
B	Good for the amount of enquiry
C	Good for the amount quoted if strictly in the way of business
D	Fair trade risk for amount of enquiry
E	Figures considered too high
F	Financial position unknown
G	Occasional dishonours
H	Frequent dishonours

The value on which our Bank Rating of the Tenderer is based is R.....

(In words ..... only)

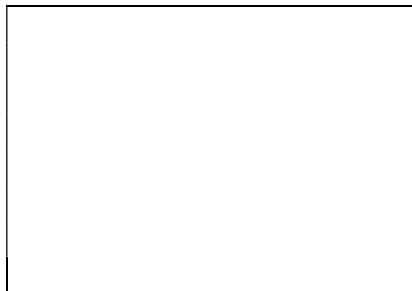
The Bank Rating is code: .....

.....  
Signature: Manager Financial Institution

.....  
Print Name

.....  
Date

## RUBBER STAMP OF INSTITUTION



Initial:	Tenderer	Witness	Employer	Witness
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**APPENDIX A12 : COMMERCIAL EQUITY DECLARATION****A12.1 General**

The Employer considers the information contained in this Declaration as a material aspect of the Contract. Should there, during the duration of either the tender enquiry or contract, be any significant change in the equity situation of the Tenderer, the Employer shall immediately be notified and the Employer will, in terms of the Contract Data, exercise its rights.

**A12.2 Name of Tenderer** .....**A12.3 Type of enterprise e.g. Sole proprietor, partnership, CC, Pty, JV, etc:** .....**A12.4 Details of Firm:**

Name of Company: .....

Street Address: .....

Postal Address: .....

Tel. Number: (Code) ..... (Number) .....

Fax Number: (Code) ..... (Number) .....

Contact Person: .....

Company Registration No. ....

Income Tax Registration No. ....

VAT Registration No. ....

Number of years in Business: .....

Founding Date of Firm: .....

**A12.5 List all equity owners**

Name	M/F	PDI* (Y/N)	D** (Y/N)	% Equity owned	ID Number

Attached registration documents and shareholders agreements.

\* PDI (Previously Disadvantaged Individuals). \*\* If disabled indicate under D.

Initial:	Tenderer	Witness	Employer	Witness
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**A12.6 Did the enterprise exist under a previous name? (Tick one box)**

☐ Yes ☐ No

If yes:

What was its previous name? .....

Why did it change its name? .....

List the previous owners/partners/directors .....

.....

.....

**A12.7 Identify by name, status and length of service, those individuals in the enterprise (including owners) responsible for day-to-day management and business decisions.**

Financing decisions	Name	Status (Yes/No)*			Length of service (years)
		PDI	Women	Disabled	
Cheque signing					
Signing and co-signing of loans					
Acquisition of lines of credit					
Demand & Retention Guarantees					
Major Purchases or acquisitions					
Signing contracts					

Management decision	Name	Status (Yes/No)*			Length of service (years)
		PDI	Women	Disabled	
Estimating					
Marketing and sales operations					
Hiring & firing of management personnel					
Hiring & firing of none-management personnel					
Supervision of office personnel					
Supervision of field/production activities					

\*State Yes or No

Attach separate list, if necessary.

I (1), ..... and (2) .....  
(names), hereby certify that, to the best of our knowledge, the information, facts and representations are correct and that we are duly authorised to sign on behalf of the Tenderer.

Date: .....

Signature: (1)..... (2) .....

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

**APPENDIX A13 : JOINT VENTURE DISCLOSURE FORM**

Employer: .....

Contract Number: .....

NOTE 1 This form need only be completed in the event of a Joint Venture submitting this tender.

NOTE 2 Fill in all the information requested in the spaces provided. Attach additional sheets if required.

NOTE 3 Provide a copy of the Joint Venture agreement. Demonstrate that the partners to the Joint Venture share in the ownership, control, management responsibilities, risks and profits of the Joint Venture. The Joint Venture agreement shall include specific details relating to:

- a) the contributions of capital and equipment;
- b) portions of the Contract to be performed by the partner's own resources; and
- c) portions of the Contract to be performed under the supervision of each partner.

NOTE 4 Provide copies of all written agreements between partners concerning the Joint Venture, including those that relate to ownership options and to restrictions/limits regarding ownership and control.

**A13.1 Joint Venture Particulars**

Name .....

Postal Address .....

Physical Address .....

Telephone .....

Fax .....

Name of authorized representative .....

**A13.2 Identity of Partner No. 1**

Name .....

Postal Address .....

Physical Address .....

Telephone .....

Fax .....

Contact Person .....

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

**A13.3 Identity of Partner No. 2**

Name .....

Postal Address .....

Physical Address .....

.....

Telephone .....

Fax .....

Contact Person .....

**A13.4 Identity of Partner No. 3**

Name .....

Postal Address .....

Physical Address .....

.....

Telephone .....

Fax .....

Contact Person .....

**A13.5 Description of the role of the partners in the joint venture**

Partner No. 1: .....

.....

Partner No. 2: .....

.....

Partner No. 3: .....

.....

**A13.6 Ownership of the joint venture**

(i) Ownership percentage(s) Partner No. 1 ..... %

Partner No. 2 ..... %

Partner No. 3 ..... %

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

- (ii) Partner percentage in respect of:
- a) Profit and loss sharing: Partner No. 1 ..... %
- Partner No. 2 ..... %
- Partner No. 3 ..... %
- b) Initial capital contribution Partner No. 1 R.....
- Partner No. 2 R.....
- Partner No. 3 R.....
- (iii) Anticipated ongoing capital contributions:
- Partner No. 1 R.....
- Partner No. 2 R.....
- Partner No. 3 R.....
- (iv) Contributions of equipment (specify types, quality and quantities of equipment) to be provided by each partner:
- Partner No. 1 .....
- .....
- Partner No. 2 .....
- .....
- Partner No. 3 .....
- .....

**A13.7****Recent contracts performed by partners in their own right, or as partners in other joint ventures**

- a) Partner No. 1
- (i) .....
- (ii) .....
- (iii) .....
- (iv) .....
- b) Partner No. 2
- (i) .....
- (ii) .....
- (iii) .....
- (iv) .....

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

## c) Partner No. 3

(i) .....

(ii) .....

(iii) .....

(iv) .....

**A13.8 Control and participation in the joint venture**

(Identify by name and firm those individuals who are, or will be, responsible for, and have authority to engage in the relevant management functions and policy and decision making, indicating any limitations in their authority, for example, co-signature requirements and monetary limits).

## a) Joint Venture cheque signing

.....  
 .....

## b) Authority to enter into contracts on behalf of the Joint Venture

.....  
 .....

## c) Signing, co-signing or collateralizing of loans

.....  
 .....

## d) Acquisition of lines of credit

.....  
 .....

## e) Acquisition of demand bonds

.....  
 .....

## f) Negotiating and signing of labour agreements

.....  
 .....

**A13.9 Management of the performance of the Contract**  
 (Fill in the name and firm of the responsible person)

## a) Supervision of field operations .....

.....

Initial:	Tenderer	Witness	Employer	Witness
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- b) Major purchasing .....
- .....
- c) Estimating .....
- .....
- d) Technical management .....
- .....

#### **A13.10 Management and control of the joint venture**

- a) Identify the managing partner
- .....
- .....
- b) What authority does each partner have to commit or obligate the other to financial institutions, insurance companies, suppliers, subcontractors or other parties participating in the performance of the contemplated works:
- Partner No. 1: .....
- .....
- Partner No.2: .....
- .....
- Partner No. 3: .....
- .....
- c) Describe the management structure for the joint venture's work under this Contract

Management Function/Designation	Name	Partner

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

### A13.11 Personnel

- a) State the approximate number of operative personnel (by trade/function/discipline) needed to execute the Joint Venture contract.

Trade/function/discipline	Number
S t	
a t	
e	

- |    |  |  |
|----|--|--|
| b) |  |  |
| S  |  |  |
| t  |  |  |
| a  |  |  |
| t  |  |  |
| e  |  |  |
| t  |  |  |
- he number of operative personnel to be employed on the Contract who are currently in the employ of partners:

- c) State the number of operative personnel who are not currently in the employ of the respective partners and shall be engaged on the project by the Joint Venture:

- d) State the name of the individual who shall be responsible for hiring Joint Venture employees:

- e) State the name of the partner who shall be responsible for the preparation of Joint Venture payrolls:

Initial:	Tenderer	Witness	Employer	Witness
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**A13.12 Services**

List the firms who provide the following services:

Service	Name	Contact Person	Telephone No.
Accounting			
Auditing			
Banking			
Insurance			
Legal			

**A13.13****Control and structure of the Joint Venture**

Briefly describe the manner in which the Joint Venture is structured and controlled.

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

The undersigned warrants that he/she is duly authorised to sign this Joint Venture disclosure form and affirms that the foregoing statements are correct and include all the material information necessary to identify and explain the terms and operations of the Joint Venture and the intended participation of each partner in the undertaking.

The undersigned further covenants and agrees to provide the Employer with complete and accurate information regarding actual joint venture work and the payment therefore, and any proposed changes in any provisions of the Joint Venture Agreement, and to permit the audit and examination of the books, records and files of the Joint Venture, or those of each partner relevant to the Joint Venture, by duly authorized representatives of the Employer.

Duly authorized to sign on behalf of: .....

..... (the Joint Venture)

Signature: ..... Print Name: .....

Name: .....

Address: .....

.....

Telephone: .....

Date: .....

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

Duly authorized to sign on behalf of: .....  
..... (**Partner No. 1**)

Signature: ..... Print Name: .....

Name: .....

Address: .....

.....

Telephone: .....

Date: .....

Duly authorized to sign on behalf of: .....  
..... (**Partner No. 2**)

Signature: ..... Print Name: .....

Name: .....

Address: .....

.....

Telephone: .....

Date: .....

Duly authorized to sign on behalf of: .....  
..... (**Partner No. 3**)

Signature: ..... Print Name: .....

Name: .....

Address: .....

.....

Telephone: .....

Date: .....

Initial:	Tenderer	Witness	Employer	Witness
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## APPENDIX A14 : DECLARATION OF INTEREST

Any natural or legal person, including a person employed by the Employer or a person who acts on behalf of the Employer or a person having a kinship with a person employed by the Employer, including blood relationship, may make an offer in terms of this tender. In view of possible allegations of favouritism, should the resulting tender, or part thereof, be awarded to persons employed by the Employer or a person who acts on behalf of the Employer or to persons connected with or related to them, it is required that the Tenderer or his authorized representative declares his position towards the Employer and/or its interests, where-

- The Tenderer is employed by the Employer or acts on behalf of the Employer; and or
- The natural or legal person on who's behalf the tender document is signed, has a relationship with persons who are involved with the evaluation of the tender(s) or where it is known that such a relationship exists between the person or persons for or on who's behalf the declarant acts and persons who are involved with the evaluation of the tender.

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

1. Are you or any person connected with the Tenderer, employed by the Employer? \*YES/NO

1.1 If so, state particulars

.....

.....

.....

2. Do you, or any person connected with the Tenderer, have any relationship (family, friend, other) with a person employed by the Employer and who may be involved with the evaluation or adjudication of this tender? \*YES/NO

2.1 If so, state particulars

.....

.....

.....

3. Are you, or any person connected with the Tenderer, aware of any relationship (family, friend, other) between the Tenderer and any person employed by the Employer who may be involved with the evaluation or adjudication to this tender? \*YES/NO

3.1 If so, state particulars

.....

.....

.....

\*Delete whichever is not applicable.

Initial:	Tenderer	Witness	Employer	Witness
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Signed at ..... on ..... day of ..... 20.....

.....  
Tenderer's Signature

.....  
Print Name

WITNESSES:

1. ....

.....  
Print Name

2. ....

.....  
Print Name

Initial:	Tenderer	Witness	Employer	Witness
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## APPENDIX A15 : RATES OF LABOUR AND MATERIALS (DAYWORK RATES)

### LABOUR

The rates for labour indicated below shall be the total cost to the Employer, and shall include for all the Contractor's profits, overheads, wages, accommodation, travelling, subsistence and other costs relative to the employment by the Contractor of the personnel detailed, and for hand and portable electric or pneumatic tools and consumables normal to the trade of the respective personnel.

Contractor's labour rates are based on a normal ..... hours/day

The application and use of these rates shall be at the sole discretion and subject to the prior approval of the Engineer.

Item No	Category	Rate per Hour in Rand		
		Normal	Overtime	Sundays and PPH
1				
2				
3				
4				
5				
6				
7				
8				
9				

### MATERIALS

The Contractor shall indicate hereunder the percentage mark-up required on the net cost of materials actually used on site. Proof of cost of materials shall be furnished by invoices.

Percentage Mark-up \_\_\_\_\_ % (Default 5%)

SIGNATURE OF TENDERER \_\_\_\_\_ DATE \_\_\_\_\_

\_\_\_\_\_  
Print Name of Signatory

ON BEHALF OF : \_\_\_\_\_ (the Tenderer)

Initial:	Tenderer	Witness	Employer	Witness
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**APPENDIX A16 : ALTERATIONS BY TENDERER**

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

Page	Item of Clause	Details	Cost Involved (R)

Signature of Tenderer ..... Date .....

Print Name .....

Tenderer .....

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

MBD4 – Declaration in terms of the MFMA (No 56 of 2003) in terms of Municipal Rates and Services

**APPENDIX A17: DECLARATION IN TERMS OF THE MFMA (NO. 56 OF 2003) IN TERMS OF  
MUNICIPAL RATES AND SERVICES**

**NAME OF ENTERPRISE / TENDERER\*:**

.....

I the undersigned, who warrants that he/she\*\* is duly authorized to do so, on behalf of the abovementioned enterprise/tenderer\*, do hereby declare that, to the best of my knowledge, neither the enterprise nor any of its directors, members or partners has:

- a) Failed to pay municipal rates and taxes or municipal service charges and such rates, taxes and charges are not in arrears for more than three months;
- b) Failed, during the past five years, to perform satisfactorily on a previous contract with the Municipality or any other organ of state after written notice was given to that tenderer that performance was unsatisfactorily;
- c) Abuse the supply chain management system of any Municipality or any organ of state, or has committed any improper conduct in relation to this system;
- d) Been convicted of fraud or corruption during the past five years;
- e) Wilfully neglected, reneged on or failed to comply with any government, municipal or public sector contract during the past five years;
- f) Been listed with the Register of Tender Defaulters in terms of Section 29 of the Prevention and Combating of Corrupt Activities Act (No. 12 of 2004) or has been listed on the National Treasury database as a person or juristic entity prohibited from doing business with the public sector.

**DECLARATION IN TERMS OF THE MFMA (NO. 56 OF 2003) IN TERMS OF MUNICIPAL RATES AND SERVICES**

Further to the above I herewith disclose the particulars of any award of more than R 2 000-00 to a person who is a spouse, child or parent of a person in the service of the state, or has been in the service of the state in the previous twelve months.

Name of that person:

.....

Capacity in which that person is/was\*\* in the  
Service of the state:

.....

Initial:	Tenderer	Witness	Employer	Witness
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Amount of the award:

.....

I acknowledge that any misrepresentation in respect of this declaration may be regarded as reason to cancel any contract arising out of this tender.

**SIGNED ON BEHALF OF THE ENTERPRISE / TENDERER: \*\***

..... **DATE:** .....

\* Where the entity tendering is a joint venture, each party to the joint venture must sign a declaration in terms of the Municipal Finance Management Act and attach it to this schedule

\*\* Delete whichever is not applicable

**DOCUMENTARY EVIDENCE IN TERMS OF GOOD STANDING WITH MUNICIPAL RATES AND TAXES AND SERVICE CHARGES SHALL BE ATTACHED TO THIS PAGE**

Initial:	Tenderer	Witness	Employer	Witness
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MBD 6.1 – Preferencing Schedule where Preference are granted in Respect of B-BBEE – MBD 6.1

**APPENDIX A18: PREFERENCING SCHEDULE WHERE PREFERENCE ARE GRANTED IN RESPECT OF B-BBEE**

**PREFERENCING SCHEDULE WHERE PREFERENCE ARE GRANTED IN RESPECT OF B-BBEE**

The following Preference points will be allocated:

B-BBEE Status Level of Contribution	Number of points for tenders up to R 50 000 000-00 (80/20)	Number of points for tenders above R 50 000 000-00 (90/10)
1	20	10
2	18	9
3	14	6
4	12	5
5	8	4
6	6	3
7	4	2
8	2	1
Non-compliant contributor	0	0

- Tenderers with an annual total revenue of R 5 million or less qualify as Exempt Micro Enterprises (EMEs) in terms of the Broad-Based Black Economic Empowerment Act and are required to submit a certificate by a registered auditor, accounting officer or an accredited verification agency.
- Tenderers other than EME's must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating.
- Makhado Local Municipality reserves the right to verify any B-BBEE preference claimed.
- A tenderer will not be awarded points for B-BBEE status level if it is indicated in the tender documents that such tenderer intends sub-contracting more than 30% of the value of the contract to a person or enterprise that does not qualify for at least the point that such a tenderer qualifies for, unless the intended sub-contractor is an exempt micro-enterprise that has that capacity to execute the sub-contract.
- A person awarded a contract in relation to a designated sector, may not subcontract in such a way that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.

Initial:	Tenderer	Witness	Employer	Witness
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MBD 9 – Certificate of independent Bid Determination – MBD 9

**APPENDIX A19: CERTIFICATE OF INDEPENDENT BID DETERMINATION**

- 1 This Municipal Bidding Document (MBD) must form part of all bids<sup>1</sup> 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).<sup>2</sup> 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:

<sup>1</sup> Includes price quotations, advertised competitive bids, limited bids and proposals.

<sup>2</sup> 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.

I, the undersigned, in submitting the accompanying bid:

**BID NO. .../2022: THE CONSTRUCTION OF THE ASSOCIATED WORKS FOR THE  
REHABILITATION AND CLOSURE OF THE VONDELING LANDFILL SITE \_**

in response to the invitation for the bid made by:

**MAKHADO LOCAL MUNICIPALITY**

Initial:	Tenderer	Witness	Employer	Witness
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Do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: \_\_\_\_\_ that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
  - (a) has been requested to submit a bid in response to this bid invitation;
  - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement, or arrangement with any competitor. However, communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement, or arrangement with any competitor regarding:
  - (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.
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.

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

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.

.....	.....
Signature	Date
.....	.....
Position	Name of Bidder

Initial:	Tenderer	Witness	Employer	Witness
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## MBD 8 – Declaration of Bidder's Past Supply Chain Management Practices – MBD 9

**APPENDIX A20: DECLARATION OF BIDDER'S PAST  
SUPPLY CHAIN MANAGEMENT PRACTICES**

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

Item	Question	Yes	No
4.1	Is the 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?  <b>(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied).</b>	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)?  <b>Access this register by entering the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>), click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012) 326 5445.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Initial:	Tenderer	Witness	Employer	Witness
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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 of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
<b>Item</b>	<b>Question</b>	<b>Yes</b>	<b>No</b>
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.7.1	If so, furnish particulars:		

**CERTIFICATION****I, THE UNDERSIGNED (FULL NAME)**

.....

**CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM TRUE AND CORRECT.****I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.**.....  
**Signature**.....  
**Date**.....  
**Position**.....  
**Name of Bidder**

Initial:	Tenderer	Witness	Employer	Witness
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PART C1: AGREEMENTS AND CONTRACT DATA

Initial:	Tenderer	Witness	Employer	Witness
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**PART C1****AGREEMENTS AND CONTRACT DATA****INDEX**

<b><u>Part</u></b>		<b><u>Colour</u></b>	<b><u>Page</u></b>
C1.1	Form of Offer and Acceptance	Yellow	C1.3
C1.2	Contract Data	Yellow	C1.8

Initial:	Tenderer	Witness	Employer	Witness
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## PART C1.1

### FORM OF OFFER AND ACCEPTANCE

Initial:	Tenderer	Witness	Employer	Witness
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## FORM OF OFFER AND ACCEPTANCE

### 1. OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement of construction works viz.:

#### **BID NO. 68 of 2022**

#### **THE CONSTRUCTION OF THE ASSOCIATED WORKS FOR THE REHABILITATION AND CLOSURE OF THE VONDELING LANDFILL SITE**

The Tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, and by submitting this offer has accepted the Conditions of Tender.

By the representative of the Tenderer, deemed to be duly authorized, signing this part of 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 .....

.....

..... (amount in words); R..... (amount 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 terms of the Conditions of Contract identified in the Contract Data.

Signature(s) .....

Print Name(s) .....

Capacity .....

For the Tenderer .....

.....  
(Name and address of organization)

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

Print Name .....

#### Important Note

This page to be duly completed by the **Tenderer** before submitting the Tender.

Initial:	Tenderer	Witness	Employer	Witness
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## 2. **ACCEPTANCE**

By signing this part of this Form of Offer and Acceptance, the Employer 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 1 : Agreements and Contract Data (which include this Agreement)

Part 2 : Pricing Data

Part 3 : Scope of Work

Part 4 : 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, which shall be signed by the authorized representative(s) of both parties.

The Tenderer shall, within 7 days of receiving a completed copy of this Agreement (including the Schedule of Deviations, if any), contact the Employer's Agent (whose details are given in the Contract Data) to arrange the delivery of any guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data. Failure to fulfil any of the 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). This agreement shall constitute a binding contract between the parties.

Signature(s) .....

Print Name(s) .....

Capacity .....

For the Employer      Makhado Local Municipality  
CIVIC CENTRE,  
83 Kroch Street  
**LOUIS TRICHARDT**

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

Print Name .....

Initial:	Tenderer	Witness	Employer	Witness
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### 3. **SCHEDULE OF DEVIATIONS**

The extent of deviations from the tender documents issued by the Employer before the tender closing date is limited to those permitted in terms of the Conditions of Tender.

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, be the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.

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.

Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final Contract Document.

- |     |         |       |
|-----|---------|-------|
| 3.1 | Subject | ..... |
|     | Details | ..... |
| 3.2 | Subject | ..... |
|     | Details | ..... |
| 3.3 | Subject | ..... |
|     | Details | ..... |
| 3.4 | Subject | ..... |
|     | Details | ..... |
| 3.5 | Subject | ..... |
|     | Details | ..... |

By the duly authorized representatives signing this Schedule of Deviations, the Employer and the Contractor 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 Contractor and the Employer in concluding this process of offer and acceptance; in witness thereof the parties hereto have caused this agreement to be executed.

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 Contractor of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

Signed by: .....	Signed by: .....
Print Name: .....	Print Name: .....
Address: .....	Address: .....
.....	.....
for and on behalf of the <b>Employer</b> in the presence of	for and on behalf of the <b>Contractor</b> in the presence of
Witness: .....	Witness: .....
Print Name: .....	Print Name: .....
Date: .....	Date: .....

Initial:	Tenderer	Witness	Employer	Witness
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## PART C1.2:

## CONTRACT DATA

Initial:	Tenderer	Witness	Employer	Witness
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**PART C1.2****CONTRACT DATA****INDEX**

<b>Item</b>	<b>Description</b>	<b>Page</b>
<b>PART 1:</b>	<b>DATA PROVIDED BY THE EMPLOYER</b>	<b>C1.10</b>
1.1	CONDITIONS OF CONTRACT	C1.10
1.2	CONTRACT SPECIFIC DATA	C1.10
<b>PART 2:</b>	<b>DATA PROVIDED BY THE CONTRACTOR</b>	<b>C1.14</b>
<b>PART 3:</b>	<b>ADDITIONAL SPECIAL CONDITIONS OR AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT</b>	<b>C1.15</b>
3.1	SPECIAL CONDITIONS OF CONTRACT (SCC)	C1.15
3.2	LABOUR INTENSIVE CONSTRUCTION WORKS	C1.21
3.3	PRIORITY OF DOCUMENTS	C1.27
<b>PART 4.</b>	<b>APPENDIX TO CONTRACT DATA</b>	<b>C1.29</b>
4.1	Demand Guarantee	C1.30
4.2	Demand Guarantee for Materials not yet Built into the Works	C1.32
4.3	Transfer of Rights	C1.34

Initial:	Tenderer	Witness	Employer	Witness
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**CONTRACT DATA FOR:****BID NO. 68 of 2020****THE CONSTRUCTION OF THE ASSOCIATED WORKS FOR THE REHABILITATION AND CLOSURE OF THE VONDELING LANDFILL SITE****PART 1: DATA PROVIDED BY THE EMPLOYER****1.1 CONDITIONS OF CONTRACT**

The General Conditions of Contract for Construction Works, Third Edition, 2015, published by the South African Institute of Civil Engineering, Private Bag x 200, Halfway House, 1685, Tel 011 805 5947, is applicable to this Contract and is obtainable from [www.saice.org.za](http://www.saice.org.za).

The General Conditions of Contract make several references to the Contract Data. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the General Conditions of Contract.

Where applicable, items of data given here below are cross-referenced to the sub-clause in the General Conditions of Contract to which it applies.

**1.2 CONTRACT SPECIFIC DATA**

The following contract specific data are applicable to this Contract:

**Compulsory Data**

Clause 1.1.1.13

The Defects Liability Period is: **365 days measured from the date of the Certificate of Completion.**

Clause 1.1.1.14

The time for reaching Practical Completion is: **5 Months from the Commencement Date**

Clause 1.1.1.15:

The name of the Employer is: **MAKHADO LOCAL MUNICIPALITY**

Clause 1.2.1.2:

The address of the Employer is: Physical

Postal

**CIVIC CENTRE  
83 KOCH STREET  
LOUIS TRICHARDT**

**PRIVATE BAG 2596,  
LOUIS TRICHARDT  
0920**

Clause 1.1.1.16:

The name of the Employer's Agent is: **Infraburo (Pty) Ltd**

Clause 1.2.1.2:

The address of the Employer's Agent is: Physical

Postal

**Old Library Building  
Thohoyandou Unit A  
0950**

**PO Box 4338  
THOHOYANDOU  
0950**

e-mail: [rudzani@infraburo.co.za](mailto:rudzani@infraburo.co.za)

Initial:	Tenderer	Witness	Employer	Witness
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Clause 1.1.1.26:

The Pricing Strategy for this Contract is:

**Re-measurement Contract**

Clause 5.1.1.1:

The year-end break commences on:

**10 December 2022 and ends on  
10 January 2023**

Clause 5.1.1.1 and Clause 5.8.1:

The non-working days are:

**Sundays**

The special non-working days are:

- 1) All statutory public holidays as declared by National and Provincial Government.
- 2) The year end break commencing on 10 December 2022 and ends on 10 January 2023

Clause 5.2 and Clause 5.3:

The Contractor shall commence executing the Works within:

**7 Days after the commencement date, with the commencement date being the date of the day following the day on which the Contractor is given right of access to the site or such other date as specified in the letter of acceptance or in the written notice to the Contractor in terms of Clause 5.3 and Clause 5.4 of the GCC 2015. The Contract period shall start running from the commencement date on which date the Site of the Works shall be handed over to the Contractor provided that all relevant guarantees and insurance policies are in place.**

**Should the Contractor fail to commence with the execution of the Works within this period, the Contract may be terminated in terms of Clause 9.2.1. of the General Conditions of Contract for Construction Works (2015)**

Clause 5.3.1:

The documentation required before commencement with Works execution is:

- 1) Health and Safety Plan (Refer to Clause 4.3)
- 2) Initial Programme (Refer to Clause 5.6)
- 3.) Security in the form of a Demand Guarantee (Refer to Clause 6.2)

Initial:	Tenderer	Witness	Employer	Witness
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**4) Insurance (Refer to Clause 8.6)**

Clause 5.3.2:

The documentation referred to in Clause 5.3.1 above shall be submitted within:

**7 days from the commencement date**

Clause 5.6.1:

The Contractor shall deliver his programme of work within:

**7 days from the commencement date.**

Clause 6.2:

The liability of the demand guarantee shall be for:

**10% of the Tender Sum  
The Demand Guarantee is to contain the wording of the proforma document included under the Appendix to the Contract Date on Page C1.30**

Clause 8.6.1.1:

The value for which the Contractor is responsible for the works in terms of clause 8.2.1 to be included in the insurance sum is:

**for the total Contract amount.**

Clause 8.6.1.1.2:

The value of Plant and Materials supplied by the Employer to Be included in the insurance sum is:

**Nil**

Clause 8.6.1.1.3:

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

**R 150 000-00**

Clause 8.6.1.3:

The limit for indemnity for liability insurance is:

**R 10 000 000-00**

Clause 6.5.1.2.3

Maximum percentage allowance to cover overhead charges is:

**Maximum of 15%**

Clause 5.5.1:

The Works shall be completed within

**5 months**

Clause 5.13.1:

The penalty for failing to complete the Works is

**R3000-00 per calendar day.**

Clause 5.16.3:

The latent defect period is:

**10 years**

Clause 6.10.1.5:

The percentage advance on materials not yet built into the Permanent Works is

**80%.**

Initial:	Tenderer	Witness	Employer	Witness
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Clause 6.10.3:

The percentage retention on amounts due to the Contractor is **10%.**

Clause 6.10.3:

The limit of retention money: **Retention shall be 10%**

Clause 5.14.5.2:

The Defects Liability Period is **365 days measured from the date of the Certificate of Completion.**

Clause 10.5.3:

The number of adjudication Board Members to be Appointed is: **One (1)**

**Optional data:**

Clause 3.1.3:

The Engineer shall obtain specific approval from the Employer before executing any of his functions or duties according to the following Clauses of the General Conditions of Contract:

- 1 Clause 6.3: **Variations**  
The issuing of any Variation Orders to the Contractor in terms of Clause 6.3 the estimated combined effect of which shall be to increase the Contract Price by a nett amount exceeding R 25 000-00.
- 2 Clause 5.11: **Suspension of the works**  
For 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 5.11, or the result which is liable to give rise to a claim by the Contractor for extension of time under Clause 5.12 and Clause 10 of the GCC
- 3 Clause 5.12: **Extension of time for completion**  
No extension of time may be granted to the Contractor by the Engineer without prior written approval from the Employer.
- 4 Clause 5.12.3: **Relevant adjustment to General Items**  
Any adjustment to the General Items in terms of an approval for Extension of time for completion of the Works shall only be made upon approval by the Employer. The Engineer shall in his recommendation to the Employer for the approval of an Extension of Time Claim in terms of Clause 10 also submit full details of the cost implications with regard to the General Items of the Contract to enable the Employer to make an informed decision.
- 5 Clause 10.1.5 **Engineer's ruling**  
The Engineer shall only upon approval granted by the Employer in writing, based on recommendations submitted to the Employer by the Engineer, approve any Claims submitted by the Contractor in terms of Clause 10.
- 6 Clause 6.11: **Variations Exceeding 15 per cent (%)**  
This Clause is not applicable to this Contract.

Clause 8.6.1:

Initial:	Tenderer	Witness	Employer	Witness
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No additional insurance over and above the insurances allowed for under Clauses 8.6.1.1 to 8.6.1.4 will be required.

Clause 6.8.2:

This clause shall be applicable to this contract and the variation on the cost of special materials as per Clause 6.8.3 will be applicable.

The base month is:

**OCTOBER 2022**

Clause 6.8.3:

Price adjustment for variations in the cost of special materials is allowed if special materials are listed in the table provided and base prices given.

Clause 6.10.5:

A Retention Money Guarantee is **NOT** permitted

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

Clause 1.1.1.9:

The name of the Contractor is: .....

Clause 1.1.1.9:

The address of the Contractor is: Physical Postal

.....

.....

.....

.....

e-mail: .....

Clause 6.8.3:

The variation in the cost of special materials is:

	<u>Type of Special Material</u>	<u>Unit</u>	<u>Rate or Price</u>
1.	.....	.....	.....
2.	.....	.....	.....
3.	.....	.....	.....
4.	.....	.....	.....
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### **Important Note**

The information requested under Clause 1.1.1.9 and Clause 6.8.3 above are to be duly completed by the **Tenderer** before submitting the Tender.

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### **PART 3: ADDITIONAL SPECIAL CONDITIONS OR AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT**

#### **3.1 SPECIAL CONDITIONS OF CONTRACT (SCC)**

##### **3.1.1 GENERAL**

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

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

The pro-forma Annexures included in the General Conditions of Contract 2015 are deleted for the purpose of this Contract and replaced with the forms bound into this document.

##### **3.1.2 AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT**

###### **SCC 1.1 Definitions**

The definitions contained in Clause 1(1) are hereby amended and/or supplemented as follows:

SCC 1.1.5: Amend the definition of "Commencement Date" to read as follows:

"Commencement Date" means the date on which the Contractor is given right of access to the site or such other date as specified in the letter of acceptance or in the written notice to the Contractor in terms of Clause 5.3 and Clause 5.4 of the GCC 2015.

###### **SCC 4.5.4 Contractor to be Compensated**

Add the following paragraph at the end of Clause 4.5.4:

The fees, taxes, levies and other charges to be paid by the Contractor in terms of sub-clause 4.5.1 shall not be refunded by the Employer. The cost thereof shall be deemed to be included in the prices tendered for relevant items in the Schedule of Quantities.

###### **SCC 4.8 Facilities for Others**

Delete the paragraph after Clause 4.5.2.2 and replace it with the following paragraphs:

"The Contractor's attention is drawn to the fact that other construction services may be executed concurrently by independent Contractors or bodies under separate Contracts.

The Contractor shall ensure that neither his operations nor his employees shall interfere with or hinder the operations of the Employer or of other Contractors and he shall indemnify the Employer against all claims arising through default of this requirement.

The Contractor shall cause no interference with or delays in the execution of these Contracts.

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No discount or commission for the Contractor is allowed on these contracts and it will be assumed that he has fully allowed in the Contract Price for the presence of these contractors on Site. Any service rendered or assistance given by the Contractor to these contractors save as are contained in the Works Specifications, shall be for their accounts only and the Employer shall in no way be responsible to the Contractor for any payments in this respect nor shall the Contractor be entitled to make a claim in accordance with Clause 10.1 for any possible delay to Practical Completion and/or incurrence of any additional cost by him.

The Contractor shall protect all existing services and all work being carried out and structures being erected on the Site by other contractors. Any damage caused to these services or structures or any obstructions or hindrance caused to other contractors by the Contractor and claims arising there from, will be the sole responsibility of the Contractor.

Any repair work shall be carried out at the Contractor's expense, in conformity with the Works Specifications.

The same obligations shall be imposed on the Employer and on other Contractors in respect of the Works being executed under this Contract."

#### **SCC 4.11 Competent Employees**

##### **SCC 4.11.1 Competent Employees**

Add the following paragraphs after the last paragraph of Sub-Clause 4.11.1:

"The Employer may in respect of certain categories of work, prescribe minimum employment conditions applicable to the employees of the Contractor and the Contractor shall comply therewith for the duration of the Contract.

On the request of the Engineer the Contractor shall provide proof that he complies in all respects with the said conditions."

#### **SCC 4.12 Contractor's Superintendence**

Add the following sub-clause 4.12.4 to Clause 4.12:

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

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

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

#### **SCC 5.6 Programme**

Add the following sub-clause after the first paragraph of Clause 5.6.1:

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

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

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within the period stated in the Contract Data, shall be sufficient cause for the Engineer to retain 25 per centum of the value of the Permanent works and General Items in assessment of amounts due to the Contractor until the Contractor has submitted aforementioned first Programme of the Works and Supporting Documents”.

### **SCC 5.9 Instructions**

Add the following after the end of the first paragraph of Clause 5.9.1:

“Three sets of paper prints of all drawings, one copy of this document plus a copy of the signed Contract document shall be issued free of charge to the Contractor. The Contractor shall pay at the cost of reproduction for any additional copies as he shall reasonably require.

All drawings and specifications and copies thereof remain the property of the Employer, and the Contractor shall return all drawings and copies thereof to the Employer on completion of the Contract”.

### **SCC 5.9.7 Engineer to approve Contractor’s designs and drawings**

- Insert the word “timeously” after the words “he shall” in the second line.
- Insert a full stop after the words “(if any)” and replace the rest of the paragraph with the following: “He shall allow a reasonable time for the Engineer to check the drawings submitted for approval. The Contractor shall not be entitled to make a claim for delays caused as a result of his drawings not being submitted timeously or as a result of his drawings not being approved by the Engineer due to shortcomings in the drawings or details submitted by the Contractor.”

### **SCC 5.12.2 Some reasons for extension of time**

Add the following to sub-clause 5.12.2.2: Abnormal climatic conditions,

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

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

V = Extension of time in calendar days for the calendar month under consideration

Nw = Actual number of days during the calendar month on which a rainfall of 10 mm or more has been recorded

Nn = Average number of days for the calendar month on which a rainfall of 10 mm or more has been recorded, as derived from existing rainfall records

Rw = Actual recorded rainfall for the calendar month

Rn = Average rainfall for the calendar month, as derived from existing rainfall records

x = 20

The rainfall records which shall be accepted for calculation purposes shall be based on records taken at the Rainfall Station located within Louis Trichardt.

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

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

"Normal rainfall is not regarded as 'abnormal climatic conditions' which entitles the Contractor to extension of time. Allowance for normal rainfall shall be deemed to have been made in his tendered rates, prices and programme. Extension of time for abnormal rainfall shall be considered as set out in the Project Specification.

The information reflected in the table below was compiled from a 10-year rainfall record for the rainfall station in **Louis Trichardt** and reflects the number of days which the contractor may expect to be disrupted due to normal rainfall within the area of the site. The contractor must make provision in the planning of his resources and programming of the work and allow therefore in his rates. No additional compensation or extension of time will be granted for time lost due to normal rainfall."

**NOTE: THE RAINFALL DATA WILL BE ISSUED AS AN ADDENDUM**

Add the following paragraphs to sub-clause 5.12.2.4:

"Labour disruptions on a regional or national level due to political unrest, organised mass action or related incidents shall be considered to be beyond the Contractor's control.

Any strike within the confines of the Contractor's company and/or this project only, shall be deemed to be within the Contractor's control.

Any additional statutory holidays proclaimed after the closing date of Tenders over and above the statutory holidays which existed at the time of tendering."

**SCC 5.14 Completion**

**SCC 5.14.1 Practical Completion**

Replace the last sentence of the second paragraph:

"Should the Employer's Agent ..... on the Due Completion Date".

with the following:

"Should the Employer's Agent not issue such list within the 14 days, Practical Completion shall be deemed to have been achieved on the said fourteenth day."

**SCC 5.14.2 Issue of Certificate of Practical Completion**

Replace "the Employer's Agent" in the second line with the following:

"...., the Contractor shall notify the Employer's Agent, who shall inspect the works and should all items on the list be attended to satisfactorily, the Employer's Agent shall..."

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#### **SCC 5.14.4 Certificate of Completion**

Replace "the Employer's Agent" in the second line of the of the first paragraph with the following:

"...., the Contractor shall notify the Employer's Agent, who shall inspect the works, and should all items referred to in the further list be attended to satisfactorily, the Employer's Agent shall..."

#### **SCC 5.15.1 Clearance of Site on completion**

Add the following after the first paragraph of Clause 5.15.1:

"The waste material resulting from the Works, including demolished walls, trees, brush, rubbish, building rubble, fences and all other objectionable material shall be removed and disposed of at a legal spoil site found by the Contractor and approved by the Employer's Agent. All re-usable material shall be stacked in accordance with the instructions of the Employer's Agent. The burning of combustible material on Site shall not be allowed.

On completion of operations the Contractor shall restore the ground surface, wherever it may have been disturbed, to its original condition by filling in all ruts with material similar to the material within the rut and levelling the ground and, where necessary, planting grass and shrubs as may be required. Any boundary fences which have been removed or damaged by his operations and activities shall be repaired and/or reinstated at the Contractor's expense."

#### **SCC 6.2 Security**

Delete the contents of Clause 6.2.1 and replace it with the following:

"The Contractor shall deliver to the Employer, as part of the documentation required before commencement with Works execution in accordance with Clause 5.3.1, at his cost an within such time as may be stated in the Contract Data a Demand Guarantee, of an Insurance Company registered in terms of the Short-term Insurance Act (Act 53 of 1998) or Commercial Bank, in a sum equal to the amount stated in the Contract Data. The Demand Guarantee shall be issued by an entity approved by the Employer, and shall conform in all respects to the format contained in the Appendix to the Contract Data.

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

Failure to produce an acceptable Demand Guarantee within the period stated in Clause 2.2.7 of the Contract Data is a fundamental breach of Contract."

#### **SCC 6.5 Dayworks**

##### **SCC 6.5.1 Basis for payment for dayworks**

"Net cost of materials" referred to in sub-clause 6.5.1.2.2 shall be the net invoiced cost of materials after the deductions of all discounts, direct or indirect.

#### **SCC 6.10 Payments**

Add the following sub-clause after Clause 6.10.1.8

##### **SCC 6.10.1.9 Payment for the labour-intensive component of the works**

Payment for the works identified in the Scope of the Works as being labour-intensive shall only

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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 the work. Any non-payment for such work shall not relieve the Contractor in any way from his obligations either in contract or in delict."

#### **SCC 6.10.2 Valuation of material brought onto Site**

Add the following after the second paragraph of sub-clause 6.10.2;

"Payment for materials on site shall only be considered for those materials which are physically on site. Any statement in which a claim for materials on site is included, shall have attached to it a declaration that the materials listed in the statement are owned by the Contractor, accompanied by proof of ownership. The ownership of materials shall be transferred to the Employer in accordance with the pro forma "Transfer of Rights" bound in as an Appendix to these Special Conditions of Contract."

Add to the end of Clause 6.10.2 the following paragraph:

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

Should the Contractor fail to supply unambiguous documentary evidence, he shall, prior to submittal of his monthly statement, deliver to the Employer a Demand Guarantee for Materials and Equipment not yet Built Into The Works form a Bank in the form as contained in the Appendix to the Contract Data."

#### **SCC 6.11 Variations exceeding 15 per cent**

Due to possible scope variation this clause will not be applicable to this contract.

#### **SCC 6.10.4 Delivery, dissatisfaction with and payment of payment certificates**

In the third sentence replace "28" with "30".

#### **SCC 7.4.4 Cost of test specimens and tests**

Replace the comma after the word "them" in the last line of sub-clause 7.4.4.1 with a full stop and replace the word "and" with the following:

"The cost of all tests and testing required as part of the Contractor's own quality control programme, whether particularised or not, shall be deemed to have been allowed for in his tender; and"

#### **SCC 8.1.2 Pollution prevention and interferences (Additional sub-clause)**

Add the following additional paragraphs at the end of the first paragraph:

"The Contractor shall confine his operation to as small an area of the Site as may be practical for the purpose of constructing the Works.

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

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

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caused by him or his employees."

### **SCC 8.6 Insurances**

Add the following paragraph after Sub-clause 8.6.1.5:

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

### **SCC 9.3 Termination of the Contract by the Contractor (Add the following sub-clause)**

Add the following paragraph as Clause 9.3.5:

"In addition to, or as an alternative to the rights to termination contained in Clauses 9.3.1 to 9.3.4, the Contractor may notify the default to the Employer, with a copy to the Engineer, and if the default is not rectified within 10 days the Contractor may suspend progress of the works until a date 7 days after the default is rectified. The Contractor shall be entitled to extension of time to the extent of delay caused by or resulting from such suspension, and to payment of additional costs caused by or resulting from the suspension. Such extension of time and additional costs shall be promptly ascertained by the Engineer, who shall then grant the extension of time and include the additional costs in all future payment certificates. Such suspension, extension of time and/or payment of additional costs, shall not prejudice the Contractor's rights to cancel the contract as set out in Clauses 9.3.1 to 9.3.4."

### **SCC 10.1 Contractor's Claim**

Add the following additional sub-clause:

"10.1.6 Discussions of claims during site meetings and minutes of such discussions shall not be regarded as a claim or notice by the Contractor of his intention to make a claim unless it is supported by a written submission in terms of Clause 10.1.1"

## **3.2. LABOUR INTENSIVE CONSTRUCTION WORKS**

### **Payment for the labour-intensive component of the works**

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.

It should be noted that although the terms and conditions as reflected below refers to EPWP projects, this project is not an EPWP Project. However, the execution of work through labour intensive construction methods should be optimized and Contractors must submit with their tender, their tender approach and workplan to achieve this. In terms of the Labour Relations Act, 1995, the latest wages as agreed through the Bargaining Council for the Civil Engineering Industry and as published in the Government Gazette, shall be applicable and Contractors must ensure that this is taken into consideration in determining rates for the execution of the various items of work to be executed.

Tenderers should take cognisance of the latest "WAGE AND TASK GRADE COLLECTIVE AGREEMENT" which was agreed with the Bargaining Council for the Civil Engineering Industry, and which is currently under promulgation

### **Applicable labour laws**

The Ministerial Determination, Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice N° R63

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of 25 January 2002, as reproduced below, shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.

## 1 Introduction

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

### 1.1 Definitions

In this document –

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

## 2 Terms of Work

- 2.1 Workers on an EPWP are employed on a temporary basis.
- 2.2 A worker may NOT be employed for longer than 24 months in any five-year cycle on an EPWP.
- 2.3 Employment on an EPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.

## 3 Normal Hours of Work

- 3.1 An employer may not set tasks or hours of work that require a worker to work–
  - a) more than forty hours in any week
  - (b) on more than five days in any week; and
  - (c) for more than eight hours on any day.
- 3.2 An employer and worker may agree that a worker shall work four days per week. The worker may then work up to ten hours per day.
- 3.3 A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

## 4 Meal Breaks

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

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- 4.2 An employer and worker may agree on longer meal breaks.
- 4.3 A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.
- 4.4 A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked, must be paid if the worker is required to work or to be available for work during the meal break.

## **5 Special Conditions for Security Guards**

- 5.1 A security guard may work up to 55 hours per week and up to eleven hours per day.
- 5.2 A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

## **6 Daily Rest Period**

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

## **7 Weekly Rest Period**

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

## **8 Work on Sundays and Public Holidays**

- 8.1 A worker may only work on a Sunday or public holiday to perform emergency or security work.
- 8.2 Work on Sundays is paid at the ordinary rate of pay.
- 8.3 A task-rated worker who works on a public holiday must be paid –
  - (a) the worker's daily task rate, if the worker works for less than four hours;
  - (b) double the worker's daily task rate, if the worker works for more than four hours.
- 8.4 A time-rated worker who works on a public holiday must be paid –
  - (a) the worker's daily rate of pay, if the worker works for less than four hours on the public holiday;
  - (b) double the worker's daily rate of pay, if the worker works for more than four hours on the public holiday.

## **9 Sick Leave**

- 9.1 Only workers who work four or more days per week have the right to claim sick-pay in terms of this clause.
- 9.2 A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.
- 9.3 A worker may accumulate a maximum of twelve days' sick leave in a year.
- 9.4 Accumulated sick-leave may not be transferred from one contract to another contract.

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- 9.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
- 9.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.
- 9.7 An employer must pay a worker sick pay on the worker's usual payday.
- 9.8 Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
- (a) absent from work for more than two consecutive days; or
  - (b) absent from work on more than two occasions in any eight-week period.
- 9.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
- 9.10 A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

## 10 Maternity Leave

- 10.1 A worker may take up to four consecutive months' unpaid maternity leave.
- 10.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.
- 10.3 A worker must give her employer reasonable notice of when she shall start maternity leave and when she shall return to work.
- 10.4 A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- 10.5 A worker may begin maternity leave –
- (a) four weeks before the expected date of birth; or
  - (b) on an earlier date –
    - (i) if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
    - (ii) if agreed to between employer and worker; or
  - (c) on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
- 10.6 A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.
- 10.7 A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the EPWP on which she was employed has ended.

## 11 Family responsibility leave

- 11.1 Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances –

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

## 12 Statement of Conditions

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

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

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

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

## 13 Keeping Records

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

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

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

## 14 Payment

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

14.2 A task-rated worker shall only be paid for tasks that have been completed.

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

14.4 A time-rated worker shall be paid at the end of each month.

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

14.6 Payment in cash or by cheque must take place –

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

14.7 An employer must give a worker the following information in writing –

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- (a) the period for which payment is made;
- (b) the numbers of tasks completed or hours worked;
- (c) the worker's earnings;
- (d) any money deducted from the payment;
- (e) the actual amount paid to the worker.

- 14.8 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it
- 14.9 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

## 15 Deductions

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

## 16 Health and Safety

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

## 17 Compensation for Injuries and Diseases

- 17.1 It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- 17.2 A worker must report any work-related injury or occupational disease to their employer or manager.

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- 17.3 The employer must report the accident or disease to the Compensation Commissioner.
- 17.4 An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer shall be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

## 18 Termination

- 18.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.
- 18.2 A worker shall not receive severance pay on termination.
- 18.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.
- 18.4 A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work shall have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.
- 18.5 A worker who does not attend required training events, without good reason, shall have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

## 19 Certificate of Service

- 19.1 On termination of employment, a worker is entitled to a certificate stating –
- (a) the worker's full name;
  - (b) the name and address of the employer;
  - (c) the EPWP on which the worker worked;
  - (d) the work performed by the worker;
  - (e) any training received by the worker as part of the EPWP;
  - (f) the period for which the worker worked on the EPWP;
  - (g) any other information agreed on by the employer and worker.

### 3.3. PRIORITY OF DOCUMENTS

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

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

Initial:	Tenderer	Witness	Employer	Witness
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If any ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.

Initial:	Tenderer	Witness	Employer	Witness
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## PART 4: APPENDIX TO CONTRACT DATA

- 4.1 Demand Guarantee
- 4.2 Demand Guarantee for Materials not yet built into the Works
- 4.3 Transfer of Rights

Initial:	Tenderer	Witness	Employer	Witness
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(Pro-Forma)

**DEMAND GUARANTEE**

(not to be completed at tender stage)

TO: **MAKHADO LOCAL MUNICIPALITY**  
**CIVIC CENTRE**  
**83 Kroch Street**  
**LOUIS TRICHARDT**

(whom the Contract defines as the Employer)

Re.:

Demand Guarantee in respect of: **THE CONSTRUCTION OF THE ASSOCIATED  
WORKS FOR THE REHABILITATION AND  
CLOSURE OF THE VONDELING LANDFILL SITE**

Contract Number: **BID NO. 68 of 2022**

For construction of: **THE ASSOCIATED WORKS FOR THE REHABILITATION  
AND CLOSURE OF THE VONDELING LANDFILL SITE**

Contractor : .....

I/We, the undersigned,

.....

and

.....

of

.....

(hereinafter referred to as the "Bank")  
address:

.....

.....

and acting on behalf of the Bank, hereby irrevocably undertake to pay you, the Employer, any sum or  
sums not exceeding in total the amount of R .....

(in words ..... only) ("the Guaranteed Amount")

upon receipt by us of your demand in writing accompanied by your written statement advising that the  
Contractor is in breach of his obligation(s) under the Contract.

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

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

Initial:	Tenderer	Witness	Employer	Witness
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The Bank will pay the amount demanded into the bank account to be notified by the Employer and against return of this original guarantee by the Employer or the Employer's duly authorised agent.

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

This guarantee shall be irrevocable during the term of aforesaid Contract, and shall remain in place until the Contractor's liabilities under the Contract have been discharged.

The Bank reserves the right to withdraw from this guarantee at its entire discretion by giving the Employer 3 (three) months' written notice of its intention to do so. The Employer may, however, claim under this guarantee during the mentioned notice period from the date that such notice is given. The Bank's liability shall cease on expiry of the notice period and no further claims will be considered.

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

- on expiry of the guarantee; or
- at the end of the notice period in the event of the Bank giving notice to withdraw from the guarantee; or
- against payment of the Guaranteed Amount; or
- on cancellation of the guarantee.

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

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

.....  
.....

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

In the presence of the following:

AS WITNESSES:

on behalf of the Bank and duly authorised  
thereto

1. ....

1. ....

.....  
Print Name

.....  
Print Name

and

on behalf of the Bank and duly authorised  
thereto

2. ....

2. ....

.....  
Print Name

.....  
Print Name

Initial:	Tenderer	Witness	Employer	Witness
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(Pro-forma)

## DEMAND GUARANTEE FOR MATERIALS AND EQUIPMENT NOT YET BUILT INTO THE WORKS

(not to be completed at tender stage)

TO: **MAKHADO LOCAL MUNICIPALITY  
CIVIC CENTRE  
83 Kroch Street  
LOUIS TRICHARDT**

(whom the Contract defines as the Employer)

Demand Guarantee in respect of: **THE CONSTRUCTION OF THE ASSOCIATED  
WORKS FOR THE REHABILITATION AND  
CLOSURE OF THE VONDELING LANDFILL SITE**

Contract Number: **BID NO. 68 of 2022**

For construction of: **THE ASSOCIATED WORKS FOR THE REHABILITATION  
AND CLOSURE OF THE VONDELING LANDFILL SITE**

Contractor : .....

I/We, the undersigned,

.....

and

.....

of

.....

(hereinafter referred to as the "Bank")

address:

.....

.....

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

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

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

- that the Contractor has failed to deliver such equipment and/or materials when

Initial:	Tenderer	Witness	Employer	Witness
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required or instructed to do so.

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

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

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

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

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

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

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

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

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

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

In the presence of the following:

AS WITNESSES:  
thereto

on behalf of the Bank and duly authorised

1. ....

1. ....

.....  
Print Name

.....  
Print Name

and

thereto

on behalf of the Bank and duly authorised

2. ....

2. ....

.....  
Print Name

.....  
Print Name

Initial:	Tenderer	Witness	Employer	Witness
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(Pro-forma)

**TRANSFER OF RIGHTS**

CONTRACT:.....

CONTRACTOR: .....

CLAIM FOR PAYMENT NO: .....DATE: .....

I, the undersigned,.....

in my capacity as .....

of

.....  
 (hereinafter referred to as "the TRANSFEROR") (I having been duly authorized hereto by virtue of Resolution of the Board of Directors of the Transferor passed on the ..... day of ..... 20.....) do hereby warrant that the materials and goods listed are the Transferor's bona-fide property, ownership of which vests in the Transferor, and I hereby transfer, cede and assign all the Transferor's rights, title and interest in and to the said materials and goods unto and in favour of

.....  
 (hereinafter referred to as "the TRANSFeree"). Insofar as the Transferor retains actual control of the materials and goods, the right of ownership thereof passes to the Transferee by constitutum possessorium.

This transfer shall become effective upon conclusion of the Transferor receiving payment from the Transferee or from any other person on behalf of the Transferee for the materials and goods as Materials on Site (payment of retention money thereon excluded)

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

\_\_\_\_\_  
 TOTAL VALUE OF CLAIM FOR MATERIALS ON SITE IN ACCORDANCE WITH THE

ATTACHED LIST: R.....(in words ..... )

SIGNED: ..... DATE: .....

Initial:	Tenderer	Witness	Employer	Witness
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## PART C2:

## PRICING DATA

Initial:	Tenderer	Witness	Employer	Witness
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**PART C2****PRICING DATA****INDEX**

<b><u>Part</u></b>		<b><u>Colour</u></b>	<b><u>Page</u></b>
Part C2.1	Pricing Instructions	Yellow	C2.3
Part C2.2	Schedules of Quantities	Yellow	C2.8

Initial:	Tenderer	Witness	Employer	Witness
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## PART C2.1:

## PRICING INSTRUCTIONS

Initial:	Tenderer	Witness	Employer	Witness
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## **PRICING INSTRUCTIONS**

### **1. GENERAL**

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

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

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

### **2. DOCUMENTS MUTUALLY EXPLANATORY**

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

### **3. DEFINITIONS**

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

Unit	:	The unit of measurement for each item of work as defined in the Scope of Work and Site Information.
Quantity	:	The number of units of work for each item.
Rate	:	The payment per unit of measurement at which the Contractor contracts to do the work.
Amount	:	The product of the quantity and the rate tendered for an item.
Sum	:	An amount contracted for an item, the extent of which is described in the Bill of Quantities, the specifications or elsewhere but the quantity of work of which is not measured in any units.

### **4. DESCRIPTIONS**

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

Initial:	Tenderer	Witness	Employer	Witness
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## 5. REFERENCES

The clauses in a specification in which further information regarding the schedule item can be obtained appear under "Reference clause" in the Bill. The reference clauses indicated are not necessarily the only sources of information in respect of scheduled items. Further information and specifications may be found elsewhere in the contract documents. Standardised Specifications are identified by the letter or letters which follow SANS in the SANS 1200 series of specifications, e.g. G for SANS 1200 G.

## 6. UNITS OF MEASUREMENT

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

The following abbreviations are used in the Bill of Quantities:

%	=	per cent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimetre
MN	=	meganewton
MN-m	=	meganewton-metre
MPa	=	megapascal
m <sup>2</sup>	=	square metre
m <sup>3</sup>	=	cubic metre
m <sup>3</sup> -km	=	cubic metre-kilometre
m <sup>2</sup> -pass	=	square metre-pass
no	=	number
PC sum	=	Prime Cost sum
Prov Sum	=	Provisional Sum
sum	=	lump sum
t	=	ton (1 000 kg)

## 7. NETT MEASUREMENTS

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

## 8. QUANTITIES

The quantities set out in the Bill of Quantities are the estimated quantities of the Contract Works, but the Contractor will be required to undertake whatever quantities may be directed by the Engineer from time to time. The Contract Price for the completed contract shall be computed from the actual quantities of work accepted and certified for payment.

Initial:	Tenderer	Witness	Employer	Witness
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## 9. CURRENCY

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

## 10. VALUE ADDED TAX

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

## 11. RATES AND PRICES

### 11.1 General

- a) The Contractor must price each item in the Bill of Quantities in **BLACK INK**. Reproduced computer printouts of the Bills of Quantities will not be acceptable.
- b) The rates and prices to be inserted in the Bill of Quantities shall cover all the services and incidentals for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.
- c) Where the Contractor is required to furnish detailed drawings and designs or other information in terms of the Contract Data, all costs thereof shall be deemed to have been provided for and included in the unit rates and sum amounts contracted for the items scheduled in the Bill of Quantities. Separate additional payments will not be made.
- d) A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bill. The Contractor will not be paid for items against which no rate or lump sum has been entered in the Bill of Quantities.
- e) Should the Contractor group a number of items and contract one lump sum for such group of items, this single lump sum shall apply to that group of items and not to each individual item.
- f) Should the Contractor indicate against any item that compensation for such item is included in another item, the rate for the item included in another item shall be deemed nil.
- g) A submission may be regarded as non-responsive if any rates or lump sums in the Bill of Quantities are, in the opinion of the Employer, unreasonable or out of proportion.

### 11.2 "Rate only" items

The Contractor shall fill in a rate (in the rate column) against all items where the words "rate only" appear in the Amount column, which rate will constitute payment for work which may be done in terms of this item. Such "rate-only" items are used where it is

Initial:	Tenderer	Witness	Employer	Witness
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estimated that little or no work will be required under the item or where the item is to be considered as an alternative to another item for which a quantity is given.

### 11.3 Arithmetic

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

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

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

## 12. VARIATION IN TEXT

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

Initial:	Tenderer	Witness	Employer	Witness
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## **PART C2.2:**

# **SCHEDULES OF QUANTITIES**

Initial:	Tenderer	Witness	Employer	Witness
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## **PART C2.2: SCHEDULES OF QUANTITIES**

### **INDEX**

#### **SCHEDULES OF QUANTITIES**

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#### **SUMMARY AND CALCULATION OF THE TENDER SUM**

<b>SUMMARY OF ALL SECTIONS</b>	<b>C2.47</b>
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<b>CALCULATION OF THE TENDER SUM</b>	<b>C2.47</b>
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Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 A: PRELIMINARY AND GENERAL**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<b>SANS 1200 A: PRELIMINARY AND GENERAL</b>				
<b>1</b>	<b>8.3</b>	<b>FIXED-CHARGE ITEMS</b>				
1.1	8.3.1	Contractual Requirements				
1.1.1		a) Provision of Sureties	Sum	-	-	
1.1.2		b) Insurance of the Works and Plant	Sum	-	-	
1.1.3		c) Public Liability Insurance	Sum	-	-	
1.1.4		e) Special Risk Insurance	Sum	-	-	
<b>1.2</b>	<b>8.3.2</b>	<b>Establish Facilities on the Site :</b>				
	8.3.2.1	Facilities for Engineer				
1.2.1	PS-8.1	a) Furnished Office	Sum	-	-	
1.2.2	PSAB 4.1	b) Telephone	Sum	-	-	
1.2.3		c) Nameboards (1)	Sum	-	-	
1.2.4	PS-8.1	d) Survey assistant and instruments (1 set)	Sum	-	-	
1.2.5		e) Portable Computer and accessories	Sum	-	-	
<b>1.3</b>	<b>8.3.2.2</b>	<b>Facilities for Contractor</b>				
1.3.1	PS-7.1	a) Offices and storage sheds	Sum	-	-	
1.3.2		b) Work shops and stores	Sum	-	-	
1.3.3	PS-7.1	c) Laboratories	Sum	-	-	
1.3.4		d) Living accommodation	Sum	-	-	
1.3.5		e) Ablution and latrine facilities	Sum	-	-	
1.3.6		f) Tools and equipment	Sum	-	-	
1.3.7		g) Water supplies, electric power and communications	Sum	-	-	
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 A: PRELIMINARY AND GENERAL**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
1.3.10		j) Plant	Sum	-	-	
1.3.11	PSA 5.1.1	Setting out of the Works	Sum	-	-	
1.3.12		Protection of survey pegs	Sum	-	-	
1.3.13	PSA 5.2	Dealing with water	Sum	-	-	
1.4	8.3.3	Other fixed-charge obligations	Sum	-	-	
1.5	8.3.4	Removal of Engineer's and Contractor's Site establishment on completion	Sum	-	-	
<b>2</b>	<b>8.4</b>	<b>SCHEDULED TIME-RELATED ITEMS</b>				
<b>2.1</b>	<b>8.4.1</b>	<b>Contractual Requirements</b>				
2.1.1		a) Provision of Sureties	month	5		
2.1.2		b) Insurance of the Works and Plant	month	5		
2.1.3		c) Public Liability Insurance	month	5		
2.1.4		d) Professional Fees	month	5		
2.1.5		e) Special Risk Insurance	month	5		
2.2	8.4.2	Operate and maintain facilities on the Site, for duration of construction, except where otherwise stated				
<b>2.2.1</b>	<b>8.4.2.1</b>	<b>Facilities for the Engineer</b>				
2.2.1.1	PS-8.1	a) Furnished Office	month	5		
2.2.1.2		b) Telephone	month	5		
2.2.1.3		c) Nameboards (1)	month	5		
2.2.1.4		d) Survey assistant and instruments (1 set)	month	5		
2.2.1.5		e) Portable Computer and accessories	month	5		
2.2.1.6		f) Office assistant to clean and maintain office	month	5		
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 A: PRELIMINARY AND GENERAL**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
2.2.2	8.4.2.2	<b>Facilities for Contractor</b>				
2.2.2.1		a) Offices and storage sheds	month	5		
2.2.2.2		b) Work shops and stores	month	5		
2.2.2.3		c) Laboratories	month	5		
2.2.2.4		d) Living accommodation	month	5		
2.2.2.5		e) Ablution and latrine facilities	month	5		
2.2.2.6		f) Tools and equipment	month	5		
2.2.2.7		g) Water supplies, electric power and communications	month	5		
2.2.2.8		j) Plant	month	5		
2.2.2.9		k) Setting out of the Works	month	5		
2.2.2.10		l) Protection of survey pegs	month	5		
2.2.2.11	PSA 3.2	m) Workmen's Compensation Act	month	5		
2.2.2.12		n) Dealing with water	month	5		
2.3	8.4.3	Supervision for the duration of Construction	month	5		
2.4	8.4.4	Company and Head office overhead costs for the duration of the Contract	month	5		
<b>3</b>		<b>SUMS STATED PROVISIONALLY BY ENGINEER</b>				
3.1		<u>Additional tests:</u>				
3.1.1		(i) Additional tests ordered by the Engineer	Prov Sum	-	-	R 5 000.00
3.1.2		(ii) Percentage charges and profit on (i) above	%	R 5 000.00		
<b>TOTAL CARRIED FORWARD</b>						

**SANS 1200 A: PRELIMINARY AND GENERAL**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
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Initial:	Tenderer	Witness	Employer	Witness
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TOTAL BROUGHT FORWARD						
3.2		<u>Community Liaison Officer (CLO) and members of the Project Liaison Committee (PLC)</u>				
3.2.1		(i) Remuneration (CLO)	Prov Sum	-	-	R 32 500.00
3.2.2		(ii) Remuneration (PSC)	Prov Sum	-	-	R 15 000.00
3.2.3		(iii) Overheads, handling charges and profit on (i) and (ii) above	%	R 47 500.00		
3.3		<u>Generic Training:</u>				
3.3.1		(i) Generic and Management Skills	Prov Sum	-	-	R 40 000.00
3.3.2		(ii) Training venue	Prov Sum	-	-	R 10 000.00
3.3.3		(iii) Remuneration of workers undergoing technical skills training	Prov Sum	-	-	R 15 000.00
3.3.4		(iv) Overheads, handling charges and profit on (i), (ii) and (iii) above	%	R 65 000.00		
3.4	OHS Spec	a) Compliance with the Occupational Health and Safety Act as specified	Sum	-	-	R 20 000.00
3.5	EMP Spec	b) Compliance with the Environmental Management Plan as specified	Sum	-	-	R 15 000.00
3.6	HIV/ADS Spec	c) Compliance with the HIV / AIDS Awareness Specification as specified	Sum	-	-	R 10 000.00
4	8.7	<b>DAYWORKS</b>				
4.1		<u>Labour</u>				
4.1.1		(a) artisans	h	8		
4.1.2		(b) skilled labourers	h	8		
4.1.3		(c) semi-skilled labourers	h	8		
4.1.4		(d) un-skilled labourers	h	40		
TOTAL CARRIED FORWARD						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 A: PRELIMINARY AND GENERAL**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
4.2		<u>Plant intended for use on contract</u>				
4.2.1		(a) Excavator type .....	h	8		
4.2.2		(b) Loader type .....	h	8		
4.2.3		(c) Tip truck type .....	h	8		
4.2.4		(d) Pedestrian type 900 - 1000 roller .....	h	8		
4.2.5		(e) Other plant type .....	h	8		
4.2.6		(f) Welding plant (size) .....	h	8		
4.2.7		(g) Compressor .....	h	8		
4.2.8		(h) Crane .....	h	Rate only		
4.2.9		(i) Hand held equipment type .....	h	8		
4.3		Materials	Prov Sum	-	-	R 20 000.00
4.4		Overheads, charges and profit on item No 4.3. (Tenderer to state percentage)	%	R 20 000.00		R -
<b>5</b>	<b>8.8</b>	<b>TEMPORARY WORKS</b>				
5.1	8.8.2	Accommodation of traffic. The Sum tendered shall include full compensation for dealing with traffic over the full duration of the project period.	Sum	-	-	
<b>5.2</b>	<b>8.8.4</b>	<b>Existing Services</b>				
5.2.1		c) Hand excavation necessary for locating and exposing existing services in all materials: (IRRESPECTIVE OF THE TYPE OF SERVICE)	m <sup>3</sup>	15		
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 A: PRELIMINARY AND GENERAL**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
<b>6</b>	<b>PHS</b>	<b>SCHEDULE OHS: HEALTH AND SAFETY</b>				
6.1		<b>NOTIFICATION OF CONTRUCTION WORK</b>				
6.1.1		Allow for the cost of notification of construction work by the Principal Contractor.	Sum	-	-	
<b>6.2</b>		<b>HEALTH AND SAFETY MAIN FILE</b>				
6.2.1		Allow for the cost to compile a health and safety file to include all the required supporting documentation as follows: (NOT TO BE REMOVED FROM SITE) (All files shall be lever arch files with original colour document of acceptable standards including dividers. Emergency numbers to be displayed on the back of the file. The file will be expanded during the project as and when required by the client.) a) Copy of H&S Act b) Proof of registration with COID Insurer c) Notification of construction work d) Mandatory agreement e) H&S Specification provided by client f) Copy of tender document, drawings etc g) Company Safety Policy to be signed by CEO h) Company organogramme with respect to H&S on specific sites. i) Letters of appointment for specific site j) List of sub-contractors k) Evacuation plan l) Risk assessments and method statements  m) Safe work procedures and material safety data sheets. Fall protection plan. n) Incident recordings & Medical records o) Minutes of H&S meetings (All files shall be lever arch files with original colour document of acceptable standards including dividers. Emergency numbers to be displayed on the back of the file. The file will be expanded during the project as and when required by the client.)	Sum	-	-	
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 A: PRELIMINARY AND GENERAL**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>BROUGHT FORWARD</b>						
6.3		<b>FIRST AID EQUIPMENT</b>				
6.3.1		First aid box	Sum	-	-	
6.3.3		Stretcher	Sum	-	-	
6.4		<b>FIRE FIGHTING EQUIPMENT</b>				
		Allow for the cost of:				
6.4.1		Fire extinguishers	Sum	-	-	
6.4.3		Fire extinguishers test certificates	Sum	-	-	
6.5		<b>PERSONNEL PROTECTIVE CLOTHING</b>				
		Allow for the cost of:				
6.5.1		Hardhats	Sum	-	-	
6.5.2		Safety shoes	Sum	-	-	
6.5.3		Dust masks	Sum	-	-	
6.5.4		Safety goggles	Sum	-	-	
6.5.5		Gum boots	Sum	-	-	
6.5.6		Welding helmet	Sum	-	-	
6.5.7		Gas Welding goggles	Sum	-	-	
6.5.8		Leather aprons	Sum	-	-	
6.5.9		Overalls	Sum	-	-	
6.6		<b>BARACADING</b>				
		Allow for the cost of baracading of excavations as instructed by Agent				
6.6.1		Danger tape	Sum	-	-	
6.6.2		1.2m Dayglo Mesh	Sum	-	-	
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 A: PRELIMINARY AND GENERAL**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>BROUGHT FORWARD</b>						<b>R -</b>
<b>6.7</b>		<b>CHEMICAL TOILETS</b>				
		Allow for chemical toilets on site as required by the specification				
6.7.1		For male workers	Sum	-	-	
6.7.2		For female workers	Sum	-	-	
<b>6.8.3</b>		<b>EATING FACILITIES</b>				
		Allow for eating facilities in the form of a shaded net, table and chairs.				
6.8.4			Sum	-	-	
<b>6.9</b>		<b>SIGNS</b>				
		Allow for sign boards to be displayed on site as required				
6.9.1		No entry signs	Sum	-	-	
6.9.2		First aid signs	Sum	-	-	
6.9.3		Fire equipment signs	Sum	-	-	
6.9.4		Warning signs (Construction area boards)	Sum	-	-	
6.9.5		Traffic control boards	Sum	-	-	
6.9.6		Other General Signs	Sum	-	-	
<b>6.10</b>		<b>MEDICAL TESTS</b>				
		Allow for medical tests for workers as required (On entry and exit from employment)				
6.10.1		Medical fitness tests for operators on construction vehicles	Sum	-	-	
6.10.2		Fitness tests for workers at heights	Sum	-	-	
6.10.3		Fitness tests for workers	Sum	-	-	
6.10.4		Other tests for workers	Sum	-	-	
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 A)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 C: SITE CLEARANCE**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<b>SANS 1200 C: SITE CLEARANCE</b>				
		<b>CLEAR SITE</b>				
1	8.2.1	Clear and grub site	ha	16.675		
2	8.2.2	Remove and grub large trees and tree stumps of girth:		Put back		
		a) Over 1m and up to and including 2m	No.	4		
		b) Over 2m and up to and including 3m	No.	2		
		c) Over 3m and up to and including 4m	No.	1		
3	8.2.4	Reclear surfaces (only on instruction from the Engineer)	ha	2		
4	8.2.5	Take down existing fences	m	190		
5	8.2.6	Clear existing security fence (2m wide on either side of fence)	m	1 717		
6	8.2.7	Dismantle and remove:				
6.1		a) Electrical overhead cables and posts	m	150		
6.2		b) Telkom overhead cables and posts	m	380		
6.3		c) Sewer pipelines up to 100mm nominal diameter.	m	Rate Only		-
6.4		d) Water pipelines up to 160mm nominal diameter.	m			
7	8.2.8	Demolish and remove structures/buildings and dismantle steelwork, etc. (Old Store Room. Plan Area = 60m²)	Sum	-	-	
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 C)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 D: EARTHWORKS**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<b>SANS 1200 D: EARTHWORKS</b>				
<b>1</b>	<b>8.3.2</b>	<b>Bulk Excavation</b>				
<b>1.1</b>		<b>a) Excavate in all materials and use for:</b>				
1.1.1		<u>1) Cut to Fill</u>				
		i) Compact Fill in 150mm layers to 93% of MOD AASHTO density at OMC.	m³	Rate Only		-
1.1.2		<u>2) Cut to Stockpile</u>	m³	Rate Only		-
1.1.3		<u>3) Cut to Spoil</u>	m³	Rate Only		-
1.1.4		<u>4) Borrow to Fill</u>				
		i) G10 Material and Compact Fill in 150mm layers to 90% of Procter density. (General Fill on Site)	m³	Rate Only		-
		ii) G5 Material and Compact Fill in 150mm layers to 95% of MOD AASHTO density. (Guardhouse)	m³	Rate Only		-
		iii) Clay Material and Compact Fill in 150mm layers to 90% of Procter density (300mm total depth). (Areas identified to receive a clay capping)	m³	Rate Only		-
		iv) Topsoil Material 200mm layer thickness 90% Procter density. (to cover the demarcated portion on site Area = 153 438.00 m²)	m³	30 690		
<b>1.2</b>		<b>b) Extra-over for:</b>				
1.2.1		1) Intermediate excavation	m³	Rate Only		-
1.2.2		2) Hard Rock excavation	m³	Rate Only		-
1.2.3		3) Boulder excavation, Class A	m³	Rate Only		-
1.2.4		4) Boulder excavation, Class B	m³	Rate Only		-
<b>2</b>	<b>8.3.3</b>	<b>Restricted Excavation</b>				
2.1		a) Excavate for restricted foundations and footings in all materials and use for backfill	m³	10		
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 D: EARTHWORKS**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
<b>3</b>	<b>8.3.4</b>	<b>Importing of Materials</b>				
<b>3.1</b>		<b>a) Extra-over for importation of materials from commercial sources for:</b>				
3.1.1		i) G10 Material to be used for general fill on site	m <sup>3</sup>	Rate Only		-
3.1.2		ii) G5 Material to be used for fill at Guardhouse	m <sup>3</sup>	Rate Only		-
3.1.3		iii) Clay Material to be used as Clay Capping in designated areas	m <sup>3</sup>	Rate Only		-
3.1.4		iv) Topsoil Material to cover the demarcated portion on site Area	m <sup>3</sup>	30 690		
<b>4</b>	<b>8.3.8</b>	<b>Existing Services</b>				
<b>4.1</b>	<b>8.3.8.1</b>	<b>Location</b>				
4.1.1		c) Excavate by hand in soft material to expose:				
		i) Water Pipelines	m <sup>3</sup>	5		
<b>5</b>	<b>8.3.8.2</b>	<b>Dealing with services that are at risk because of the construction of earthworks</b>				
5.1		c) Temporary protection of				
5.1.1		i) Existing Overhead Power Line Posts	Prov. Sum	-	-	R 15 000.00
<b>6</b>	<b>8.3.9</b>	<b>Extra-over for Backfill or for Fill Material against Structures</b>	m <sup>3</sup>	45		
<b>7</b>	<b>8.3.11</b>	<b>Grassing</b>	m <sup>2</sup>	Rate Only		-
<b>8</b>		<b>Compaction of in-situ material below foundations &amp; floor slabs to 90% of MOD AASHTO density at OMC</b>	m <sup>3</sup>	25		
<b>9</b>		<b>Geotextile (Kaymat A6 or approved equivalent) (Below Clay Capping)</b>	m <sup>2</sup>	Rate Only		-
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 D)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 DB: PIPE TRENCHES**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<b>SANS 1200 DB: PIPE TRENCHES</b>				
		<b>EXCAVATION</b>				
<b>1</b>	<b>8.3.1</b>	<b>Site Clearance, removal and reinstatement of topsoil:</b>				
1.1		a) Clear vegetation and trees of grith up to 1m (3m wide strip)	m	47.2		
1.2		b) Clear trees of grith over 1m and designated obstacles	No.	2		
1.3		c) Remove topsoil to a depth of 100mm and reinstate after backfilling of trench excavations	m <sup>2</sup>	85		
<b>2</b>	<b>8.3.2</b>	<b>a) Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for pipes:</b>				
2.1		1) Up to 125mm diameter (Side allowance of 300mm each side of the pipe barrel) for total trench depth:				
2.1.1		i) Up to 1,0m	m <sup>3</sup>	30.0		
2.1.2		ii) Exceeding 1,0m but not exceeding 1,5m	m <sup>3</sup>	5.0		
2.1.3		iii) Exceeding 1,51m but not exceeding 2,0m	m <sup>3</sup>	Rate Only		-
<b>3</b>	<b>8.3.2</b>	<b>a) Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for rectangular portal culverts:</b>				
2.2		1) Rectangular Portal Culverts 750mm x 600mm (Side allowance of 400mm each side of the culvert) for total trench depth:				
2.2.1		i) Up to 1,0m	m <sup>3</sup>	20.0		
2.2.2		ii) Exceeding 1,0m but not exceeding 1,5m	m <sup>3</sup>	65.0		
2.2.3		iii) Exceeding 1,51m but not exceeding 2,0m	m <sup>3</sup>	Rate Only		-
<b>2.3</b>		<b>b) Extra-over item (a) above for:</b>				
2.3.1		1) Intermediate excavation	m <sup>3</sup>	Rate Only		-
2.3.2		2) Hard rock excavation	m <sup>3</sup>	Rate Only		-
<b>3</b>	<b>8.3.2</b>	<b>c) Excavate and dispose of unsuitable material from trench bottom</b>	m <sup>3</sup>	5		
<b>4</b>	<b>8.3.3</b>	<b>Excavation Ancillaries</b>				
<b>4.1</b>	<b>8.3.3.1</b>	<b>Make up deficiency in backfill material</b>				
4.1.1		a) from other necessary excavations on site	m <sup>3</sup>	5		
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 DB)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 DK: GABIONS AND PITCHING**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1</b>		<b>SECTION 1: GABION WALL (EMBANKMENT PROTECTION ALONG SOUTHERN BOUNDARY)</b>				
<b>1.1</b>	<b>8.2.1</b>	<b>Surface preparation for bedding of gabions</b>				
1.1.1		a) Cavities filled with approved excavated material or rock	m <sup>2</sup>	217.5		
1.1.2		b) Cavities filled with grade 15 concrete	m <sup>2</sup>	10		
<b>1.2</b>	<b>8.2.2</b>	<b>Gabions (Stone to be obtained from commercial sources)</b>				
1.2.1		a) Galvanized Gabion Boxes (4m long x 1m wide x 1m deep) - Total No. of baskets = 88	m <sup>3</sup>	352		
1.2.2		b) Galvanized Gabion Boxes (3m long x 1m wide x 1m deep) - Total No. of baskets = 1	m <sup>3</sup>	3		
1.2.3		c) Galvanized Gabion Boxes (2m long x 1m wide x 1m deep)	m <sup>3</sup>	Rate Only	R 1 750.00	-
1.2.4		d) Galvanized Gabion Boxes (1.5m long x 1m wide x 1m deep)	m <sup>3</sup>	Rate Only	R 1 750.00	-
1.2.5		e) Galvanized Gabion Boxes (1m long x 1m wide x 1m deep)	m <sup>3</sup>	Rate Only	R 1 750.00	-
1.2.6		f) Galvanized Gabion Mattresses (6m long x 2m wide x 0.3m deep)	m <sup>3</sup>	Rate Only	R 1 750.00	-
1.2.7		g) Galvanized Gabion Mattresses (3m long x 1m wide x 0.3m deep)	m <sup>3</sup>	Rate Only	R 1 750.00	-
1.2.8		h) Galvanized Gabion Mattresses (2m long x 1m wide x 0.3m deep)	m <sup>3</sup>	Rate Only	R 1 750.00	-
<b>1.3</b>	<b>8.2.4</b>	<b>Geotextile (Kaymat A6 or approved equivalent)</b>	m <sup>2</sup>	682.5		
<b>1.4</b>	<b>8.2.5</b>	<b>Stone Pitching 200mm thick</b>	m <sup>2</sup>	10		
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 DK: GABIONS AND PITCHING**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
<b>2</b>		<b>SECTION 2: GABION STREAM CROSSING</b>				
<b>2.1</b>	<b>8.2.1</b>	<b>Surface preparation for bedding of gabions</b>				
2.1.1		a) Cavities filled with approved excavated material or rock	m <sup>2</sup>	Rate Only		-
2.1.2		b) Cavities filled with grade 15 concrete	m <sup>2</sup>	Rate Only		-
<b>2.2</b>	<b>8.2.2</b>	<b>Gabions (Stone to be obtained from commercial sources)</b>				
2.2.1		a) Galvanized Gabion Boxes (4m long x 1m wide x 1m deep)	m <sup>3</sup>	352		
2.2.2		b) Galvanized Gabion Boxes (3m long x 1m wide x 1m deep) - Total No. of baskets = 20	m <sup>3</sup>	3		
2.2.3		c) Galvanized Gabion Boxes (2m long x 1m wide x 1m deep)	m <sup>3</sup>	Rate Only		-
2.2.4		d) Galvanized Gabion Boxes (1.5m long x 1m wide x 1m deep)	m <sup>3</sup>	Rate Only		-
2.2.5		e) Galvanized Gabion Boxes (1m long x 1m wide x 1m deep)	m <sup>3</sup>	Rate Only		-
2.2.6		f) Galvanized Gabion Mattresses (6m long x 2m wide x 0.3m deep)	m <sup>3</sup>	Rate Only		-
2.2.7		g) Galvanized Gabion Mattresses (3m long x 1m wide x 0.3m deep) - Total No. of baskets = 30	m <sup>3</sup>	27		
2.2.8		h) Galvanized Gabion Mattresses (2m long x 1m wide x 0.3m deep)	m <sup>3</sup>	Rate Only		-
<b>2.3</b>	<b>8.2.4</b>	<b>Geotextile (Kaymat A6 or approved equivalent)</b>	m <sup>2</sup>	252		
<b>2.4</b>	<b>8.2.5</b>	<b>Stone Pitching 200mm thick</b>	m <sup>2</sup>	10		
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 DK: GABIONS AND PITCHING**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
<b>3</b>		<b>SECTION 3: GABION OUTLET STRUCTURE (STB 3)</b>				
<b>3.1</b>	<b>8.2.1</b>	<b>Surface preparation for bedding of gabions</b>				
3.1.1		a) Cavities filled with approved excavated material or rock	m <sup>2</sup>	25		
3.1.2		b) Cavities filled with grade 15 concrete	m <sup>2</sup>	5		
<b>3.2</b>	<b>8.2.2</b>	<b>Gabions (Stone to be obtained from commercial sources)</b>				
3.2.1		a) Galvanized Gabion Boxes (4m long x 1m wide x 1m deep) - Total No. of baskets = 2	m <sup>3</sup>	8		
3.2.2		b) Galvanized Gabion Boxes (3m long x 1m wide x 1m deep) - Total No. of baskets = 6	m <sup>3</sup>	18		
3.2.3		c) Galvanized Gabion Boxes (2m long x 1m wide x 1m deep)	m <sup>3</sup>	Rate Only		-
3.2.4		d) Galvanized Gabion Boxes (1.5m long x 1m wide x 1m deep)	m <sup>3</sup>	Rate Only		-
3.2.5		e) Galvanized Gabion Boxes (1m long x 1m wide x 1m deep) - Total No. of baskets = 1	m <sup>3</sup>	1		
3.2.6		f) Galvanized Gabion Mattresses (6m long x 2m wide x 0.3m deep)	m <sup>3</sup>	Rate Only		-
3.2.7		g) Galvanized Gabion Mattresses (3m long x 1m wide x 0.3m deep) - Total No. of baskets = 6	m <sup>3</sup>	5.4		
3.2.8		h) Galvanized Gabion Mattresses (2m long x 1m wide x 0.3m deep)	m <sup>3</sup>	Rate Only		-
<b>3.3</b>	<b>8.2.4</b>	<b>Geotextile (Kaymat A6 or approved equivalent)</b>	m <sup>2</sup>	55		
<b>3.4</b>	<b>8.2.5</b>	<b>Stone Pitching 200mm thick</b>	m <sup>2</sup>	5		
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 DK: GABIONS AND PITCHING**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
<b>4</b>		<b>SECTION 4: GABION OUTLER STRUCTURES (STC 2 &amp; STC 3)</b>				
<b>4.1</b>	<b>8.2.1</b>	<b>Surface preparation for bedding of gabions</b>				
4.1.1		a) Cavities filled with approved excavated material or rock	m <sup>2</sup>	79		
4.1.2		b) Cavities filled with grade 15 concrete	m <sup>2</sup>	5		
<b>4.2</b>	<b>8.2.2</b>	<b>Gabions (Stone to be obtained from commercial sources)</b>				
4.2.1		a) Galvanized Gabion Boxes (4m long x 1m wide x 1m deep) - Total No. of baskets = 2	m <sup>3</sup>	8		
4.2.2		b) Galvanized Gabion Boxes (3m long x 1m wide x 1m deep) - Total No. of baskets = 4	m <sup>3</sup>	12		
4.2.3		c) Galvanized Gabion Boxes (2m long x 1m wide x 1m deep) - Total No. of baskets = 1	m <sup>3</sup>	2		
4.2.4		d) Galvanized Gabion Boxes (1.5m long x 1m wide x 1m deep)	m <sup>3</sup>	Rate Only		-
4.2.5		e) Galvanized Gabion Boxes (1m long x 1m wide x 1m deep)	m <sup>3</sup>	Rate Only		-
4.2.6		f) Galvanized Gabion Mattresses (6m long x 2m wide x 0.3m deep)	m <sup>3</sup>	Rate Only		-
4.2.7		g) Galvanized Gabion Mattresses (3m long x 1m wide x 0.3m deep) - Total No. of baskets = 21	m <sup>3</sup>	18.9		
4.2.8		h) Galvanized Gabion Mattresses (2m long x 1m wide x 0.3m deep)	m <sup>3</sup>	Rate Only		-
<b>4.3</b>	<b>8.2.4</b>	<b>Geotextile (Kaymat A6 or approved equivalent)</b>	m <sup>2</sup>	113.1		
<b>4.4</b>	<b>8.2.5</b>	<b>Stone Pitching 200mm thick</b>	m <sup>2</sup>	5		
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 DK: GABIONS AND PITCHING**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
<b>5</b>		<b>SECTION 5: GABION CHANNEL SIDE DRAIN OUTLET STRUCTURE</b>				
<b>5.1</b>	<b>8.2.1</b>	<b>Surface preparation for bedding of gabions</b>				
5.1.1		a) Cavities filled with approved excavated material or rock	m <sup>2</sup>	71		
5.1.2		b) Cavities filled with grade 15 concrete	m <sup>2</sup>	5		
<b>5.2</b>	<b>8.2.2</b>	<b>Gabions (Stone to be obtained from commercial sources)</b>				
5.2.1		a) Galvanized Gabion Boxes (4m long x 1m wide x 1m deep) - Total No. of baskets = 8	m <sup>3</sup>	32		
5.2.1		b) Galvanized Gabion Boxes (3m long x 1m wide x 1m deep) - Total No. of baskets = 4	m <sup>3</sup>	12		
5.2.3		c) Galvanized Gabion Boxes (2m long x 1m wide x 1m deep) - Total No. of baskets = 4	m <sup>3</sup>	8		
5.2.4		d) Galvanized Gabion Boxes (1.5m long x 1m wide x 1m deep)	m <sup>3</sup>	Rate Only		-
5.2.5		e) Galvanized Gabion Boxes (1m long x 1m wide x 1m deep)	m <sup>3</sup>	Rate Only		-
5.2.6		f) Galvanized Gabion Mattresses (6m long x 2m wide x 0.3m deep)	m <sup>3</sup>	Rate Only		-
5.2.7		g) Galvanized Gabion Mattresses (3m long x 1m wide x 0.3m deep) - Total No. of baskets = 12	m <sup>3</sup>	10.8		
5.2.8		h) Galvanized Gabion Mattresses (2m long x 1m wide x 0.3m deep)	m <sup>3</sup>	Rate Only		-
<b>5.3</b>	<b>8.2.4</b>	<b>Geotextile (Kaymat A6 or approved equivalent)</b>	m <sup>2</sup>	160.0		
<b>5.4</b>	<b>8.2.5</b>	<b>Stone Pitching 200mm thick</b>	m <sup>2</sup>	5		
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 DK)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 DM: EARTHWORKS (ROADS, SUBGRADE)**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	8.3.3	<b>SANS 1200 DM: EARTHWORKS (ROADS, SUBGRADE)</b>				
		<b>Treatment of Road-bed</b>				
1.1		<b>a) 150mm Road-bed preparation and compaction of material to 90% Modified AASHTO maximum density at OMC</b>				
1.1.1		1) 90% Modified AASHTO maximum density at OMC	m <sup>3</sup>	Rate Only		-
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 DM)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 G: CONCRETE (STRUCTURAL)**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<b>SANS 1200 G: CONCRETE (STRUCTURAL)</b>				
<b>1</b>	<b>8.2</b>	<b><u>FORMWORK</u></b>				
<b>1.1</b>	<b>8.2.1</b>	<b><u>Rough</u></b>				
1.1.1		i) Vertical	m <sup>2</sup>	Rate Only		-
<b>1.2</b>	<b>8.2.2</b>	<b><u>Smooth</u></b>				
1.2.1		i) Vertical in walls and sides of walls	m <sup>2</sup>	102.9		
1.2.2		ii) Horizontal - underside slab	m <sup>2</sup>	3.3		
1.2.3		iii) Sloping	m <sup>2</sup>	Rate Only		-
1.2.4		iv) Inclined	m <sup>2</sup>	Rate Only		-
<b>1.3</b>	<b>8.2.5</b>	<b><u>Narrow Widths</u></b>				
1.3.1		i) Up to 200mm wide - Sides of Floor Slabs	m	244.8		
1.3.2		ii) 15mm x 15mm Chamfers	m	147.5		
<b>1.4</b>	<b>PS 8.2.7</b>	<b><u>Chamfers and grooves exceeding 20x20mm</u></b>				
1.4.1		i) Chamfers 175x175mm (Overflow Weir)	m	Rate Only		-
<b>2</b>	<b>8.3</b>	<b><u>REINFORCEMENT</u></b>				
	<b>PSG8.1.2</b>	<b><u>Reinforcing Steel bars</u></b>				
<b>2.1</b>	<b>8.3.1</b>	<b>i) Mild Steel</b>				
	<b>PSG8.1.2</b>					
2.1.1		a) R8	t	0.15		
2.1.2		b) R10	t	Rate Only		-
<b>2.2</b>	<b>8.3.2</b>	<b>ii) High-Tensile Steel</b>				
	<b>PSG8.1.2</b>					
2.2.1		a) Y8	t	Rate Only		-
2.2.2		b) Y10	t	0.96		
2.2.3		c) Y12	t	Rate Only		-
2.2.4		d) Y16	t	Rate Only		-
<b>TOTAL CARRIED FORWARD</b>						<b>R -</b>

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 G: CONCRETE (STRUCTURAL)**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						<b>R -</b>
<b>2.3</b>	<b>PSG 8.1.2</b>	<b><u>High Tensile Welded Mesh</u></b>				
2.3.1		i) Ref 193	m <sup>2</sup>	40		
2.3.2		ii) Ref 395	m <sup>2</sup>	Rate Only		-
2.3.3		iii) Ref 617	m <sup>2</sup>	390		
<b>3</b>	<b>8.4</b>	<b><u>CONCRETE</u></b>				
<b>3.1</b>	<b>8.4.2</b>	<b>Blinding Layer in 15MPa Concrete</b>				
3.1.1		i) 50 mm Blinding layer, Grade (15/19)	m <sup>2</sup>	177.9		
<b>3.2</b>	<b>8.4.3</b>	<b>Strength Concrete, Grade 25/19MPa</b>				
3.2.1		i) Foundations, floorslabs and bases	m <sup>3</sup>	40.6		
3.2.2		ii) Walls	m <sup>3</sup>	11.50		
<b>3.3</b>	<b>8.4.4</b>	<b>Unformed Surface Finishes</b>				
3.3.1		a) Wood float finish	m <sup>2</sup>	109		
3.3.2		b) Steel float finish	m <sup>2</sup>	54		
<b>4</b>	<b>8.7</b>	<b><u>GROUTING</u></b>				
<b>4.1</b>	<b>PSG 8.7</b>	<b><u>Casting/grout in of Reinforcing</u></b>				
4.1.1		i) Drill 20mm diameter Holes 150mm deep into existing concrete and grout Y16 Reinforcing bars.	No	Rate Only		-
4.1.2		ii) Grouting under Culvert Walls using 1:3 Grout mix	m <sup>3</sup>	0.06		
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 G)</b>						<b>R -</b>

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 H: STRUCTURAL STEELWORK**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<b>SANS 1200 H: STRUCTURAL STEELWORK</b>				
	<b>8.3.1</b>	<b>SUPPLY AND FABRICATION</b>				
		Supply and fabrication of steelwork. Using steel to SANS 1431 : 2007 grade 300WA, hot dipped galvanised according to SANS EN 10240 : 1997 and SANS ISO 1461 : 1999.				
1		<b>Gates</b>				
1.1		Entrance Gate as per detail on Drawing No.: 19T0300/SD/FS/02/01	No.	1		
2		<b>Security Fencing</b>				
2.1		Procure, deliver to site, store and erect security fence (2,4m high), including corner, straining posts, standards and droppers complete as detailed on Drawing No. 19T0300/SD/FS/02/01	m	150		
2.2		Procure, deliver to site, store and repair existing security fence (2,4m high) as directed by the engineer. All materials, tools and labour shall be provided to do repairwork as instructed.	Prov. Sum	-	-	R 50 000.00
		Handling and Profit on item above	%	R 50 000.00		
3		Concrete edge beam below fence, 250mm wide x 200mm deep with top edge sloping away to both sides from the centre line, neatly wood floated and edges rounded with nozing tool.	m	Rate Only		R -
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 HB)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 HB: CLADDING AND SHEETING**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1		<b>SANS 1200 HB: CLADDING AND SHEETING</b>				
		<b><u>CLADDING AND SHEETING</u></b>				
1.1	8.2.2	<b><u>SUPPLY, DELIVER, ERECT &amp; FIX PRE-PAINTED CLADDING INCLUDING NECESSARY FASTENERS CUTTING &amp; NOTCHING:</u></b> Supply, deliver to Site, erect and fix galvanized sheeting/cladding, etc., including the supply of all necessary fasteners, etc., and cutting and notching				
1.1.1		Roofing Cladding shall be Klip-Lok 700™ profile roll-formed in continuous lengths from certified Galvanized steel Z200 0.58mm (Heavy Industrial) complying with ISQ 550 (3T) (A653) with a Sand Stone Beige Chromadek® finish to one side and standard backing coat, Pebble Grey to other and fixed to steel/timber purlins/girts using KL700 clips and class 3 fasteners, in strict accordance with manufacturer's specifications by a GRS Approved Contractor	m²	28		
1.1.2		Bullnosing to a radius of 450mm.  Roof Insulation shall be:	m	Rate Only		-
1.1.3		(i) Isotherm (100mm – 11,5kg/m³ density)	m²	14		
1.1.4		(ii) Isoboard (40mm – 600 wide x 4500 long)	m²	14		
		The above shall be installed in accordance with the manufacturers specifications and guidelines and the rate shall include all fixing clips, screws, top-hat fixing rails and all other consumables				
1.2	8.2.3	<b>FLASHINGS</b>  Flashings shall be manufactured from Galvanized steel Z200 0.58mm with a Chromadek® finish to one side with a Pebble Grey backing coat and fixed by way of S10 brackets or, Sliding brackets at apex where roof sheets are 30m or longer, all in strict accordance with manufacturer's specification using the appropriate tools available from Global Roofing Solutions.				
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 G: CONCRETE (STRUCTURAL)**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
1.2.1		(i) Headwall Flashing	m	Rate Only		-
1.2.2		(ii) Gable Trim	m	10		
1.2.3		(iii) External Corner Trim	m	Rate Only		-
1.2.4		(iv) Drip Flash	m	13		
<b>2</b>	<b>8.2.3</b>	<b>RAINWATER GOODS</b>				
2.1		Pre Painted Seamless Troughed profile 100mm wide x 75mm deep x 1mm with beaded front lip and flanged back lip, including 2 outlets for 100mm square downpipes and 4 stop-ends, baked enamel external finish	m	13		
2.2		Pre Painted Downpipes, 100mm square x 1mm, including 2 shoes and 4 brackets	m	6		
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 HB)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 LB: BEDDING**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<b>SANS 1200 LB: BEDDING</b>				
<b>1</b>	<b>8.2.2</b>	<b>Supply only of Bedding by Importation</b>				
<b>1.1</b>	<b>8.2.2.1</b>	<b>From other necessary excavations</b>				
1.1.1		a) Selected granular material	m <sup>3</sup>	10		
1.1.2		b) Selected fill material	m <sup>3</sup>	5		
<b>2</b>	<b>8.2.2</b>	<b>Supply only of bedding by importation</b>				
	<b>8.2.2.3</b>	<b>From commercial sources</b>				
2.1		a) Selected granular material	m <sup>3</sup>	Rate Only		-
2.2		b) Selected fill material	m <sup>3</sup>	Rate Only		-
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 LB)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 LE: PIPEWORK (STORMWATER DRAINAGE)**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1		<b>SANS 1200 LE: PIPEWORK (STORMWATER DRAINAGE)</b>				
		<b>STORMWATER DRAINAGE</b>				
1.1	8.2.2	a) Supply and lay Reinforced Concrete - Rectangular Portal Culverts (supplied in 1.22m lengths):				
		b) Without precast invert slabs (in-situ invert slabs measured elsewhere - see Section SANS 1200 G) for:				
1.1.1		i) 750mm x 600mm Class 175S	m	42.7		
		c) Benching in Class 20/19 Concrete rendered in 20mm granolithic plaster and finished smooth and true with a steel trowel (Concrete Vol. = 0.05m³)	m²	2.1		
2	8.2.9					
3	8.2.10	<b>Accessories</b>				
3.1		a) Manhole Cover including Frame (Type 2a medium duty concrete cover and frame (lockable) with galvanized steel lip ring)	No.	1		
		Joint Sealant (200mm wide Sika BlackSeal Lastics bitumen emulsion coating with a G1 Sika BlackSeal membrane) or approved equivalent to seal Reinforced Concrete Rectangular Portal Culvert joints. The rate shall including all procurement & transport of materials, preparation work, material, equipment and labour for a complete joint:				
4						
4.1		i) 750mm x 600mm Class 175S x 35 joints	m	80.5		
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 LE)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 ME: SUB-BASE**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<b>SANS 1200 ME: SUB-BASE</b>				
		<b>SUB BASE</b>				
1	8.3.3	Construction of 150mm wearing course layer using minimum G7 material compacted to 95% MOD AASHTO maximum density at OMC (Ring Road) with:				
1.1		a) material from cut (1km free haul)	m³	Rate Only		-
1.2		b) Material from borrow	m³	Rate Only		-
1.3		c) Material from commercial sources	m³	Rate Only		-
2	8.3.5	Process sub base material by the following process and use in the sub-base:				
2.1		d) Stabilization	m³	Rate Only		-
3	8.3.8	<b>Stabilizing Agent</b>				
3.1		a) Road lime	t	Rate Only		-
3.2		b) Ordinary Portland Cement (OPC) (3%)	t	Rate Only		-
3.3		c) Portland blastfurnace cement	t	Rate Only		-
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 ME)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**SANS 1200 MK: KERBING AND CHANNELLING**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1</b>	<b>8.2.5</b>	<b>SANS 1200 MK: KERBING AND CHANNELLING</b>  <b>Pre-Cast Concrete Channelling on side slopes of Fills and Cuts (Refer to Drawing No. 19T0300/CD/RD/04/01) for:</b>				
1.1		a) Trapezoidal Channel with Armorflex 140 Erosion protection Blocks complete as per Detail B.	m	132.5		
1.2		b) Trapezoidal Channel with Armorflex 140 Erosion protection Blocks complete as per Detail C.	m	32		
1.3		c) Trapezoidal Channel with Armorflex 140 Erosion protection Blocks complete as per Detail E.	m	870		
<b>2</b>	<b>8.2.7</b>	<b>Trimming of Excavations for Pre-Cast Concrete-Lined Open Drains in:</b>				
2.1		a) Soft material	m <sup>2</sup>	1 736		
<b>3</b>	<b>8.2.13</b>	<b>Geotextile (Kaymat A6 or approved equivalent) for pre-cast Armorflex 140 Erosion protection block open drains</b>	m <sup>2</sup>	1 736		
<b>TOTAL CARRIED FORWARD TO SUMMARY (SANS 1200 MK)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**MASONARY**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<b>MASONARY</b>				
		<b>Also Refer to the "Model Preambles for Trades"</b>				
<b>1</b>		<b>SUPPLEMENTARY PREAMBLES</b>				
<b>2</b>		<b>BRICKWORK</b>				
		Sizes and descriptions				
		Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick				
		Bricks shall be ordered timeously to obtain uniformity in size and colour				
<b>3</b>		<b>SUPERSTRUCTURES</b>				
		Brickwork of NXF bricks (14 MPa nominal compressive strength) in Class I mortar (Face Brick Work)				
3.1		Half brick linings to concrete	m <sup>2</sup>	Rate Only		-
3.2		Half brick walls in beamfilling	m <sup>2</sup>	4		
3.3		Half brick walls	m <sup>2</sup>	6		
3.4		One brick walls	m <sup>2</sup>	42		
3.5		One brick walls (foundation walls)	m <sup>2</sup>	14		
3.6		250mm Cavity brick walls	m <sup>2</sup>	Rate Only		-
<b>4</b>		<b>FIBRE CEMENT WINDOW SILLS</b>				
		<b>Natural grey sills in single lengths bedded in class 1 mortar including metal fixing lugs etc</b>				
4.1		15mm x 140mm Wide sills on inside, set flat and slightly projected	m	2.4		
4.2		15mm x 175mm Wide sills on outside, set at an angle and slightly projected	m	Rate Only		-
4.3		15mm x 200mm Wide sills on outside, set at an angle and slightly projected	m	Rate Only		-
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**MASONARY**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
<b>5</b>		<b>MOVEMENT JOINTS, ETC (Provisional)</b>				
5.1		Expansion joints with 12mm bitumen impregnated softboard between vertical brick surfaces or brick and concrete surfaces	m	10		
		12mm Joints not exceeding 300mm wide and sealed with polysulphide joint filler on both sides for use in vertical joints - internal and external				
<b>6</b>		<b>BRICKWORK SUNDRIES</b>				
<b>6.1</b>		<b>Brickforce reinforcement (NHBRC Recommended thickness)</b>				
6.1.1		75mm Wide Built in horizontally (provisional)	m	40		
6.1.2		150mm Wide Built in horizontally(provisional)	m	Rate Only		-
<b>6.2</b>		<b>Pre-stressed fabricated lintels</b>				
6.2.1		100 x 70mm Lintels in lengths not exceeding 3m	m	26		
6.2.2		100 x 70mm Lintels in lengths exceeding 3m and not exceeding 4,5m	m	Rate Only		-
<b>6.3</b>		<b>Galvanised hoop iron cramps,ties, etc</b>				
6.3.1		30 x 1,6mm Cramp 500mm long with one end fixed to brickwork and the other end tied to roof trusses	No	14		
<b>7</b>		<b>CARPENTRY AND JOINERY</b>				
<b>7.1</b>		<b>SKIRTINGS</b>				
		<b>Wrought Meranti</b>				
7.1.1		19 x 76mm Skirting, including 19mm quadrant bed nailed to wall with nails to be punched and filled	m	16.4		
<b>8</b>		<b>CEILINGS</b>				
8.1		Nutec plain ceiling boards	m <sup>2</sup>	Rate Only		-
8.2		Nutec ceiling insulation	m <sup>2</sup>	Rate Only		-
8.3		Nutec plain cornice 75mm paper covered polystyrene	m	25		
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**MASONARY**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						R -
<b>9</b>		<b>DOORS, FANLIGHTS ETC.</b>				
		<b>40mm Standard semi-solid flush doors with marantinite to both sides and hardwood edges hung to steelframes (measured elsewhere)</b>				
9.1		Single door size 1050 x 2032 high	No	Rate Only		-
9.2		Single door size 813 x 2032 high	No	4		
9.3		44 mm Solid wood Meranti Framed batten door 813 x 2032 mm high of 44 x 144 mm top rail and stiles, 22 x 144 mm middle ledge and braces and 44 x 220 mm bottom rail filled in with 22 mm V-jointed one sideboarding including all rebates around	No	2		
<b>10</b>		<b>CARPENTRY AND JOINERY</b>				
		For Preambles refer to the "Model Preambles for Trades"				
		<b>PROVISIONAL SUMS</b>				
<b>10.1</b>		<b>CUBBOARDS, SHELVING AND FURNITURE</b>				
10.1.1		Provisional sum for cubboards, shelving and furniture	Prov. Sum	-	-	R -
10.1.2		Provisional sum for sanitary fittings & septic tank	Prov. Sum	-	-	R 15 000.00
10.1.3		Provisional sum for cold & hot water and sewer plumbing installation	Prov. Sum	-	-	R 7 500.00
10.1.4		Provisional sum for internal electrical conduites, wiring, light fittings & plugs	Prov. Sum	-	-	R 10 000.00
10.1.5		Provisional sum for electrical supply to Guardhouse	Prov. Sum	-	-	R 10 000.00
10.1.6		Provisional sum for roof, trusses, purlins, brandering, wall plates including truss design by manufacturer, shop drawings, tranport and erection of roof complete as detailed (Roof Cladding measured elsewhere)	Prov. Sum	-	-	R 20 000.00
<b>10.2</b>		<b>Profit and Attendance</b>				
10.2.1		Allowance for profit on items above	%	R 62 500.00		
10.2.2		Allowance for attendance on items above	%	R 62 500.00		
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**MASONARY**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
<b>11</b>		<b>FLOOR COVERINGS</b> For Preambles refer to the "Model Preambles for Trades"				
<b>11.1</b>		<b>FLOOR COVERINGS</b> Prime cost amounts are net and contractor to allow in the rate for waste, installation and profit. (i) Granolithic Finish (30mm thick) non slip.	m²	15		
<b>12</b>		<b>IRONMONGERY</b> For Preambles see the "Model Preambles for Trades"				
<b>12.1</b>		<b>SUPPLEMENTARY PREAMBLES</b> <b>Finishes to ironmongery</b> <u>Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: (Including mark-up and profit)</u> BS Satin brinze laquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ADL Anodised black PB Polished brass PL Polished and Lacquered PT Epoxy coated SD Sanded	Prov Sum	-	-	R 5 000.00
<b>13</b>		<b>CATCHES, CABIN HOOKS ETC.</b> 150mm Chrome plated cabin hook and eyes including 600 x 100 x 20 chamfered hardwood block twice oiled and plugged. (4 hooks per hardwood block to be included in	No.	2		
<b>13.1</b>						
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**MASONARY**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
<b>14</b>		<b>LOCKS</b>				
14.1		Double oval profile cylinder lock set (Code 2x6SC)	No.	2		
14.2		3-lever lock sets with open and closed indicators for Toilets and Showers	No.	4		
<b>15</b>		<b>METALWORK</b>				
		For Preambles see the "Model Preambles for Trades"				
		<b>SUPPLEMENTARY PREAMBLES</b>				
		<b>Descriptions</b>				
		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
		Metalwork described as "hold for bolts(s)" shall be deemed to exclude the bolts unless otherwise described.				
<b>15.1</b>		<b>SUNDRY MILD STEEL PRIMED STEELWORK</b>				
		<b>Bearers to brick linings, lintels, etc.</b>				
15.1.1		50 x 50 x 3mm Angle section bearers welded back to back and built into brickwork	m	1		
<b>15.2</b>		<b>RED OXIDE PRIMED PRESSED STEEL DOOR FRAMES</b>				
15.2.1		1,6mm Rebated frames suitable for half brick walls	No	Rate Only		-
15.2.2		Frame for door 803 x 2032mm high	No	6		
<b>TOTAL CARRIED FORWARD</b>						R -

Initial:	Tenderer	Witness	Employer	Witness
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**MASONARY**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
<b>15.3</b>		<b>RED OXIDE STEEL WINDOW FRAMES</b>				
		<b>Standards</b>				
		All the materials, components, procedures and workmanship etc. to comply to the relevant SANS specifications				
		<b>Descriptions</b>				
		Where specifications and descriptions in this Bill of Quantities is in conflict with the specification, then this specification in this Bill of Quantities shall take preference				
<b>15.3.1</b>		<b>Glazing</b>				
		All glass to windows and sidelights to be 4mm clear or obscure glazing. The tenderer to confirm that the thickness suits the size of the panes as specified and withstand wind loads				
15.3.1.1		Window (Ref. NC4)	No	2		
15.3.1.2		Window (Ref. NE1)	No	6		
<b>15.3.2</b>		<b>Window Frames</b>				
15.3.2.1		Window (Ref. NC4)	No	2		
15.3.2.2		Window (Ref. NE1)	No	6		
<b>16</b>		<b>INTERNAL PLASTERING</b>				
		For Preambles see "Model Preambles for Trades"				
16.1		10mm Thick Plaster inside walls only	m <sup>2</sup>	45		
<b>17</b>		<b>PAINTWORK ON METAL</b>				
		One coat calcium plumbate primer, one undercoat and two coats high gloss enamel paint, applied strictly in accordance with the manufacturers instructions	Prov Sum	-	-	R 5 000.00
17.1						
17.2		Windows	No.	6		
17.3		Door frames	No	6		
<b>TOTAL CARRIED FORWARD</b>						

Initial:	Tenderer	Witness	Employer	Witness
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**MASONARY**

ITEM No.	PAYM REF	DESCRIPTION	UNIT	QTY	RATE	
<b>TOTAL BROUGHT FORWARD</b>						
<b>18</b>		<b>PAINTWORK ON INTERNAL WALLS</b>				
18.1		One undercoat and two coats acrylic paint, applied strictly in accordance with the manufacturers instructions	Prov Sum	-	-	R 15 000.00
18.2		Internal Walls	m²	45		
<b>TOTAL CARRIED FORWARD TO SUMMARY (MASONARY)</b>						

Initial:	Tenderer	Witness	Employer	Witness
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SUMMARY OF ALL SECTIONS		
SECTION	DESCRIPTION	AMOUNT
SANS 1200 A	PRELIMINARY AND GENERAL	R -
SANS 1200 C	SITE CLEARANCE	R -
SANS 1200 D	EARTHWORKS	R -
SANS 1200 DB	PIPE TRENCHES	R -
SANS 1200 DK	GABIONS AND PITCHING	R -
SANS 1200 DM	EARTHWORKS (ROADS, SUBGRADE)	R -
SANS 1200 G	CONCRETE (STRUCTURAL)	R -
SANS 1200 H	STRUCTURAL STEELWORK	R -
SANS 1200 HB	CLADDING AND SHEETING	R -
SANS 1200 LB	BEDDING	R -
SANS 1200 LE	PIPEWORK (STORMWATER DRAINAGE)	R -
SANS 1200 ME	SUB-BASE	R -
SANS 1200 MK	KERBING AND CHANNELLING	R -
	MASONARY	R -
<b>SUB-TOTAL (A)</b>		<b>R -</b>
<b>ADD: 5% CONTINGENCIES ON SUB-TOTAL (A)</b>		<b>R -</b>
<b>SUB-TOTAL (B)</b>		<b>R -</b>
<b>ADD: 9.5% CONTRACT PRICE ADJUSTMENT ON SUB-TOTAL (B)</b>		<b>R -</b>
<b>ADD: 0% VARIATION ON SPECIAL MATERIALS ON SUB-TOTAL (B)</b>		<b>R -</b>
<b>SUB-TOTAL (C)</b>		<b>R -</b>
<b>ADD: 15% VAT ON SUB-TOTAL (C)</b>		<b>R -</b>
<b>TOTAL TENDER SUM TRANSFERRED TO FORM OF OFFER</b>		<b>R -</b>

Initial:	Tenderer	Witness	Employer	Witness
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## **PART C3:**

## **SCOPE OF WORK**

Initial:	Tenderer	Witness	Employer	Witness
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## **PART C3**

### **SCOPE OF WORK**

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Initial:	Tenderer	Witness	Employer	Witness
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## **PART C3:**

### **SCOPE OF WORK**

#### **1. DESCRIPTION OF THE WORKS**

##### **1.1 Employer's Objectives**

The Employer's objectives are to execute the associated works required for the rehabilitation and closure of the Vondeling Landfill Site acquiring best quality material and implementing best practice construction methods.

##### **1.2 Overview of the Works**

The Works comprise the construction of the following components:

- Site Clearance – clear the site of all vegetation and dispose thereof at an approved site
- The final shaping of the landfill site to ensure that effective stormwater drainage will take place with no ponding of water will occur and to ensure that gradients are kept as low as possible to prevent erosion. Excess material from the shaping process will be carted to and used for the partly backfilling of the existing borrow pit at the southwestern end of the site.
- Import material from an approved borrow pit and use for the backfilling of the existing borrow pit at the south-western end of the site.
- Removal of oversize material and moving such material to the existing borrow pit at the southwestern corner of the site as part of the backfilling of the borrow pit.
- Demolition of an existing store and disposal of the building rubble. All structural steel elements and roof sheeting must be reclaimed for recycling purposes.
- The construction of a new guardhouse in close vicinity to the entrance of the site.
- Extension of an existing water pipe to provide water to the guardhouse.
- The area around the existing store has been filled resulting in the floor level of the store being approximately 2,0m below the surrounding area. The work thus also entails this area to be backfilled and compacted to facilitate drainage and prevent ponding of water.
- The removal of redundant electrical poles and delivering of such poles and any re-usable electrical fittings to the stores of the Makhado Local Municipality. Should fittings be redundant the successful Tenderer shall sell off such fittings to a scrap metal dealer for his own gain.
- The removal of an electrical transformer and delivering thereof to the stores of the Makhado Local Municipality.
- Filling of an existing borrow pit close to the southwestern corner of the site using material obtained from shaping the eastern section of the landfill and from importation of material. The borrow pit shall be filled of layers not exceeding 200mm and compacted to 95% of Proctor Density.
- Repairs to and reinstatement of the existing fencing along sections where damage occurred.
- Construction of a cut-off drain along the western side of the facility to prevent stormwater from adjacent land outside the facility from entering the site.
- The construction of stormwater drainage channels to prevent erosion which include erosion protection of the channels using concrete grass-blocks.

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- Construction of outlets at the points of discharge of the water from these channels with erosion protection using gabion boxes and mattresses.
- Excavate areas where natural combustion is taking place within the waste body over an area to the south-eastern end of the site and backfilling of such areas with proper compaction to prevent combustion to flare up again.
- Compaction of the waste over areas where reshaping has been done to ensure that any disturbed waste is properly compacted.
- Construction of a 200mm thick topsoil layer over the entire site and to prepare such layer for seeding with indigenous local vegetation. The work should be so programmed that this activity is executed towards the start of the summer rainy season.
- Finishing off the site after completion of all construction work.

The extent of the Works is described in more detail under Clause 1.3

### 1.3 **Extent of the Works**

The work will comprise of the following:

#### **DEMOLISHING AND REMOVAL OF EXISTING INFRASTRUCTURE**

- Removal of all redundant electrical poles and old light fittings and delivery of all such material to the municipal stores in Louis Trichardt.
- Demolishing of the existing redundant store. All structural steel elements and roof sheeting must be reclaimed for recycling purposes while brickwork is to be demolished and discarded at the old borrow pit at the south-western end of the site. It should be noted that the Makhado LM may demolish and remove the existing structure making use of their own resources and also fill up the area to ensure that stormwater is not ponding on the site. In such case such work executed by the Makhado LM will be removed from the scope of the work during remeasurement of work executed by the successful contractor.

#### **SHAPING OF THE SITE AND PREPARATION THEREOF TO RECEIVE THE CAPPING.**

- Shaping along the of the eastern side of the landfill. This activity will entail the loading of excess material along this side of the landfill and hauling it to the existing borrow pit at the south-western end of the site to be used as backfilling thereof. Care should be taken to as far as possible not disturb the already compacted waste body. The Makhado LM is currently allowing building rubble to be spoiled at the old borrow pit site and may start with the backfilling of the old borrow pit making use of internal resources. The work executed under this item will be remeasured and all work already carried out by the Makhado LM will be excluded from the work to be executed by the successful contractor. If necessary, all areas will be re-surveyed where work was carried out by the Makhado LM to confirm the quantities of work already completed and work to be carried out by the appointed Contractor.
- Shaping the eastern side of the landfill after excess material has been removed to slopes not steeper than 1:3 and ensuring that there are no areas where water may pond.
- Compaction of the areas which were reshaped to ensure that the waste is properly compacted if it was disturbed in the process.
- Shaping of a section along the western side of the landfill following the same procedure as above. Excess material to be hauled to the old borrow pit at the south-western end of the site to be backfilled.

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- Removal of oversize material over the entire site and spoiling such oversize material in the existing borrow pit to be backfilled.
- Shaping of all areas where water may pond to ensure efficient drainage of all stormwater off the site.
- Formation of the valley line based on the current contours of the site which will split the site into two drainage areas.
- Backfilling, shaping and compaction of the area where the existing store are to be demolished. This work may be executed by the Makhado LM before a contractor is appointment. In such a case the work will be excluded from the remeasured work executed by the successful and appointed contractor.
- 

#### **EXTINGUISHING OF FIRES WITHIN THE WASTE BODY AT THE LOWER LYING SECTION OF THE SITE LOCATED TOWARDS THE SOUTH-EASTERN END OF THE SITE**

- Excavation of all waste material where natural combustion has taken place causing the waste body to burn below the surface. Extreme care needs to be taken when working in such areas as such areas may collapse.
- Once all burning material has been removed such areas shall be backfilled with soil obtained from the site and the material compacted and shaped to ensure natural stormwater drainage. Care shall be taken to ensure that the areas are sufficiently compacted to prevent future spontaneous combustion.

#### **CONSTRUCTION OF THE CAPPING OVER THE ENTIRE AREA OF THE LANDFILL SITE.**

- Construction of a 300mm thick clayey layer through the importation of material, conforming to the specification of such a layer, in accordance with the minimum requirements for a site with a Classification of G:S:B<sup>-</sup>. The layer shall follow the contours of the reshaped site.
- Construction of a 200mm topsoil layer through the importation of topsoil material from elsewhere in the vicinity.
- All layers shall be compacted to 95% of Procter Density to ensure that the layers are not too stiff.

#### **CONSTRUCTION OF A STORMWATER DRAINAGE SYSTEM WITH PROVISION EROSION PROTECTION**

- Once the Capping layers have been constructed the stormwater drainage system can be constructed and will consist of the following:
- A cut-off channel along the western fence of the site to prevent any stormwater from the adjacent land to enter the site.
- The construction of drainage channels with erosion protection along sections where required
- The construction of outlet channels to the point of outlet.
- The construction of outlet structures with gabion protection to limit any possible erosion and to disperse of as much as possible energy to slow down the flow of water.

#### **GENERAL:**

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- Construction of access road around the site for monitoring purposes. The road will consist of a compacted gravel layer which will follow the final levels of the site to prevent concentration of water.
- Repairs to the existing fencing along sections where the fence was damaged.
- Construction of a concrete slab on which the existing prefabricated office should be placed and the construction of ablution facilities as indicated on the drawings in close vicinity of the entrance gate.
- Extension of an existing water pipeline to provide water to the guardhouse.
- Installation of an underground septic tank which will be linked to the guardhouse toilet to provide toilet facilities for the guards.
- General clearance of the site on completion of all work and removal of any site establishment facilities.
- Repair and maintenance of the Works during the defect's liability period in accordance with the requirements specified in the Contract documents.

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

Estimated quantities of each type of work are given in the Schedule of Quantities. Final quantities will be measured during construction of the Works.

#### 1.4 Location of the Works

The project is situated approximately 1,43km to the east of the N1 in close vicinity of Louis Trichardt. The site can be reached by driving on the N1 from Polokwane to Louis Trichardt up to approximately 400m before the first 4-way stop in Louis Trichardt where the road to Vondeling turns off to the right. The Vondeling Landfill Site is reached after driving for approximately 1,43km along this road and is situated on the right-hand side of the road.

See **Annexure A** under **Part C4** for the Locality of the Site.

The GPS coordinates for the siter is:

23°03'25" (S) and : 29°55'44" (E).



Initial:	Tenderer	Witness	Employer	Witness
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### 1.5 Temporary Works

The Contractor shall be responsible for the construction of all temporary works to provide access to the different sections of the Site as well as temporary measures to protect the Works and the general public. No additional payment will be made for this, and the cost thereof shall be included in the rates for the various items.

## 2. ENGINEERING

### 2.1 Design Services and Activity matrix

- a) The Contractor has no responsibility for design of permanent works.
- b) The Contractor shall be responsible for the construction of all the elements of the project to enable final closure of the site in accordance with the specifications and drawings forming part of this Contract.

### 2.2 Employer's Design

The Employer's design of the Works is complete. The Employer's design required to be priced can comprise a combination of communications referred to as addendums issued prior to tenders closing, drawings for tender purposes, and the tender document containing the general information and specifications, relevant to the Works. Once the Contract is awarded the Employer's design may be amended and such amendments shall be managed via the Specific Contract Provisions.

Construction drawings for the Works will be issued in a separate volume to the successful Tenderer.

As-built drawings will be compiled by the Employer, however it is to be noted that it remains the duty of the Contractor to keep a set of drawings on which he shall record all changes to the construction drawings as issued to him. He shall timeously convey this information to the Engineer for compilation of the as-built drawings. For this purpose, a separate set of drawings will be issued to the Contractor on which all such information will be captured and submitted to the Engineer on a continuous basis throughout the construction period.

### 2.3 Drawings

#### 2.3.1 Drawings Prepared by Contractor

The Contractor shall prepare workshop drawings for manufacturing of any steel specials and fittings where required. The drawings shall be compiled upon taking final measurements on site. The dimensions reflected on the drawings for this work are approximate dimensions and need to be confirmed by the Contractor through the final measurements and preparation of the workshop drawings using actual measurements taken on site.

The workshop drawings shall be submitted to the Engineer for approval before starting with the manufacturing of the specials and fittings required.

#### 2.3.2 Drawings Prepared by the Employer

With reference to C3.1.1 above, the drawings provided shall comprise the Employer's proposed design. Drawings shall be read and understood in sufficient detail to

Initial:	Tenderer	Witness	Employer	Witness
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BID NO. 68 of 2022: The Construction of the Associated Works  
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understand the Scope of the Works required to be performed. If there are areas that appear unclear or if the Contractor deems there to be material errors in the design, he/she shall bring it to the immediate attention of the Employer prior to the closure of tenders. The Contractor shall be required to address in writing any clarifications the Contractor may require in understanding the tender document and drawings, such that he/she may sufficiently price the document to complete all of the specified Works.

The drawings, forming part of the Tender, are bound into a separate volume, Volume 2 of 2, and are listed in Volume 1 of 2. All tender drawings shall be returned at the time of tendering together with the tender documents. If the Contractor deems there to be drawings omitted, the tender shall inform the Employer immediately for clarification. The drawings included in the tender documents are intended for tender purposes only, as indicated on the drawings, and shall not be used for construction purposes. Only working Drawings which have been approved by the Employer's Agent and marked accordingly as follows: "ISSUED FOR CONSTRUCTION" and which have been signed and dated by the Employer's Agent and officially issued to the Contractor for construction, shall be used on the permanent Works.

a) Drawings issued

The drawings prepared by the Employer and issued as a separate volume, VOLUME 2 of 2 in A3 format, comprise the following:

**IB Plan No**                      **Title**

**GENERAL:**

19T0300/CD/GA/01/01 LIST OF DRAWINGS AND LOCALITY PLAN  
19T0300/CD/GA/02/01 GENERAL SITE LAYOUT PLAN & BENCHMARKS  
19T0300/CD/GA/03/01 NAME BOARD DETAILS  
19T0300/CD/GA/04/01 ACCOMMODATION OF TRAFFIC TYPICAL DETAILS

**EARTHWORKS:**

19T0300/CD/EW/01/01 GENERAL EARTHWORKS & DRAINAGE LAYOUT PLAN  
19T0300/CD/EW/02/01 GENERAL LAYOUT PLAN OF CUT, & FILL AND CLAY CAPPING AREAS  
19T0300/CD/EW/03/01 EARTHWORKS CUT & FILL AREA NO. 1: SETTING OUT GRID WITH FINAL LEVELS  
19T0300/CD/EW/03/02 EARTHWORKS CUT & FILL AREA NO. 2: SETTING OUT GRID WITH FINAL LEVELS  
19T0300/CD/EW/03/03 SUBTERRANEAN FIRE EARTHWORKS AREA NO. 1 & 2: SETTING OUT GRID WITH FINAL CUT LEVELS  
19T0300/CD/EW/04/01 TYPICAL SECTIONS AND DETAILS

**RING ROAD:**

19T0300/CD/RD/01/01 GENERAL ROAD & DRAINAGE LAYOUT PLAN  
19T0300/CD/RD/02/01 LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 1 OF 6)  
19T0300/CD/RD/02/02 LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 2 OF 6)  
19T0300/CD/RD/02/03 LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 3 OF 6)  
19T0300/CD/RD/02/04 LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 4 OF 6)  
19T0300/CD/RD/02/05 LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 5 OF 6)  
19T0300/CD/RD/02/06 LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 6 OF 6)

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BID NO. 68 of 2022: The Construction of the Associated Works  
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19T0300/CD/RD/03/01 CROSS-SECTIONS (SHEET 1 OF 6)  
 19T0300/CD/RD/03/02 CROSS-SECTIONS (SHEET 2 OF 6)  
 19T0300/CD/RD/03/03 CROSS-SECTIONS (SHEET 3 OF 6)  
 19T0300/CD/RD/03/04 CROSS-SECTIONS (SHEET 4 OF 6)  
 19T0300/CD/RD/03/05 CROSS-SECTIONS (SHEET 5 OF 6)  
 19T0300/CD/RD/03/06 CROSS-SECTIONS (SHEET 6 OF 6)  
 19T0300/CD/RD/04/01 TYPICAL PAVEMENT AND DRAINAGE DETAILS  
 19T0300/CD/RD/04/02 TYPICAL EMBANKMENT DETAILS

**STORMWATER CHANNEL 1:**

19T0300/CD/SA/01/01 LAYOUT PLAN AND LONGITUDINAL SECTION  
 19T0300/CD/SA/02/01 CROSS-SECTIONS (SHEET 1 OF 2)  
 19T0300/CD/SA/02/02 CROSS-SECTIONS (SHEET 2 OF 2)

**STORMWATER CHANNEL 2:**

19T0300/CD/SB/01/01 LAYOUT PLAN AND LONGITUDINAL SECTION  
 19T0300/CD/SB/02/01 CROSS-SECTIONS (SHEET 1 OF 2)  
 19T0300/CD/SB/02/02 CROSS-SECTIONS (SHEET 2 OF 2)

**STORMWATER CHANNEL 3:**

19T0300/CD/SC/01/01 LAYOUT PLAN AND LONGITUDINAL SECTION  
 19T0300/CD/SC/02/01 CROSS-SECTIONS (SHEET 1 OF 2)

**STORMWATER CHANNEL 4:**

19T0300/CD/SD/01/01 LAYOUT PLAN AND LONGITUDINAL SECTION  
 19T0300/CD/SD/02/01 CROSS-SECTIONS (SHEET 1 OF 2)

**STORMWATER CHANNEL 5:**

19T0300/CD/SE/01/01 LAYOUT PLAN AND LONGITUDINAL SECTION  
 19T0300/CD/SE/02/01 CROSS-SECTIONS (SHEET 1 OF 2)  
 19T0300/CD/SE/02/02 CROSS-SECTIONS (SHEET 2 OF 2)

**STORMWATER CHANNEL 6:**

19T0300/CD/SF/01/01 LAYOUT PLAN AND LONGITUDINAL SECTION  
 19T0300/CD/SF/02/01 CROSS-SECTIONS (SHEET 1 OF 2)

**CULVERT STRUCTURE (STA):**

19T0300/CD/CA/01/01 LAYOUT PLAN & LONGITUDINAL SECTION  
 19T0300/CD/CA/02/01 INLET (STA1) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS  
 19T0300/CD/CA/02/02 OUTLET (STA2) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS

**CULVERT STRUCTURE (STB):**

19T0300/CD/CB/01/01 LAYOUT PLAN & LONGITUDINAL SECTION  
 19T0300/CD/CB/02/01 INLET (STB1) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS  
 19T0300/CD/CB/02/02 MANHOLE (STB2) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS  
 19T0300/CD/CB/02/03 OUTLET (STB3) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS (SHEET 1 OF 2)  
 19T0300/CD/CB/02/04 OUTLET (STB3) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS (SHEET 2 OF 2)

**CULVERT STRUCTURE (STC):**

19T0300/CD/CCA/01/01 LAYOUT PLAN & LONGITUDINAL SECTION

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19T0300/CD/CC/02/01 INLET (STC1) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS

19T0300/CD/CC/02/02 OUTLET (STC2) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS

19T0300/CD/CC/02/03 OUTLET (STC3) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS

#### **CULVERT STRUCTURE (STA):**

19T0300/CD/CD/01/01 LAYOUT PLAN & LONGITUDINAL SECTION

19T0300/CD/CD/02/01 INLET (STD1) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS

19T0300/CD/CD/02/02 OUTLET (STD2) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS

#### **GUARDHOUSE:**

19T0300/CD/GH/01/01 GENERAL SITE LAYOUT PLAN & SETTING-OUT DETAILS

19T0300/SD/GH/01/02 FOUNDATION LAYOUT & DETAILS

19T0300/AD/GH/02/01 FLOOR PLAN, ROOF PLAN, SECTIONS & ELEVATIONS

#### **FENCING & SECURITY GATE:**

19T0300/SD/FS/01/01 GENERAL LAYOUT PLAN OF EXISTING SECURITY FENCE

19T0300/SD/FS/02/01 SECURITY GATE & FENCING DETAIL

The Contractor will be supplied with three full scale prints of each construction drawing in A1 Format and one A2 Book of Drawings free-of-charge. Further copies will be charged for at ruling rates. An additional full-scale set of drawings will be supplied to the Contractor for the purpose of capturing As-Built information and submission thereof to the Engineer.

Any information in the possession of the Contractor, which is necessary for the resident engineer for completing of his as-built drawings, shall be supplied to the resident engineer before a certificate of completion will be issued.

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

### **3. PROCUREMENT**

#### **3.1 Preferential Procurement Procedure Requirements**

The Employer's preferential procurement policy applicable to this Contract is set out in Section 6.3 of the Tender Data under Part 1: Tendering Procedures.

##### **3.1.1 Applicable Specification**

The South Africa National Standards SANS 1914 - 5: 2005 Edition 1 specification shall apply to the Contract.

Initial:	Tenderer	Witness	Employer	Witness
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BID NO. 68 of 2022: The Construction of the Associated Works  
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a) Definition of Targeted Labour

South African Citizens who:

- have not been employed for more than 100 days during the year preceding their engagement on the Contract.
- resides within a 30km radius of the Project; and
- are acknowledged as such by the Project Steering Committee established to oversee and assist with social aspects of the Project.

b) Weighting Factor (Clause 3.3.1)

The weighting factor for all cases shall be unity.

c) Targeted Labour Engagement

Targeted labour shall be engaged on the following aspects of the Contract:

<u>Activity</u>	<u>Target area</u>
Inlet Structures:	Excavation and trimming in pickable material Mixing and casting of concrete blinding Fixing of reinforcement Assist with shuttering Placing of concrete Backfill
Manholes:	Excavation and trimming in pickable material Mixing and casting of concrete blinding Fixing of reinforcement Assist with shuttering Placing of concrete Backfill
Culvert Structures:	Excavation (trimming) in pickable material Bedding & Selected Fill Blanket Backfill
Outlet Structures:	Excavation and trimming in pickable material Mixing and casting of concrete blinding Fixing of reinforcement Assist with shuttering Placing of concrete Backfill
Channels:	Excavation and trimming in pickable material Placing of Bidum blanket Placing and filling of Gabions Backfill and finishing
Erosion Protection:	Excavation and trimming Placing of Bidum blanket Placing and filling of Gabions Backfill compaction and finishing
General:	Finishing of the Site of the Works Removal and reinstatement of fences

### 3.2 Subcontracting

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### 3.2.1 Mandatory subcontract works

In line with the Preferential Procurement Regulations – 2017, as published in Government Gazette No.40553 of 20 January 2017, the successful tenderer shall subcontract a minimum of 30% of the value of the project to an EME or QSE which is at least 51% owned by black people residing within the project area.

Tenderers must follow an open and transparent quotation/tender procedure and appoint local subcontractors for the identified portion of the works through following an evaluation process of the quotations/tenders received. The value of the subcontract works should be such that it will allow the sub-contractor to advance his/her bid grading upon successful completion of the works.

Separate items are provided in the Schedules of Quantities for the management and guidance of the sub-contractors as well as the provision of PPE to sub-contractors. Due to the fact that the supply of the pipe material, valves and fittings constitutes a large portion of the value of the project it may not be possible for the local EME's or QSE's to purchase such material due to the high cost thereof. The successful tenderer shall therefore supply all required material for the construction and completion of the works. The value of such material shall be taken into consideration in the determination of the value of the subcontract works.

The successful tenderer shall also make plant and equipment available to the successful subcontractors on a plant hire basis. Provision is made in the Schedules of quantities for a mark-up on plant and equipment made available to the sub-contractors on this basis to cover the cost of managing the process and profit.

### 3.2.2 Preferred subcontractors/suppliers

This project does not provide for any preferred subcontractors or suppliers.

### 3.2.3 Subcontracting procedures

Should the Contractor intend to employ subcontractors for execution of portions of the Works, the relevant information shall be submitted per Appendix A7 of Portion 1, Part 2, Section 2 of this document, for consideration by the Employer.

## 4. CONSTRUCTION

### 4.1 Works Specifications

#### 4.1.1 Applicable SANS Standardised Specifications

The applicable standardized specifications for this Contract shall be the following:

SANS 1200	A	-	General
SANS 1200	AB	-	Engineer's Office
SANS 1200	C	-	Site Clearance
SANS 1200	D	-	Earthworks
SANS 1200	DB	-	Earthworks (Pipe Trenches)
SANS 1200	DK	-	Gabions and Pitching
SANS 1200	G	-	Concrete (Structural)
SANS 1200	H	-	Structural Steelwork
SANS 1200	HB	-	Cladding and Sheeting
SANS 1200	LB	-	Bedding (Pipes)
SANS 1200	LE	-	Pipework (Stormwater Drainage)
SANS 1200	ME	-	Sub-Base
SANS 1200	MK	-	Kerbing and Channelling

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- Masonry

The following variations to standardized specifications and additional clauses are applicable to this Contract and are contained in the "Annexure to the Scope of Work".

PSA	General
PSAB	Engineer's Offices
PSC	Site Clearance
PSDB	Earthworks (Pipe Trenches)
PSGA	Concrete (Small Works)
PSL	Medium Pressure Pipelines

Particular Specifications:

The following Particular Specifications are applicable to this Contract and are contained in the "Annexure to the Scope of Work".

PD	Environmental Protection and Control Specifications
PE	Dealing with ESKOM Services
PF	Occupational Health and Safety
PD	Building Work

#### **4.2 Plant and Materials**

The Contractor shall be responsible for acquiring all plant and materials as required in the Scope of Work and Schedule of Quantities for the successful construction and completion of the project.

The Client shall not provide any plant or materials.

#### **4.3 Construction Equipment**

The Contractor shall be responsible for providing on site all construction equipment necessary for the successful construction and completion of the project. Construction equipment shall be made available on site in time for the respective operations as needed and shall only be taken off-site once the respective operations have been totally completed.

All construction equipment shall be properly maintained to ensure that breakdowns which may impact on the progress of the project shall not occur. Construction equipment shall be operated in accordance with the requirements of the Occupational Health and Safety Act and the Environmental Management Plan and any other Acts and Regulations stated in this Document.

#### **4.4 Existing Services**

Known underground services are indicated on the drawings. The Contractor shall familiarise himself during the site inspection of these underground services as well as aboveground services such as electrical distribution lines, telephone lines and other services that may exist. Any uncertainty regarding these services that may impact on his tendered rates for the execution of the Work shall be directed to the Engineer for clarification. No future claims for additional compensation will be considered should the Contractor fail to comply herewith.

Damage to these services caused by negligence will be repaired and paid for by the Contractor. The Contractor shall exercise the necessary care when locating for existing underground services. Limited machine excavation will be allowed where underground services are expected.

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The Contractor shall also liaise closely with the representatives of the Makhado Local Municipality regarding the locality of existing services before any attempt is made to carry out excavations in areas where services are expected.

#### **4.5 Site Establishment**

##### **4.5.1 Site Facilities Available**

###### **(a) Contractor's camp site and depot**

Sites for a camp and depot will not be allocated to the successful Contractor. The successful Contractor shall make his own arrangements to obtain a site where his camp and depot can be erected.

The Contractor shall supply, erect, maintain and remove on completion of the Works all necessary offices and shelters erected by him. The sheds for the storage of cement shall be weatherproof, adequately ventilated, with raised floors and the arrangement shall be such that cement can be used in the order in which it has been received.

All these buildings shall be subject to inspection by the Engineer who shall have access to them at all times.

The Contractor shall limit his offices, stores, workshops accommodation and ablution facilities to the site obtained and movement of his plant and personnel shall be limited to the portions of the site indicated.

The Contractor's office for this contract shall be as required to perform his obligations under the Contract. (Also refer to clause PSA-4.2.)

###### **(b) Accommodation of Employees**

The successful Contractor shall make his own arrangements for the accommodation of employees. Approval shall be obtained from the applicable Local Authorities and assistance will be provided by the Engineer in this regard.

The Contractor shall provide adequate and suitable housing for all his employees. Senior employees and labourers shall be housed in different Sites.

The Contractor shall erect proper and adequate temporary sanitary facilities for the use of his employees in the vicinity of the Works and at the camp site. Chemical toilets only will be allowed where temporary facilities must be provided. Such chemical toilet facilities shall always be in proximity of the work areas and be accessible to workers at all times. The Contractor shall relocate such temporary facilities as frequent as necessary to ensure that it is always in proximity of the work area.

The Contractor shall be responsible for keeping these facilities in a thoroughly clean, sanitary and orderly condition and shall adopt all means necessary to prevent the Site from being polluted by such facilities or in the consequence of its use.

The Contractor shall further ensure that as far as practical, suitable arrangements are made on the Site for the maintenance of health, the prevention and overcoming of outbreaks of disease and of adequate first aid and hygienic services. For this purpose, the Contractor shall provide and maintain a first aid post to suit the needs of his construction staff, as well as the staff of the Engineer.

Initial:	Tenderer	Witness	Employer	Witness
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(c) Power supply, water and other services

No water or power is available in the vicinity of the camp site. The Contractor shall make his own arrangements concerning the supply of electrical power, water, and all other services. No direct payment will be made for the provision of electricity, water, and other services. The cost thereof shall be deemed to be included in the rates and amounts tendered for the various items of work for which these services are required.

4.5.2 Site Facilities Required

(a) Site Facilities required by the Engineer

The requirements of SANS1200 AB Engineer's Office as further amplified in PSAB shall be complied with. The Engineer's Representative is to be accommodated in a site office as described under PSAB 3.2, to be erected in a position to be approved by the Engineer, within the Contractor's camp. Separate sanitary facilities shall be provided for the sole use of the Engineer and his staff.

Survey equipment as stipulated in 4.11.2 (c) shall be provided by the Contractor for use by the Engineer:

**4.6 Site Usage**

During progress of the work and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store materials and equipment for which he is responsible in an orderly manner and shall keep the Site free from debris and obstructions.

**4.7 Permits and Way Leaves**

The Employer shall obtain all necessary servitudes, permits and way leaves that are required to access the site and to execute the work. The Contractor shall be provided with the originals or copies of these permits and way leaves and shall ensure that these are available at all times on site and that the conditions and requirements set out therein are met and strictly adhered to.

Local authorities or affected service providers shall be timeously informed of any work that will affect their services or properties.

**4.8 Alterations, Additions, Extensions and Modifications to Existing Works**

The existing overflow structure of the storage dam will be replaced with a new improved structure.

**4.9 Inspection of Adjoining Properties**

Should any blasting be carried on site in order to remove hard material from trench excavations, all structures and buildings within a 500m radius of the blast site shall be properly inspected before and again after the blasting has been completed. Detailed record shall be kept of any visible defects that exist and are not attributable to the blasting actions.

**4.10 Services for Construction Purposes**

The Contractor shall be fully responsible to arrange for all his needs in terms of water supply, sanitation, electricity, and communication required at his camp site for his personnel and for construction purposes.

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**4.11 Survey Control and Setting Out of the Works****4.11.1 Survey Control****a) Geometric Control**

The Benchmark Control and topographical survey for the Works has been established. The Contractor is to check the Benchmarks and existing levels prior to construction and bring any discrepancies to the attention of the Engineer.

**b) Preservation and Replacement of Beacons and Pegs**

The Contractor shall protect and preserve all survey marks. Any survey marks disturbed or removed without prior written consent of the Engineer, shall be replaced by a Registered Land Surveyor at the expense of the Contractor.

Any errors in construction levels or positions resulting from use of disturbed benchmarks shall be made good by the Contractor at his expense.

**4.11.2 Setting out of the Works****a) Setting out**

The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contract Data or notified by the Engineer. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions, or alignment of the Works.

**b) Construction Tolerance Control**

The Contractor will be required to issue to the Engineer in writing certification of construction accuracy at each of the following construction phases, before continuing with the next phase of construction:

- i) Setting out of Works.
- iii) Centre lines of pipelines and invert levels.

The Contractor shall only continue with the next phase of construction when directed by the Engineer in writing.

Should any item or section of the Works be constructed outside the limits of tolerance specified, instruction for remedial or other measures will be issued by the Engineer. The Contractor will not be permitted to continue with the next phase of construction until remedial work has been completed to the satisfaction of the Engineer.

No claim for loss in material, production or time resulting from the Contractor's work being constructed outside the limits of tolerance specified, will be entertained.

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c) Survey Equipment and Assistants

The Engineer and the Engineer's Representative shall be allowed free use of survey equipment and assistants to carry out control work as and when required, and the Contractor shall provide all pegs, concrete, tools and other necessary items as well as all necessary labour for excavation, bush clearing, mixing and placing of concrete, as and when required for the control of the setting out of the Works.

The Contractor shall, for the duration of the Contract, provide the following survey equipment for the exclusive use of the Engineer and his staff:

- (i) 1 x upright reading automatic level with tripod;
- (ii) 1 x metric levelling staff with protective cover bag;
- (iii) 6 x ranging rods;
- (iv) 1 x 100 metre Stilton tape measure;
- (v) 1 x measuring wheel;
- (vi) 1 x  $\pm$  2 kg hammer.

Whenever reasonably required by the Engineer, the Contractor shall further make available to the Engineer or his representative, the following additional survey equipment:

- (i) 1 x tacheometer with tripod;
- (ii) 1 x survey staff for tacheometer;
- (iii) 1 x Distomat, complete with tripod and fully charged battery.

All such survey equipment provided by the Contractor shall be in good condition, properly calibrated and fit for the purpose and shall be kept fully serviceable at all times by the Contractor at his own cost. The Contractor shall have any defective equipment repaired or replaced at his own cost within 12 hours after notification by the Engineer's staff.

Where required by the Engineer, the Contractor shall at his own cost, promptly arrange for the recalibration of survey equipment provided.

#### 4.12 Contract Name Boards

The Contractor shall provide, erect and maintain two (2) contract name boards at such positions and locations as directed by the Engineer, which name boards shall, unless otherwise specified elsewhere in the Contract, comply with the recommendations for the standard board of the South African Association of Consulting Engineers, with regard to size, painting, decorating and detail, and the requirements described hereunder. Please also refer to the details of the name board as reflected on Drawing No 19P0902/S01

The name boards shall be made of mild steel sections and sheet plate metal to the dimensions as indicated on Drawing 19P0902/S01. It shall be so braced on the reversed side as to prevent warping and shall be mounted on two or more, as necessary, firmly planted poles. The painting of the board shall comply with the relevant requirements of CKS 193 and the colours of the paints shall be an acceptable match to the applicable colours given in SANS 1091.

The Contractor shall keep the contract name boards in good state of repair for the duration of the Contract and shall remove it on completion of the Contract.

#### 4.13 Trenches

The Contractor shall not be allowed to have long sections of trenching left open. The Contractor shall ensure that open trenches are clearly visible at night and that

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trenches are fenced off with a temporary fence to prevent people and animals to fall into the trench. All the required warning signs shall be erected and kept in place, at all times, along sections where trenching and pipelaying is underway until trenches are completely backfilled and safe.

No separate payment item is included in the Schedule of Quantities to compensate the Contractor for the additional expense in this regard and the cost thereof shall be deemed to be included in the tendered rates.

#### **4.14 Access to Properties**

The Contractor shall organise the work to cause the least possible inconvenience to the public and to the property owners adjacent to or affected by the work, and except as hereunder provided, shall at all times provide and allow pedestrian and vehicular access to properties within or adjoining or affected by the area in which he is working.

If, because of restricted road reserve widths and the nature of the work, the construction of bypasses is not feasible, construction shall be carried out under traffic conditions to provide access to erven and properties.

Notwithstanding the foregoing, the Contractor may, with the prior approval of the Engineer (which approval shall not be unreasonably withheld), make arrangements with and obtain the acceptance of the occupiers of erven and properties to temporarily close off part of a street, road, footpath or entrance, provided that the Contractor duly notifies the occupiers of the intended closure and its probable duration, and reopens the route as punctually as possible. Where possible, such streets, roads, footpaths, and entrances shall be made safe and reopened to traffic overnight. Such closure shall not absolve the Contractor from his obligations under the Contract to provide access to properties at all times. Barricades, traffic signs, drums and other safety measures appropriate to the circumstances shall be provided by the Contractor to suit the specific conditions.

### **5. MANAGEMENT**

#### **5.1 Management of the Works**

##### **5.1.1 Workmanship and Quality Control**

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

The cost of supervision and process control, including testing carried out by the Contractor, will be deemed to be included in the rates tendered for the related items of work.

The Contractor's attention is drawn to the provisions of the various Standardised Specifications regarding the minimum frequency of testing required. The Contractor shall, at his own discretion, increase this frequency where necessary to ensure adequate control.

On completion and submission of every part of the work to the Engineer for examination and measurement, the Contractor shall furnish the Engineer with the results of the relevant tests, measurements and levels to demonstrate the achievement of compliance with the Specifications.

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## **5.2 Health and Safety**

Including all other provisions made in the Tender Documentation, Annexure and all other relevant documentation mentioned or implied therein, the Tenderer shall submit as an integral part of his tender, a Health and Safety Plan that will be suitable for implementation for the specific Project and the construction methods foreseen by the Contractor for the complete installation of the reticulation and appurtenant works.

The following guidelines are listed and should be addressed inter alia:

- Excavation depths 1,0m – 2,5m
- Shoring of excavations where necessary
- All plant to be utilised by Contractor

The Tenderer shall furthermore include and list all potential risk areas and work methods that may reasonably be foreseen during the Tender stage and clearly indicate how all of the above will be dealt with in his proposed Health and Safety Plan. Items such as equipment registers, safety meetings, the appointment of safety representatives and responsible persons i.t.o. the relevant Acts and legislature must be provided.

The abovementioned is by no-means complete and shall merely serve as basic guideline to Tenderers.

## **5.3 Testing and Quality Control**

### **5.3.1 Contractor to engage services of an independent laboratory**

Notwithstanding the requirements of the Specifications pertaining to testing and quality control, the Contractor shall engage the services of an approved independent laboratory to undertake all testing of materials, the results of which are specified in, or may reasonably be inferred from, the Contract. These results will be taken into consideration by the Engineer in deciding whether the quality of materials utilised, and workmanship achieved by the Contractor comply with the requirements of the Specifications. The foregoing shall apply irrespective of whether the specifications indicate that the said testing is to be carried out by the Engineer or by the Contractor.

The Contractor shall be responsible for arranging with the independent testing laboratory for the timeous carrying out of all such testing specified in the Contract, at not less than the frequencies and in the manner specified. The Contractor shall promptly provide the Engineer with copies of the results of all such testing carried out by the independent laboratory.

For the purposes of this clause, an "independent laboratory" shall mean an "approved laboratory" (as defined below) which is not under the management or control of the Contractor and in which the Contractor has no financial interest, nor which has any control or financial interest in the Contractor.

Unless otherwise specified in the relevant specification or elsewhere in the Project Specification, the following shall be deemed to be approved laboratories in which design work, or testing required in terms of a specification for the purposes of acceptance by the Engineer of the quality of materials used and/or workmanship achieved, may be carried out:

- (a) Any testing laboratory certified by the South African National Accreditation Systems (SANAS) in respect of the nature and type of testing to be undertaken for the purposes of the Contract;
- (b) Any testing laboratory owned, managed or operated by the Employer or the Engineer;

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- (c) Any testing laboratory established and operated on the Site by or on behalf of the Employer or the Engineer.
- (d) Any other laboratory that the Engineer approves at his absolute discretion.

#### 5.3.2 Additional testing required by the Engineer

In addition to the provisions of Sub clause 5.3.1: Contractor to engage services of an independent laboratory, the Engineer shall be entitled at times during the Contract to require that the Contractor arrange with the independent laboratory to carry out any such tests, additional to those described in 5.3.1: Contractor to engage services of an independent laboratory, at such times and at such locations in the Works as the Engineer shall prescribe. The Contractor shall promptly and without delay arrange with the independent laboratory for carrying out all such additional testing as required by the Engineer, and copies of the test results shall be promptly submitted to the Engineer.

#### 5.3.3 Costs of testing

- (a) Tests in terms of Sub clause 5.3.1: Contractor to engage services of an independent laboratory

The costs of all testing carried out by the independent laboratory in accordance with the requirements of Sub clause PS 5.3.1: Contractor to engage services of an independent laboratory, above shall be borne by the Contractor and shall be deemed to be included in the tendered rates and prices for the respective items of work as listed in the Schedule of Quantities and which require testing in terms of the Specifications. No separate payments will be made by the Employer to the Contractor in respect of any testing carried out in terms of Sub clause 5.3.1: Contractor to engage services of an independent laboratory.

Where, as a result of the consistency of the materials varying or as a result of failure to meet the required specifications for the work, it becomes necessary to carry out additional tests (e.g. re-tests on rectified work and/or replacement materials), the costs of such additional testing shall be for the Contractor's account.

- (b) Additional tests required by the Engineer

The costs of any additional tests required by the Engineer in terms of Sub clause 5.3.2: Additional testing required by the Engineer, shall be reimbursed to the Contractor against substitution of the Provisional Sum allowed therefore in the Schedule of Quantities; provided always that the costs of any such additional tests ordered by the Engineer, the results of which indicate that the quality of the materials utilised and/or the standard of workmanship achieved are/is not in accordance with the specifications, shall not be reimbursable to the Contractor.

#### 5.4 Monthly Statements and Payment Certificates

The statement to be submitted by the Contractor in terms of Clause 49 of the Conditions of Contract shall be prepared by the Contractor at his own cost, strictly in accordance with the standard payment certificate prescribed by the Engineer, in digital electronic computer format. The Contractor shall, together with a copy of the digital electronic computer file of the statement, submit two (2) A4-sized paper copies of the statement.

For the purposes of the Engineer's payment certificate, the Contractor shall subsequently be responsible, at his own cost, for making such adjustments to his statement as may be required by the Engineer for the purposes of accurately

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reflecting the actual quantities and amounts which the Engineer deems to be due and payable to the Contractor in the payment certificate.

The Contractor shall, at his own cost, make the said adjustments to the statement and return it to the Engineer within three (3) normal workings days from the date on which the Engineer communicated to the Contractor the adjustments required. The Contractor shall submit to the Engineer five (5) sets of A4-sized paper copies of such adjusted statement, together with a copy of the electronic digital computer file thereof.

Any delay by the Contractor in making the said adjustments and submitting to the Engineer the requisite copies of the adjusted statement for the purposes of the Engineer's payment certificate will be added to the times allowed to the Engineer in terms of Sub clause 49(4) of the Conditions of Contract to submit the signed payment certificate to the Employer and the Contractor. Any such delay will also be added to the period in which the Employer is required to make payment to the Contractor.

## **5.5 Drawings**

### **5.5.1 Figured Dimensions to Be Used**

The Contractor shall use only the dimensions stated in figures on the Drawings in setting out the Works, and dimensions shall not be scaled from the Drawings, unless required by the Engineer. The Engineer will, on the request of the Contractor in accordance with the provisions of Sub clause 13(3) of the Conditions of Contract, provide such dimensions as may have been omitted from the Drawings.

### **5.5.2 As-Built/Record Drawings**

All information in the possession of the Contractor and which is required by the Engineer and/or the Engineer's Representative to complete the as-built/record drawings must be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

## **5.6 Samples**

Materials or work which does not conform to the approved samples submitted in terms of Sub clause 23(4) of the Conditions of Contract will be rejected. The Engineer reserves the right to submit samples to tests to ensure that the material represented by the sample meets the specification requirements.

The costs of any such tests conducted by or on behalf of the Engineer, the results of which indicate that the samples provided by the Contractor do not conform to the requirements of the Contract, shall, in accordance with the provisions of Sub clause 23(7) of the Conditions of Contract, be for the Contractor's account.

## **5.7 Notices, Signs, Barricades and Advertisements**

All notices, signs, and barricades, as well as advertisements, may be used only if approved by the Engineer. The Contractor shall be responsible for their supply, erection, maintenance, and ultimate removal and shall make provision for this in his tendered rates.

The Engineer shall have the right to instruct the Contractor to move any sign, notice or advertisement to another position, or to remove it from the Site of the Works if in his opinion it is unsatisfactory, inconvenient or dangerous.

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**5.8 Subcontractors**

All matters pertaining to subcontractors (including Nominated Subcontractors) and the work executed by them shall be dealt with directly between the Engineer and the Contractor in the context of all subcontract work being an integral part of the Works for which the Contractor is responsible.

The Engineer will not liaise directly with any subcontractors nor will he issue instructions concerning the subcontract works directly to any subcontractor.

All matters arising from the subcontract agreements shall be dealt with directly between the Contractor and the subcontractors and the Engineer will not become involved.

**5.9 Format of Communication**

The Contractor shall keep a triplicate book for site instructions on the Site at all times. Site inspection books to be supplied by the Engineer. All requests for information or instructions must be recorded in writing.

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## **ANNEXURE TO SCOPE OF WORK**

### **SPECIFICATIONS**

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**C3.4.2 Interpretations and Variations to the Standardised Specifications**

This portion contains essential clauses and data and additional clauses required to supplement and augment the Standardised Specifications to suit the nature of this Contract.

The number of each clause and each payment item in this part of the project specifications consists of the prefix "PS" followed by a suffix relating to the relevant section of the SANS 1200 suit of specifications. For example, "PSA" refers to a variation or amendment of the SANS 1200A standard specification.

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## **PSA GENERAL**

### **PSA 3 MATERIALS**

#### **PSA 3.1 Quality**

Where there is a standardization mark programme for any material, all such material supplied shall bear the official standardization mark.

Alternative materials or equipment proposed by the Contractor shall be tested. The test, as well as the materials or equipment, shall be approved by the Engineer prior to any such materials or equipment being built into the Works and all costs involved in testing shall be deemed to be included in the rates tendered.

#### **PSA 3.3 Applicable Standards for Cement (Additional Sub clause)**

The standard cement specifications SABS 471, SABS 626, SABS 831 and SABS 1466 have been withdrawn and are replaced by SANS 50197-1: Common cements, and SANS 50413-1: Masonry cement. These specifications will be applicable to this contract, and the descriptions and types of cements specified, will be based on the designations as defined in these specifications.

### **PSA 4 PLANT**

#### **PSA4.2 Contractor's Office, Stores and Services**

It is required for this contract that the Contractor provides an office, minimum 12 m<sup>2</sup>, for the Engineer as well as a suitable facility for site meetings. If no laboratory is provided, the Contractor shall nevertheless arrange to have the required quality control tests (e.g. densities, concrete strengths and pressure testing of pipelines) performed by an approved commercial laboratory, and his tendered rates shall include full compensation for such tests.

The Contractor's camp shall be kept neat and clean at all times and all surplus or rejected material shall be removed from the site.

#### **PSA 4.3 Restriction on Employee Accommodation (Additional sub-clause)**

With the exception of a night watchman no employees may be housed or accommodated or allowed to sleep over on the site of the works.

### **PSA 5 CONSTRUCTION**

#### **PSA 5.1 Survey**

##### **PSA 5.1.1 Setting out of the Works**

For any new work the Contractor shall establish his own reference lines from which the work can be set out.

#### **PSA 5.8 Ground and access to works**

Add the following:

"On completion of operations the Contractor shall restore the ground surface, wherever it may have been disturbed, to its original condition by filling in all ruts with material similar to the material within the rut and levelling the ground and, where necessary, planting grass and shrubs as may be required. Any boundary fences which have been removed or damaged by his operations and activities shall be repaired and/or reinstated at the Contractor's expense".

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**PSA 8 MEASUREMENT AND PAYMENT****PSA 8.3.2.2 Facilities for Contractor**

The Contractor shall provide room space in his office to accommodate a satisfactory first aid kit. The kit shall include adequate supplies of medicines, bandages, drugs, etc. to provide efficient first aid treatment as prescribed by the OHS act, Act 85/1993. The Contractor is at liberty to provide such other medical facilities, as he may deem necessary.

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**PSAB ENGINEER'S OFFICE**

**PSAB-3 MATERIALS**

**PSAB-3.1 Nameboards**

Two (2) contract nameboards, two sides per nameboard, are to be erected in the position indicated by the Engineer. A nameboard shall comprise of two information boards and shall be erected according to the drawings.

**PSAB-3.2 Office Building**

The Contractor shall provide suitable temporary office accommodation for the Engineer, consisting of two offices with 12m<sup>2</sup> and 20 m<sup>2</sup> of floor space respectively. The smaller office shall be furnished as prescribed in the Standardised Specifications SANS 1200 AB while the larger office shall be equipped with a boardroom table, large enough to accommodate 20 people complete with chairs for the purpose of Site Meetings. The smaller office shall be for the sole use of the Engineer and his representative. Both offices shall be lockable with sufficient lighting. Light fittings shall be of the fluorescent type and the offices shall both be furnished with two (2) double plug points in positions to be indicated by the Engineer during site establishment. Both offices shall be equipped with air conditioning units capable of cooling in summer and heating in winter while a refrigerator shall also be provided for the sole use of the Engineer and his personnel.

Two high back office chairs shall also be provided, one for each office.

The position of the Engineer's office and carports shall be erected within the Contractor's camp site in a position to be indicated by the Engineer during site establishment.

**PSAB-3.3 Carports (Additional Clause)**

The carports shall be so constructed that the vehicles parked under it will at all times be protected against the direct rays of the sun. A carport shall be at least 20 m<sup>2</sup> in area and the floor shall consist of a layer of crushed stone to alleviate dusty and muddy conditions.

**PSAB-4 PLANT**

**PSAB-4.1 Telephone**

The telephone shall be a cellular phone with all costs paid by the Contractor.

**PSAB-4.2 Survey Equipment (Additional Clause)**

The Contractor shall provide the following survey equipment on site for the full duration of the Contract:

- (i) 1 x upright reading automatic level with tripod;
- (ii) 1 x metric levelling staff with protective cover bag;
- (iii) 6 x ranging rods;
- (iv) 1 x 100 metre Stilton tape measure;
- (v) 1 x measuring wheel;
- (vi) 1 x ± 2 kg hammer.

Whenever reasonably required by the Engineer, the Contractor shall further make available to the Engineer or his representative, the following additional survey equipment:

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- (i) 1 x tacheometer with tripod;
- (ii) 1 x survey staff for tacheometer;
- (iii) 1 x Distomat, complete with tripod and fully charged battery.

All equipment may be shared by arrangement between the Contractor and the Engineer's representative. The Contractor shall insure the equipment against any loss, damage or theft and he shall indemnify the Engineer against any claims in this regard.

The Contractor shall maintain the equipment in good working order and keep it clean throughout the contract period.

Payment for survey equipment will be on a monthly basis as a time-related item under Item 8.4 of SANS 1200 A.

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**PSC SITE CLEARANCE**

**PSC 5 CONSTRUCTION**

**PSC 5.2 Cutting of Trees**

**PSC 5.2.3 Preservation of Trees**

**PSC 5.2.3.2 Individual Trees**

Change the sub item 5.2.3.2 as follows:

"The contractor shall inform the Engineer before the clearance of the pipeline routes commences. All the trees indicated by the Engineer to the contractor shall be preserved and left standing".

**PSC 5.6 CONSERVATION OF TOPSOIL**

Add the following:

"150mm Topsoil shall be preserved for the width of the pipe trench and the working area. Where topsoil occurs on pipe routes, the Engineer will instruct to the removal and replacement and measurement will be as per SANS 1200 DB.

At borrow pits the Contractor shall stockpile and maintain the topsoil adjacent to such positions for later use in reinstatement of the borrow areas."

**PSC 8 MEASUREMENT AND PAYMENT**

**PSC 8.2 SCHEDULED ITEMS**

PSC 8.2.1 Clear and Grub Unit: ha or m or km

Change the sub item 8.2.1 as follows:

"The area designated by the Engineer to be cleared and grubbed will be measured to the nearest 0,1ha or, in the case of pipelines where the width is specified, to the nearest meter or kilometre. The rate shall cover the cost of clearing the surface, removing boulders of size up to 0,15 m<sup>3</sup>, grubbing trees and tree stumps up to 3,5m in girth, cutting of trunks and branches exceeding 0,5m in girth into transportable lengths, backfilling of cavities, demolishing structures (except where otherwise provided for in the project specification) and removing, transporting (except where sub clause 8.2.9 is applicable), and disposing of material thus cleared, grubbed, cut and demolished. Boulders over 0,15m<sup>3</sup> will be dealt with as hard rock excavation.

PSC 8.2.2 Remove and grub trees and tree stumps of girth

Delete sub items 8.2.2 (a) and (b) and renumber sub item 8.2.2 (c) as 8.2.2(a). Add the following paragraph to the payment item:

"Payment for the removal and grubbing of large trees and tree stump with girths up to and including 3m shall be included for in payment item PSC 8.2.1."

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**PSDB EARTHWORKS (PIPE TRENCHES)**

**PSDB 3.1 MATERIALS**

**PSDB 3.1.1 CLASSES OF EXCAVATION**

Replace the contents of subclause 3.1 with the following:

**“PSDB 3.1.1 Hard excavation**

Hard excavation is defined as weathered or unweathered rock boulders exceeding 0,5m<sup>3</sup> in volume, or weathered or solid rock where that appears in bulk in banks, requires blasting, pneumatic wedge driving and or splitting. The contractor must notify the Engineer of hard rock before blasting, pneumatic wedge driving or splitting of weathered solid rock.

**PSDB 3.1.2 Soft excavation**

This comprises excavation in all material not classified as hard excavation. The Engineer shall decide under which of the above-mentioned classes of excavation any material will be classified and paid for, and his decision shall be final and binding.”

**PSDB 3.1.3 Method of classifying**

Add the following:

“The classification of material other than 'soft excavation' shall be agreed upon before excavation may commence.

The contractor shall immediately inform the engineer if, and when the nature of the material being excavated changes to such an extent that a new classification is warranted for further excavation. Failure on the part of the contractor to advise the engineer in good time shall entitle the engineer to reclassify, at his discretion, such excavated material.”

**PSDB 3.5 BACKFILL MATERIAL**

Replace sub clauses 3.5 with the following:

All backfilling of pipe trenches shall comply with sub-clauses 3.5(a) and 5.7.1, except the backfilling in trafficked areas as shown on the drawings which conform to sub-clause 3.5(b) and sub-clause 5.7.2.

**PSDB 3.7 SELECTION**

Replace second sentence with the following:

“The Contractor is required to use selective methods of excavating in order to maximize the usage of suitable material from the trench excavations for bedding cradle or the selected fill blanket. These methods may include screening.”

**PSDB 5 CONSTRUCTION**

**PSDB 5.1 PRECAUTIONS**

Add the following sub clause 5.1.5:

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**PSDB 5.1.5 Open Trenches**

Unless otherwise permitted in writing by the Engineer, not more than 200m of trench in any one place shall be opened in advance of the completed pipeline.

No trench may be left open for any period exceeding 2 day. No extra payment will be made for trenches closed and subsequently re-opened in terms of this clause.

Where a pipe crosses a road, the trench shall be backfilled immediately the service has been installed and all works shall be completed within one week of commencement of excavation. The pipe shall be laid in two sections across the roadway to obviate the flow of traffic. Only one lane of traffic may be closed to the public at a time.

**PSDB 8 MEASUREMENT AND PAYMENT****PSDB8.3 SCHEDULED ITEMS****PSDB 8.3.2 Excavation**

Delete sub clause 8.3.2(b)(1):

Intermediate excavation shall be deemed to be included in and measured as soft excavation. No extra-over payment will be made for intermediate excavation.

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**PSGA CONCRETE (STRUCTURAL)****PSGA 3 MATERIALS****PSGA 3.2 Cement****PSGA 3.2.1 Applicable specifications**

The standard cement specifications SABS 471, SABS 626, SABS 831, SABS 1466 and SABS 1491 have been withdrawn and are replaced by the new specifications SANS ENV-197-1: Common cements, and SANS ENV 413-1: Masonry cement. These specifications will be applicable to this contract and the descriptions and types of cements specified will be based on the designations as defined in these specifications.

**PSGA 3.2.3 Storage of Cement**

Amend sub clause 3.2.3 as follows:

"Maximum storage period for cement will be ten weeks."

**PSGA 3.4 Aggregates****PSGA 3.4.2 Use of Plums**

Amend sub clause 3.4.2 as follows:

"The use of plums as aggregate in structures will not be allowed".

**PSGA 5 CONSTRUCTION****PSGA 5.4 Pipes and Conduits**

Replace sub clause 5.4 as follow:

"Except with the written approval of the Engineer, no pipes other than those shown on the drawings shall be embedded in the concrete, and the approval of the Engineer for the position of all services to be embedded shall be obtained before concreting commences. The clear space between pipes of any kind embedded in reinforced concrete and the clear space between such pipes and reinforcement shall not at any point be less than:

- a) 40mm or,
- b) 5mm plus the maximum size of coarse aggregate, whichever is the greater."

**PSGA 5.5 Concrete****PSGA 5.5.1 Quality****PSGA 5.5.1.5 Durability**

The exposure conditions for structures will be deemed to be "severe".

**PSGA 5.5.1.6 Prescribed Concrete Mix**

Replace sub clause 5.5.1.6 as follows:

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"No prescribed concrete mix will be used in this contract."

**PSGA 5.5.1.7 Strength Concrete**

Replace sub clause 5.5.1.7 as follows:

"The strengths of the various concretes required are detailed on the drawings. The maximum size of aggregate must be suited to the work in hand and is subject to the Engineer's approval."

**PSGA 5.5.3 Mixing**

**PSGA 5.5.3.2 Ready-Mixed Concrete**

Replace sub clause 5.5.3.2 as follows:

"Ready mixed concrete will only be permitted with written approval of the Engineer and if so, the test results obtained by such a production will NOT be part of the quality control system."

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## **PSL MEDIUM PRESSURE PIPELINES**

### **PSL 3 MATERIALS**

#### **PSL 4.3 Steel Pipes, Fittings and Specials**

##### **PSL 3.4.2 Pipes with Nominal Bore up to 150mm**

This paragraph will only be applicable to steel pipes with nominal bore up to 65mm. Steel pipes with a nominal bore range of 80 to 150 shall be fabricated with flanges.

##### **PSL 3.4.3 Pipes with Nominal Bore over 150mm**

Steel pipes with a nominal bore over 150mm shall comply with the applicable requirements of API 5L.

Steel pipes with a nominal bore range of 80mm to 300mm shall be fabricated with flanges.

#### **PSL 3.8 Jointing Materials**

Add the following additional sub-clauses:

PSL 3.8.8 Gaskets for flanged joints shall be of compressed asbestos fibre to BS 2815 Grade "A" and full faced with a minimum thickness of 3mm.

#### **PSL 3.9 Corrosion Protection**

##### **PSL 3.9.5 Joints, Bolts, Nuts and Washers**

All aboveground bolts, nuts and washers to be hot-dip galvanized to SANS 763. The threads of all bolts must also be treated with a Mobil Tag E compound.

All underground-flanged couplings shall be protected with petroleum jelly mastic to a minimum of 100mm from the flanges and covered with plastic tape wrapping.

### **PSL 7 TESTING**

Add sub clause 7.2 as follows:

#### **PSL 7.2 Valves**

"All valves shall, where not otherwise indicated, be pressure tested. Test certificates are to be furnished to the Engineer before delivering valves to site and who is to be allowed access to the manufacturing works for inspections at his discretion."

### **PSL 8 MEASUREMENT AND PAYMENT**

Add sub clause 8.2 as follows:

#### **PSL 8.2 Pipelines**

"Pipes installed in the ground but not tested will be regarded as material on site and payment will be affected accordingly until the pipelines are tested either in sections or completely according to specification."

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## **PARTICULAR SPECIFICATION**

### **PD ENVIRONMENTAL PROTECTION AND CONTROL SPECIFICATIONS**

#### **CONTENTS**

- PD1 PLANS
- PD2 USE OF LAND
- PD3 VEGETATION CLEARANCE
- PD4 PROTECTION OF VEGETATION
- PD5 PROTECTION OF FAUNA
- PD6 ARCHAEOLOGICAL ARTEFACTS
- PD7 SCENIC QUALITY
- PD8 WORKING AREA
- PD9 ACCESS ROADS
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- PD12 TOPSOIL
- PD13 BORROW PITS AND QUARRIES
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- PD22 ENVIRONMENTAL AWARENESS OF EMPLOYEES
- PD23 COMPLIANCE WITH ENVIRONMENTAL PROTECTION SPECIFICATIONS
- PD24 SUBCONTRACTED WORK
- PD25 MEASUREMENT AND PAYMENT

#### **PD1 PLANS**

Prior to establishment of the site camp(s), the Contractor shall produce a plan showing the positions of all buildings, laydown yards, vehicle wash areas, fuel storage areas, batching areas and other infrastructure for approval by the Engineer or the Environmental Officer.

#### **PD2 USE OF LAND**

The Contractor shall not use the land forming the Site of, or connected with the Works, for any purpose whatsoever other than for the proper carrying out of the Works under the Contract

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and shall place any camps that may be required for himself and his employees only on sites approved by the Engineer. No trees or bushes shall be damaged or cut down by the Contractor or by any of his employees whether for use on the Works or otherwise without the written consent of the Engineer or the Environmental Officer and then only where and in the manner as they may direct.

### **PD3 VEGETATION CLEARANCE**

#### **PD3.1 Woody vegetation**

Prior to the start of construction, woody vegetative matter shall be stripped. This material shall either be spread randomly throughout the surrounding veld so as to provide biomass for other micro-organisms and habitats for small mammals and birds, or it may be stockpiled for later redistribution over the reinstated topsoiled surface.

No vegetative matter shall be burnt or removed for firewood.

#### **PD3.2 Herbaceous vegetation**

During clearing of woody vegetation, no basal cover or grass and topsoil shall be removed and damage to this layer shall be minimised as far as possible.

### **PD4 PROTECTION OF VEGETATION**

The Contractor shall ensure that all works are undertaken in such a manner that vegetation outside the Works area is not damaged under any circumstances.

#### **PD4.1 Vegetation outside the Works area**

The following provisions shall apply with respect to the protection of areas of vegetation adjacent to the marked Works areas:

No tree or shrub outside of the Works area shall be felled, lopped, cut or pruned without the prior written approval of the Engineer or the Environmental Officer.

No tree or shrub outside the Works area shall be felled, lopped, cut or pruned until it has been clearly marked for this purpose by the Engineer or the Environmental Officer. The method of marking will be specified by the Engineer or the Environmental Officer, and the Contractor will be informed in writing.

No tree outside the Works area shall be burned for any reason.

For every tree protected by these specifications which is removed or, in the opinion of the Engineer or Environmental Officer, is unduly damaged by the Contractor, the Contractor shall pay a penalty of R5 000.00 per tree to the client.

#### **PD4.2 Vegetation within or adjacent to the Works area**

No tree or shrub within the works area shall be felled, lopped, cut or pruned without the prior written approval of the Engineer or the Environmental Officer.

Trees which have been selected for preservation by the Engineer or the Environmental Officer within or adjacent to the Works areas shall be fenced around their drip line. The fence shall be clearly marked with danger tape. No open fires shall be allowed within this fenced area, nor

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shall vehicles be parked underneath these trees.

If trees are located within the working width of the pipeline, the pipeline shall be aligned to avoid these trees wherever possible.

#### **PD4.3 Transplantation of rare and endangered plant species**

Prior to vegetation clearing any rare or endangered plant species which have been identified by the Environmental Officer or Engineer must be removed and transplanted as instructed by these persons.

##### **PD4.3.1 Transplanting of small trees (1 to 1,5 m height) and small shrubs (0,5 to 1 m height).**

a) Trees and shrubs shall only be transplanted between the months April and September. Deciduous trees and shrubs shall be transplanted only when they are in a leafless condition.

b) Holes for transplanting trees and shrubs shall be dug before these plants are dug out. Trees shall be planted in holes of 1 m x 1 m x 1 m and shrubs shall be transplanted in holes of 600mm x 600mm x 600mm.

c) Trees and shrubs shall be planted so that their stems or trunks are at the same depth as in their original location. The orientation of the transplanted plants must be the same as in their original location (i.e. the north-facing side must remain north-facing).

d) Transplanted plants shall be pruned to limit transpiration. Plants shall also be sprayed with an evapotranspiration retardant liquid if they are evergreen.

e) Transplanted plants shall be watered once a week for 5 weeks and thereafter once every 2 weeks.

##### **PD4.3.2 Transplanting of aloes, succulents and bulbous plants**

a) Aloes, succulents and evergreen bulbous plants may be transplanted at any time of the year. Deciduous bulbous plants shall be transplanted when they are leafless.

b) Aloes and bulbous plants shall be planted in similar soil conditions and to the same depth as they were before removal.

c) Transplanted aloes and bulbs shall be watered once directly after transplanting to settle the soil.

#### **PD4.4 Alien vegetation**

The Contractor shall remove all alien vegetation from the works area for the duration of construction. Such vegetation will be identified by the Environmental Officer and the method of eradication will be specified by him.

#### **PD5 PROTECTION OF FAUNA**

The Contractor shall ensure that all Works are undertaken in a manner which minimizes the impact on the local fauna and shall apply the following specifications with respect to fauna

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management and protection:

Under no circumstances shall any animals be handled, removed, killed or interfered with by the Contractor, his employees, his subcontractors or his subcontractors' employees.

The Contractor and his employees shall not bring any domestic animals onto the site.

The Contractor shall ensure that the work site is kept clean and tidy and free from rubbish which would attract animal pest species.

There shall be no feeding of animals.

The Contractor shall ensure that domestic and native animals belonging to the local community are kept away from unprotected works.

## **PD6 ARCHAEOLOGICAL ARTEFACTS**

The Contractor shall engage an archaeologist to demarcate archaeological sites identified during the impact study.

Archaeological sites shall be protected by a three-strand fence which will be at least 2 m outside the extremities of the site. The fence shall be clearly marked with danger tape.

Should the Contractor expose any archaeological artefacts during excavation, work on the area where the artefacts were found shall cease immediately and the Engineer or the Environmental Officer shall be notified as soon as possible.

Upon receipt of such notification, the Engineer or the Environmental Officer will arrange for the excavation to be examined by an Archaeologist as soon as practicable. Acting upon advice from the Archaeologist, the Engineer will advise the Contractor of necessary actions to be taken. The Engineer will take all necessary actions to ensure that delays are minimized.

Under no circumstances shall archaeological artefacts be removed, destroyed or interfered with by the Contractor, his employees, his subcontractors or his subcontractors' employees.

The Contractor shall ensure that none of his employees gain access to any archaeological areas (whether fenced or unfenced), except when authorised to do so by the Engineer or the Environmental Officer.

## **PD7 SCENIC QUALITY**

The Contractor shall not establish or undertake any activities which, in the opinion of the Resident Engineer or Environmental Officer, are likely to adversely affect the scenic quality of the area. The Engineer may direct the Contractor to refrain from such activities or to take ameliorative actions to reduce the adverse effect of such activities on the scenic quality of the environment.

No painting or marking of natural features shall be done. Marking for surveying and other purposes shall only be done with pegs and beacons.

All cut and fill forms shall be rounded at the edges to blend them with the surrounding landforms.

All packed rock and exposed rock cuttings shall be treated in order to blend their colour with

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the colours of the natural weathered rocks of the adjacent environment.

#### **PD8 WORKING AREA**

The area of construction along the pipelines shall be contained within a 5 m servitude. Any work done outside the servitude, eg stockpiling of excavated material, use for access, etc shall only be done after discussion with and obtaining the written approval of the affected landowners.

The servitude shall be temporarily fenced for the portion under construction at any one time. The fence shall be progressively erected and removed as the work proceeds. The location and extent of the fence shall be determined by the Engineer or the Environmental Officer.

#### **PD9 ACCESS ROADS**

No new permanent access roads shall be developed by the Contractor other than those determined or approved by the Engineer.

Existing roads shall be used as far as possible for inspection purposes.

Topsoil shall be stripped as described under item PD12 "Topsoil" prior to construction and reinstated on completion of use of the road.

#### **PD10 FIRES**

No open fires shall be permitted except in areas specifically prepared and controlled for this purpose.

#### **PD11 FENCING**

Fencing shall be erected around sensitive natural or cultural elements to protect them from damage. No pedestrian or vehicular access shall be allowed to such fenced areas.

In places where temporary fencing is required, the Contractor shall erect such fencing when and where required by the Site Engineer and re-erect and maintain temporary fencing as necessary. Temporary fencing shall remain in position either until it is replaced by permanent fencing or until completion of the whole of the Works, unless the Contractor requires, or the Engineer or the Environmental Officer directs, its earlier removal. The Contractor shall erect and maintain the aforementioned temporary fencing in the locations and for the period described in the Contract.

If temporary fencing is removed temporarily for the execution of any part of the Works, it shall be reinstated as soon as practicable by the Contractor.

The clearing for permanent fencing shall be limited to the removal of trees and shrubs within 1m of the fence line. There shall be no removal of the grass cover or topsoil within this width.

Any fences damaged by the Contractor shall be repaired as soon as practicable at his cost.

#### **PD12 TOPSOIL**

##### **PD12.1 Source of topsoil**

Topsoil shall be stripped from all areas that are to be utilized during the construction period

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and where permanent structures and access is required. These areas will include all areas to be excavated, temporary and permanent access roads, construction camps and borrow pits. Topsoil shall be stripped after clearing of woody vegetation and before excavation or construction commences.

The topsoil is regarded as the top 300mm of the soil profile irrespective of the fertility and composition of the soil.

#### **PD12.2 Topsoil stripping**

Soil shall be stripped to a minimum depth of 150mm or to the depth of bedrock where soil is shallower than 150mm. Herbaceous vegetation, overlying grass and other fine organic matter shall not be removed from the stripped soil.

No topsoil which has been stripped shall be buried or in any other way be rendered unsuitable for further use.

Topsoil shall only be stripped when it is in a dry condition in order to prevent compaction.

#### **PD12.3 Topsoil stockpiling**

Stripped topsoil shall be stockpiled on sites adjacent to where it has been stripped which have been approved by the Engineer. Soil stockpiles shall not take the form of windrows, unless this can be placed far enough away from the working area. This is to prevent the soil from being spread out or mixed with the other spoil during construction.

Topsoil stripped from different soil zones shall be stockpiled separately and clearly identified as such. Topsoil obtained from different sites shall not be mixed.

Soil stockpiles shall not be higher than 2,5 m, and the slopes of soil stockpiles shall not have a vertical: horizontal gradient exceeding 1 :2,5.

No vehicles shall be allowed access onto the stockpiles after they have been placed. Topsoil stockpiles shall be clearly demarcated to prevent vehicle access and later identification as the resource for rehabilitation and vegetation establishment.

Soil stockpiles shall not be allowed to become contaminated with oil, diesel, petrol, garbage, or any other material which may inhibit the later growth of vegetation in the soil.

After topsoil stockpiling has been completed, the Contractor shall apply soil conservation measures to the stockpiles to the approval of the Engineer or Environmental Officer.

#### **PD12.4 Topsoil placement**

Topsoil shall be placed to a minimum depth of 150mm over all areas where it has been stripped and over disused borrow pits after construction in those areas has ceased. Topsoil placement shall be done concurrent with construction as soon as construction in an area has ceased.

All areas onto which topsoil is to be spread shall be graded to the approximate original landform with maximum slopes of 1:2,5 and shall be ripped prior to topsoil placement. The entire area to be topsoiled shall be ripped parallel to the contours to a minimum depth of 150mm.

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Topsoil shall be placed in the same soil zone from which it had been stripped. However, if there is insufficient topsoil available from a particular soil zone to produce the minimum specified depth, topsoil of similar quality may be brought from other sites.

Where insufficient topsoil that has been stripped by the Contractor to provide the minimum specified depth, the Contractor shall obtain suitable substitute material from other sources at no cost to the employer. The suitability of the substitute material shall be determined by means of a soil analysis which is acceptable to the Engineer or the Environmental Officer.

No vehicles shall be allowed access onto topsoil after it has been placed.

After topsoil placement is complete, cleared and stockpiled vegetation matter shall be spread randomly by hand over the topsoiled area as instructed by the Environmental Officer.

#### **PD13 BORROW PITS AND QUARRIES**

If a borrow pit is to be developed or an existing one is to be extended, all topsoil from the area that is to be quarried must be stripped and stored for later rehabilitation of the pit.

Stripping and excavation actions shall be progressive in such manner that those parts of a borrow pit or quarry where work is complete can be rehabilitated while other areas are still being quarried.

Cut slopes of borrow pits and quarries shall not have a vertical: horizontal gradient of not steeper than 1:3, preferably 1:5.

Borrow pits shall be used as dump sites for excess rock spoil. On completion of spoiling the pits shall be reshaped and covered with a layer of topsoil. On no account may spoil or rock be placed in drainage ways without prior consent being obtained from the Engineer.

Stormwater cut off drains shall be provided at the top of the cut slope, where identified as necessary by the Engineer, to prevent erosion of the rehabilitated surface of the borrow pit or quarry.

No borrow pit shall be used as a dump site for refuse material or for toxic material e.g. cement, oil, diesel, rubber and similar materials.

#### **PD14 EROSION PREVENTION**

The Contractor shall take measures, to the approval of the Engineer, to ensure that there is no undue stormwater damage and soil erosion resulting from the construction activities inside and outside the construction camp and Works areas.

Surface stormwater shall, where possible, not be allowed to be concentrated and to flow down cut or fill slopes without erosion protection measures being in place.

Overflow and/or scour channels shall be lined with stone pitching along their length and at their points of discharge to prevent soil erosion. The point of discharge shall be at a point where there is dense natural grass cover. These channels shall not discharge straight down the contours but shall be aligned at such an angle to the contours that they have the least possible gradient.

#### **PD15 EARTHWORKS**

All cut and fill forms should be rounded on the edges to allow them to blend with the

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surrounding landforms.

#### **PD16 SPOIL AND WASTE MATERIAL**

The Contractor shall load and haul excess spoil to fill in the borrow pits or to dump sites approved by the Engineer. The dumped material must be finally rounded off to have slopes not steeper than 1:3.

The Contractor shall remove all foundations and similar waste and transport all such waste material off site to dump areas which have been approved by the Engineer.

#### **PD17 BLASTING**

Contractor shall take measures to limit flying rock during blasting operations.

Fly rock 150mm and larger which falls beyond the cleared working area shall be collected and removed together with the rock spill.

When blasting under power lines the Contractor shall arrange for power to be temporarily switched off or have the lines moved or comply with the requirements of ESKOM who will be advised in reasonable time of the intention to blast.

#### **PD18 PREVENTION OF OIL POLLUTION**

Waste run-off water from the vehicle wash bays, workshops and diesel/fuel tank areas shall be collected in a series of covered conservancy tanks with oil baffles/oil traps. The oil sludge thus collected shall be disposed of at an approved toxic waste disposal site. Water from conservancy tanks shall be drained to retention areas to allow silt settlement.

Above mentioned areas should be dished concrete floor slabs which drain into the conservancy tanks.

All spillage of oil onto concrete surfaces shall be controlled by the use of an approved absorbent material such as Oclansorb or Drizit.

All old oils shall be retained for re-cycling by the supplier.

All soil contaminated by oil, fuel, etc. shall be collected immediately and disposed of at an acceptable disposal site to the approval of the Engineer or the Environmental Officer.

#### **PD19 REFUSE DISPOSAL**

The Contractor shall dispose of all refuse generated by him or his subcontractor on a weekly basis at an approved refuse disposal site.

#### **PD20 ABLUTION FACILITIES**

Portable toilets shall be placed within easy access of the Contractor's employees. These shall be moved to follow the progression of the Works.

#### **PD21 CLEARANCE OF SITE ON COMPLETION**

On completion of the Works the Contractor shall clear away and remove from the works area all constructional plant, surplus rock and other materials, foundations, plumbing and other

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fixtures, rubbish and temporary works of every kind. Areas thus cleared shall be graded and scarified to restore the ground to its original profile as near as practicable before topsoil placement.

## **PD22 ENVIRONMENTAL AWARENESS OF EMPLOYEES**

The Contractor shall arrange that all his employees and those of his subcontractors receive environmental training before the commencement of construction to the satisfaction of the Engineer or Environmental Officer, in order that these employees:

- a) acquire a basic understanding of the key environmental features of the work site and environs;
- b) are thoroughly familiar with the requirements of the Environmental Protection and Control Specifications as they apply to the Works;
- c) receive basic training in the identification of archaeological artefacts, and rare and endangered flora and fauna that may be encountered along the route;
- d) are made aware of any other environmental matters which are deemed to be necessary by the Engineer or the Environmental Officer.

## **PD23 COMPLIANCE WITH ENVIRONMENTAL PROTECTION SPECIFICATIONS**

All persons employed by the Contractor, or his subcontractors shall abide by the requirements of these Specifications as they apply to the works.

Any employees of the Contractor or his subcontractors found to be in breach of any of the Environmental Protection Specifications may be ordered by the Engineer to leave the site forthwith. The order may be given orally or in writing. Confirmation of an oral order will be given as soon as practicable but lack of confirmation in writing shall not be a cause for the offender to remain on site. No extension of time will be granted for any delay or impediment to the ". Contractor brought about by a person ordered to leave the site.

Supervisory staff of the Contractor or his subcontractors shall not direct any person to undertake any activities which would place such person in contravention of the Environmental Protection and Control Specifications.

For every tree protected by these specifications which is removed or, in the opinion of the Engineer or the Environmental Officer, is unduly damaged by the Contractor, the Contractor shall pay a penalty of R5 000.00 per tree.

## **PD24 SUBCONTRACTED WORK**

Subcontractors and their employees shall comply with all the requirements of the Environmental Protection and Control Specifications that apply to the Contractor. Absence of specific reference to the subcontractor in any specification does not imply that the subcontractor is not bound by that specification.

## **PD25 MEASUREMENT AND PAYMENT**

The reinstatement of borrow pits, pipe trenches and work areas shall be included in the contractor's rates for earthworks and excavations. Erosion protection such as construction of berms for stormwater drainage shall be included in the rates for pipe trenches and excavations of earthworks. Only gabions, where instructed by the Engineer will be paid separately.

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## PARTICULAR SPECIFICATION

### PE DEALING WITH ESKOM SERVICES

- PE 1 The Contractor is responsible for liaison with and compliance with Eskom's requirements regarding works in close proximity to or crossing of Eskom Services. Contractor is responsible for any damage done to Eskom Services by the Contractor's staff or labourers, or sub-contractors.
- PE 2 Eskom's rights, services and equipment must be acknowledged at all times and may not be interfered or tampered with.
- PE 3 All work within Eskom's servitude area must be done in accordance with the requirements of the Occupational Health and Safety Act, Act No 85/1993. Special attention must be given to the clearances between Eskom's conductors, structures, cables and electrical apparatus and the proposed construction work.
- PE 4 No mechanical equipment, including mechanical excavators and high lifting machinery, may be used within Eskom's servitude area, or within close proximity of Eskom's services and equipment, without prior permission in writing and supervision of Eskom's authorised area representative. Permission must be obtained at least 10 (ten) days prior to the commencement of any work or blasting within the servitude area.
- PE 5 No construction work may be executed closer than 6 metres from any of Eskom's power line structures or stay wires.
- PE 6 Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property caused in whatsoever manner by the Contractor, his employees, agents or contractors. The Contractor indemnifies Eskom against all claims including claims for consequential damages by third parties which includes but is not limited to claims as a result of damage to, or interruption of or interference with Eskom's services or equipment. The Contractor's attention is drawn to section 27(3) of the Electricity Act of 1987.
- PE 7 Eskom shall at all times have unobstructed access to and from its servitude area and power line structures.
- PE 8 Prior to the commencement of work, the Contractor must obtain permission from the registered owner of the property over which Eskom's servitude is registered.

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## **PARTICULAR SPECIFICATION**

### **PF     OCCUPATIONAL HEALTH AND SAFETY**

#### **CONTENTS**

PF 1	SCOPE
PF 2	INTERPRETATIONS
PF 3	GENERAL
PF 4	GENERAL REQUIREMENTS
PF 5	SPECIAL REQUIREMENTS
PF 6	SITE / PROJECT SPECIFIC REQUIREMENTS
PF 7	MEASUREMENT AND PAYMENT

#### **PF 1     SCOPE**

This specification details the health and safety requirements associated with the Works.

This specification is drawn up in accordance with the Construction Regulations. This specification must be read in conjunction with the following sections of this document:

- |       |                                    |                   |
|-------|------------------------------------|-------------------|
| (i)   | Portion 2, Part C1, Section C1.2 : | Contract Data     |
| (ii)  | Portion 2, Part C3 :               | Scope of Work     |
| (iii) | Portion 2, Part C4 :               | Site Information, |

prior to attempting to identify and detail the hazards relative to the specific Works.

#### **PF 2     INTERPRETATIONS**

##### **PF 2.1   Legislation and Regulations**

The following legislation is applicable:

- a) Occupational Health and Safety Act, Act 85 of 1993 (hereinafter referred to as “the Act”),
- b) Construction Regulations promulgated on 18 July 2003 and incorporated into the said Act by Government Notice R. 1010, published in Government Gazette 25207, (hereinafter referred to as “the Regulations”).

##### **PF 2.2   Definitions**

- a) Construction work is defined as:

“Any work in connection with: -

- the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
- the installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;

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- the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
  - the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work”.
- b) The “Contractor” is defined as an employer who performs construction work and includes the principal contractor and his sub-contractors.
- c) The “Employer” means any person, institution or company for whom construction work is performed.
- d) The “Agent” means any person who acts as a representative of the Employer.

### PF 3 GENERAL

PF 3.1 The Contractor shall ensure that all work is executed in accordance with work procedures, which comply to accepted safety practices with the Act and the Regulations.

PF 3.2 The Employer will appoint the Contractor in writing for execution of the Works. The Contractor shall accept its appointment under the terms and Conditions of Contract. The Contractor shall sign and agree to those terms and conditions and shall, before commencing work, notify the Department of Labour in writing of the intended construction work in terms of Regulation 3 of the Regulations.

PF 3.3 The Contractor shall not engage in any construction work until confirmation has been received in writing on behalf of the Employer that the Contractor’s health and safety plan is deemed suitable.

PF 3.4 The Contractor shall inform the Engineer in writing of the name and address of the Contractor’s construction safety officer (CSO) and of any subsequent changes in the name and address of the officer, together with the scope and limitations of the CSO’s authority to act for the Contractor. The Contractor’s CSO shall make available to the Employer an all-hours telephone number at which the CSO can be contacted at any time in the event of an emergency involving any of the Contractor’s employees, or other persons at the Works.

PF 3.5 The location of the Works specific to this Contract is clearly described in the Scope of Work of this document.

The Contractor shall, in preparation of his Health and Safety Plan, familiarise himself with emergency services in the location of the Works and with the local infrastructure, e.g. clinics, hospitals, police services, ambulance services, fire protection services and disaster management centres, to such extent that he is conversant with these, should the need therefor arise.

Telephone numbers of all emergency services to be permanently displayed at the site camp, in a convenient and prominent position, wherever possible, close to a telephone.

PF 3.6 Should the Contractor at any stage in execution of the Works -

- (a) fail to implement or maintain his health and safety plan;
- (b) execute construction work which is not in accordance with his health and safety plan; or

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(c) act in any way which may pose a threat to the health and safety of persons, the Employer, his Agent or the Engineer will, by written order, suspend the progress of the Works. The Contractor shall, during such suspension, properly protect the Works so far as is necessary.

PF 3.7 The Contractor shall provide proof of his registration and good standing with the Compensation Fund, or with a licensed compensation insurer, prior to commencement with the Works.

PF 3.8 The Contractor shall, in submitting his tender, demonstrate that he has made provision for the cost of compliance with the specified health and safety requirements, the Act and the Construction Regulations, all in terms of sub-clause 4(1)h of the Construction Regulations. The costs of compliance shall clearly be demonstrated separately under the appropriate items of measurement, both under "fixed charge items" and "time related items".

PF 3.9 The Contractor shall consistently demonstrate his competence and adequacy of resources to perform the duties imposed on the Contractor in terms of this Specification, the Act and the Construction Regulations.

PF 3.10 The Contractor shall, throughout execution of the Contract, ensure that all conditions imposed on his sub-contractors in terms of the Act and the Construction Regulations are complied with, as if they were the Contractor.

#### **PF 4 GENERAL REQUIREMENTS**

##### **PF 4.1 Health and Safety Plan**

The Contractor shall provide and demonstrate to the Employer a suitable and sufficiently documented health and safety plan, in compliance with the Act and the Regulations, which shall be applied from the date of commencement of and for the duration of execution of the Works.

- (a) The Contractor's health and safety plan shall include the following principles:
- (i) A Health and Safety Policy authorised by the Contractor's executive corps that clearly states overall health and safety objectives and commitment to improving health and safety performance.
  - (ii) A proper risk assessment of the construction work.
  - (iii) Pro-active identification of potential hazards and unsafe working conditions.
  - (iv) Informing and/or training of employees working in hazardous and risk areas.
  - (v) Provision of a safe working environment and safety equipment.
  - (vi) Ensure the safety of sub-contractors through their safety plans.
  - (vii) Monitoring health and safety on the construction works on a regular basis.
  - (viii) Use of competent construction safety officers.
- (b) The Contractor's health and safety plan should cover the following detail:
- i) Health and Safety Policy.
  - ii) Indication of competent supervision on site.
  - iii) Competencies of persons (scaffold supervisors, first aiders, etc.)
  - iv) Duties and responsibilities of all appointed persons on the project.
  - v) Indication of condition and availability of high-risk equipment, tools & equipment.

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- vi) Monitoring mechanisms.
- vii) Risk assessments of hazards identified.
- viii) Arrangements for continuous risk assessments on the project.
- ix) Medical and first aid arrangements.
- x) Emergency preparedness arrangements.
- xi) Accident/ incident reporting and investigation arrangements.
- xii) Personal protective equipment arrangements.
- xiii) Site health and safety meeting arrangements.
- xiv) Audit arrangements.
- xv) Selection, procurement & management of other contractors.
- xvi) Maintenance arrangements of machinery and equipment.
- xvii) Designer/Engineer interaction arrangements.
- xviii) Workers welfare facilities.
- xix) Induction arrangements.
- xx) Training arrangements.
- xxi) Performance review and improvements on the project.
- xxii) Past health and safety performance statistics of the Contractor.

PF 4.2 Health and Safety File

- (a) The Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of this specification, the Act and the Regulations, is opened and kept on site and made available to the Employer or inspector upon request.
- (b) The Contractor's health and safety file should inter alia cover the following detail:
  - i) A copy of the health and safety plan.
  - ii) All inspection reports as indicated in PF 4.4.
  - iii) Accident and incident reports.
  - iv) Minutes of monthly health and safety meetings.
  - v) Contact details of the CSO.
  - vi) Inventory of safety and first aid equipment.
  - vii) Method statements and procedures not included in the health and safety plan.
  - viii) Continuous risk assessments on the project.
  - ix) Toxic and hazardous material data sheets.
- (c) Upon completion of the Works, the Contractor shall hand over a consolidated health and safety file to the Employer.

PF 4.3 Appointments

PF 4.3.1 Construction Supervisor (CS)

The Contractor shall in writing appoint a full-time competent employee as the construction supervisor, with the duty of supervising construction of the Works.

PF 4.3.2 Construction Safety Officer (CSO)

Before commencing with the Works, the Contractor shall designate in writing a competent construction safety officer who shall be acceptable to the Agent, to represent and act for the Contractor in health and safety related matters.

PF 4.3.3 Other Appointments

The Contractor shall in writing appoint competent supervisors, suitable and accomplished, as identified in the health and safety plan.

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PF 4.4	<u>Monitoring Mechanisms</u>	Inspections as required by the Act must be conducted and the records thereof kept in the health and safety file.
PF 4.4.1	Weekly inspections of first aid boxes.	
PF 4.4.2	Weekly inspections of ladders.	
PF 4.4.3	Weekly inspections of fire-fighting equipment.	
PF 4.4.4	Names and addresses of its employees who are registered as trained firefighting personnel as well as a duty roster.	
PF 4.4.5	Monthly inspections of welding machines.	
PF 4.4.6	Monthly inspections of oxy-acetylene equipment.	
PF 4.4.7	Monthly inspections of builders' hoists.	
PF 4.4.8	Monthly inspections of mobile and tower cranes.	
PF 4.4.9	Monthly inspections of lifting gear.	
PF 4.4.10	Monthly inspections of electrical equipment.	
PF 4.4.11	Monthly tests of earth leakage units.	
PF 4.4.12	Inspections of formwork and support work on a routine basis as specified in PF 5.1(d).	
PF 4.5	<u>First Aid</u>	
PF 4.5.1	<u>Safety Notice Board</u>	The Contractor shall provide a safety notice board where safety notices, site regulations concerning safe working practices and information on the location of the nearest first aid station, can be conspicuously displayed to its entire staff. The size of the notice board shall be at least 600mm x 800mm.
PF 4.5.2	<u>First Aid Equipment</u>	The Contractor shall provide a stretcher for emergencies and a first aid box with the minimum contents as prescribed by the General Safety Regulations as published by means of Government Notices.  The first aid box(es) shall be checked weekly by a responsible person, who shall be appointed by the Contractor and a record shall be kept of the contents. Any deficient medical supplies shall be promptly replenished by the Contractor.
PF 4.5.3	<u>Hazard Notices</u>	The Contractor shall display hazard notices in all areas where hazardous conditions prevail or may occur. Areas so demarcated shall be deemed to be "designated areas".
PF 4.5.4	<u>Reporting of incidents and/or injuries</u>	All incidents in respect of damage to Works, property or machinery or injury to persons shall be reported by the CSO or Site Representative to the Employer as soon as possible.

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A mandatory incident report form, containing full details of the incident, shall be completed and submitted to the Employer within twenty four(24) hours of the occurrence of the incident.

The Employer shall have the right to make all or any enquiries as to the cause and result of any such incident. The Contractor shall provide the Employer with full facilities for carrying out such enquiries.

PF 4.6 Good Housekeeping

The Contractor shall at all time carry out the Works in a manner to avoid the risk of bodily harm to persons or risk of damage to any property. The Contractor shall take all precautions, which are necessary and adequate to eliminate any conditions, which contribute to the risk of injury to persons or damage to property. The Contractor shall continuously inspect all work, materials and equipment to discover and determine any such conditions and shall be solely responsible for the discovery, determination and elimination of such conditions.

The Contractor shall keep the construction site neat and tidy and shall dispose of all waste material in an orderly manner.

All materials and equipment on the construction site shall be stored neatly and safely.

PF 4.7 Personal Protective Clothing

The Contractor shall provide the necessary personal protective clothing for his employees in hazardous areas, appropriate to the nature of the hazard.

PF 4.7.1 Hard Hats

All employees of the Contractor shall wear hard hats in designated areas. The Contractor shall keep enough hard hats available, of a contrasting colour to that of his employees, for the use of visitors to the Works. Hard hats shall not be painted or otherwise defaced.

PF 4.7.2 Eye & Ear Protection

Suitable eye and/or ear protection shall be worn in designated areas or when grinding, chipping, breaking, drilling, arc-welding, cutting with oxy-acetylene equipment or similar activities are taking place.

PF 4.7.3 Footwear

All employees of the Contractor shall wear serviceable, laced-up safety footwear suitable for the intended purpose in designated areas.

PF 4.7.4 Gloves

All employees of the Contractor shall wear suitable protective gloves in designated areas or when handling hot or hazardous materials or chemicals.

PF 4.7.5 Clothing

All employees of the Contractor shall wear suitable protective clothing when working in proximity of machinery, power tools, hazardous materials or chemicals. Reflective vests shall be worn when working in or close to areas where traffic or movement of vehicles, earth moving equipment and poor visibility occur. Persons working over an accumulation of water e.g. reservoirs, rivers, dams or harbours, where a danger exists of falling into the water, shall wear life belts.

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**PF 4.8      Road Traffic and Transportation**

- PF 4.8.1      The Contractor shall ensure that vehicles are maintained in a roadworthy condition.
- PF 4.8.2      The Contractor shall ensure that drivers of vehicles are in possession of an appropriate and valid drivers licence.
- PF 4.8.3      The Contractor shall not permit any driver to be in control of a vehicle on the Works while under the influence of intoxicating liquor or narcotic drugs.
- PF 4.8.4      All vehicles of the Contractor shall display a name board bearing the Contractor's name. Hired vehicles shall bear an identifying sticker.

**PF 4.9      Overhead Powerlines**

Regulations of the electricity supply authority in connection with prohibition of operations in the vicinity of overhead power lines shall be complied with by the Contractor at all times.

**PF 4.10     Machinery, Tools and Equipment**

The Contractor shall ensure that all machinery, tools and equipment are safe to use and maintained in a good condition. All tools and machinery driven by electrical, mechanical or other means shall be adequately guarded. All machinery, tools and equipment are to be regularly inspected and such registers are to be kept on site.

**PF 4.11     Welfare Facilities**

- PF 4.11.1     The Contractor shall provide and maintain at or within reasonable access of the Works, the following clean facilities:
- (a)      At least one (1) shower for every fifteen (15) workers of each gender.
  - (b)      At least one (1) sanitary facility for every thirty (30) workers of each gender.
  - (c)      Changing facilities for each gender, and
  - (d)      Sheltered eating areas.

**PF 5        SPECIAL REQUIREMENTS**

**PF 5.1      Formwork and Support Work**

The Contractor shall ensure that -

- (a)      all formwork and support work operations are carried out under the supervision of a competent person who has been appointed by the Contractor in writing for that purpose;
- (b)      all formwork and support work structures are adequately designed, erected, supported, braced and maintained so that they will be capable of supporting all anticipated vertical and lateral loads that may be applied to them and also that no loads are imposed onto the structure that the structure is not designed to withstand;
- (c)      the foundation conditions are and remain suitable to withstand the load caused by the formwork and support work structure and any imposed loads such that the formwork and support work structure are stable;
- (d)      all formwork and support work structures are inspected by a competent person, who has been appointed by the Contractor in writing for that purpose,

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immediately before, during and after the placement of concrete or any other imposed load and thereafter on a daily basis until the formwork and support work structure has been removed and the results have been recorded in a register, kept in the health and safety file;

- (e) upon casting concrete, the support work or formwork structure should be left in place until the concrete has acquired sufficient strength to support safely, not only its own load, but also any imposed loads and not removed until authorisation has been given by the competent person contemplated in subparagraph (a).

PF 5.2 Prevention of Uncontrolled Collapse

The Contractor shall ensure that -

- (a) all reasonable practical 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; and
- (b) no structure or part of a structure is loaded in a manner that would render it unsafe.

PF 5.3 Scaffolding

- (a) When using access scaffolding the Contractor shall ensure that such scaffolding, when used, complies with the safety standards incorporated for this purpose into the Regulations under section 44 of the Act.
- (b) The Contractor shall ensure that all scaffolding operations are carried out under the supervision of a competent person who has been appointed in writing and that all scaffold erectors, team leaders and inspectors are competent to carry out their work.
- (c) All scaffolding shall comply to SANS 10085-1 "The design, erection, use and inspection of access scaffolding" of which a copy shall be kept in the health and safety file.

PF 5.4 Safe Working Loads

The Contractor shall ensure that -

- (a) the safe working loads of hoists, load-bearing beams and cranes are prominently displayed at all times;
- (b) the safe working loads are not exceeded under any circumstances; and
- (c) all lifting gear is marked with a unique identity number and recorded in a register kept in the health and safety file.

PF 5.5 Commissioning Safety Precautions

The Contractor shall ensure that wherever repairs, adjustments or any other work are undertaken on any plant or machinery, the power supply is switched off, disconnected or the plant/machinery disengaged until the work or repairs have been completed.

PF 5.6 Use and Storage of Toxic, Hazardous Chemical and Flammable Materials

- (a) The Contractor shall take adequate safety precautions with the handling and storage of any toxic, hazardous chemicals and flammable materials.

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- (b) The Contractor shall provide suitable and adequate protective equipment when working in areas where toxic, hazardous chemicals and flammable materials are being used.
- (c) The Contractor shall ensure that its employees have familiarised themselves with the toxic and hazardous material data sheets applicable as well as the location of firefighting equipment, safety showers/baths and other washing facilities, prior to commencement of work.

PF 5.7 Work on Elevated Positions

- (a) Whenever persons are required to work in an elevated position, every possible and practicable means shall be adopted to provide such persons with effective safeguards.
- (b) The Contractor shall stop all persons working on the erection of steelwork during periods of inclement weather or if the possibility of lightning strikes is present.
- (c) Safety belts shall be worn when working at an elevation of 2 metres or more.
- (d) Working on elevated positions shall only be carried out under the supervision of a competent person, appointed in writing by the Contractor.
- (e) Under no circumstances may safety belts be used as fall arrest equipment but only as a fall prevention device. Full body harnesses with appropriate arrest mechanisms are to be used for fall arrest purposes.
- (f) Lifelines are to be used with safety harnesses or safety belts when doing steel erection and other similar activities such that persons are not exposed to danger by continuously attaching and detaching the lanyards from the structure.

PF 5.8 Excavations

- (a) Digging or excavation operations may not commence without the written authorisation from the competent supervisor appointed by the Contractor in writing.
- (b) Adequate precautions shall be taken by the Contractor to prevent slumping of excavations, as well as to prevent rocks and loose material falling onto workers.
- (c) All excavations by the Contractor are to be clearly demarcated to prevent accidental access.

Solid barricading shall be used at areas where there is a fall hazard present (save for pipe trenches). Danger tape may only be used to make the solid barricading more visible.

PF 5.9 Indemnity of Employer and His Agents

- (a) The annexure to this Contract Document contains a declaration pertaining to the Health and Safety Plan which shall be duly completed and signed by the Tenderer.

A copy of the signed declaration shall be included in the Contractor's Health and Safety Plan.

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- (b) Any acceptance, approval, check, certificate, consent, examination, inspection, instruction, notice, observation, proposal, request, test or similar act by either the Employer or any of his Agents (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, the Act and the Construction Regulations, including responsibility for errors, omissions, discrepancies and non-compliances.

**PF 5.10** Measures to prevent the spreading of Covid-19 Virus

The Contractor shall put measures, procedures and protocols in place to ensure that the site and all operations are in compliance with the legislation and regulations to prevent the spreading of the Covid-19 Virus.

All the necessary required PPE as per government notices shall be provided to all employees and visitors to the site of the works. Provision shall also be made to provide the required training and Covid-19 awareness programmes while all workers and visitors to the site shall undergo an induction specifically aimed at risks associated to the Covid-19 Virus and the protocols put in place to mitigate such risk.

Specific items have been provided the Schedules of Quantities for the provision of the required PPE, training and awareness programmes.

**PF 6** **SITE / PROJECT SPECIFIC REQUIREMENTS**

The following specific activities and considerations have been identified for the project and the construction site and for which Risk Assessments, Standard Working Procedures (SWP), management and control measures and Method Statements (where necessary) have to be developed by the Contractor.

**PF 6.01** Borrow Pits Mineral Act

One or more borrow pits for bedding material may require to be opened up, worked out and reinstated. The location will generally be a distance away from the site and probably on private property. These areas must be made safe so that people and livestock cannot inadvertently be exposed to the dangers therein.

All borrow pits must be worked in such a manner that no water can accumulate.

Borrow pits must be fenced off to prevent access by the public.

**PF 6.02** Trenching Depths

Trench excavations of varying depths to accommodate the pipes will traverse different types of ground and it is essential that proper methods of ground shoring and bracing are carried out to ensure the safety of site staff and other persons on site during the time that the trenches remain open. Particular care must be taken in areas where there is a high water table.

The Engineer has the right to call in the services of a geo-technical engineer to make an assessment on the stability of any excavation should a dispute arise as to the safety of any excavation. This service will be paid for by the Contractor

**PF 6.03** Service Crossings

Existing services that may be encountered on site during construction are as follows:-

- (a) Live, high, medium and low voltage electrical cables;
- (b) Live water mains of various types and sizes;
- (c) Live outfall sewer;

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(d) Live Telkom cables.

Proper procedures and handling methods must be used on encountering these services on site in order to protect construction personnel and other persons on site as well as the interests of the various Services Departments. In this regard, refer to Clause 22 of the Construction Regulations (2003).

## PF 7

### MEASUREMENT AND PAYMENT

The Contractor shall clearly demonstrate that he has indeed made provision for the cost of health and safety measures during the construction process, as required in terms of Subclause 4(1)(h) of the Construction Regulations (2003) proclaimed under section 43 of the Occupational Health and Safety Act. (Act No. 85 of 1993).

The tendered price shall include for compliance to the following legislation:

- Compensation for Occupational Injuries and Diseases Act, 130 of 1993;
- Occupation Health and Safety Act, 85 of 1993 and Regulations promulgated there under;
- and
- Construction Regulations, 2003.

Differentiation shall be made in the Schedule of Quantities between the following two payment items:

- Establishment by the Contractor of facilities on site,
- and
- Operations and maintenance by the Contractor of facilities on site

to ensure that all work is executed in accordance with above mentioned legislation and this Specification.

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## PARTICULAR SPECIFICATION

### PD : BUILDING WORK

#### CONTENTS

PD 01	SCOPE
PD 02	BRICKWORK AND FLOOR SCREEDS
PD 03	IRONMONGERY
PD 04	GLAZING
PD 05	CARPENTRY AND JOINERY
PD 06	ROOF SHEETING AND ACCESSORIES
PD 07	ELECTRICAL WORK
PD 08	MISCELLANEOUS ITEMS
PD 09	MEASUREMENT AND PAYMENT

#### PD 01 : **SCOPE**

This is a particular specification and covers the various construction activities associated with the erection of buildings which form part of certain civil projects.

Building work shall be carried out in accordance with the National Building Regulations and the information contained in this section.

Work appurtenant to the erection of buildings such as earthworks, concrete work, structural steelwork, etc, shall be carried out as specified in the appropriate sections of the standardized specifications and will be measured and paid for under those sections.

#### PD 02 : **BRICKWORK AND FLOOR SCREEDS**

##### PD 02.01 : **Materials**

##### (a) Bricks

Bricks shall comply with SABS 227 and shall be of the class scheduled or shown on the drawings.

Satisfactory proof of the load-bearing capacity of the bricks offered shall be submitted before deliveries are made to the site.

Air bricks shall be well-burnt terracotta and shall be free from cracks and blemishes and lined with copper mosquito gauze.

Three samples of each type of brick shall be submitted to the engineer for approval. All subsequent deliveries shall be of a standard equal to or better than that of the approved samples.

##### (b) Cement

Cement shall comply with the requirements of SABS 471 and shall be stored under cover. The use of Portland blast-furnace cement (PBFC) which complies with the requirements of SABS 626 will only be allowed if approved by the engineer.

##### (c) Aggregate

Fine aggregate shall be naturally occurring sand or shall consist of crushed rock or gravel, and shall be hard, clean and free from adherent coatings or other

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deleterious matter. Sand for plaster and mortar shall comply with the requirements of SABS 1090, whereas the aggregates for normal and granolithic floor screeds shall comply with the requirements of BS 1199 and BS 1201 respectively.

- (d) Water  
Water shall be clean and free from clay, silt, oil, acid, alkali, organic or other matter which would impair the required strength and durability of the mortar, plaster or floor screed.
- (e) Wall ties  
Wall ties shall be of the galvanized, crimped, single-wire type with a 3,5 mm diameter, and shall comply with the requirements of SABS 28.
- (f) Damp-proof sheeting  
Damp-proof sheeting shall comply with SABS 248, type FV for fibre felt, or SABS 952, type B for embossed polyethylene sheeting.

**PD 02.02 : Construction of brickwork**

- (a) Cement mortar  
Cement mortar shall, unless otherwise specified, consist of 1 part of Portland cement to 4 parts of sand by volume for normal brickwork and 1 part of Portland cement to 3 parts of sand by volume for reinforced brickwork. The ingredients for cement mortar shall be measured in proper gauge boxes on a boarded platform and thoroughly mixed. Alternatively, mixing may be by means of an approved mechanical batch mixer. Only when the dry ingredients have been thoroughly mixed and a mixture of uniform colour has been obtained may the water be added in sufficient quantity to obtain mortar with the required consistency.  
  
Cement mortar shall be used within two hours of adding water to the mix and shall not be used after two hours or if it has begun to set. Mortar shall be turned over frequently until it is used to prevent it from setting.
- (b) Brickwork  
Dimensions of all the brickwork shall be set out and built as shown on the drawings. Bricks shall be kept wet before laying and the top of brickwork shall be wetted before any further bricks are laid. Bricks shall be well buttered with mortar before being laid and all joints shall be thoroughly flushed up as the work proceeds. All joints to face brickwork shall be neatly made and key drawn with a 6 mm key.  
  
Brickwork shall be carried up in a uniform manner with no portion being raised more than 1 m above an adjacent portion. All perpends, quoins, etc, shall be kept strictly true and square and the whole properly bonded together.  
  
Brickwork shall be built in stretcher bond or english bond as shown on the drawings, and bats shall not be used except where required for the bond. All joints shall be 10 mm wide and four courses shall measure 340 mm.  
  
Brickwork for cavity walls and solid walls built in stretcher bond shall be tied with wall ties placed not more than one metre apart in every third course, and shall be staggered vertically. At openings, the ties shall be positioned not more than 300 mm apart along the periphery of the opening and 150 mm from the opening.

Face brickwork shall be kept perfectly clean and rubbing down of the brickwork

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shall not be allowed. Scaffold boards shall be turned back during heavy rain to avoid splashing. Soiled brickwork shall be cleaned at the contractor's expense, and the cleaning method shall be approved by the engineer.

(c) Reinforced brickwork

Brickwork over door and window openings shall be reinforced with steel rods, welded or expanded mesh, etc. Reinforcement shall be placed in each course of brickwork for a minimum of 4 courses or as shown on the drawings. Reinforced brickwork shall continue at least 300 mm on each side of the openings.

Brick lintels shall be built upon rigid temporary supports left in position for not less than 7 days after brick-laying. Pre-stressed concrete lintels may be used where approved by the engineer.

(d) Damp-proofing

A damp-proof course shall be laid over the full width of all the walls at a minimum height of 150 mm above the final ground level or wherever else it may be required, and it shall be lapped for at least 150 mm at angles and joints. A damp-proof course shall also be laid and stepped up under all external sills.

(e) General

Rough and fair cutting shall be performed as required, and the brickwork shall be fitted around any steel work. Face brickwork shall be carefully cut and fitted to suit fittings.

Chases shall be left or formed for edges of concrete floors, staircases, etc. Chases shall also be provided wherever they may be required for pipes, conduits, switch boxes, distribution boards, and the like. Joints shall be raked out for flashings.

**PD 02.03 : Floor screeds**

(a) Normal screeds

Normal screeds shall have a mix proportion by mass consisting of 1 part of Portland cement and 3 parts of fine aggregate. A minimum amount of water is to be used, but it shall be sufficient to allow adequate compaction.

Screeds shall be laid on clean hardened bases, prepared as for granolithic screeds, in panels not exceeding 14 m<sup>2</sup> and shall be steel-trowelled to a true and smooth finish. In monolithic construction the panels shall not exceed 30 m<sup>2</sup>. Joints in screeds shall coincide as nearly as possible with joints in the bases. The thickness of screeds shall be as shown on the drawings or as directed by the engineer.

The entire screed surface shall be free from loose or raised particles of aggregate, trowel marks or from any irregularities, humps or depressions exceeding 5 mm when measured from a 3 m long straight-edge.

Screeds shall be cured for 3 to 7 days as may be directed by the engineer, and shall be protected from damage.

No moisture-sensitive floor finish shall be laid on screeds unless a reliable moisture test shows that the screed is sufficiently dry to receive the covering.

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(b) Granolithic screeds

Granolithic floor screeds shall be composed of 2 parts of Portland cement to 3 parts of aggregate with sufficient water added to obtain a consistency as dry as may be practicable. The screed shall be rendered with a wood float and struck off with a steel trowel after set has commenced.

The granolithic mixture shall be floated onto the concrete floor slab within 12 hours of the latter having been laid. Where this cannot be done within 12 hours, the concrete surfaces shall be thoroughly hacked, cleaned, watered and treated with an approved cement slurry or with an approved bonding agent, as may be directed, before the granolithic screed is laid.

Where a tinted granolithic screed is specified, it shall be placed in two layers, a lower layer placed to within 6 mm of the finished level and an upper layer into which the pigment has been mixed. No dusting on of colouring material will be allowed.

The surface of all granolithic screeds shall be kept damp for a period of at least 7 days after laying by covering it with polyethylene sheeting or by thickly covering it with wet sand, sawdust or hessian kept moist by frequently sprinkling it with water.

The granolithic screeds shall be not less than 20 mm thick, finished to falls as shown on the drawings, and shall be laid in panels not exceeding 6,0 m<sup>2</sup>. Thresholds shall be finished with granolithic screeds 25 mm thick, treads 25 mm thick, and risers 20 mm thick, including rounded nosings and reedings.

Edges next to walls shall be finished with projecting skirting, 75 mm high, with rounded top edges, unless otherwise specified or instructed by the engineer.

**PD 03 : IRONMONGERY**

**PD 03.01 : Materials**

(a) General

All steel and iron work shall be delivered clean and free from rust, pitting or other defects. Shop primings shall be applied before delivery and shall consist of a coat of red oxide paint, or any other approved anti-rust paint on all surfaces.

Unless otherwise specified, all materials shall conform at least to the appropriate SABS or BS standards where such standards apply to iron, steel, cast iron or any other related materials.

(b) Pressed steel door frames

Pressed steel door frames shall comply with SABS 1129 and shall be manufactured from 1,6 mm thick mild-steel sheeting, pressed to the required shapes, properly mitred, welded and reinforced, with all welding neatly cleaned off.

Frames shall be of the widths required to suit the thickness of the walls into which they are built and shall be fitted with suitable tie bars and braces at the bottom. Three lugs to be built into the brickwork shall be provided on each jamb.

Rebates in frames and transoms for doors shall be of the widths required to suit the thicknesses of the doors and shall be fitted with a pair of approved steel butt hinges set flush into recesses in the frames. 4,5 mm thick reinforcing plates shall be welded to the backs of the frames at hinge positions.

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Heads of frames over double doors shall be drilled where required to form keeps for bolts and shall be fitted with one rubber buffer for each leaf of the door.

Frames for single doors shall be fitted with approved chromium striking plates and an adjustable striking-plate keeper boxed in at the back of the frame by a welded-on sheet-metal box. The frames shall be fitted with a minimum of two rubber buffers.

Frames shall be protected against twisting and damage during transit and erection.

(c) Pressed-steel doors

Pressed-steel doors shall be manufactured from 1,6 mm thick steel plate. The doors shall be of standard design, pressed to shape with 40 mm reveals all round. The doors shall be strengthened with full-length vertical V-shaped or other approved sectional strengthening ribs projecting to the outer face. Two horizontal stiffening rails shall also be welded to the inner face of the doors.

A door shall be hung on a pair of 100 mm long steel butt hinges with loose pins. The leaves of the hinges shall be welded to both the door and the door frame, and a 1,6 mm thick steel plate shall be welded to the inner face of the door to protect the lock.

One leaf of double doors shall be fitted at the top and bottom with approved 150 mm cast brass barrel bolts in an approved manner and the other leaf shall be fitted with a lock, the striking plate of which shall be fixed to the first leaf.

Where indicated on the drawings, doors shall be fitted with louvred ventilation grills of approved design, backed with insect and vermin-proof gauze screening.

(d) Door locks and handles

All door locks shall comply with the requirements of SABS 4 and shall be of approved manufacture and pattern. All locks shall be supplied with two keys. Keys shall be distinctly numbered with consecutive numbers and each key shall be stamped with the same number as that of the lock which it controls. No two locks in anyone building may have the same key.

External doors shall be fitted with four-lever heavy-duty mortice locks, which shall be master-keyed.

All locks shall be properly installed and, after completion, striker plates shall be adjusted and the locks serviced.

Door handles shall be of cast zinc of approved manufacture and pattern.

(e) Miscellaneous fittings

All retaining devices for doors and windows as well as fittings such as coat hooks, retaining hooks, etc, shall be of solid brass. All fittings shall be secured by screws or set screws of the same material and finish as the fitting.

Fittings to be fixed to plastered walls, masonry or floors shall be fixed direct by means of patent plastic or fibre plugs fitted into drilled holes.

Door stops shall be provided at every door and shall be 40 mm diameter rubber stops.

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**PD 03.02 : Installation of doors and windows**

All built-in door and window frames shall be set straight, plumb and level, and shall operate to the satisfaction of the engineer after fixing has been completed.

Fittings shall be either removed, or wrapped and protected from damage, until all rough trades have been completed.

**PD 04 : GLAZING**

**PD 04.01 : Materials**

(a) Glass

Glass shall comply with the requirements of CKS 55. The quality of all window glass shall be such that surface deterioration will not develop after glazing.

All glass shall be free from bubbles, waviness, scratches, stains or other imperfections.

Unless otherwise specified, sheet glass for glazing shall be flat-drawn clear glass of ordinary glazing quality and of the thicknesses indicated below:

For panes not exceeding 0,75 m<sup>2</sup> in area 3 mm

For panes exceeding 0,75 m<sup>2</sup> but not exceeding 1,5 m<sup>2</sup> in area 4 mm

(b) Putty

All putty shall comply with the requirements of SABS 680.

Putty shall not be too hard or soft or caked when used, and shall dry evenly without crazing or cracking.

Defective putty shall be cut out and replaced by the contractor at his own expense, and any broken glass shall also be so replaced and putty so repainted.

**PD 04.02 : Glazing**

Glass shall be cut in panes to suit all glazed openings with sufficient clearance all round to prevent cracking by expansion, contraction or vibration.

In all cases the glass shall be well bedded and back-puttied and installed as specified in SABS Code of Practice 0137.

All putty shall be carefully trimmed, cleaned off and neatly finished off straight with smooth surfaces and sharp mitres. A paint primer shall be applied as soon as the putty has dried out sufficiently to prevent shrinkage cracks from forming.

The entire glazing operation shall be cleaned before the premises are handed over for occupation.

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**PD 05 : CARPENTRY AND JOINERY****PD 05.01 : General****(a) Materials**

All timber used for structural purposes shall be of merchantable grade and shall comply with the requirements of SABS 563 and SABS 1245. Structural timber shall be carefully selected and of the best quality, free from large or dead knots, shakes, waney edges or other defects. Purlins and bracing shall comply with the requirements of SABS 653. Finger-jointed structural timber shall comply with the requirements of SABS 096 and laminated timber with the requirements of SABS 1089.

Hardwoods and softwoods for joinery shall comply with SABS 1099 and SABS 1359 respectively and suitable species shall be used for the various purposes.

Unless otherwise specified, all materials shall conform to the appropriate SABS or BS specification where such standards exist for nails, screws, bolts, adhesives, etc.

**(b) Preservative treatment**

All structural timber shall be given a preservative treatment suitable for the duty for which the timber is intended in accordance with SABS 05, and no untreated timber shall be used. The preservative treatment shall not impair the final finish. The timber shall be impregnated throughout. When surface coating is specified, the compounds applied on the surfaces of the timber shall form an unbroken film.

**(c) Priming**

The jointing surfaces of all joints exposed to the weather and built-in portions of frames shall be thickly primed except where adhesives are specified.

Carpentry and joinery items which are prepared for painting by the manufacturer, shall be knotted and primed before being dispatched to the site.

Primed surfaces shall be touched up where necessary during the progress of the work or where site adjustments have been made.

**PD 05.02 : Carpentry work****(a) Scope of work**

Carpentry work shall be carried out in a manner consistent with good workmanship and in compliance with the drawings.

The carpenter shall perform all cutting away and making good in attendance upon all other trades and he shall provide and maintain temporary coverings required for the protection of any finished work that might be damaged if left unprotected during the progress of the work.

**(b) Dimensions**

Unwrought timber shall be as sawn and shall be to the dimensions and within the tolerances specified in the relevant SABS Standard Specifications mentioned in subclause PD 05.01(a).

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(c) Joining

Unless otherwise specified, all joints shall be secured by means of a suitable type and a sufficient number of approved connectors. All joints shall be carefully made in such a way that they will not impair the strength and stiffness of the beams or members.

(d) Timber roof construction

The plates, joists, rafters, purlins, bracing and other pieces used for the construction of the roof and trusses shall be of the dimensions, spacing and construction, as shown on the drawings.

All the joints in the framework shall be of the most appropriate type, accurately formed and adequately secured with fasteners as specified.

**PD 05.03 : Joinery work**(a) Scope of work

Joinery work shall consist of the manufacture, delivery to the site, and fixing in the buildings, of all joinery shown on the drawings.

Except where a special finish is specified, the contractor shall have all stairs, landings, doors, shelves and other joinery work cleaned and scrubbed down and shall leave all his work in a good order to the satisfaction of the engineer.

(b) Dimensions

All wrought timber shall be sawn, planed, drilled or otherwise machined or worked to the correct sizes and shapes shown on the drawings.

Reasonable tolerance shall be provided at all connections between joinery works and the building structure to compensate adequately for any irregularities, settlements or any other movements.

(c) Fabrication

The joiner shall perform all the necessary mortising, tenoning, grooving, matching, tonguing, housing, rebating and all the other works necessary for correct jointing. He shall also provide all metal plates, screws, nails and other fixings that may be necessary for doing the specified joinery work properly.

(d) Joints

Where joints are not specifically indicated, they shall be the recognised forms of joints for each position. The joints shall be so made as to comply with part 2 of BS 1186.

(e) Doors and frames

Door frames, linings, panel doors, framed, ledged and braced doors, flush doors, sliding doors, etc, shall be supplied or made by the joiner and shall be installed, fitted or hung as detailed on the drawings.

All timber shall be wrought and prepared for oiling, staining, varnishing or painting.

(f) Skirtings, cornices, etc

Skirtings, cornices, etc shall not be installed until after the wall coverings have been

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applied, the flooring laid and ceilings installed, unless otherwise specified.

(g) In situ joinery

In situ joinery work shall not be executed until after all floor, wall and ceiling surfaces have been formed or constructed, unless otherwise instructed.

(h) Ceilings

Ceilings shall consist of plaster board or Nutec-cement panels as shown on the drawings and shall be nailed to the bracing or suspended from the roof structure. The panels shall be separated by exposed tees and insulated with a 50 mm thick fibreglass wool blanket where shown on the drawings.

**PD 06 : ROOF SHEETING AND ACCESSORIES**

Roof sheeting and accessories shall comply with and will be measured and paid for under SABS 1200 HB.

**PD 07 : ELECTRICAL WORK**

The electrical wiring of buildings shall be carried out by registered and licensed electricians in accordance with the requirements of SABS 0142 and the regulations of the employer.

The electrician shall work in close co-operation with the contractor to ensure that all conduits, switchboards, plug boxes and switch boxes are installed in their correct position.

The work shall be carried out in accordance with the drawings and to the satisfaction of the engineer and the local authority.

**PD 08 : MISCELLANEOUS ITEMS**

Items such as manhole covers and frames, pipes, lintels, etc, shall be manufactured, supplied and installed to details and in positions as shown on the drawings.

**PD 09 : MEASUREMENT AND PAYMENT**

**PD.01 : Brickwork**

- (a) 230 mm thick, outside face: (type and class indicated),  
inside face: (type and class indicated) Unit : m<sup>2</sup>
- (c) 230 mm thick, (class indicated) Unit : m<sup>2</sup>
- (d) 115 mm thick, (class indicated) Unit : m<sup>2</sup>
- (e) 250mm thick cavity wall, outside face: (type and class indicated)  
inside face: (type and class indicated) Unit : m<sup>2</sup>

The unit of measurement shall be the square metre of each type of brickwork built, calculated from the leading dimensions of the brickwork. Areas of pipes, etc, built into brickwork shall not be included in the areas measured. At corners and intersections common to more than one brick wall, the areas shall be measured only once.

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The tendered rates shall include full compensation for the construction of the brickwork complete as specified, including pointing, the building-in of conduits, beams, pipe sleeves, doors, windows, the raking-out of joints, damp-proof course, etc.

**PD.02 : Floor screeds**

(a) (Type and thickness indicated) Unit : m<sup>2</sup>

(b) Etc for other types and thicknesses

The unit of measurement shall be the square metre of floor screed laid, as specified, on floors, steps or areas shown on the drawings or as designated by the engineer.

The tendered rates shall include full compensation for the construction of the floor screeds, including the supply of all materials, mixing, laying, finishing, the forming of nosings, reedings, skirtings, etc.

**PD.03 : Doors and windows**

(a) (Type and size indicated) Unit : No

(b) Etc for other types and sizes

The unit of measurement shall be the number of each type and size of door and window installed complete as specified.

The tendered rates shall include full compensation for the installation of the doors, windows, and frames, including the supply of all materials, manufacturing, installing, hinges, handles, locks, barrel bolts, retaining devices, door stops, stays and any other work necessary to complete the work as specified or as shown on the drawings. The tendered rate for windows shall also include full compensation for glazing, window sills, as specified, and damp-proof sheeting.

**PD.04 : Structural timber**

(a) Plates (sizes indicated) Unit : m

(b) Beams (sizes indicated) Unit : m

(c) Joists (sizes indicated) Unit : m

(d) Rafters (sizes indicated) Unit : m

(e) Purlins (sizes indicated) Unit : m

(f) Roof trusses complete (drawing No indicated) Unit : No

(g) Etc

The unit of measurement shall be the metre of individual types of timber elements or number of complete trusses installed.

The tendered rates shall include full compensation for the supply of all materials, manufacture, cutting, waste, jointing and installation of the timber as shown on the drawings.

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**PD.05 : Ceilings**

(a) Plaster-board ceiling (type and thickness indicated)

(i) Fixed ceiling Unit : m<sup>2</sup>

(ii) Suspended ceiling Unit : m<sup>2</sup>

(b) Nutec-cement ceiling (thickness indicated)

(i) Fixed ceiling Unit : m<sup>2</sup>

(ii) Suspended ceiling Unit : m<sup>2</sup>

The unit of measurement shall be the square metre of fixed or suspended ceiling installed complete as specified.

The tendered rates shall also include full compensation for the construction of the ceilings, including the exposed tees as specified.

**PD.06 : Roof ventilators (type and material indicated) Unit : No**

The unit of measurement shall be the number of roof ventilators installed as shown on the drawings or directed by the engineer.

The tendered rate shall include full compensation for the installation of the ventilators, including the supply of all materials, manufacturing and sealing and for the cutting of roof sheeting.

**PD.07 : Miscellaneous work**

(a) Painting of buildings

(i) (building indicated) Unit : lump sum

(ii) etc for other buildings

(b) Wiring of buildings

(i) (building indicated) Unit : lump sum

(ii) etc for other buildings

The unit of measurement for all painting, plumbing and electrical wiring to be carried out at each building shall be the lump sum.

The lump sums tendered shall also include full compensation for all temporary works, safety precautions, for the protection of the works, the replacement of defective work and cleaning up after completion.

**PD.08 : Miscellaneous items:**

(a) Measured by number

(i) (description of item) Unit : No

(ii) Etc

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(b) Measured by linear metre

(i) (description of item) Unit : m

(ii) Etc

(c) Measured by area

(i) (description of item) Unit : m<sup>2</sup>

(ii) Etc

(d) Measured by volume

(i) (description of item) Unit : m<sup>3</sup>

(ii) Etc

The unit of measurement shall be the number, linear metre, square metre or cubic metre as applicable to each item.

The tendered rates shall include full compensation for manufacturing or providing and installing each item complete as shown on the drawings and shall include all corrosion protection.

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## **PART C4**

### **SITE INFORMATION & DRAWINGS FOR TENDER PURPOSES**

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## **C4.1 Location of the Works**

### **a) General Description and Locality Plan**

The site can be reached from the N1 by turning right onto the Vondeling Road, approximately 420m before reaching the first 4-way stop in Makhado, when driving from Polokwane. From the turn-off, the site is reached by traveling 1,43km in an easterly direction with the site situated on the righthand side of the road

GPS Co-ordinates – Long.: 23°03'25" (S) and Lat.: 29°55'44" (E).



### **b) Topography of the Site**

The site is flat to gentle rolling with a gentle grade towards the south-east. The gradients in general are low.

### **c) Geotechnical information of the Site**

The site is underlain by weathered granite gneisses. The landfill site is an old borrow-pit site which was utilised as a landfill site.

The Waste body has mostly been covered by building rubble and material spoiled from excavations on other projects.

The above will not relief prospective tenderers from their obligation to conduct their own inspections and to obtain the relevant geotechnical information

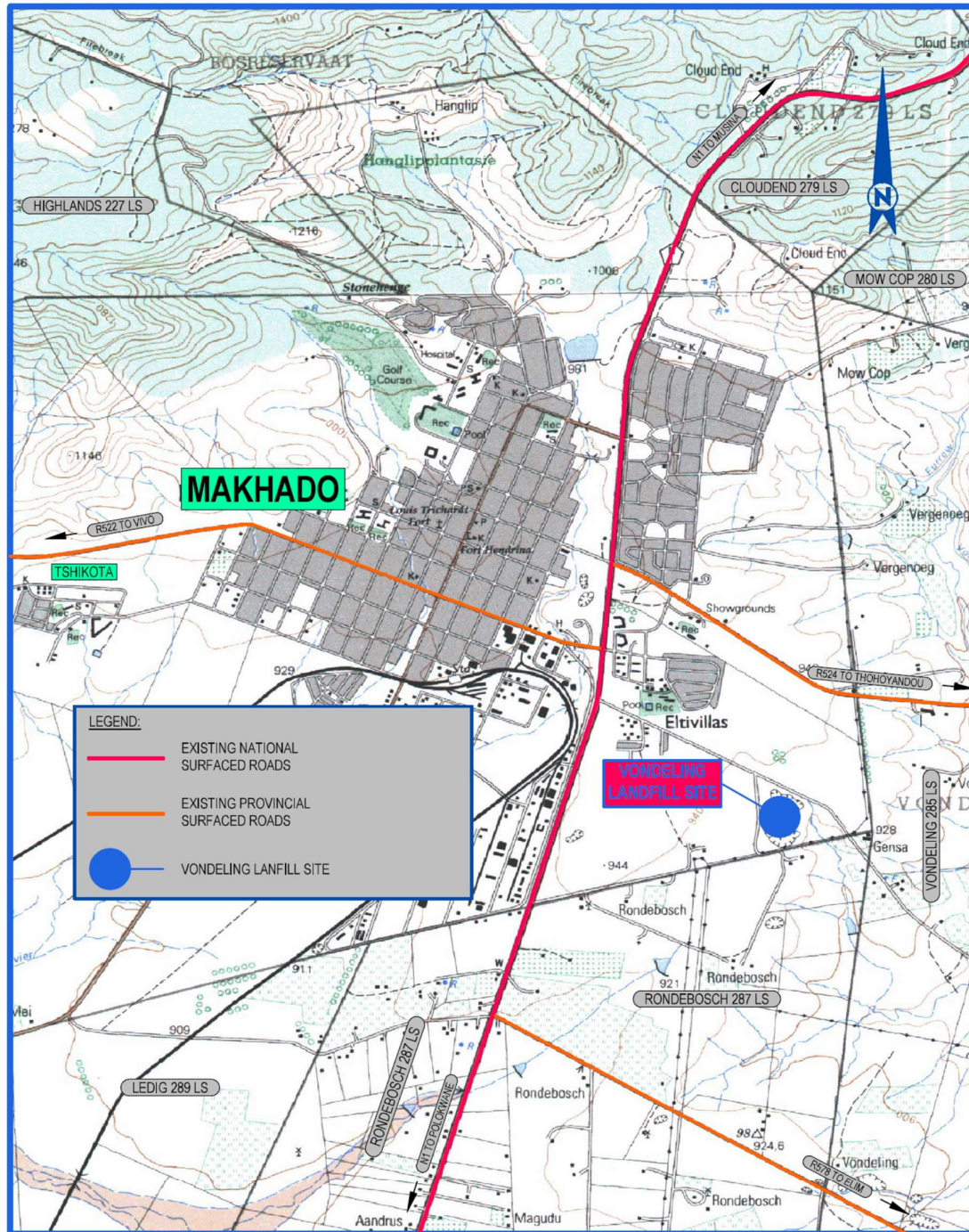
## **C4.2 Drawings for Tender Purposes**

The tender drawings are issued under a separate volume, VOLUME 2 of 2 in A3 format. Tenderers are to make sure that they have received the complete set of tender drawings as listed under Part C3: Scope of Work - Paragraph 2.4 on page C3.6 of this document. The Engineer shall be notified immediately in writing if any of the drawings listed are not bound into Volume 2 of 2.

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------

## **ANNEXURE A Locality Plan**

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------



REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE



LOCALITY PLAN

47/2018

19T0300

Initial:	Tenderer	Witness	Employer	Witness
----------	----------	---------	----------	---------





## MAKHADO LOCAL MUNICIPALITY

BID NO. 68 OF 2022

### BID DOCUMENT

FOR

#### THE CONSTRUCTION OF THE ASSOCIATED WORKS FOR THE REHABILITATION AND CLOSURE OF THE VONDELING LANDFILL SITE

OCTOBER 2020

VOLUME 2 of 2: BOOK OF DRAWINGS

NAME OF TENDERER : \_\_\_\_\_  
TENDERED AMOUNT : \_\_\_\_\_  
COMPLETION PERIOD : \_\_\_\_\_  
TEL NUMBER : \_\_\_\_\_  
FAX NUMBER : \_\_\_\_\_  
CIDB GRADING : \_\_\_\_\_

ISSUED BY:
The Municipal Manager Makhado Local Municipality Civic Centre 83 Kroch Street LOUIS TRICHARDT
Private Bag X2596 LOUIS TRICHARDT 0920 Tel: (015) 519 3000

COMPILED BY:
Infraburo (Pty) Ltd Old Library Building Thohoyandou Unit A SIBASA 0950
PO Box 4338 THOHOYANDOU 0920 Tel: (082) 878 5552

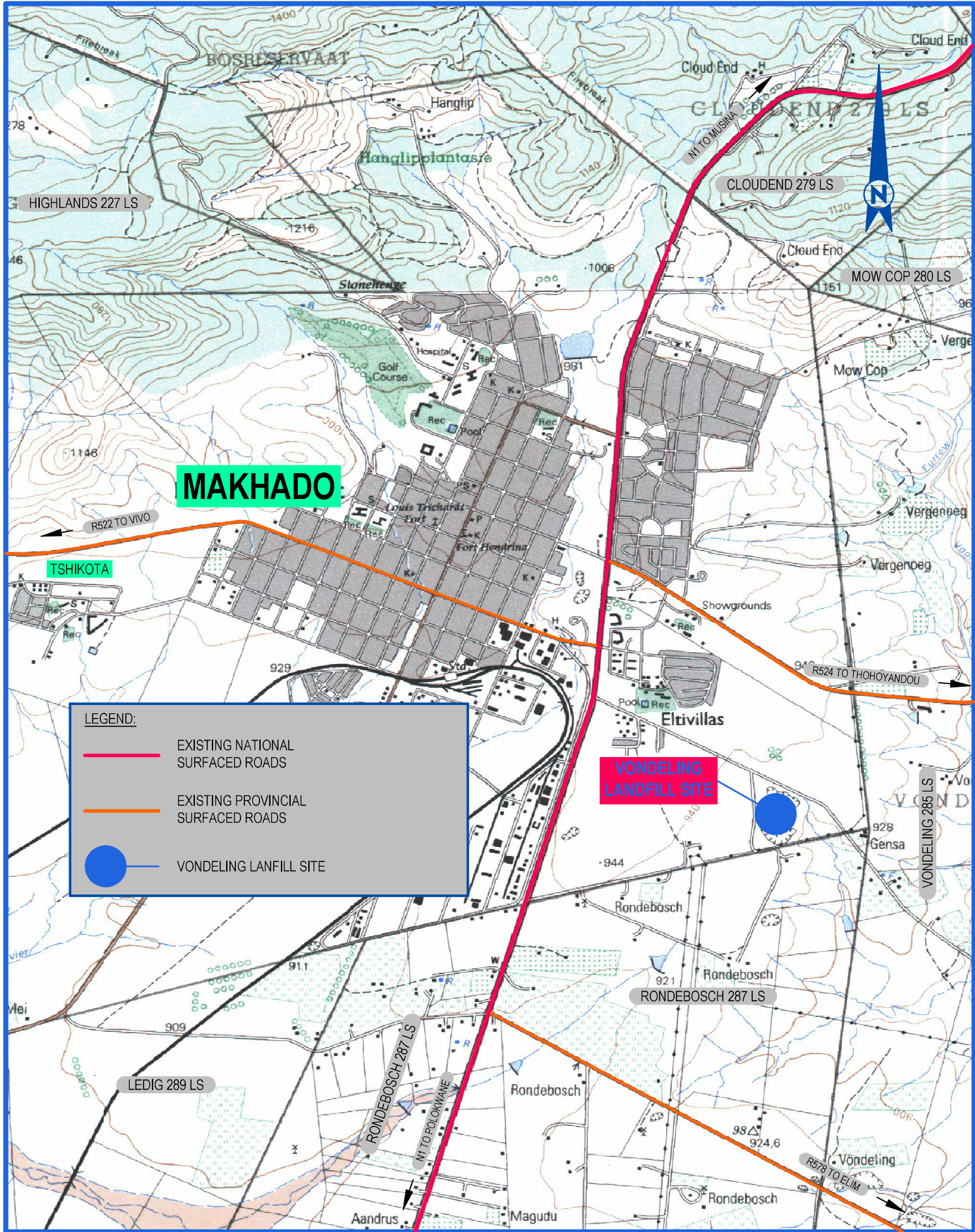
CLOSING DATE: 08<sup>TH</sup> OF NOVEMBER 2022 AT 12H00





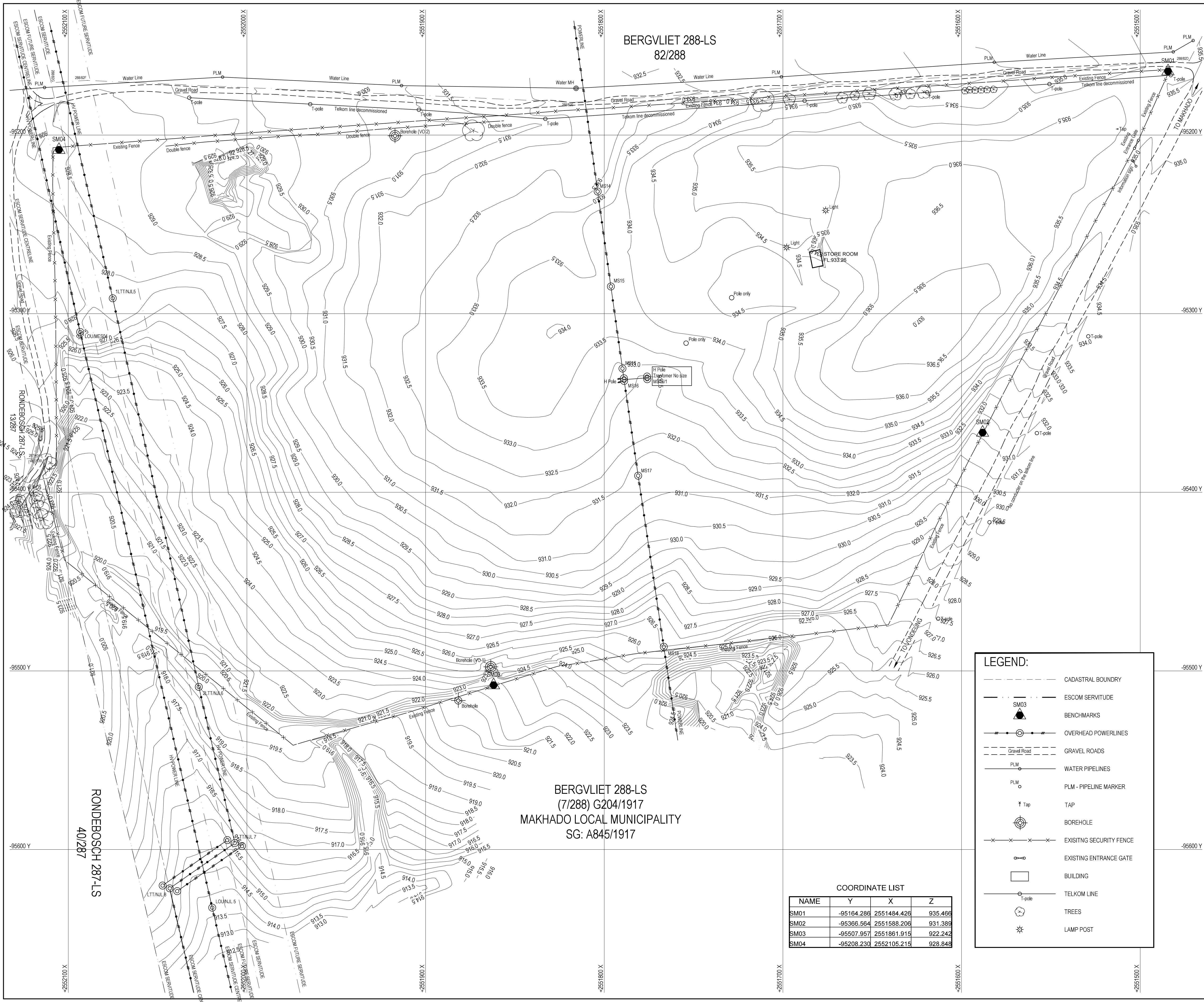
DRAWING NO.	DRAWING DESCRIPTION
	<b>GENERAL:</b>
19T0300/CD/GA/01/01	LIST OF DRAWINGS AND LOCALITY PLAN
19T0300/CD/GA/02/01	GENERAL SITE LAYOUT PLAN & BENCHMARKS
19T0300/CD/GA/03/01	NAME BOARD DETAILS
19T0300/CD/GA/04/01	ACCOMMODATION OF TRAFFIC TYPICAL DETAILS
	<b>EARTHWORKS:</b>
19T0300/CD/EW/01/01	GENERAL EARTHWORKS & DRAINAGE LAYOUT PLAN
19T0300/CD/EW/02/01	GENERAL LAYOUT PLAN OF CUT, & FILL AND CLAY CAPPING AREAS
19T0300/CD/EW/03/01	EARTHWORKS CUT & FILL AREA NO. 1: SETTING OUT GRID WITH FINAL LEVELS
19T0300/CD/EW/03/02	EARTHWORKS CUT & FILL AREA NO. 2: SETTING OUT GRID WITH FINAL LEVELS
19T0300/CD/EW/03/03	SUBTERRANEAN FIRE EARTHWORKS AREA NO. 1 & 2: SETTING OUT GRID WITH FINAL CUT LEVELS
19T0300/CD/EW/04/01	TYPICAL SECTIONS AND DETAILS
	<b>RING ROAD:</b>
19T0300/CD/RD/01/01	GENERAL ROAD & DRAINAGE LAYOUT PLAN
19T0300/CD/RD/02/01	LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 1 OF 6)
19T0300/CD/RD/02/02	LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 2 OF 6)
19T0300/CD/RD/02/03	LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 3 OF 6)
19T0300/CD/RD/02/04	LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 4 OF 6)
19T0300/CD/RD/02/05	LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 5 OF 6)
19T0300/CD/RD/02/06	LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 6 OF 6)
19T0300/CD/RD/03/01	CROSS-SECTIONS (SHEET 1 OF 6)
19T0300/CD/RD/03/02	CROSS-SECTIONS (SHEET 2 OF 6)
19T0300/CD/RD/03/03	CROSS-SECTIONS (SHEET 3 OF 6)
19T0300/CD/RD/03/04	CROSS-SECTIONS (SHEET 4 OF 6)
19T0300/CD/RD/03/05	CROSS-SECTIONS (SHEET 5 OF 6)
19T0300/CD/RD/03/06	CROSS-SECTIONS (SHEET 6 OF 6)
19T0300/CD/RD/04/01	TYPICAL PAVEMENT AND DRAINAGE DETAILS
19T0300/CD/RD/04/02	TYPICAL EMBANKMENT DETAILS
	<b>STORMWATER CHANNEL 1:</b>
19T0300/CD/SA/01/01	LAYOUT PLAN AND LONGITUDINAL SECTION
19T0300/CD/SA/02/01	CROSS-SECTIONS (SHEET 1 OF 2)
19T0300/CD/SA/02/02	CROSS-SECTIONS (SHEET 2 OF 2)
	<b>STORMWATER CHANNEL 2:</b>
19T0300/CD/SB/01/01	LAYOUT PLAN AND LONGITUDINAL SECTION
19T0300/CD/SB/02/01	CROSS-SECTIONS (SHEET 1 OF 2)
19T0300/CD/SB/02/02	CROSS-SECTIONS (SHEET 2 OF 2)
	<b>STORMWATER CHANNEL 3:</b>
19T0300/CD/SC/01/01	LAYOUT PLAN AND LONGITUDINAL SECTION
19T0300/CD/SC/02/01	CROSS-SECTIONS (SHEET 1 OF 1)
	<b>STORMWATER CHANNEL 4:</b>
19T0300/CD/SD/01/01	LAYOUT PLAN AND LONGITUDINAL SECTION
19T0300/CD/SD/02/01	CROSS-SECTIONS (SHEET 1 OF 2)
	<b>STORMWATER CHANNEL 5:</b>
19T0300/CD/SE/01/01	LAYOUT PLAN AND LONGITUDINAL SECTION
19T0300/CD/SE/02/01	CROSS-SECTIONS (SHEET 1 OF 2)
19T0300/CD/SE/02/02	CROSS-SECTIONS (SHEET 2 OF 2)
	<b>STORMWATER CHANNEL 6:</b>
19T0300/CD/SF/01/01	LAYOUT PLAN AND LONGITUDINAL SECTION
19T0300/CD/SF/02/01	CROSS-SECTIONS (SHEET 1 OF 1)
	<b>CULVERT STRUCTURE (STA):</b>
19T0300/CD/CA/01/01	LAYOUT PLAN & LONGITUDINAL SECTION
19T0300/CD/CA/02/01	INLET (STA1) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS
19T0300/CD/CA/02/02	OUTLET (STA2) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS
	<b>CULVERT STRUCTURE (STB):</b>
19T0300/CD/CB/01/01	LAYOUT PLAN & LONGITUDINAL SECTION
19T0300/CD/CB/02/01	INLET (STB1) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS
19T0300/CD/CB/02/02	MANHOLE (STB2) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS
19T0300/CD/CB/02/03	OUTLET (STB3) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS (SHEET 1 OF 2)
19T0300/CD/CB/02/04	OUTLET (STB3) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS (SHEET 2 OF 2)

DRAWING NO.	DRAWING DESCRIPTION
	<b>CULVERT STRUCTURE (STC):</b>
19T0300/CD/CC/01/01	LAYOUT PLAN & LONGITUDINAL SECTION
19T0300/CD/CC/02/01	INLET (STC1) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS
19T0300/CD/CC/02/02	OUTLET (STC2) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS
19T0300/CD/CC/02/03	OUTLET (STC3) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS
	<b>CULVERT STRUCTURE (STD):</b>
19T0300/CD/CD/01/01	LAYOUT PLAN & LONGITUDINAL SECTION
19T0300/CD/CD/02/01	INLET (STD1) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS
19T0300/CD/CD/02/02	OUTLET (STD2) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS
	<b>GUARDHOUSE:</b>
19T0300/CD/GH/01/01	GENERAL SITE LAYOUT PLAN & SETTING-OUT DETAILS
19T0300/SD/GH/01/02	FOUNDATION LAYOUT & DETAILS
19T0300/AD/GH/02/01	FLOOR PLAN, ROOF PLAN, SECTIONS & ELEVATIONS
	<b>FENCING &amp; SECURITY GATE:</b>
19T0300/SD/FS/01/01	GENERAL LAYOUT PLAN OF EXISTING SECURITY FENCE
19T0300/SD/FS/02/01	SECURITY GATE & FENCING DETAIL



REFERENCE DRAWINGS			
Drawing Name		Drawing No.	
REVISIONS			
① ISSUED FOR TENDER PURPOSES		APR 2022	
Rev. No.	Description	Date	
MAKHADO LOCAL MUNICIPALITY			
PRIVATE BAG X2596 MAKHADO 0920		Tel : (015) 519 3000 Cell : (082) 922 8547 Email: lvhuwani@makhado.gov.za3	
APPROVED		DATE	
 civil and structural consulting engineers			
TSHWANE: Tel: (012) 664-6490 Fax: (012) 664-7709		THOHYANDOU: Tel: (015) 963-3773 Fax: (015) 963-3775	
POLOKWANE: Tel: (015) 291-2491 Fax: (015) 295-7753		VRYBURG: Tel: (053) 927-1373 Fax: (053) 927-0716	
APPROVED		DATE	
Project Name:  REHABILITATION & CLOSING OF VONDELING LANDFILL SITE			
Project Component:  GENERAL			
Drawing Name:  LIST OF DRAWINGS AND LOCALITY PLAN			
Drawing No.: <div>19T0300</div> <div>C</div> <div>D</div> <div>GA</div> <div>01</div> <div>01</div>			
Revisions			
Scale: N.T.S		Designed W.S.S APR 2022	
Drawn I.S.S APR 2022		Original Size: A 1	
Checked R.J.D APR 2022			
Contract No.:  47/2018			
ISSUED FOR TENDER PURPOSES			



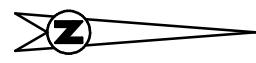


BERGVLIET 288-LS  
(7/288) G204/1917  
MAKHADO LOCAL MUNICIPALITY  
SG: A845/1917

COORDINATE LIST			
NAME	Y	X	Z
SM01	-95164.286	2551484.426	935.466
SM02	-95366.564	2551588.206	931.389
SM03	-95507.957	2551861.915	922.242
SM04	-95208.230	2552105.215	928.846

LEGEND:

- CADASTRAL BOUNDARY
- ESCOM SERVIDUE
- BENCHMARKS
- OVERHEAD POWERLINES
- GRAVEL ROADS
- WATER PIPELINES
- PLM - PIPELINE MARKER
- TAP
- BOREHOLE
- EXISTING SECURITY FENCE
- EXISTING ENTRANCE GATE
- BUILDING
- TELKOM LINE
- TREES
- LAMP POST



REFERENCE DRAWINGS

Drawing Name Drawing No.

REVISIONS

Rev. No.	Description	Date
1	ISSUED FOR TENDER PURPOSES	APR 2022



MAKHADO LOCAL MUNICIPALITY

PRIVATE BAG X2596  
MAKHADO  
0920

Tel: (015) 519 3000  
Cell: (082) 922 8547  
Email: livhuwani@makhado.gov.za3

APPROVED

DATE



TSHWANE:  
Tel: (012) 664-6490  
Fax: (012) 664-7709

THOHAYANDOU:  
Tel: (015) 963-3773  
Fax: (015) 963-3775

POLOKWANE:  
Tel: (015) 291-2491  
Fax: (015) 295-7753

VRIBURG:  
Tel: (053) 927-1373  
Fax: (053) 927-0716

APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

GENERAL

Drawing Name:

GENERAL SITE LAYOUT  
PLAN & BENCHMARKS

Drawing No.:

19T0300 C D GA 02 01

Revisions

Scale:	Designed	W.S.S	APR 2022
1:1000	Drawn	I.S.S	APR 2022
Original Size:	A 1	Checked	R.J.D

Contract No.:

47/2018

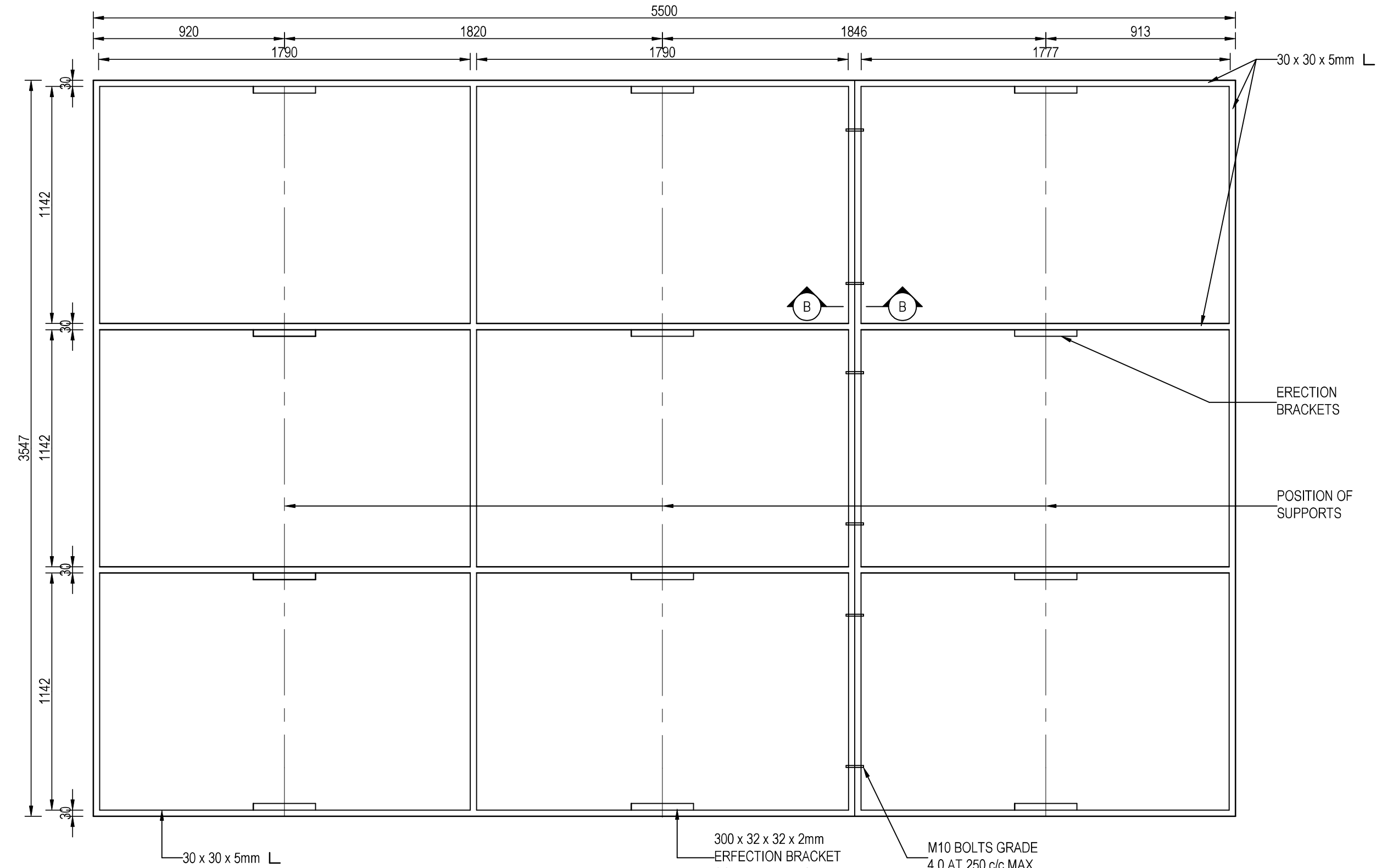
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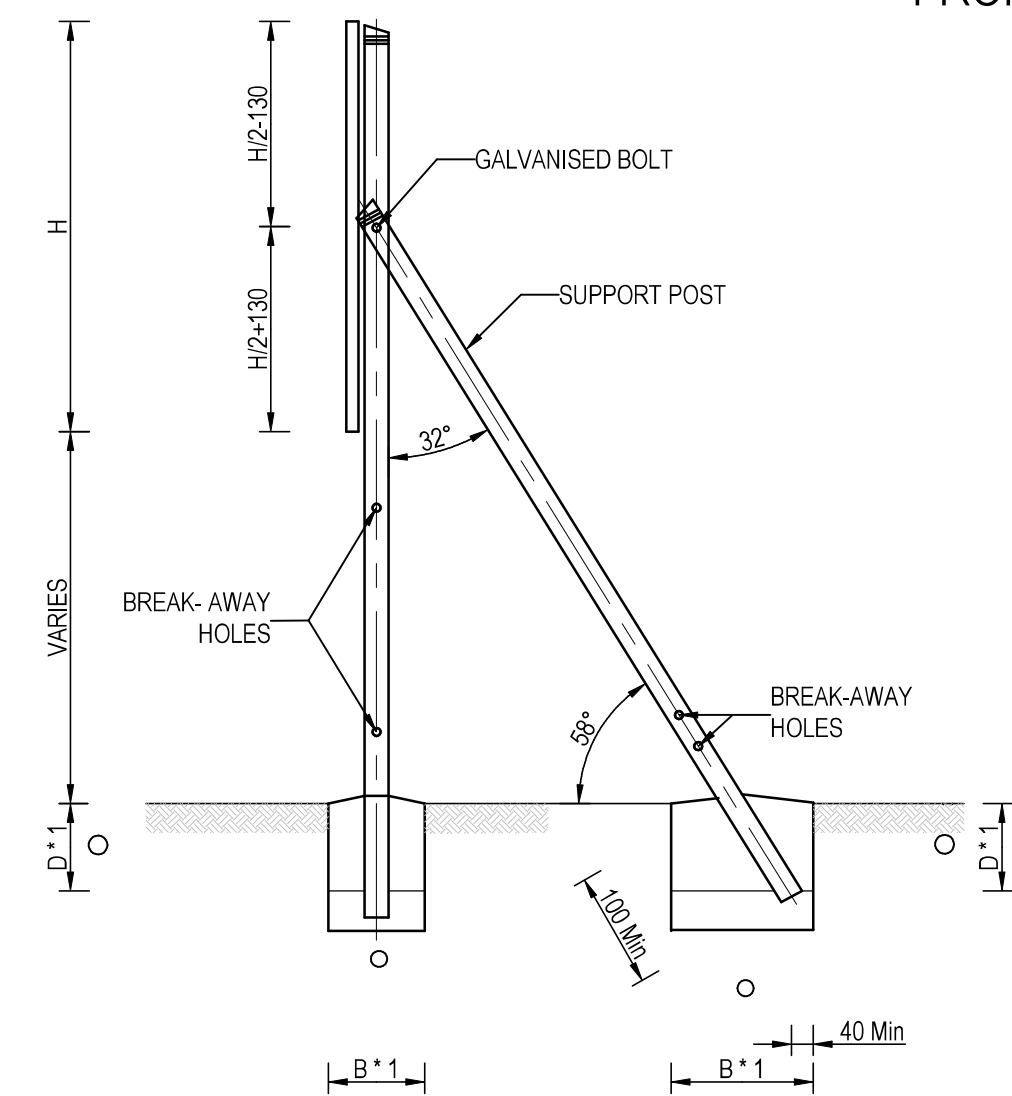
FRONT ELEVATION

SCALE : 1:20

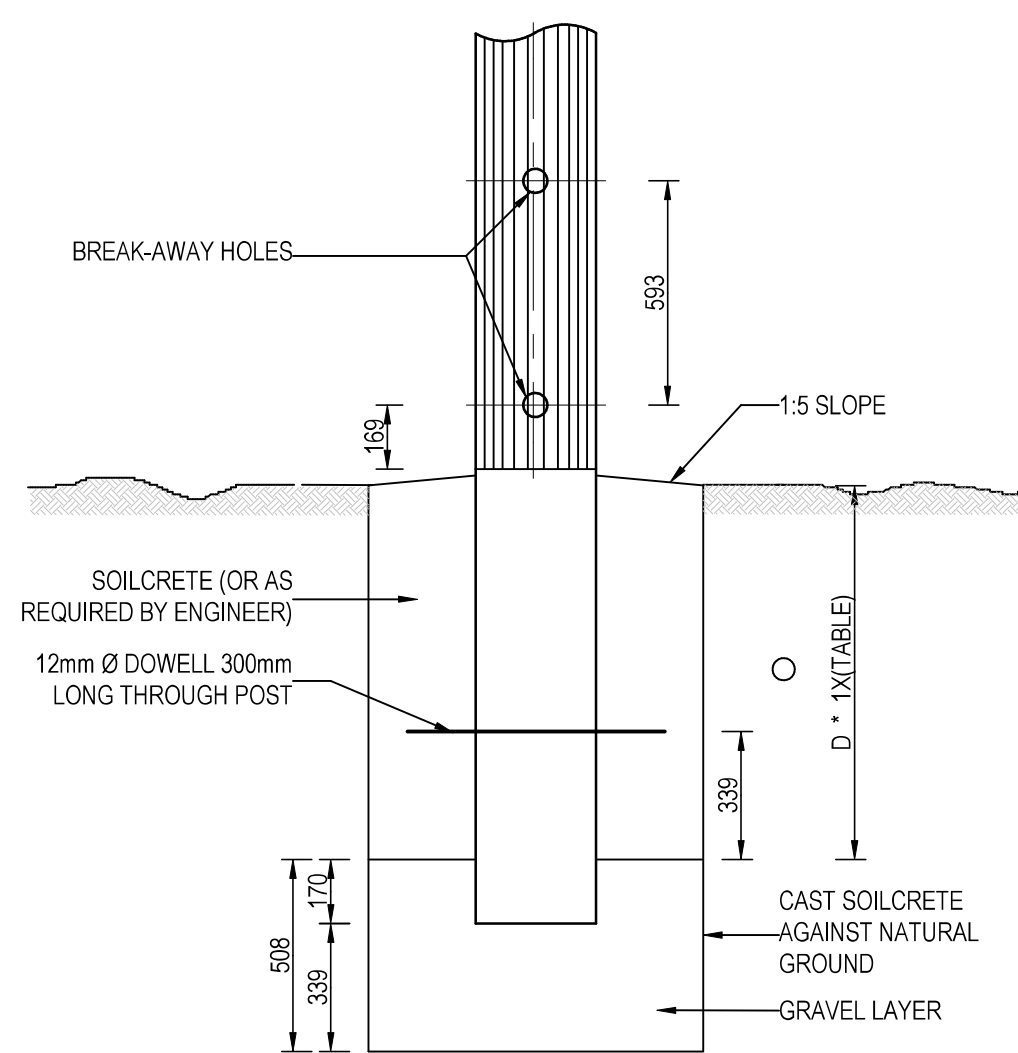


REAR SIDE BRACING

SCALE : 1:20

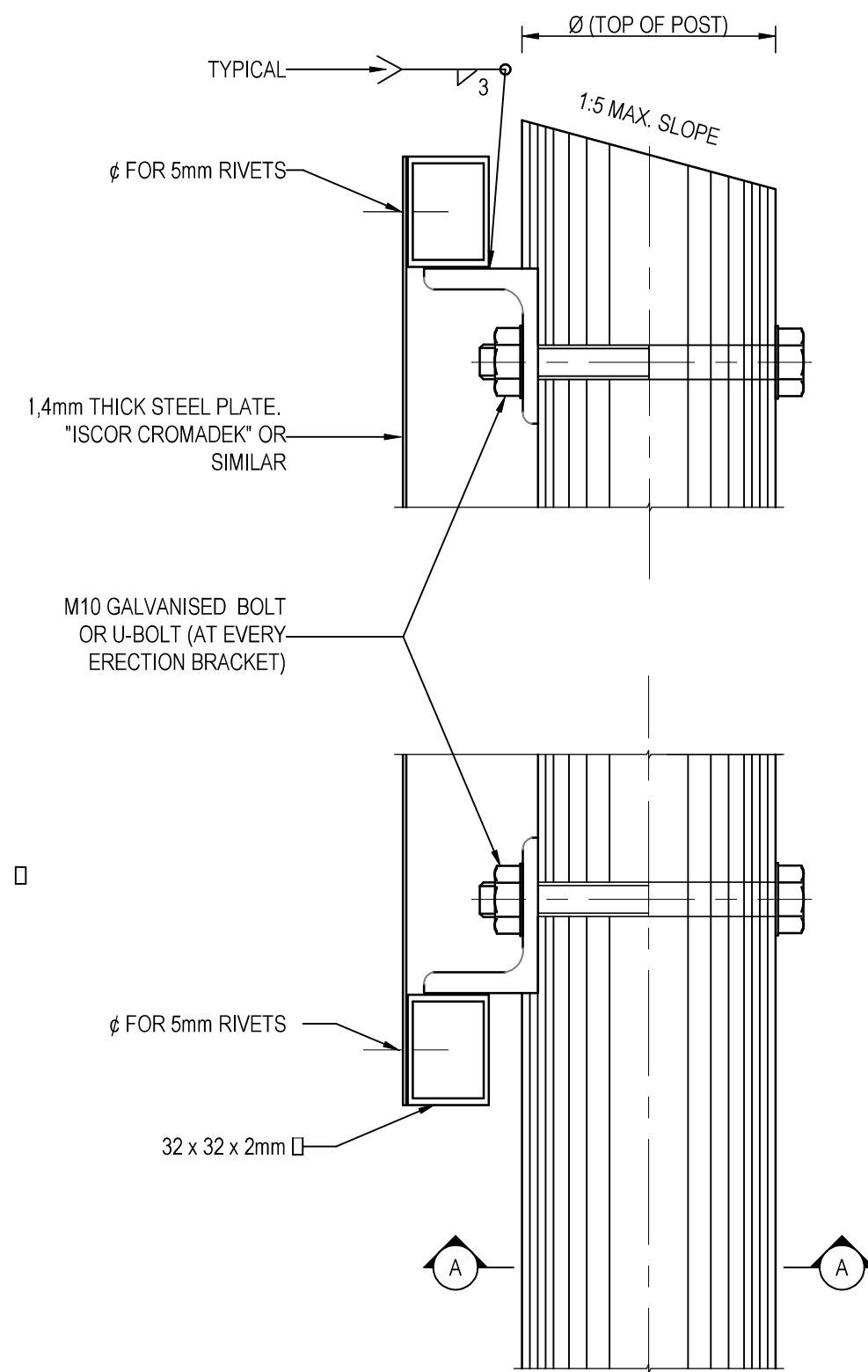


SIDE ELEVATION OF ROAD SIGN

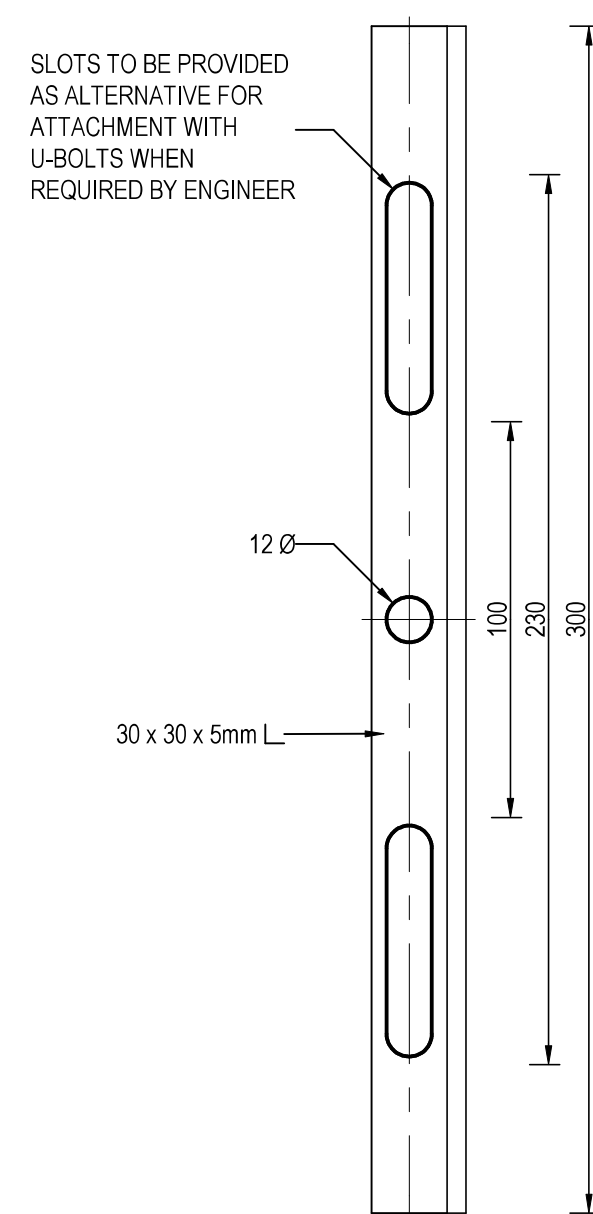


FOUNDATION DETAIL

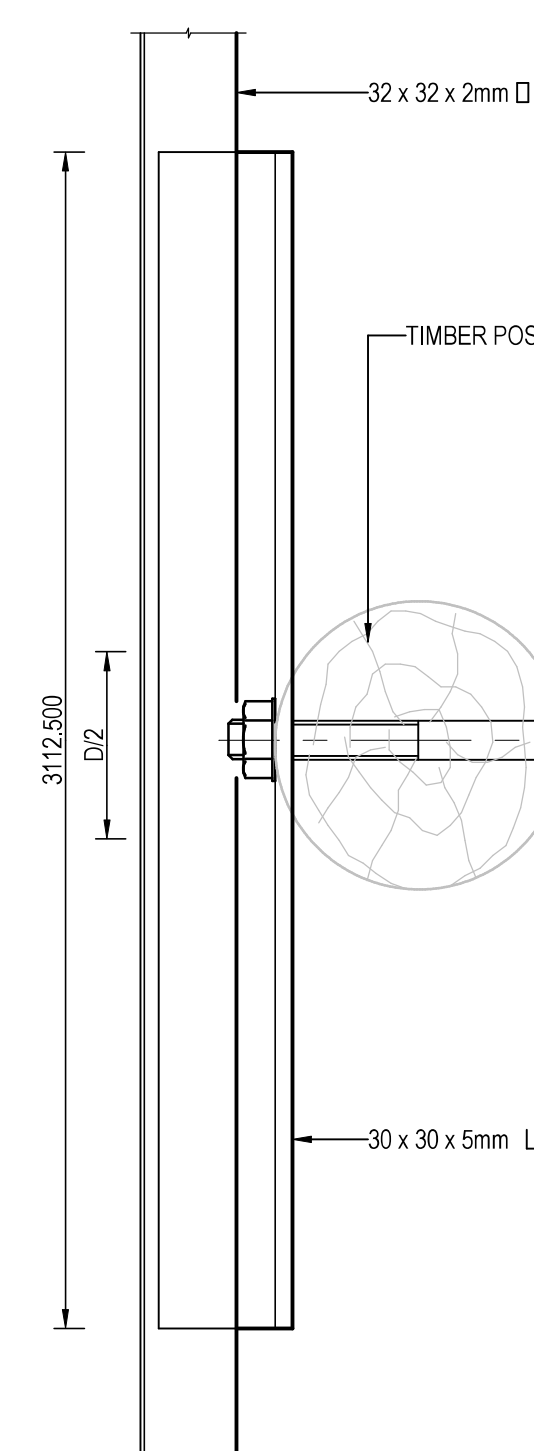
SECTION B-B  
(AT JOINT OF SIGN)



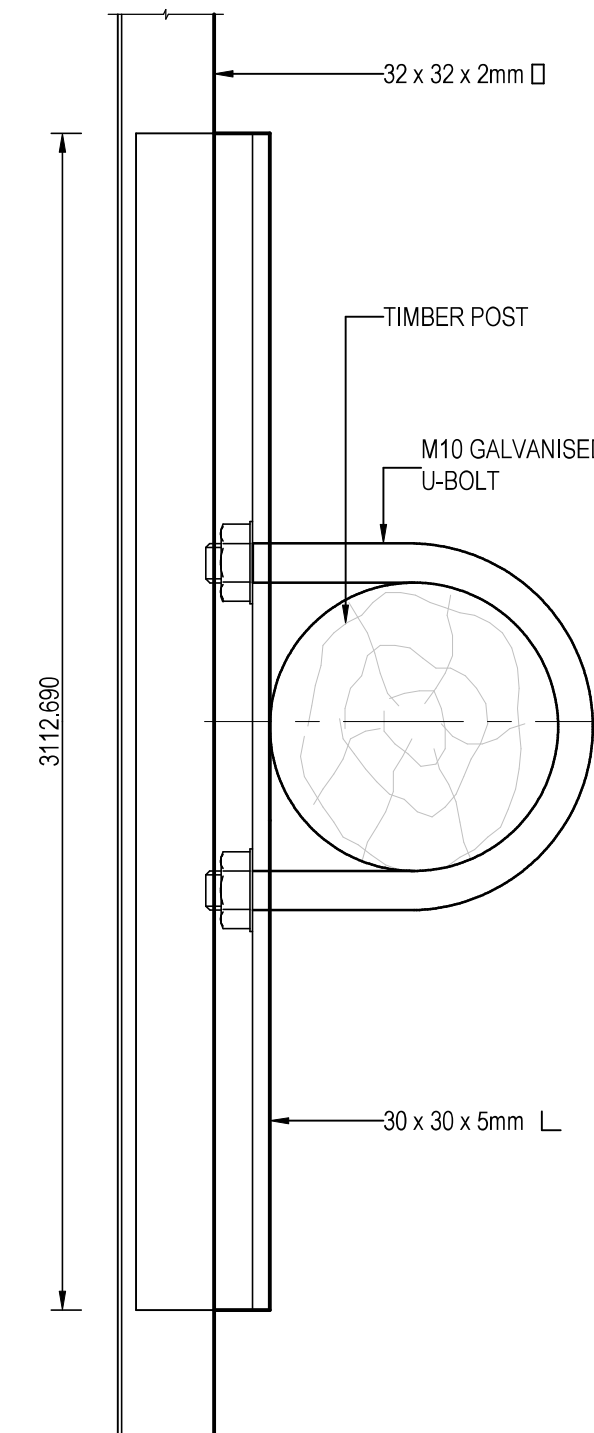
SIDE ELEVATION



ELEVATION OF  
ERECTION BRACKET



SECTION A-A



SECTION A-A  
(WITH U-BOLT)

- NOTES:**
- EMBLEM:**
1. ALL EMBLEMS TO BE DISPLAYED IN FULL COLOUR ON A SEMI-MATT BACKGROUND.
- LETTERS AND NUMBERS:**
2. DESCRIPTION : MATT-BLACK, SERIES DIN B LETTERS AND NUMBERS ON A SEMI-MATT SMOKE - GREY BACKGROUND.
- BORDERS:**
3. BORDER : GREEN NON-REFLECTORIZED.
- QUANTITY:**
4. TWO SIGN BOARDS, SHALL BE ERECTED AT POSITIONS AS DETERMINED BY THE ENGINEER.
- DESCRIPTION:**
5. DESCRIPTION OF WORK (NUMBER OF KILOMETRES AND TYPE OF WORK, eg. "13.5km RECONSTRUCTION OF ROAD 1974. "DESCRIPTION STARTS CENTERED ON THE LEFT-HAND SIDE AND THE FIRST 105mm - DIMENSION BELOW "NORTHERN"
6. SAFCOC EMBLEM ONLY IF CONTRACTOR IS A MEMBER OTHERWISE BLANK.
7. NEW SAACE LOGO TO BE OBTAINED FROM SAACE "JOHANNESBURG"

1 REFER TO TABLE No 1 FOR DIMENSIONS

TABLE 1: DETERMINATION OF POSTS & FOOTINGS				
ERECTION DETAILS				
TYPE OF POST	UPRIGHT	STAY	D	B(DIA)
TIMBER POST AND STAY	100mm	80mm	600mm	850mm
TIMBER POST	180mm	-	1000mm	1450mm
D SECTION STEEL POST	100mm x 4mm	-	1000mm	1450mm

DETERMINATION OF BREAK-AWAY HOLES	
POLE DIA (mm)	HOLE DIA (mm)
< 140	NONE
141 - 170	40
171 - 200	50
201 - 225	65

MAKHADO LOCAL MUNICIPALITY		
PRIVATE BAG X2596 MAKHADO 0920		
Tel : (015) 519 3000 Cell : (082) 922 8547 Email: livhuwani@makhado.gov.za3		
PROJECT NAME		
REHABILITATION & CLOSING OF VONDELING LANDFILL SITE		
CONSULTING ENGINEER : TEL : (082) 874 3318 INFRABURO (PTY)LTD		
CONTRACTOR : TEL : (015) XXX XXX		
REFERENCE DRAWINGS		
Drawing Name Drawing No.		
REVISIONS		
ISSUED FOR TENDER PURPOSES APR 2022		
Rev. No. Description Date		
MAKHADO LOCAL MUNICIPALITY		
PRIVATE BAG X2596 MAKHADO 0920		
Tel : (015) 519 3000 Cell : (082) 922 8547 Email: livhuwani@makhado.gov.za3		
APPROVED DATE		
INFRABURO civil and structural consulting engineers		
TSHWANE: Tel: (012) 664-6490 Fax: (012) 664-7709		
THOHYANDOU: Tel: (015) 963-3773 Fax: (015) 963-3775		
POLOKWANE: Tel: (015) 291-2491 Fax: (015) 295-7753		
VRYBURG: Tel: (053) 927-1373 Fax: (053) 927-0716		
APPROVED DATE		
Project Name:		
REHABILITATION & CLOSING OF VONDELING LANDFILL SITE		
Project Component:		
GENERAL		
Drawing Name:		
NAME BOARD DETAILS		
Drawing No.:		
19T0300 C D GA 03 01		
Revisions		
Scale: N.T.S.		
Designed W.S.S. APR 2022		
Drawn I.S.S. APR 2022		
Original Size: A 1 Checked R.J.D. APR 2022		
Contract No.:		
47/2018		
ISSUED FOR TENDER PURPOSES		



## TYPICAL SIGN SEQUENCE FOR SHOULDER WORK

## ROAD CLOSED: STANDARD SIGN SEQUENCE FOR A DETOUR

### TYPICAL SECTION SEQUENCE FOR ROAD UNDER CONSTRUCTION AND DETOUR INTERSECTION


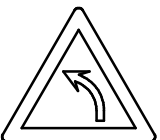




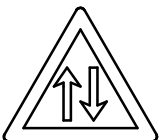
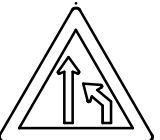


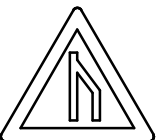






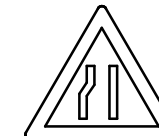







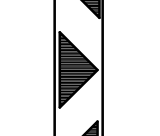
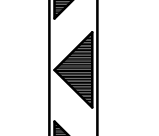

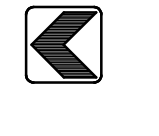



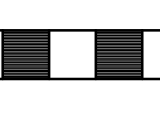
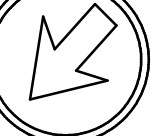
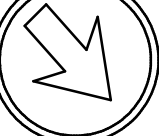
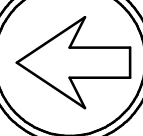





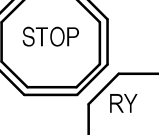


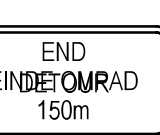
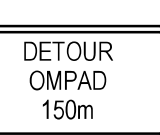
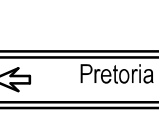
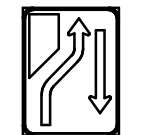
CHEVRON OR TEMPORARY  
BARRICADE

ROAD CLOSED  
BARRICADE

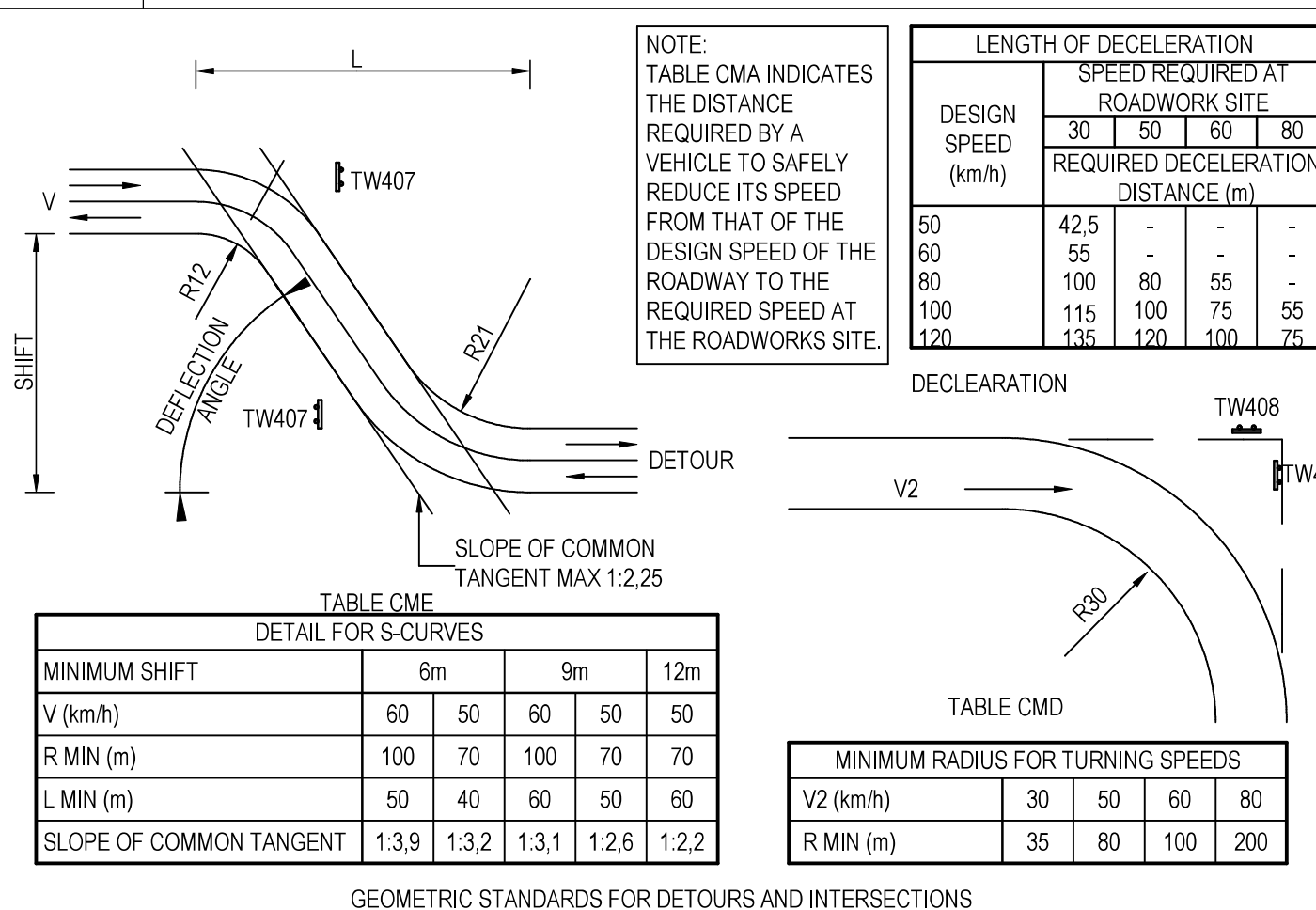
### DETAIL OF DRUMS & ATTACHMENT OF TEMPORARY GUARDRAILS

CONES (TD4)

## CLOSING OF ONE OR MORE LANES

<p>TW202 GENTLE CURVE</p> 	<p>TW203 GENTLE CURVE</p> 	<p>TW204 SHARP CURVE</p> 	<p>TW205 SHARP CURVE</p> 	<p>TW208 WINDING ROAD</p> 	<p>TW209 WINDING ROAD</p> 	<p>TW212 TWO WAY TRAFFIC</p> 	<p>TW214 RIGHT LANE ENDS</p> 	<p>TW215 LEFT LANE ENDS</p> 	<p>TW116 END OF DUAL ROADWAYS</p> 	<p>TW117 END OF DUAL ROADWAYS</p> 	<p>TW118 BEGINNING OF DUAL ROADWAYS</p> 
<p>TW119 BEGINNING OF DUAL ROADWAYS</p> 	<p>TW322 STEEP DESCENT</p> 	<p>TW323 STEEP ASCENT</p> 	<p>TW327 ONE VEHICLE WIDTH STRUCTURE</p> 	<p>TW329 ROAD NARROWS FROM ONE SIDE ONLY</p> 	<p>TW330 ROAD NARROWS FROM ONE SIDE ONLY</p> 	<p>TW336 ROAD WORKERS</p> 	<p>TW337 GRADER WORKING</p> 	<p>TW338 LOOSE STONES</p> 	<p>TW339 GENERAL WARNING</p> 	<p>TW343 STOP/GO CONTROL AHEAD</p> 	<p>TW344 TRUCKS CROSSING FROM LEFT</p> 
<p>TW346 TEMPORARY EMERGENCY FLASHLIGHT</p> 	<p>TW401 DANGER PLATE</p> 	<p>TW402 DANGER PLATE</p> 	<p>TW405 CHEVRON ARROW RIGHT</p> 	<p>TW406 CHEVRON ARROW LEFT</p> 	<p>TW407 CHEVRON RIGHT</p> 	<p>TW408 CHEVRON LEFT</p> 	<p>TW410 DEAD END ROAD CLOSED CHEVRON</p> 	<p>TW411 TEMPORARY BARRICADE</p> 	<p>TR103 KEEP LEFT</p> 	<p>TR104 KEEP RIGHT</p> 	<p>TR105 PROCEED LEFT ONLY</p> 
<p>TR106 PROCEED RIGHT ONLY</p> 	<p>TR107 PROCEED STRAIGHT ON ONLY</p> 	<p>TR201-40 SPEED LIMIT</p> 	<p>TR201-60 SPEED LIMIT</p> 	<p>TR214 NO OVERTAKING</p> 	<p>R1.5A/R1.5B STOP &amp; GO SIGN</p> 	<p>TIN11.4A ROAD WORKS AHEAD</p> 	<p>TIN11.4B END - THANK YOU</p> 	<p>TIN11.4C END OF DETOUR</p> 	<p>TIN11.4D DETOUR AHEAD</p> 	<p>TIN11.4E DIRECTION</p> 	<p>TGS123 TRAFFIC OBSTRUCTION</p> 

DIMENSIONS TRIANGULAR FOR WARNING SIGNS (TW)			
ROAD SIGN No.	APPROACH SPEED (km/h)		
	60	80	100-120
	LENGTH OF SIDES (mm)		
ALL TRIANGULAR WARNING SIGNS USED AT RURAL ROAD CONSTRUCTION AND MAINTENANCE SITES.	900	1200	1500
DIMENSIONS FOR REGULATORY SIGNS (TR-R)			
ROAD SIGN No.	APPROACH SPEED (km/h)		
	60	80	100-120
	DIAMETER (mm)		
TR201, R201	600	900	1200
R1.5A1.5B	750	750	750
TR103/105/106/107/214	600	900	1200
DIMENSIONS FOR INFORMATION SIGNS (TIN)			
ROAD SIGN No.	ALL ROADS ON RURAL AREAS INCLUDING HIGHWAYS		
	HEIGHT x WIDTH (mm)		
TIN11.4A	1650 x 2250		
TIN11.4B	900 x 1800		
TIN11.4C	1050 x 1800		
TIN11.4D	1100 x 1400		
DIMENSIONS FOR RECTANGULAR WARNING SIGNS (TW)			
ROAD SIGN No.	ALL ROADS ON RURAL AREAS INCLUDING HIGHWAYS		
TW401/402	1000 x 250		
TW405/406	600 x 600		
TW407/408	600 x 1800		
TW410	600 x 300		
TW411	300 x 1800		



NOTES:  
1. THE REQUIREMENTS AS STATED IN THE LATEST EDITION OF "THE SA ROAD TRAFFIC SIGNS MANUAL"(1992) AS WELL AS THE TECHNICAL MANUAL K56 OF THE NATIONAL INSTITUTE FOR TRANSPORT AND ROAD RESEARCH, SHALL BE CONFORMED TO.

2. FLAGMEN MAY ONLY BE USED WHEN THE TRAFFIC FLOW IS LESS THAN 200 VEHICLES PER HOUR. WHEN THE TRAFFIC FLOW IS GREATER STOP/GO (R1.5A/1.5B) SIGNS MUST BE USED.

3. CHEVRON BARRICADES TO BE USED IN CONJUNCTION WITH A TR105/106 SIGN WHERE A PORTION OF THE ROAD HAS BEEN CLOSED (eg. A SHOULDER OR A LANE). WHERE A ROAD IS TOTALLY CLOSED TO TRAFFIC, A ROAD-CLOSED SIGN WITH A CHEVRON SIGN SHALL BE ERECTED ON A SUITABLE BARRIER ACROSS THE ROAD.

4. ALL SIZES USED AT NIGHT SHOULD BE MADE OF APPROVED REFLECTING MATERIAL.

REFERENCE DRAWINGS	
Drawing Name	Drawing No.

REVISIONS		
⑦	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date



PRIVATE BAG X2596  
MAKHADO  
0920

APPROVE \_\_\_\_\_

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Email: livhuwanit@makhado.gov.za<sup>3</sup>



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Fax: (015) 963-3775

VRYPURG:  
Tel: (053) 927-1373  
Fax: (053) 927-0716

APPROVE

DATE

Project Name

## REHABILITATION & CLOSING OF VONDELING LANDFILL SITE

Project Component:	
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## GENERAL

Drawing Name:

## ACCOMMODATION OF TRAFFIC TYPICAL DETAILS

Drawing No.:

19T0300 C D GA 04 01

Revisions		(T)						
Scale:  N.T.S.		Designed	W.S.S	APR 2022				
		Drawn	I.S.S	APR 2022				
Original Size:	A 1	Checked	R.J.D	APR 2022				

Contract No.:

47/2018

ISSUED FOR TENDER PURPOSES

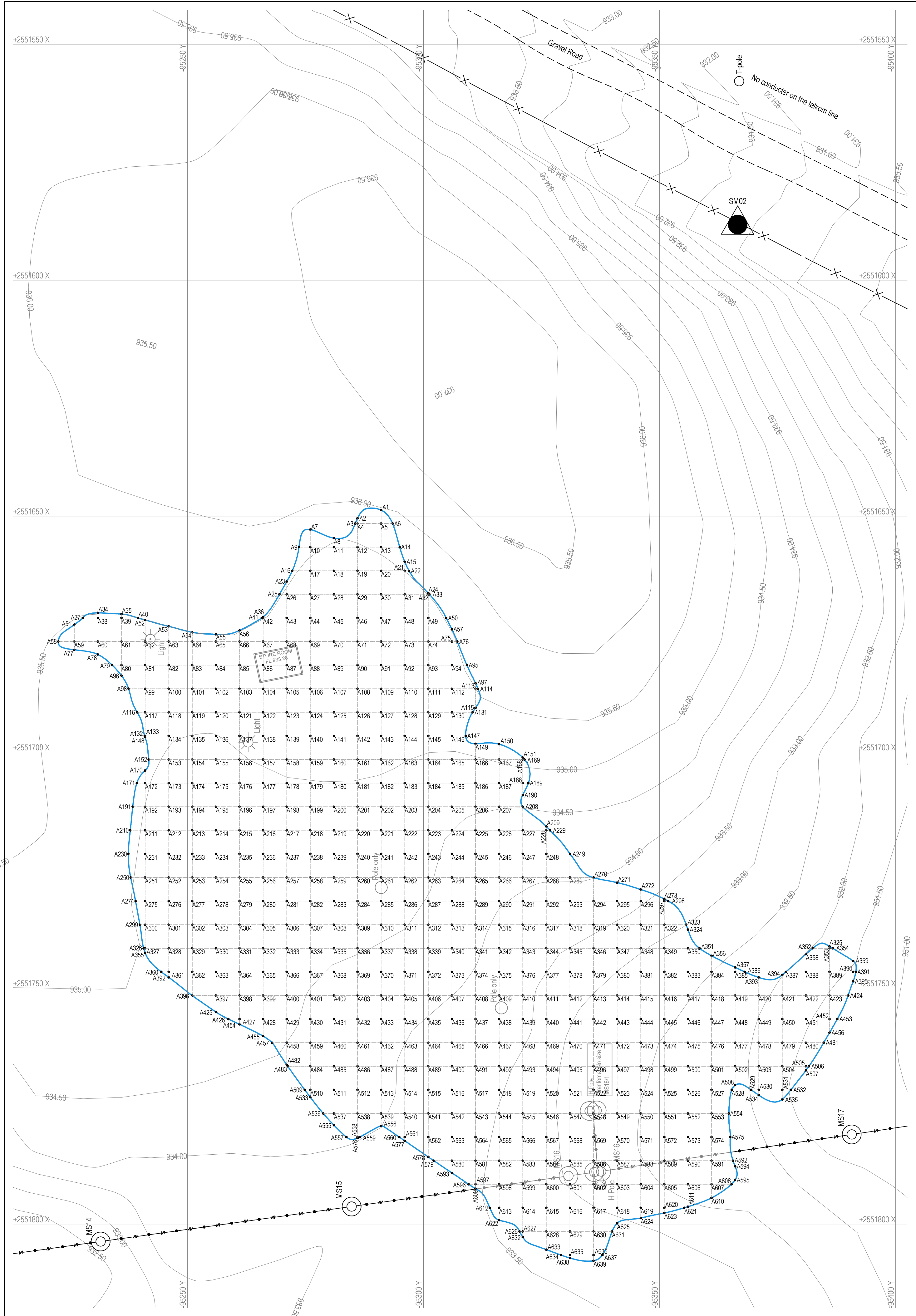






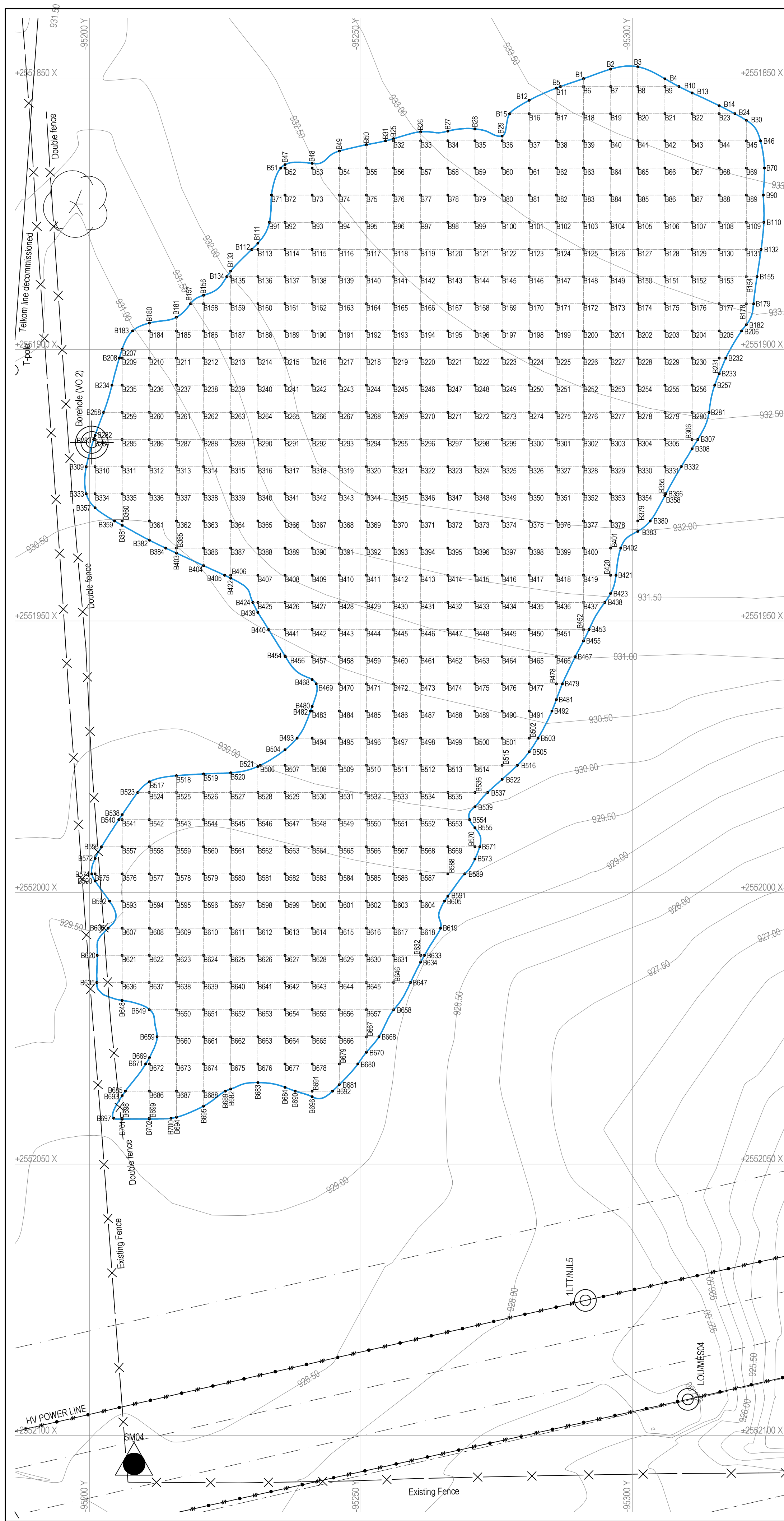






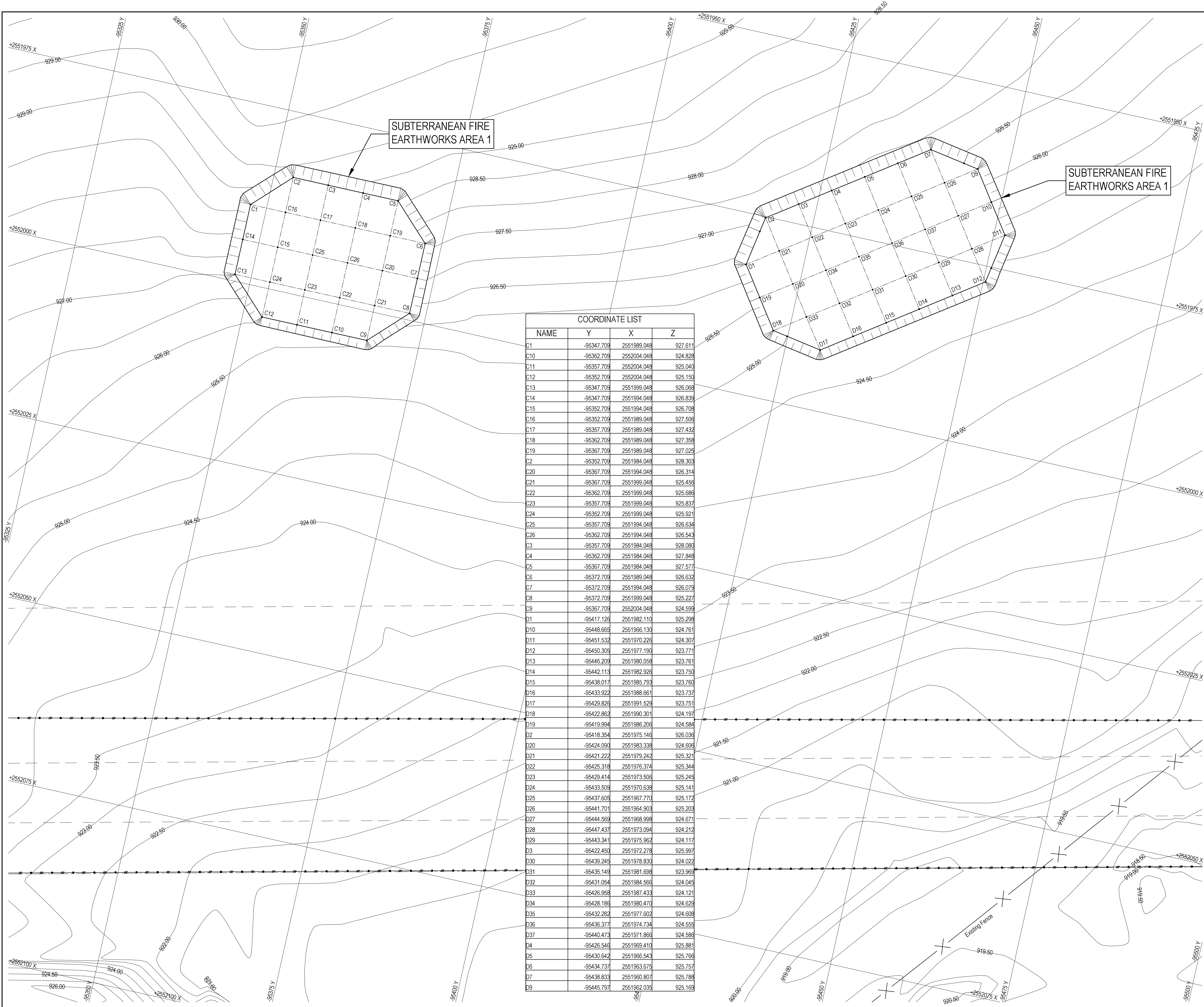
COORDINATE LIST				COORDINATE LIST				COORDINATE LIST				COORDINATE LIST				COORDINATE LIST				COORDINATE LIST			
NAME	Y	X	Z	NAME	Y	X	Z	NAME	Y	X	Z	NAME	Y	X	Z	NAME	Y	X	Z	NAME	Y	X	Z
A1	-95291.022	2551648.708	935.972	A205	-95306.022	2551711.558	934.628	A311	-95296.022	2551738.558	934.512	A418	-95361.022	2551751.558	932.394	A524	-95346.022	2551801.558	933.137	A630	-95336.022	2551801.558	933.137
A10	-95276.022	2551656.558	935.801	A206	-95311.022	2551711.558	934.561	A312	-95301.022	2551738.558	934.383	A419	-95366.022	2551751.558	932.244	A525	-95351.022	2551751.558	932.413	A631	-95339.941	2551801.558	933.100
A100	-95246.022	2551666.558	935.196	A207	-95316.022	2551738.558	934.242	A313	-95306.022	2551738.558	934.242	A420	-95371.022	2551751.558	932.089	A526	-95356.022	2551751.558	932.305	A632	-95321.022	2551802.745	933.395
A101	-95291.022	2551666.558	935.209	A208	-95321.022	2551711.558	934.515	A314	-95311.022	2551738.558	934.100	A421	-95376.022	2551751.558	931.904	A527	-95361.022	2551751.558	932.201	A633	-95326.022	2551806.414	933.355
A102	-95256.022	2551666.558	935.229	A209	-95326.022	2551738.558	933.963	A315	-95316.022	2551738.558	933.963	A422	-95381.022	2551751.558	931.709	A528	-95365.291	2551751.558	932.107	A634	-95328.119	2551806.558	933.340
A103	-95291.022	2551666.558	935.281	A210	-95237.883	2551716.558	935.054	A316	-95321.022	2551738.558	933.815	A423	-95386.022	2551751.558	931.498	A529	-95369.421	2551751.558	931.992	A635	-95331.022	2551806.558	933.320
A104	-95296.022	2551666.558	935.294	A211	-95241.022	2551716.558	934.988	A317	-95326.022	2551738.558	933.723	A424	-95391.022	2551751.558	931.294	A530	-95373.817	2551751.558	931.994	A636	-95336.022	2551806.558	933.262
A105	-95271.022	2551666.558	935.282	A212	-95246.022	2551716.558	934.939	A318	-95331.022	2551738.558	933.673	A425	-95396.022	2551751.558	931.089	A531	-95378.022	2551751.558	931.999	A637	-95337.914	2551806.558	933.241
A106	-95276.022	2551666.558	935.293	A213	-95251.022	2551716.558	934.883	A319	-95336.022	2551738.558	933.573	A426	-95399.022	2551751.558	930.884	A532	-95383.022	2551751.558	931.999	A638	-95331.022	2551807.153	933.339
A107	-95291.022	2551666.558	935.235	A214	-95256.022	2551716.558	934.833	A320	-95341.022	2551738.558	933.463	A427	-95404.022	2551751.558	930.679	A533	-95388.022	2551751.558	931.999	A639	-95336.022	2551807.772	933.291
A108	-95296.022	2551666.558	935.192	A215	-95261.022	2551716.558	934.783	A321	-95346.022	2551738.558	933.353	A428	-95409.022	2551751.558	930.474	A534	-95393.022	2551751.558	931.999	A640	-95341.022	2551808.391	933.241
A109	-95291.022	2551666.558	935.196	A216	-95266.022	2551716.558	934.733	A322	-95351.022	2551738.558	933.243	A429	-95414.022	2551751.558	930.269	A535	-95398.022	2551751.558	931.999	A641	-95346.022	2551809.008	933.191
A110	-95296.022	2551666.558	935.215	A217	-95271.022	2551716.558	934.683	A323	-95356.022	2551738.558	933.133	A430	-95419.022	2551751.558	930.064	A536	-95403.022	2551751.558	931.999	A642	-95351.022	2551809.625	933.141
A111	-95301.022	2551666.558	935.235	A218	-95276.022	2551716.558	934.633	A324	-95361.022	2551738.558	933.023	A431	-95424.022	2551751.558	929.859	A537	-95408.022	2551751.558	931.999	A643	-95356.022	2551810.242	933.091
A112	-95306.022	2551666.558	935.255	A219	-95281.022	2551716.558	934.583	A325	-95366.022	2551738.558	929.913	A432	-95429.022	2551751.558	929.654	A538	-95413.022	2551751.558	931.999	A644	-95361.022	2551810.861	933.041
A113	-95311.022	2551666.558	935.275	A220	-95286.022	2551716.558	934.533	A326	-95371.022	2551738.558	929.803	A433	-95434.022	2551751.558	929.449	A539	-95418.022	2551751.558	931.999	A645	-95366.022	2551811.480	932.991
A114	-95316.022	2551666.558	935.295	A221	-95291.022	2551716.558	934.483	A327	-95376.022	2551738.558	929.693	A434	-95439.022	2551751.558	929.244	A540	-95423.022	2551751.558	931.999	A646	-95371.022	2551812.099	932.941
A115	-95321.022	2551666.558	935.315	A222	-95296.022	2551716.558	934.433	A328	-95381.022	2551738.558	929.583	A435	-95444.022	2551751.558	929.039	A541	-95428.022	2551751.558	931.999	A647	-95376.022	2551812.718	932.891
A116	-95326.022	2551666.558	935.335	A223	-95301.022	2551716.558	934.383	A329	-95386.022	2551738.558	929.473	A436	-95449.022	2551751.558	928.834	A542	-95433.022	2551751.558	931.999	A648	-95381.022	2551813.337	932.841
A117	-95331.022	2551666.558	935.355	A224	-95306.022	2551716.558	934.333	A330	-95391.022	2551738.558	929.363	A437	-95454.022	2551751.558	928.629	A543	-95438.022	2551751.558	931.999	A649	-95386.022	2551813.956	932.791
A118	-95336.022	2551666.558	935.375	A225	-95311.022	2551716.558	934.283	A331	-95396.022	2551738.558	929.253	A438	-95459.022	2551751.558	928.424	A544	-95443.022	2551751.558	931.999	A650	-95391.022	2551814.575	932.741
A119	-95341.022	2551666.558	935.395	A226	-95316.022	2551716.558	934.233	A332	-95401.022	2551738.558	929.143	A439	-95464.022	2551751.558	928.219	A545	-95448.022	2551751.558	931.999	A651	-95396.022	2551815.194	932.691
A120	-95346.022	2551666.558	935.415	A227	-95321.022	2551716.558	934.183	A333	-95406.022	2551738.558	929.033	A440	-95469.022	2551751.558	928.014	A546	-95453.022	2551751.558	931.999	A652	-95401.022	2551815.813	932.641
A121	-95351.022	2551666.558	935.435	A228	-95326.022	2551716.558	934.133	A334	-95411.022	2551738.558	928.923	A441	-95474.022	2551751.558	927.809	A547	-95458.022	2551751.558	931.999	A653	-95406.022	2551816.432	932.591
A122	-95356.022	2551666.558	935.455	A229	-95331.022	2551716.558	934.083	A335	-95416.022	2551738.558	928.813	A442	-95479.022	2551751.558	927.604	A548	-95463.022	2551751.558	931.999	A654	-95411.022	2551817.051	932.541
A123	-95361.022	2551666.558	935.475	A230	-95336.022	2551716.558	934.033	A336	-95421.022	2551738.558	928.703	A443	-95484.022	2551751.558	927.399	A549	-95468.022	2551751.558	931.999	A655	-95416.022	2551817.670	932.491
A124	-95366.022	2551666.558	935.495	A231	-95341.022	2551716.558	933.983	A337	-95426.022	2551738.558	928.593	A444	-95489.022	2551751.558	927.194	A550	-95473.022	2551751.558	931.999	A656	-95421.022	2551818.289	932.441
A125	-95371.022	2551666.558	935.515	A232	-95346.022	2551716.558	933.933	A338	-95431.022	2551738.558	928.483	A445	-95494.022	2551751.558	926.989	A551	-95478.022	2551751.558	931.999	A657	-95426.022	2551818.908	932.391
A126	-95376.022	2551666.558	935.535	A233	-95351.022	2551716.558	933.883	A339	-95436.022	2551738.558	928.373	A446	-95499.022	2551751.558	926.784	A552	-95483.022	2551751.558	931.999	A658	-95431.022	2551819.527	932.341
A127	-95381.022	2551666.558	935.555	A234	-95356.022	2551716.558	933.833	A340	-95441.022	2551738.558	928.263	A447	-95504.022	2551751.558	926.579	A553	-95488.022	2551751.558	931.999	A659	-95436.022	2551820.146	932.291
A128	-95386.022	2551666.558	935.575	A235	-95361.022	2551716.558	933.783	A341	-95446.022	2551738.558	928.153	A448	-95509.022	2551751.558	926.374	A554	-95493.022	2551751.558	931.999	A660	-95441.022	2551820.765	932.241
A129	-95391.022	2551666.558	935.595	A236	-95366.022	2551716.558	933.733	A342	-95451.022	2551738.558	928.043	A449	-95514.022	2551751.558	926.169	A555	-95498.022	2551751.558	931.999	A661	-95446.022	2551821.384	932.191
A130	-95396.022	2551666.558	935.615	A237	-95371.022	2551716.558	933.683	A343	-95456.022	2551738.558	927.933	A450	-95519.022	2551751.558	925.964	A556	-95503.022	2551751.558	931.999	A662	-95451.022	2551822.003	932.141
A131	-95401.022	2551666.558	935.635	A238	-95376.022	2551716.558	933.633	A344	-95461.022	2551738.558	927.823	A451	-95524.022	2551751.558	925.759	A557	-95508.022	2551751.558	931.999	A663	-95456.022	2551822.622	932.091
A132	-95406.022	2551666.558	935.655	A239	-95381.022	2551716.558	933.583	A345	-95466.022	2551738.558	927.713	A452	-95529.022	2551751.558	925.554	A558	-95513.022	2551751.558	931.999	A664	-95461.022	2551823.241	932.041
A133	-95411.022	2551666.558	935.675	A240	-95386.022	2551716.558	933.533	A346	-95471.022	2551738.558	927.603	A453	-95534.022	2551751.558	925.349	A559	-95518.022	2551751.558	931.999	A665	-95466.022	2551823.860	931.991
A134	-95416.022	2551666.558	935.695	A241	-95391.022	2551716.558	933.483	A347	-95476.022	2551738.558	927.493	A454	-95539.022	2551751.558	925.144	A560	-95523.022	2551751.558	931.999	A666	-95471.022	2551824.479	931.941
A135	-95421.022	2551666.558	935.715	A242	-95396.022	2551716.558	933.433	A348	-95481.022	2551738.558	927.383	A455	-95544.022	2551751.558	924.939	A561	-95528.022	2551751.558	931.999	A667	-95476.022	2551825.098	931.891
A136	-95426.022	2551666.558	935.735	A243	-95401.022	2551716.558	933.383	A349	-95486.022	2551738.558	927.273	A456	-95549.022	2551751.558	924.734	A562	-95533.022	2551751.558	931.999	A668	-95481.022	2551825.717	931.841
A137	-95431.022	2551666.558	935.755	A244	-95406.022	2551716.558	933.33																





COORDINATE LIST				COORDINATE LIST				COORDINATE LIST				COORDINATE LIST				COORDINATE LIST				COORDINATE LIST				COORDINATE LIST							
NAME	Y	X	Z	NAME	Y	X	Z	NAME	Y	X	Z	NAME	Y	X	Z	NAME	Y	X	Z	NAME	Y	X	Z	NAME	Y	X	Z	NAME	Y	X	Z
B10	-95291.022	2551850.096	933.628	B185	-95216.022	2551896.558	931.269	B270	-95261.022	2551911.558	932.237	B356	-95306.202	2551926.558	932.163	B441	-95236.022	2551951.558	930.533	B527	-95226.022	2551981.558	929.749	B612	-95231.022	2552006.558	929.322	B699	-95211.022	2552041.558	929.114
B11	-95308.604	2551851.558	933.744	B186	-95221.022	2551896.558	931.458	B271	-95266.022	2551911.558	932.273	B357	-95301.022	2551926.558	932.169	B442	-95241.022	2551951.558	930.684	B528	-95231.022	2551981.558	929.811	B613	-95236.022	2552006.558	929.207	B700	-95206.022	2551851.558	933.657
B100	-95276.022	2551876.558	932.928	B187	-95226.022	2551896.558	931.674	B272	-95271.022	2551911.558	932.298	B358	-95306.022	2551926.558	932.154	B443	-95246.022	2551951.558	930.776	B529	-95236.022	2551981.558	929.873	B614	-95241.022	2552006.558	929.270	B701	-95234.361	2551866.558	933.547
B101	-95281.022	2551876.558	932.988	B188	-95231.022	2551896.558	931.898	B273	-95276.022	2551911.558	932.333	B359	-95304.617	2551931.558	930.498	B444	-95251.022	2551951.558	930.848	B530	-95241.022	2551981.558	929.848	B615	-95246.022	2552006.558	929.237	B702	-95215.016	2552041.558	929.163
B102	-95286.022	2551876.558	933.047	B189	-95236.022	2551896.558	932.051	B274	-95281.022	2551911.558	932.388	B360	-95306.022	2551931.558	930.517	B445	-95256.022	2551951.558	931.251	B531	-95241.022	2551981.558	929.931	B616	-95251.022	2552006.558	929.188	B703	-95206.022	2552041.700	929.066
B103	-95291.022	2551876.558	933.101	B190	-95236.022	2551896.558	932.296	B275	-95286.022	2551911.558	932.393	B361	-95306.022	2551931.558	930.534	B446	-95261.022	2551951.558	930.974	B532	-95246.022	2551981.558	929.978	B617	-95256.022	2552006.558	929.147	B704	-95211.022	2552041.888	929.111
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B106	-95306.022	2551876.558	933.238	B193	-95251.022	2551896.558	932.298	B278	-95301.022	2551911.558	932.473	B364	-95321.022	2551931.558	930.574	B449	-95276.022	2551951.558	931.133	B535	-95261.022	2551981.558	930.060	B620	-95266.022	2551866.558	933.247	B707	-95241.022	2551871.558	932.435
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REFERENCE DRAWINGS

Drawing Name	Drawing No.

REVISIONS

①	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date

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APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

EARTHWORKS

Drawing Name:

SUBTERRANEAN FIRE EARTHWORKS  
AREA NO. 1 & 2: SETTING OUT GRID  
WITH FINAL CUT LEVELS

Drawing No.:

19T0300

C

D

EW

03

03

Revisions

①

Scale:

1:250

Designed

W.S.S

APR 2022

Drawn

I.S.S

APR 2022

Original Size:

A 1

Checked

R.J.D

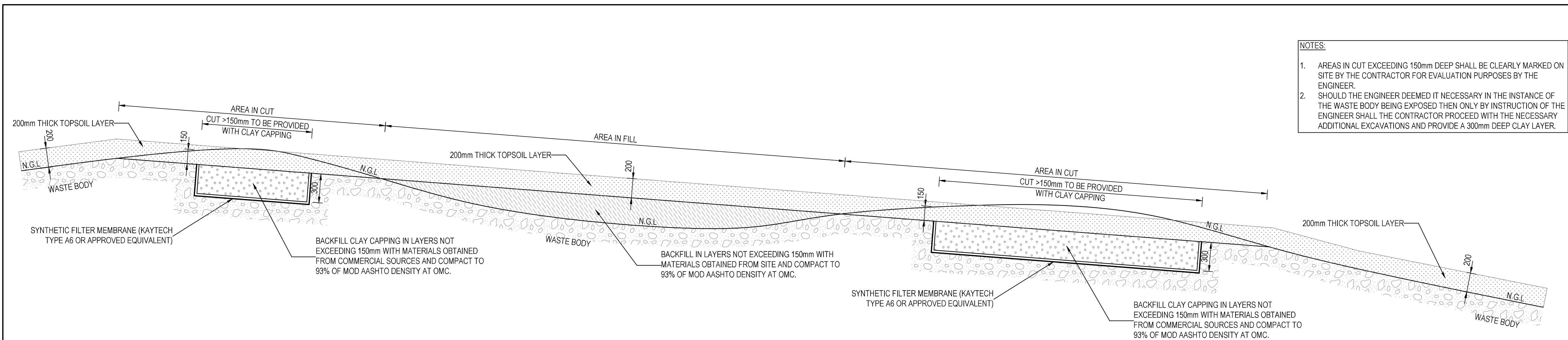
APR 2022

Contract No.:

47/2018

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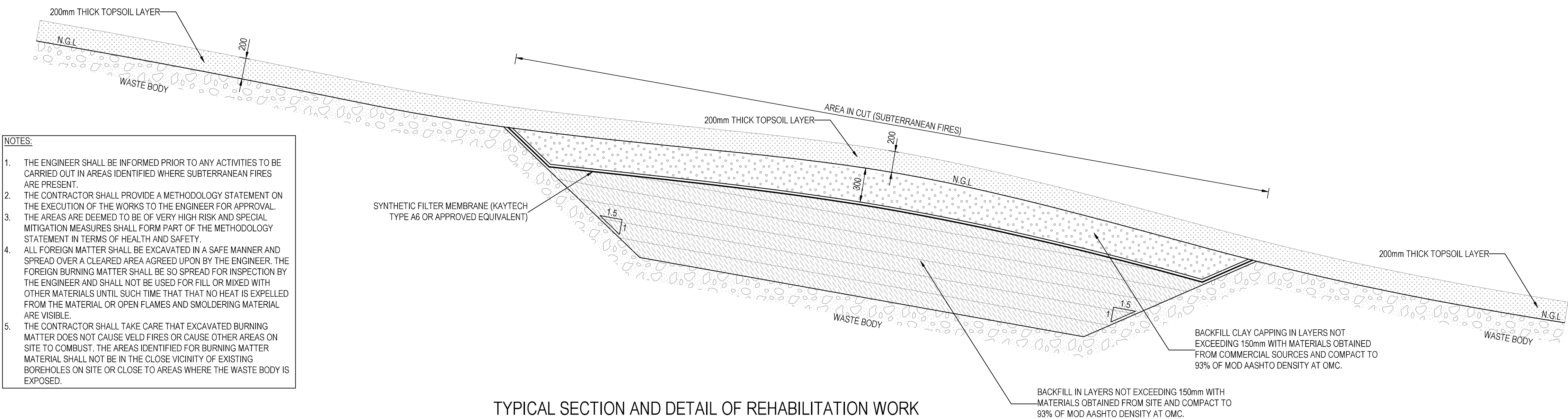




- NOTES:
1. AREAS IN CUT EXCEEDING 150mm DEEP SHALL BE CLEARLY MARKED ON SITE BY THE CONTRACTOR FOR EVALUATION PURPOSES BY THE ENGINEER.
  2. SHOULD THE ENGINEER DEEMED IT NECESSARY IN THE INSTANCE OF THE WASTE BODY BEING EXPOSED THEN ONLY BY INSTRUCTION OF THE ENGINEER SHALL THE CONTRACTOR PROCEED WITH THE NECESSARY ADDITIONAL EXCAVATIONS AND PROVIDE A 300mm DEEP CLAY LAYER.

TYPICAL SECTION AND DETAIL OF REHABILITATION WORK  
AT EARTHWORKS CUT & FILL AREA NO. 1 & 2

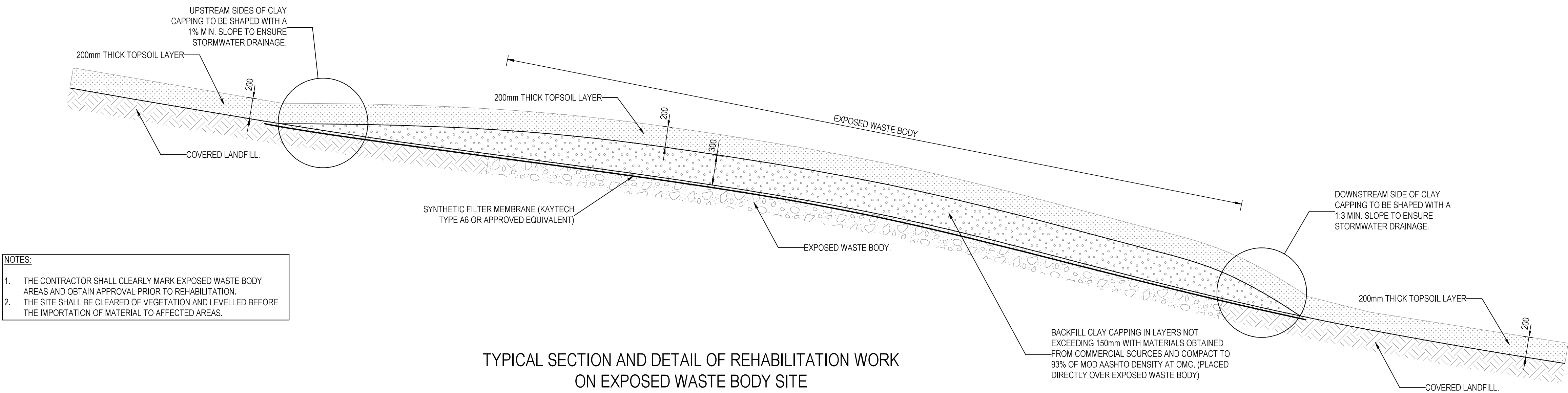
SCALE 1:25



- NOTES:
1. THE ENGINEER SHALL BE INFORMED PRIOR TO ANY ACTIVITIES TO BE CARRIED OUT IN AREAS IDENTIFIED WHERE SUBTERRANEAN FIRES ARE PRESENT.
  2. THE CONTRACTOR SHALL PROVIDE A METHODOLOGY STATEMENT ON THE EXECUTION OF THE WORKS TO THE ENGINEER FOR APPROVAL. THE AREAS ARE DEEMED TO BE OF VERY HIGH RISK AND SPECIAL MITIGATION MEASURES SHALL FORM PART OF THE METHODOLOGY STATEMENT IN TERMS OF HEALTH AND SAFETY.
  3. ALL FOREIGN MATTER SHALL BE EXCAVATED IN A SAFE MANNER AND SPREAD OVER A CLEARED AREA AGREED UPON BY THE ENGINEER. THE FOREIGN BURNING MATTER SHALL BE SO SPREAD FOR INSPECTION BY THE ENGINEER AND SHALL NOT BE USED FOR FILL OR MIXED WITH OTHER MATERIALS UNTIL SUCH TIME THAT THAT NO HEAT IS EXPELLED FROM THE MATERIAL OR OPEN FLAMES AND SMOLDERING MATERIAL ARE VISIBLE.
  4. THE CONTRACTOR SHALL TAKE CARE THAT EXCAVATED BURNING MATTER DOES NOT CAUSE VELD FIRES OR CAUSE OTHER AREAS ON SITE TO COMBUST. THE AREAS IDENTIFIED FOR BURNING MATTER MATERIAL SHALL NOT BE IN THE CLOSE VICINITY OF EXISTING BOREHOLES ON SITE OR CLOSE TO AREAS WHERE THE WASTE BODY IS EXPOSED.

TYPICAL SECTION AND DETAIL OF REHABILITATION WORK  
AT SUBTERRANEAN FIRE EARTHWORKS AREA NO. 1 & 2

SCALE 1:25



- NOTES:
1. THE CONTRACTOR SHALL CLEARLY MARK EXPOSED WASTE BODY AREAS AND OBTAIN APPROVAL PRIOR TO REHABILITATION.
  2. THE SITE SHALL BE CLEARED OF VEGETATION AND LEVELLED BEFORE THE IMPORTATION OF MATERIAL TO AFFECTED AREAS.

TYPICAL SECTION AND DETAIL OF REHABILITATION WORK  
ON EXPOSED WASTE BODY SITE

SCALE 1:25

REFERENCE DRAWINGS	
Drawing Name	Drawing No.

REVISIONS		
①	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date




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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

Project Name:

**REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE**

Project Component:

**EARTHWORKS**

Drawing Name:

**TYPICAL SECTIONS AND DETAILS**

Drawing No.:

19T0300	C	D	EW	04	01
Revisions					
Scale:	1:25	Designed	W.S.S	APR 2022	
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Contract No.:

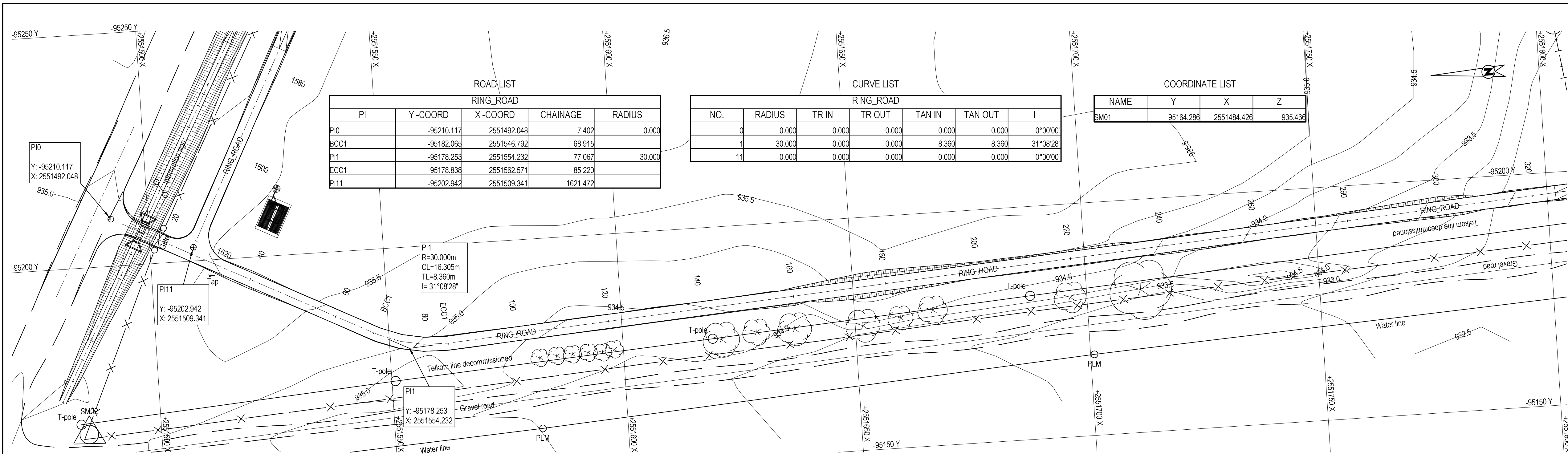
**47/2018**

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LEGEND:  
--- GROUND  
--- FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name Drawing No.

REVISIONS

Rev. No.	Description	Date
1	ISSUED FOR TENDER PURPOSES	APR 2022



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APPROVED

DATE



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APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

RING ROAD

Drawing Name:

LAYOUT PLAN AND  
LONGITUDINAL SECTION  
(SHEET 1 OF 6)

Drawing No.:

19T0300 C D RD 02 01

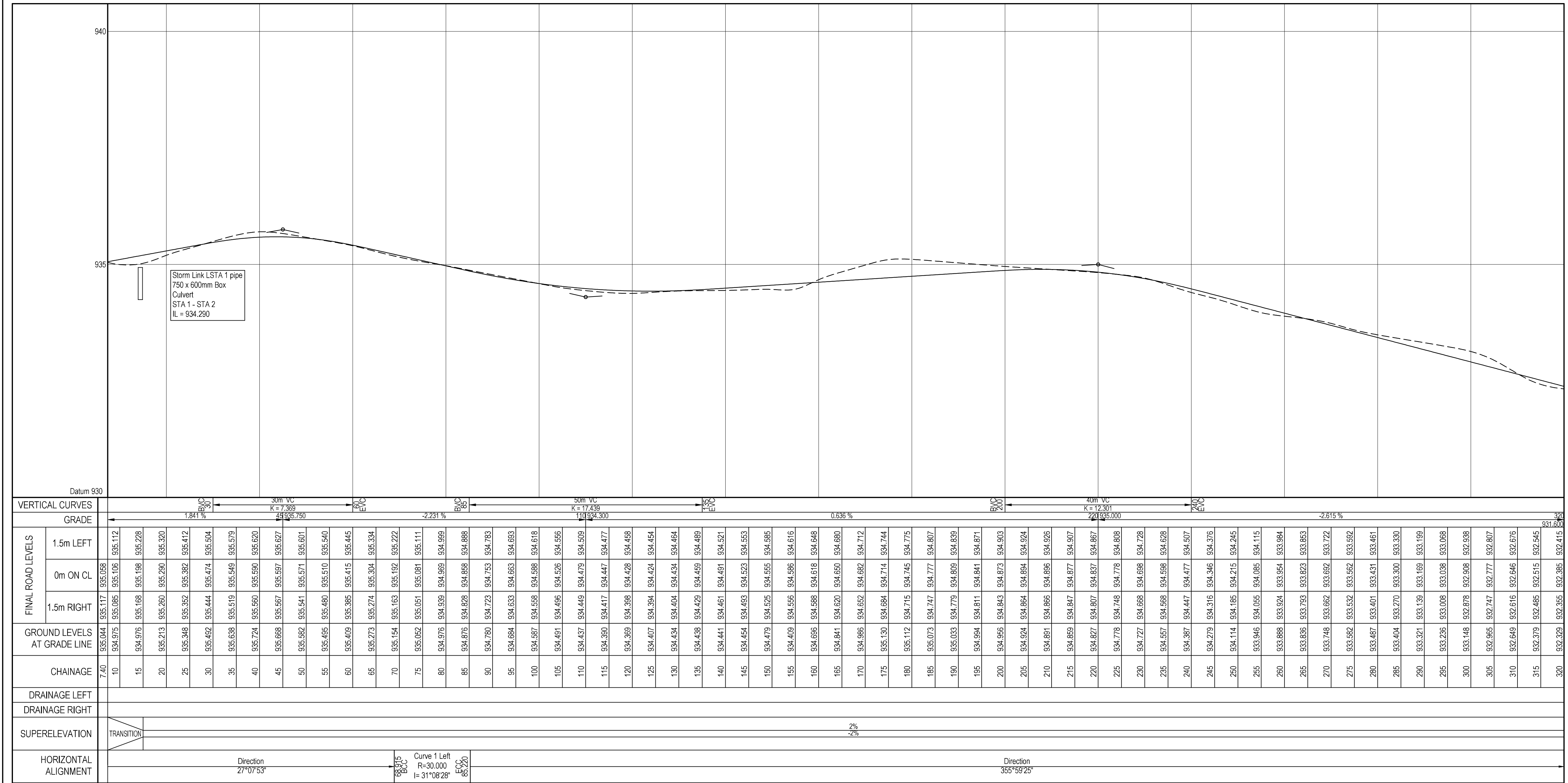
Revisions

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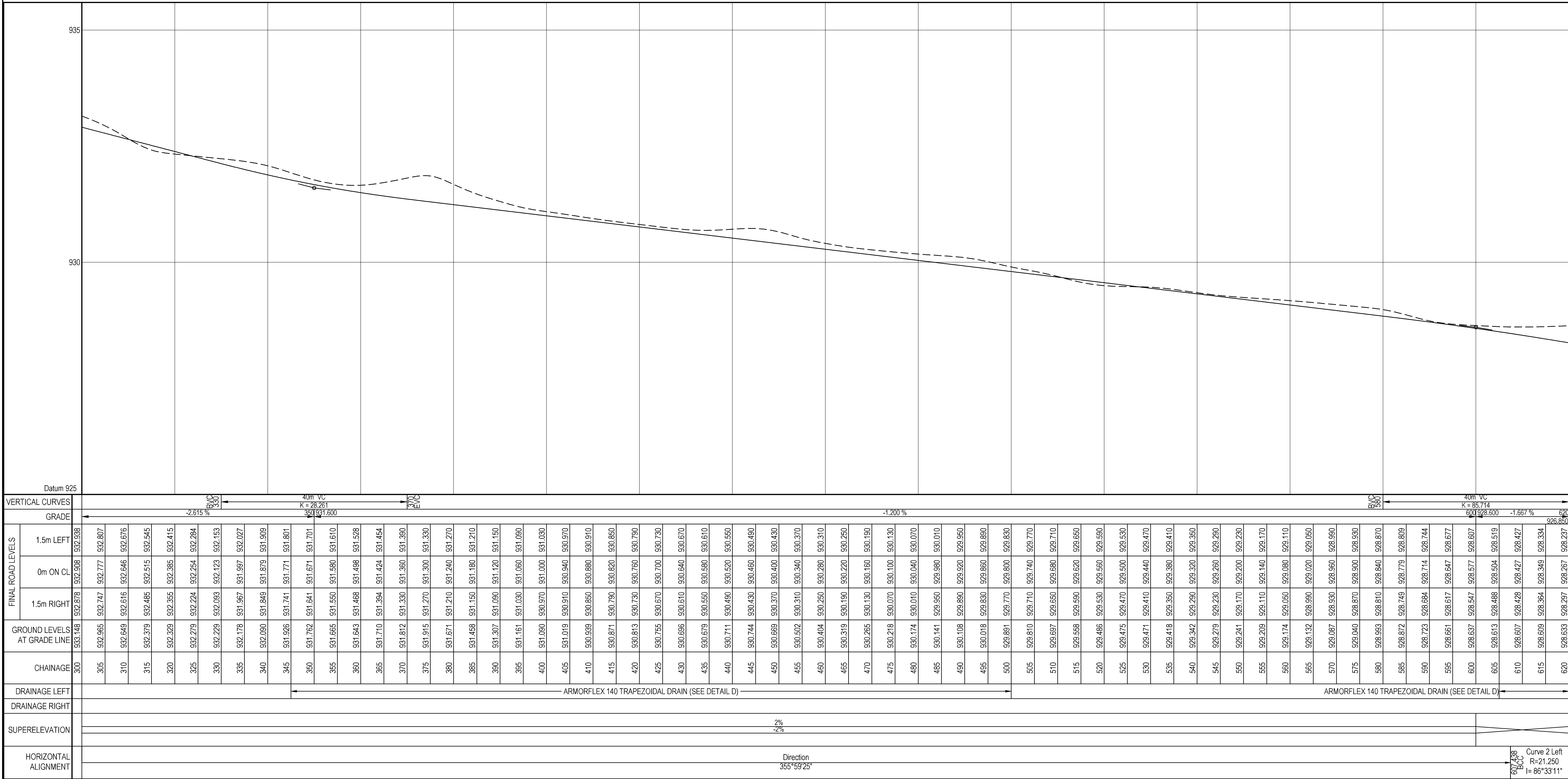
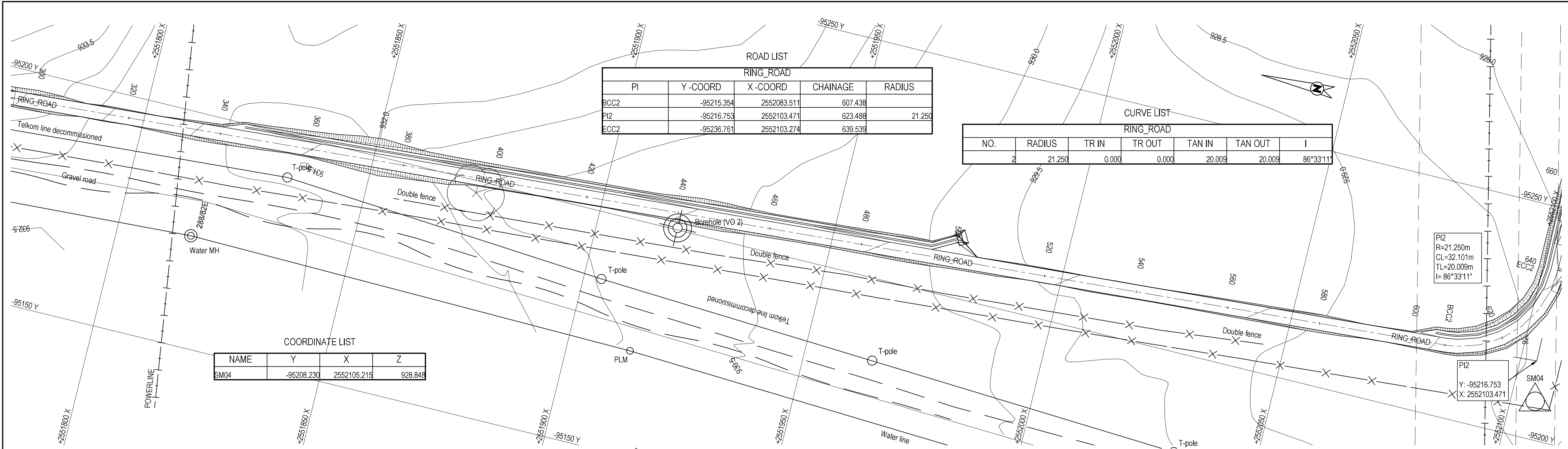
Contract No.:

47/2018

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LEGEND:

--- GROUND

--- FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name	Drawing No.

REVISIONS

1	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date

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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

Project Name:

**REHABILITATION & CLOSING OF VONDELING LANDFILL SITE**

Project Component:

**RING ROAD**

Drawing Name:

**LAYOUT PLAN AND LONGITUDINAL SECTION (SHEET 2 OF 6)**

Drawing No.:

19T0300 C D RD 02 02

Revisions

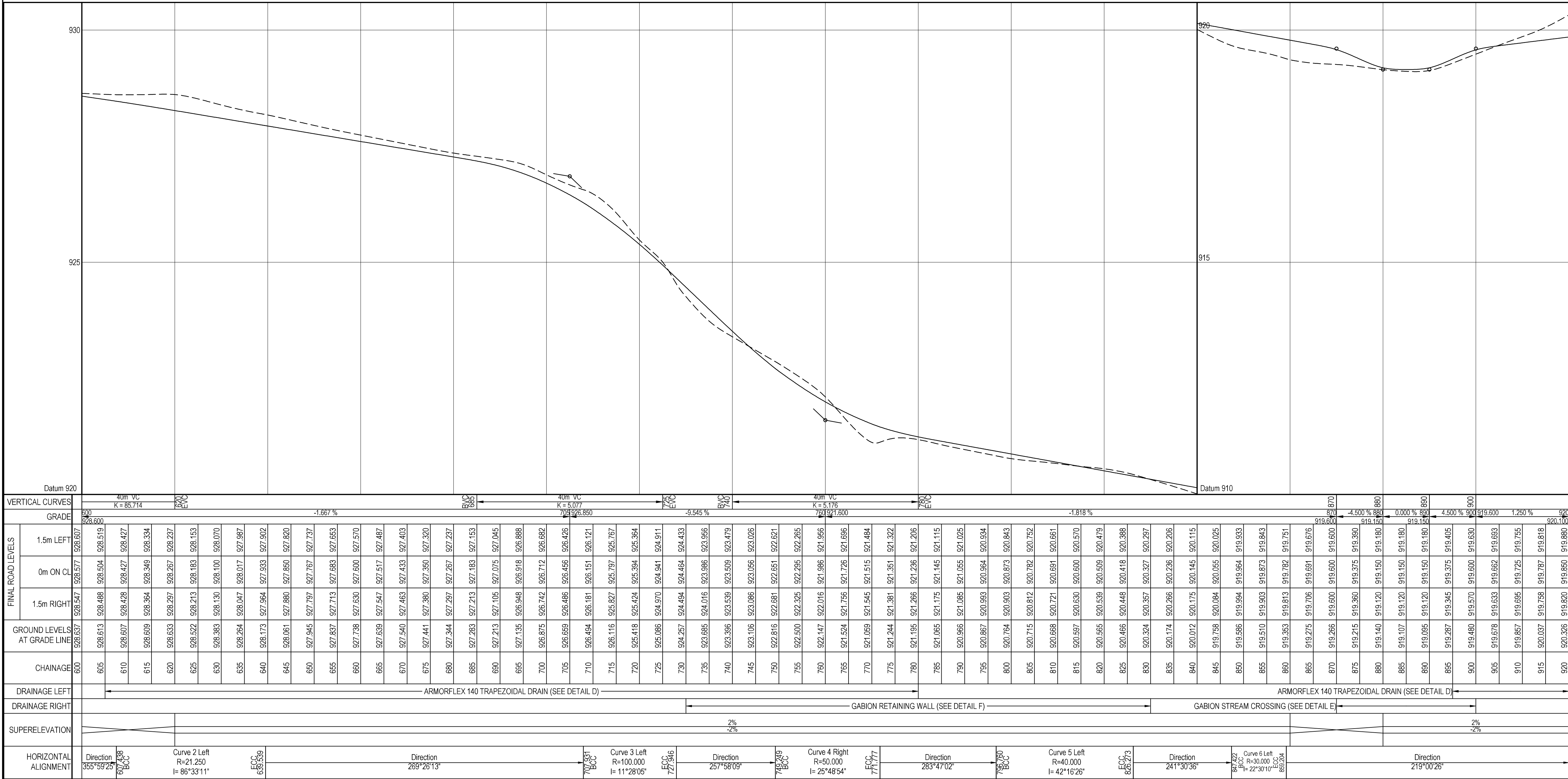
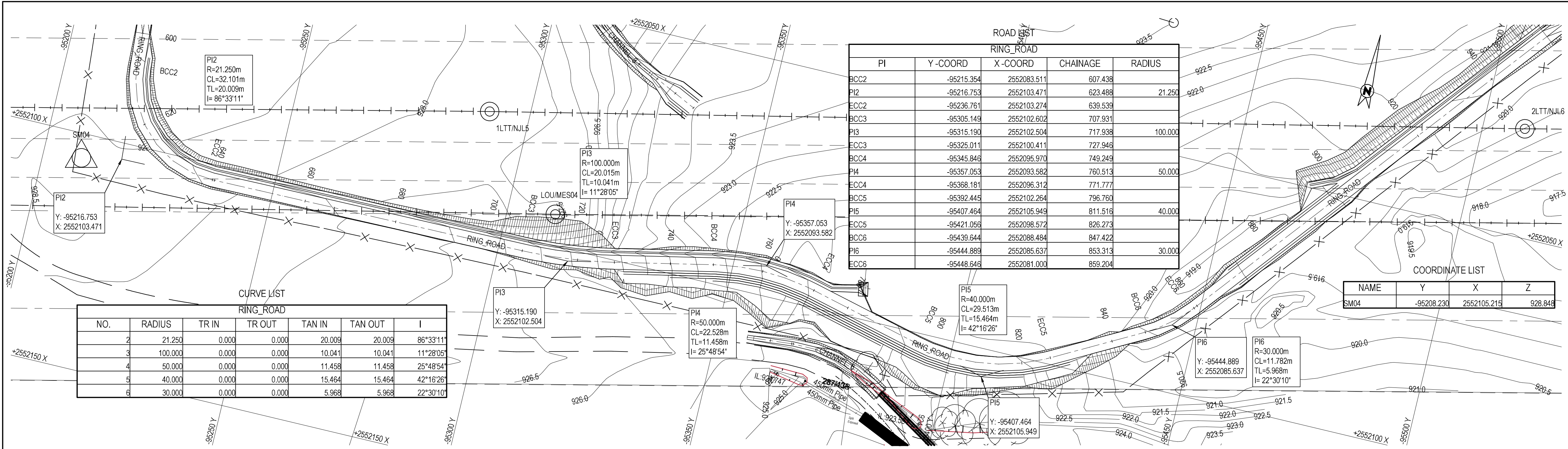
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Contract No.:

**47/2018**

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LEGEND:

--- GROUND

--- FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name	Drawing No.

REVISIONS

Rev. No.	Description	Date
1	ISSUED FOR TENDER PURPOSES	APR 2022

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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

RING ROAD

Drawing Name:

LAYOUT PLAN AND  
LONGITUDINAL SECTION  
(SHEET 3 OF 6)

Drawing No.:

19T0300 C D RD 02 03

Revisions

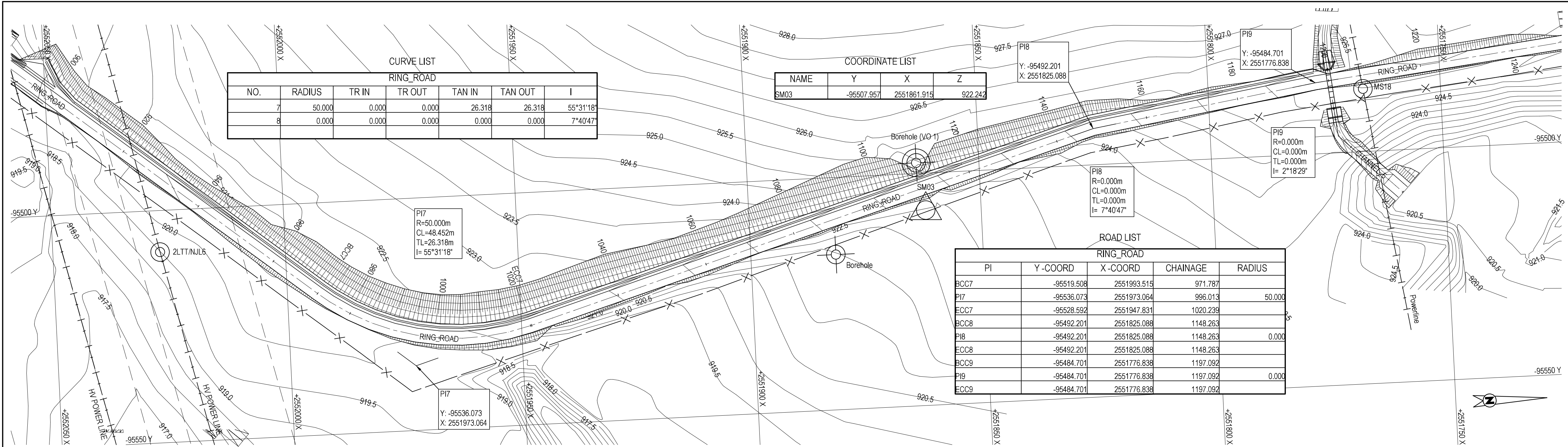
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Original Size: A1	Checked	R.J.D	APR 2022

Contract No.:

47/2018

ISSUED FOR TENDER PURPOSES





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PI7	-95536.073	2551973.064	996.013	50.000
ECC7	-95528.592	2551947.831	1020.239	
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PI8	-95492.201	2551825.088	1148.263	0.000
ECC8	-95492.201	2551825.088	1148.263	
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LEGEND:  
--- GROUND  
--- FINAL LEVEL

REFERENCE DRAWINGS

REVISIONS

Rev. No.	Description	Date
1	ISSUED FOR TENDER PURPOSES	APR 2022




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DATE

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

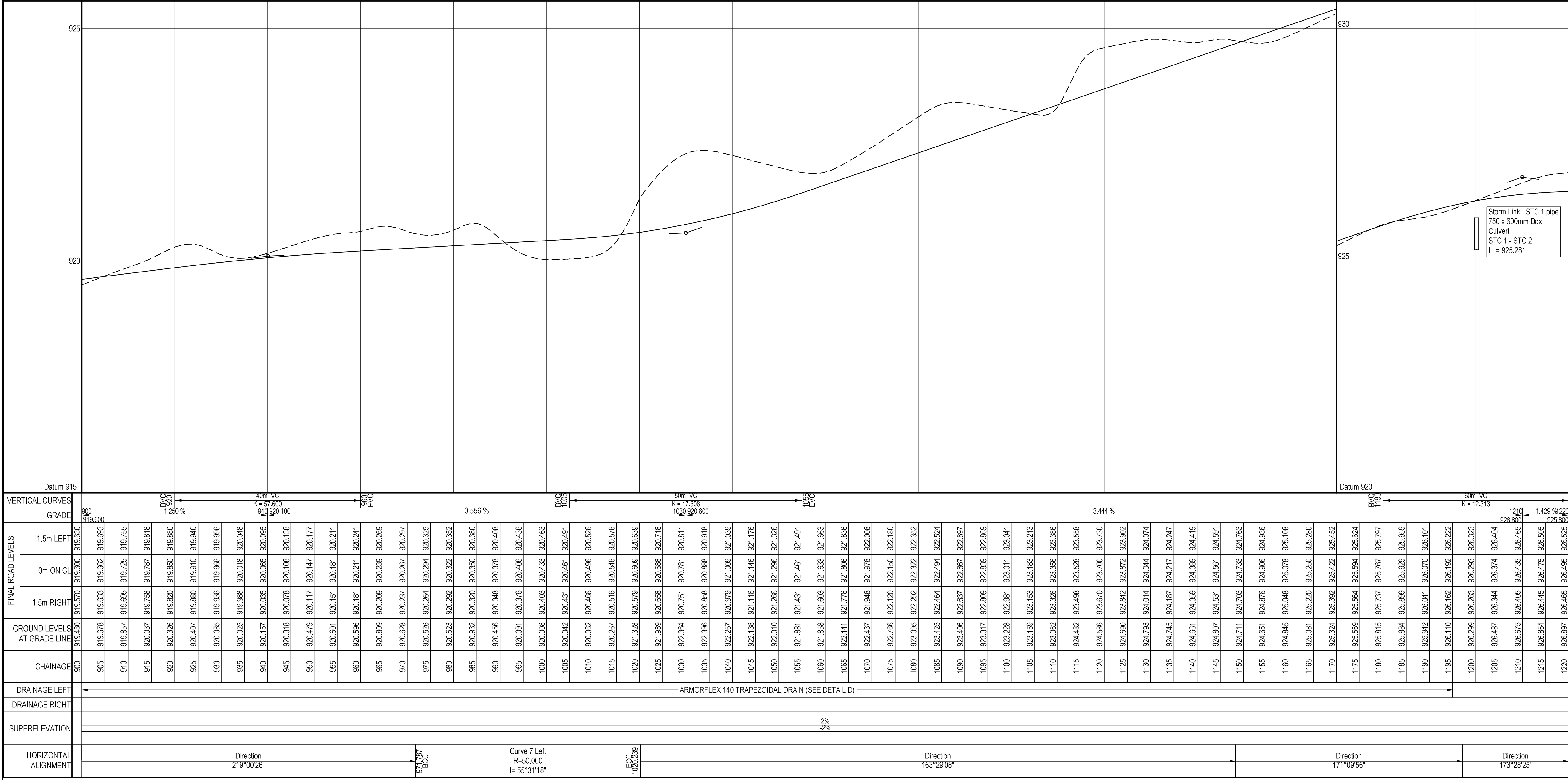
RING ROAD

LAYOUT PLAN AND  
LONGITUDINAL SECTION  
(SHEET 4 OF 6)

Drawing No.:			
19T0300 C D RD 02 04			
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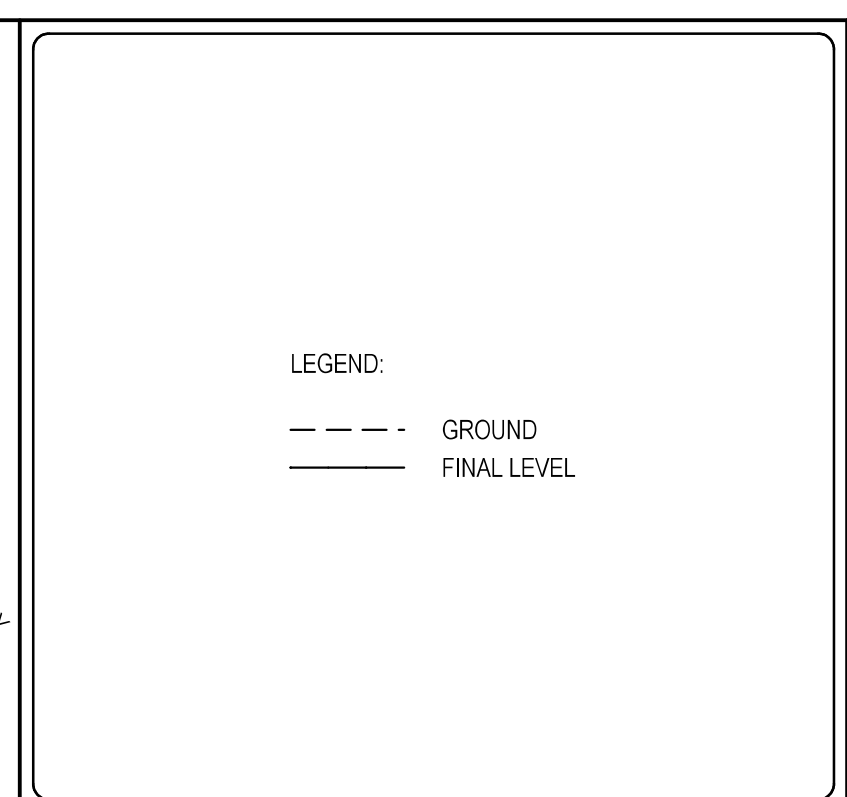
Contract No.: 47/2018

ISSUED FOR TENDER PURPOSES



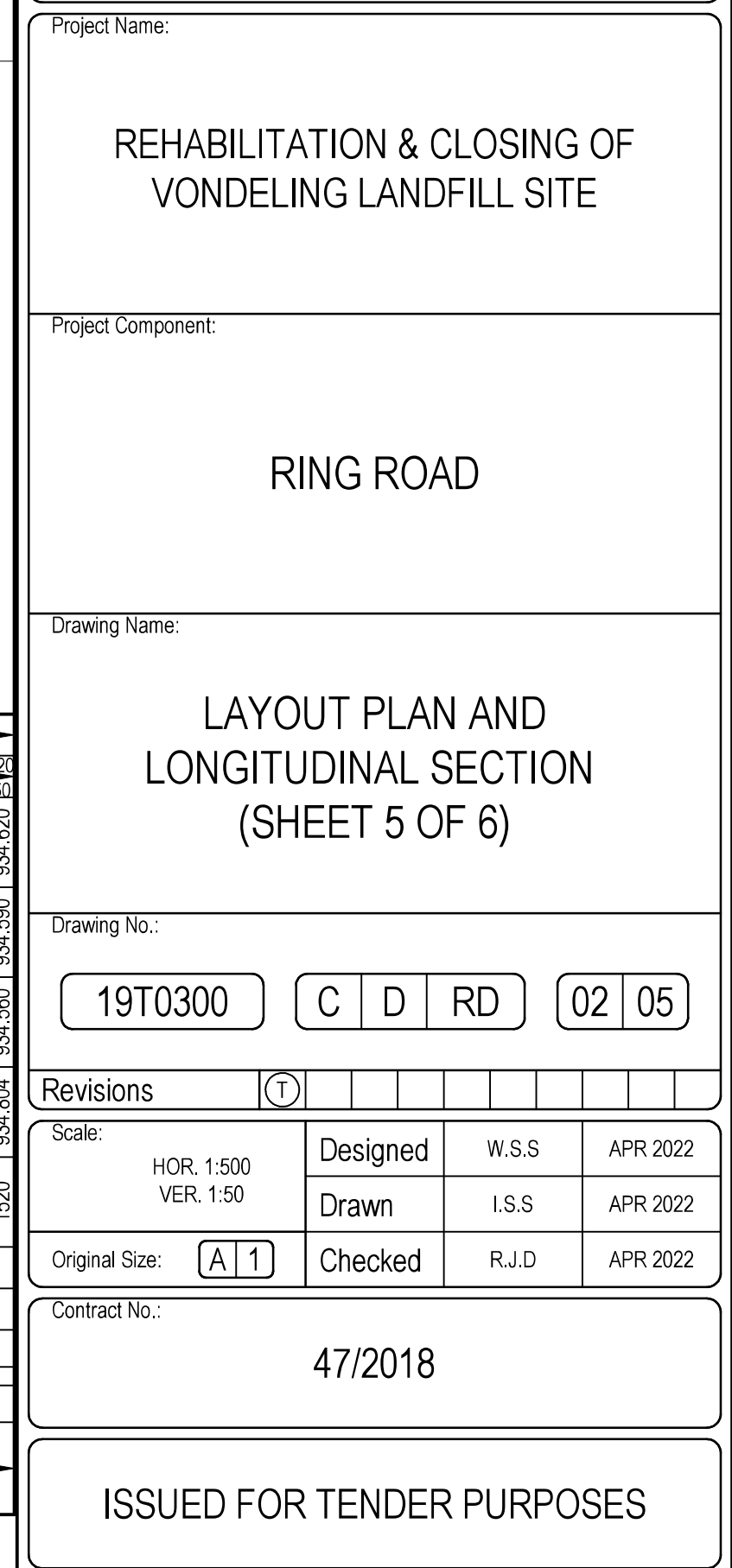
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900		919.600		919.630		919.680		919.750		919.850		919.950		920.050		920.150	
905		919.633		919.680		919.750		919.850		919.950		920.050		920.150		920.250	
910		919.665		919.710		919.780		919.880		919.980		920.080		920.180		920.280	
915		920.037		919.758		919.787		919.818		920.037		919.758		919.787		919.818	
920		920.326		919.820		919.850		919.880		920.326		919.820		919.850		919.880	
925		920.407		919.880		919.910		919.940		920.407		919.880		919.910		919.940	
930		920.095		919.936		919.966		919.996		920.095		919.936		919.966		919.996	
935		920.025		919.988		920.018		920.048		920.025		919.988		920.018		920.048	
940		920.157		920.035		920.065		920.095		920.157		920.035		920.065		920.095	
945		920.318		920.078		920.108		920.138		920.318		920.078		920.108		920.138	
950		920.479		920.117		920.147		920.177		920.479		920.117		920.147		920.177	
955		920.601		920.151		920.181		920.211		920.601		920.151		920.181		920.211	
960		920.596		920.181		920.211		920.241		920.596		920.181		920.211		920.241	
965		920.809		920.209		920.239		920.269		920.809		920.209		920.239		920.269	
970		920.628		920.237		920.267		920.297		920.628		920.237		920.267		920.297	
975		920.526		920.264		920.294		920.325		920.526		920.264		920.294		920.325	
980		920.623		920.292		920.322		920.352		920.623		920.292		920.322		920.352	
985		920.932		920.320		920.350		920.380		920.932		920.320		920.350		920.380	
990		920.456		920.348		920.378		920.408		920.456		920.348		920.378		920.408	
995		920.091		920.376		920.406		920.436		920.091		920.376		920.406		920.436	
1000		920.008		920.403		920.433		920.463		920.008		920.403		920.433		920.463	
1005		920.042		920.431		920.461		920.491		920.042		920.431		920.461		920.491	
1010		920.062		920.466		920.496		920.526		920.062		920.466		920.496		920.526	
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1020		921.328		920.579		920.609		920.639		920.579		920.609		920.639		920.669	
1025		921.989		920.658		920.688		920.718		921.989		920.658		920.688		920.718	
1030		922.364		920.751		920.781		920.811		922.364		920.751		920.781		920.811	
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1040		922.267		920.979		921.009		921.039		922.267		920.979		921.009		921.039	
1045		922.138		921.116		921.146		921.176		922.138		921.116		921.146		921.176	
1050		922.010		921.266		921.296		921.326		922.010		921.266		921.296		921.326	
1055		921.881		921.431		921.461		921.491		921.881		921.431		921.461		921.491	
1060		921.858		921.603		921.633		921.663		921.858		921.603		921.633		921.663	
1065		922.141		921.776		921.806		921.836		922.141		921.776		921.806		921.836	
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1075		922.756		922.120		922.150		922.180		922.756		922.120		922.150		922.180	
1080		923.095		922.292		922.322		922.352		923.095		922.292		922.322		922.352	
1085		923.425		922.464		922.494		922.524		923.425		922.464		922.494		922.524	
1090		923.406		922.637		922.667		922.697		923.406		922.637		922.667		922.697	
1095		923.317		922.809		922.839		922.869		923.317		922.809		922.839		922.869	
1100		923.228		922.981		923.011		923.041		923.228		922.981		923.011		923.041	
1105		923.159		923.153		923.183		923.213		923.159		923.153		923.183		923.213	
1110		923.062		923.326		923.356		923.386		923.062		923.326		923.356		923.386	
1115		924.482		923.498		923.528		923.558		924.482		923.498		923.528		923.558	
1120		924.586		923.670		923.700		923.730		924.586		923.670		923.700		923.730	
1125		924.690		923.842		923.872		923.902		924.690		923.842		923.872		923.902	
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1140		924.661		924.369		924.389		924.419		924.661		924.369		924.389		924.419	
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1155		924.651		924.676		924.906		924.936		924.651		924.676		924.906		924.936	
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1170		925.324		925.392		925.422		925.452		925.324		925.392		925.422		925.452	
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1185		925.884		925.889		925.929		925.959		925.884		925.889		925.929		925.959	
1190		925.942		926.041		926.070		926.101		925.942		926.041		926.070		926.101	
1195		926.110		926.162		926.192		926.222		926.110		926.162		926.192		926.222	
1200		926.298		926.263		926.293		926.323		926.298		926.263		926.293		926.323	
1205		926.487		926.344		926.374		926.404		926.487		926.344		926.374		926.404	
1210		926.675		926.405		926.435		926.465		926.675		926.405		926.435		926.465	
1215		926.864		926.445		926.475		926.505		926.864		926.445		926.475		926.505	
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REFERENCE DRAWINGS	
Drawing Name	Drawing No.

REVISIONS		
(T)	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date

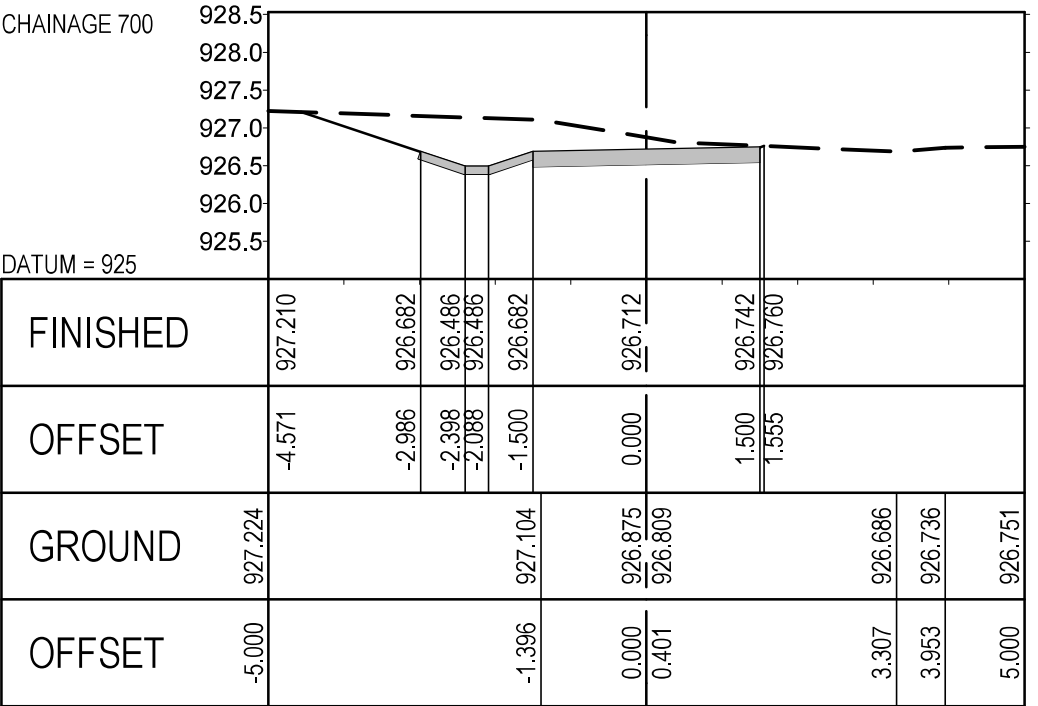
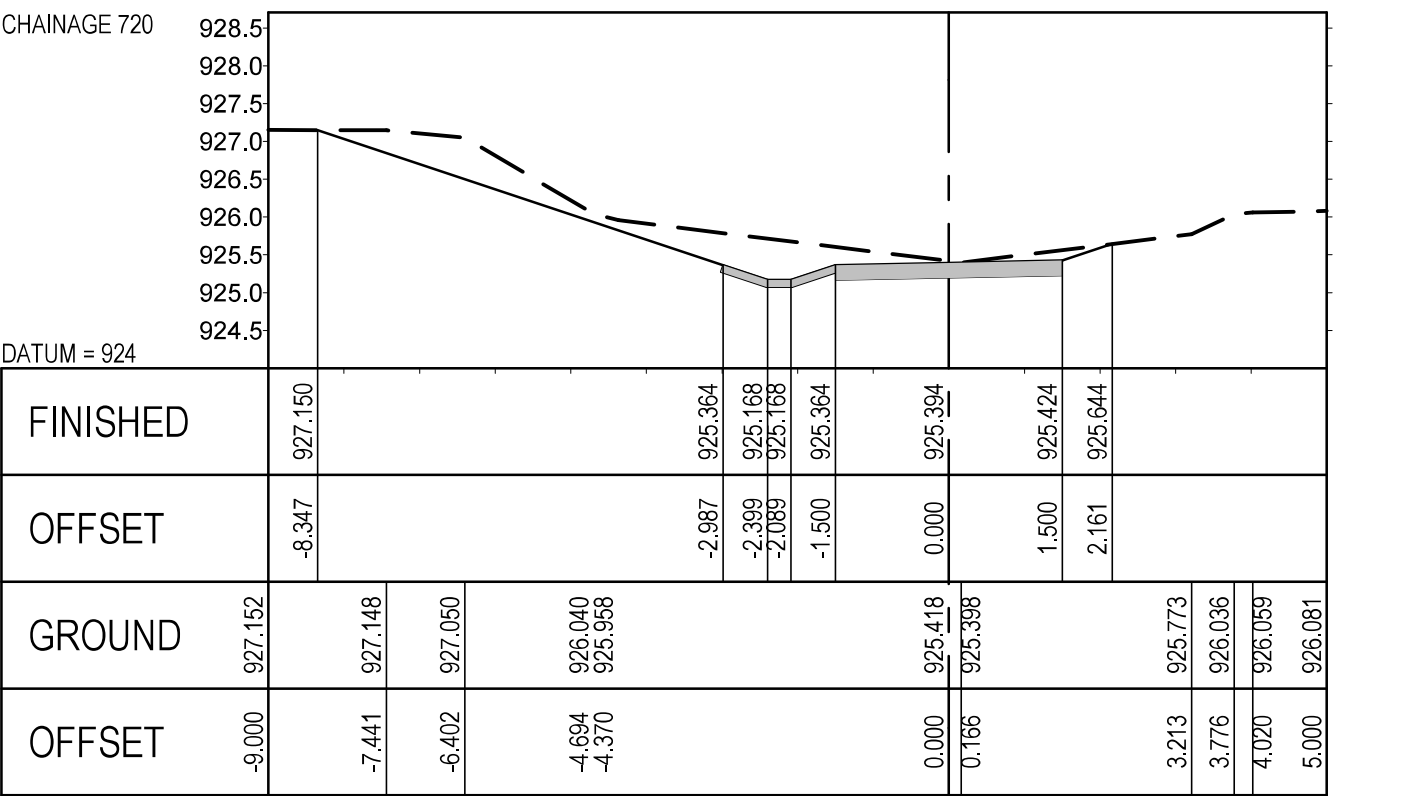
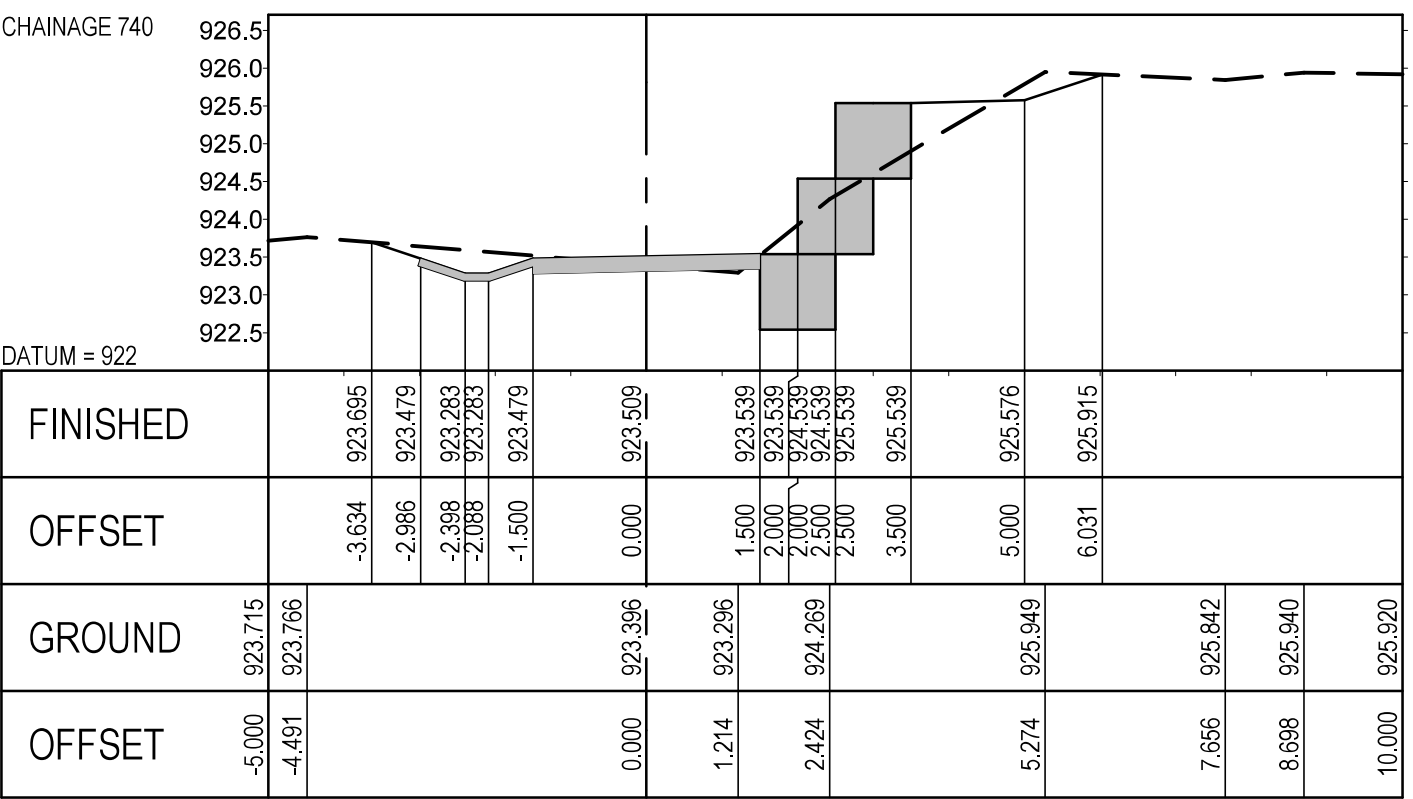
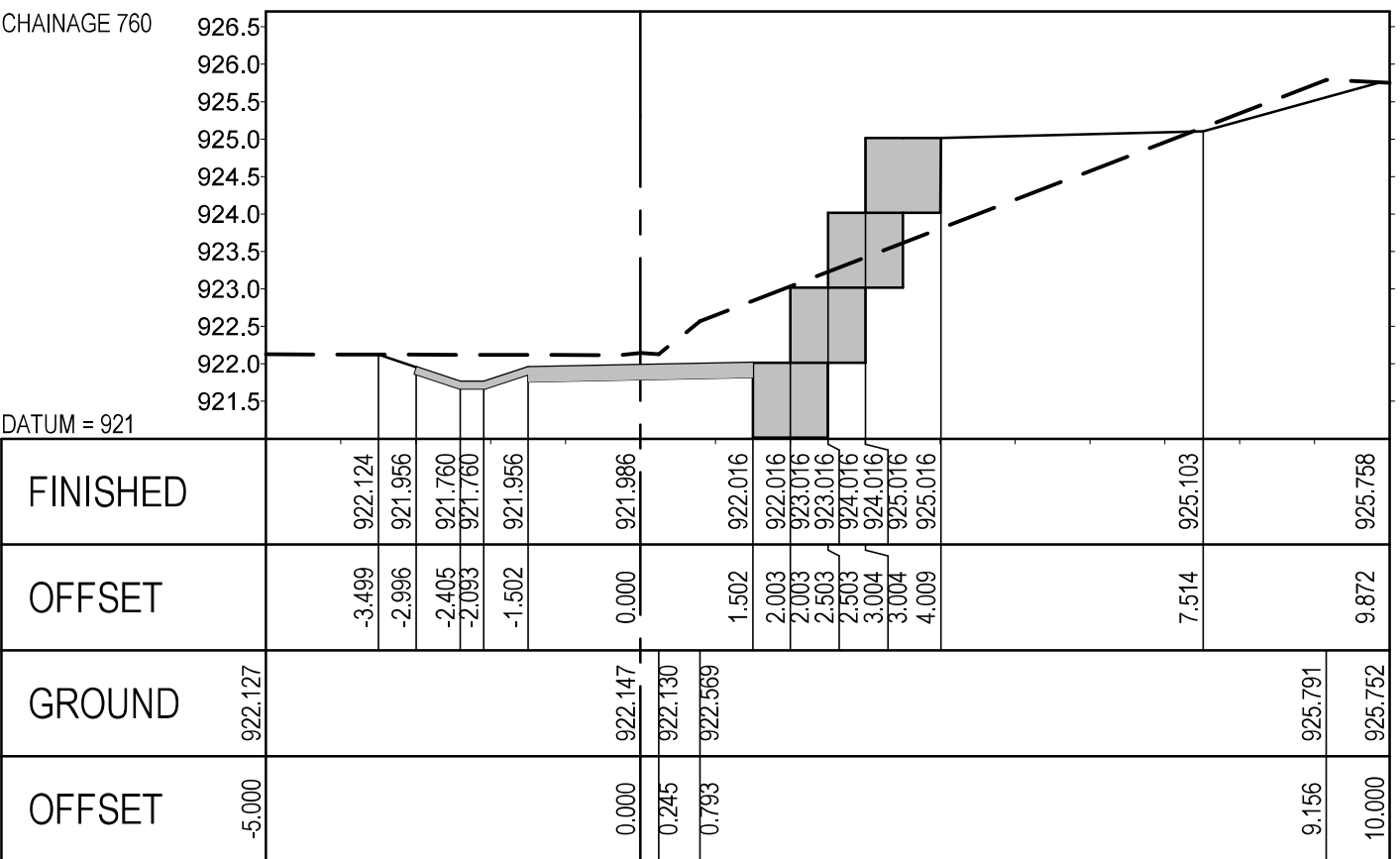
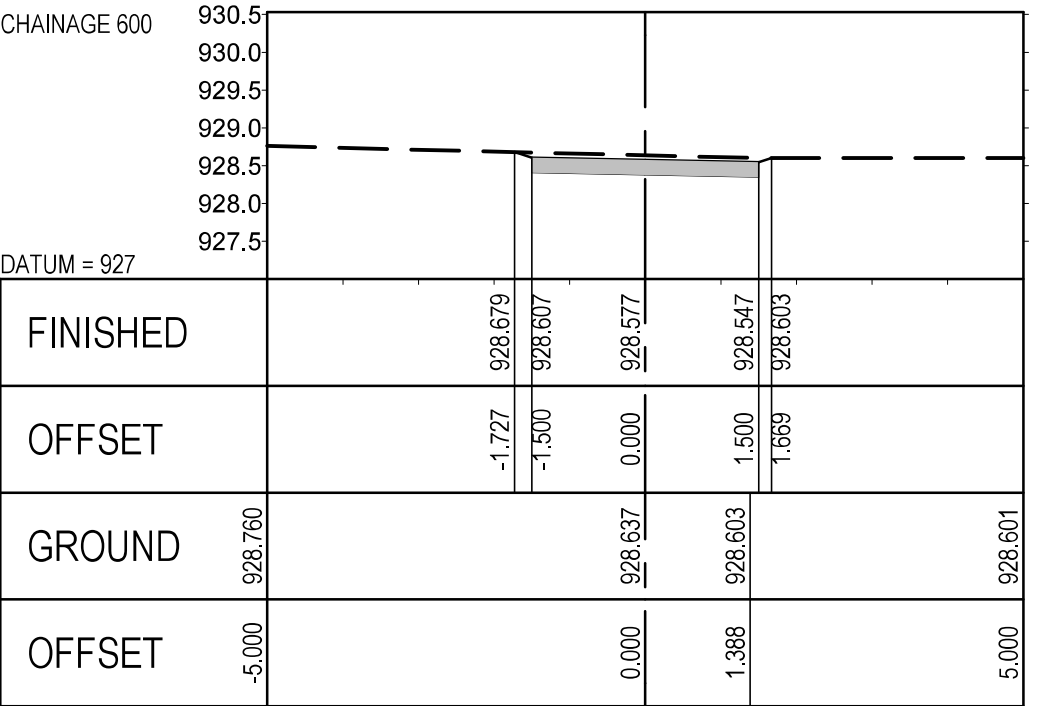
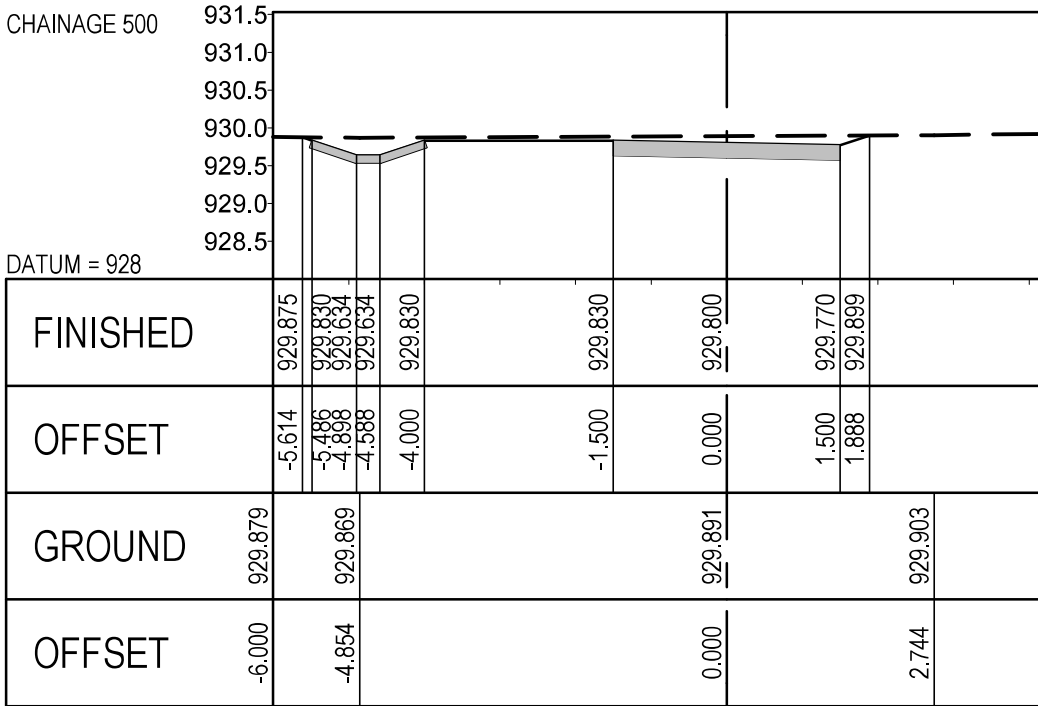
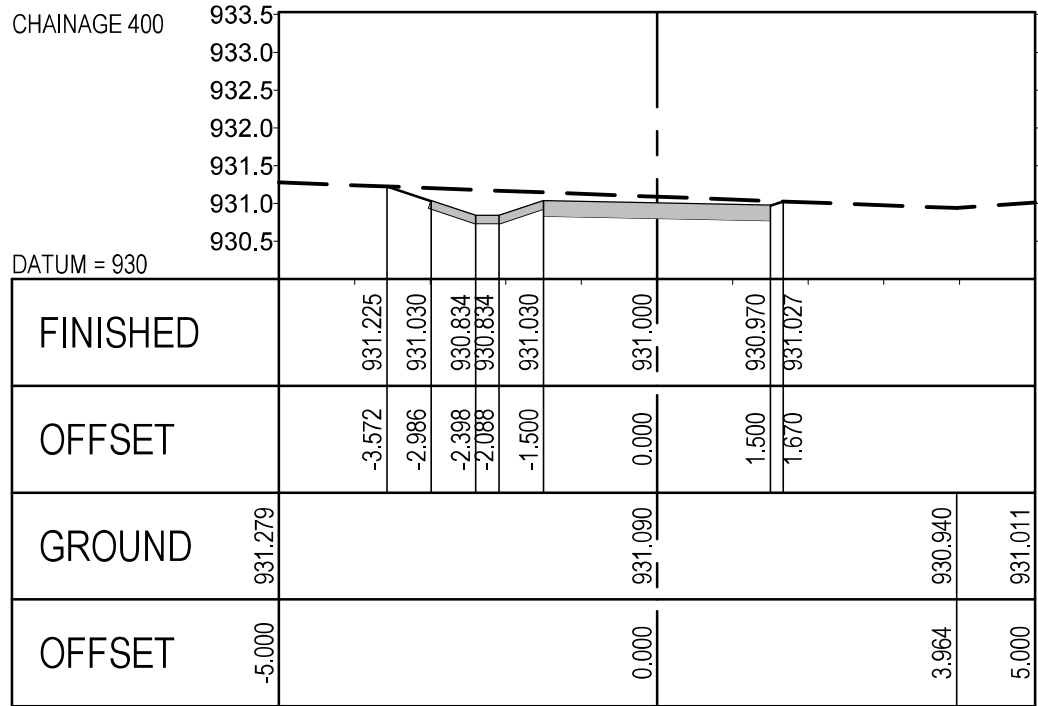
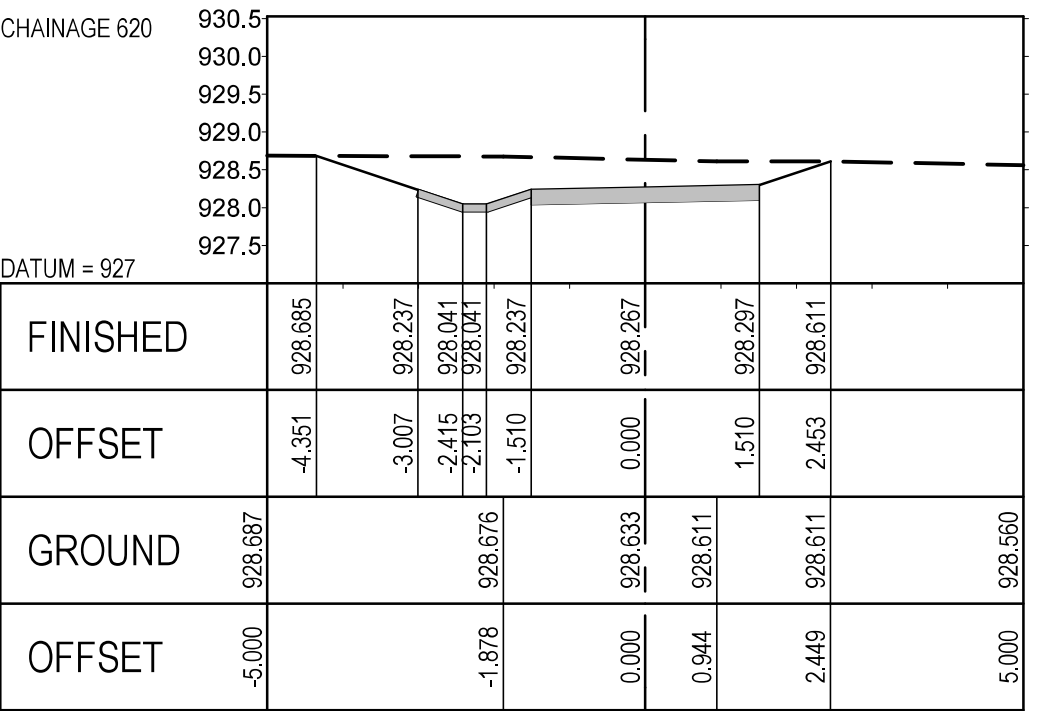
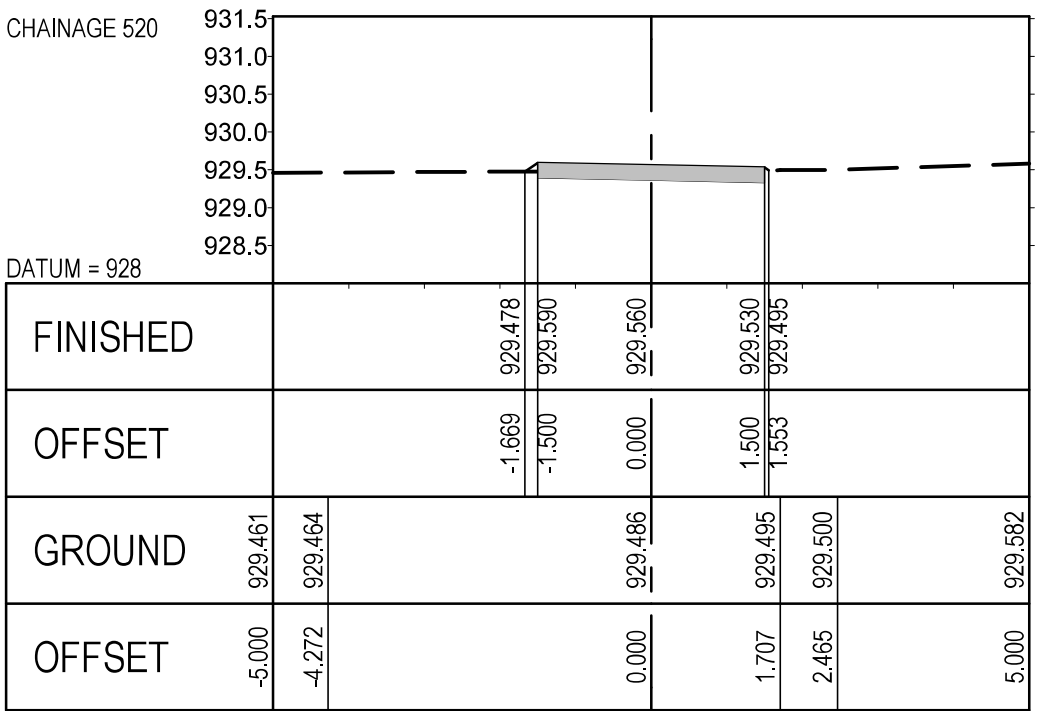
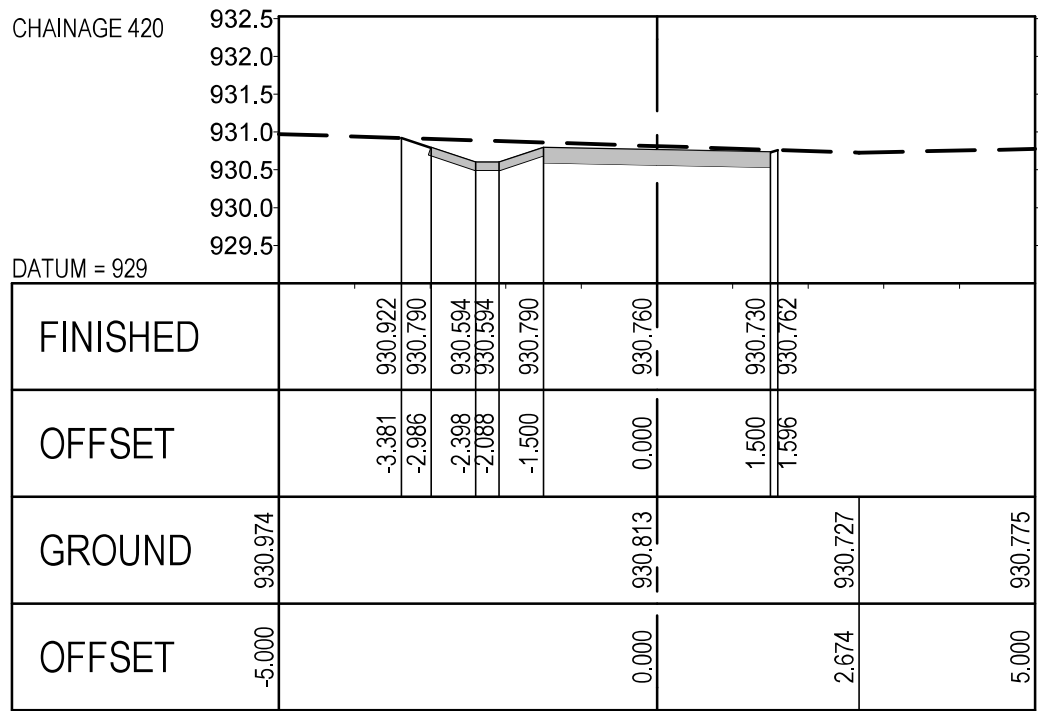
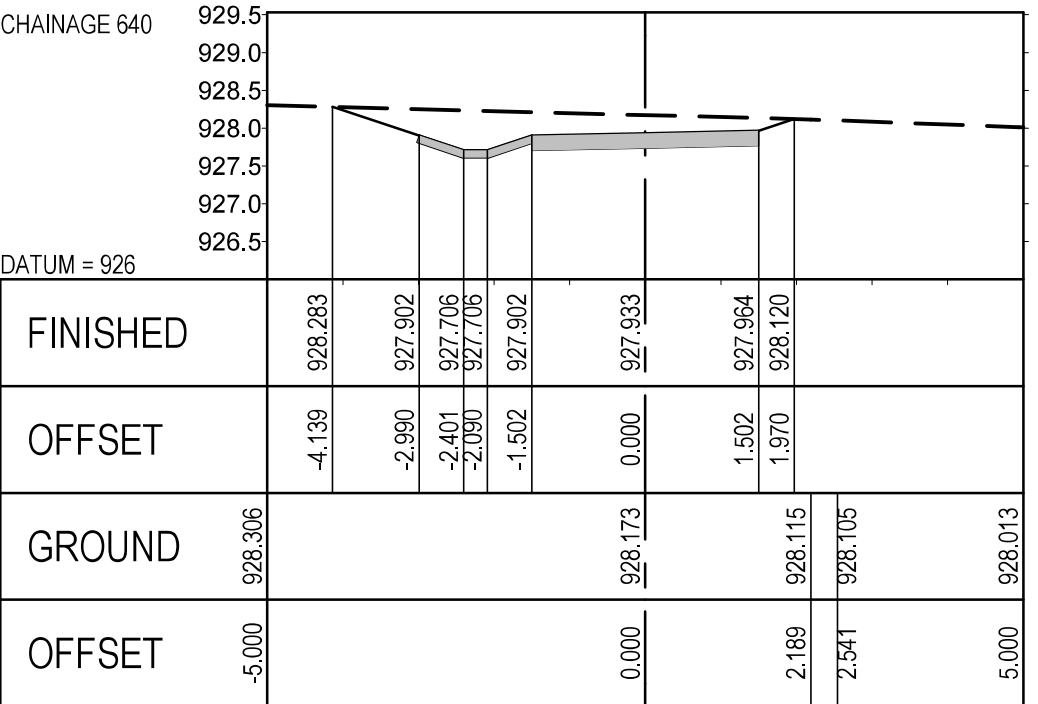
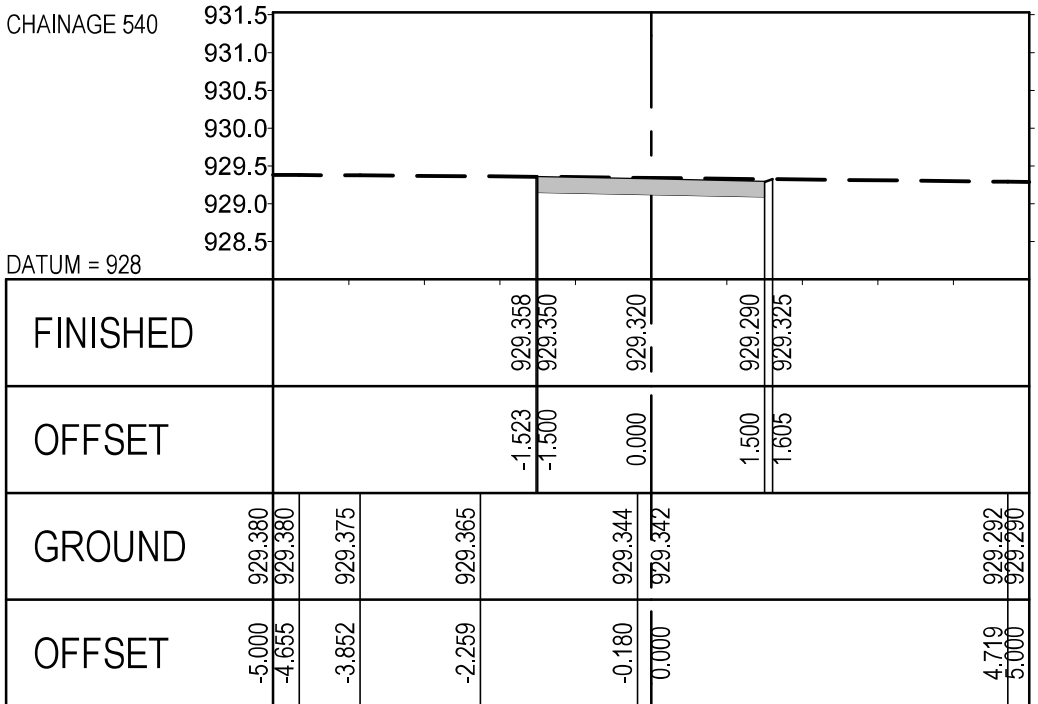
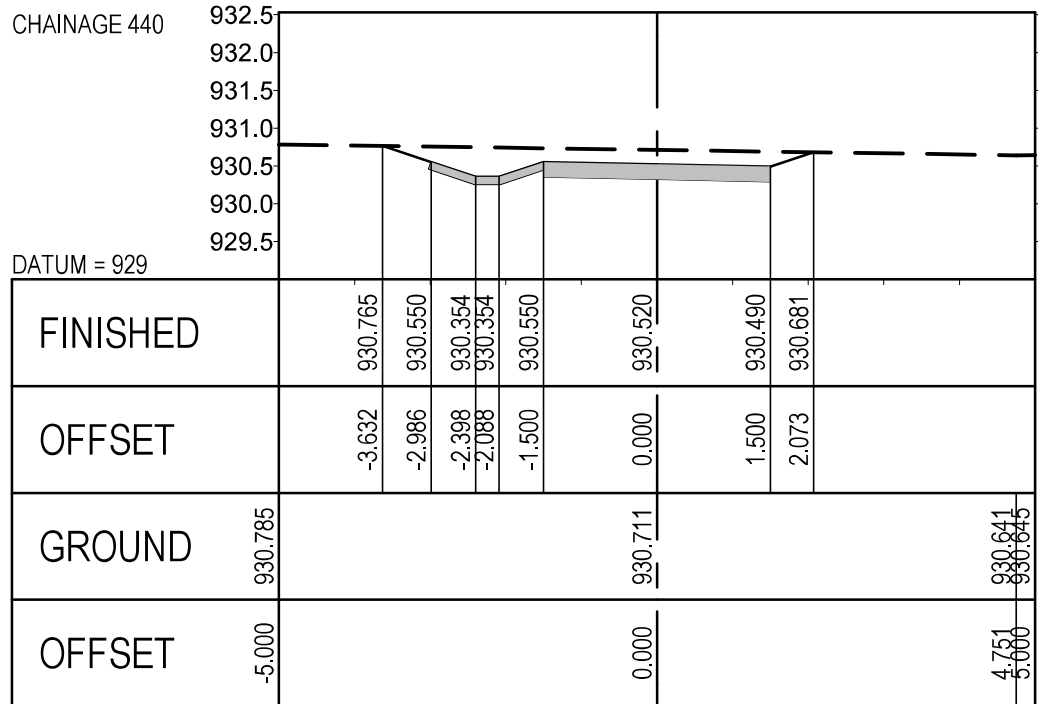
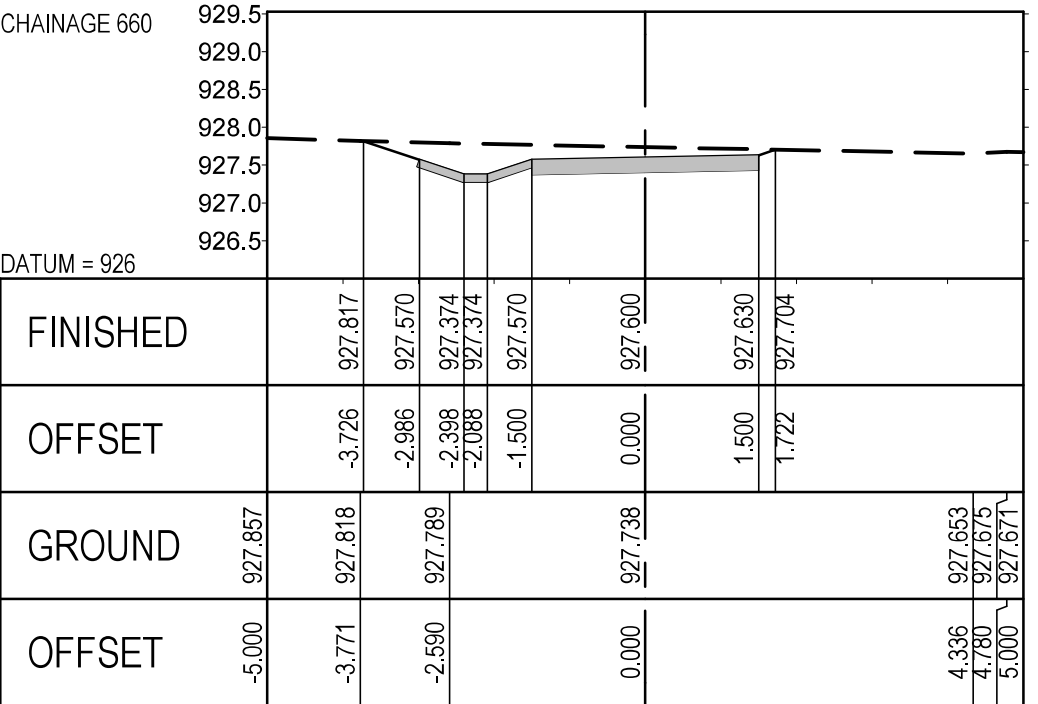
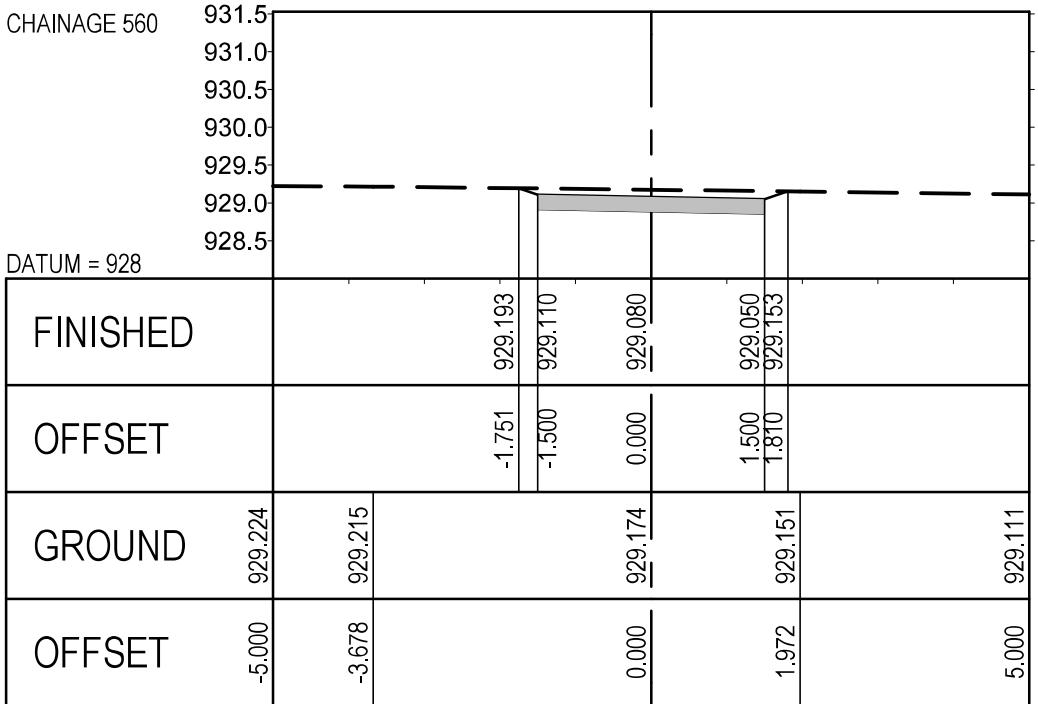
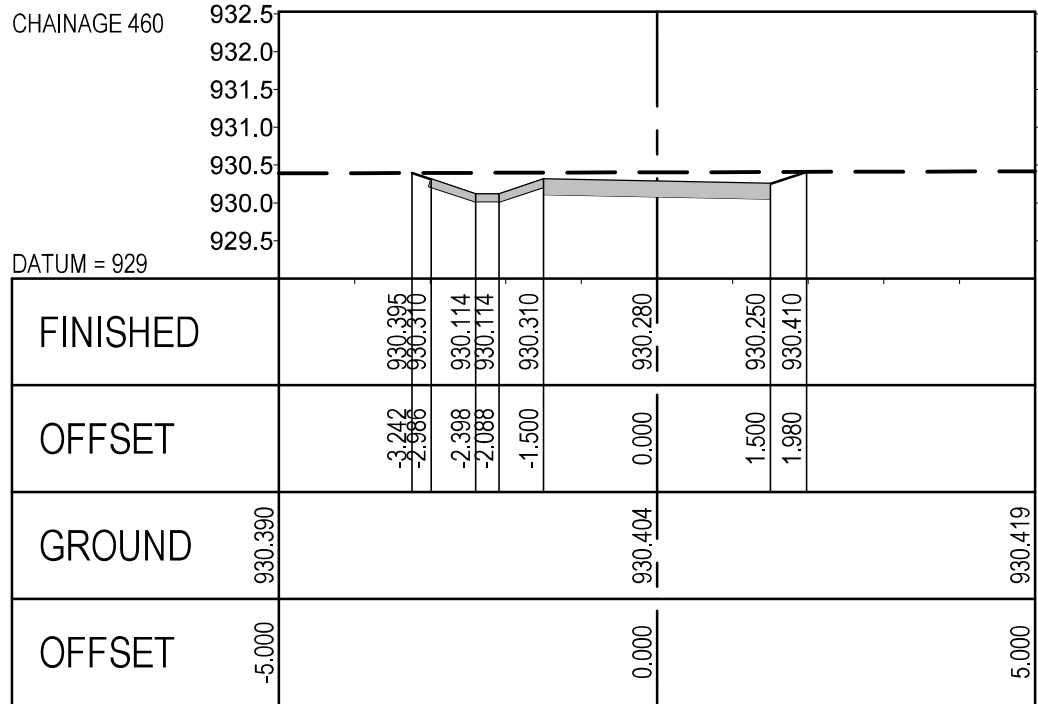
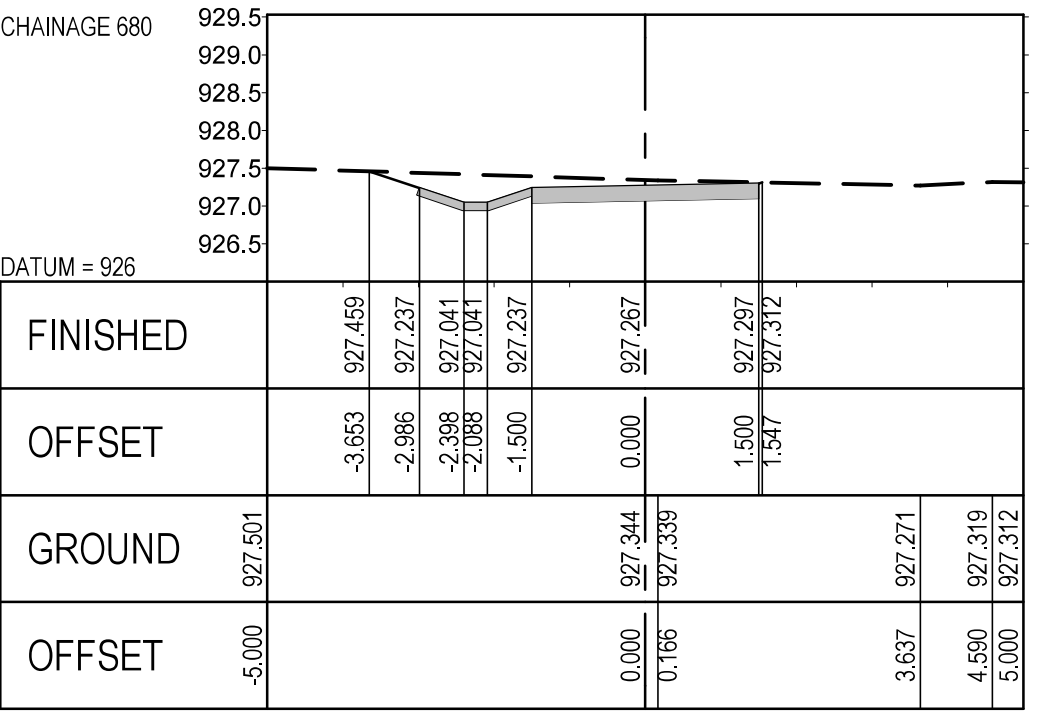
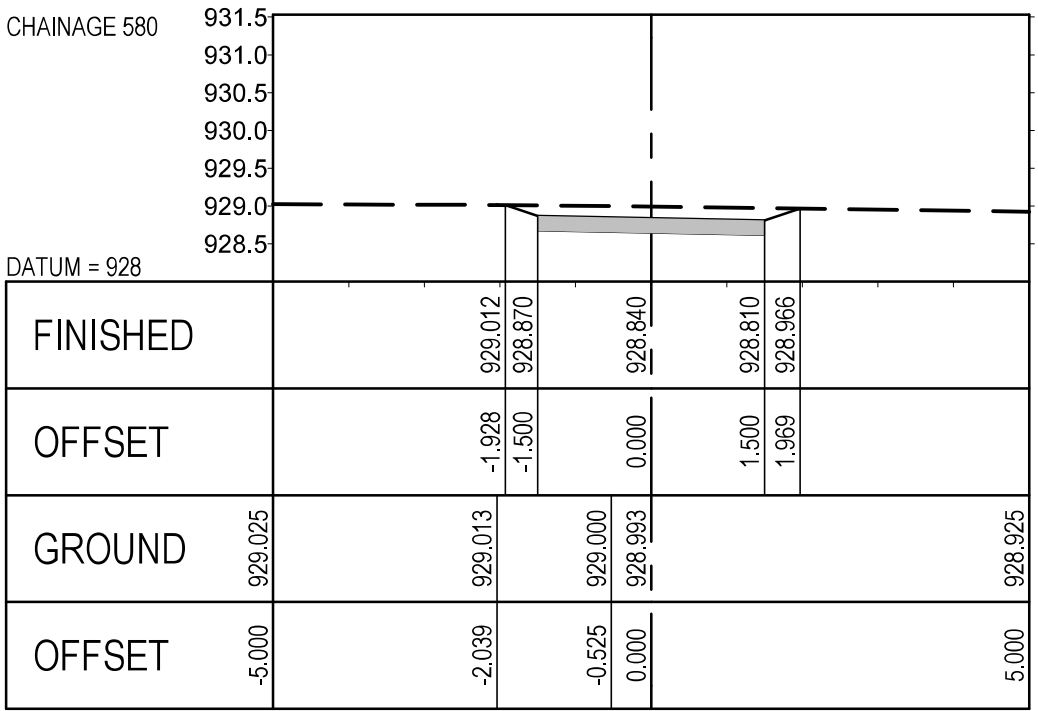
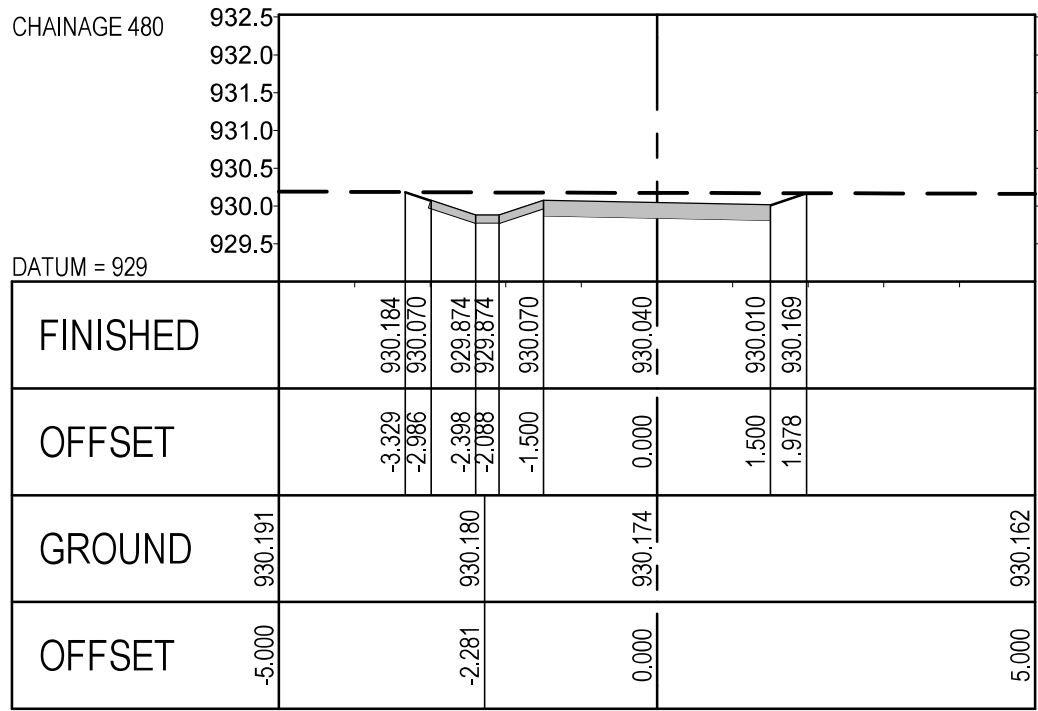












LEGEND:

— GROUND

— FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name Drawing No.

REVISIONS

Rev. No.	Description	Date
1	ISSUED FOR TENDER PURPOSES	APR 2022



PRIVATE BAG X2596  
MAKHADO  
0920

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APPROVED

DATE



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APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

RING ROAD

Drawing Name:

CROSS-SECTION  
(SHEET 2 OF 6)

Drawing No.:

19T0300 C D RD 03 02

Revisions

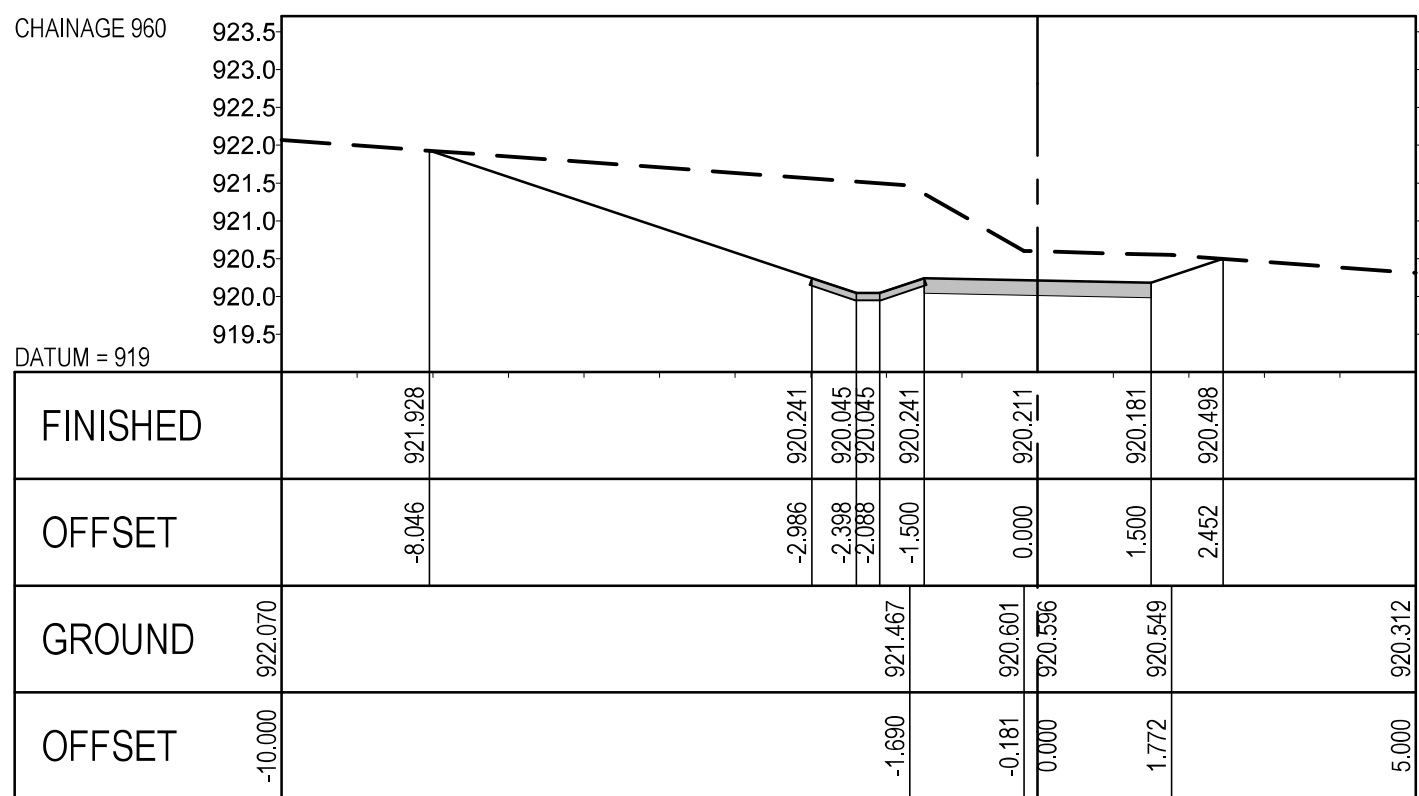
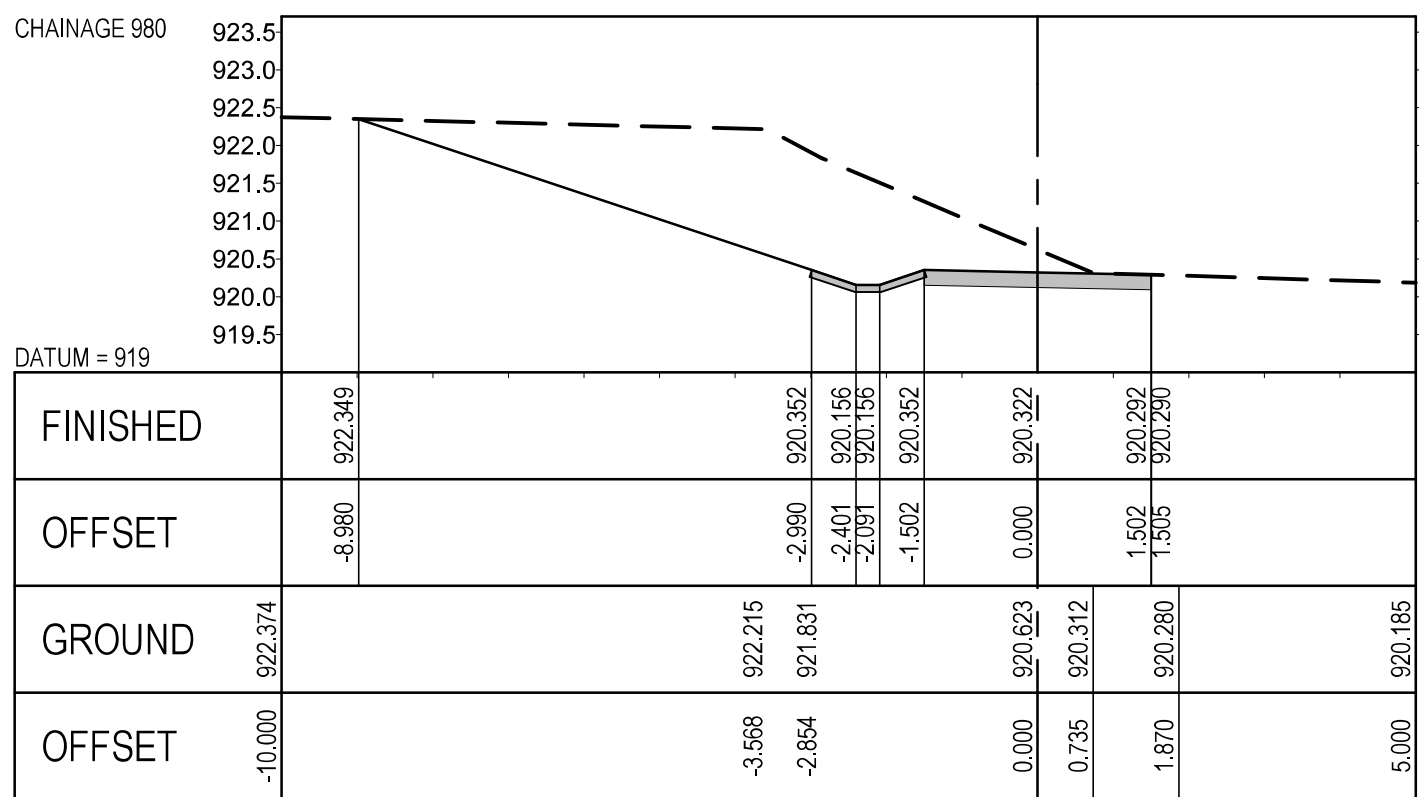
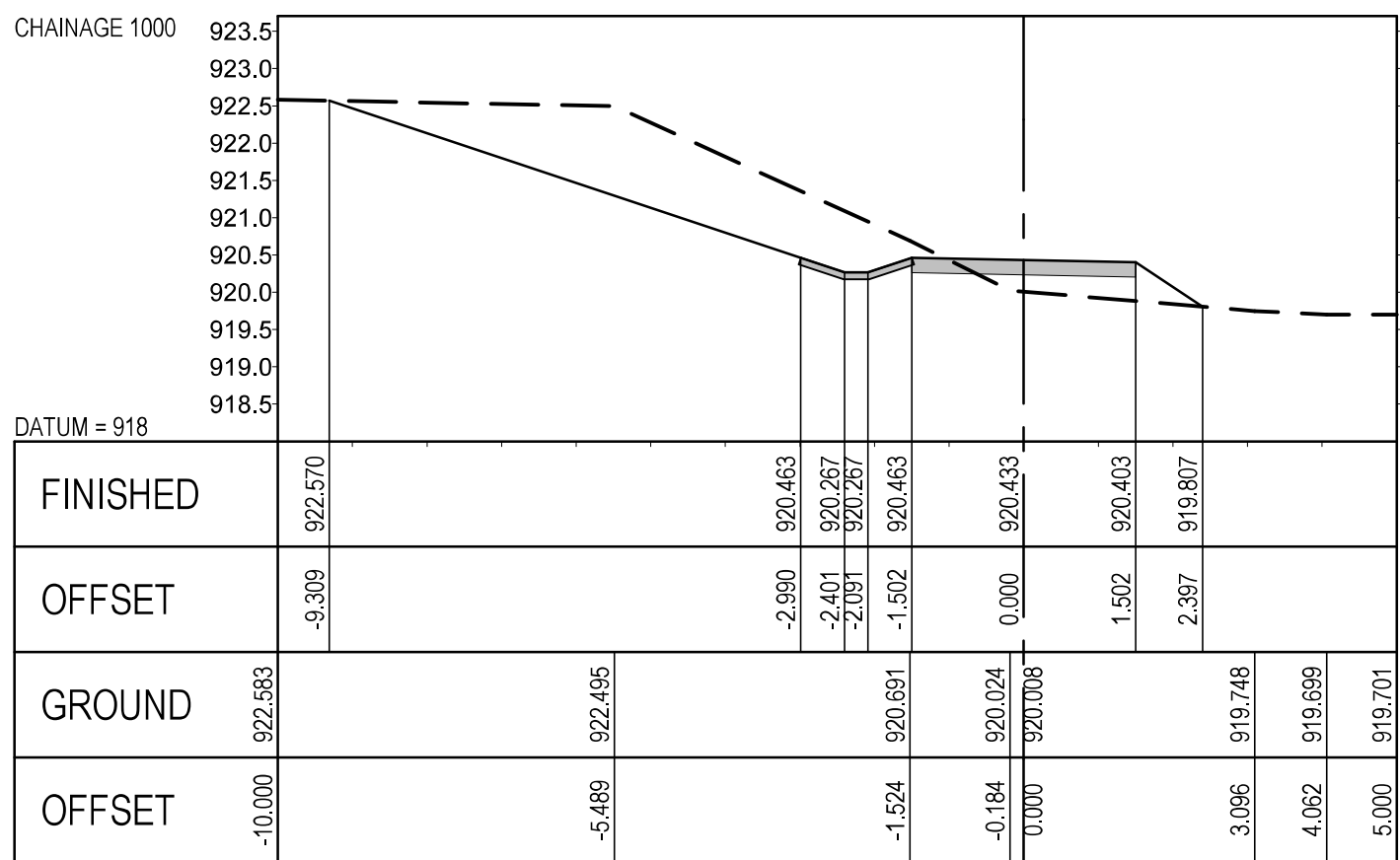
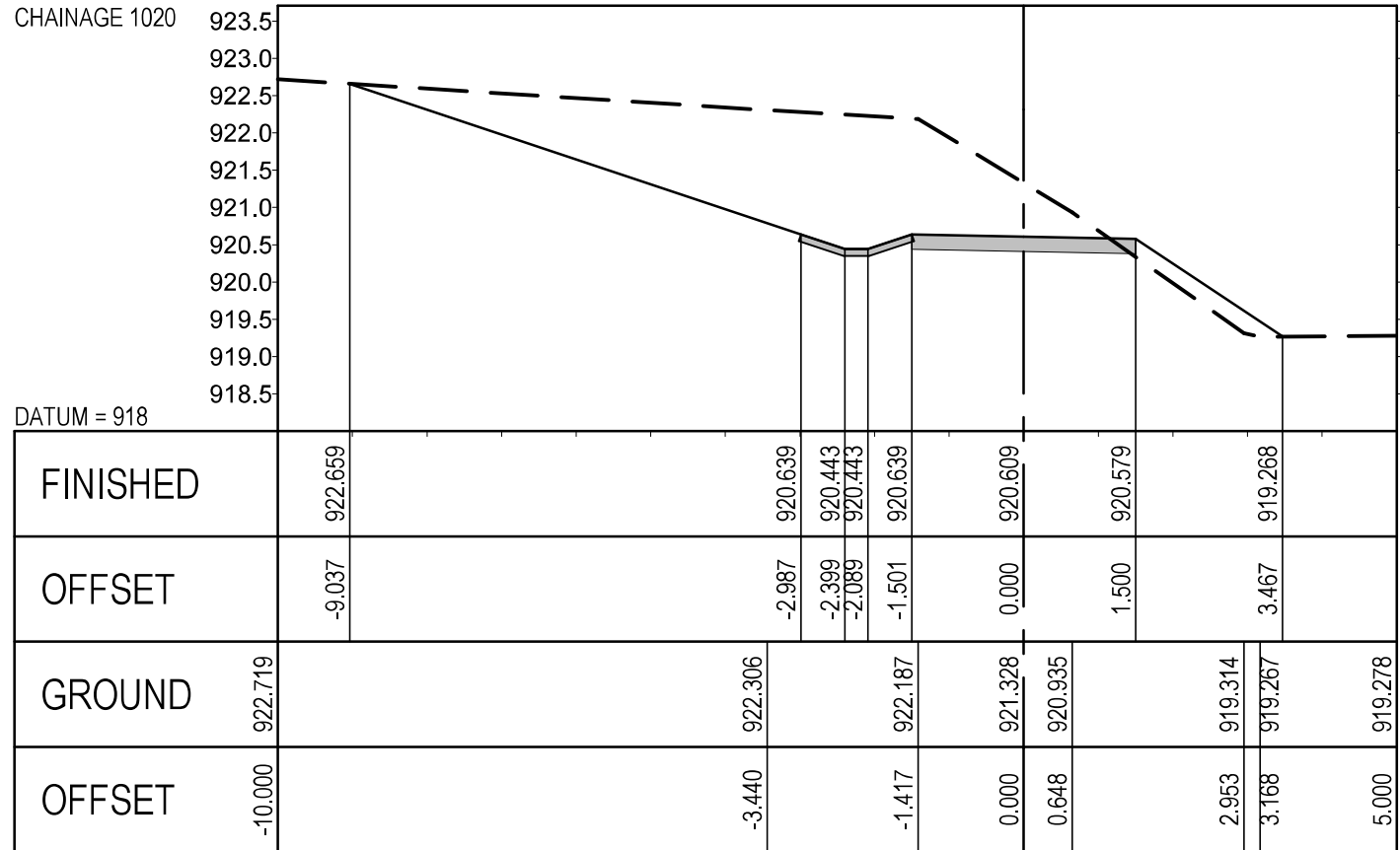
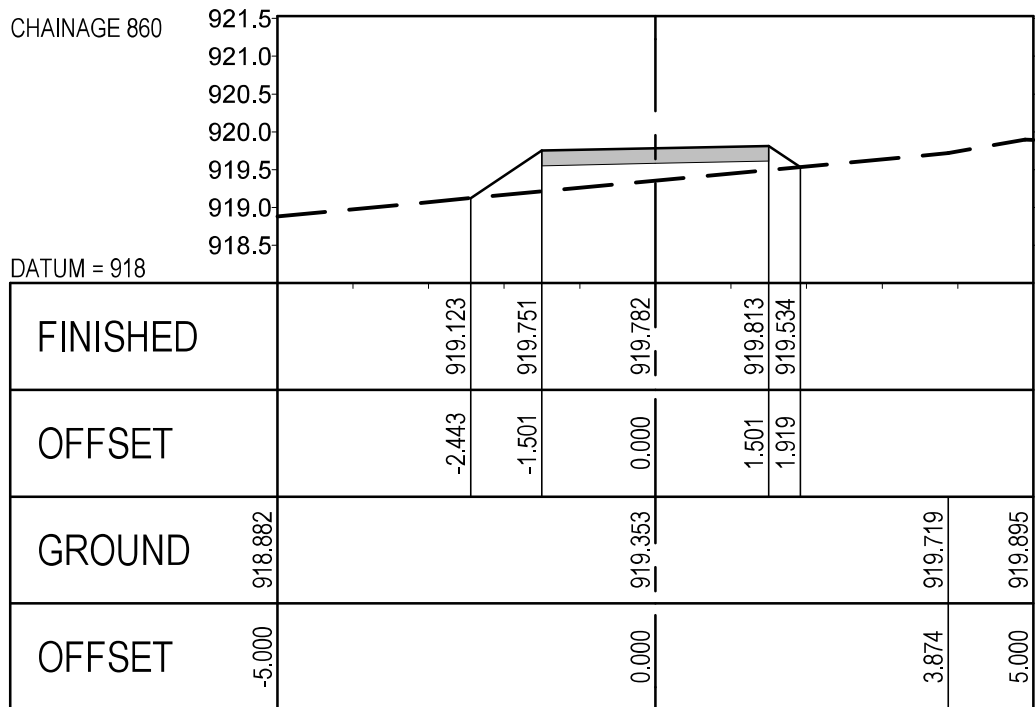
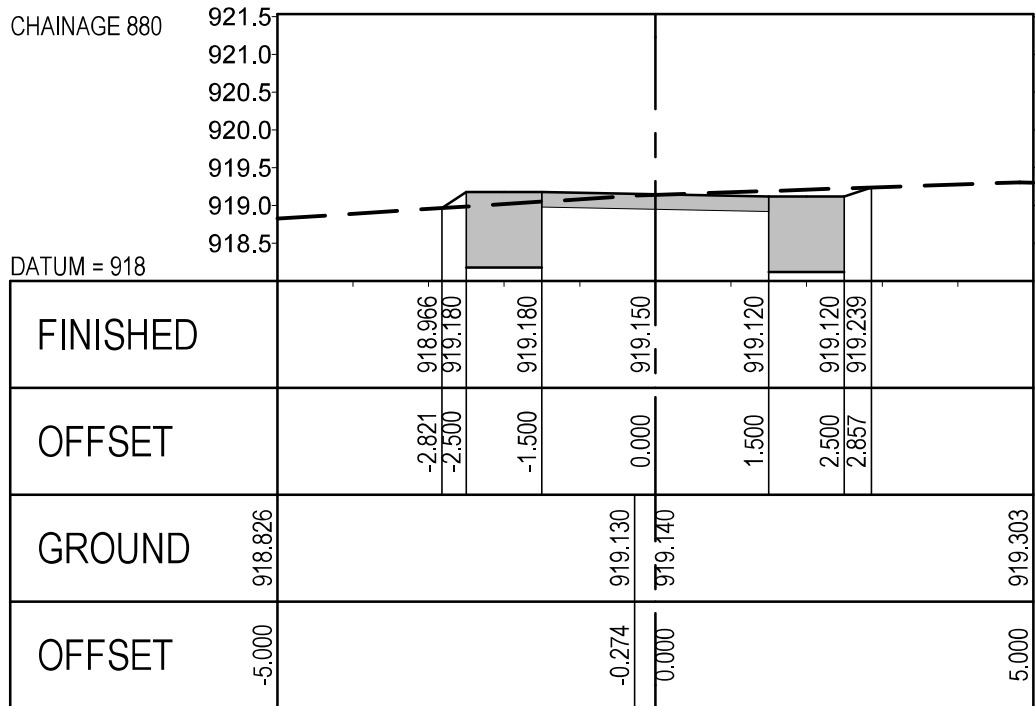
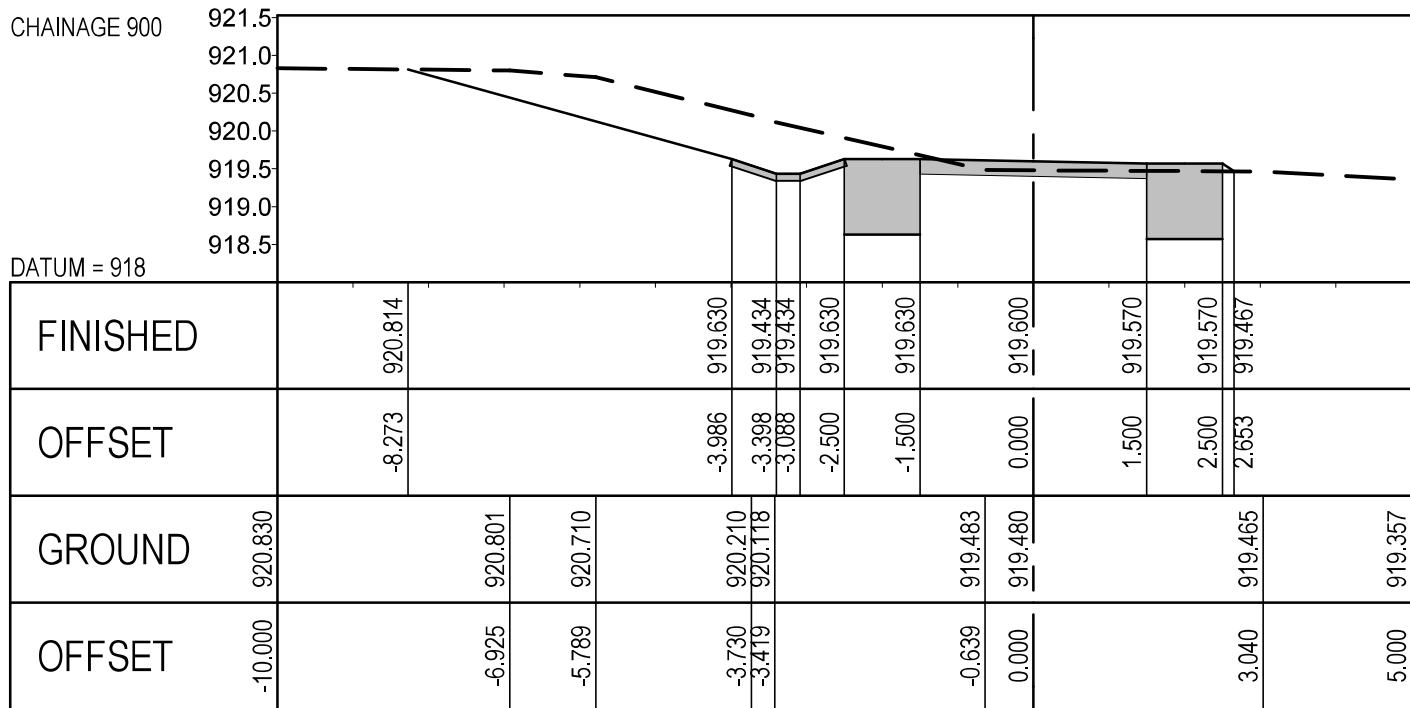
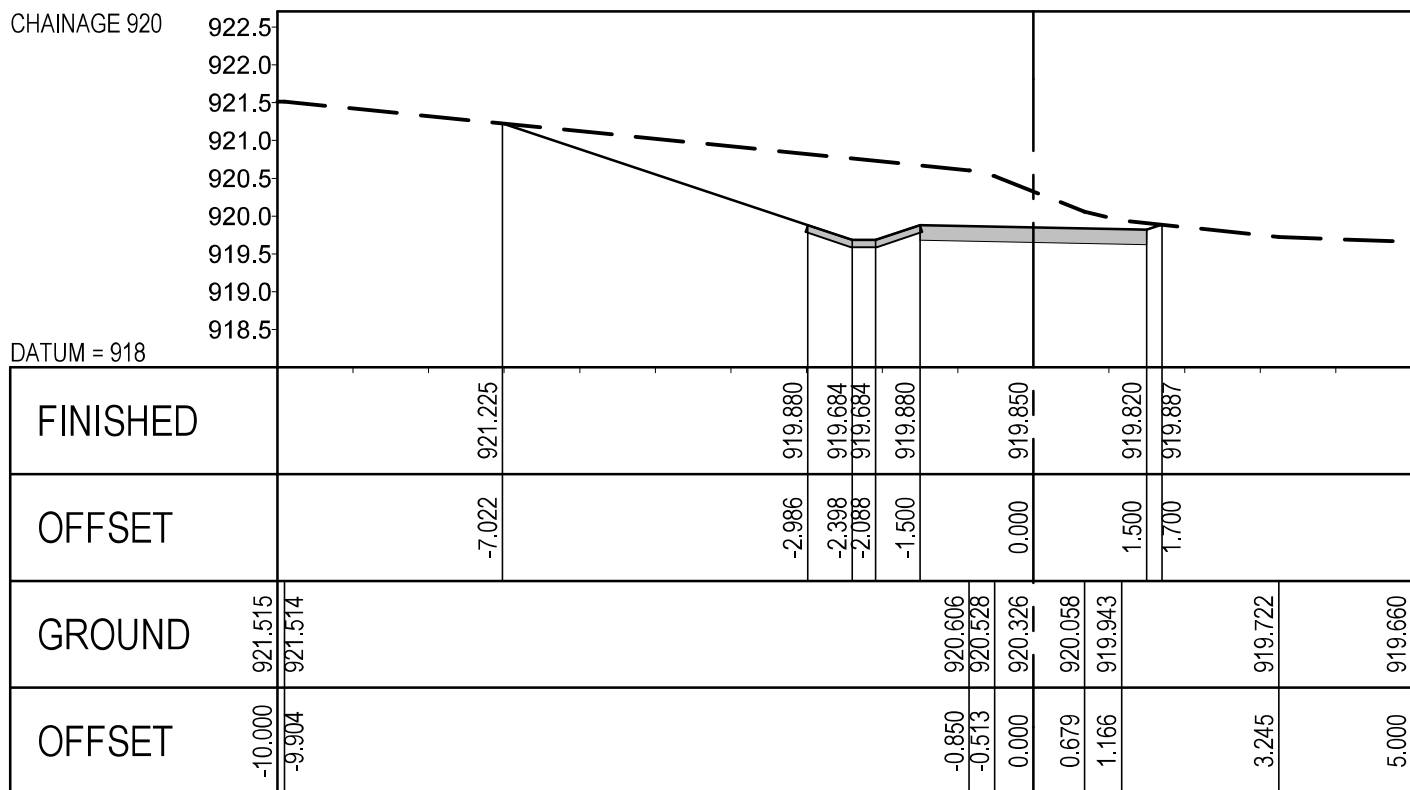
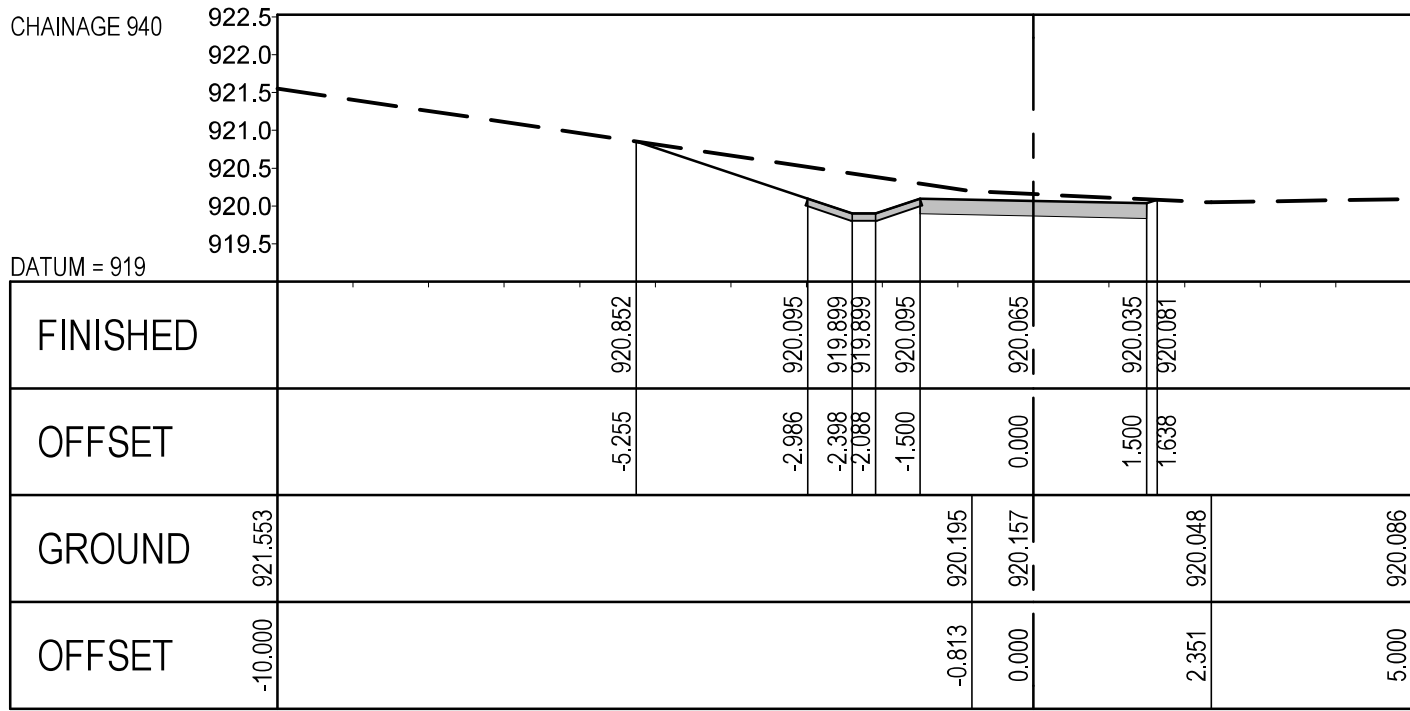
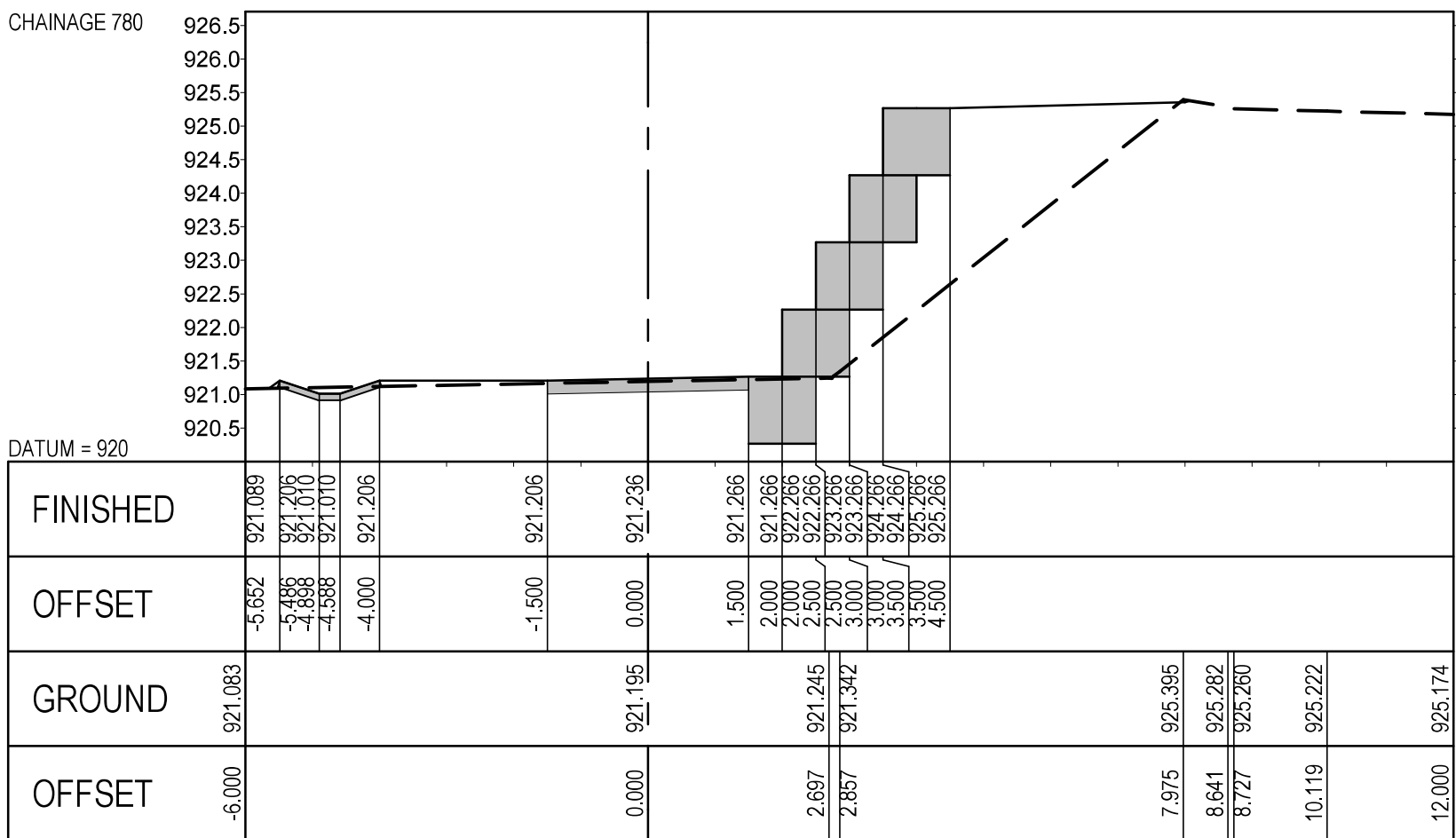
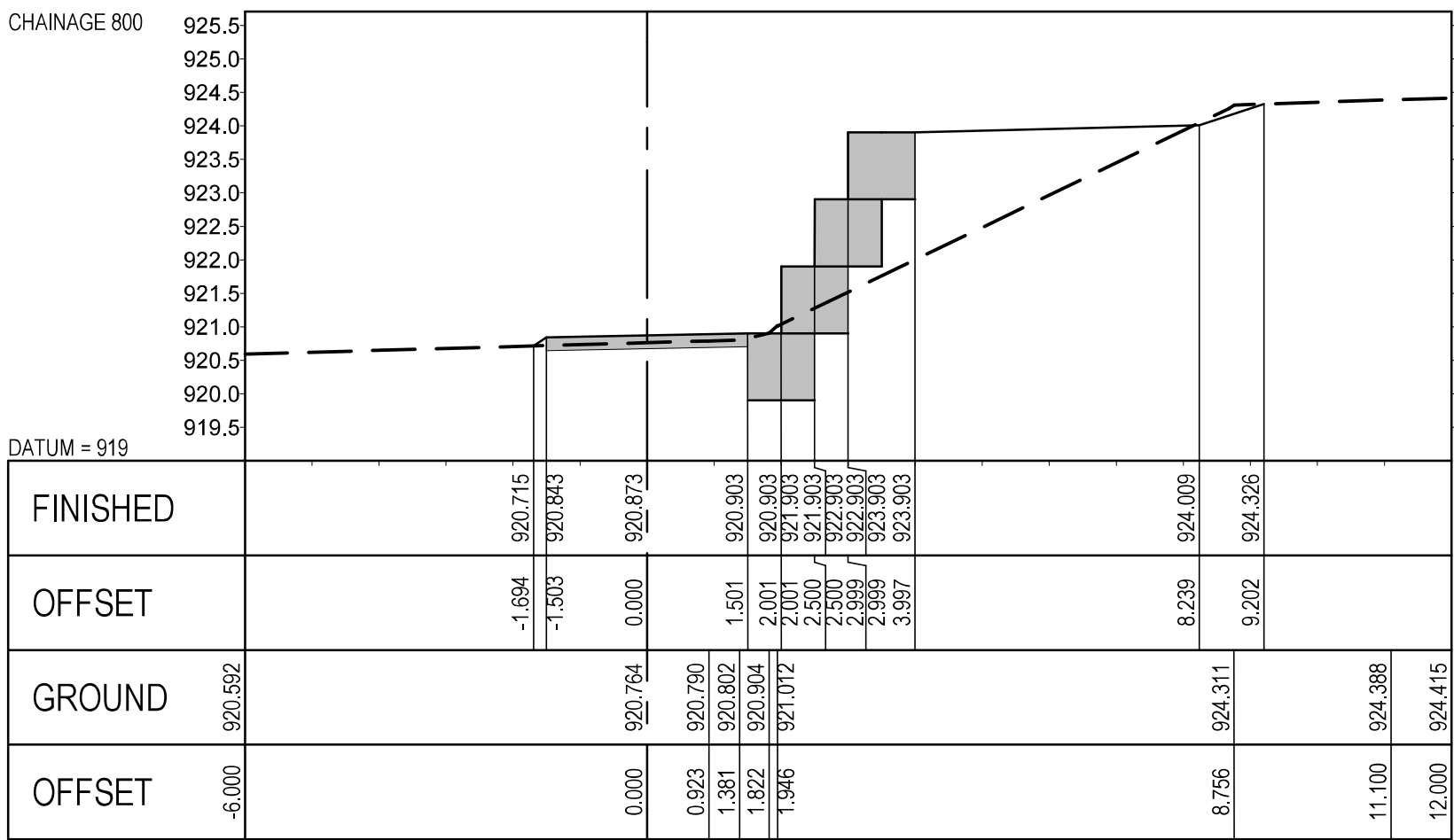
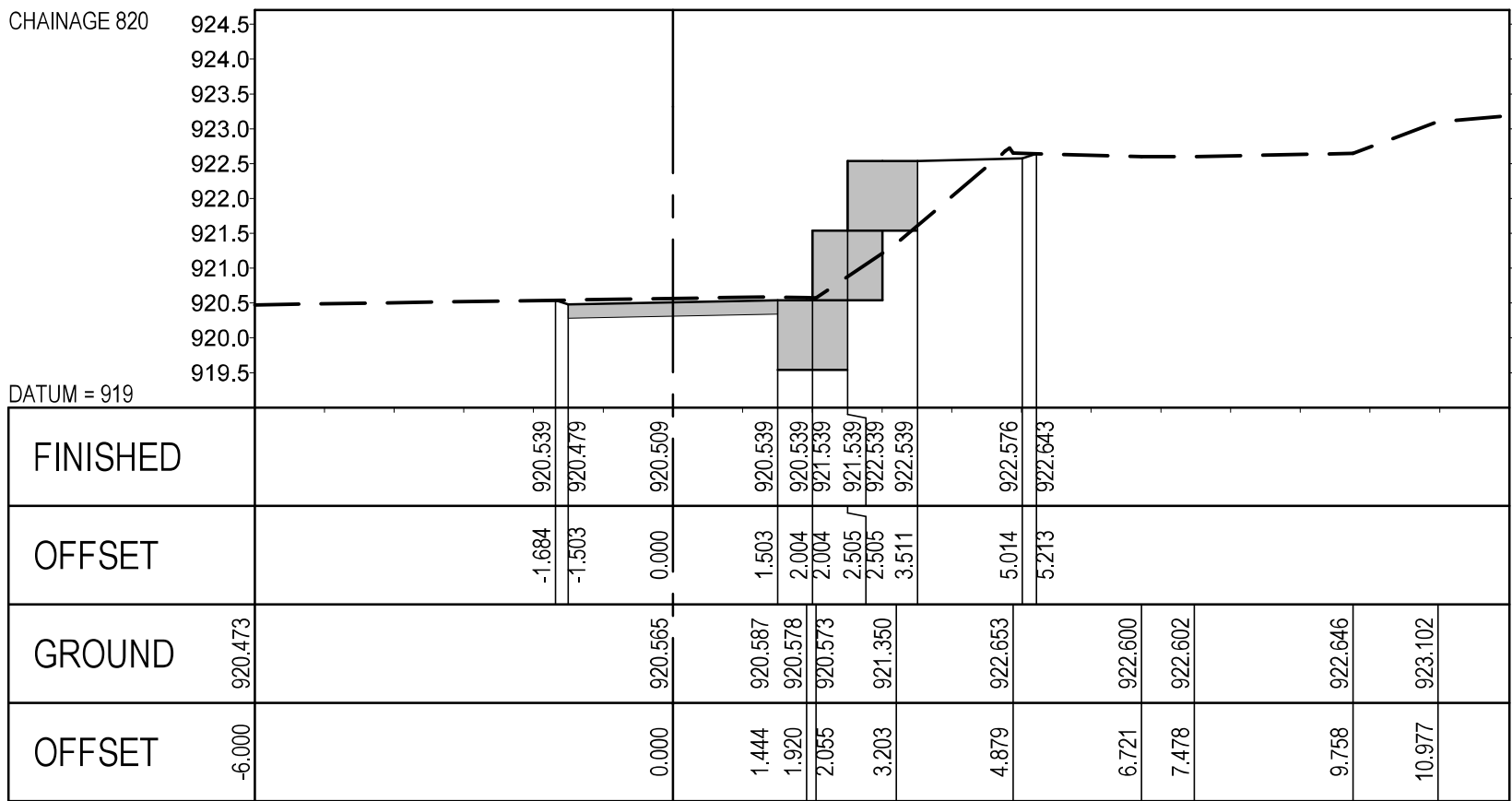
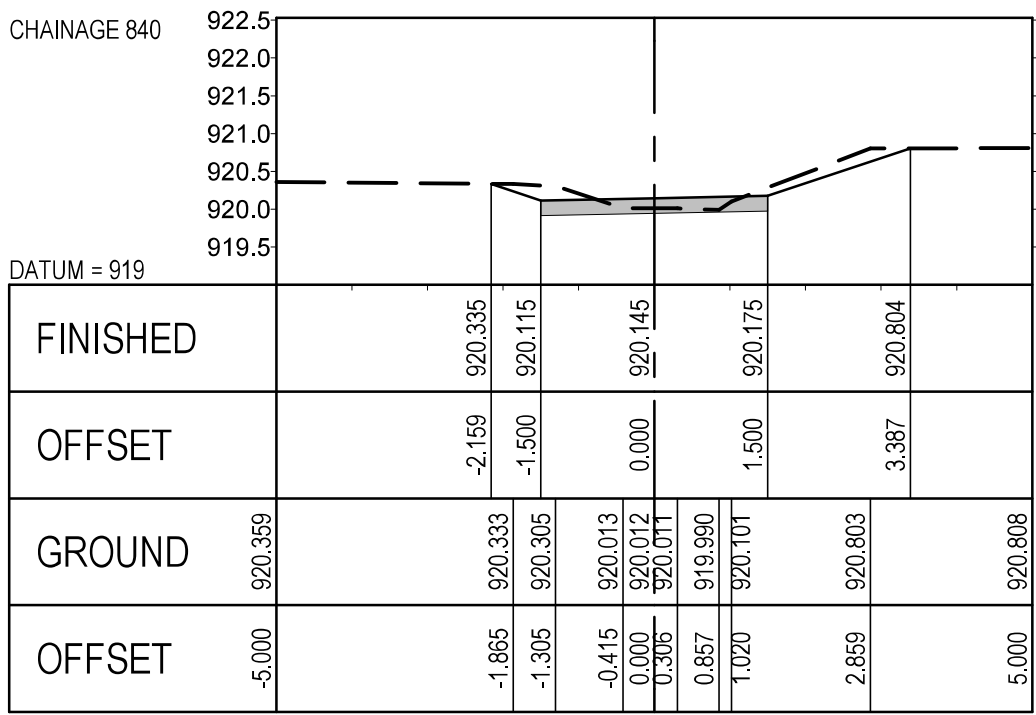
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Original Size:	Checked	R.J.D	APR 2022
A 1			

Contract No.:

47/2018

ISSUED FOR TENDER PURPOSES





LEGEND:

— GROUND

— FINAL LEVEL

REFERENCE DRAWINGS

REVISIONS

Rev. No.	Description	Date
1	ISSUED FOR TENDER PURPOSES	APR 2022



PRIVATE BAG X2596  
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APPROVED

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APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

RING ROAD

Drawing Name:

CROSS-SECTION  
(SHEET 3 OF 6)

Drawing No.:

19T0300 C D RD 03 03

Revisions

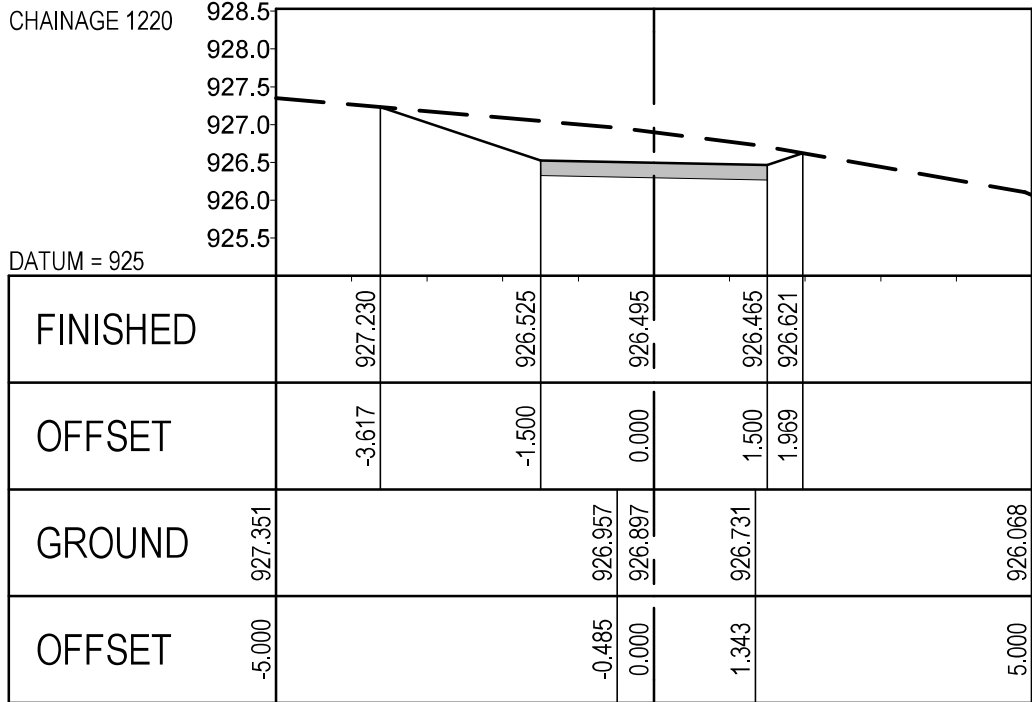
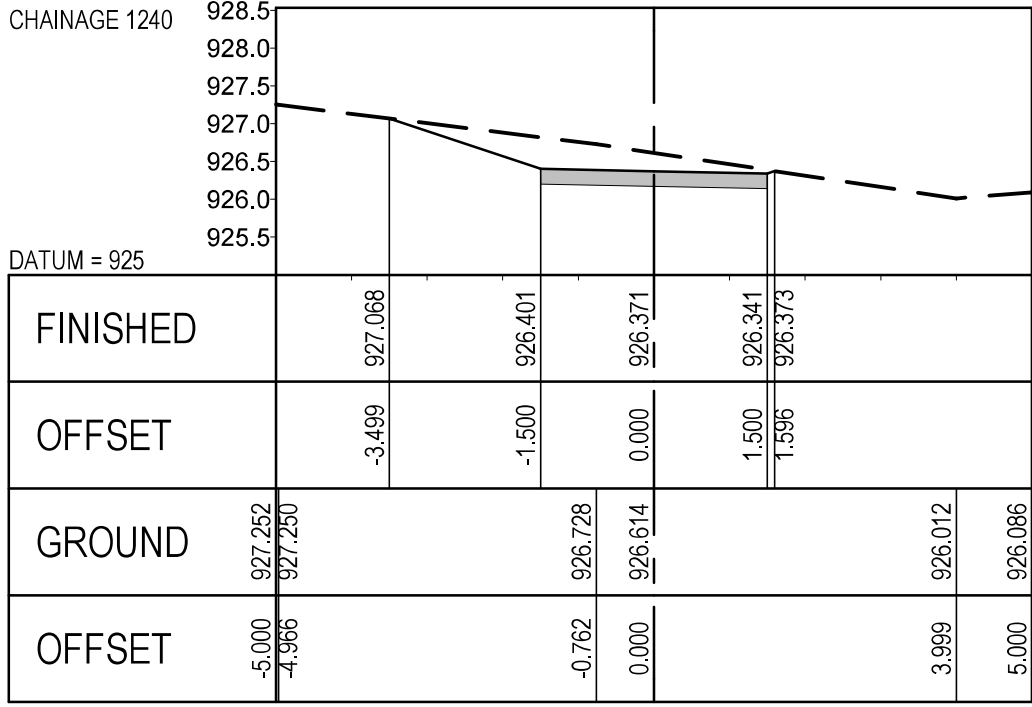
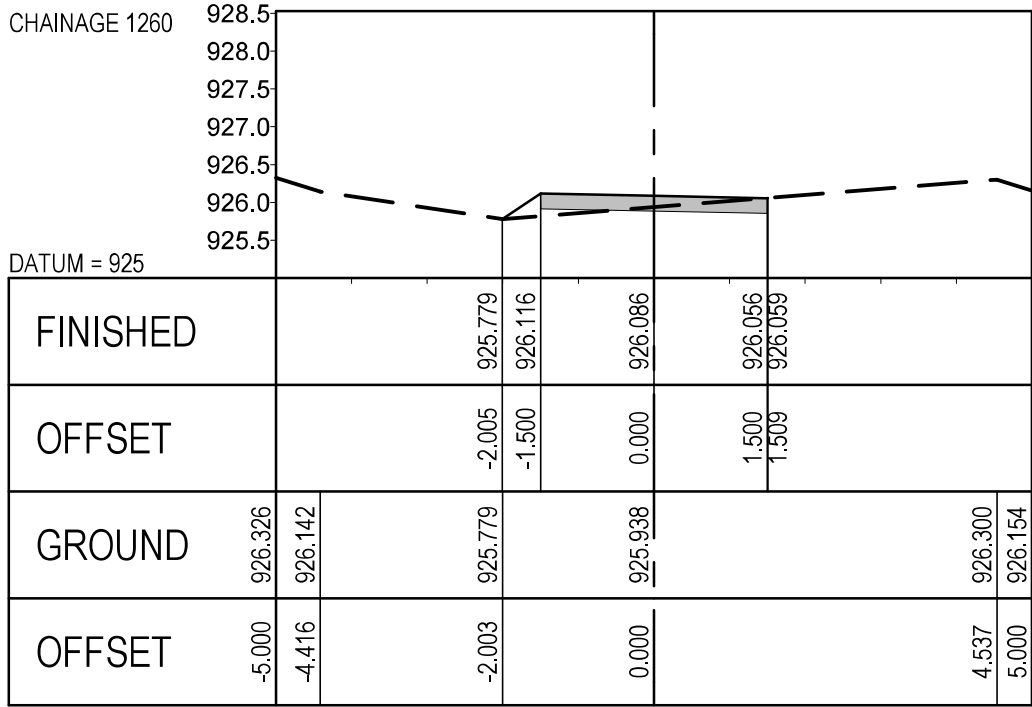
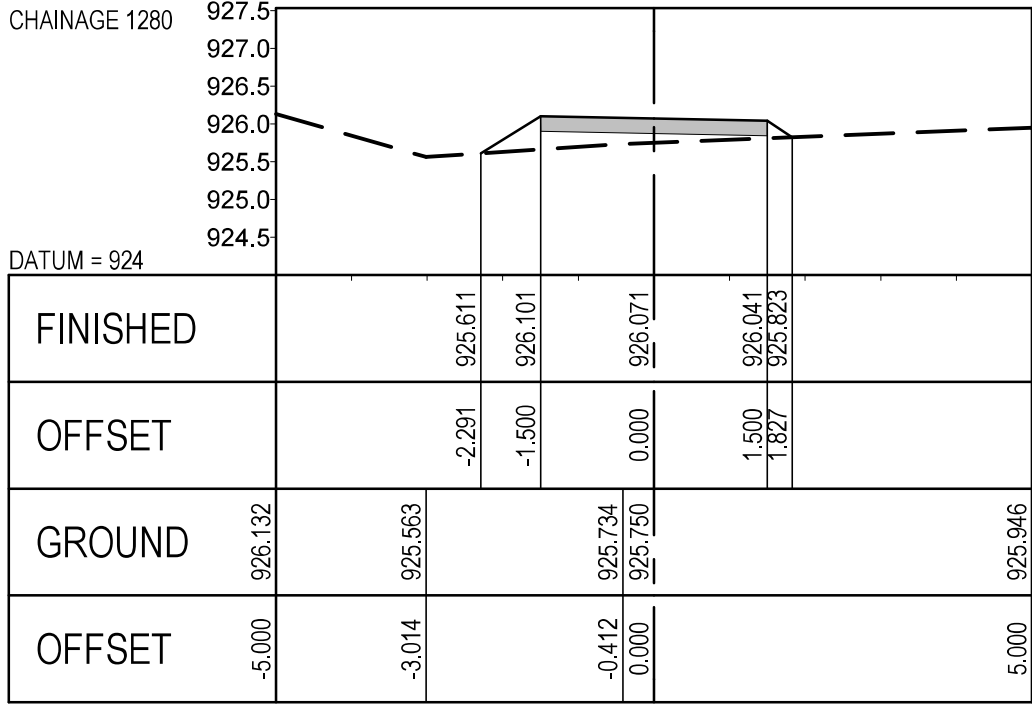
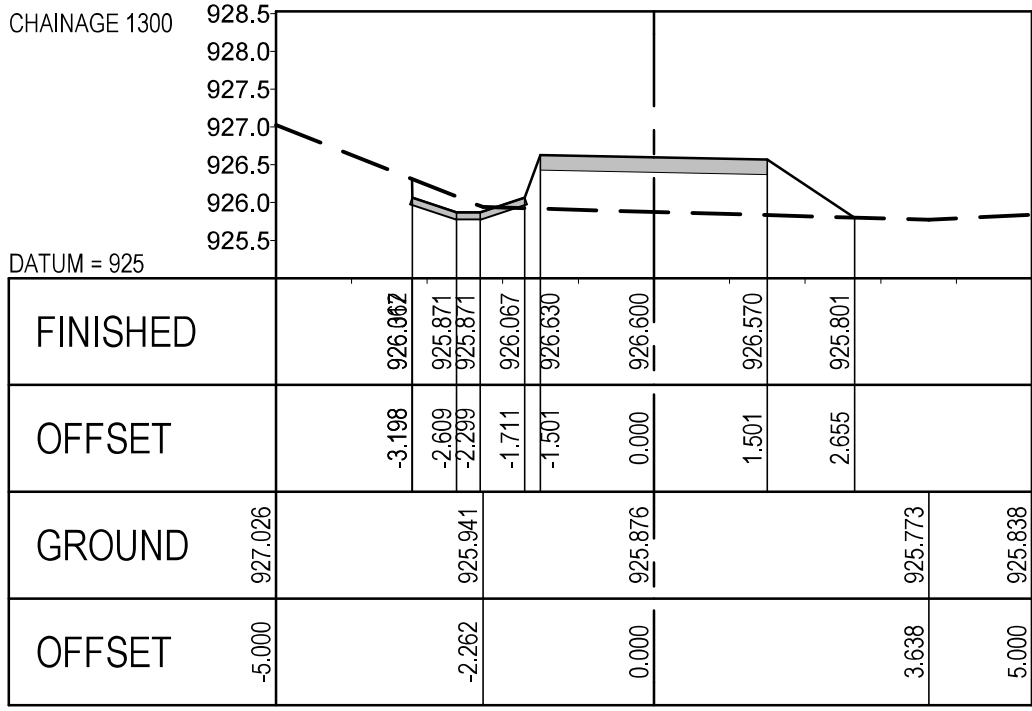
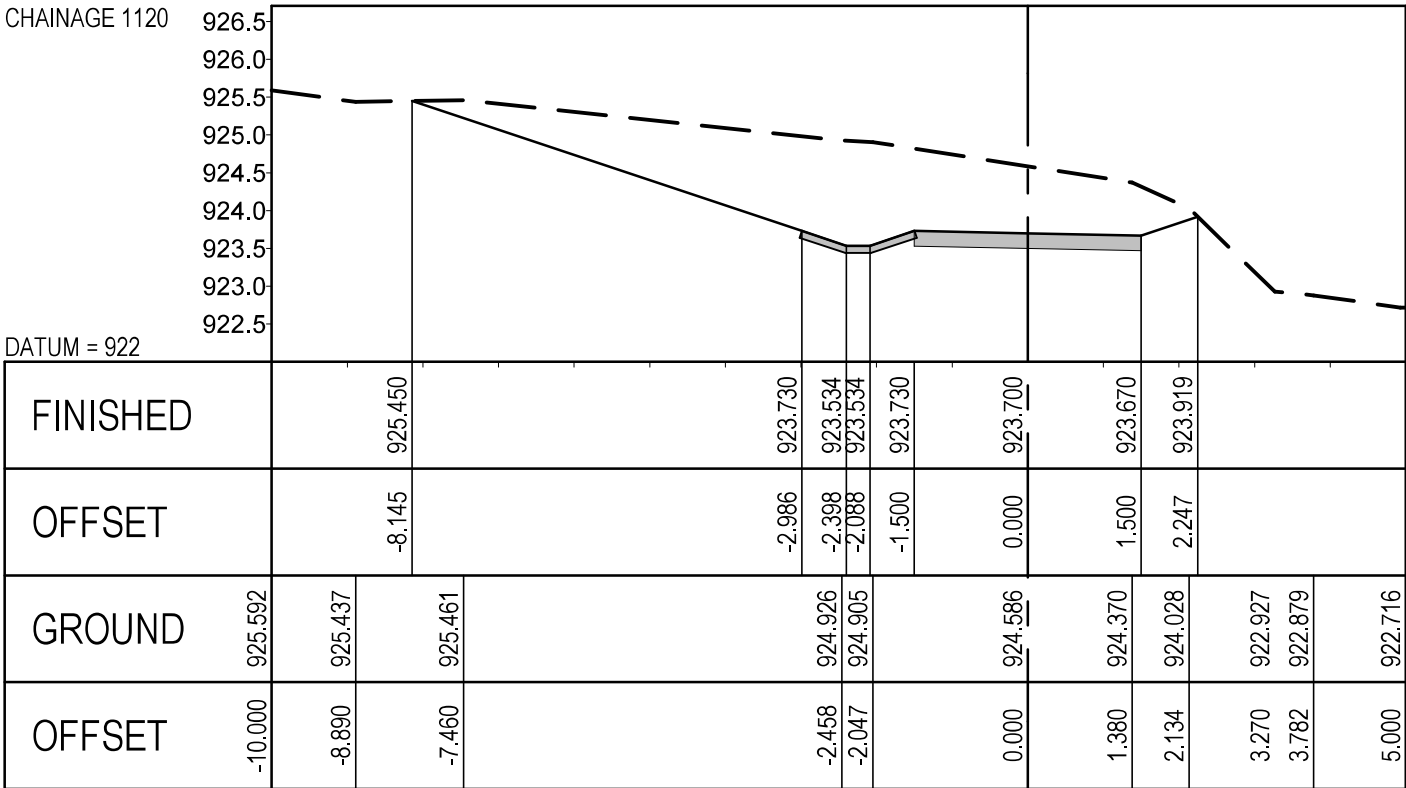
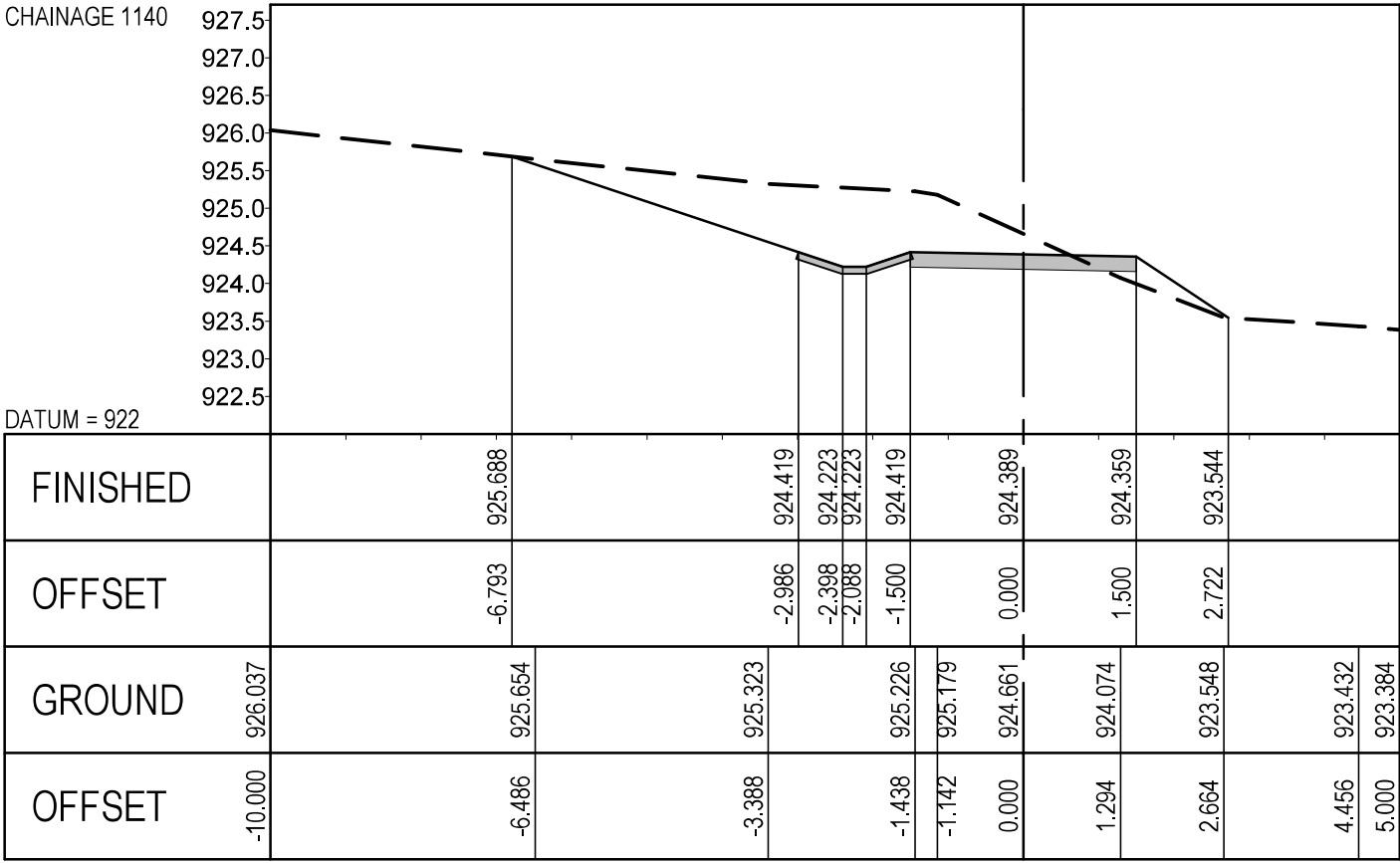
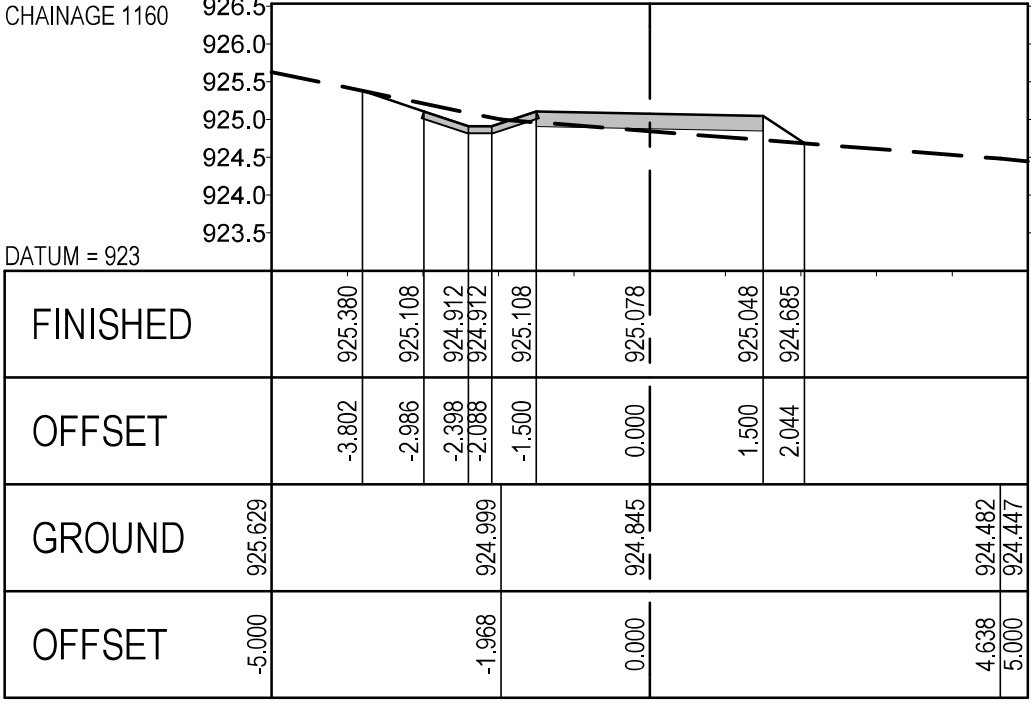
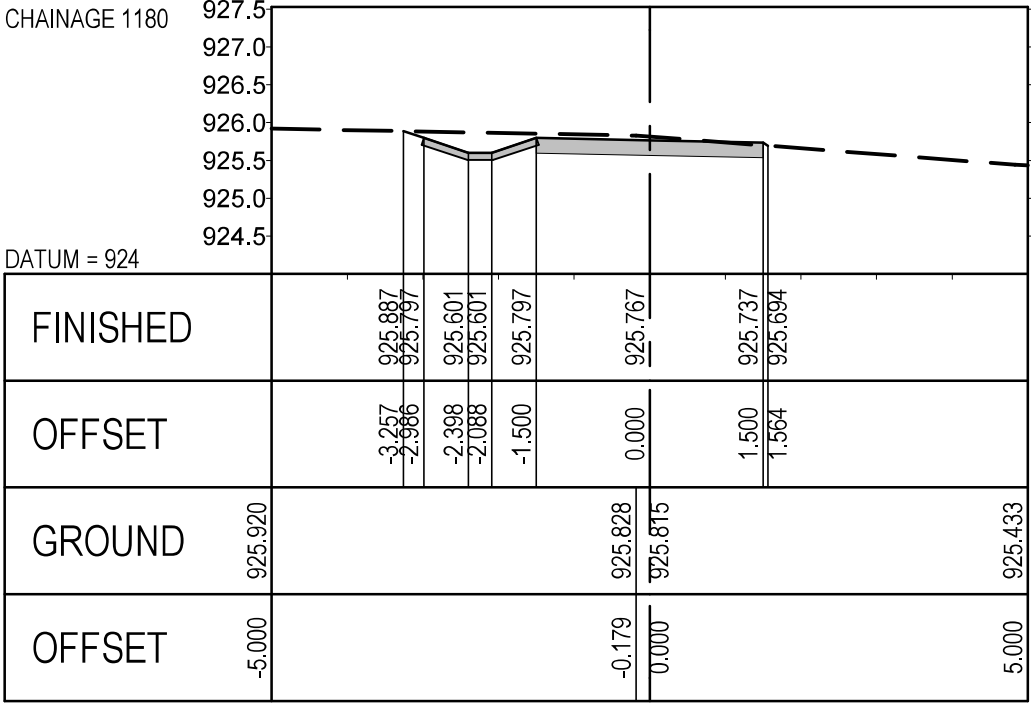
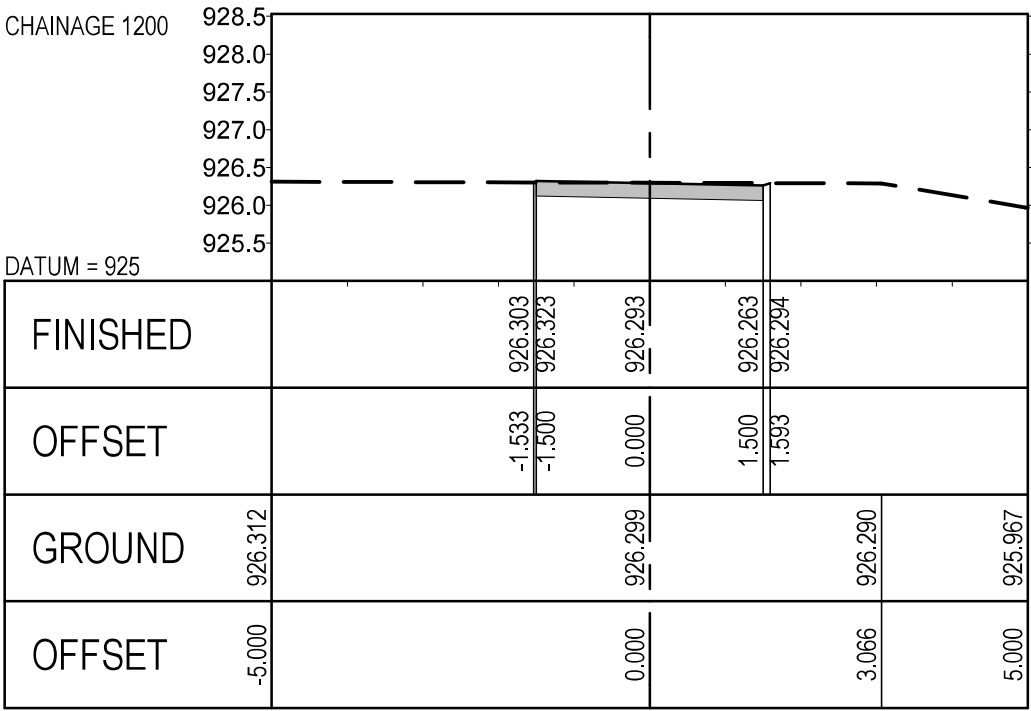
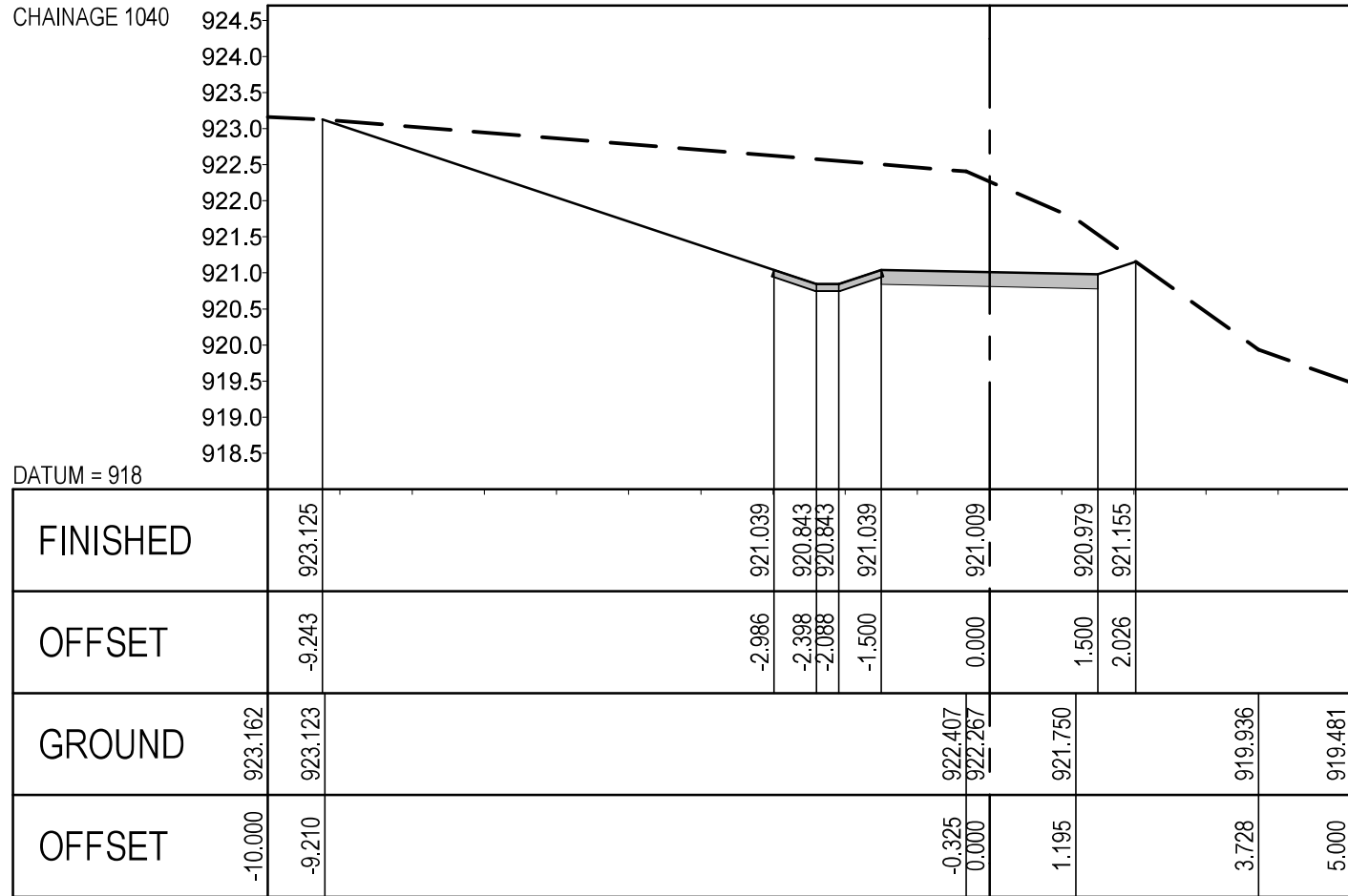
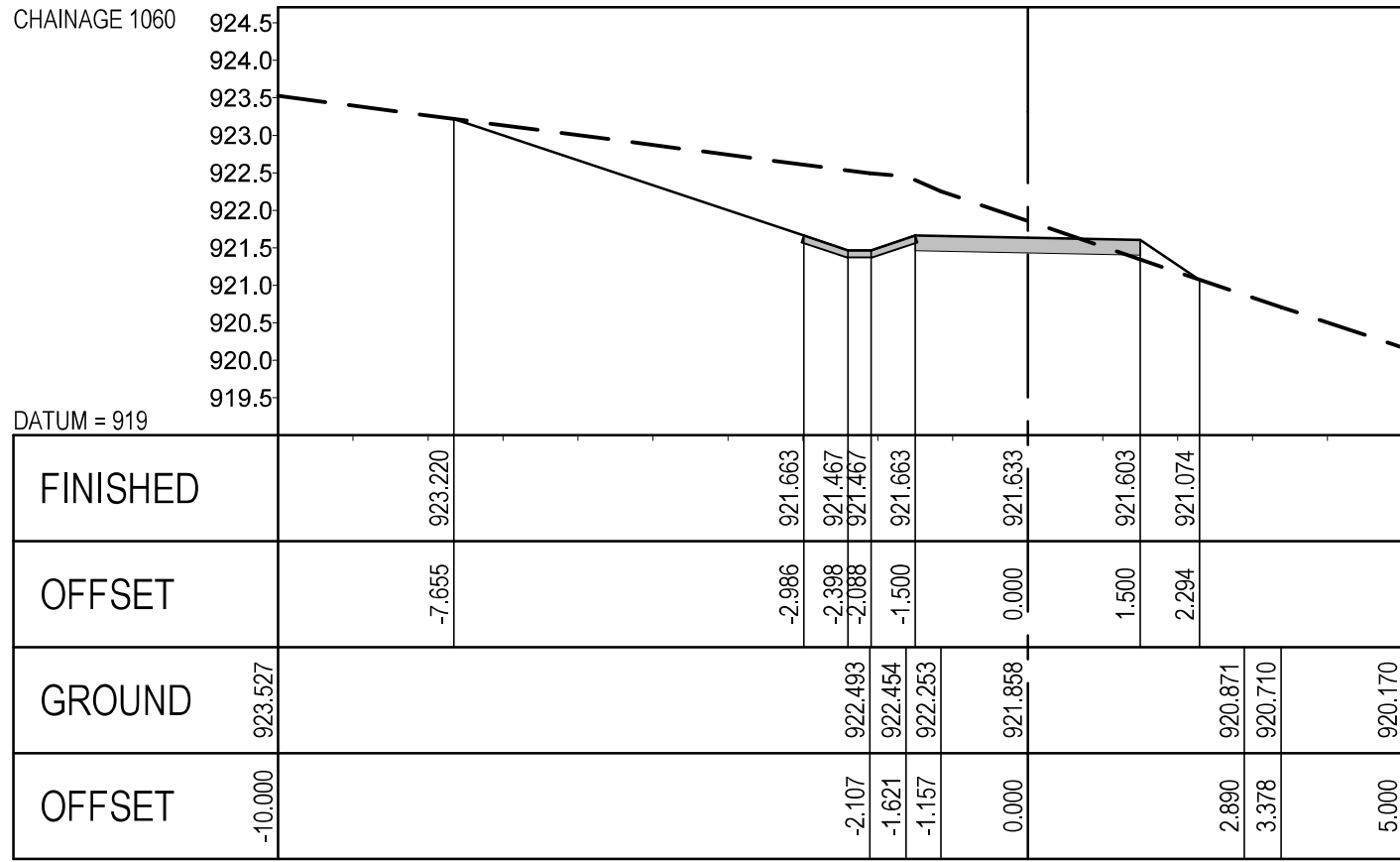
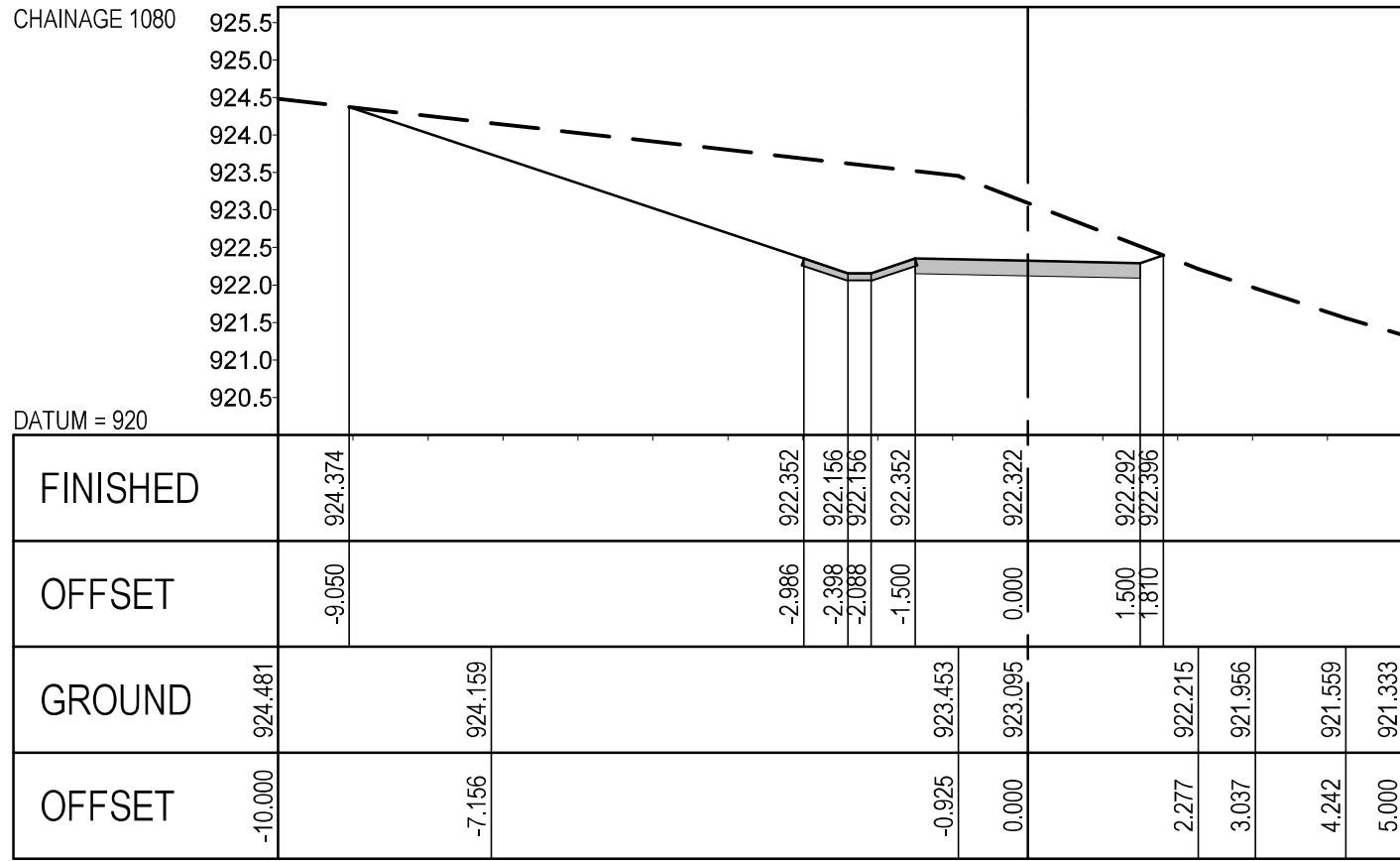
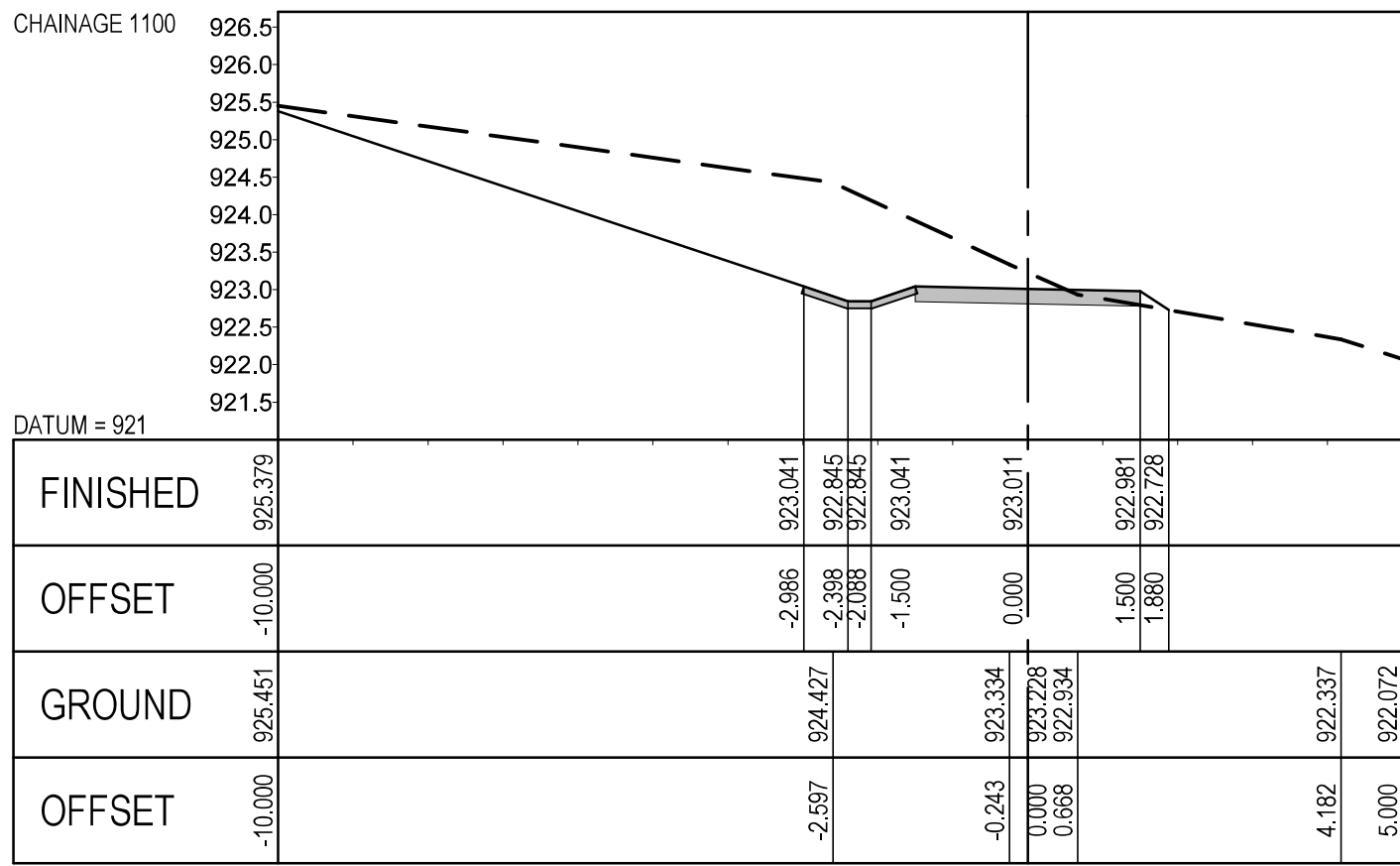
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A 1			

Contract No.:

47/2018

ISSUED FOR TENDER PURPOSES





LEGEND:

— GROUND

— FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name Drawing No.

REVISIONS

Rev. No.	Description	Date
①	ISSUED FOR TENDER PURPOSES	APR 2022



**MAKHADO LOCAL MUNICIPALITY**

PRIVATE BAG X2596  
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Email: livhuwani@makhado.gov.za3

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DATE



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Fax: (053) 927-0716

APPROVED

DATE

Project Name:

**REHABILITATION & CLOSING OF VONDELING LANDFILL SITE**

Project Component:

**RING ROAD**

Drawing Name:

**CROSS-SECTION (SHEET 4 OF 6)**

Drawing No.:

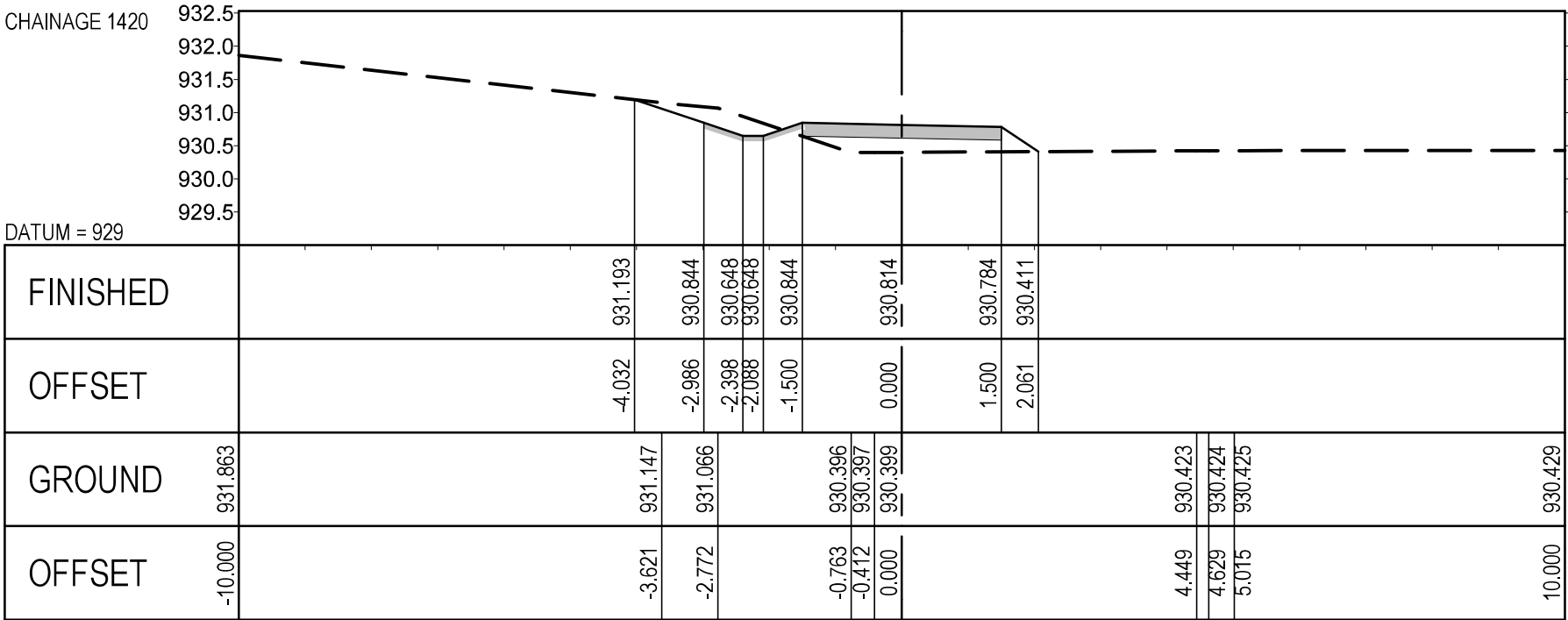
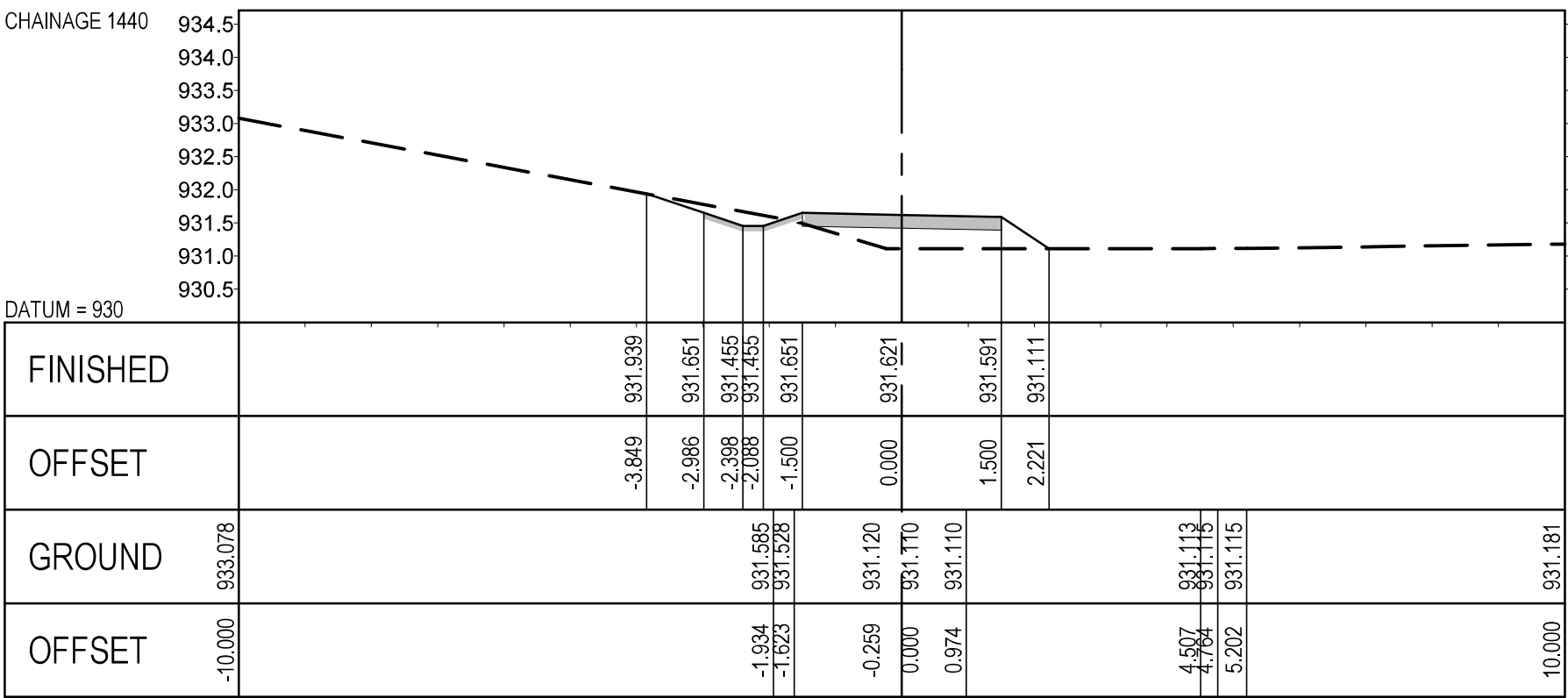
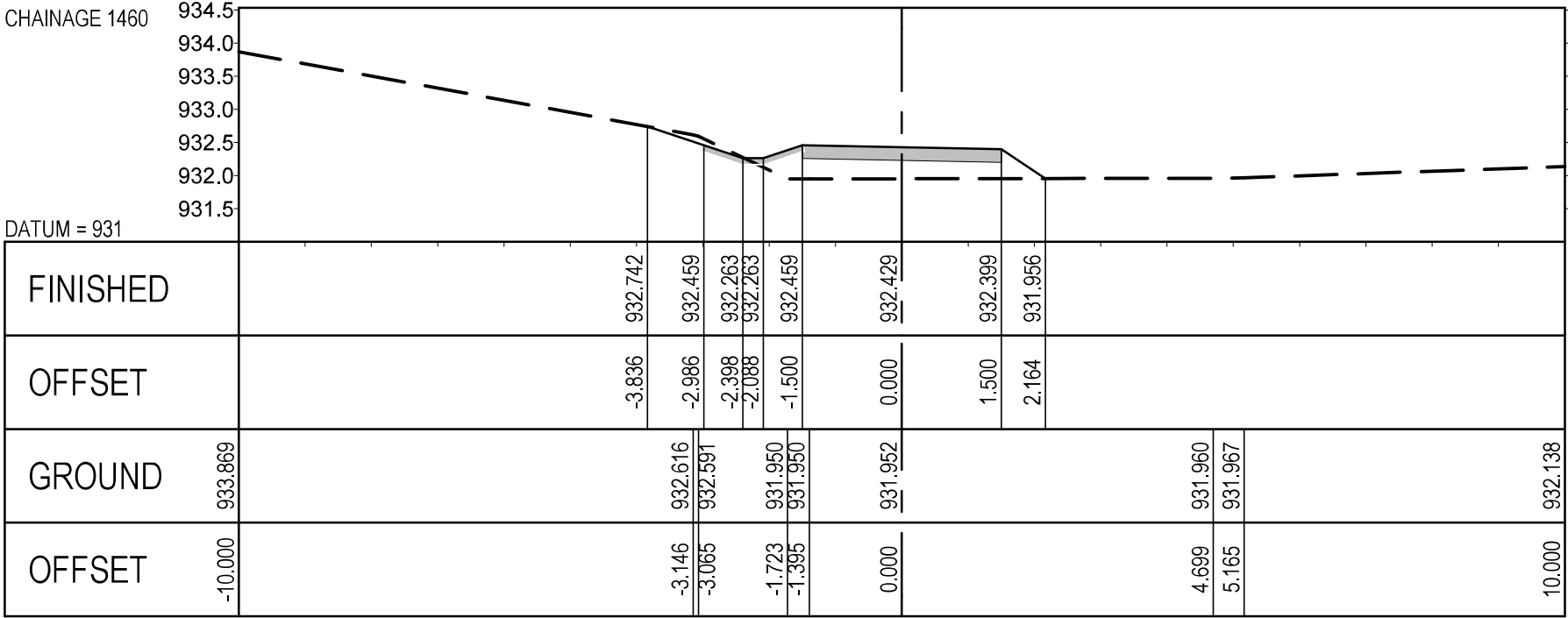
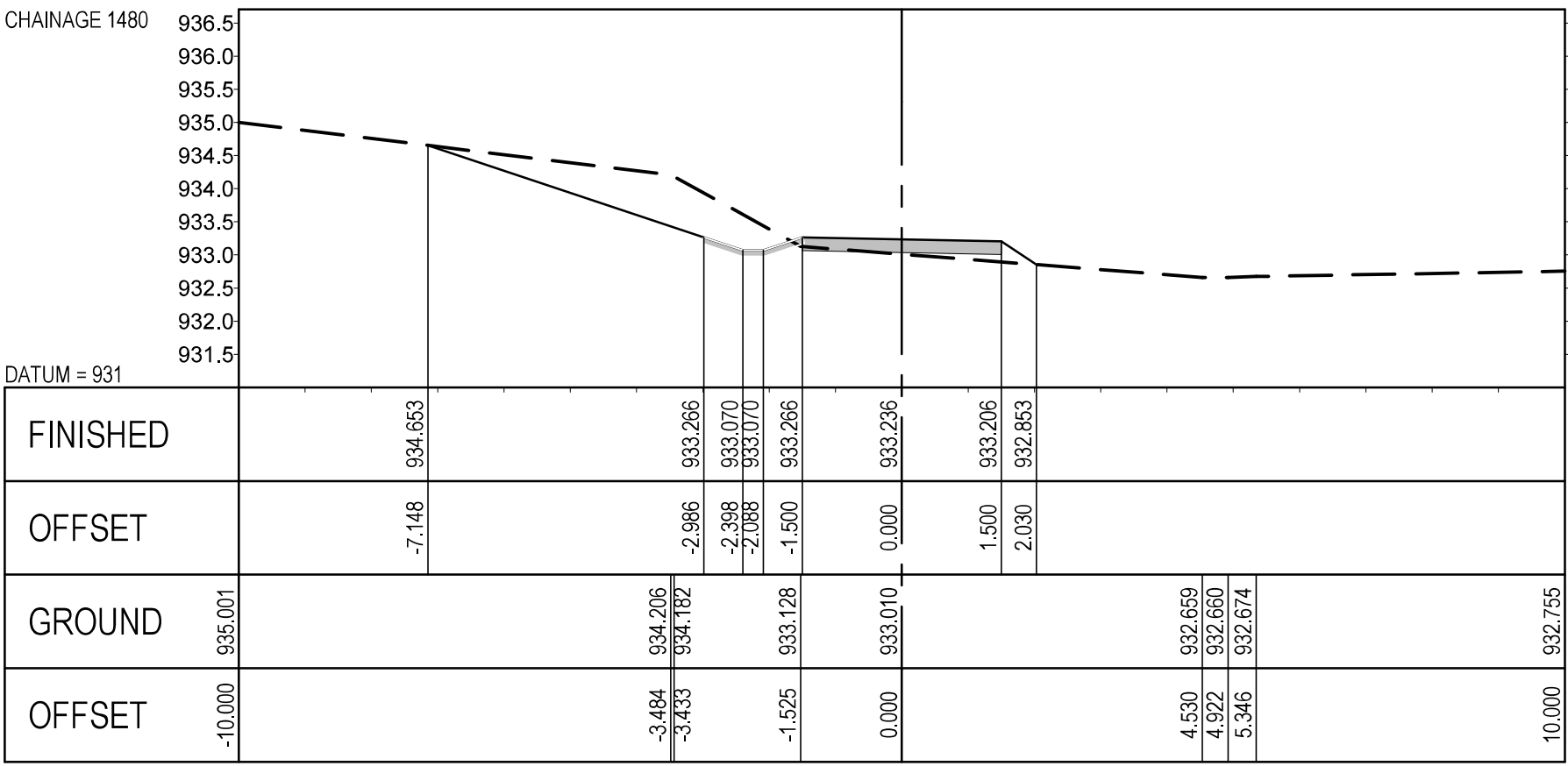
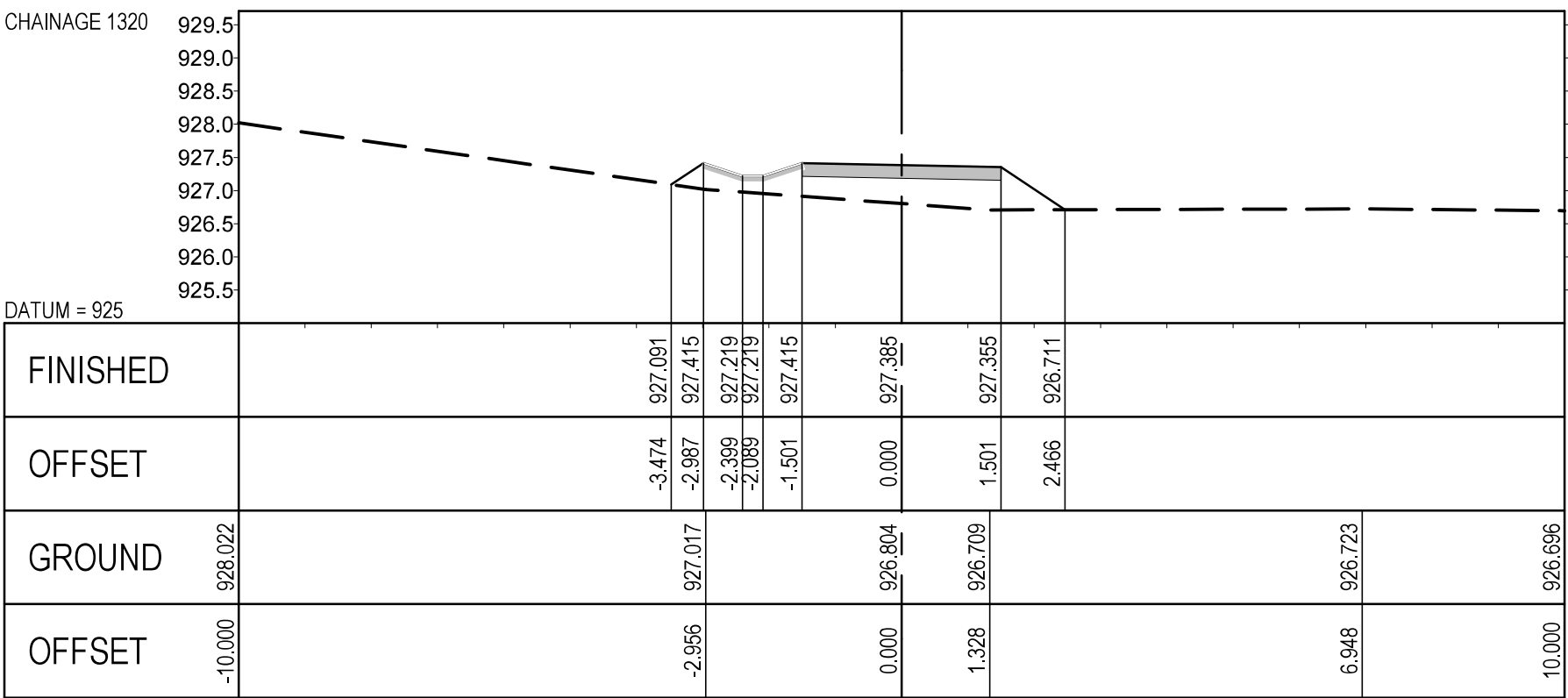
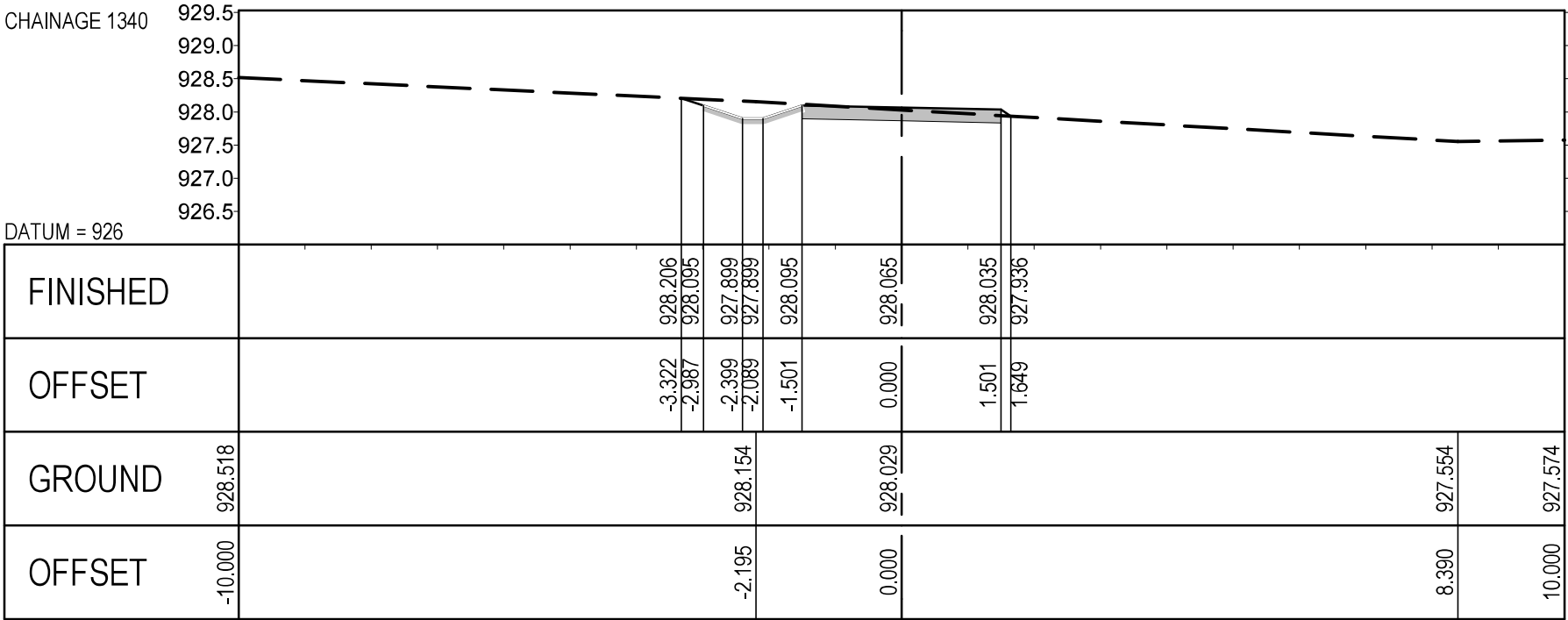
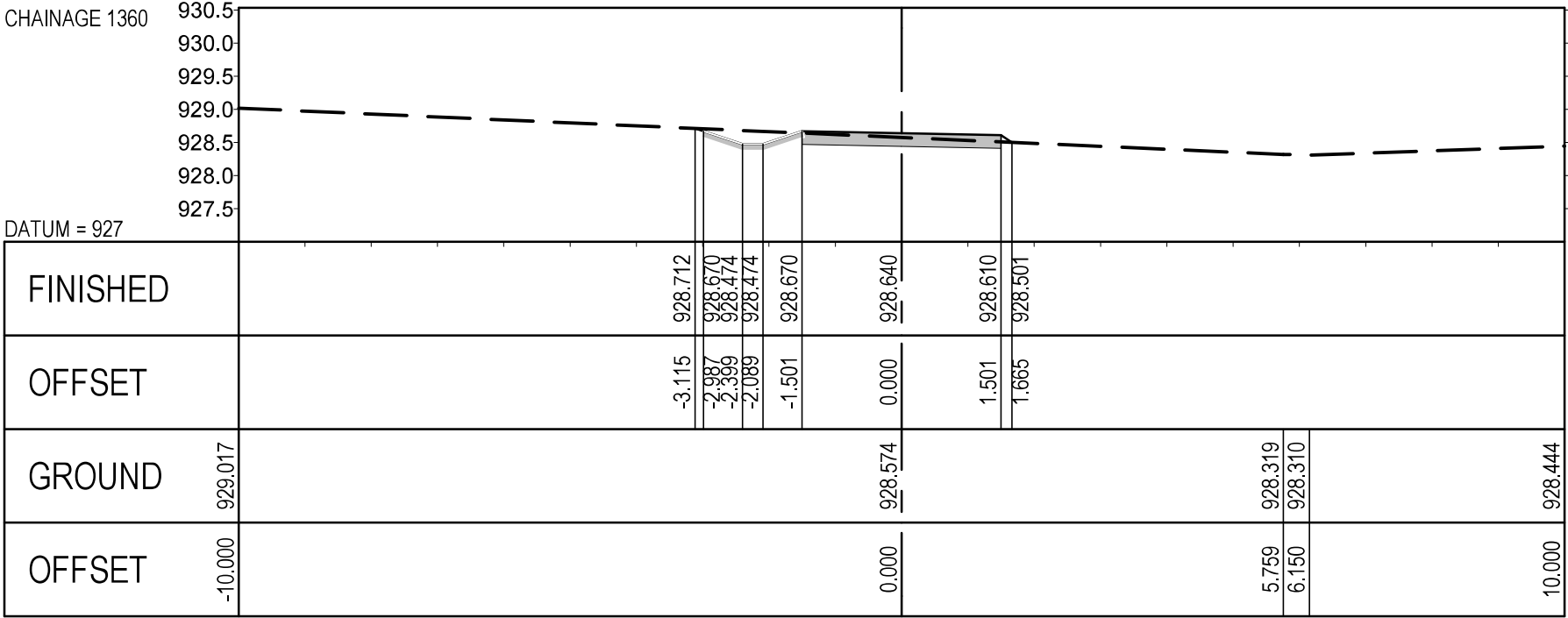
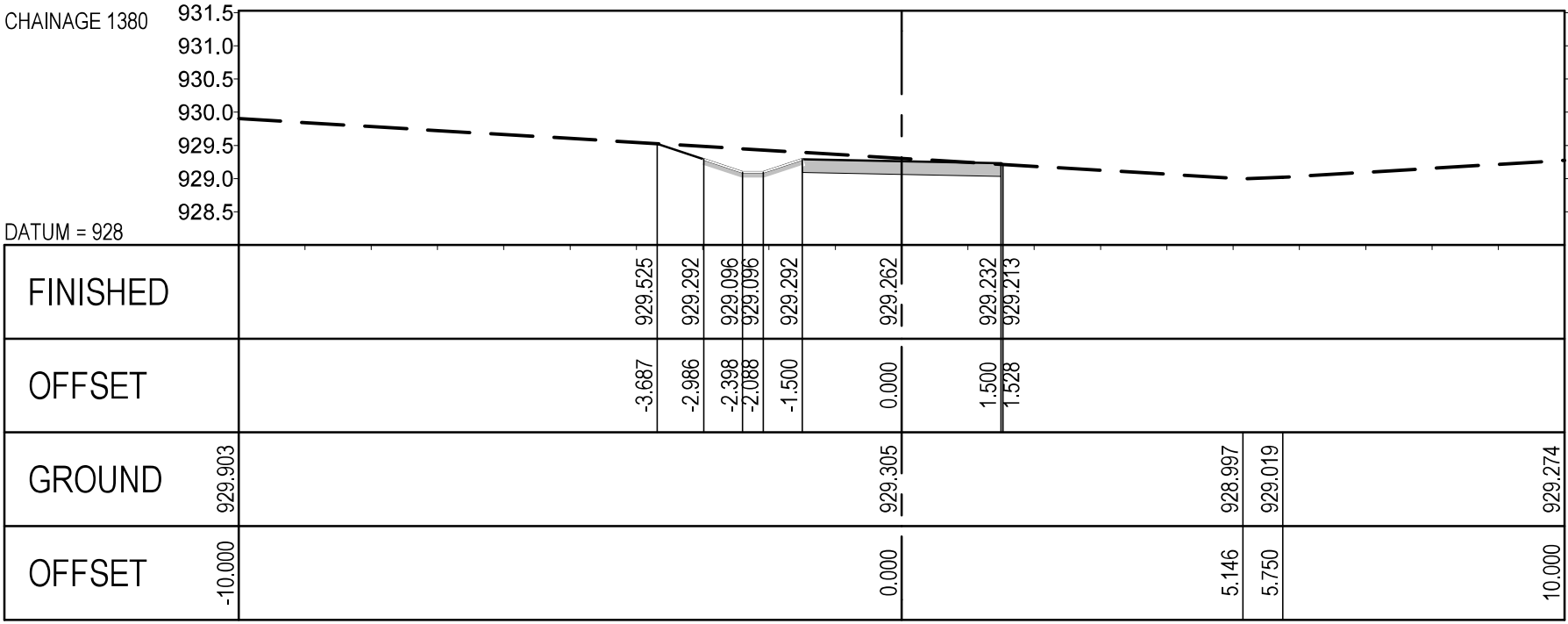
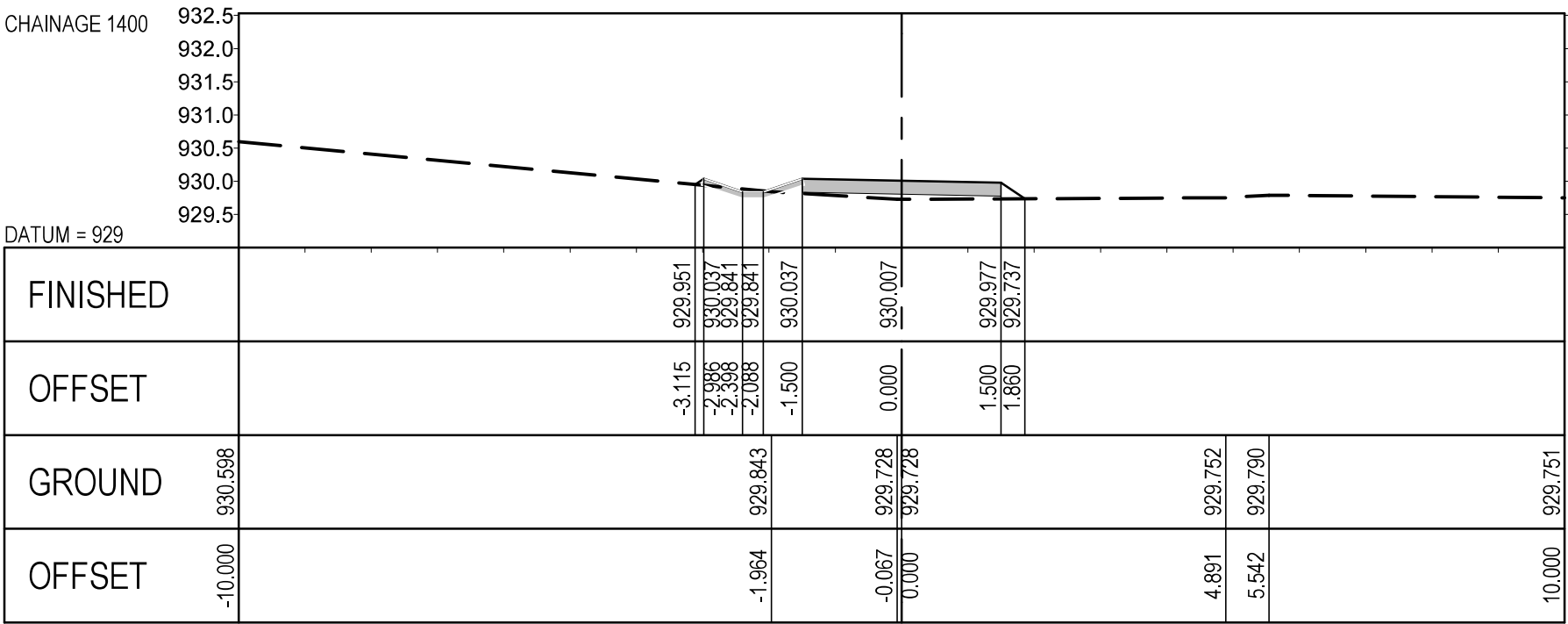
19T0300 C D RD 03 04

Revisions	①					
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		Drawn	I.S.S	APR 2022		
Original Size:	A1	Checked	R.J.D	APR 2022		

Contract No.:

47/2018

ISSUED FOR TENDER PURPOSES



LEGEND:

— GROUND

— FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name Drawing No.

REVISIONS

Rev. No.	Description	Date
①	ISSUED FOR TENDER PURPOSES	APR 2022



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Fax: (015) 295-7753

VRIBURG:  
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Fax: (053) 927-0716

APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

RING ROAD

Drawing Name:

CROSS-SECTION  
(SHEET 5 OF 6)

Drawing No.:

19T0300 C D RD 03 05

Revisions ①

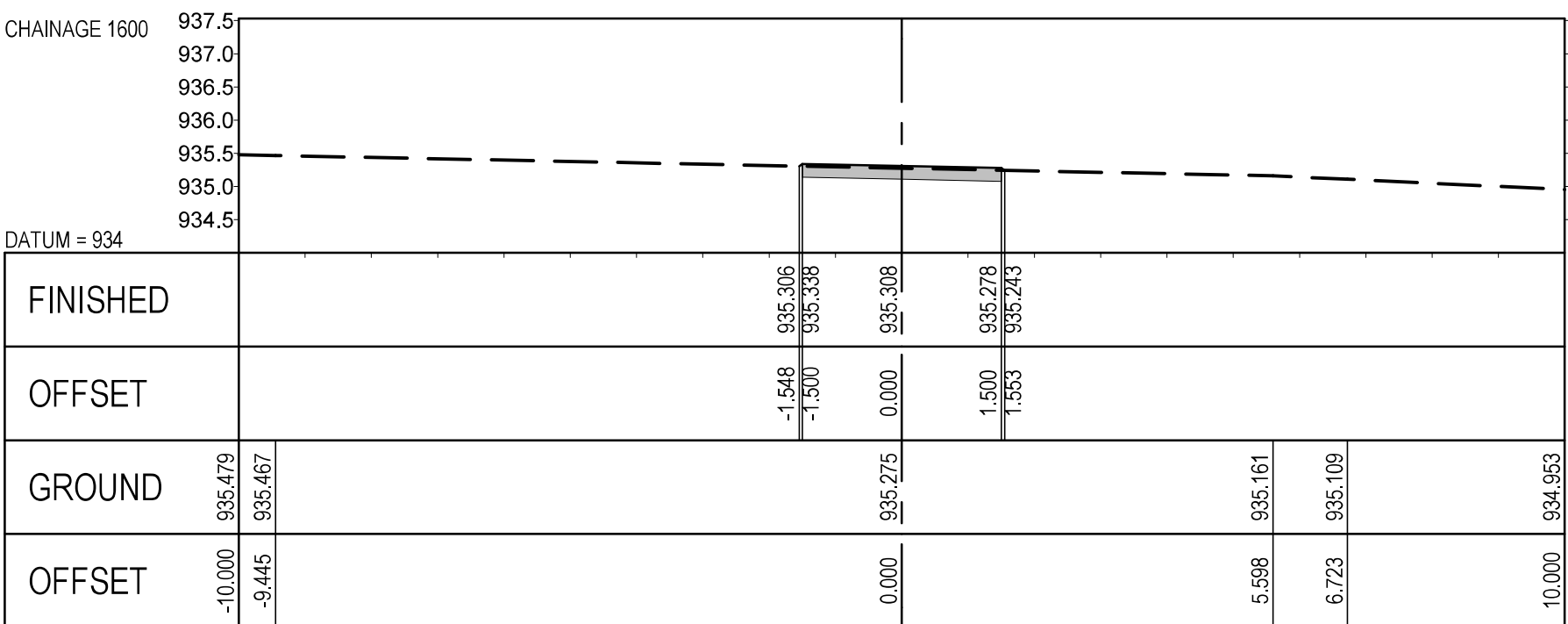
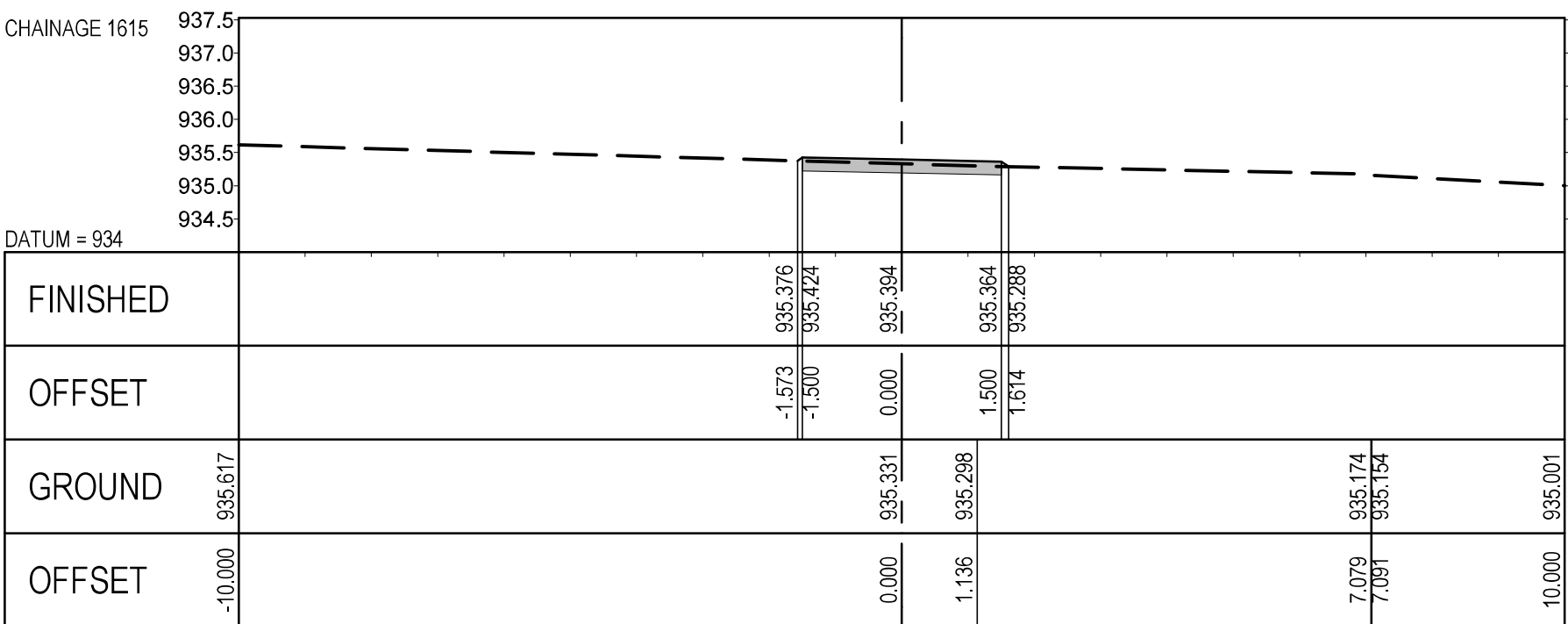
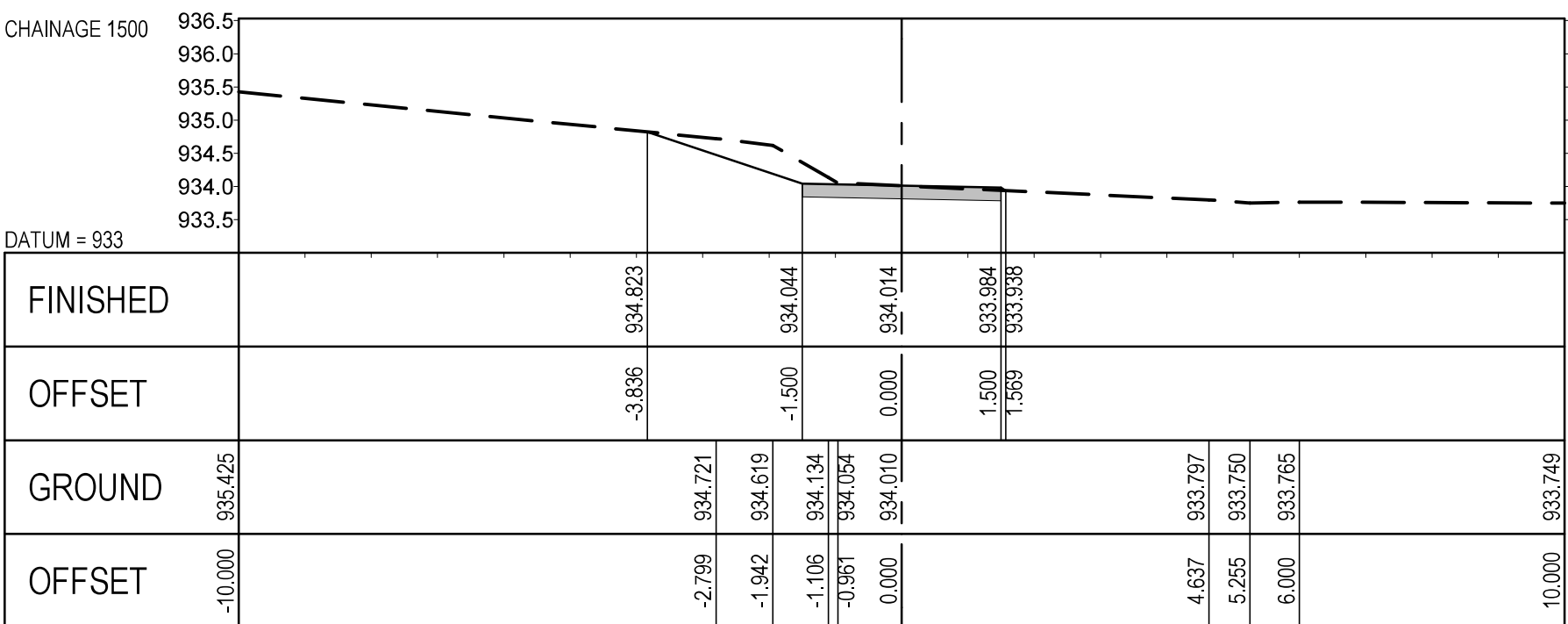
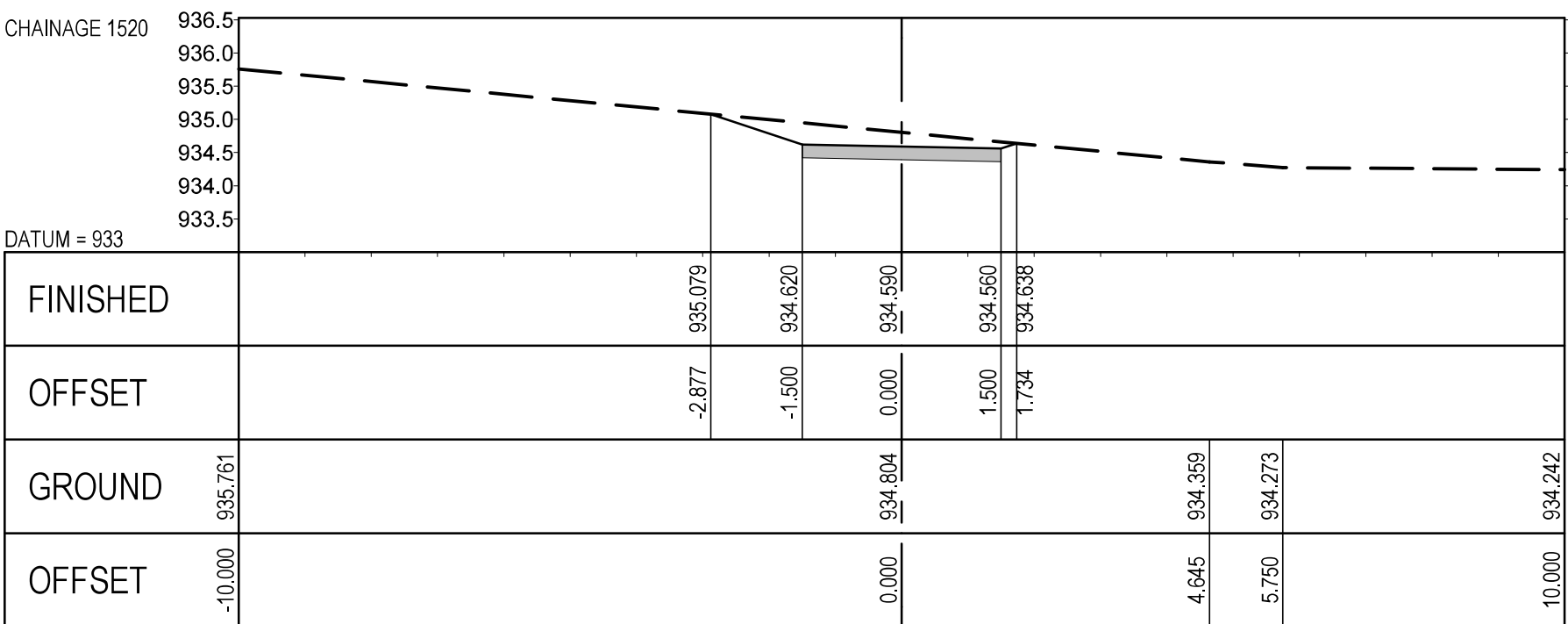
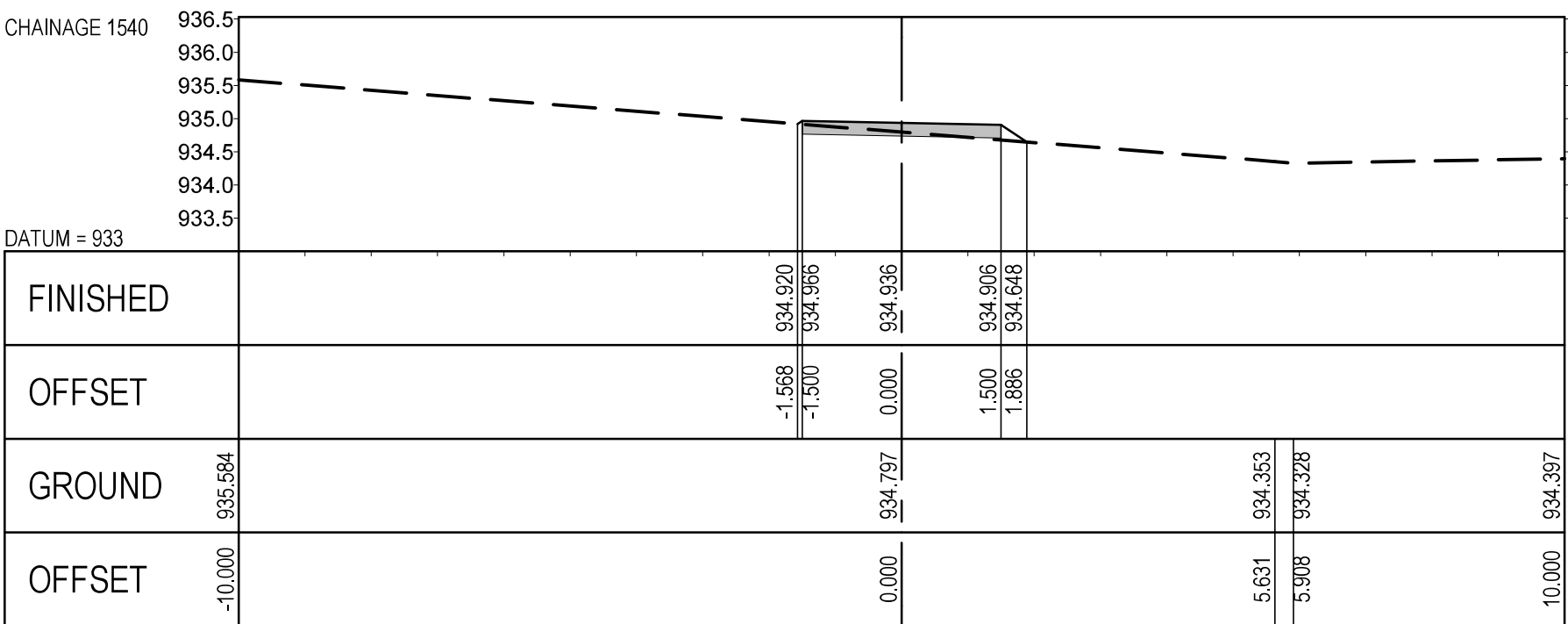
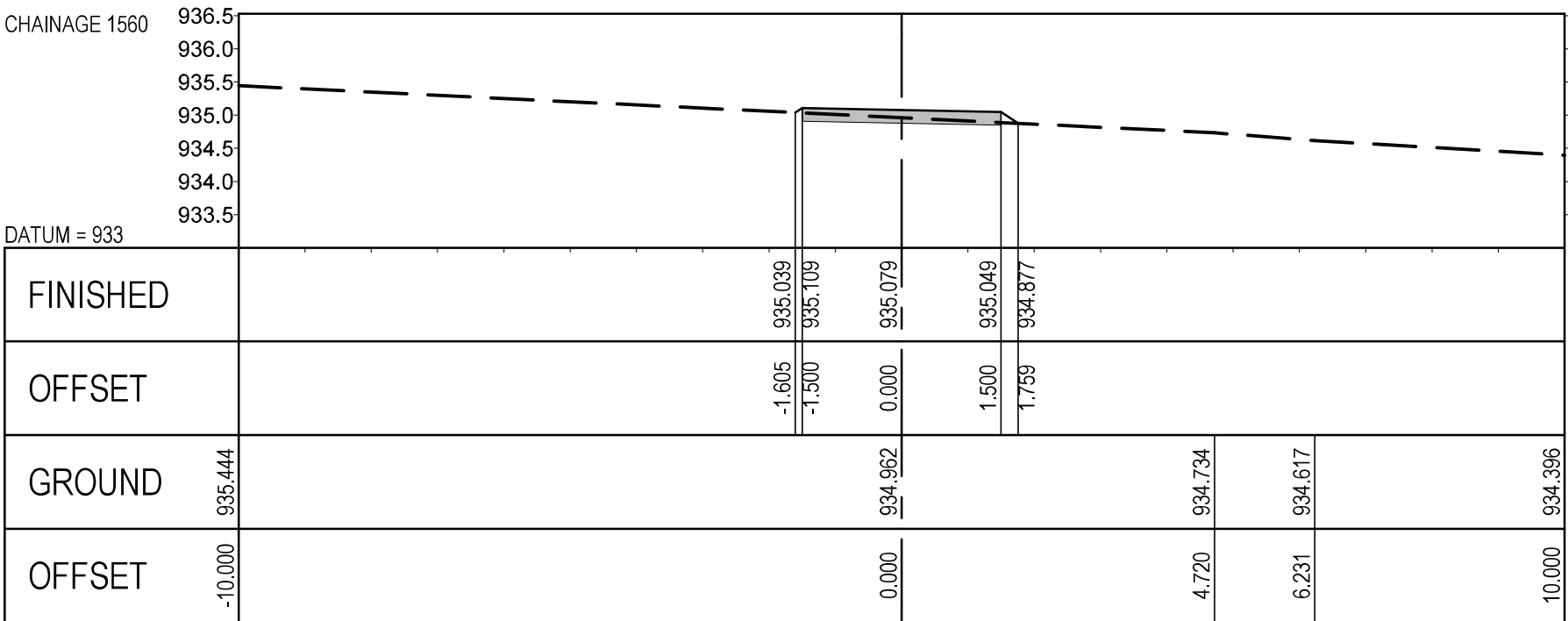
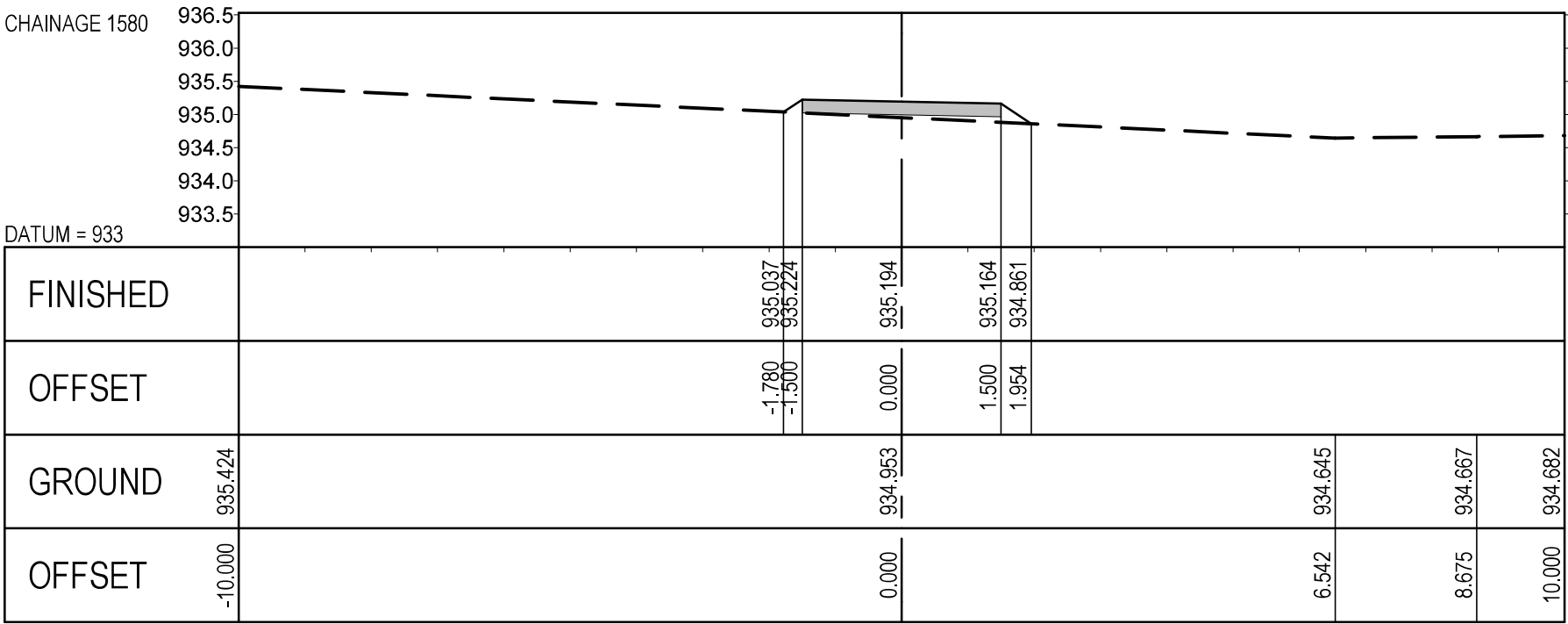
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Original Size:	A 1	Checked R.J.D	APR 2022

Contract No.:

47/2018

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LEGEND:

--- GROUND  
--- FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name Drawing No.

REVISIONS

Rev. No.	Description	Date
1	ISSUED FOR TENDER PURPOSES	APR 2022



MAKHADO LOCAL MUNICIPALITY

PRIVATE BAG X2596  
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Fax: (053) 927-0716

APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

RING ROAD

Drawing Name:

CROSS-SECTION  
(SHEET 6 OF 6)

Drawing No.:

19T0300 C D RD 03 06

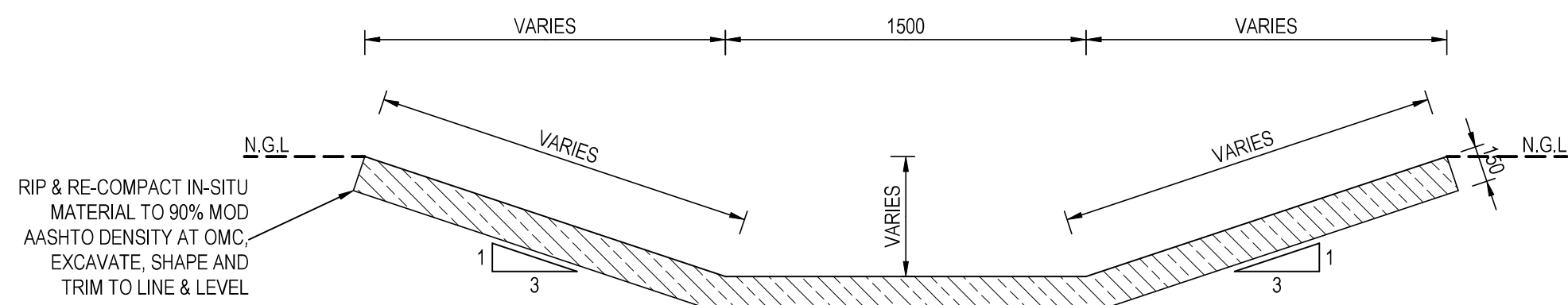
Revisions

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Contract No.:

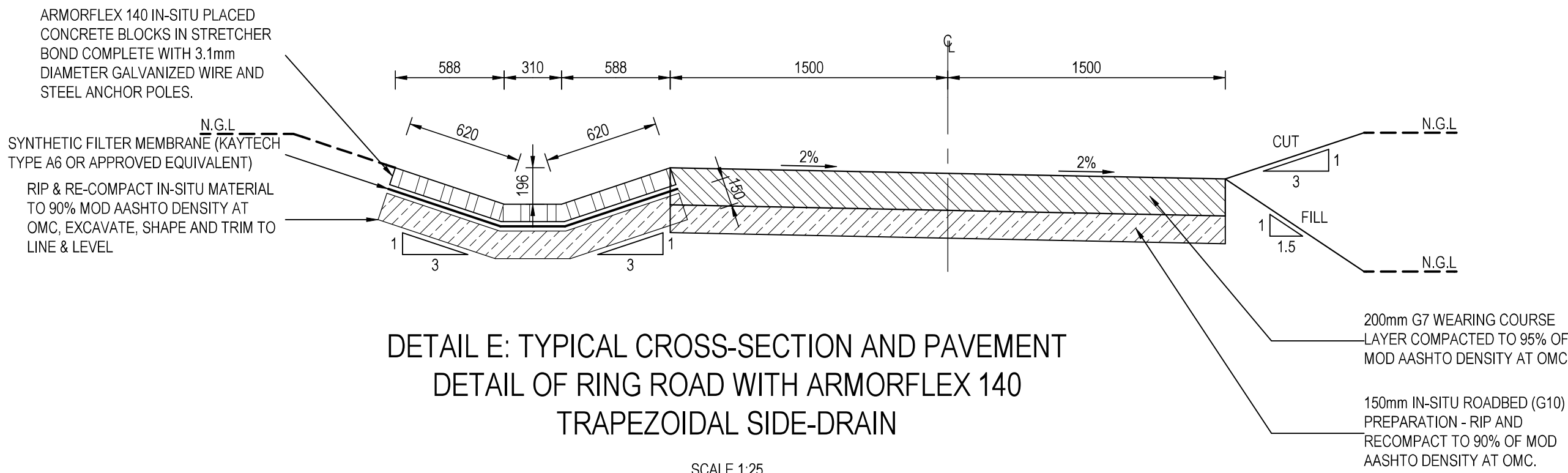
47/2018

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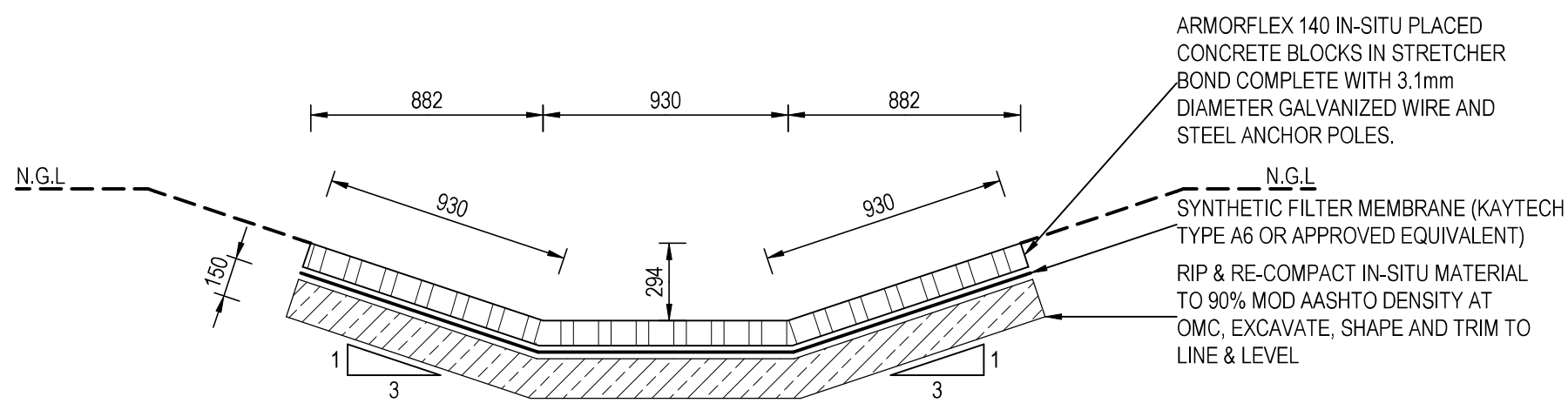
DETAIL A: TRAPEZOIDAL CHANNEL -  
GRAVEL OPEN DRAIN

SCALE 1:25



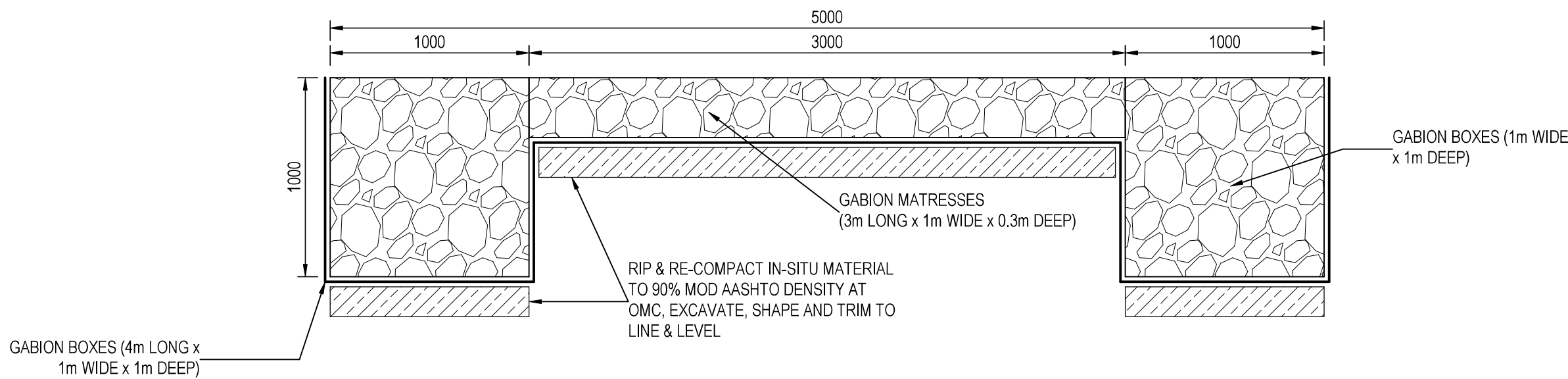
DETAIL E: TYPICAL CROSS-SECTION AND PAVEMENT  
DETAIL OF RING ROAD WITH ARMORFLEX 140  
TRAPEZOIDAL SIDE-DRAIN

SCALE 1:25



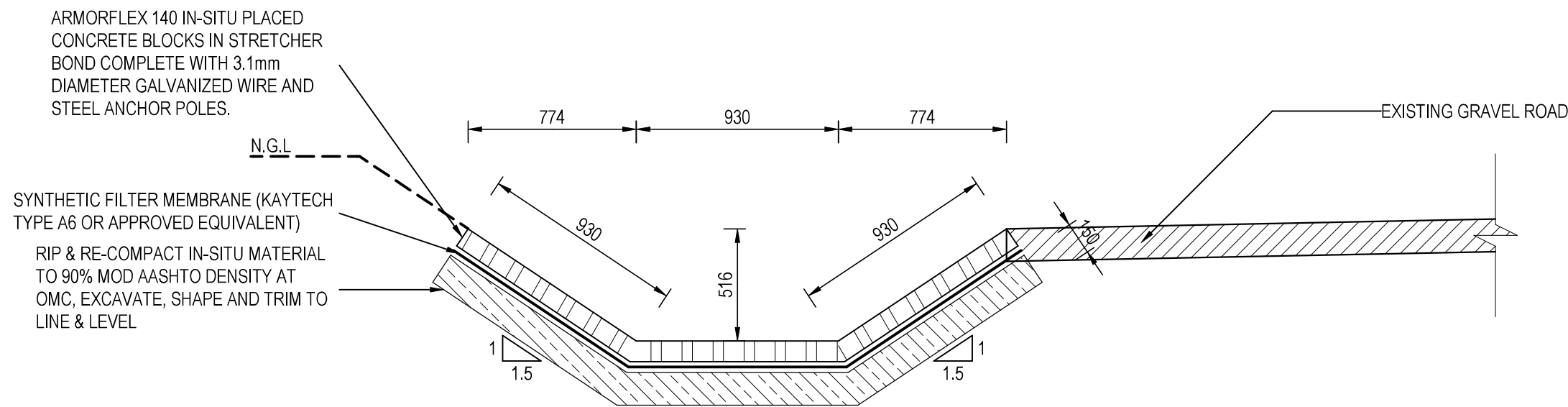
DETAIL B: TRAPEZOIDAL CHANNEL WITH  
ARMORFLEX 140 EROSION PROTECTION BLOCKS

SCALE 1:25



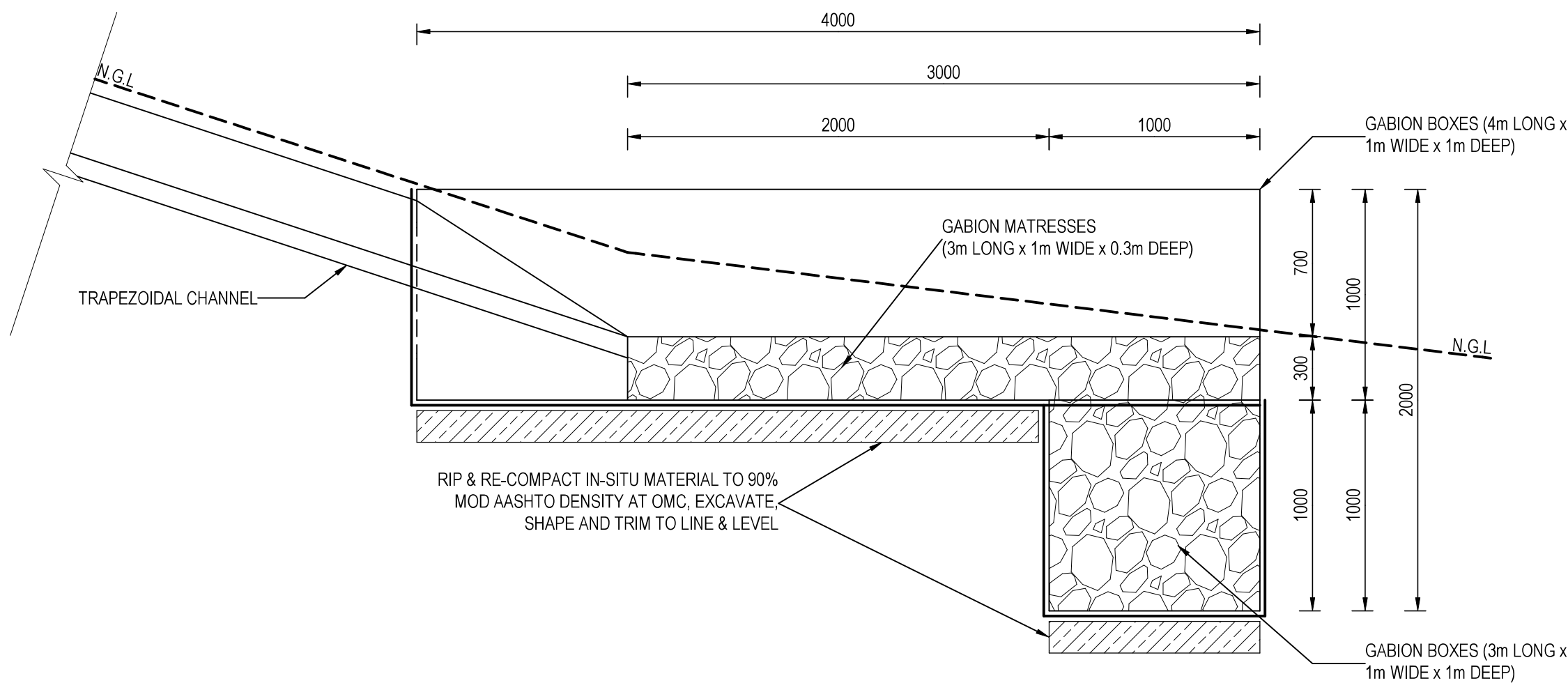
DETAIL F: TYPICAL CROSS-SECTION OF  
GABION STREAM CROSSING

SCALE 1:25



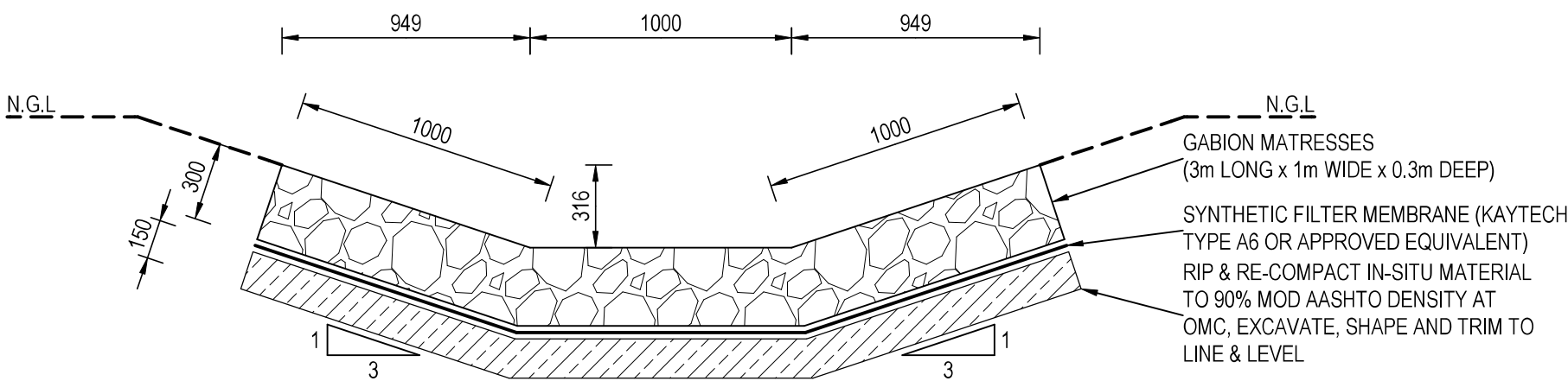
DETAIL C: TRAPEZOIDAL CHANNEL WITH ARMORFLEX  
140 EROSION PROTECTION BLOCKS

SCALE 1:25



DETAIL G: TYPICAL SECTION OF GABION OUTLET STRUCTURES

SCALE 1:25



DETAIL D: TRAPEZOIDAL CHANNEL WITH GABION MATRESSES

SCALE 1:25

- NOTES:
- FRAGMENTS OF APPROVED STONE PITCHING TO BE USED TO FILL UP SPACES BETWEEN THE LARGER STONES.
  - SYNTHETIC FILTER MEMBRANE SHALL BE PLACED IN STRIPS WITH 300mm MIN. OVERLAP, AND BE PROPERLY FASTENED TO PREVENT ANY MOVEMENT.

ROCK USED FOR THE FILLING OF CAGES		
DEPTH OF CAGES	ROCK SIZE (DIMENSIONS)	
	MIN. (mm)	MAKS. (mm)
230	100	125
300	100	200
500	100	250
1000	100	300

MESH SIZE AND WIRE DIAMETER FOR CAGES		
DEPTH OF GABION	MESH SIZE (mm)	WIRE DIA. (mm)
500mm AND OVER	80 x 100	2.7
200mm TO 300mm	80 x 100	2.5

REFERENCE DRAWINGS	
Drawing Name	Drawing No.

REVISIONS		
1	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date

	<b>MAKHADO LOCAL MUNICIPALITY</b>
PRIVATE BAG X2596 MAKHADO 0920	Tel : (015) 519 3000 Cell : (082) 922 8547 Email: lvhuwani@makhado.gov.za3
APPROVED	DATE

	<b>INFRABURO</b> civil and structural consulting engineers
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POLOKWANE: Tel: (015) 291-2491 Fax: (015) 295-7753	VRVBURG: Tel: (053) 927-1373 Fax: (053) 927-0716
APPROVED	DATE

Project Name:
<b>REHABILITATION &amp; CLOSING OF VONDELING LANDFILL SITE</b>

Project Component:
<b>RING ROAD</b>

Drawing Name:
<b>TYPICAL PAVEMENT AND DRAINAGE DETAILS</b>

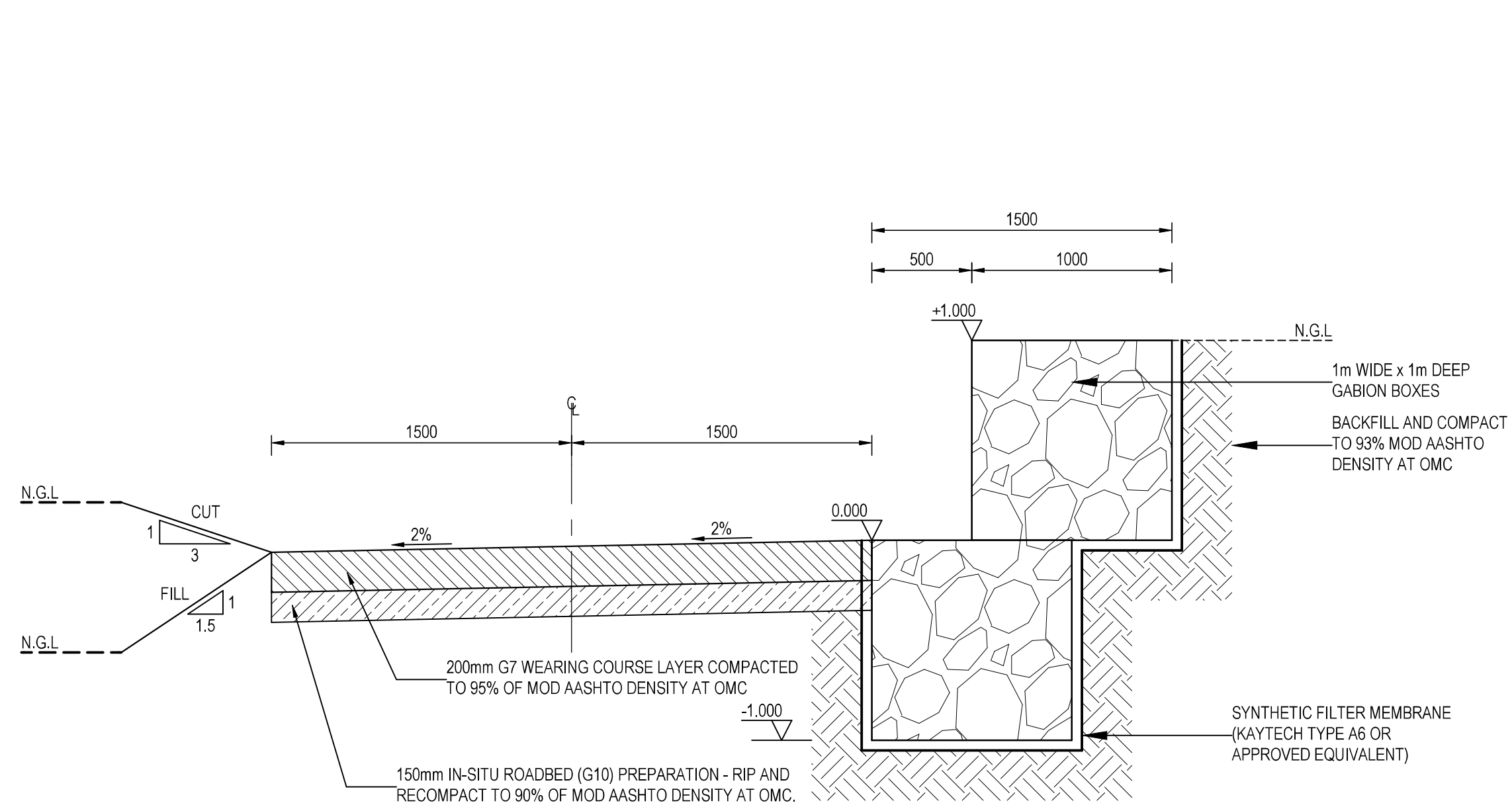
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<b>19T0300 C D RD 04 01</b>

Revisions	1								
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		Drawn	I.S.S	APR 2022					
Original Size:	A1	Checked	R.J.D	APR 2022					

Contract No.:
<b>47/2018</b>

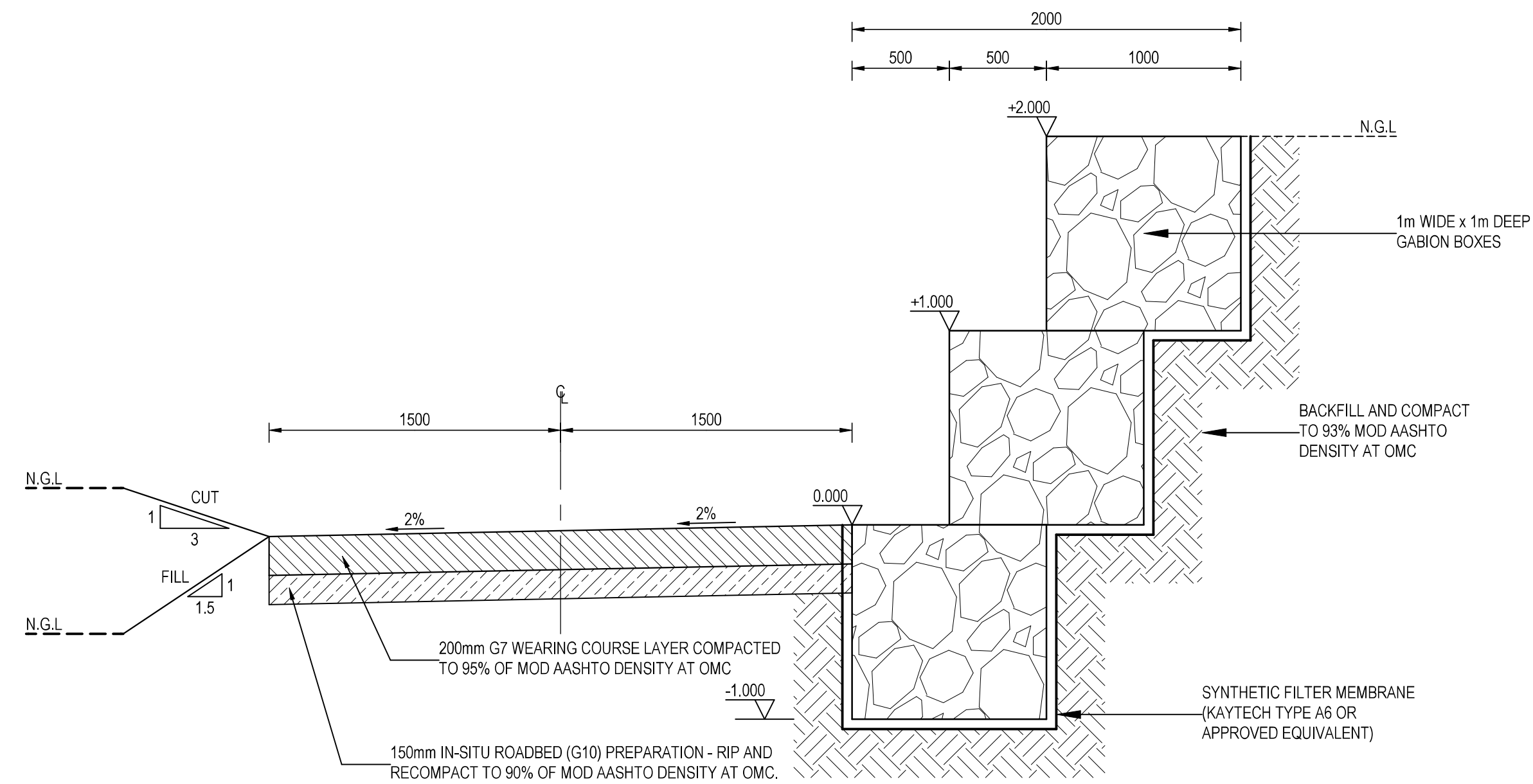
<b>ISSUED FOR TENDER PURPOSES</b>
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DETAIL H: TYPICAL CROSS SECTION OF GABION EMBANKMENT (SECTION H1-H1)

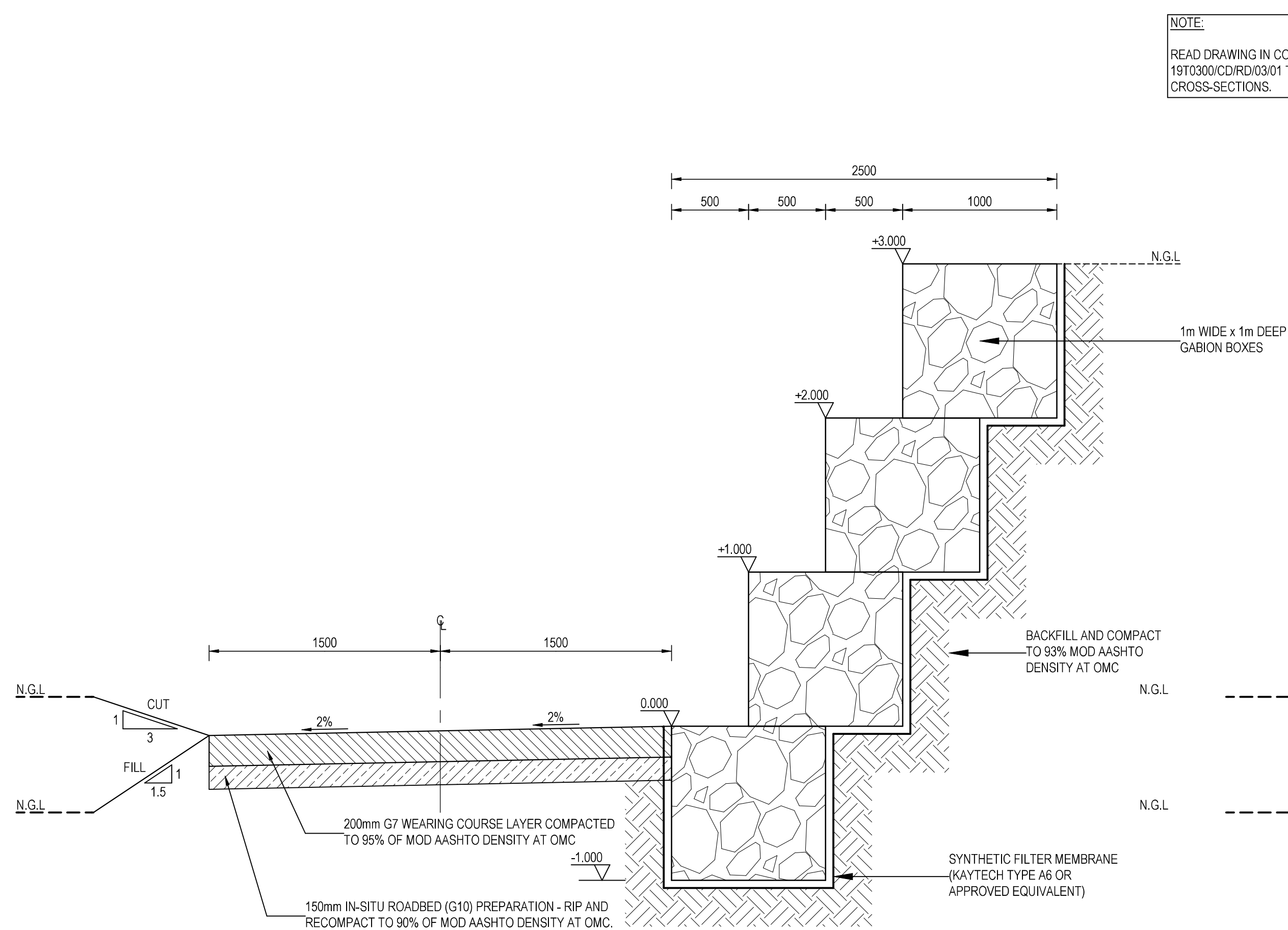
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DETAIL H: TYPICAL CROSS SECTION OF GABION EMBANKMENT (SECTION H2-H2)

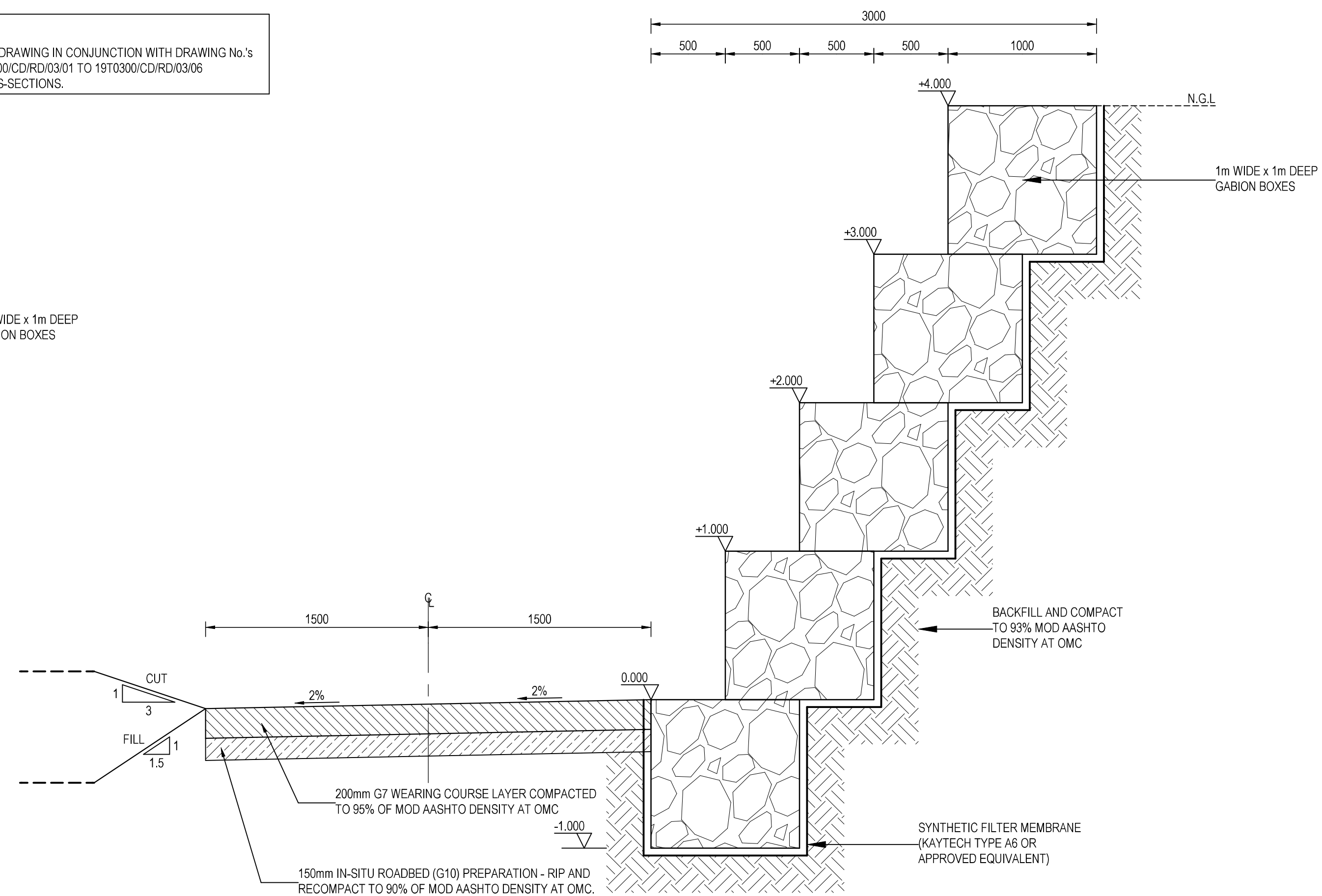
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NOTE:  
READ DRAWING IN CONJUNCTION WITH DRAWING No.'s  
19T0300/CD/RD/03/01 TO 19T0300/CD/RD/03/06  
CROSS-SECTIONS.



DETAIL H: TYPICAL CROSS SECTION OF GABION EMBANKMENT (SECTION H3-H3)

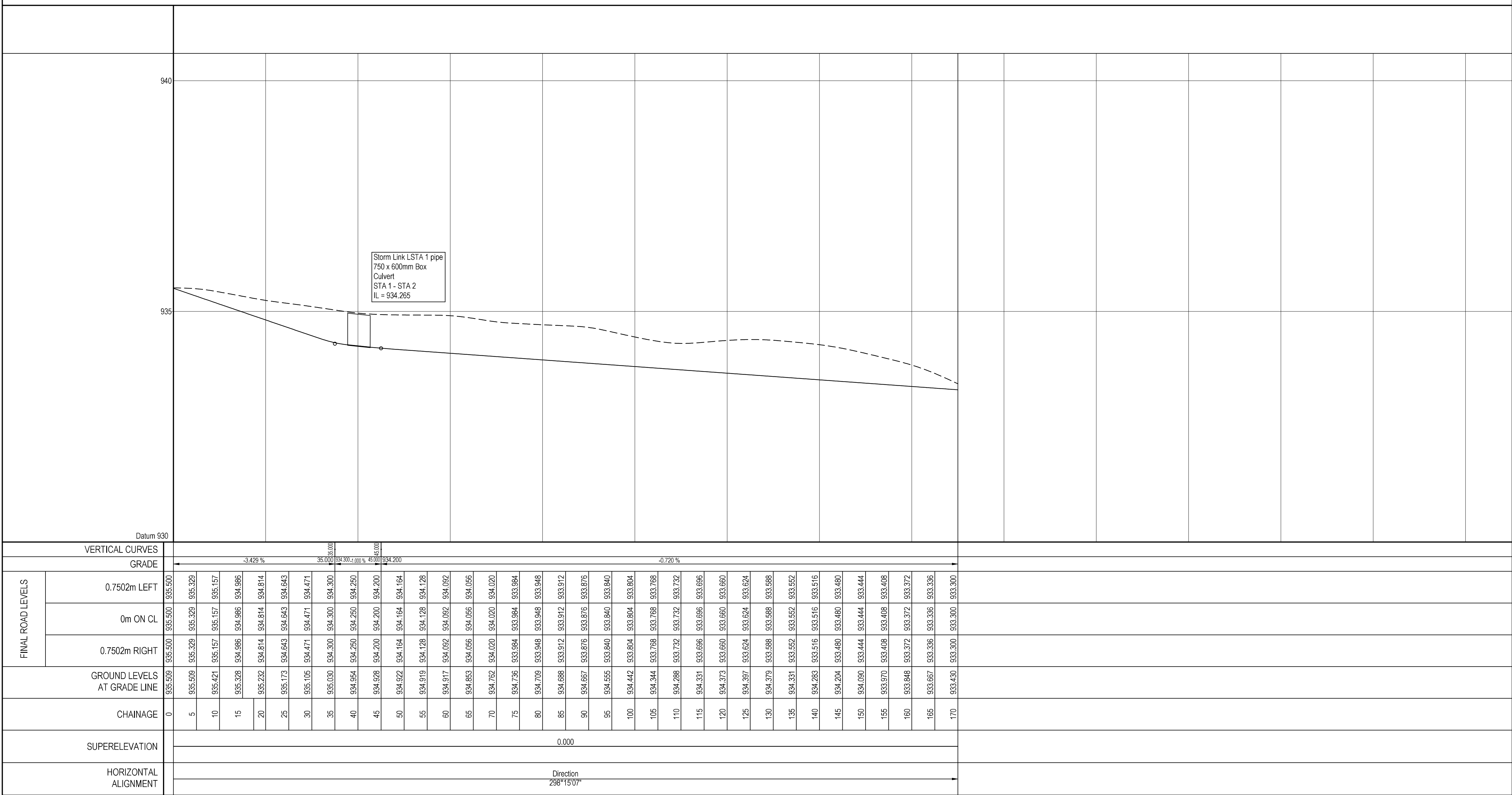
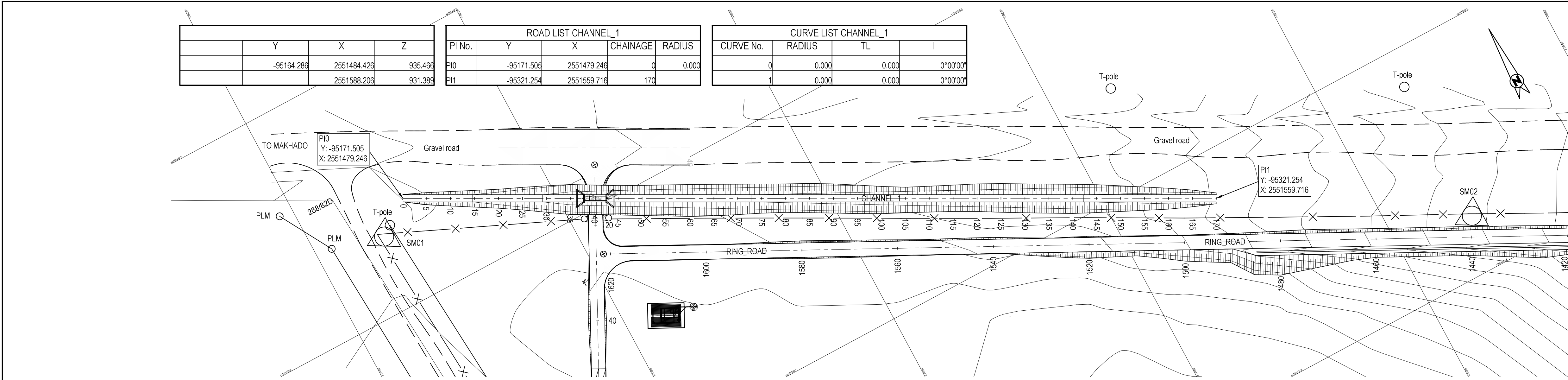
SCALE 1:25



DETAIL H: TYPICAL CROSS SECTION OF GABION EMBANKMENT (SECTION H4-H4)

SCALE 1:25

REFERENCE DRAWINGS		
Drawing Name	Drawing No.	
REVISIONS		
①	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date
<div>  <div> <b>MAKHADO LOCAL MUNICIPALITY</b>            PRIVATE BAG X2596            MAKHADO 0920            Tel: (015) 519 3000            Cell: (082) 922 8547            Email: livhuwani@makhado.gov.za3         </div> </div>		
APPROVED _____ DATE _____		
<div>  <div> <b>INFRABURO</b>            civil and structural consulting engineers            TSHWANE:            Tel: (012) 664-6490            Fax: (012) 664-7709            POLOKWANE:            Tel: (015) 291-2491            Fax: (015) 295-7753            THOHYANDOU:            Tel: (015) 963-3773            Fax: (015) 963-3775            VRYBURG:            Tel: (053) 927-1373            Fax: (053) 927-0716         </div> </div>		
APPROVED _____ DATE _____		
Project Name:		
REHABILITATION & CLOSING OF VONDELING LANDFILL SITE		
Project Component:		
RING ROAD		
Drawing Name:		
TYPICAL EMBANKMENT DETAILS		
Drawing No.:		
19T0300 C D RD 04 02		
Revisions		
Scale:	Designed	W.S.S
SCALE 1:25	Drawn	I.S.S
Original Size: A1	Checked	R.J.D
Contract No.:		
47/2018		
ISSUED FOR TENDER PURPOSES		



LEGEND:

--- GROUND  
--- FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name	Drawing No.

REVISIONS

Rev. No.	Description	Date
1	ISSUED FOR TENDER PURPOSES	APR 2022

MAKHADO LOCAL MUNICIPALITY

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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

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VRIBURG:  
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Fax: (053) 927-0716

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

STORMWATER CHANNEL 1

Drawing Name:

LAYOUT PLAN AND  
LONGITUDINAL SECTION  
CHANNEL 1  
(SHEET 1 OF 1)

Drawing No.:

19T0300 C D SA 01 01

Revisions

Rev. No.	Description	Date
1		

Scale:

HOR 1:500  
VER 1:50

Designed W.S.S APR 2022  
Drawn I.S.S APR 2022  
Original Size: A1 Checked R.J.D APR 2022

Contract No.:

47/2018

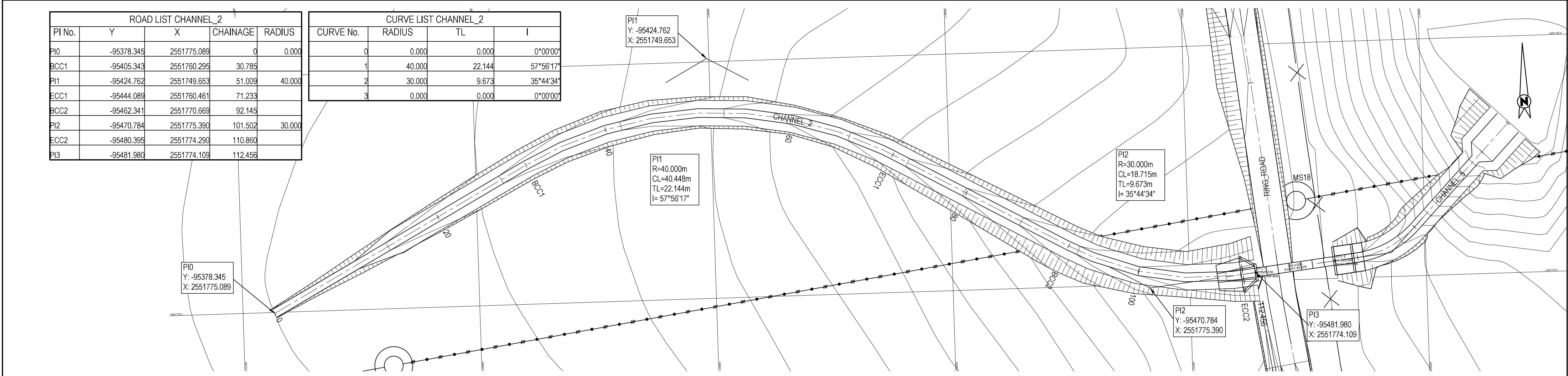
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FINAL ROAD LEVELS		VERTICAL CURVES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		GRADE		-3.600 %												-7.394 %										100.043 926.000 -5.398 %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
		0.465m LEFT		931.500	931.500	931.500	931.320	931.320	931.320	931.140	931.140	931.140	930.960	930.960	930.780	930.780	930.600	930.600	930.420	930.420	930.240	930.240	930.060	930.060	929.880	929.700	929.700	929.520	929.340	929.340	929.160	928.980	928.800	928.620	928.440	928.260	928.080	927.900	927.720	927.540	927.360	927.180	927.000	926.820	926.640	926.460	926.280	926.100	925.920	925.740	925.560	925.380	925.200	925.020	924.840	924.660	924.480	924.300	924.120	923.940	923.760	923.580	923.400	923.220	923.040	922.860	922.680	922.500	922.320	922.140	921.960	921.780	921.600	921.420	921.240	921.060	920.880	920.700	920.520	920.340	920.160	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	920.000	92

LEGEND:

--- GROUND

— FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name	Drawing No.

REVISIONS

Rev. No.	Description	Date
1	ISSUED FOR TENDER PURPOSES	APR 2022

MAKHADO LOCAL MUNICIPALITY

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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

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Fax: (015) 295-7753

VRUYBURG:  
Tel: (053) 927-1373  
Fax: (053) 927-0716

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

STORMWATER CHANNEL 2

Drawing Name:

LAYOUT PLAN AND  
LONGITUDINAL SECTION  
CHANNEL 2  
(SHEET 1 OF 1)

Drawing No.:

19T0300 C D SB 01 01

Revisions

Rev. No.	Description	Date
1	ISSUED FOR TENDER PURPOSES	APR 2022

Scale:

HOR: 1:250  
VER: 1:50

Designed: W.S.S. APR 2022  
Drawn: I.S.S. APR 2022  
Original Size: A1 Checked: R.J.D. APR 2022

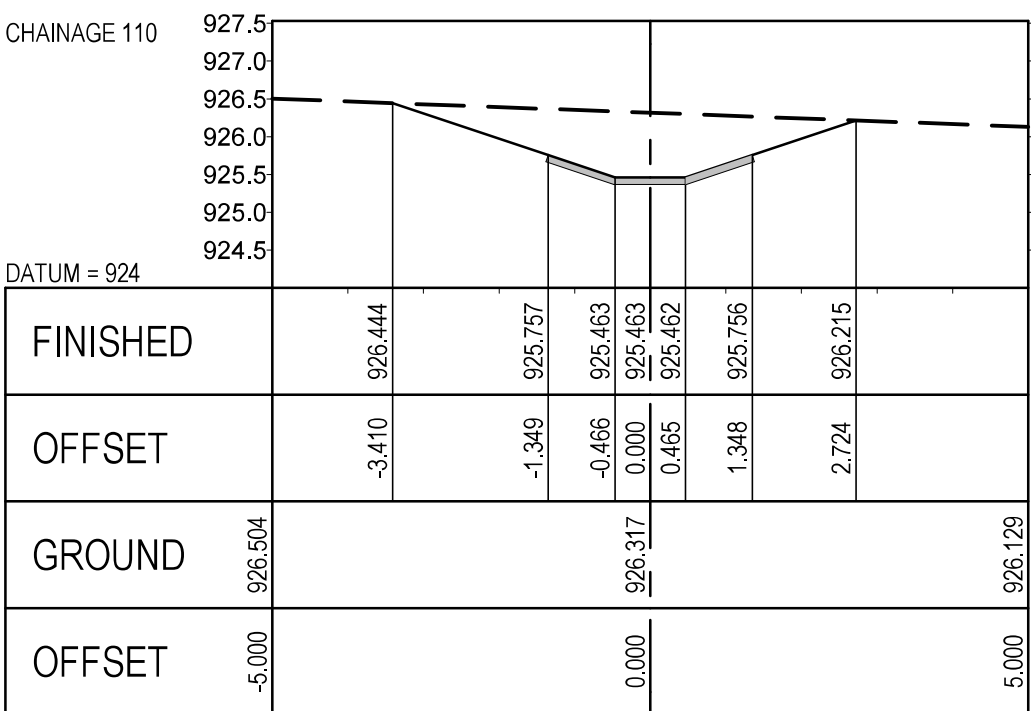
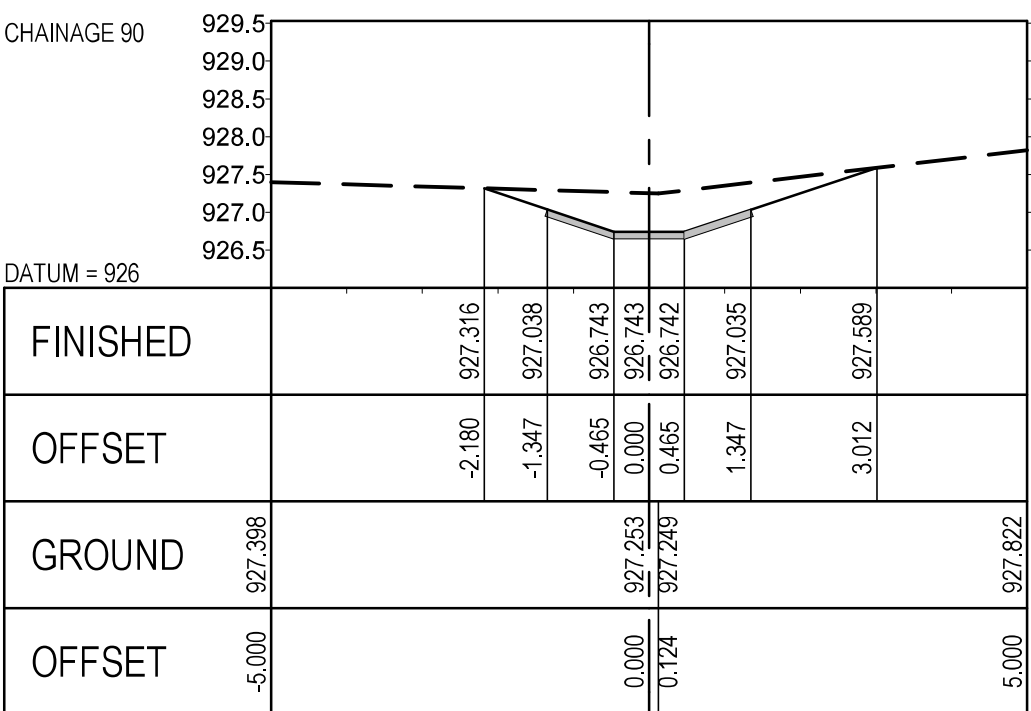
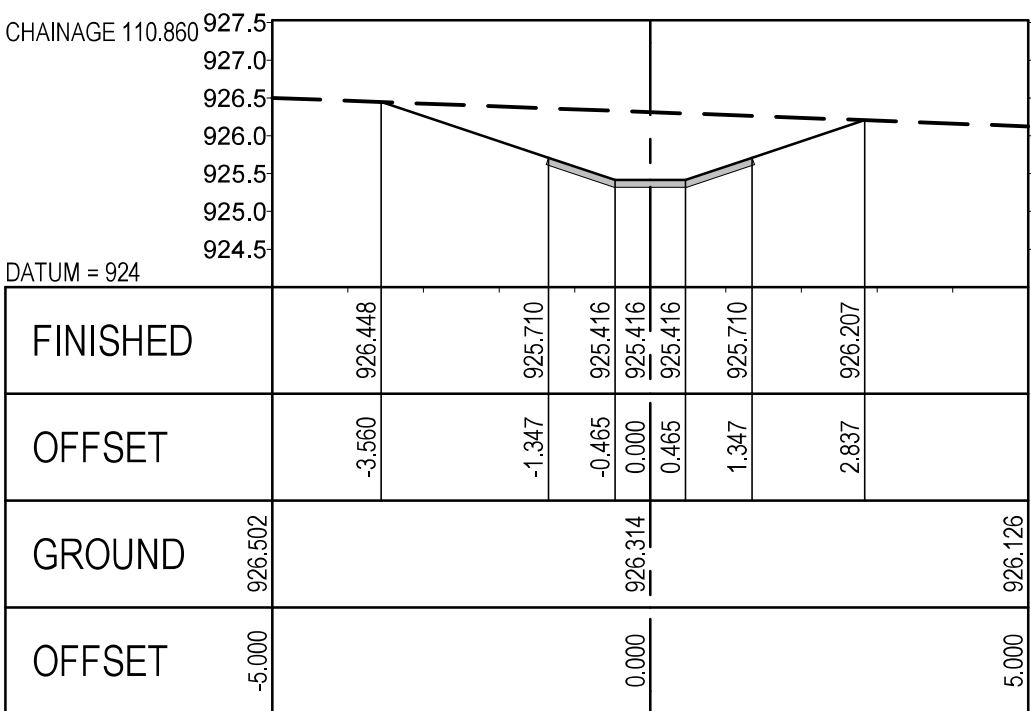
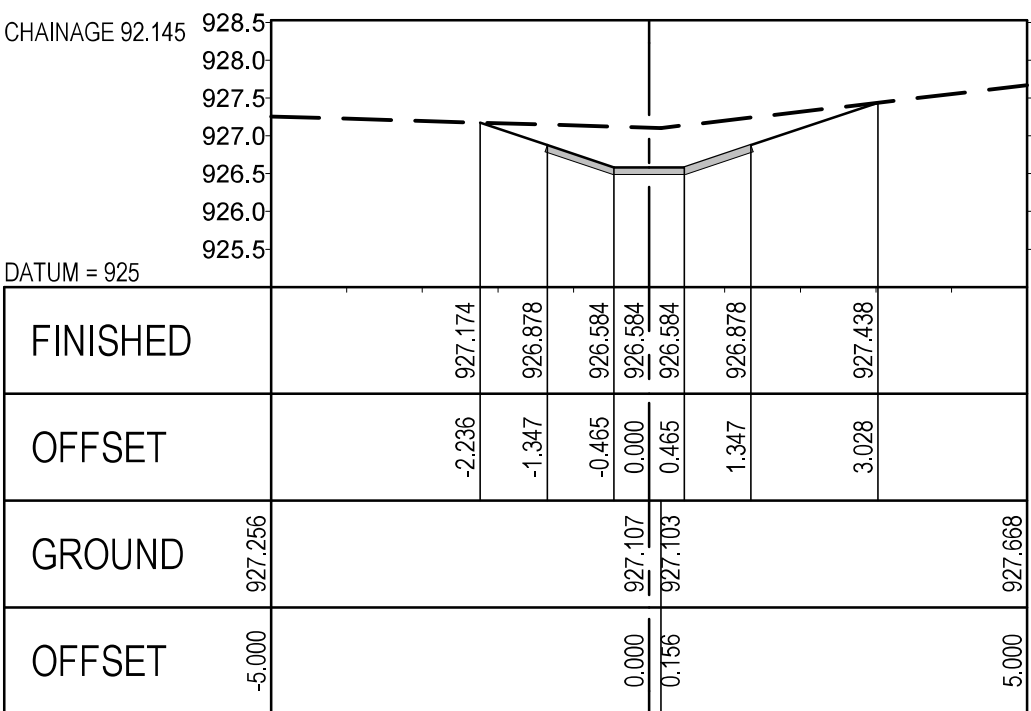
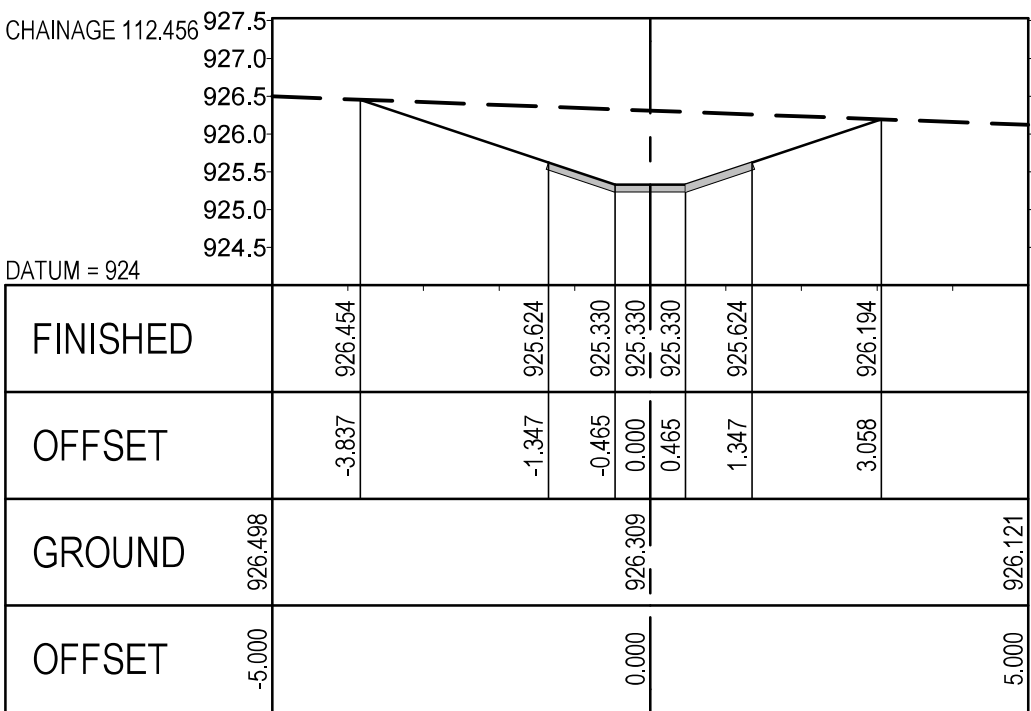
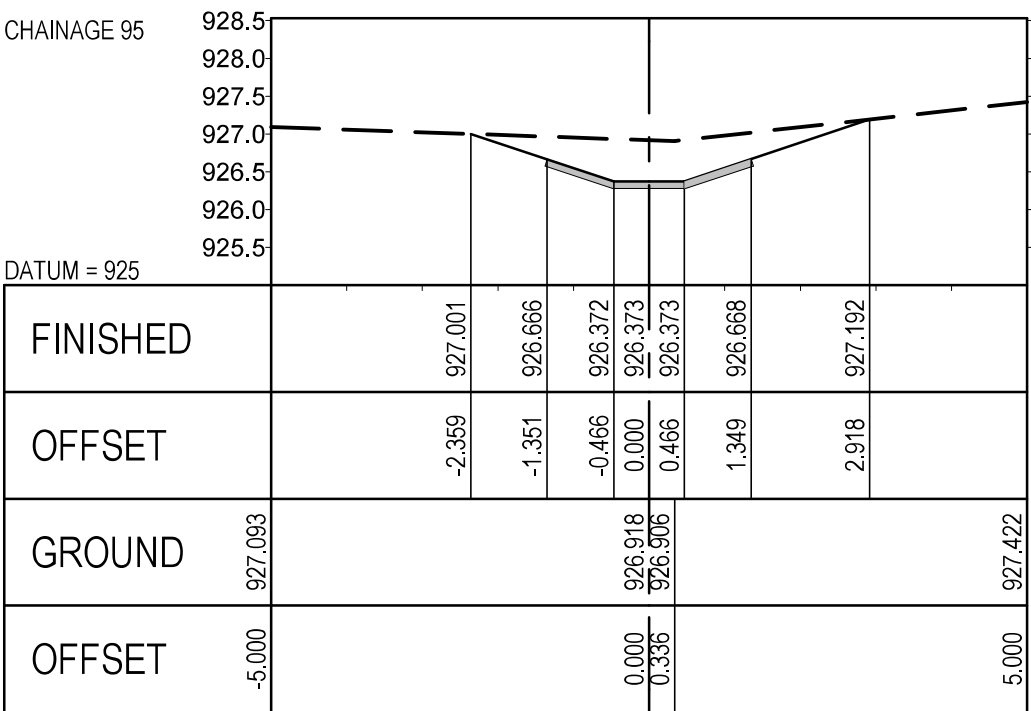
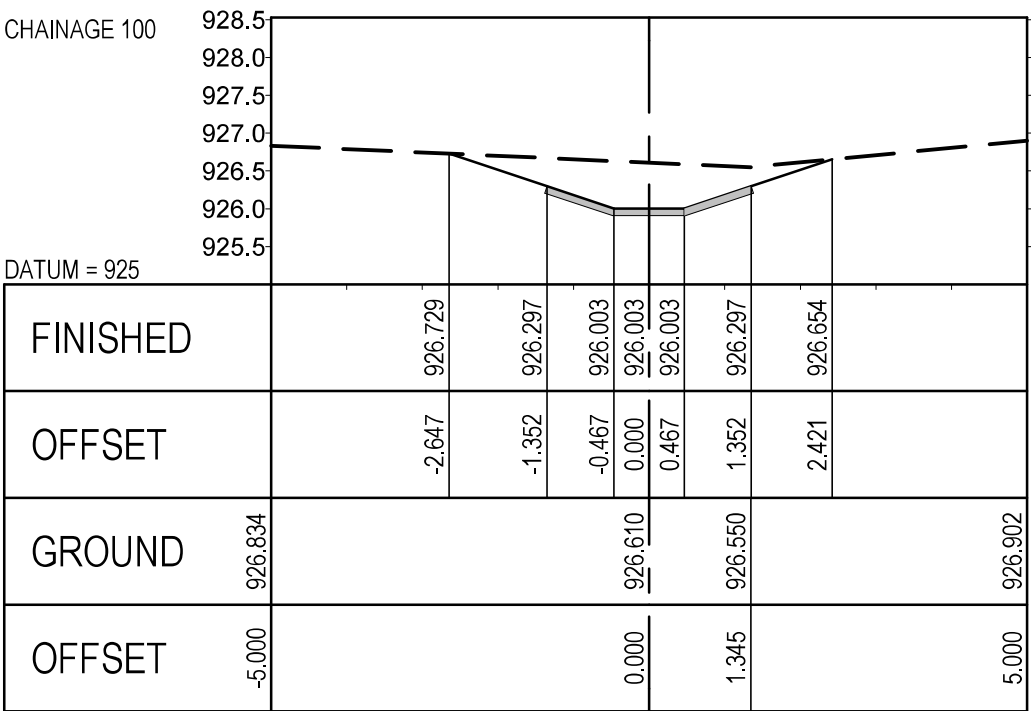
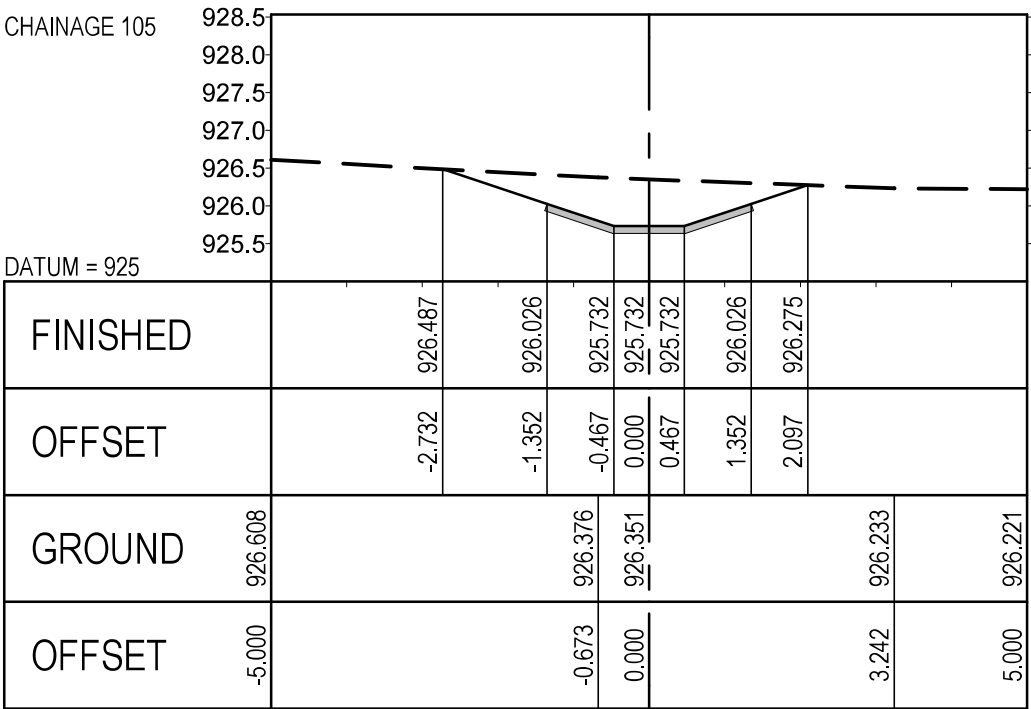
Contract No.:

47/2018

ISSUED FOR TENDER PURPOSES







LEGEND:

— GROUND

— FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name Drawing No.

REVISIONS

1	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date



MAKHADO LOCAL MUNICIPALITY

PRIVATE BAG X2596  
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APPROVED

DATE



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Fax: (015) 295-7753

VRIBURG:  
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Fax: (053) 927-0716

APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

STORMWATER CHANNEL 2

Drawing Name:

CROSS-SECTIONS  
(SHEET 2 OF 2)

Drawing No.:

19T0300

C

D

SB

02 02

Revisions

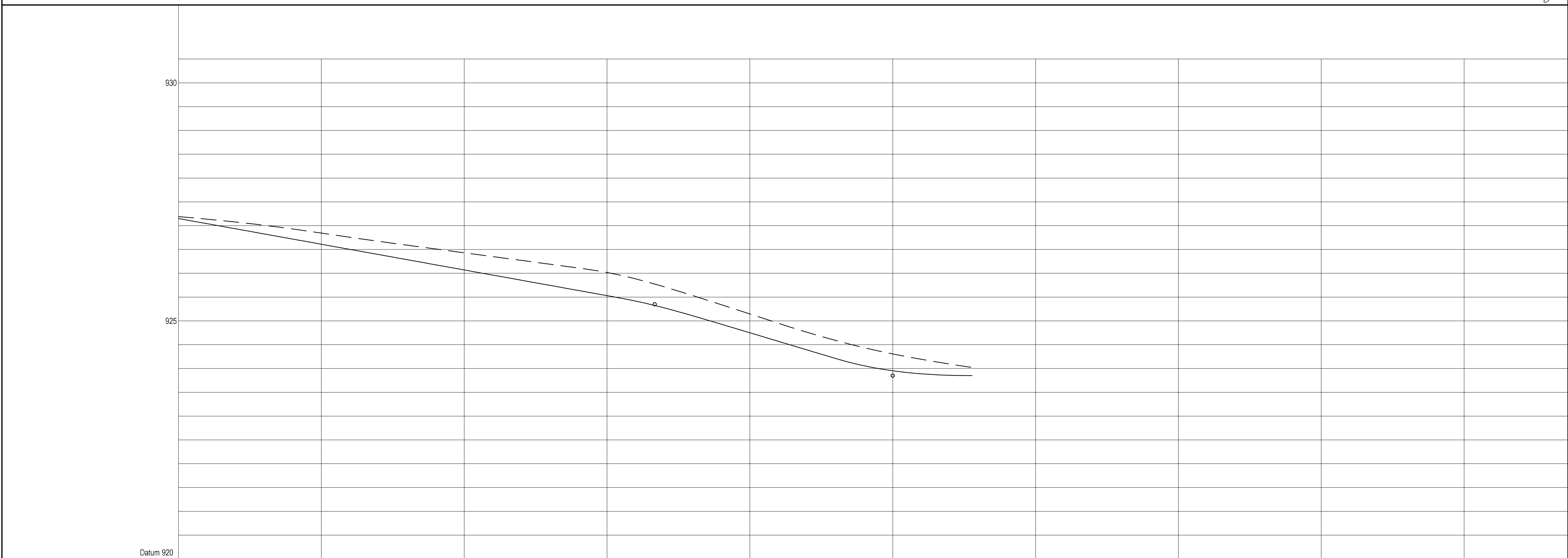
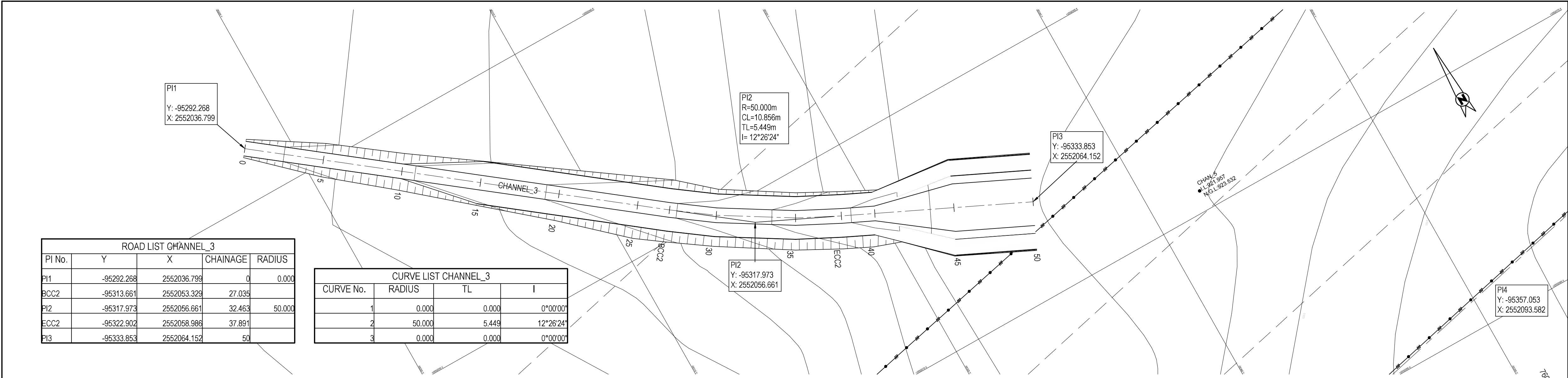
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		Drawn	I.S.S	APR 2022
Original Size:	A 1	Checked	R.J.D	APR 2022

Contract No.:

47/2018

ISSUED FOR TENDER PURPOSES





VERTICAL CURVES		GRADE									
FINAL ROAD LEVELS	0.465m LEFT	927.150	926.850	926.550	926.250	925.950	925.650	925.350	924.850	923.850	923.650
	0m ON CL	927.150	926.850	926.550	926.250	925.950	925.650	925.350	924.850	923.850	923.650
	0.465m RIGHT	927.150	926.850	926.550	926.250	925.950	925.650	925.350	924.850	923.850	923.650
GROUND LEVELS AT GRADE LINE		927.150	927.049	926.787	926.584	926.342	926.119	925.732	925.255	924.264	924.023
CHAINAGE		0	5	10	15	20	25	30	35	40	45
SUPERELEVATION		0.000									
HORIZONTAL ALIGNMENT		Direction 307°41'34" Curve 2 - Left R=50.000 I=12°26'24" Direction 295°15'10"									

LEGEND:

--- GROUND

— FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name	Drawing No.

REVISIONS

①	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date

MAKHADO LOCAL MUNICIPALITY

PRIVATE BAG X2596  
MAKHADO  
0920

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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

INFRABURO

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Fax: (015) 295-7753

VRVBURG:  
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Fax: (053) 927-0716

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

STORMWATER CHANNEL 3

Drawing Name:

LAYOUT PLAN AND  
LONGITUDINAL SECTION  
CHANNEL 3  
(SHEET 1 OF 1)

Drawing No.:

19T0300 C D SC 01 01

Revisions

①									
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Scale:

HOR. 1:150  
VER. 1:50

Designed W.S.S APR 2022  
Drawn I.S.S APR 2022  
Original Size: A1 Checked R.J.D APR 2022

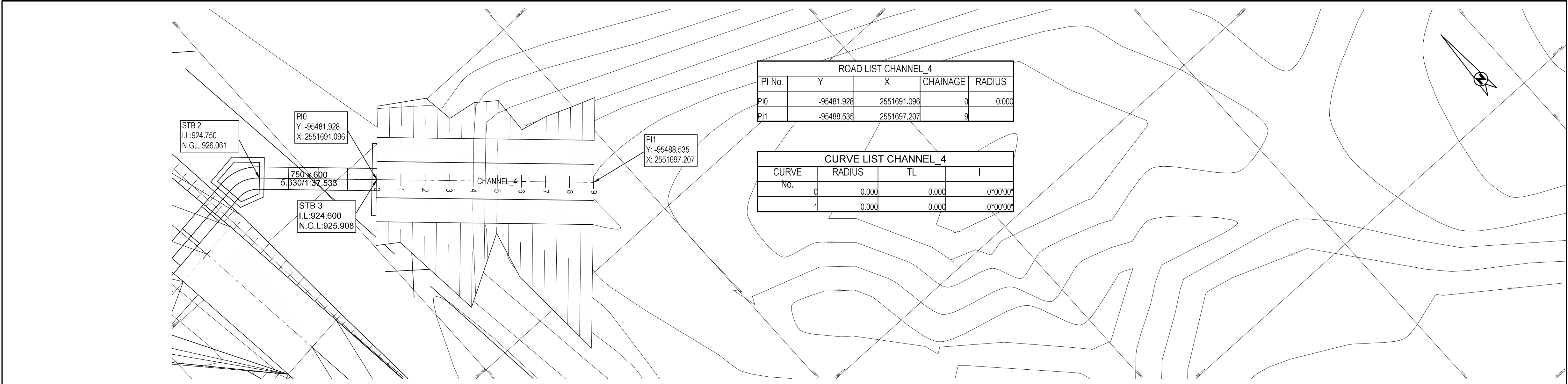
Contract No.:

47/2018

ISSUED FOR TENDER PURPOSES

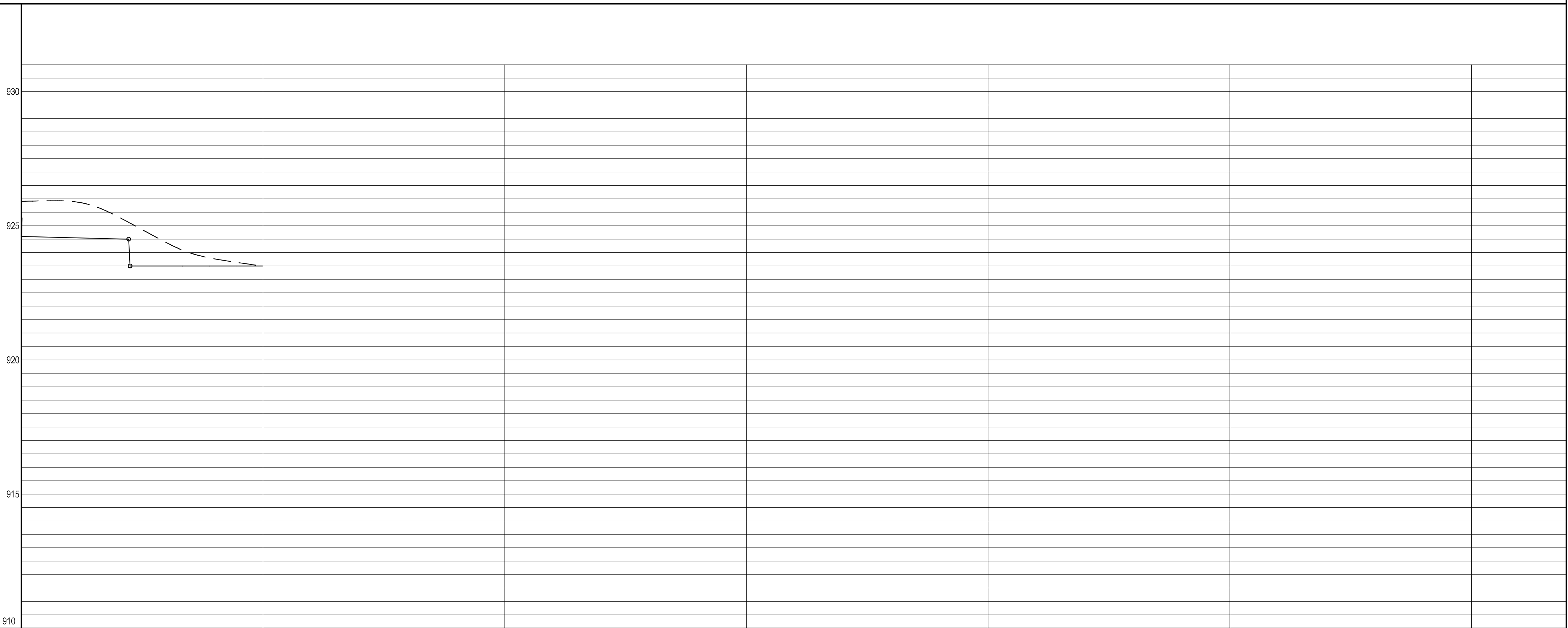






ROAD LIST CHANNEL_4				
PI No.	Y	X	CHAINAGE	RADIUS
PI0	-95481.928	2551691.096	0	0.000
PI1	-95488.535	2551697.207	9	

CURVE LIST CHANNEL_4				
CURVE No.	RADIUS	TL	I	
0	0.000	0.000	0°00'00"	
1	0.000	0.000	0°00'00"	



VERTICAL CURVES		GRADE			
GRADE		-2.500 % 44.000 52.500 0.000 %			
FINAL ROAD LEVELS	0.7501m LEFT	924.600	923.500	923.500	923.500
	0m ON CL	924.600	923.500	923.500	923.500
	0.7501m RIGHT	924.600	923.500	923.500	923.500
GROUND LEVELS AT GRADE LINE		925.908	924.604	923.483	
CHAINAGE		0	5	9	
SUPERELEVATION		0.000			
HORIZONTAL ALIGNMENT		Direction 312°45'59"			

LEGEND:  
--- GROUND  
--- FINAL LEVEL

#### REFERENCE DRAWINGS

Drawing Name	Drawing No.

#### REVISIONS

①	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date



#### MAKHADO LOCAL MUNICIPALITY

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APPROVED

DATE



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Fax: (015) 295-7753

VRYPBURG:  
Tel: (053) 927-1373  
Fax: (053) 927-0716

APPROVED

DATE

Project Name:

#### REHABILITATION & CLOSING OF VONDELING LANDFILL SITE

Project Component:

#### STORMWATER CHANNEL 4

Drawing Name:

#### LAYOUT PLAN AND LONGITUDINAL SECTION CHANNEL 4 (SHEET 1 OF 1)

Drawing No.:

19T0300

C

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SD

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01

Revisions

Scale:

HOR. 1:100  
VER. 1:100

Designed

W.S.S

APR 2022

Drawn

I.S.S

APR 2022

Original Size:

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Checked

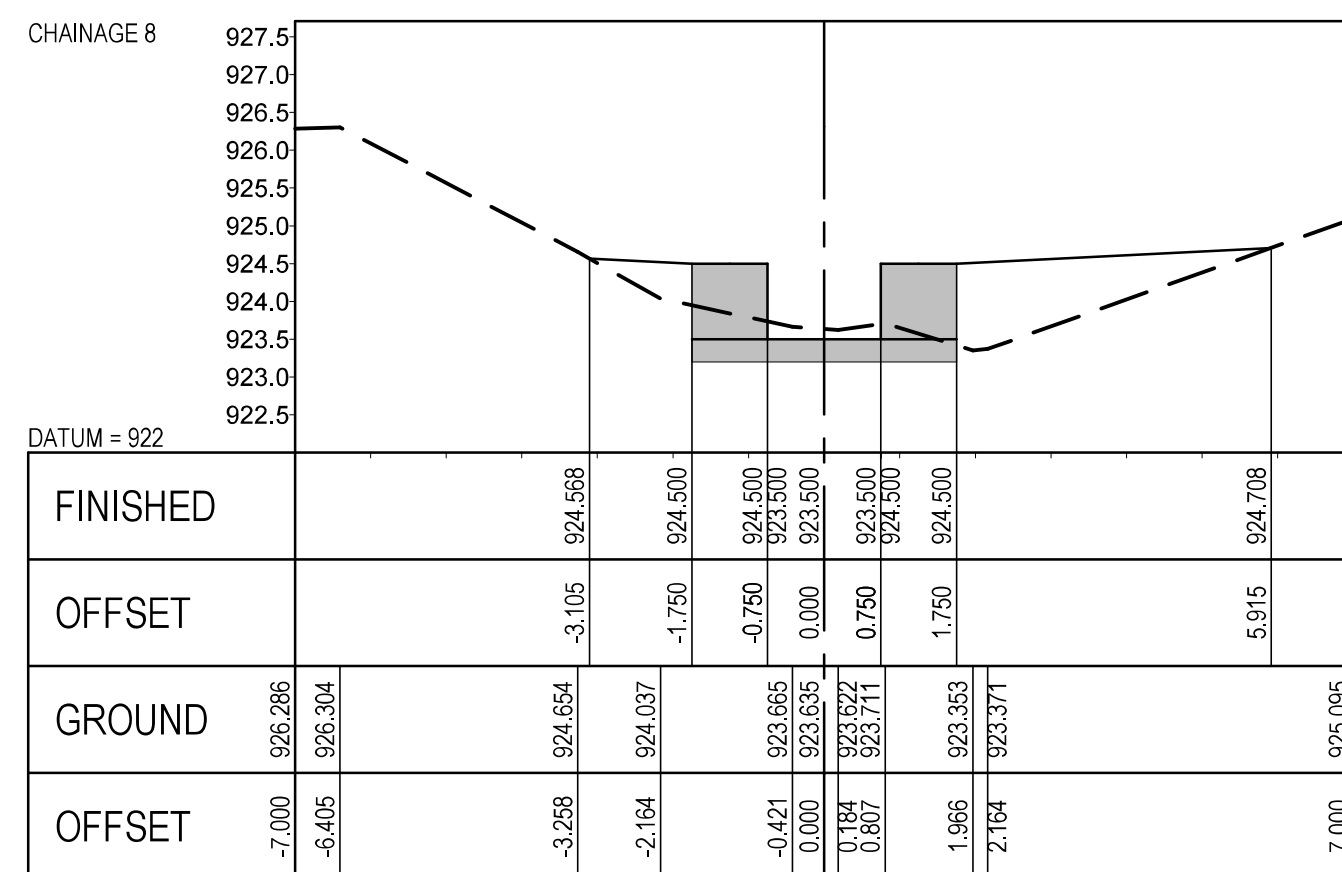
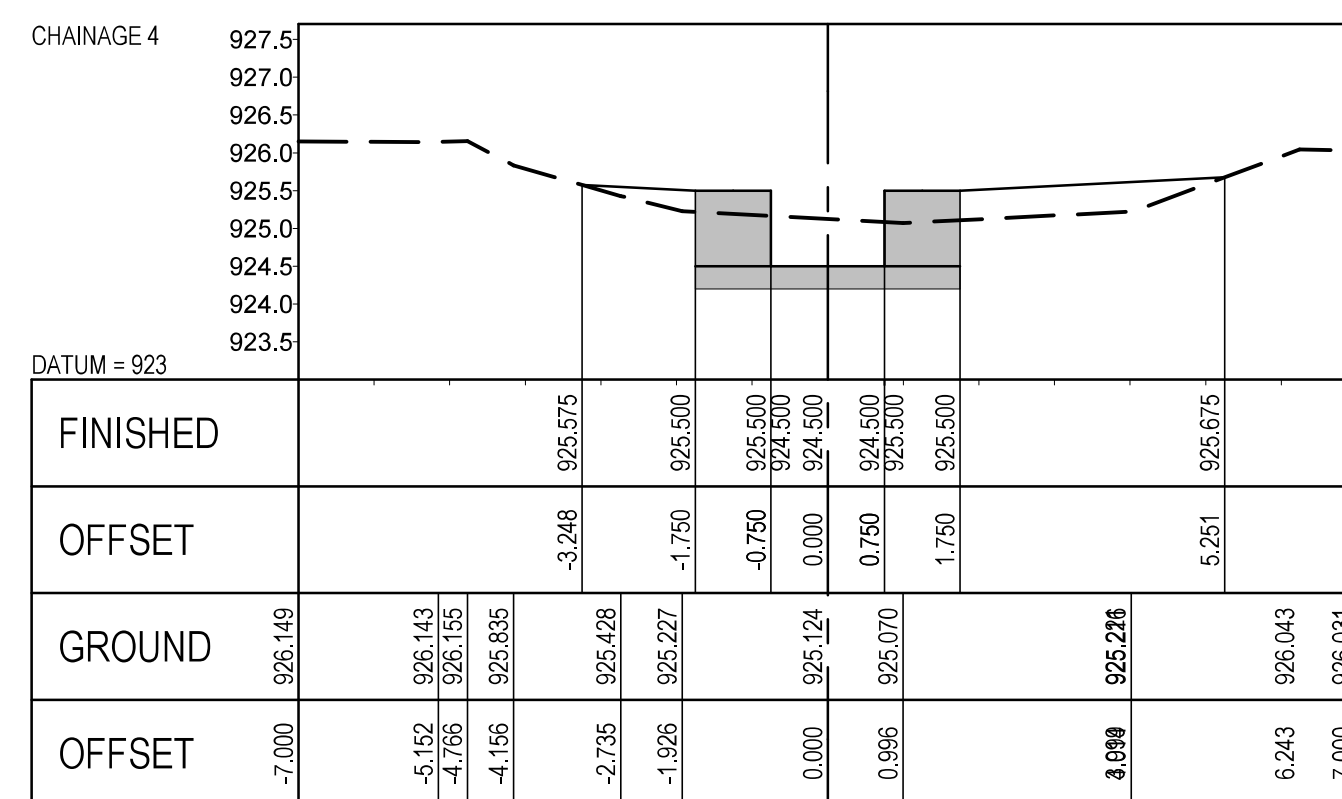
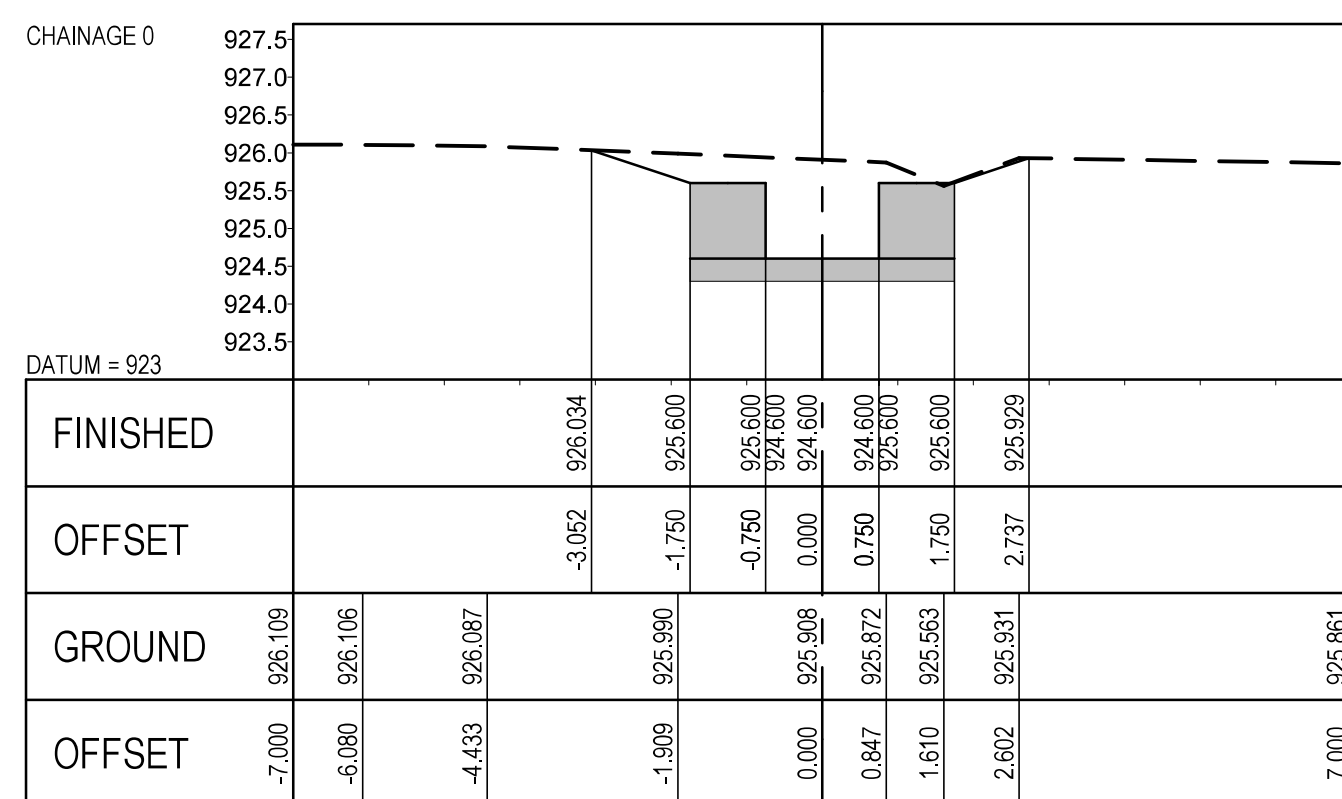
R.J.D

APR 2022

Contract No.:

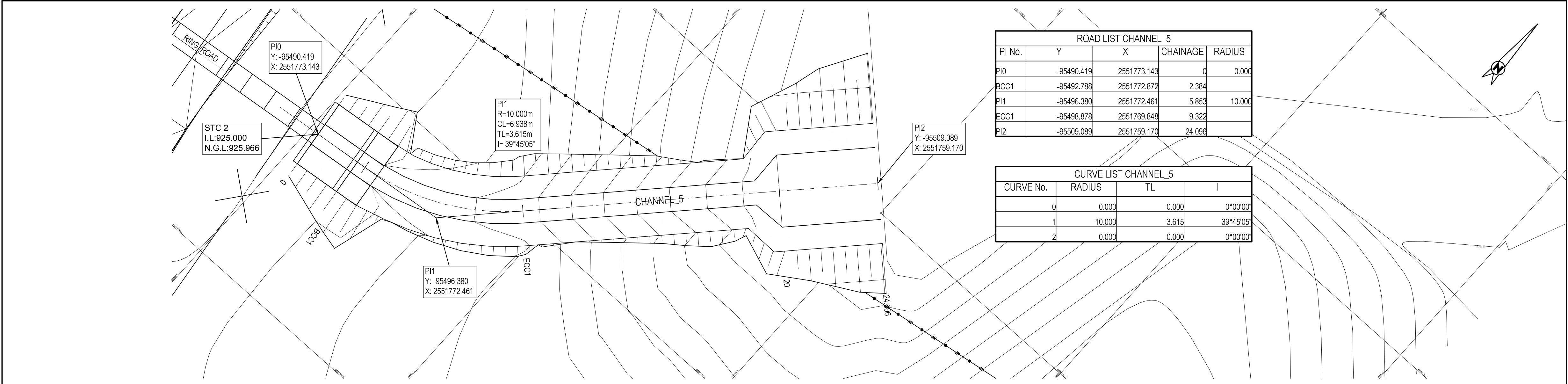
47/2018

ISSUED FOR TENDER PURPOSES



ISSUED FOR TENDER PURPOSES





ROAD LIST CHANNEL_5				
PI No.	Y	X	CHAINAGE	RADIUS
PI0	-95490.419	2551773.143	0	0.000
BCC1	-95492.788	2551772.872	2.384	
PI1	-95496.380	2551772.461	5.863	10.000
ECC1	-95498.878	2551769.948	9.322	
PI2	-95509.089	2551759.170	24.096	

CURVE LIST CHANNEL_5			
CURVE No.	RADIUS	TL	I
0	0.000	0.000	0°00'00"
1	10.000	3.615	39°45'05"
2	0.000	0.000	0°00'00"



VERTICAL CURVES		<div><div></div><div>0.000 %</div><div>3.000</div><div>925.000</div><div>-11.520 %</div><div>9.250</div><div>924.280</div><div>-37.043 %</div><div>15.000</div><div>922.150</div><div>-33.000 %</div><div>20.000</div><div>920.500</div><div>0.000 %</div></div>												
GRADE														
FINAL ROAD LEVELS	0.5m LEFT	925.000		924.770		924.002		922.150		920.500		920.500		
	0m ON CL	925.000		924.770		924.002		922.150		920.500		920.500		
	0.5m RIGHT	925.000		924.770		924.003		922.150		920.500		920.500		
GROUND LEVELS AT GRADE LINE		925.816		925.131		924.458		922.475		920.835		920.517		
CHAINAGE		0		5		10		15		20		24.10		
SUPERELEVATION		0.000												
HORIZONTAL ALIGNMENT		<div><div>Direction</div><div>263°28'07"</div><div>→</div></div>	<div><div>Curve 1 Left</div><div>R=10.000</div><div>I= 39°45'05"</div></div>	<div><div>ECC</div><div>5.522</div></div>	<div><div>Direction</div><div>223°43'01"</div><div>→</div></div>									

LEGEND:  
--- GROUND  
--- FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name Drawing No.

REVISIONS

1	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date




MAKHADO LOCAL MUNICIPALITY

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0920

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APPROVED DATE



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civil and structural consulting engineers

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Fax: (015) 295-7753

VRIBURG:  
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Fax: (053) 927-0716

APPROVED DATE

Project Name:  
  
REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:  
  
STORMWATER CHANNEL 5

Drawing No.:  
  
LAYOUT PLAN AND  
LONGITUDINAL SECTION  
CHANNEL 5  
(SHEET 1 OF 1)

Revisions  
19T0300 C D SE 01 01

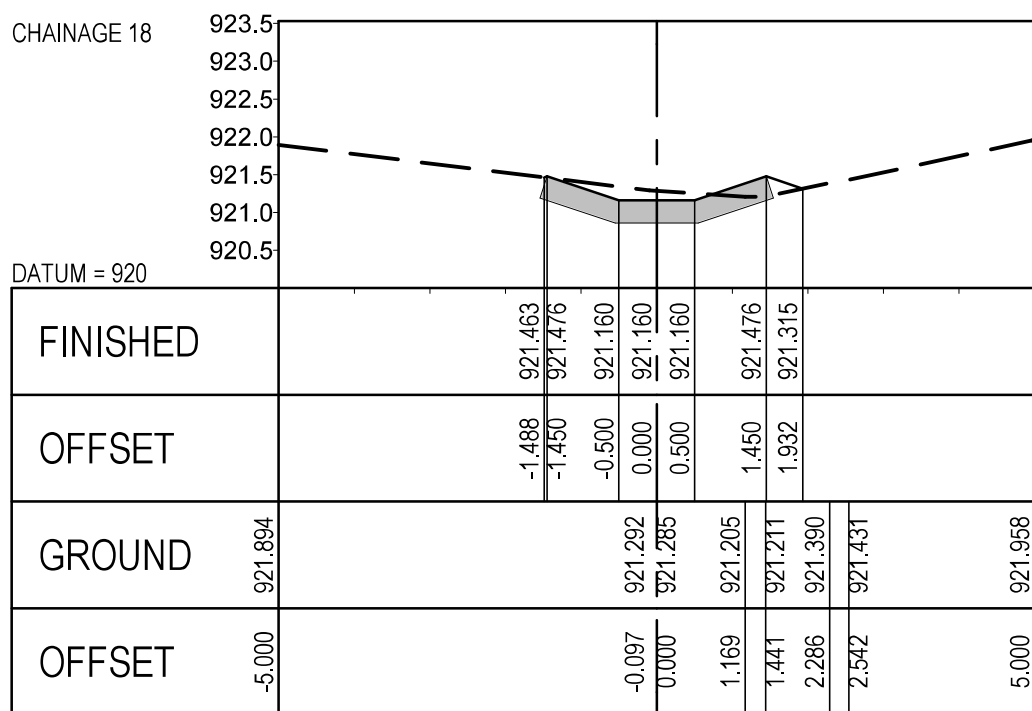
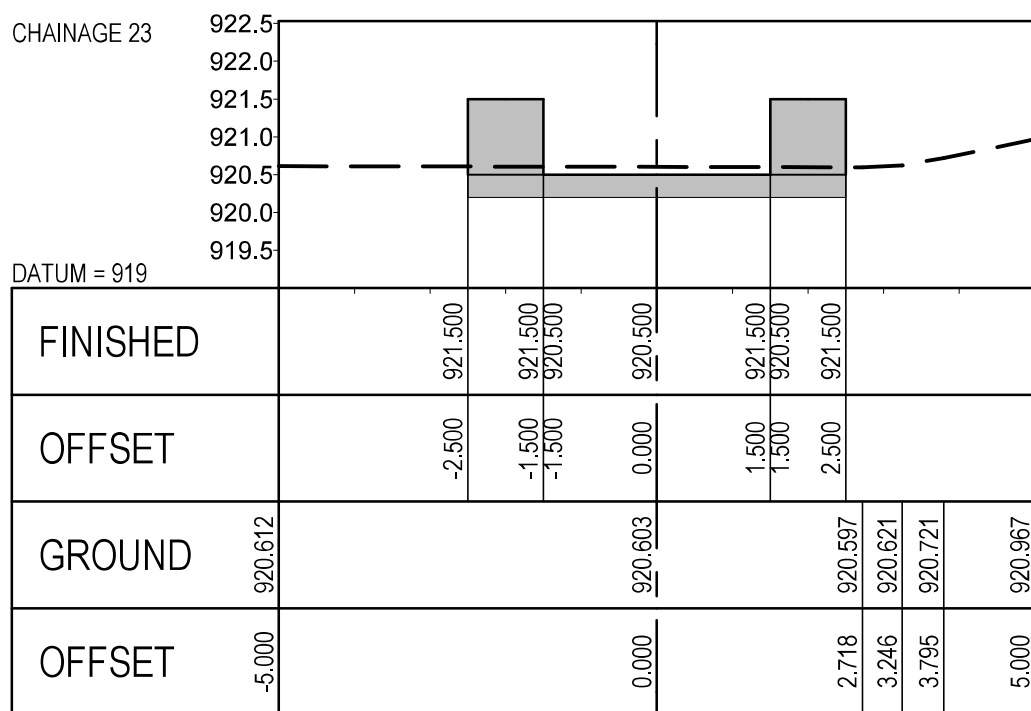
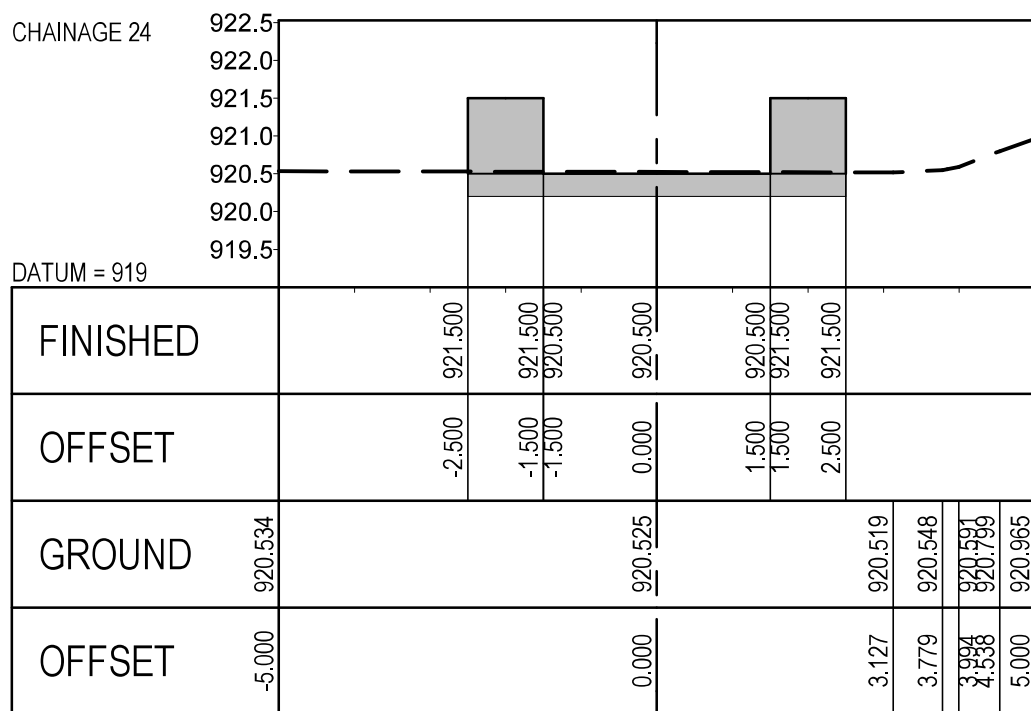
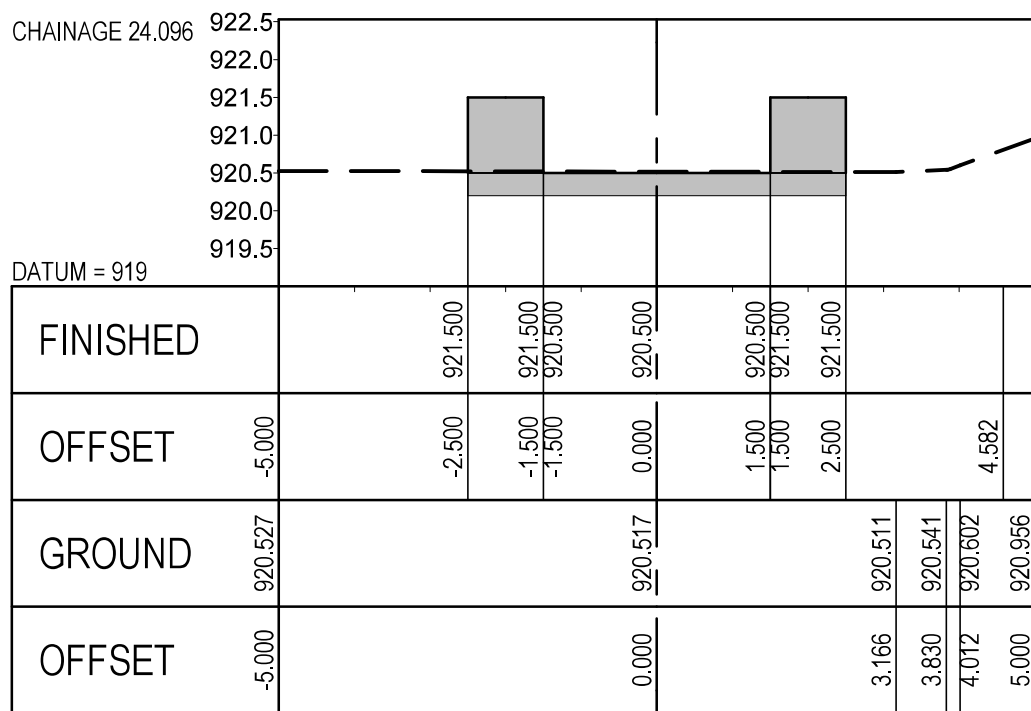
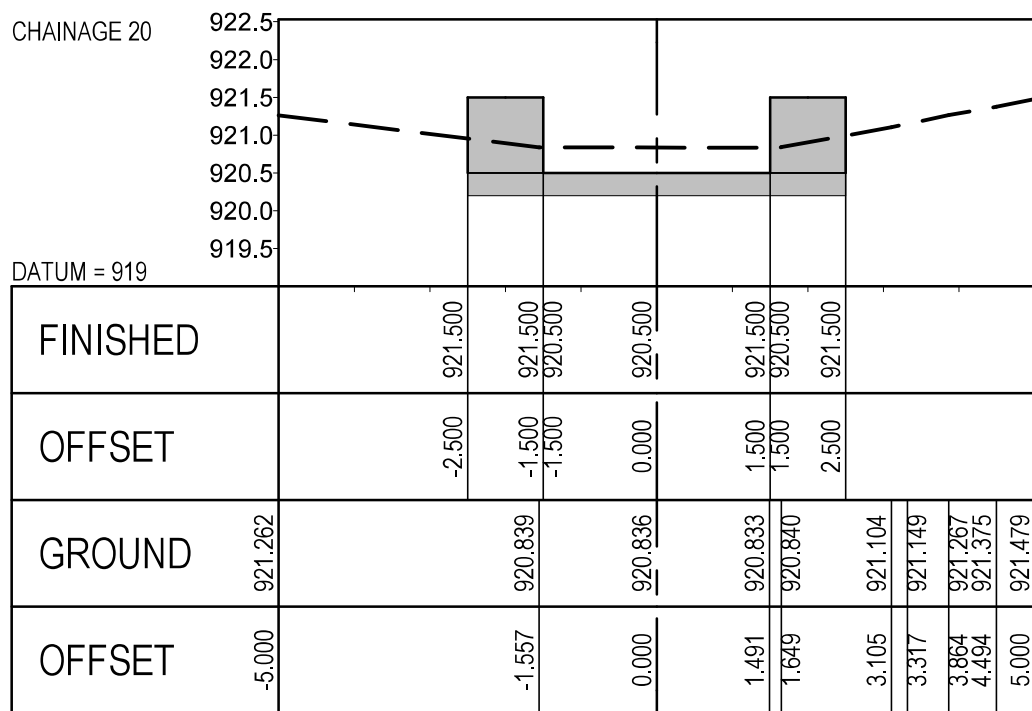
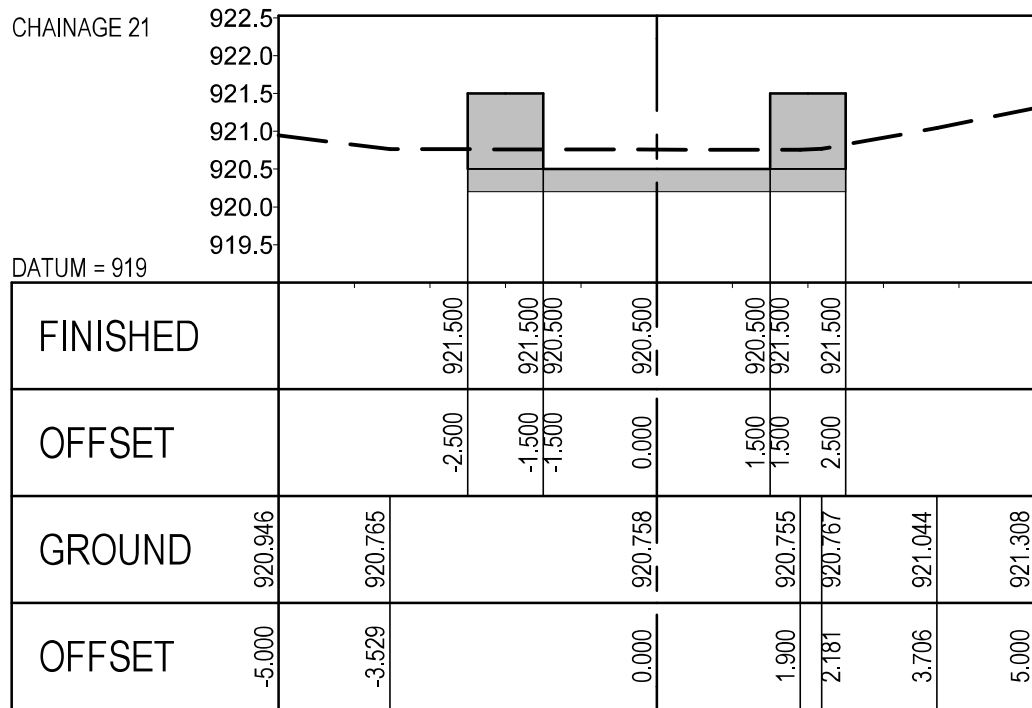
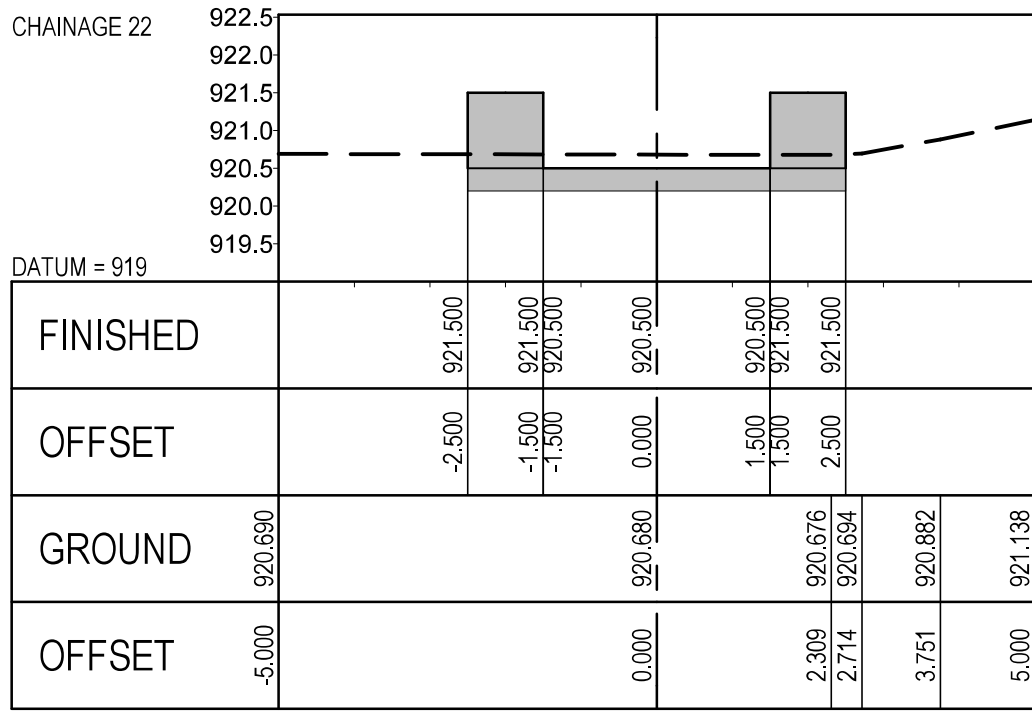
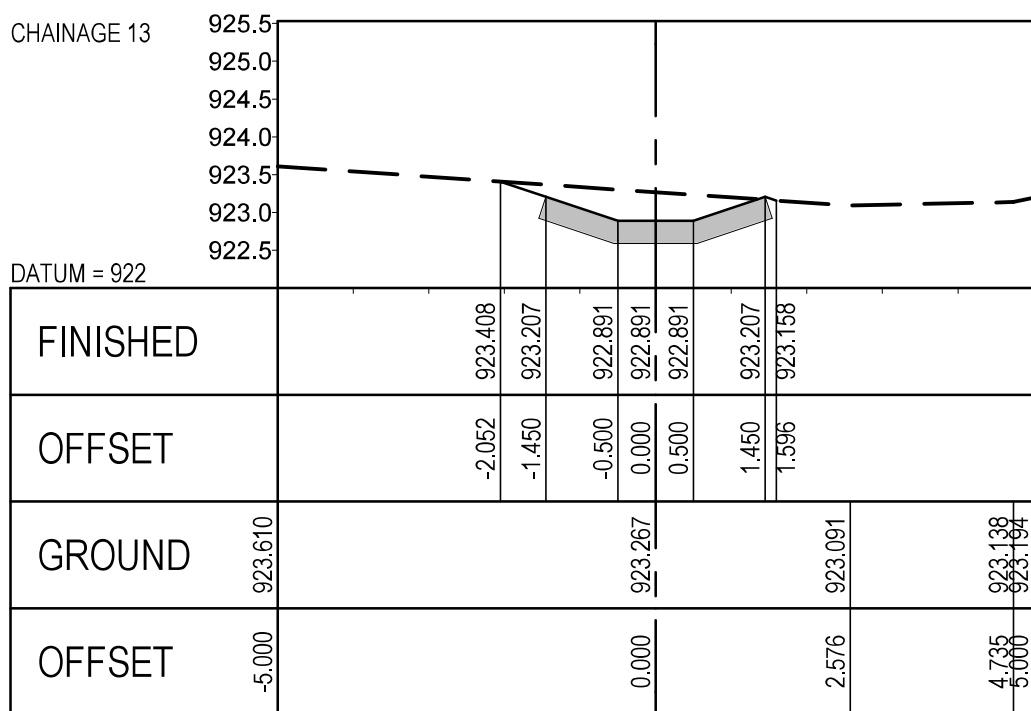
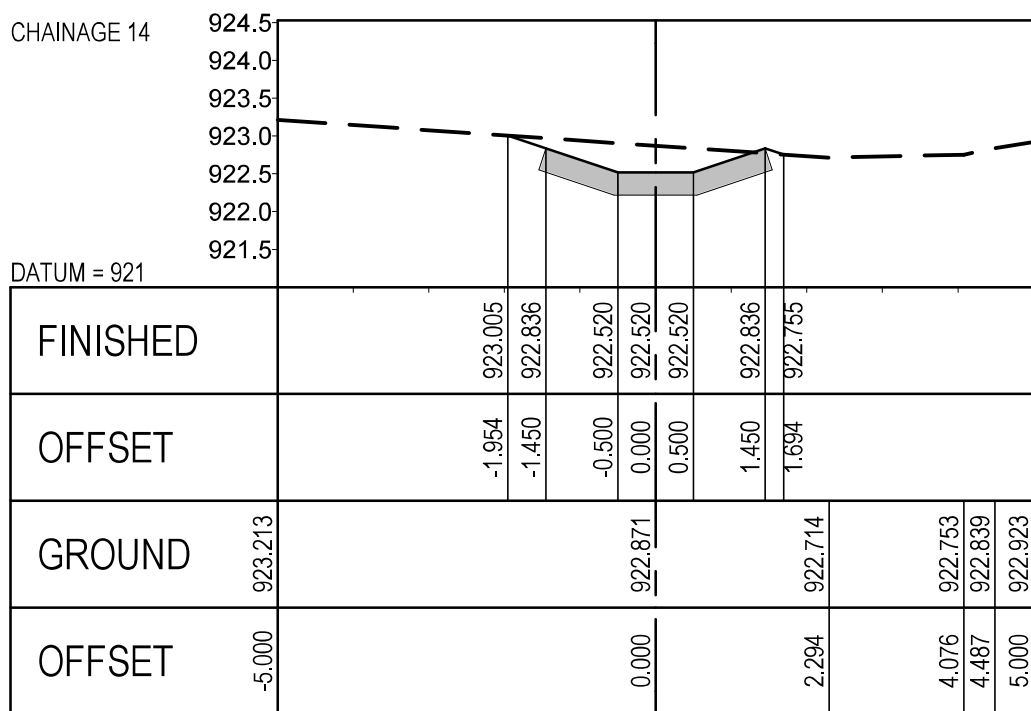
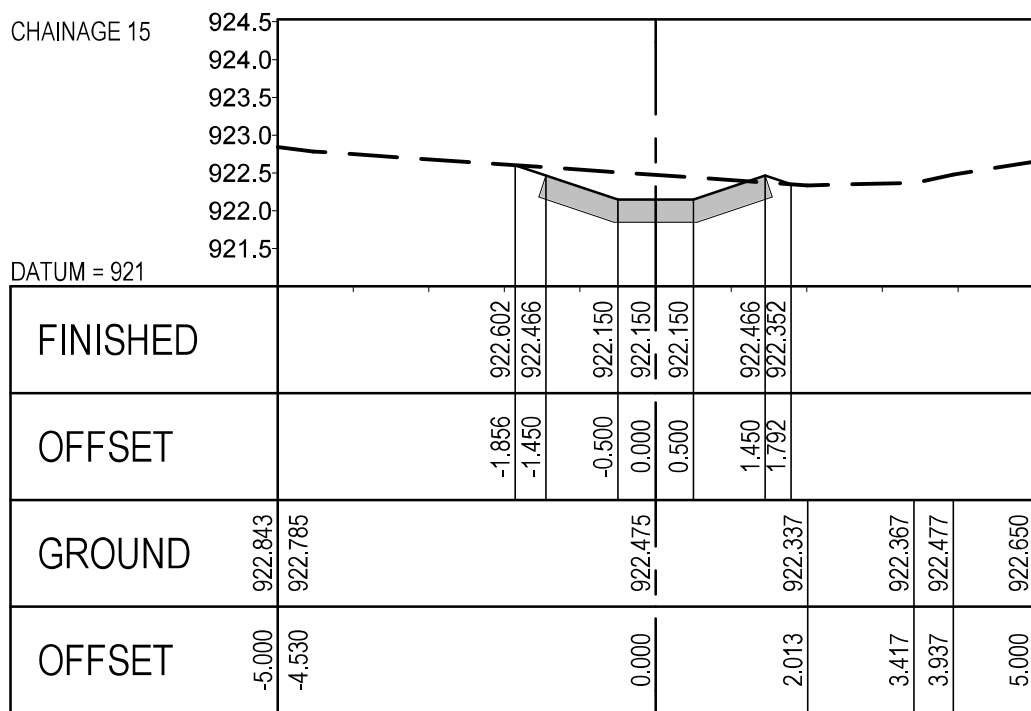
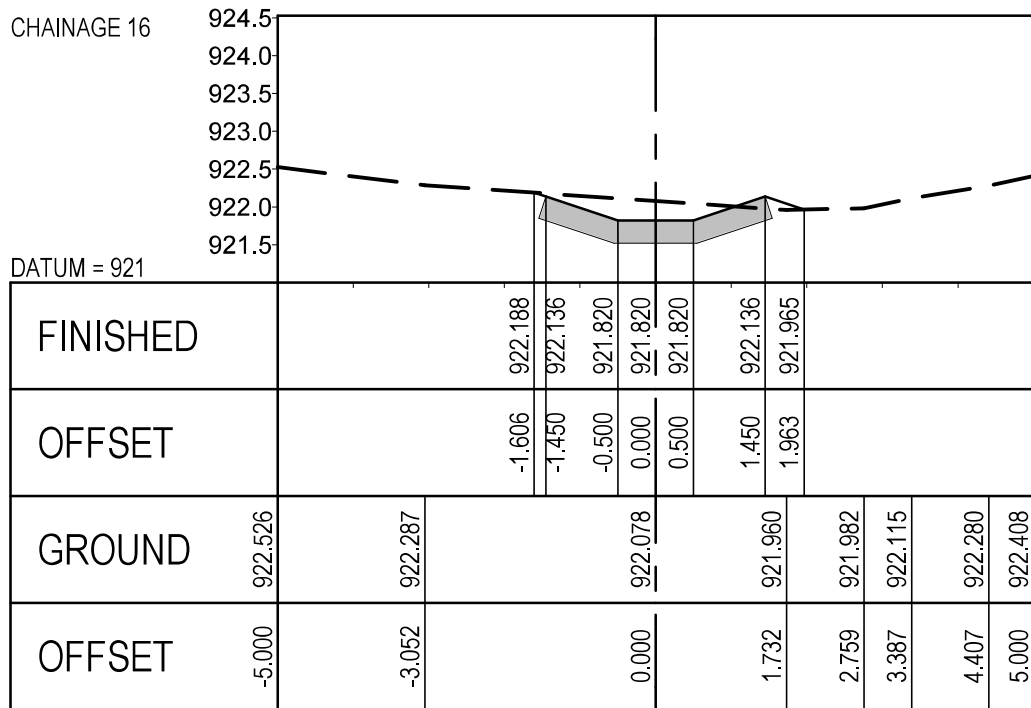
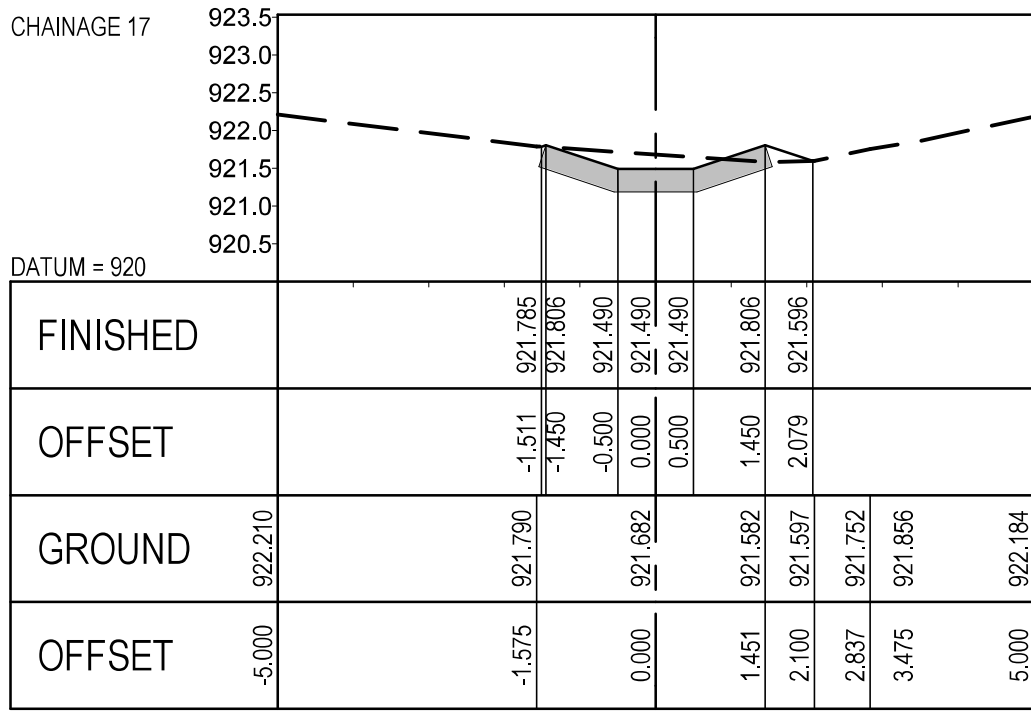
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HOR. 1:100 VER. 1:100	Drawn	I.S.S	APR 2022
Original Size: A1	Checked	R.J.D	APR 2022

Contract No.:  
  
47/2018

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LEGEND:

— GROUND  
— FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name Drawing No.

REVISIONS

Rev. No.	Description	Date
①	ISSUED FOR TENDER PURPOSES	APR 2022



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DATE



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Fax: (053) 927-0716

APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

STORMWATER CHANNEL 5

Drawing Name:

CROSS-SECTIONS  
(SHEET 2 OF 2)

Drawing No.:

19T0300 C D SE 02 02

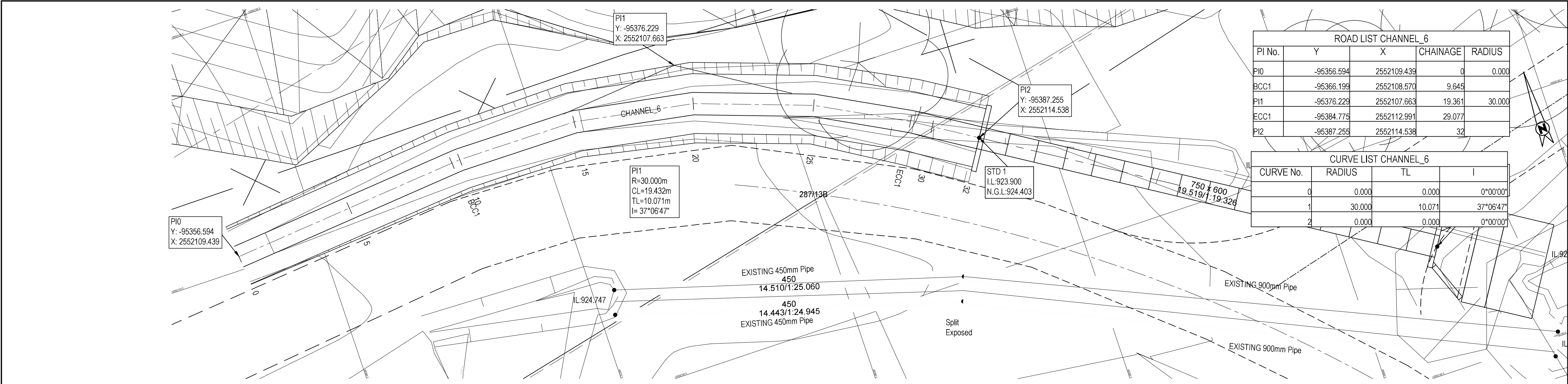
Revisions

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HOR: 1:100 VER: 1:100	Drawn	I.S.S	APR 2022
Original Size:	Checked	R.J.D	APR 2022
A 1			

Contract No.:

47/2018

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VERTICAL CURVES		GRADE									
FINAL ROAD LEVELS	0.465m LEFT	925.060									
	0m ON CL	925.060									
	0.465m RIGHT	925.060									
GROUND LEVELS AT GRADE LINE		925.804									
CHAINAGE		0	5	10	15	20	25	30	32		
SUPERELEVATION		0.000									
HORIZONTAL ALIGNMENT		Direction 264°49'51" R=30.000 I=37°06'47" Direction 301°56'38"									

LEGEND:

--- GROUND

--- FINAL LEVEL

REFERENCE DRAWINGS

Drawing Name	Drawing No.

REVISIONS

①	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date

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APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF VONDELING LANDFILL SITE

Project Component:

STORMWATER CHANNEL 6

Drawing Name:

LAYOUT PLAN AND LONGITUDINAL SECTION CHANNEL 6 (SHEET 1 OF 1)

Drawing No.:

19T0300 C D SF 01 01

Revisions

①							
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VER. 1:100

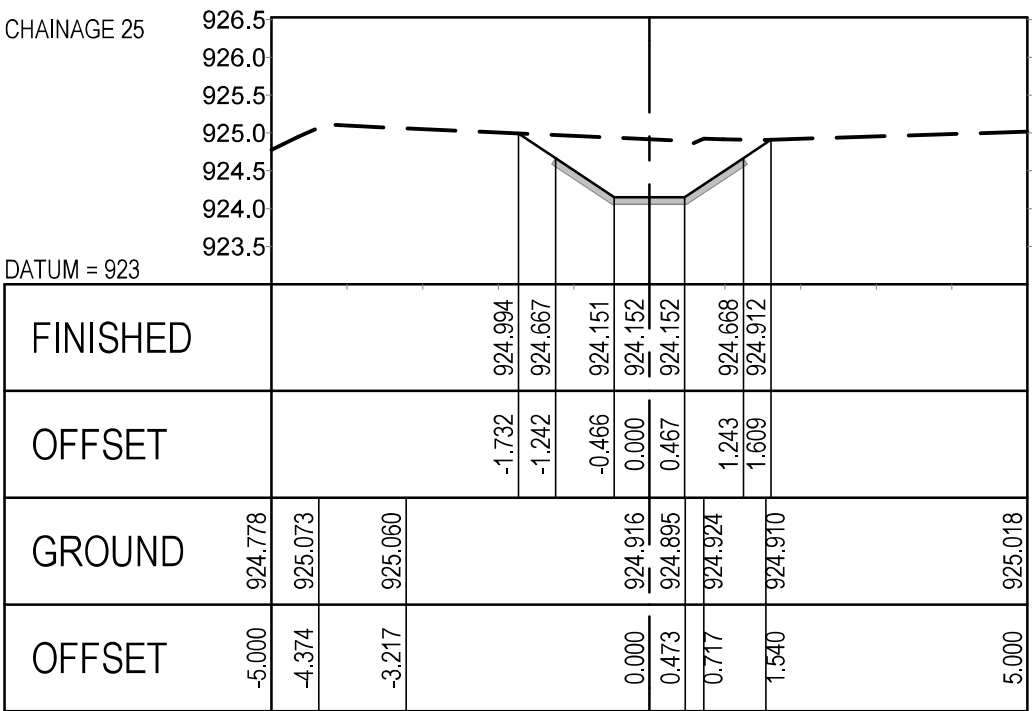
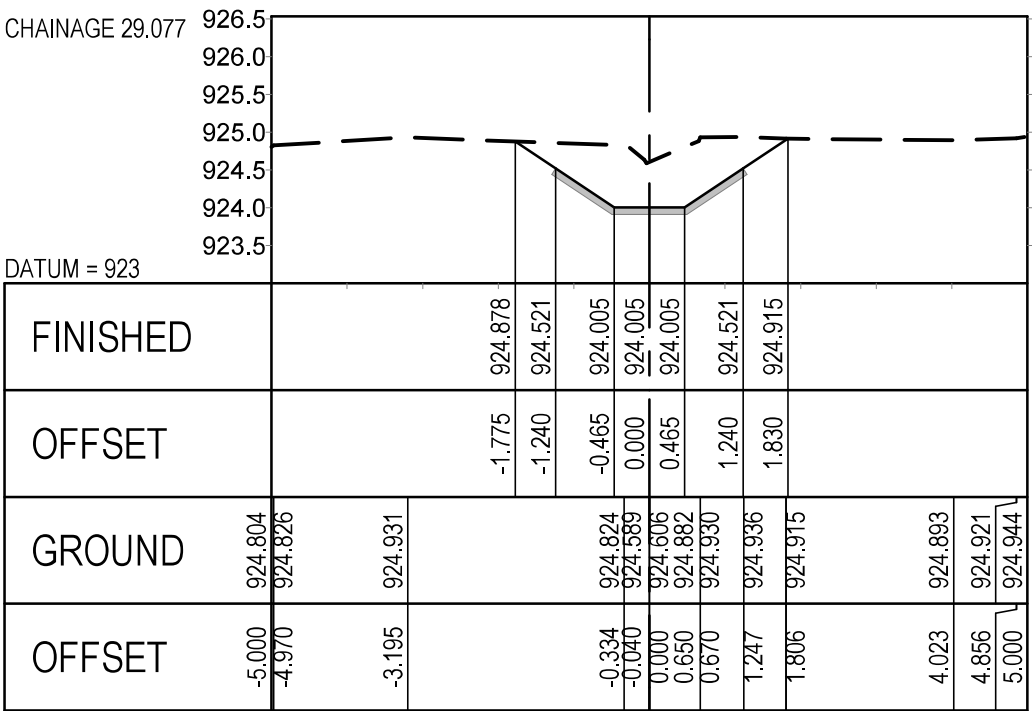
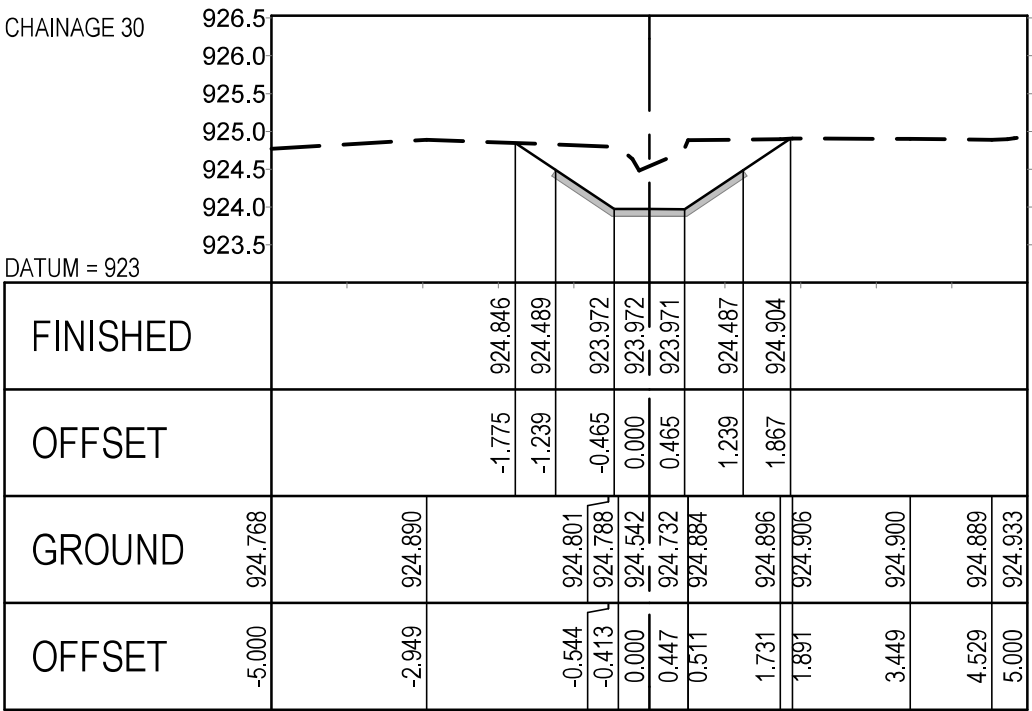
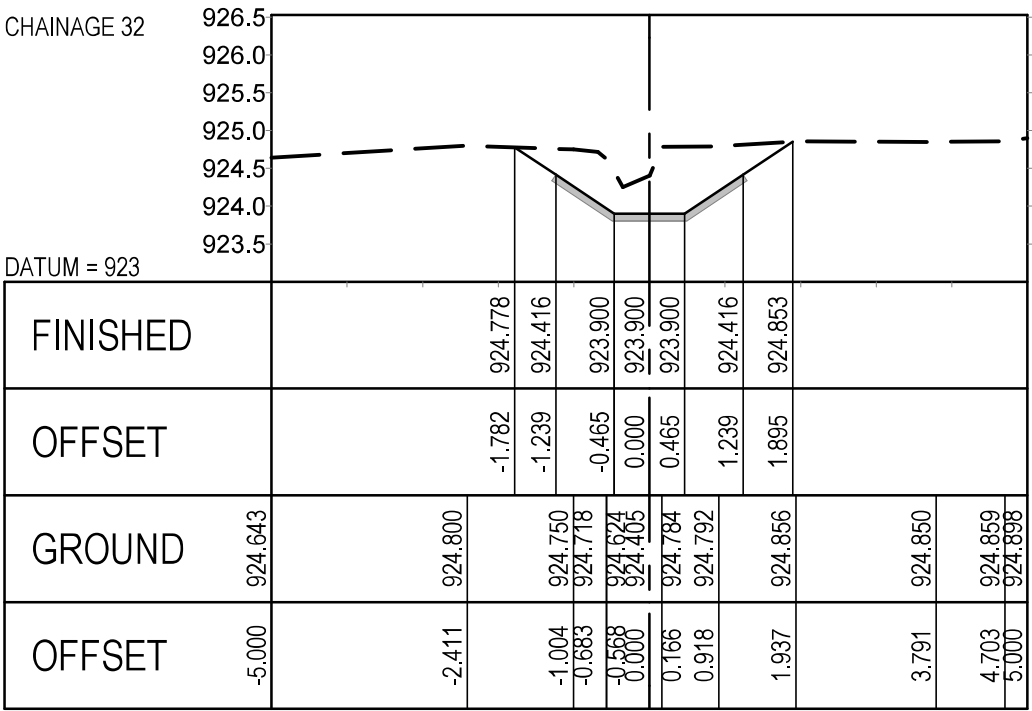
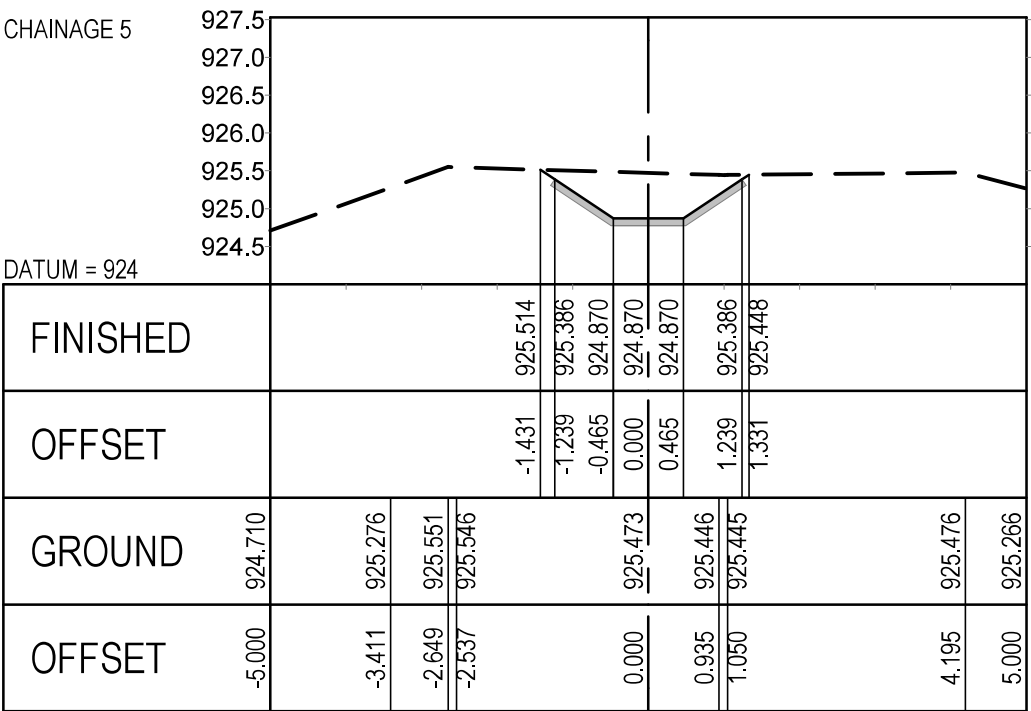
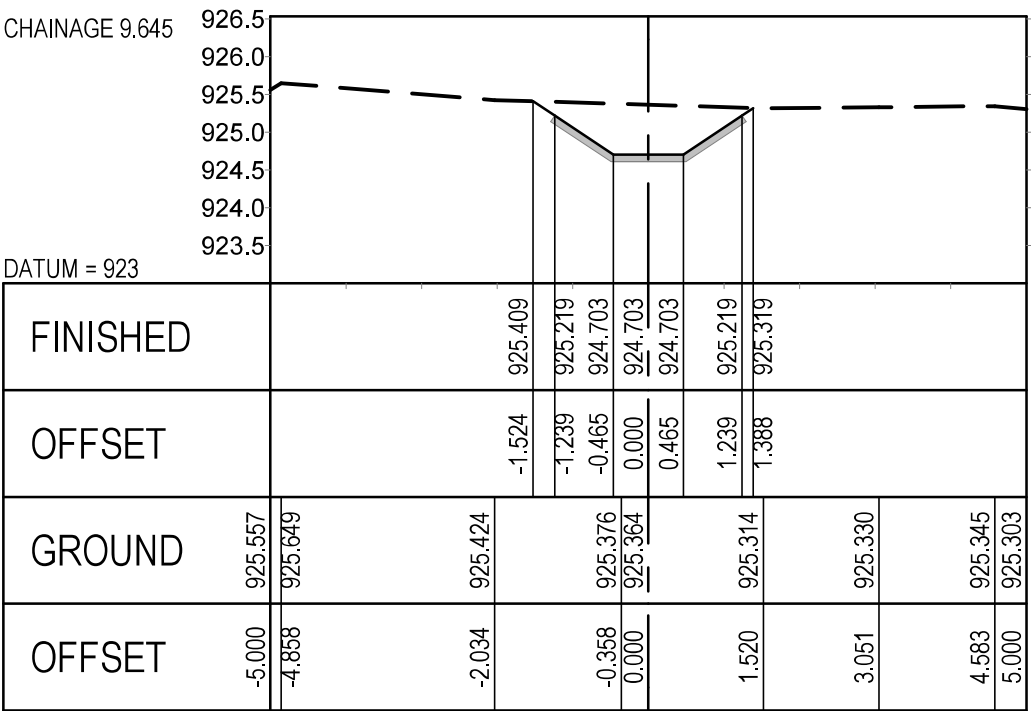
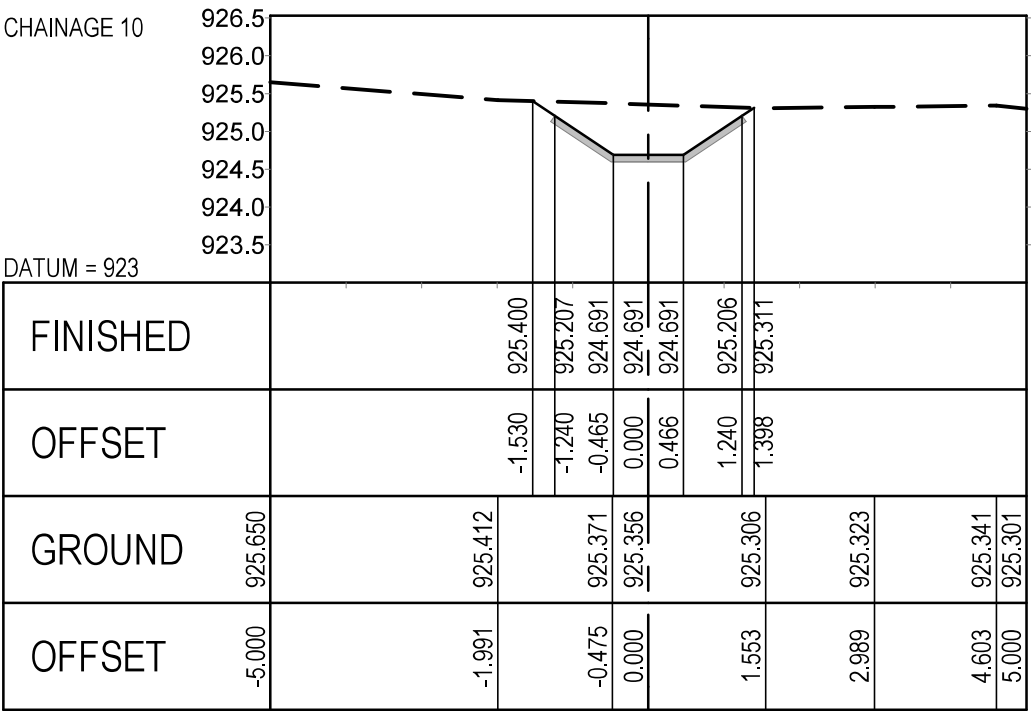
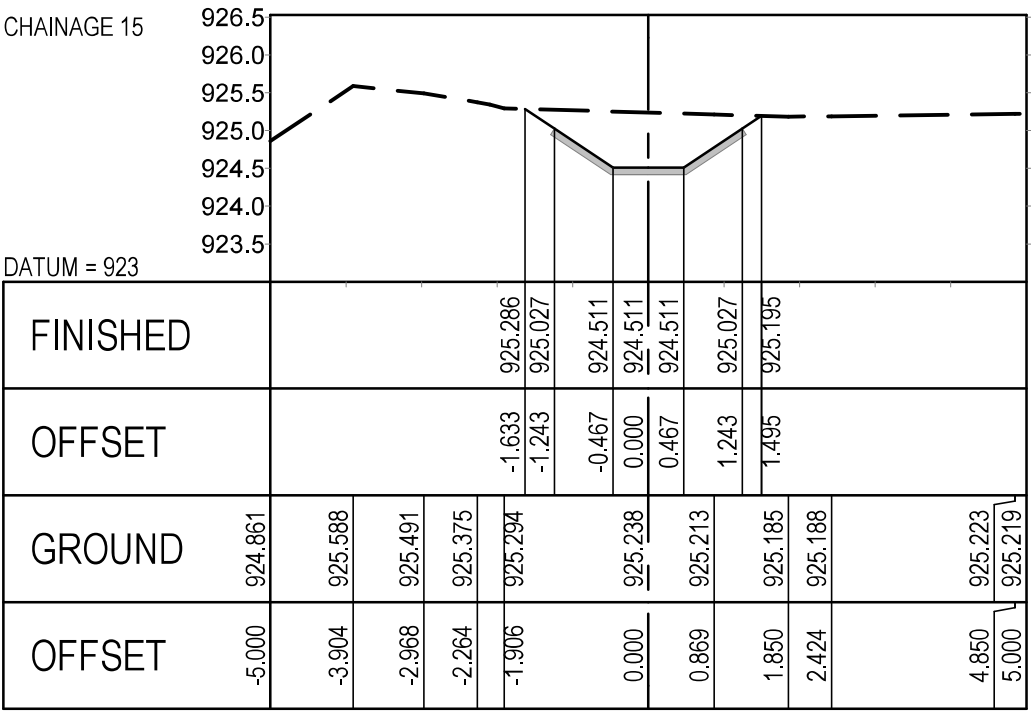
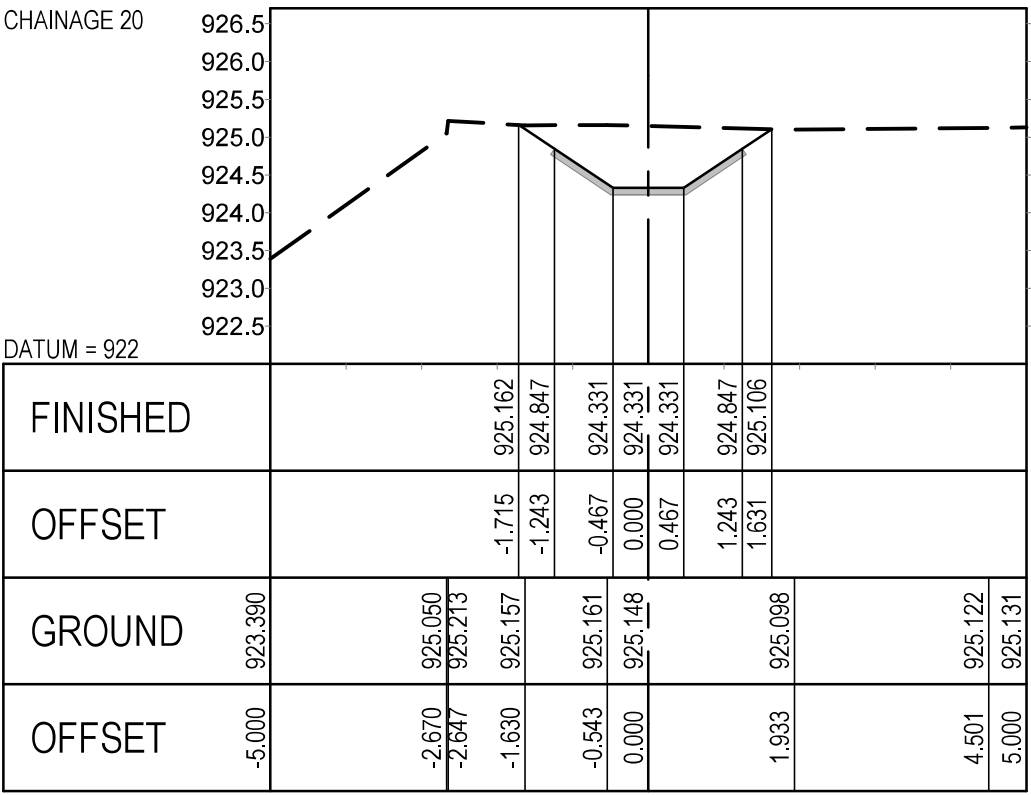
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Original Size: A1 Checked R.J.D. APR 2022

Contract No.:

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REFERENCE DRAWINGS

Drawing Name	Drawing No.

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①	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date

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DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

STORMWATER CHANNEL 6

Drawing Name:

CROSS-SECTIONS  
(SHEET 1 OF 1)

Drawing No.:

19T0300

C

D

SF

02

01

Revisions

①

Scale:

HOR. 1:100  
VER. 1:100

Designed

W.S.S

APR 2022

Drawn

I.S.S

APR 2022

Original Size:

A 1

Checked

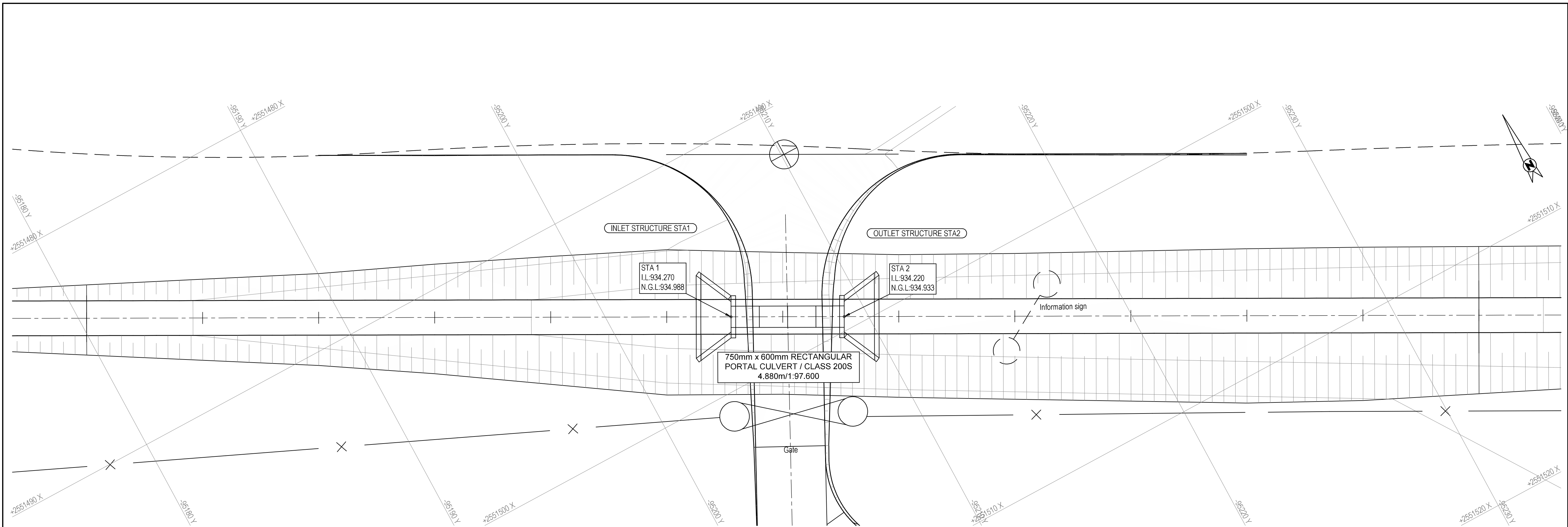
R.J.D

APR 2022

Contract No.:

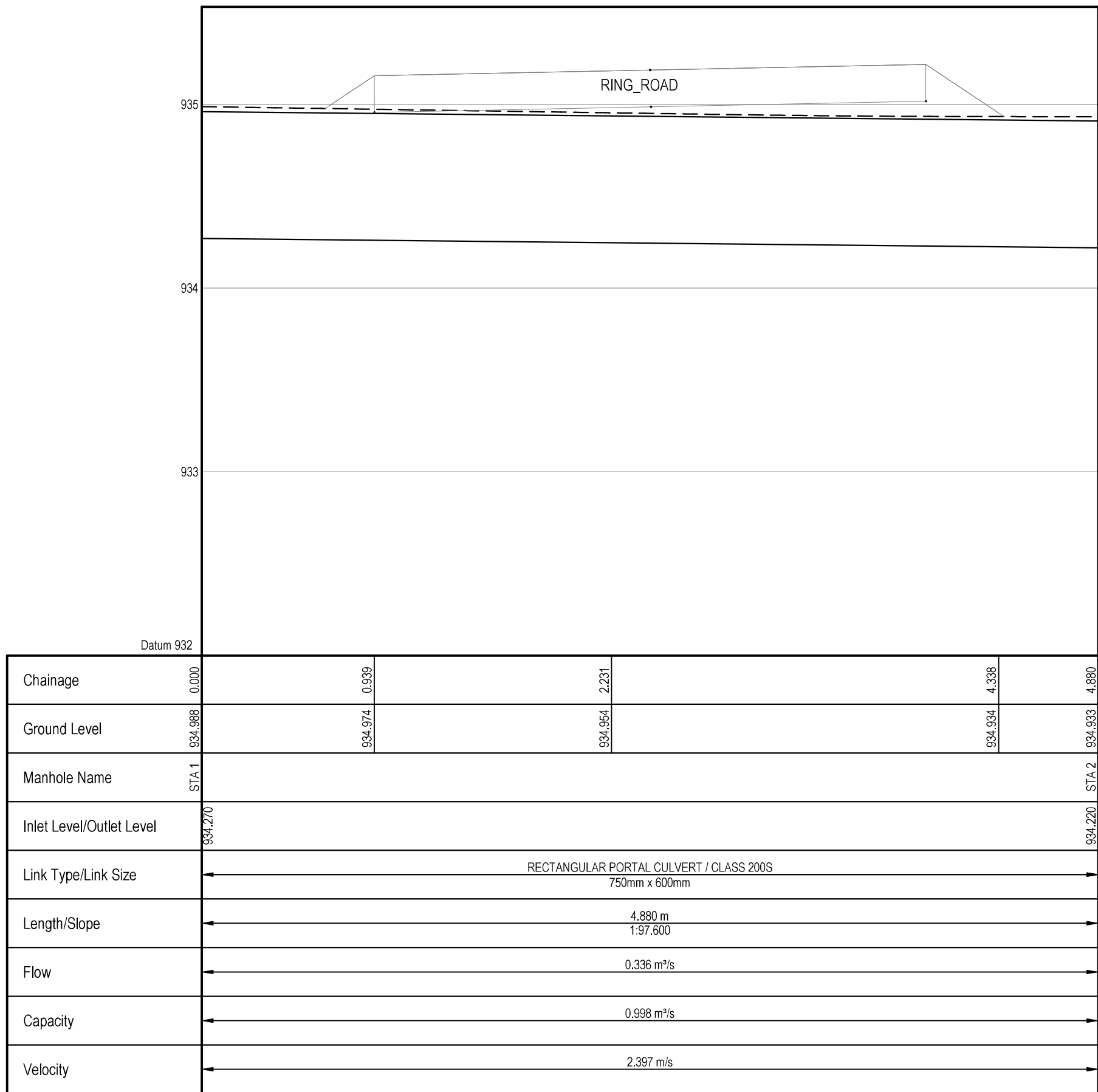
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LAYOUT PLAN OF CULVERT (STA)

SCALE 1:100



LONGITUDINAL SECTION (STA1 TO STA2)

SCALE 1:25

REFERENCE DRAWINGS

Drawing Name

Drawing No.

REVISIONS

Rev. No.	Description	Date
①	ISSUED FOR TENDER PURPOSES	APR 2022



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APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

CULVERT STRUCTURE (STA)

Drawing Name:

LAYOUT PLAN &  
LONGITUDINAL SECTION

Drawing No.:

19T0300 C D CA 01 01

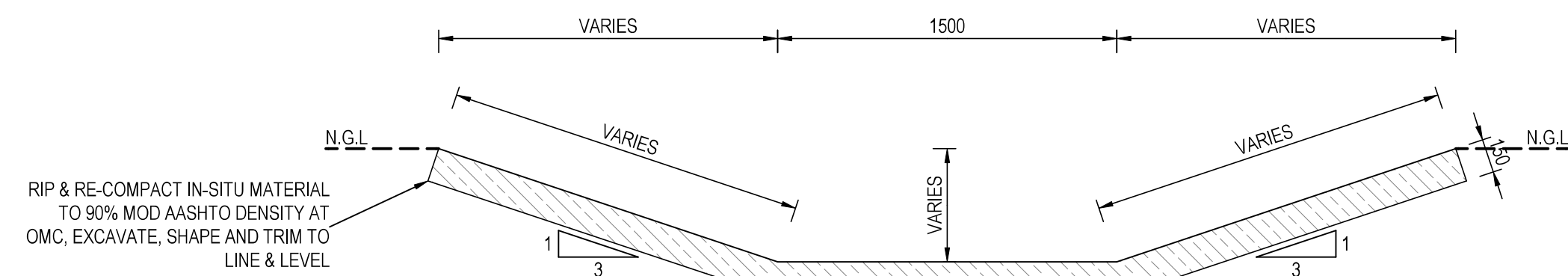
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Original Size: A 1	Checked	R.J.D	APR 2022

Contract No.:

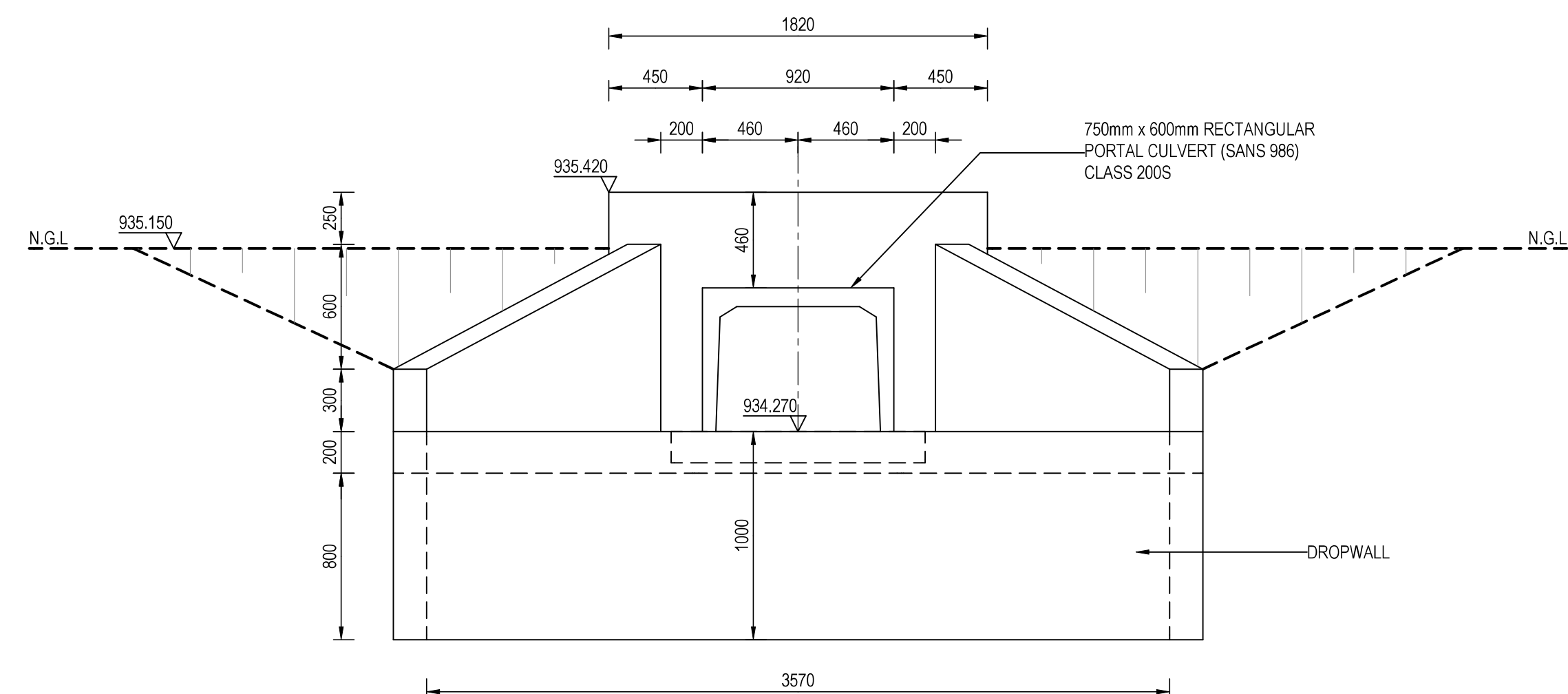
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SCALE 1:25

SCALE 1:25



SCALE 1:25

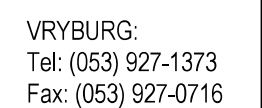
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Drawing Name	Drawing No.


(T)	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date



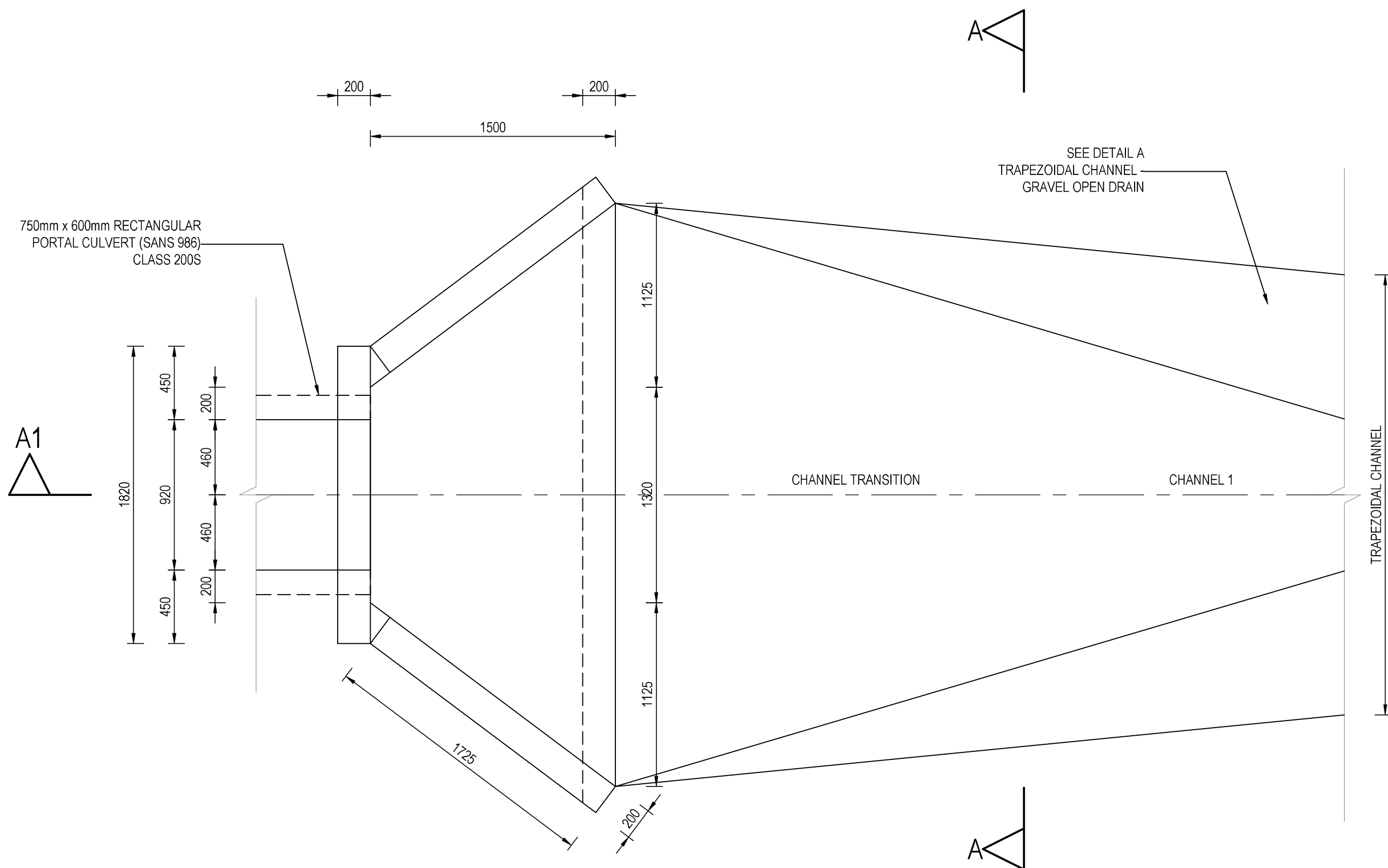
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DATE \_\_\_\_\_

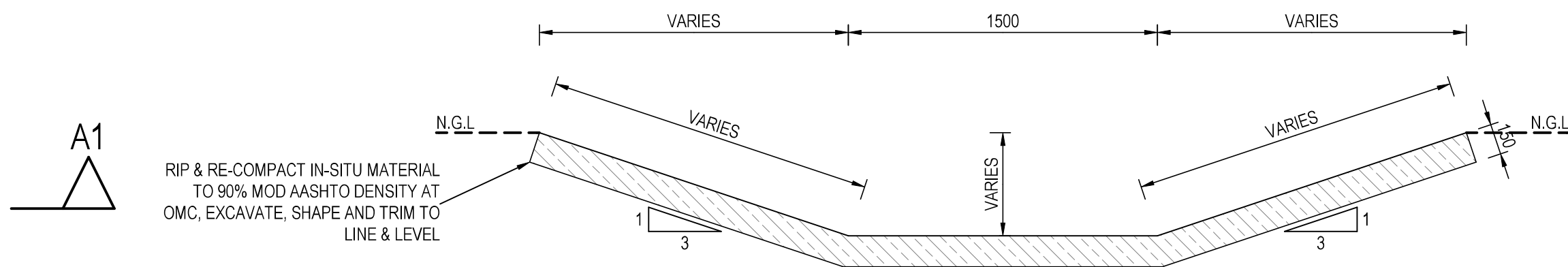
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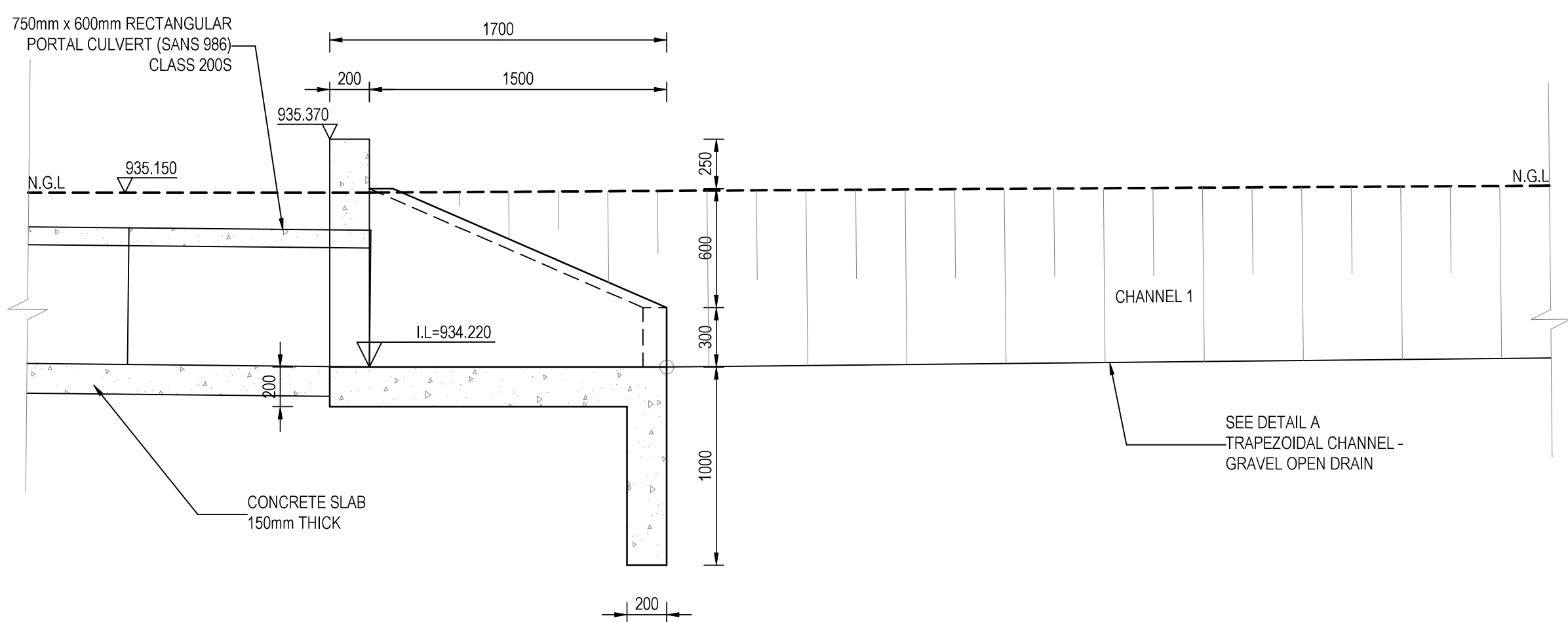
OUTLET STRUCTURE (STA2): PLAN VIEW

SCALE 1:25



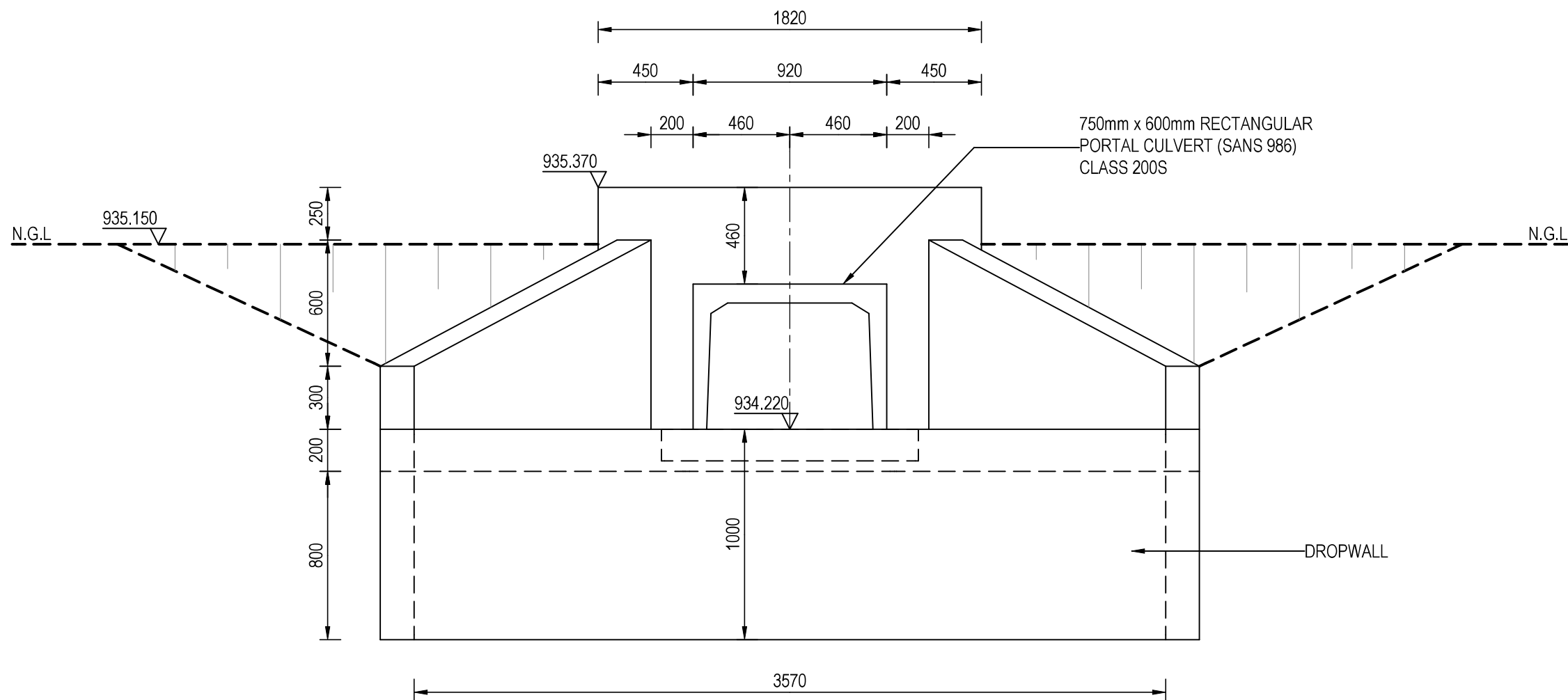
DETAIL A: TRAPEZOIDAL CHANNEL - GRAVEL OPEN DRAIN

SCALE 1:25



OUTLET STRUCTURE (STA2): SECTION A1-A1

SCALE 1:25



OUTLET STRUCTURE (STA2): SECTION A-A

SCALE 1:25

REFERENCE DRAWINGS	
Drawing Name	Drawing No.

REVISIONS		
①	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date



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Fax: (053) 927-0716

APPROVED

DATE

Project Name:

**REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE**

Project Component:

**CULVERT STRUCTURE (STA)**

Drawing Name:

**OUTLET (STA2) STRUCTURE  
PLAN VIEW, SECTIONS AND DETAILS**

Drawing No.:

19T0300 C D CA 02 02

Revisions	①						
Scale:	1:25	Designed	W.S.S	APR 2022			
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Contract No.:

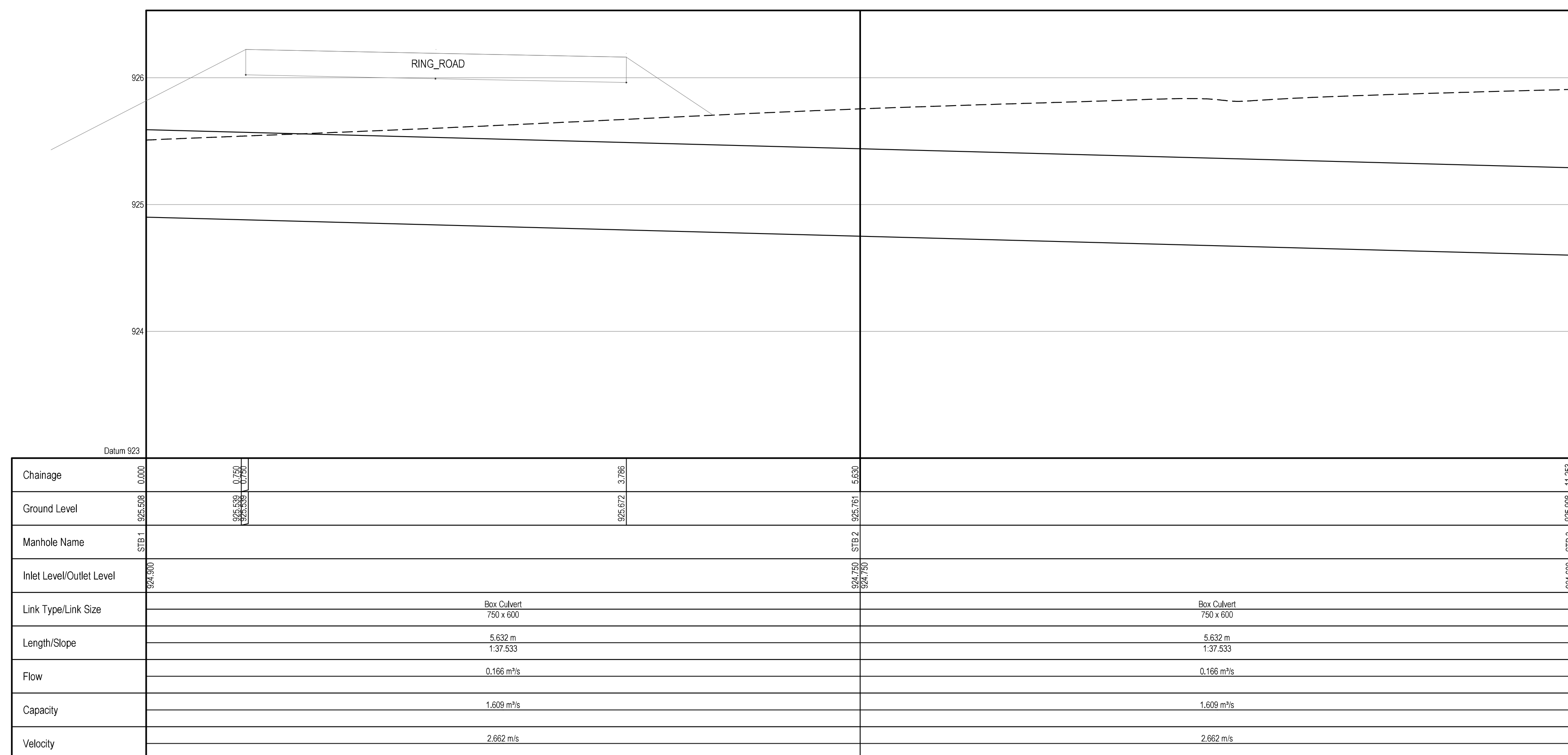
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### LAYOUT PLAN OF CULVERT (STB)

SCALE 1:100

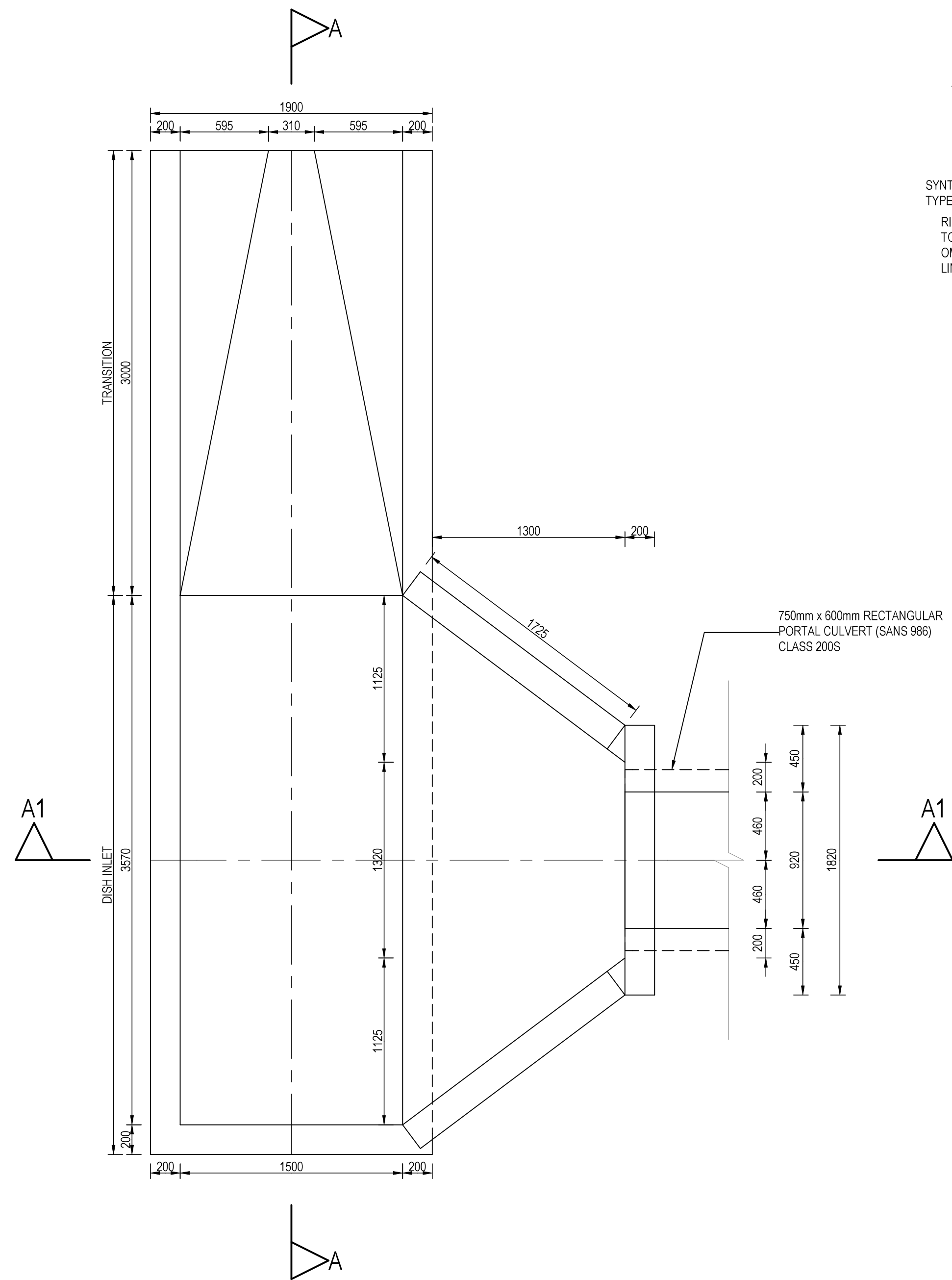


LONGITUDINAL SECTION (STB1 TO STB3)

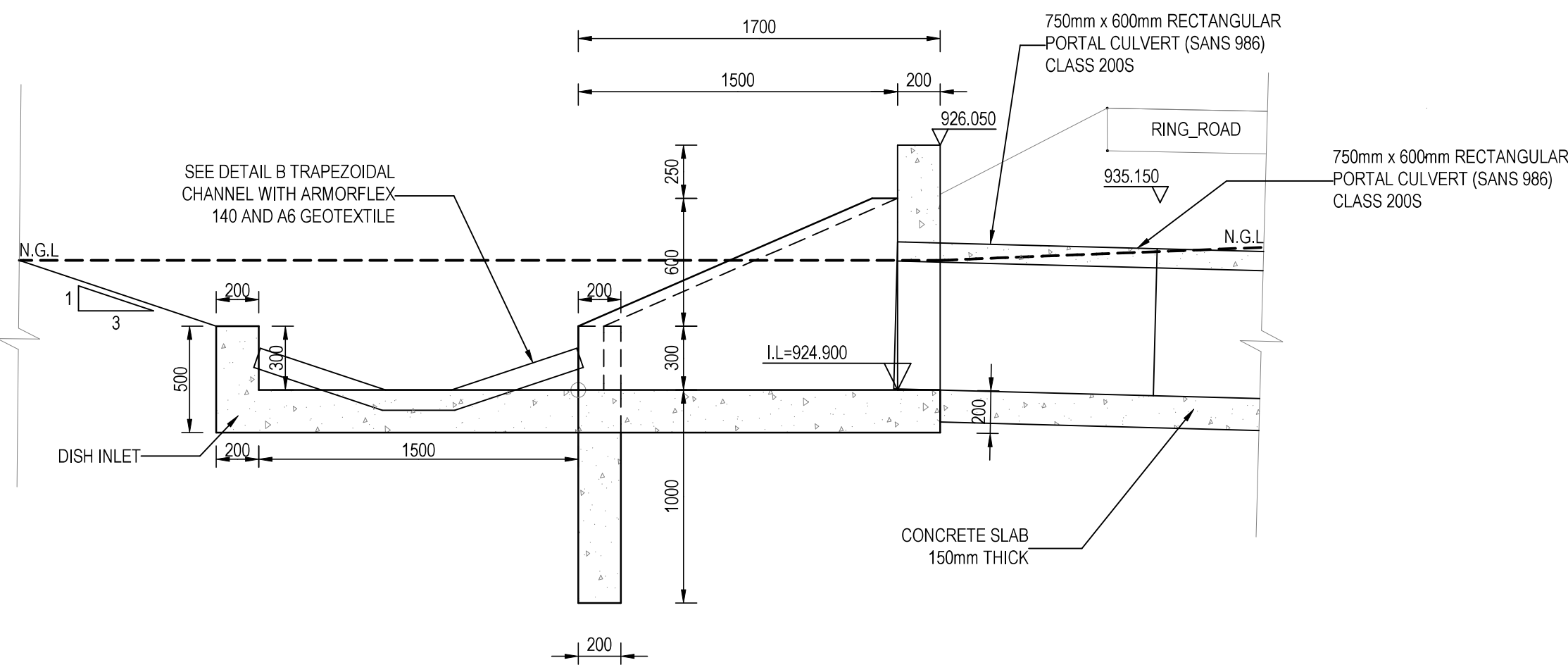
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Rev. No.	Description		Date
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APPROVED _____		_____ DATE	
<div style="display: flex; align-items: center; justify-content: center;"> <div> <p style="font-size: 24px; font-weight: bold;">INFRABURO</p> <p style="font-size: 10px;">civil and structural consulting engineers</p> </div> </div>			
<p><b>TSHWANE:</b> Tel: (012) 664-6490 Fax: (012) 664-7709</p> <p><b>POLOKWANE:</b> Tel: (015) 291-2491 Fax: (015) 295-7753</p>		<p><b>THOHOYANDOU:</b> Tel: (015) 963-3773 Fax: (015) 963-3775</p> <p><b>VRVYBURG:</b> Tel: (053) 927-1373 Fax: (053) 927-0716</p>	
APPROVED _____		_____ DATE	
Project Name:			
REHABILITATION & CLOSING OF VONDELING LANDFILL SITE			
Project Component:			
CULVERT STRUCTURE (STB)			
Drawing Name:			
LAYOUT PLAN & LONGITUDINAL SECTION			
Drawing No.:			
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Revisions			
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			APR 2022
			APR 2022
Contract No.:			
47/2018			
ISSUED FOR TENDER PURPOSES			

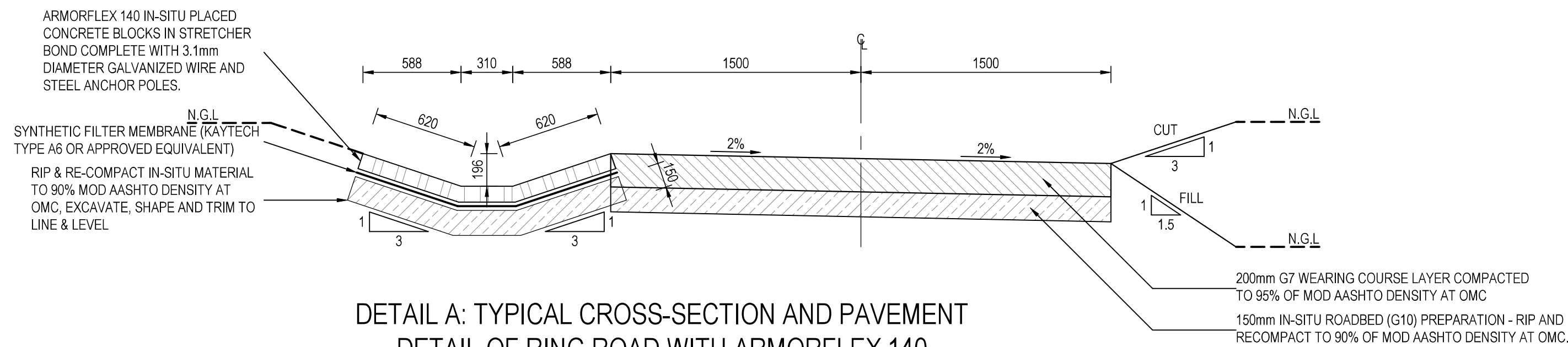




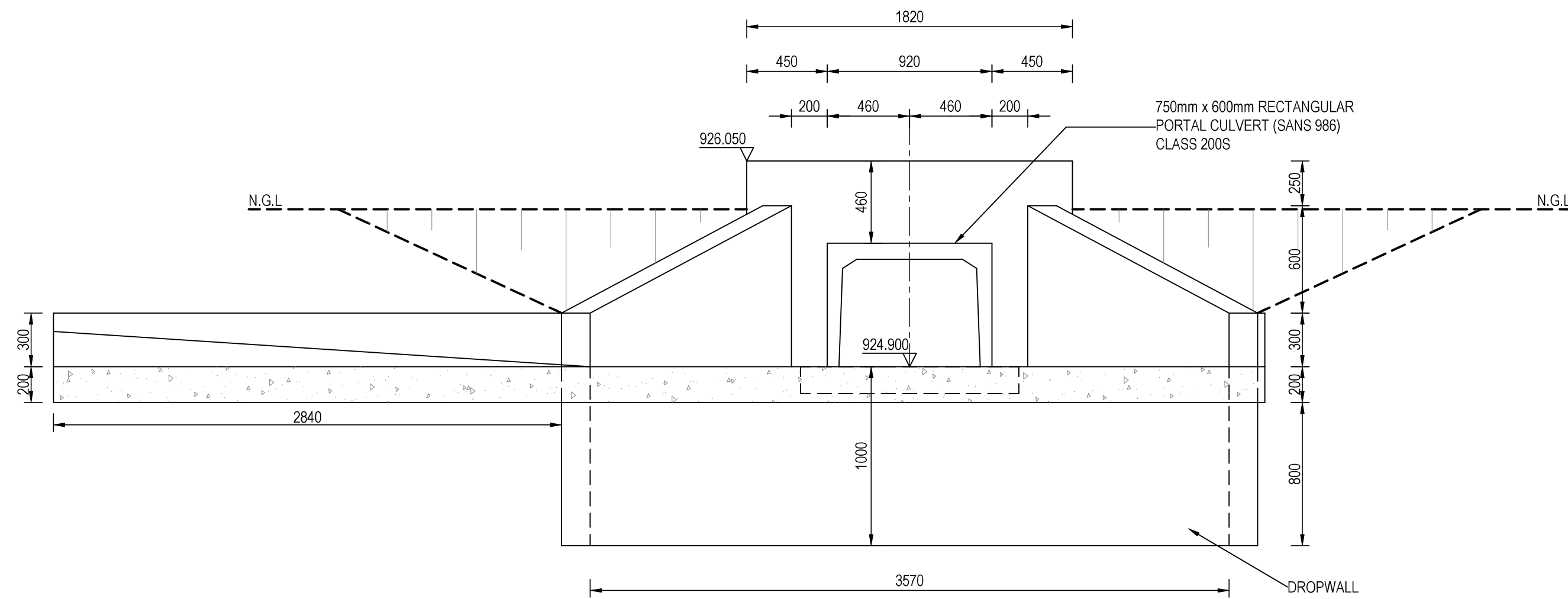
INLET STRUCTURE (STB1): PLAN VIEW  
SCALE 1:25



INLET STRUCTURE (STB1): SECTION A1-A1  
SCALE 1:25



DETAIL A: TYPICAL CROSS-SECTION AND PAVEMENT  
DETAIL OF RING ROAD WITH ARMORFLEX 140  
TRAPEZOIDAL SIDE-DRAIN  
SCALE 1:25



INLET STRUCTURE (STB1): SECTION A-A  
SCALE 1:25

REFERENCE DRAWINGS	
Drawing Name	Drawing No.

REVISIONS		
1	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date




**MAKHADO LOCAL MUNICIPALITY**

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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_



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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

Project Name:  
**REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE**

Project Component:  
**CULVERT STRUCTURE (STB)**

Drawing Name:  
**INLET (STB1) STRUCTURE  
PLAN VIEW, SECTIONS AND DETAILS**

Drawing No.:  
**19T0300 C D CB 02 01**

Revisions			
Scale:	Designed	W.S.S	APR 2022
1:25	Drawn	I.S.S	APR 2022
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Contract No.:  
**47/2018**

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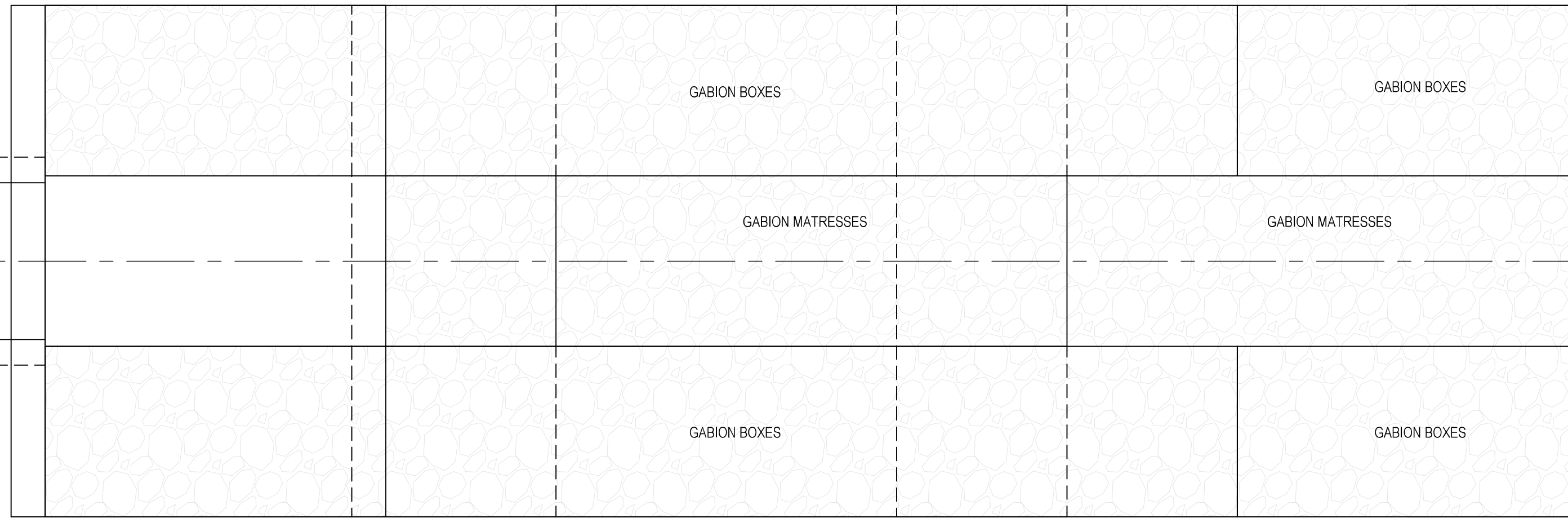
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PORTAL CULVERT (SANS 986)  
CLASS 200S

A



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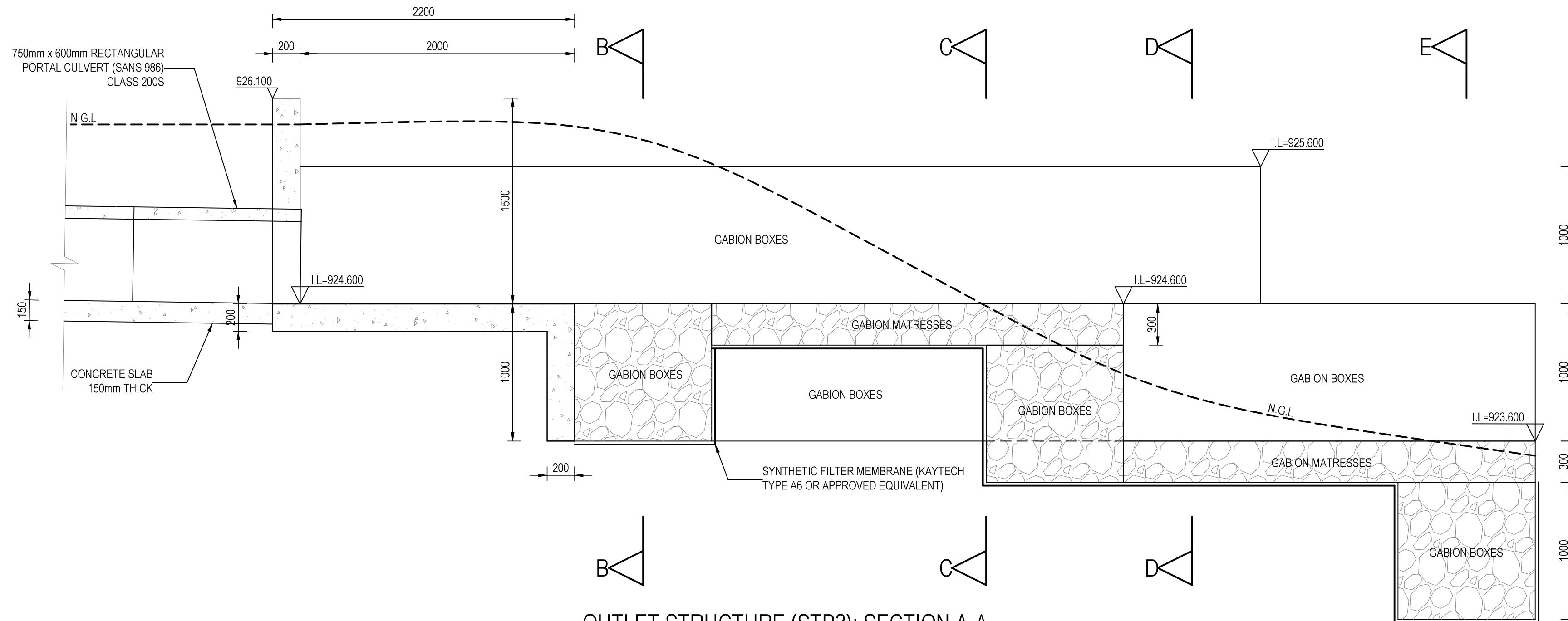
1000  
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A



OUTLET STRUCTURE (STB3): PLAN VIEW

SCALE 1:25



OUTLET STRUCTURE (STB3): SECTION A-A

SCALE 1:25



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Email: livhuwani@makhado.gov.za3

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DATE



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Tel: (015) 963-3773  
Fax: (015) 963-3775

POLOKWANE:  
Tel: (015) 291-2491  
Fax: (015) 295-7753

VRVBURG:  
Tel: (053) 927-1373  
Fax: (053) 927-0716

APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

CULVERT STRUCTURE (STB)

Drawing Name:

OUTLET (STB3) STRUCTURE  
PLAN VIEW, SECTIONS AND DETAILS  
(SHEET 1 OF 2)

Drawing No.:

19T0300 C D CB 02 03

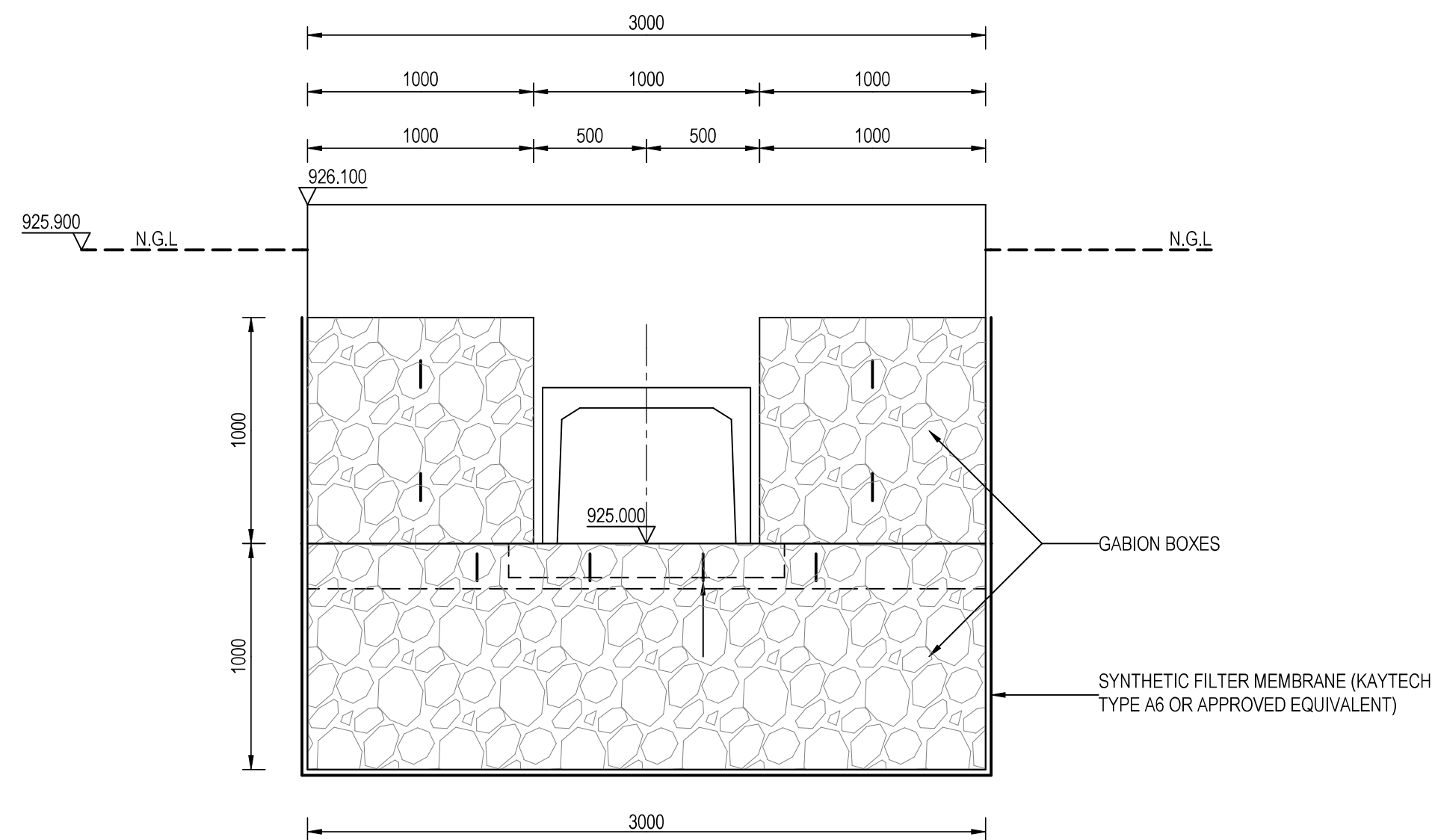
Revisions

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1:25	Drawn	I.S.S	APR 2022
Original Size: A1	Checked	R.J.D	APR 2022

Contract No.:

47/2018

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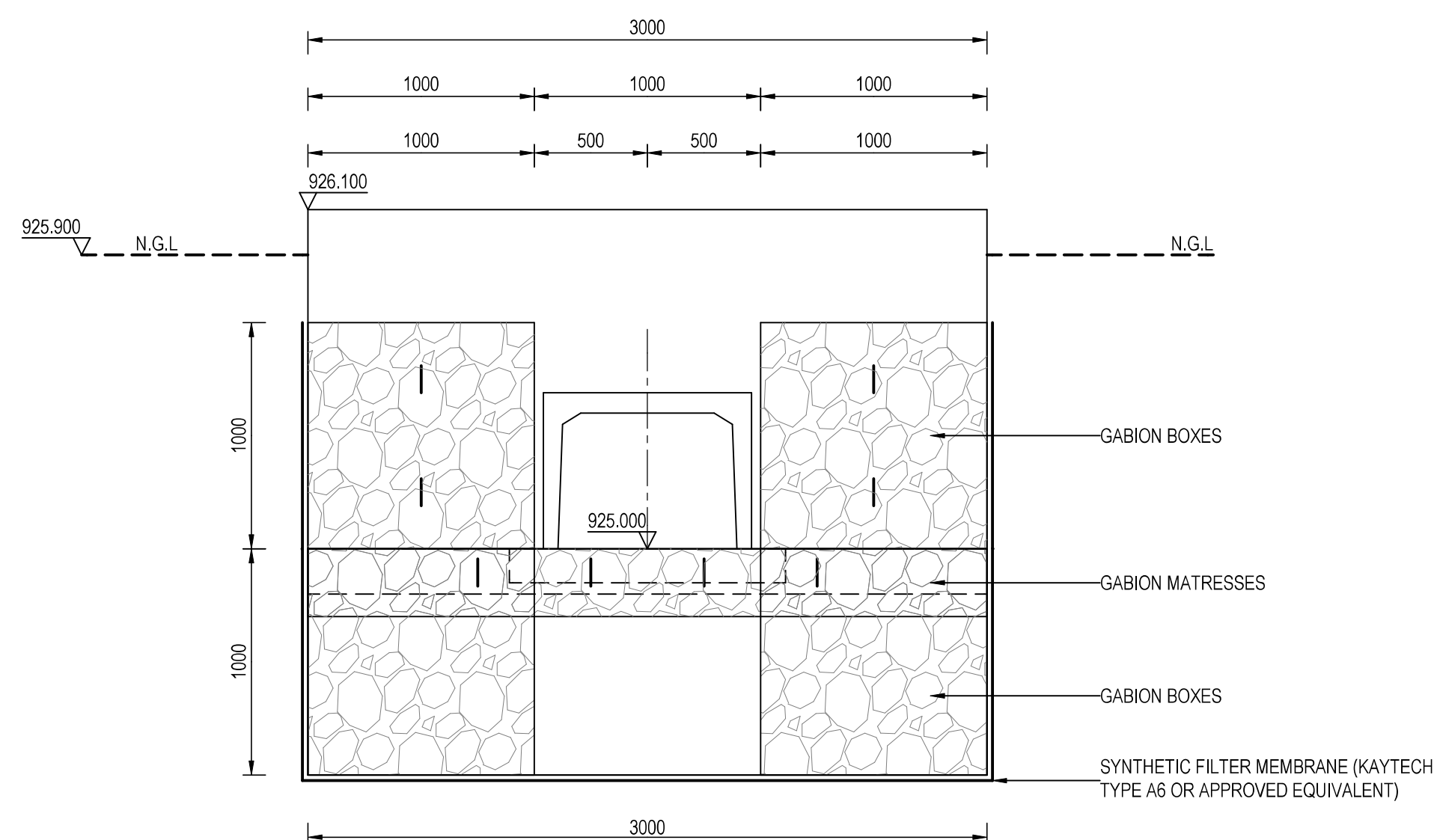
OUTLET STRUCTURE (STC2): SECTION B-B

SCALE 1:25

- NOTES:
- FRAGMENTS OF APPROVED STONE PITCHING TO BE USED TO FILL UP SPACES BETWEEN THE LARGER STONES.
  - SYNTHETIC FILTER MEMBRANE SHALL BE PLACED IN STRIPS WITH 300mm MIN. OVERLAP, AND BE PROPERLY FASTENED TO PREVENT ANY MOVEMENT.

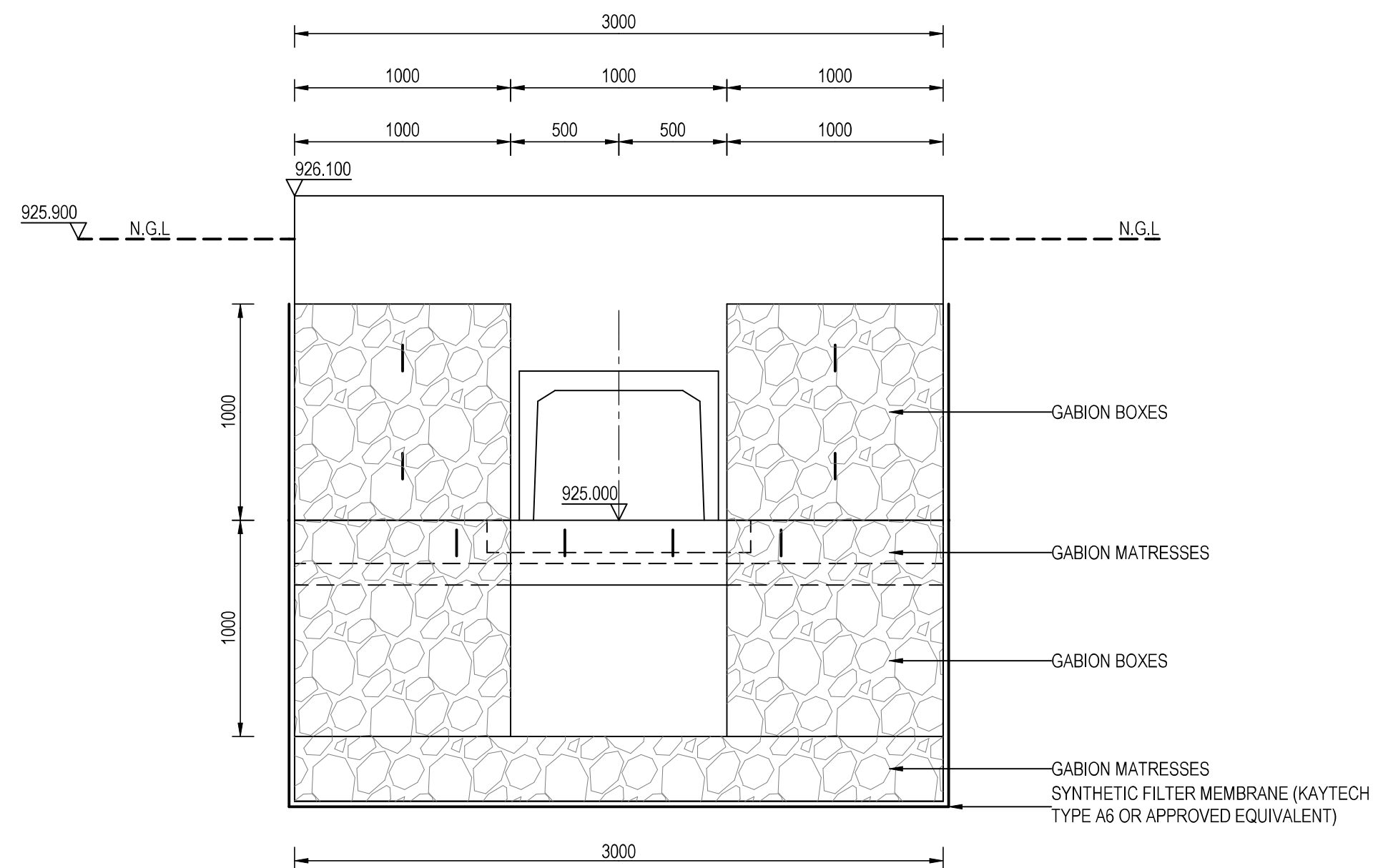
DEPTH OF CAGES	ROCK SIZE (DIMENSIONS)	
	MIN. (mm)	MAKS. (mm)
230	100	125
300	100	200
500	100	250
1000	100	300

MESH SIZE AND WIRE DIAMETER FOR CAGES		
DEPTH OF GABION	MESH SIZE (mm)	WIRE DIA. (mm)
500mm AND OVER	80 x 100	2,7
200mm TO 300mm	80 x 100	2,5



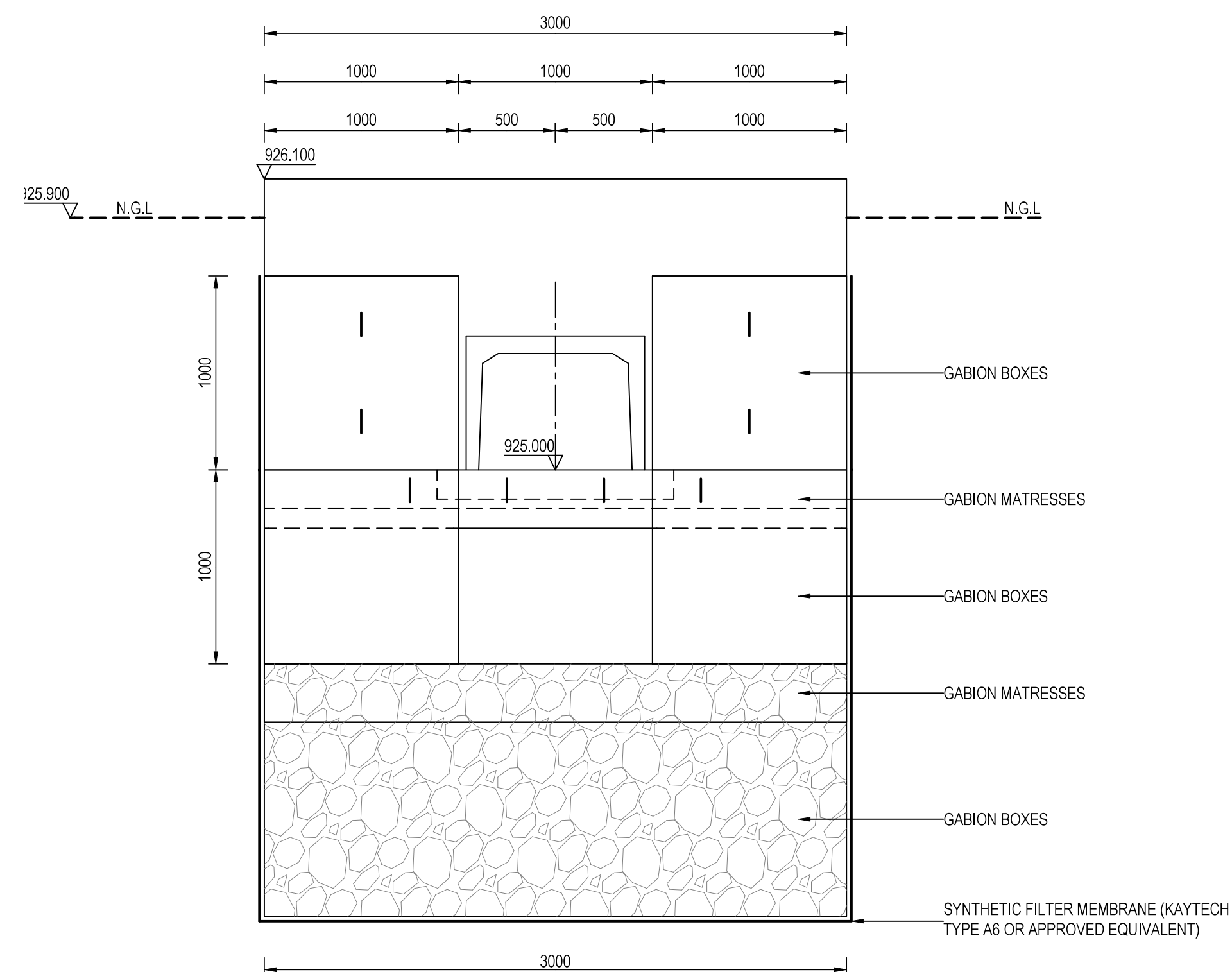
OUTLET STRUCTURE (STC2): SECTION C-C

SCALE 1:25





OUTLET STRUCTURE (STC2): SECTION D-D

SCALE 1:25



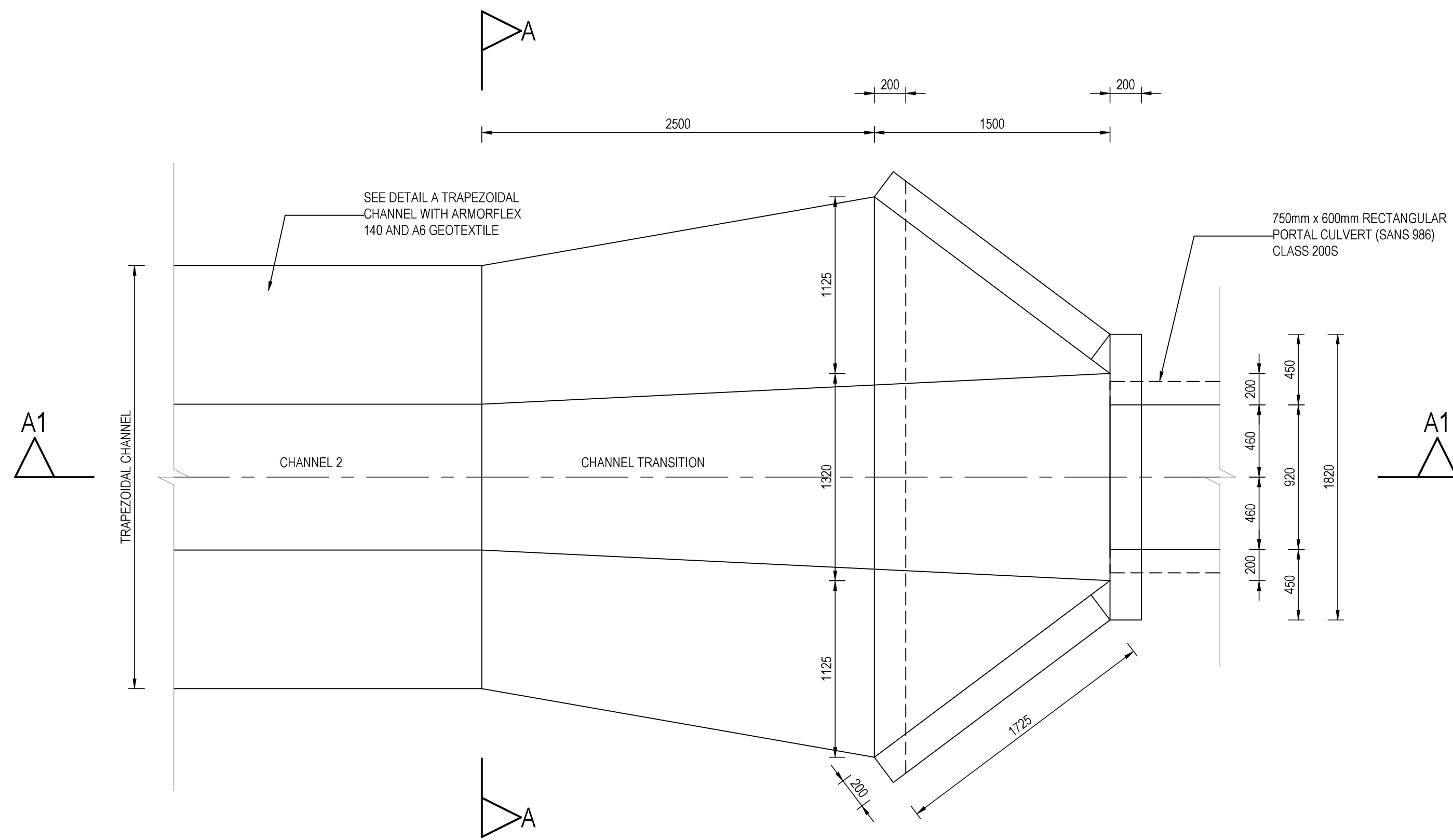
OUTLET STRUCTURE (STC2): SECTION E-E

SCALE 1:25

REFERENCE DRAWINGS			
Drawing Name		Drawing No.	
REVISIONS			
①	ISSUED FOR TENDER PURPOSES	APR 2022	
Rev. No.	Description	Date	
 <b>MAKHADO LOCAL MUNICIPALITY</b> PRIVATE BAG X2596 MAKHADO 0920 Tel : (015) 519 3000 Cell : (082) 922 8547 Email: livhuwani@makhado.gov.za3			
APPROVED _____ DATE _____			
 <b>INFRABURO</b> civil and structural consulting engineers TSHWANE: Tel: (012) 664-6490 Fax: (012) 664-7709 POLOKWANE: Tel: (015) 291-2491 Fax: (015) 295-7753 THOHOYANDOU: Tel: (015) 963-3773 Fax: (015) 963-3775 VRYBURG: Tel: (053) 927-1373 Fax: (053) 927-0716			
APPROVED _____ DATE _____			
Project Name: <b>REHABILITATION &amp; CLOSING OF VONDELING LANDFILL SITE</b>			
Project Component: <b>CULVERT STRUCTURE (STB)</b>			
Drawing Name: <b>OUTLET (STB3) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS (SHEET 2 OF 2)</b>			
Drawing No.: <b>19T0300</b> <b>C</b> <b>D</b> <b>CB</b> <b>02</b> <b>04</b>			
Revisions			
Scale:	Designed	W.S.S	APR 2022
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Contract No.: <b>47/2018</b>			
<b>ISSUED FOR TENDER PURPOSES</b>			

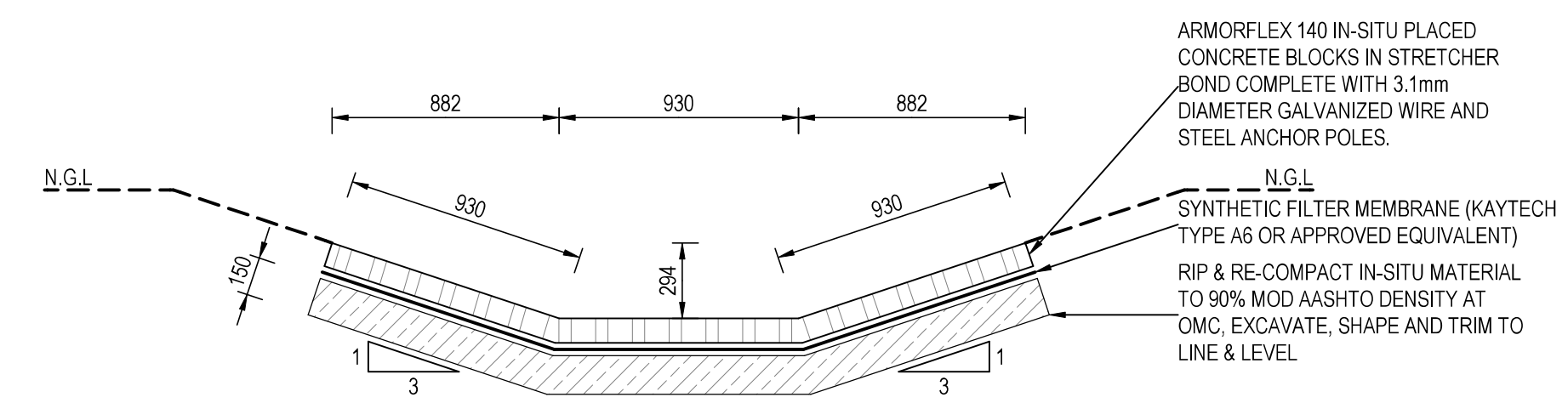






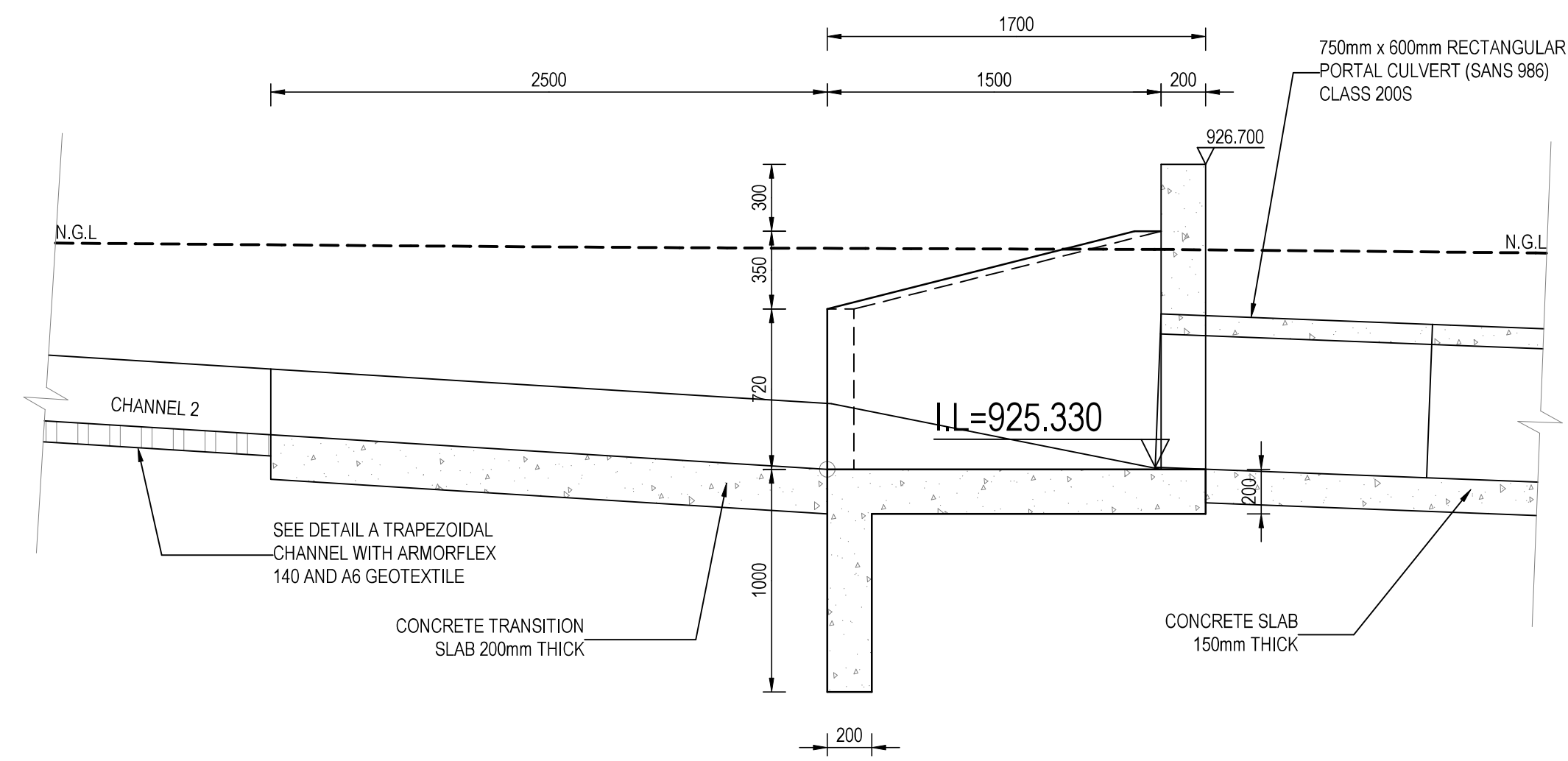
INLET STRUCTURE (STC1): PLAN VIEW

SCALE 1:25



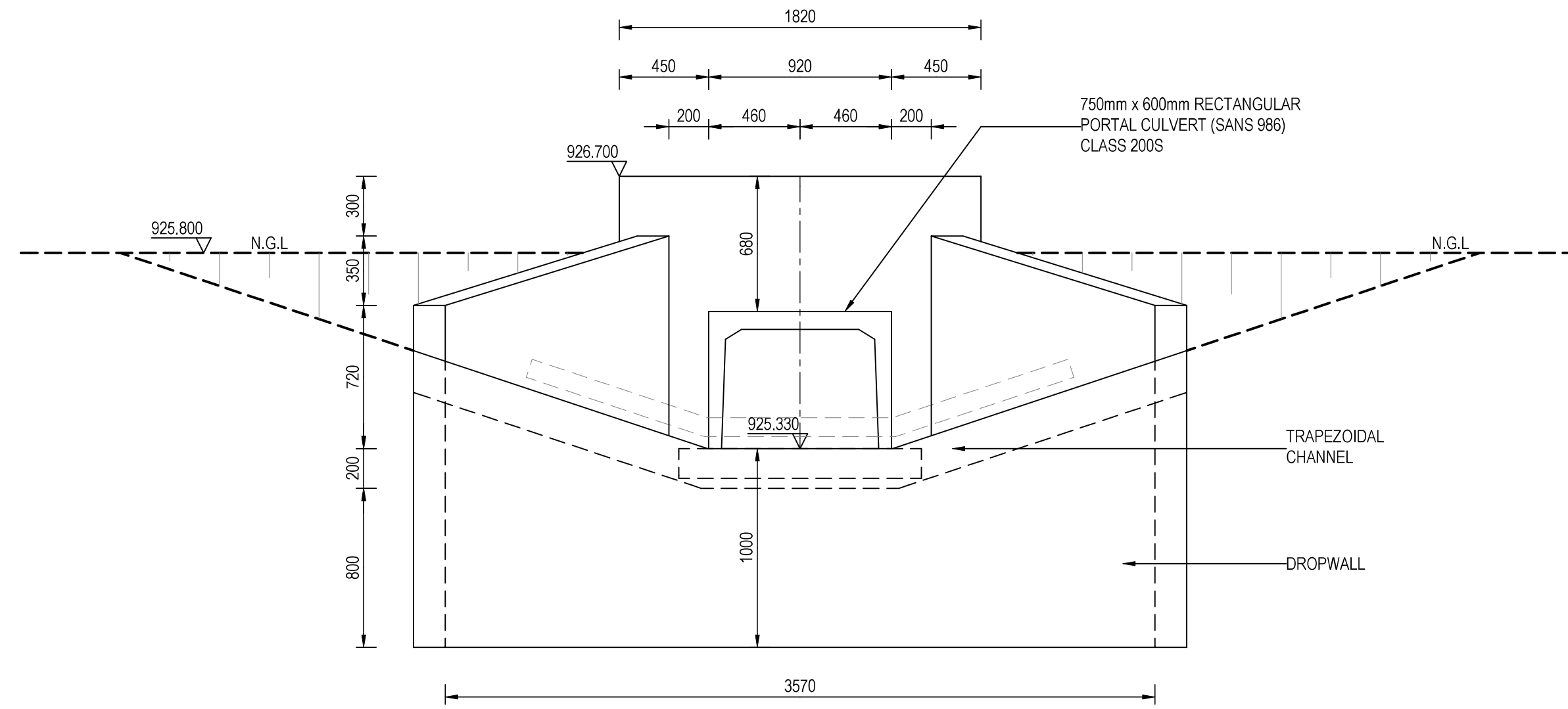
DETAIL A: TRAPEZOIDAL CHANNEL WITH ARMORFLEX 140 EROSION PROTECTION BLOCKS

SCALE 1:25



INLET STRUCTURE (STC1): SECTION A1-A1

SCALE 1:25



INLET STRUCTURE (STC1): SECTION A-A

SCALE 1:25

REFERENCE DRAWINGS

Drawing Name	Drawing No.

REVISIONS

①	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date

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APPROVED

DATE

Project Name:  
  
REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:  
  
CULVERT STRUCTURE (STC)

Drawing Name:  
  
INLET (STC1) STRUCTURE  
PLAN VIEW, SECTIONS  
AND DETAILS

Drawing No.:  

19T0300

C

D

CC

02

01

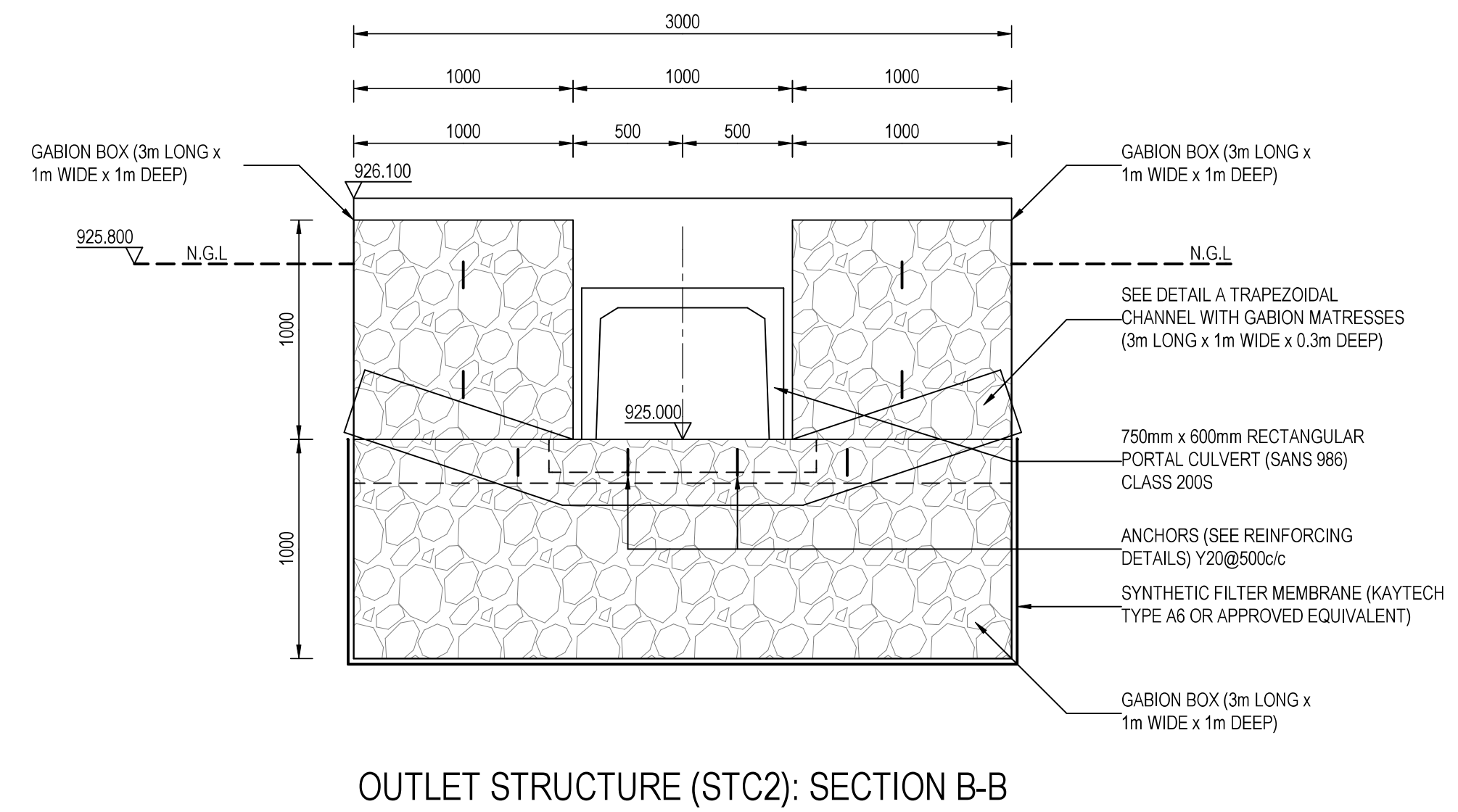
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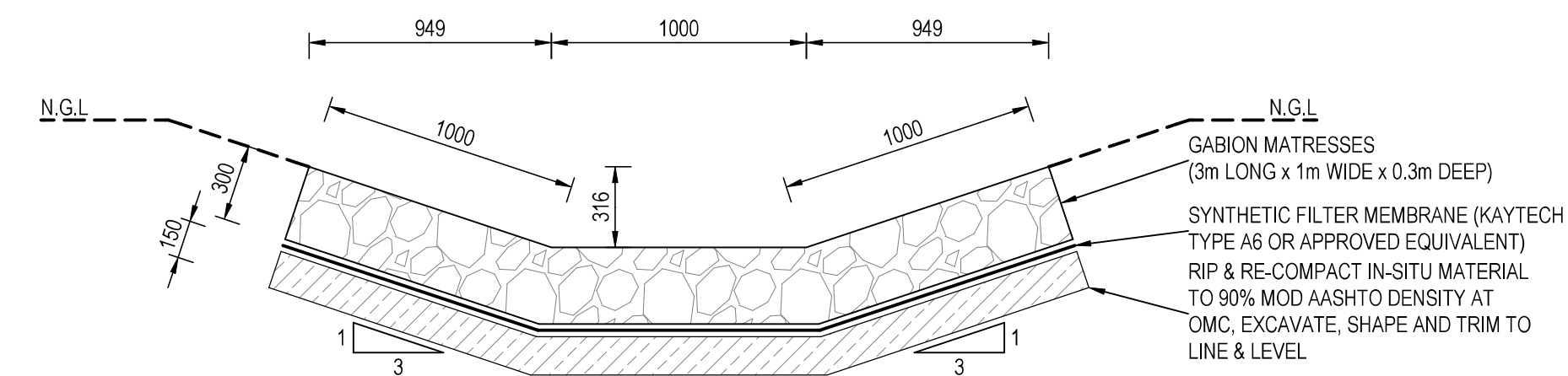
Contract No.:  
  
47/2018

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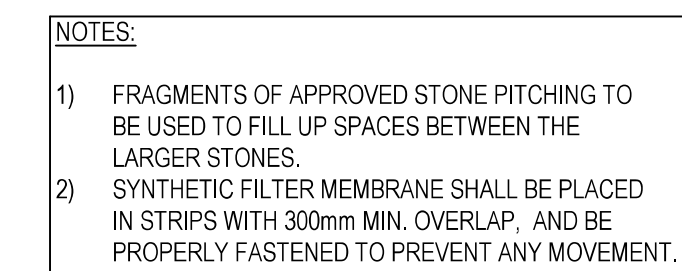




SCALE 1:25





SCALE 1:25



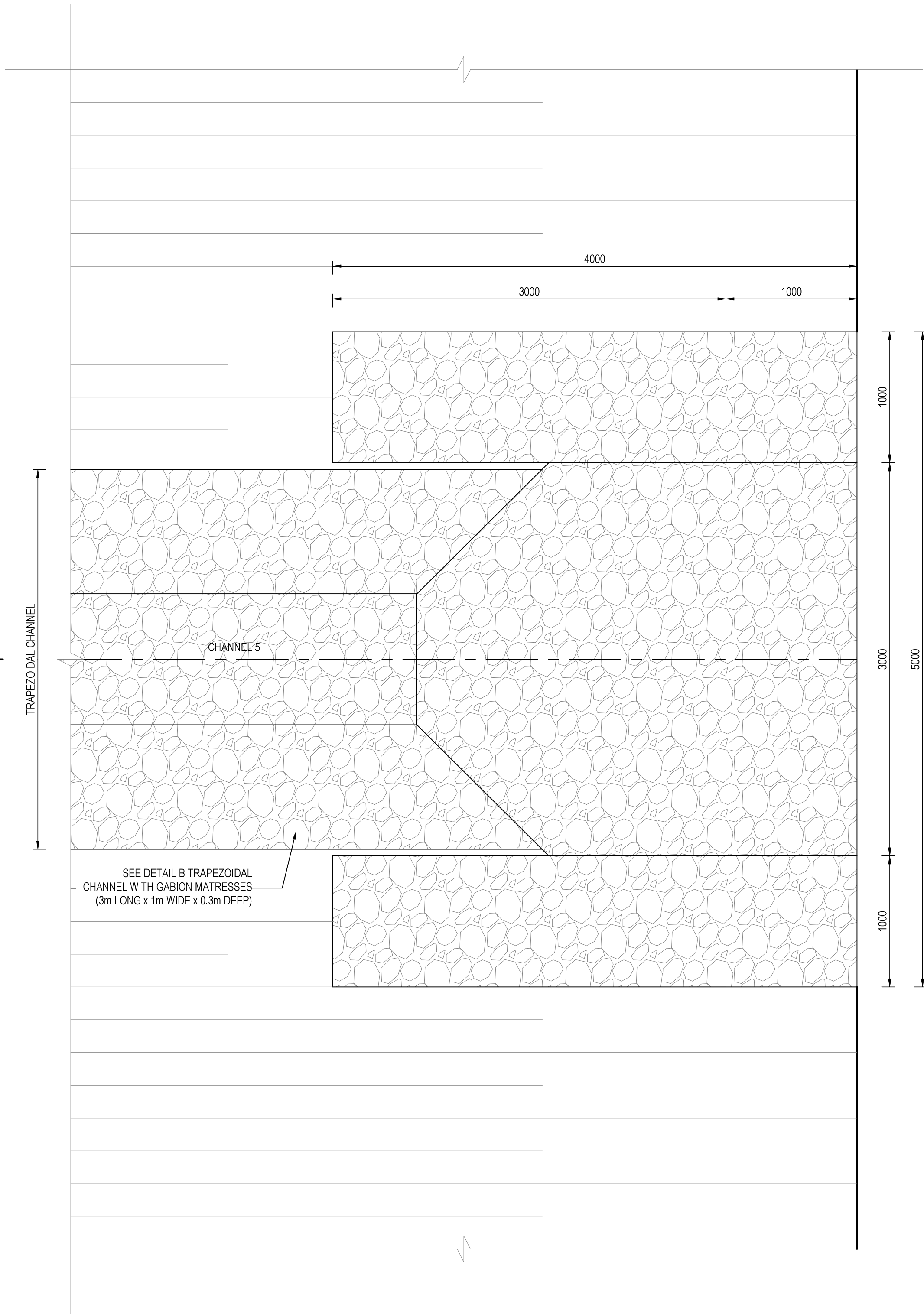
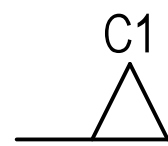
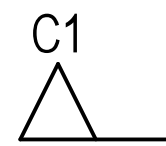
ROCK USED FOR THE FILLING OF CAGES		
DEPTH OF CAGES	ROCK SIZE (DIMENSIONS)	
	MIN. (mm)	MAKS. (mm)
230	100	125
300	100	200
500	100	250
1000	100	300

MESH SIZE AND WIRE DIAMETER FOR CAGES		
DEPTH OF GABION	MESH SIZE (mm)	WIRE DIA. (mm)
500mm AND OVER	80 x 100	2,7
200mm TO 300mm	80 x 100	2,5

SCALE 1:25

REFERENCE DRAWINGS			
Drawing Name		Drawing No.	
REVISIONS			
(T)	ISSUED FOR TENDER PURPOSES		APR 2022
Rev. No.	Description		Date
<div><div></div><div><div>MAKHADO LOCAL MUNICIPALITY</div><div>PRIVATE BAG X2596 MAKHADO 0920</div><div>Tel : (015) 519 3000 Cell : (082) 922 8547 Email: livhuwani@makhado.gov.za3</div></div></div>			
APPROVED		DATE	
<div><div></div><div><div>INFRABURO</div><div>civil and structural consulting engineers</div></div></div>			
TSHWANE: Tel: (012) 664-6490 Fax: (012) 664-7709		THOHOYANDOU: Tel: (015) 963-3773 Fax: (015) 963-3775	
POLOKWANE: Tel: (015) 291-2491 Fax: (015) 295-7753		VRYBURG: Tel: (053) 927-1373 Fax: (053) 927-0716	
APPROVED		DATE	
Project Name:			
REHABILITATION & CLOSING OF VONDELING LANDFILL SITE			
Project Component:			
CULVERT STRUCTURE (STC)			
Drawing Name:			
OUTLET (STC2) STRUCTURE PLAN VIEW, SECTIONS AND DETAILS			
Drawing No.:			
19T0300		C	D
		CC	02
		02	
Revisions			
	(T)		
Scale:	Designed	W.S.S	APR 2022
1:25	Drawn	I.S.S	APR 2022
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			APR 2022
Contract No.:			
47/2018			
ISSUED FOR TENDER PURPOSES			





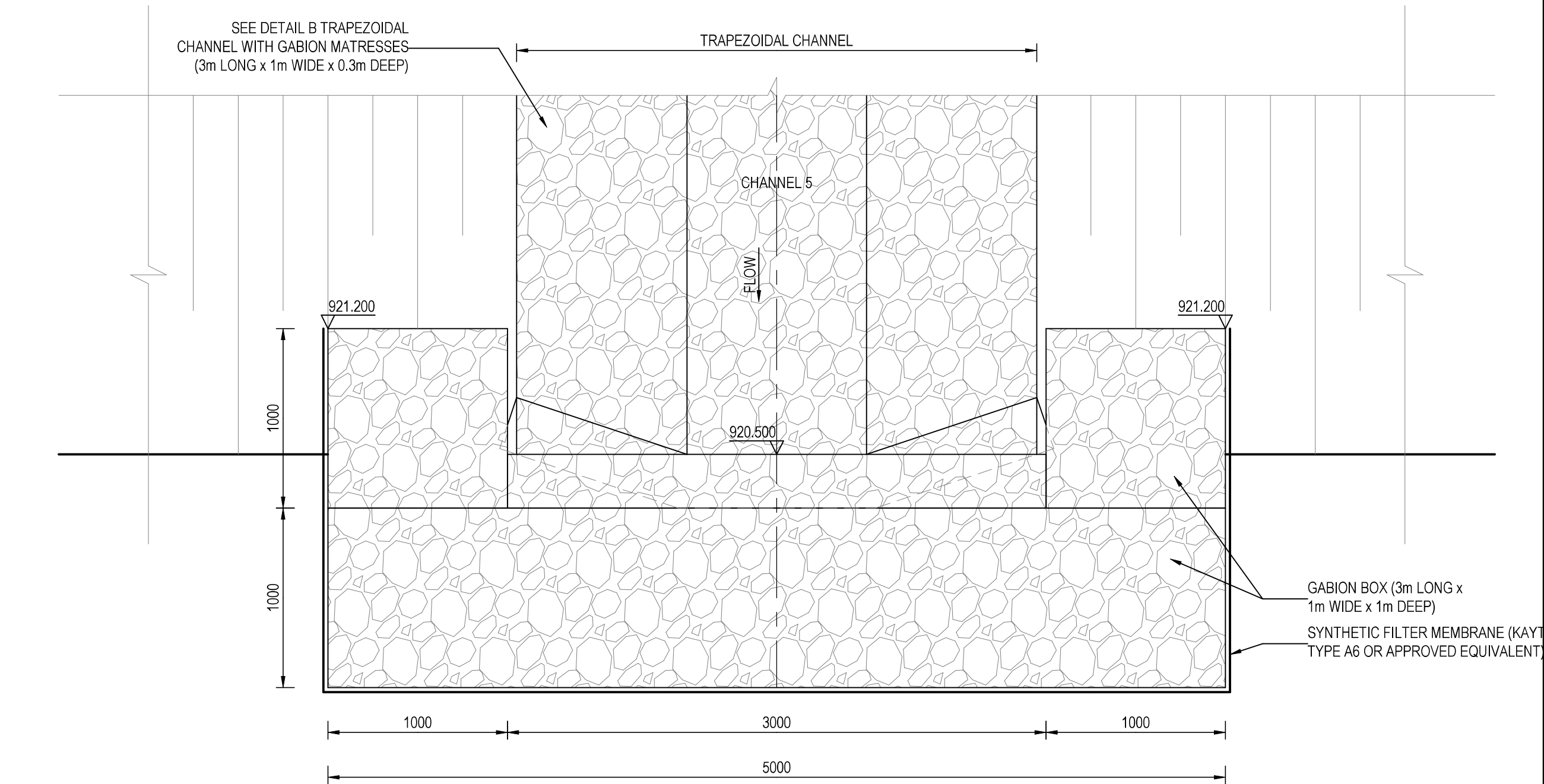
OUTLET STRUCTURE (STC3): PLAN VIEW

SCALE 1:25

- NOTES:
- FRAGMENTS OF APPROVED STONE PITCHING TO BE USED TO FILL UP SPACES BETWEEN THE LARGER STONES.
  - SYNTHETIC FILTER MEMBRANE SHALL BE PLACED IN STRIPS WITH 300mm MIN. OVERLAP, AND BE PROPERLY FASTENED TO PREVENT ANY MOVEMENT.

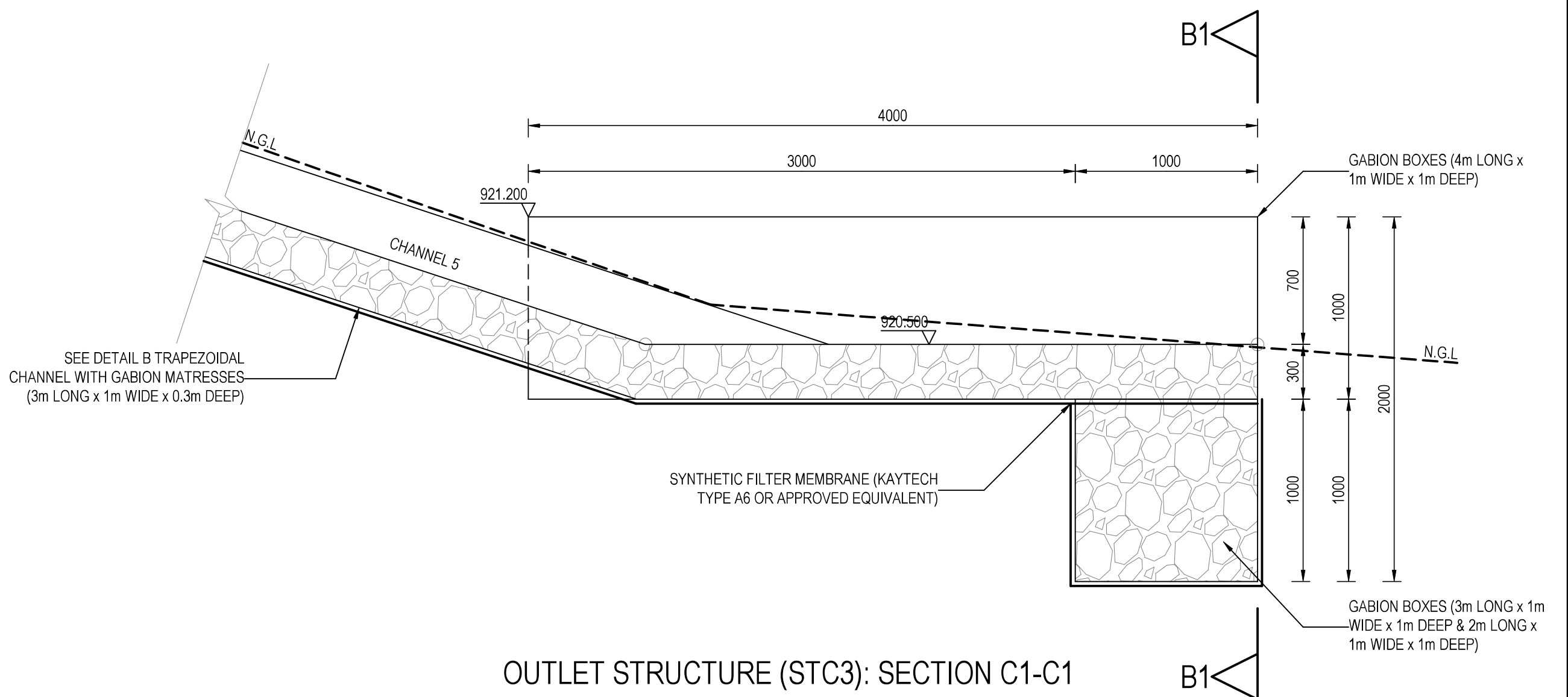
DEPTH OF CAGES	ROCK SIZE (DIMENSIONS)	
	MIN. (mm)	MAKS. (mm)
230	100	125
300	100	200
500	100	250
1000	100	300

MESH SIZE AND WIRE DIAMETER FOR CAGES		
DEPTH OF GABION	MESH SIZE (mm)	WIRE DIA. (mm)
500mm AND OVER	80 x 100	2.7
200mm TO 300mm	80 x 100	2.5



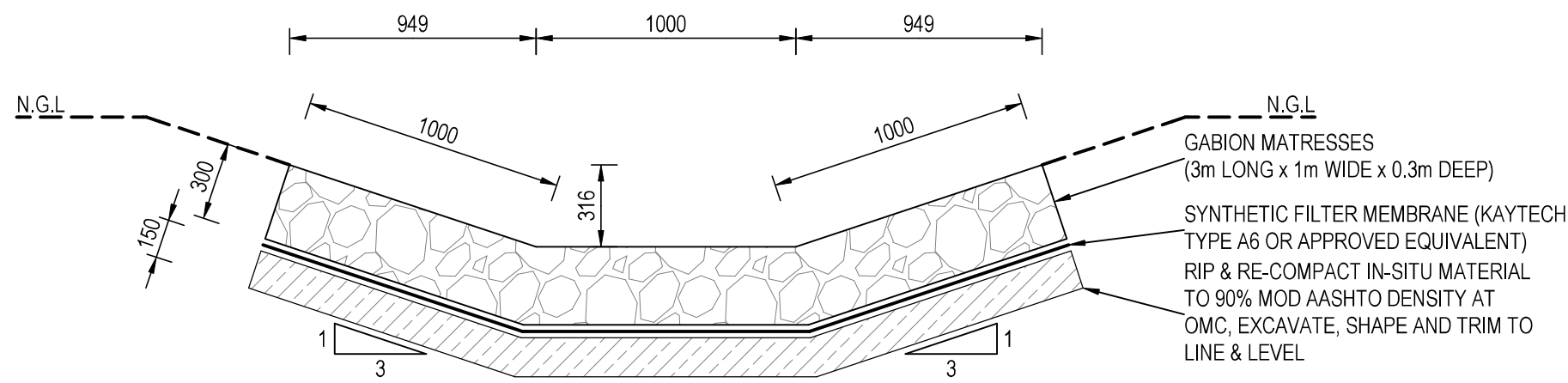
OUTLET STRUCTURE (STC3): SECTION C-C

SCALE 1:25



OUTLET STRUCTURE (STC3): SECTION C1-C1

SCALE 1:25



DETAIL B: TRAPEZOIDAL CHANNEL WITH GABION MATTRESSES

SCALE 1:25

REFERENCE DRAWINGS

Drawing Name Drawing No.

REVISIONS

Rev. No.	Description	Date
1	ISSUED FOR TENDER PURPOSES	APR 2022



MAKHADO LOCAL MUNICIPALITY

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Fax: (053) 927-0716

APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

CULVERT STRUCTURE (STC)

Drawing Name:

OUTLET (STC3) STRUCTURE  
PLAN VIEW, SECTIONS AND  
DETAILS

Drawing No.:

19T0300 C D CC 02 03

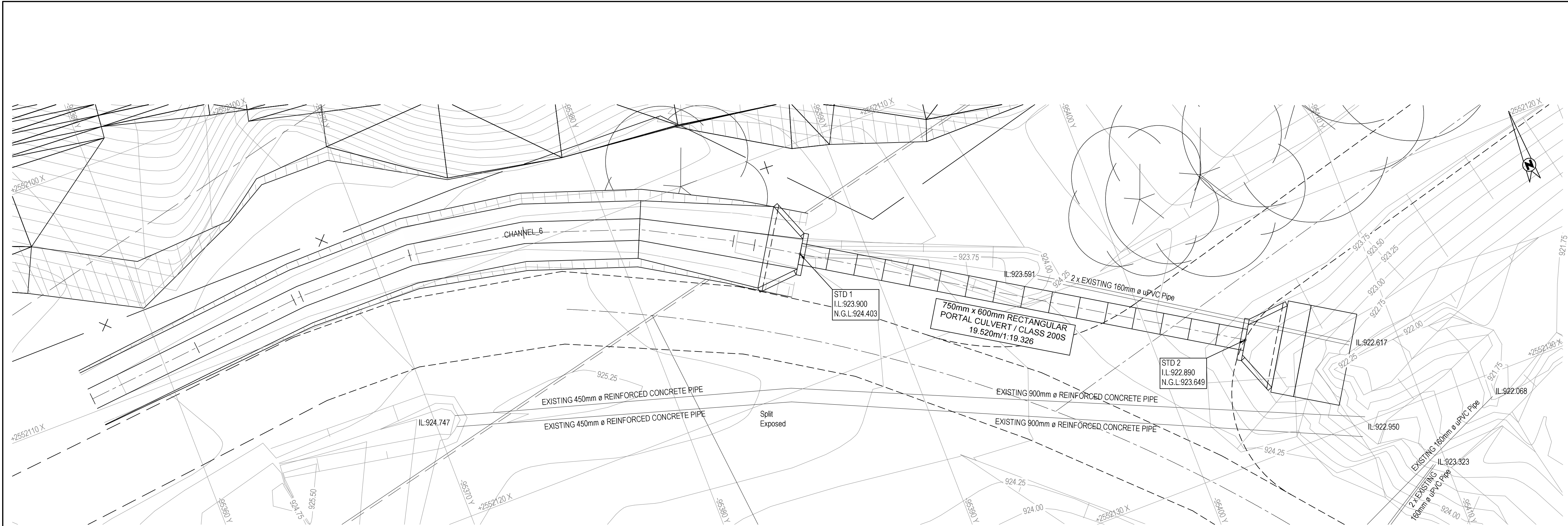
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Contract No.:

47/2018

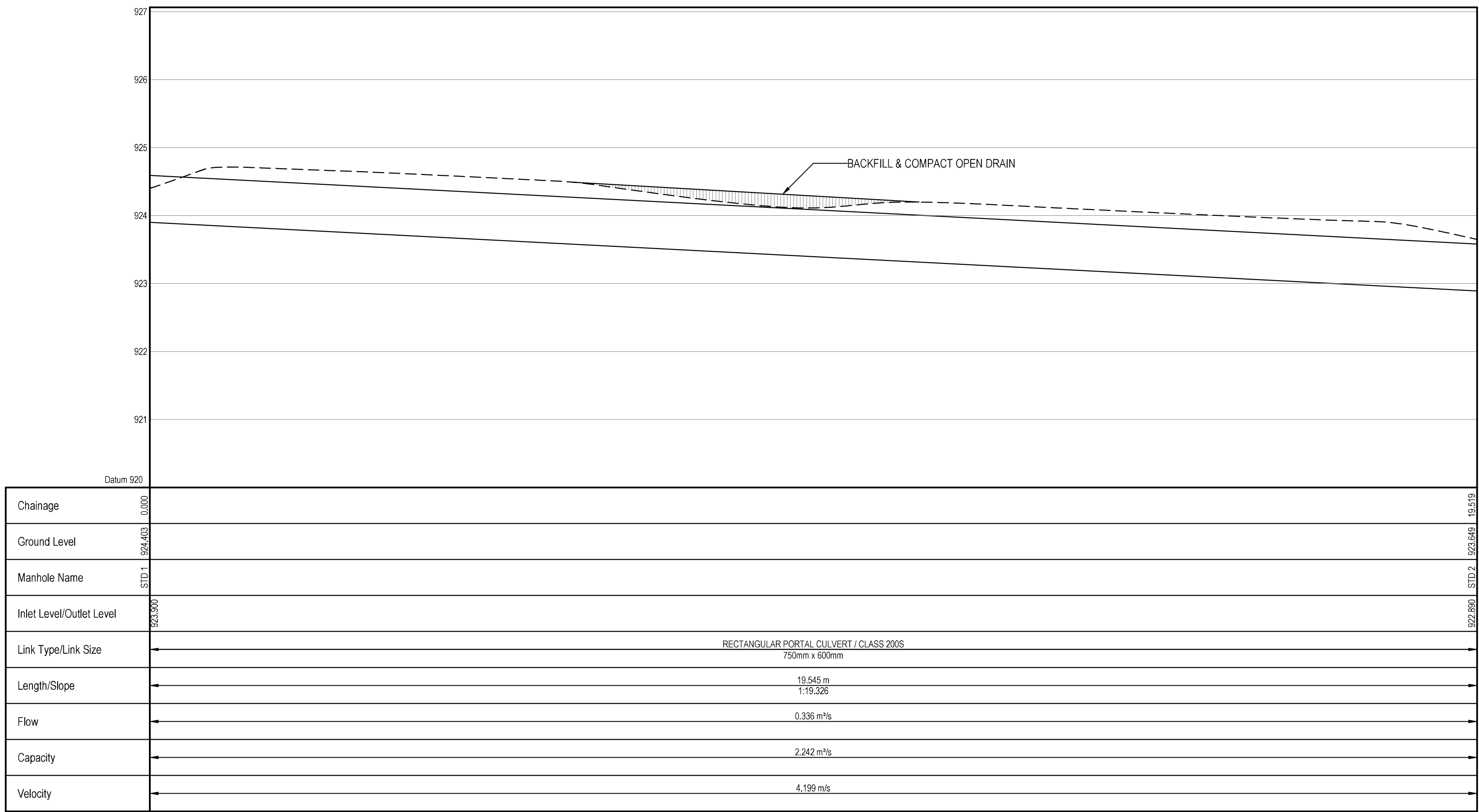
ISSUED FOR TENDER PURPOSES





LAYOUT PLAN OF CULVERT (STA)

SCALE 1:100



LONGITUDINAL SECTION (STD1 TO STD2)

SCALE 1:50

REFERENCE DRAWINGS

Drawing Name Drawing No.

REVISIONS

Rev. No.	Description	Date
①	ISSUED FOR TENDER PURPOSES	APR 2022



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APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

CULVERT STRUCTURE (STD)

Drawing Name:

LAYOUT PLAN &  
LONGITUDINAL SECTION

Drawing No.:

19T0300 C D CD 01 01

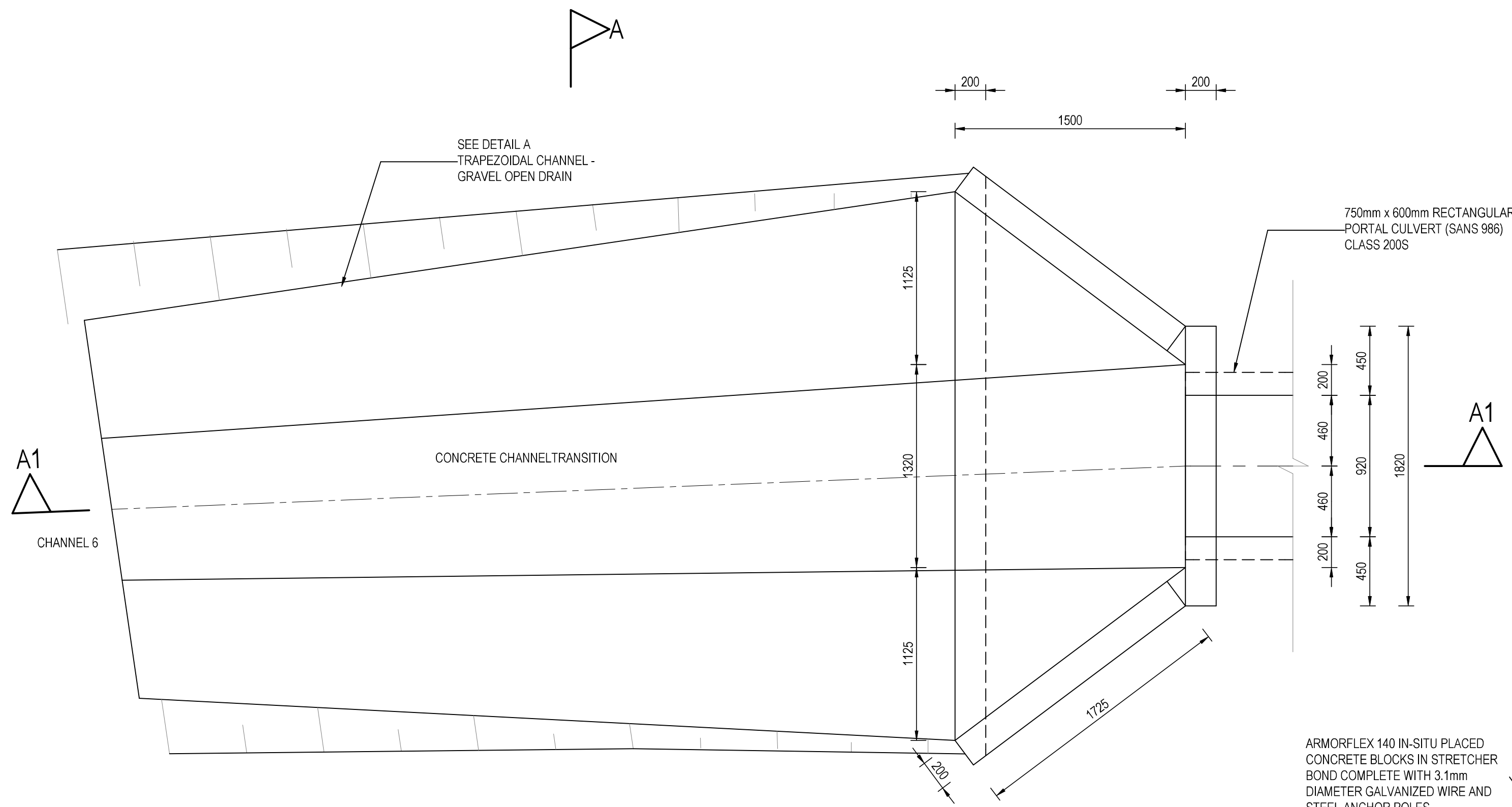
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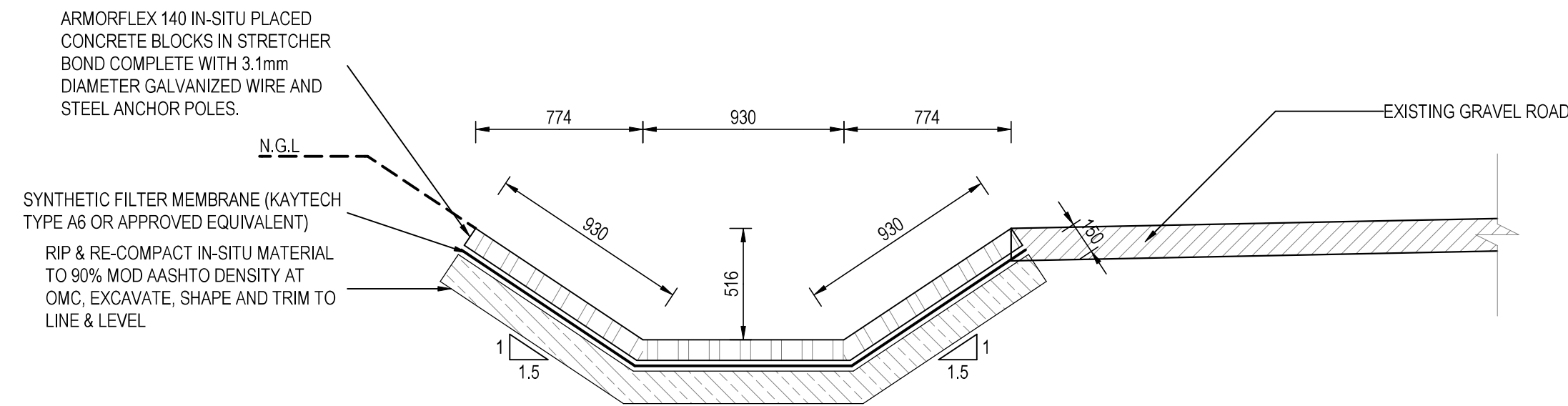
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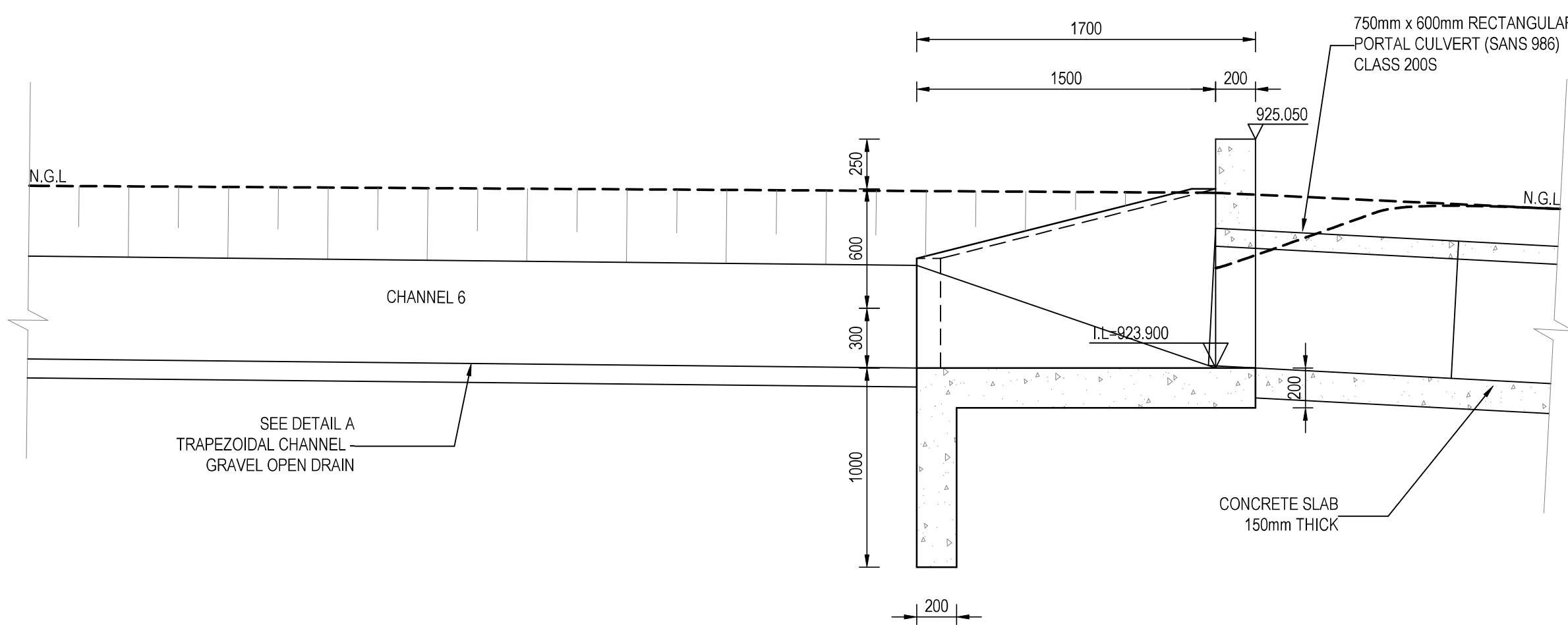
ISSUED FOR TENDER PURPOSES



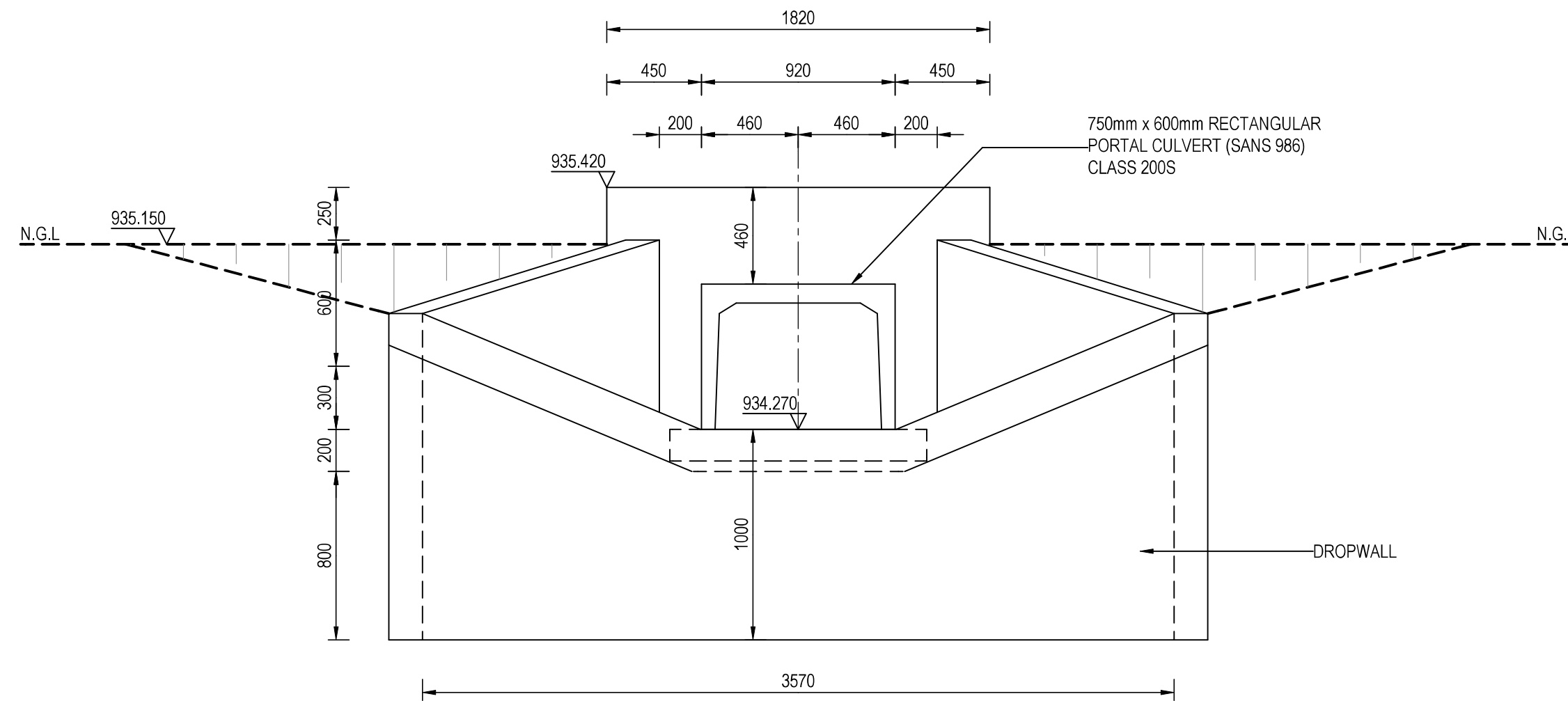
INLET STRUCTURE (STA1): PLAN VIEW  
SCALE 1:25



DETAIL A: TRAPEZOIDAL CHANNEL WITH ARMORFLEX  
140 EROSION PROTECTION BLOCKS  
SCALE 1:25



INLET STRUCTURE (STA1): SECTION A1-A1  
SCALE 1:25



INLET STRUCTURE (STA1): SECTION A-A  
SCALE 1:25

REFERENCE DRAWINGS	
Drawing Name	Drawing No.

REVISIONS		
①	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date




**MAKHADO LOCAL MUNICIPALITY**

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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_



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Fax: (053) 927-0716

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

Project Name:  
**REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE**

Project Component:  
**CULVERT STRUCTURE (STD)**

Drawing Name:  
**INLET (STD1) STRUCTURE  
PLAN VIEW, SECTIONS AND DETAILS**

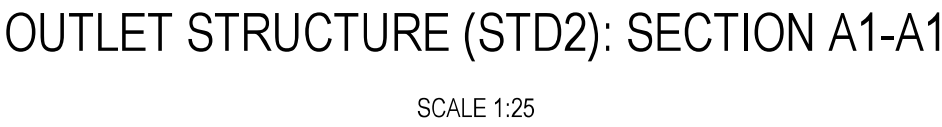
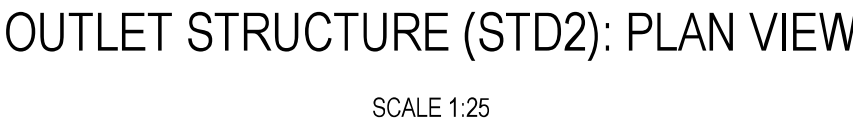
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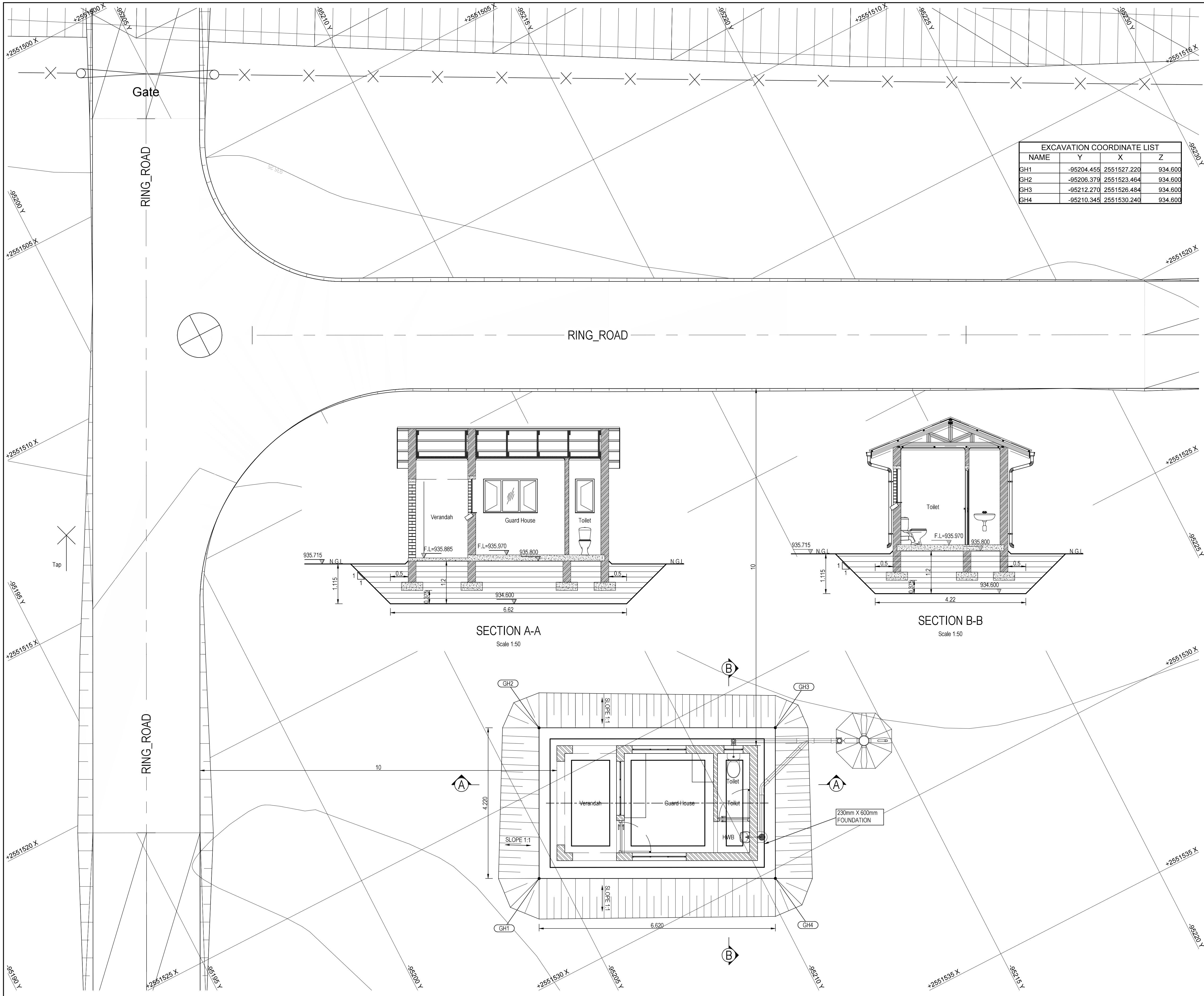
Contract No.:  
**47/2018**

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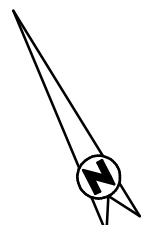




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GH2	-95206.379	2551523.464	934.600
GH3	-95212.270	2551526.484	934.600
GH4	-95210.345	2551530.240	934.600




REFERENCE DRAWINGS

Drawing Name	Drawing No.

REVISIONS

①	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date

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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

Project Name:  
**REHABILITATION & CLOSING OF VONDELING LANDFILL SITE**

Project Component:  
**GUARDHOUSE**

Drawing Name:  
**GENERAL SITE LAYOUT PLAN AND SETTING OUT DETAILS**

Drawing No.:  
**19T0300 C D GH 01 01**

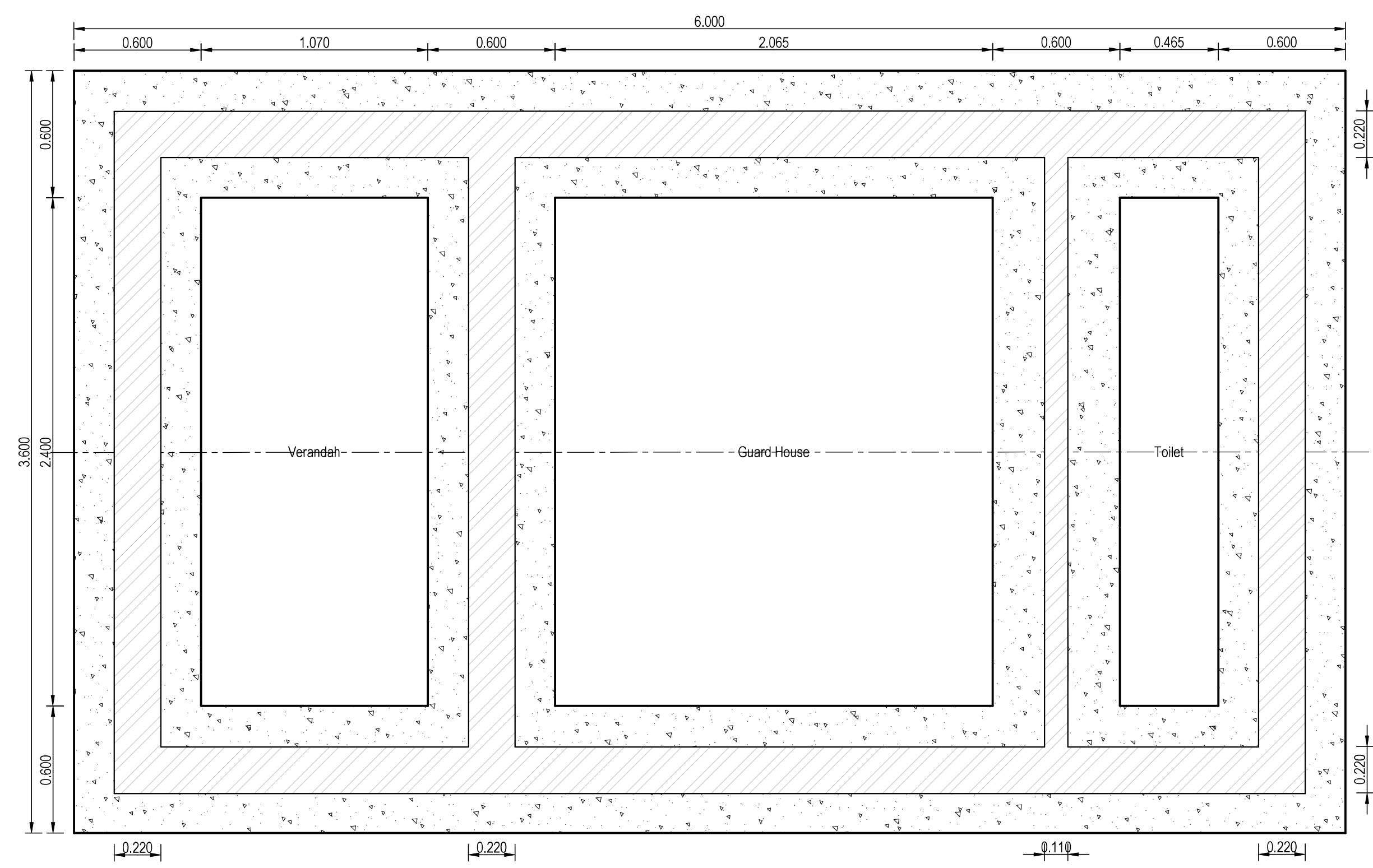
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Original Size: A1	Checked	R.J.D	APR 2022

Contract No.:  
**47/2018**

**ISSUED FOR TENDER PURPOSES**





FOUNDATION  
Scale 1:20

- LEGEND:
- FOUNDATION WALLS
  - STRIP FOUNDATION 600mm x 230mm

REFERENCE DRAWINGS	
Drawing Name	Drawing No.

REVISIONS		
①	ISSUED FOR TENDER PURPOSES	APR 2022
Rev. No.	Description	Date




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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_



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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

GUARDHOUSE

Drawing Name:

FOUNDATION LAYOUT & DETAILS

Drawing No.:

19T0300 S D GH 01 02

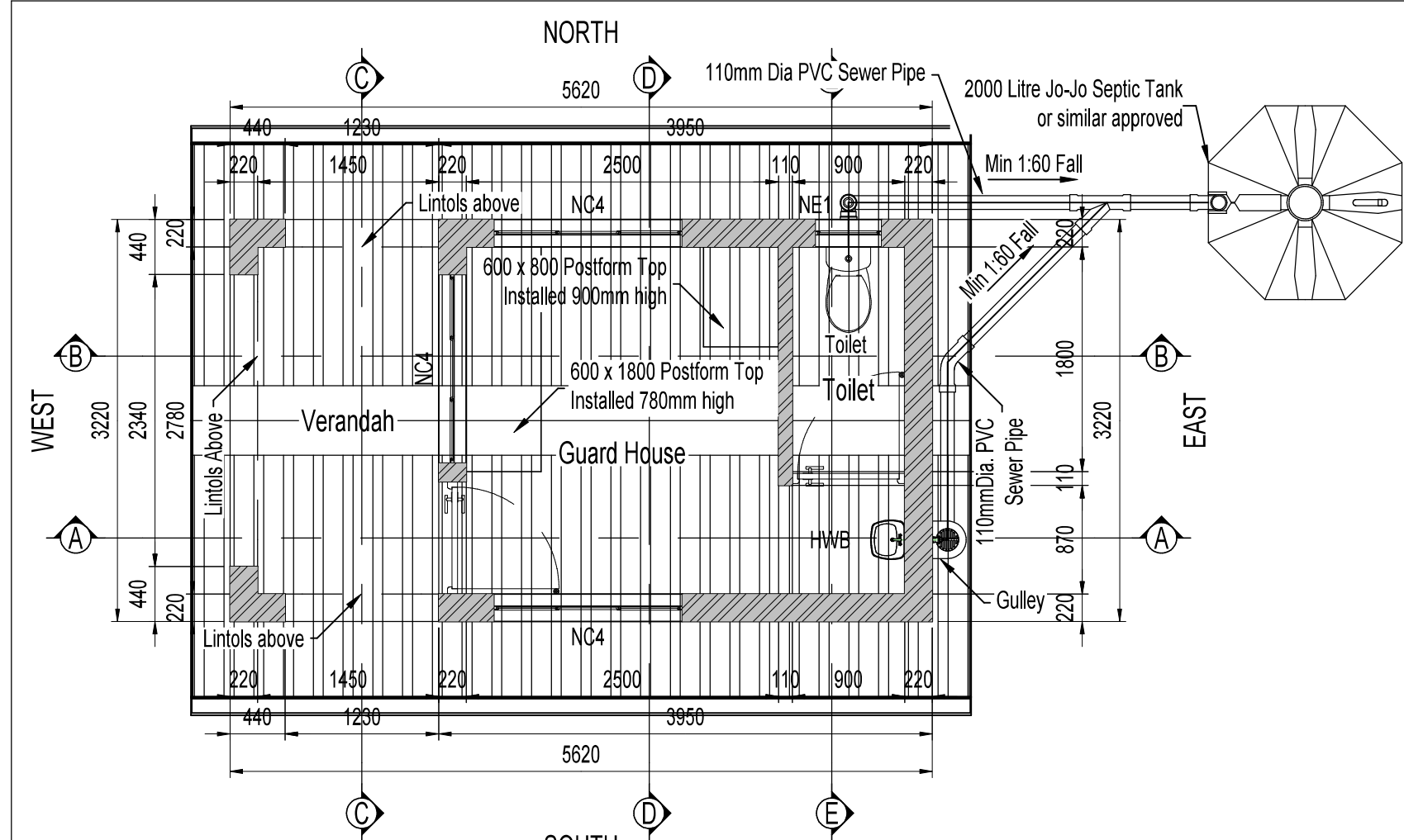
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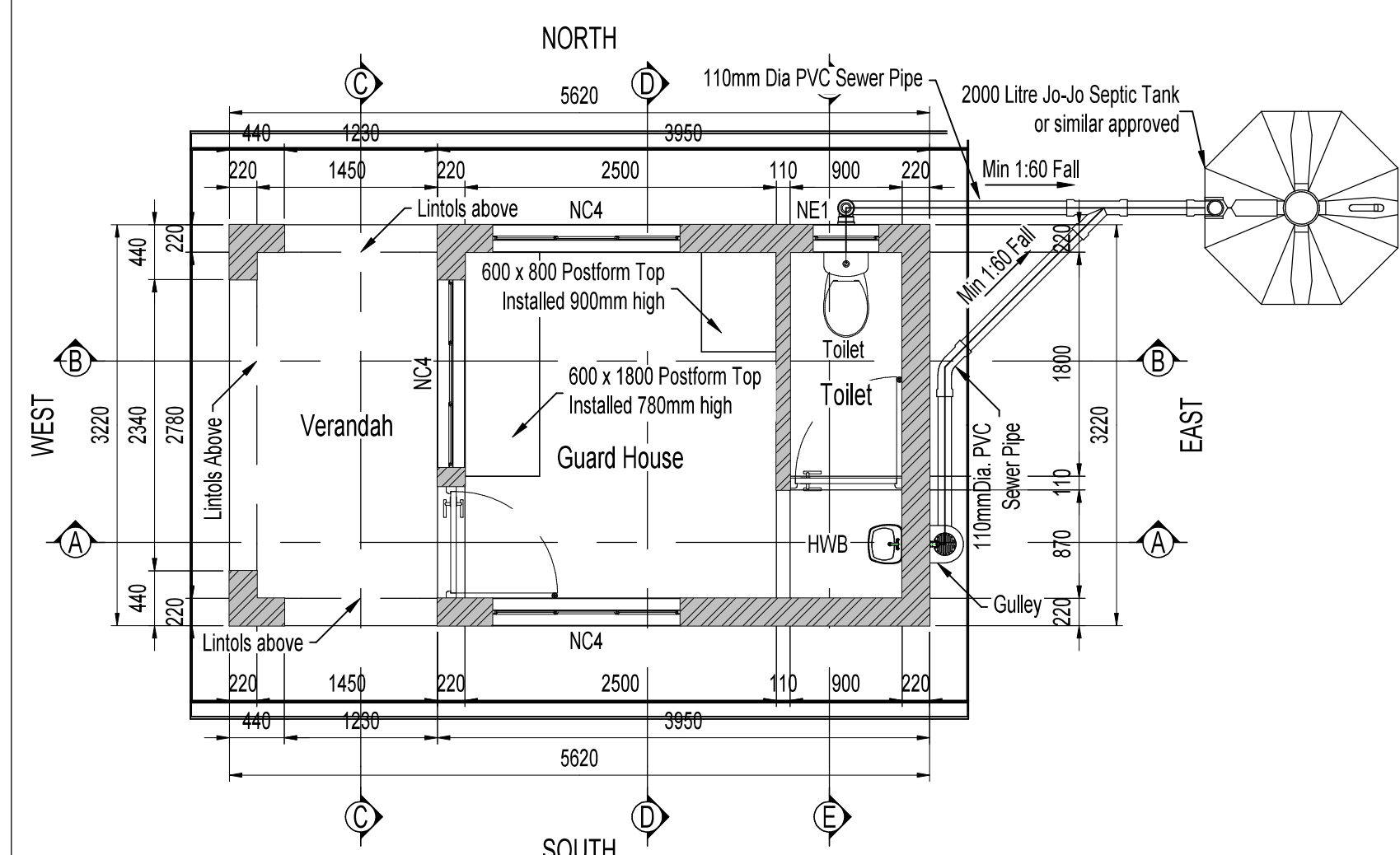
Contract No.:

47/2018

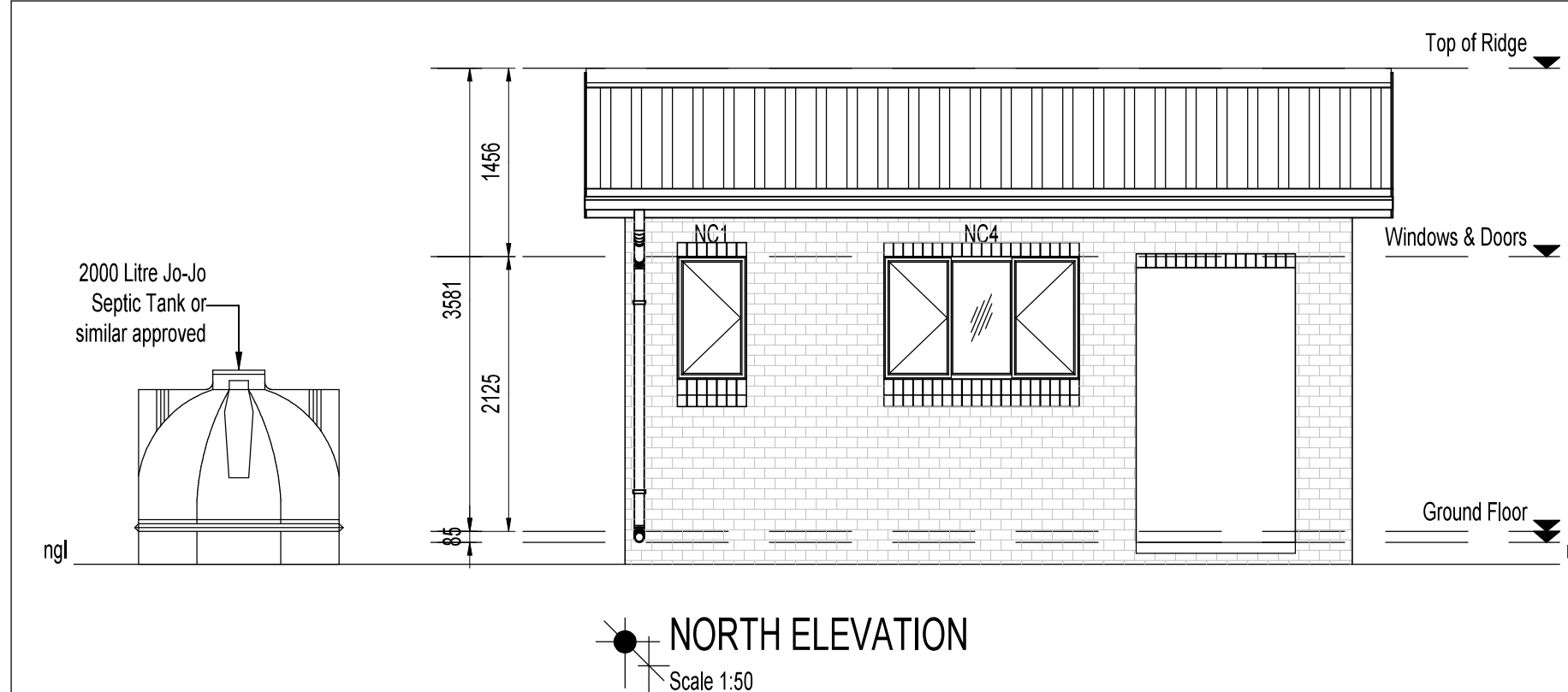
ISSUED FOR TENDER PURPOSES



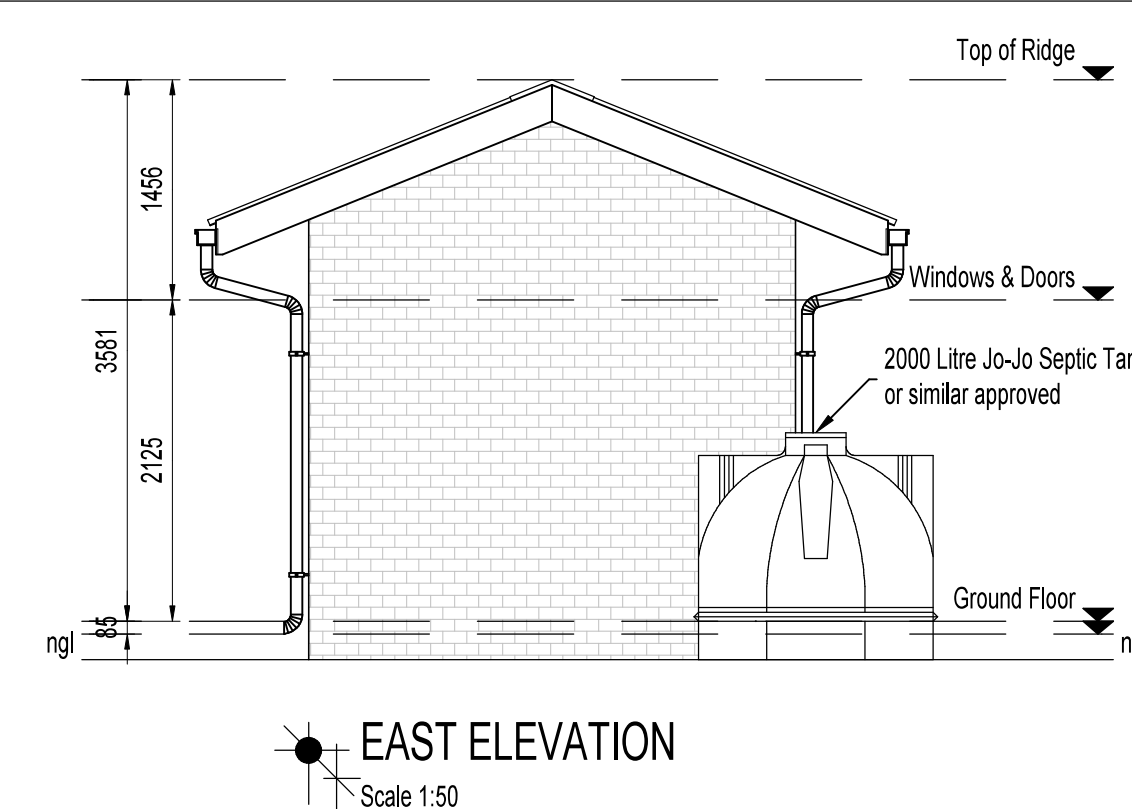
ROOF PLAN  
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Scale 1:50



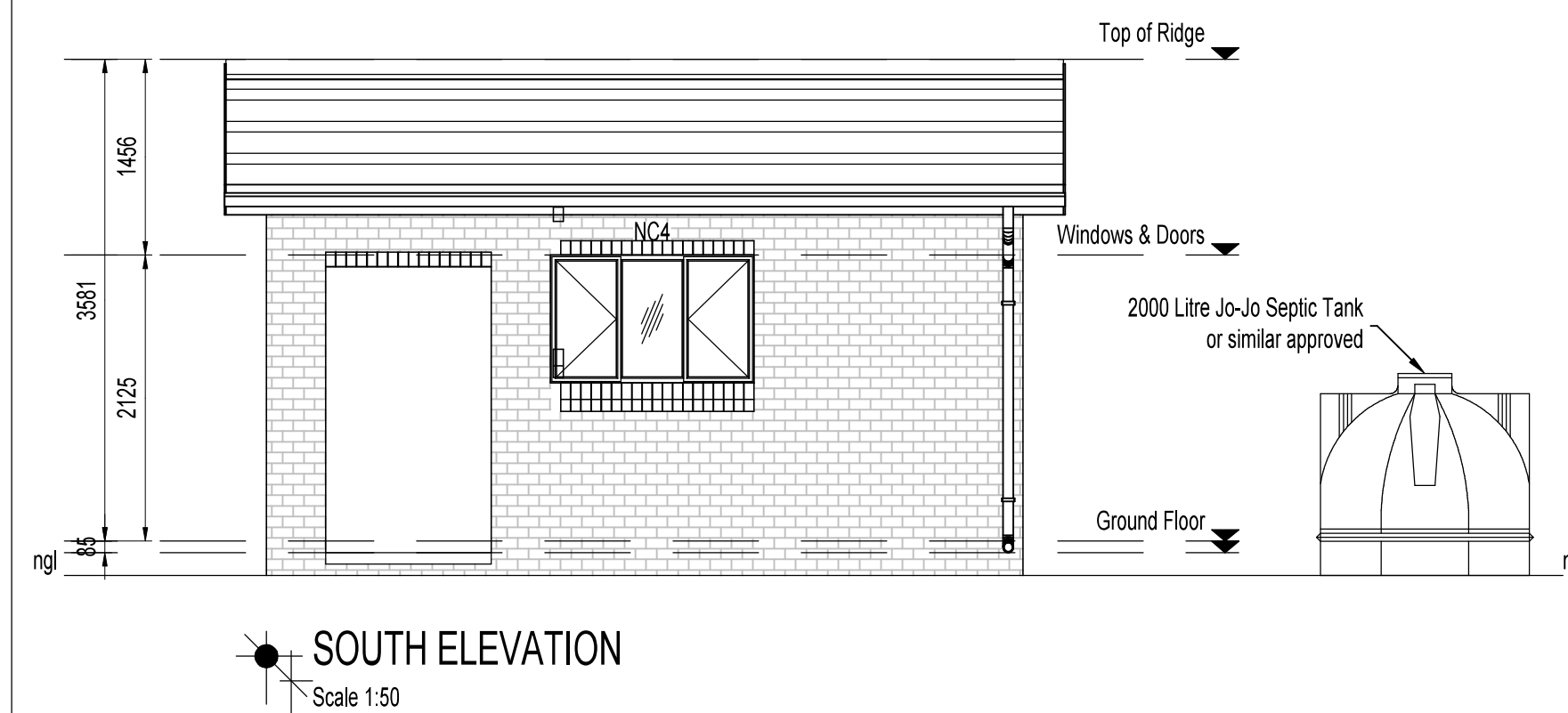
GROUND FLOOR PLAN  
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Scale 1:50



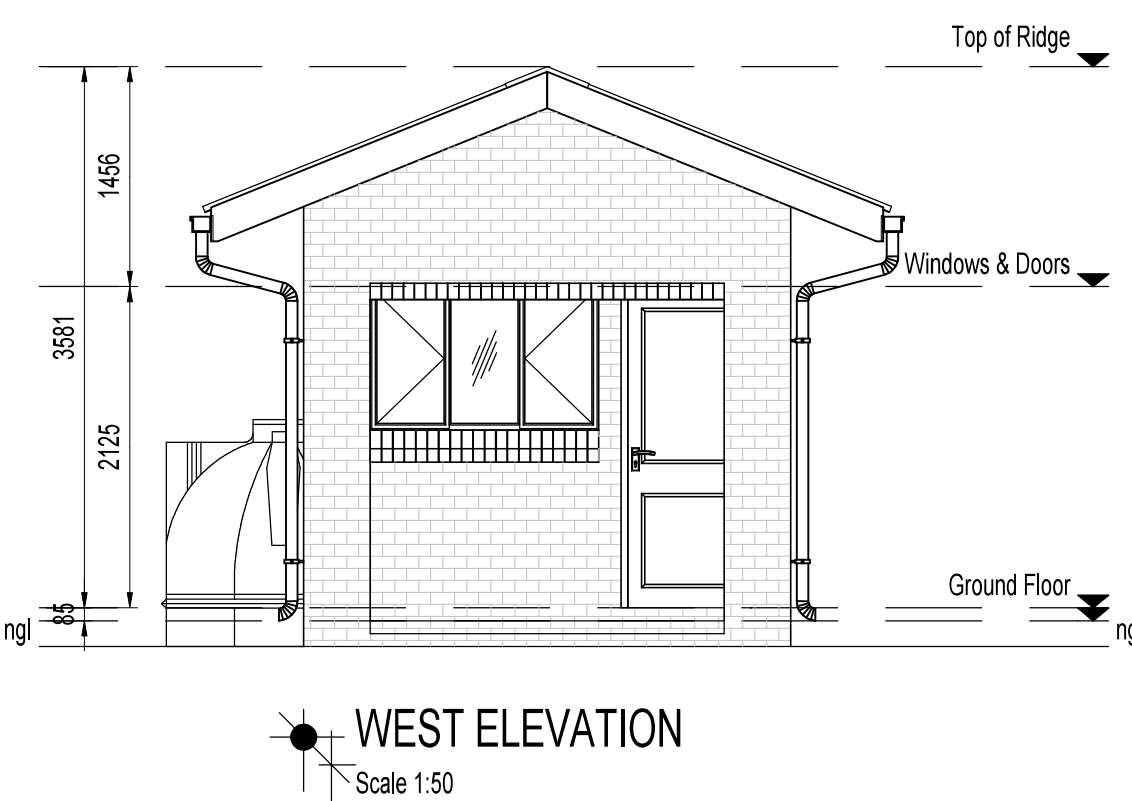
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Scale 1:50



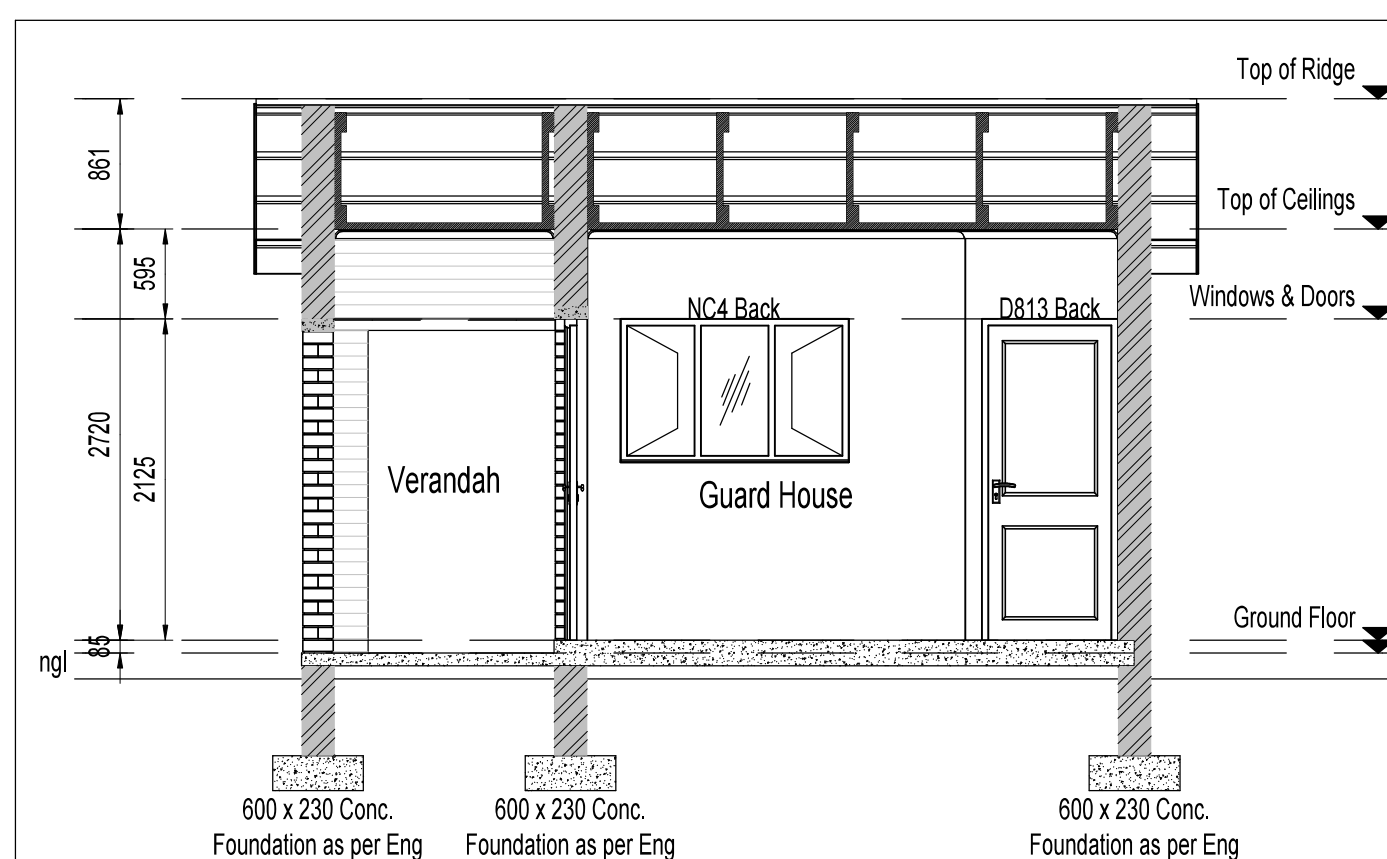
EAST ELEVATION  
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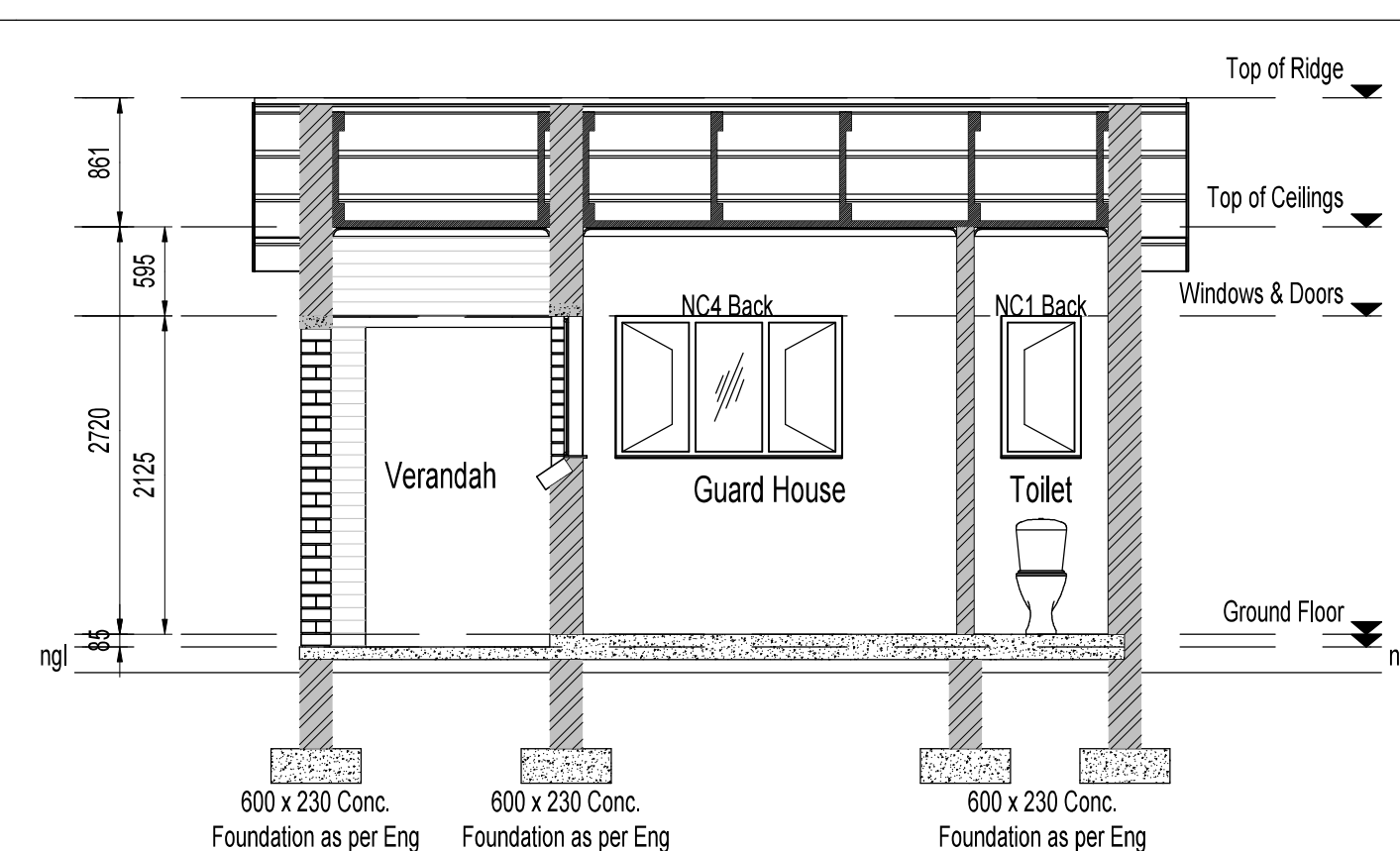
SOUTH ELEVATION  
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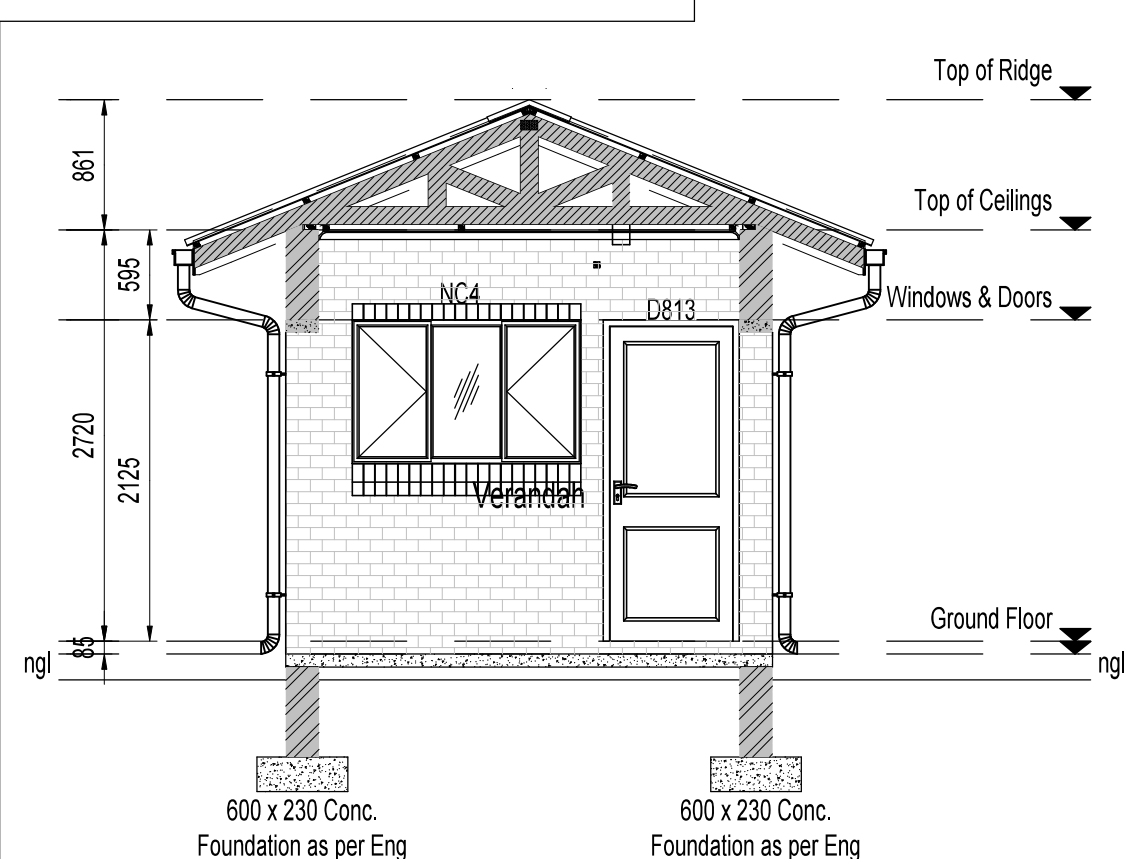
WEST ELEVATION  
Scale 1:50



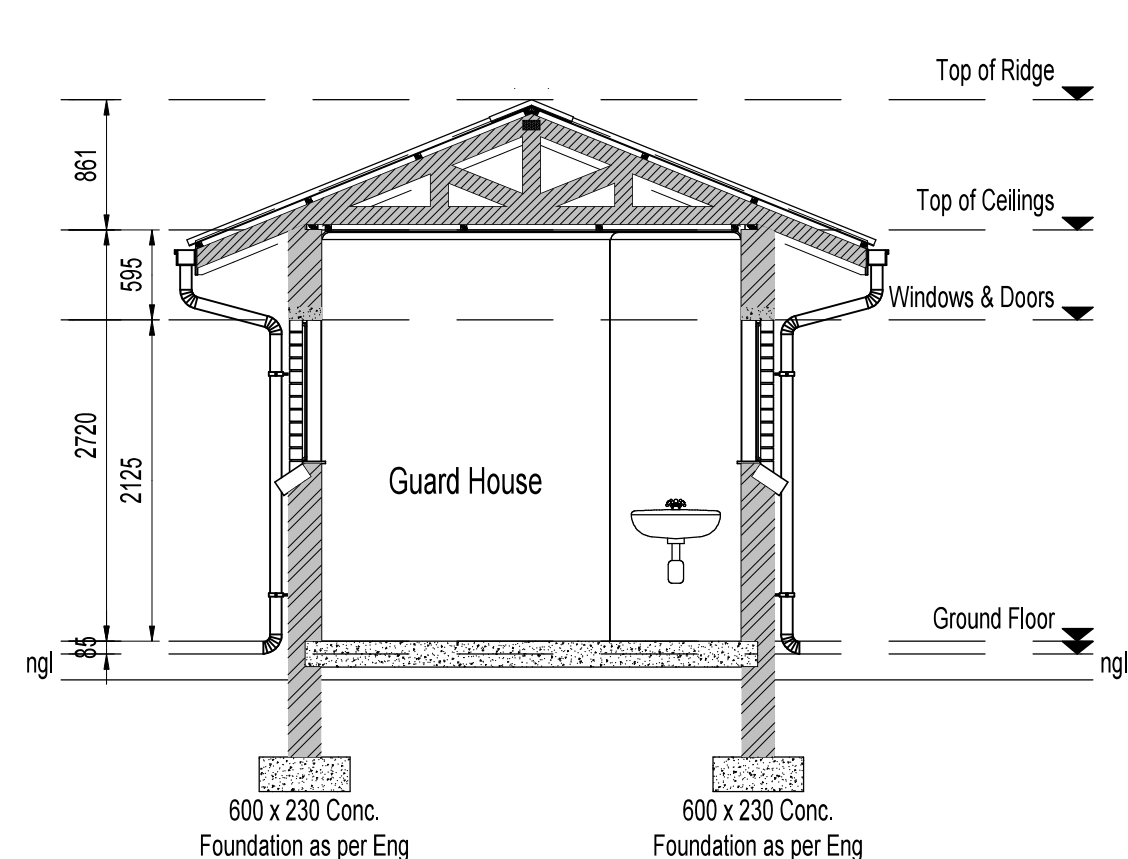
SECTION A-A  
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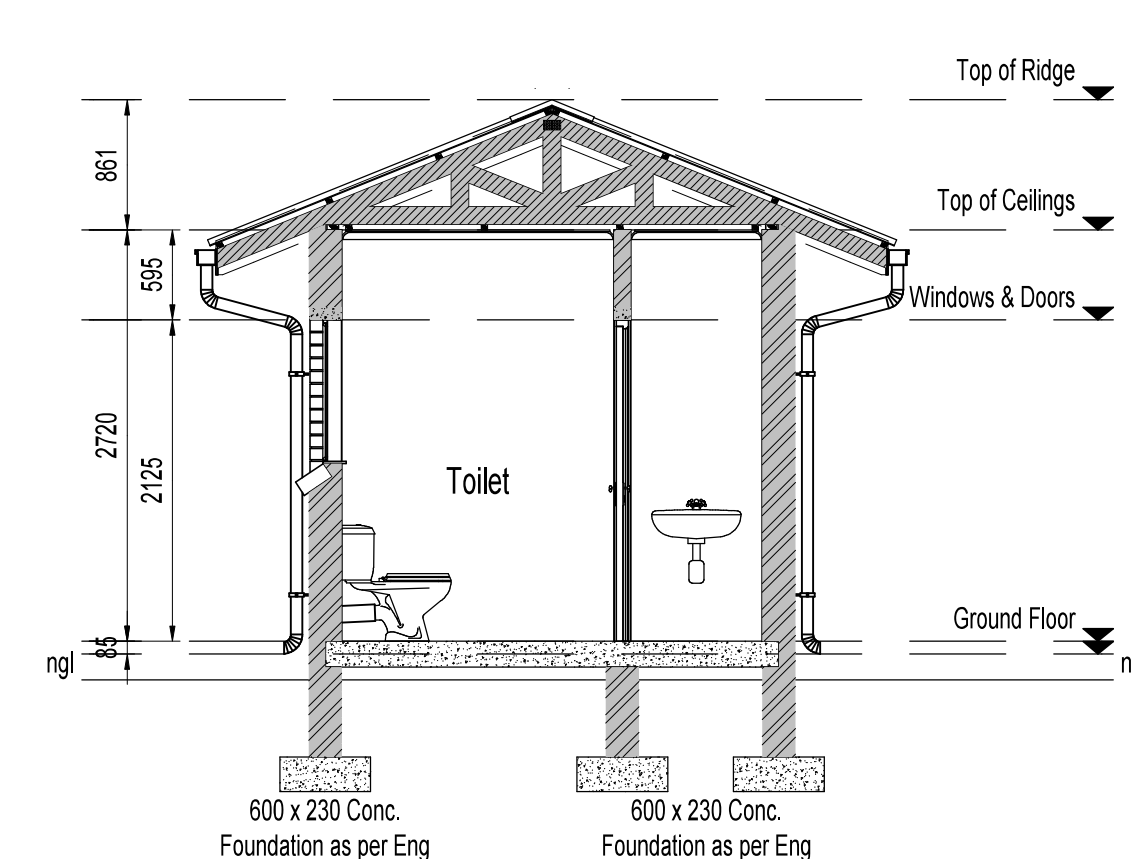
SECTION B-B  
Scale 1:50



SECTION C-C  
Scale 1:50



SECTION D-D  
Scale 1:50



SECTION E-E  
Scale 1:50

#### REFERENCE DRAWINGS

Drawing Name Drawing No.

#### REVISIONS

Rev. No.	Description	Date
1	ISSUED FOR TENDER PURPOSES	APR 2022



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APPROVED

DATE

Project Name:

#### REHABILITATION & CLOSING OF VONDELING LANDFILL SITE

Project Component:

#### GUARDHOUSE

Drawing Name:

#### FLOOR PLAN, ROOF PLAN, SECTIONS & ELEVATIONS

Drawing No.:

19T0300 A D GH 02 01

Revisions

Scale:	Designed	W.S.S	APR 2022
1:50	Drawn	I.S.S	APR 2022
Original Size:	A 1	Checked	R.J.D

Contract No.:

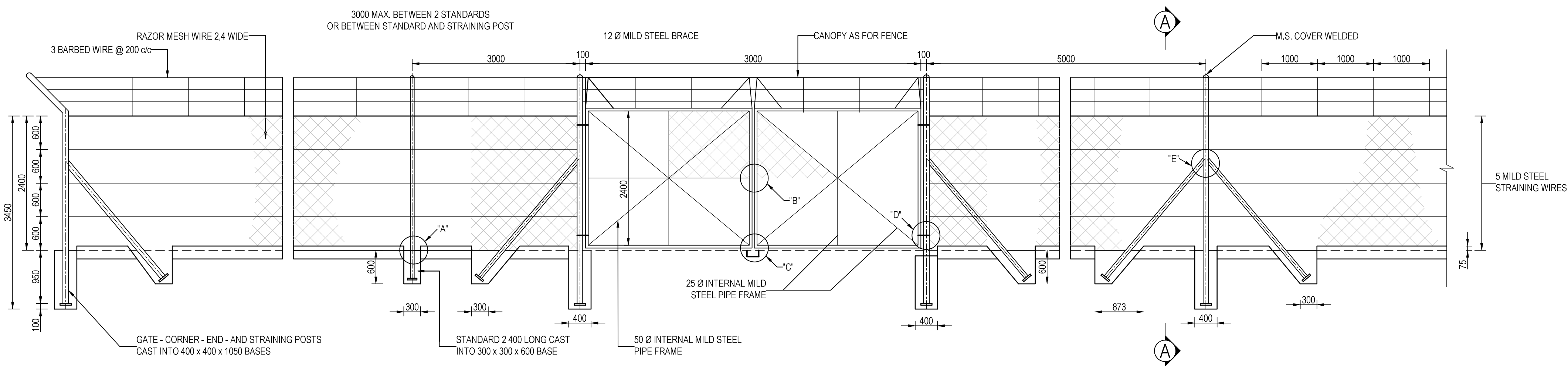
47/2018

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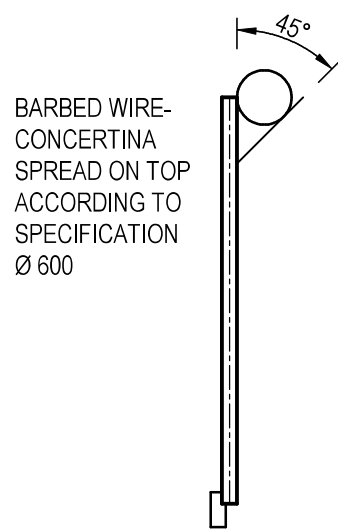






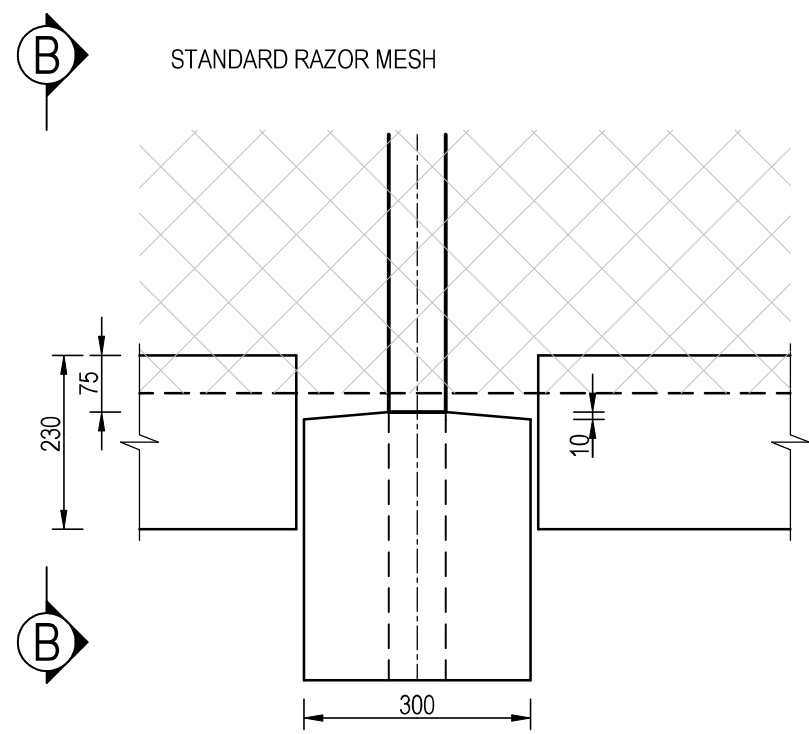
ELEVATION : TYPE A & B GATE, STANDARD & STRAINING POSTS

SCALE : 1:50



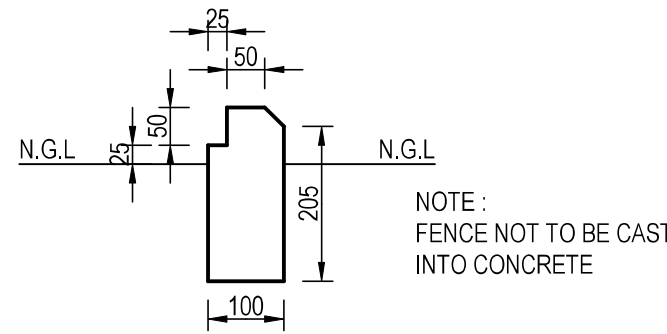
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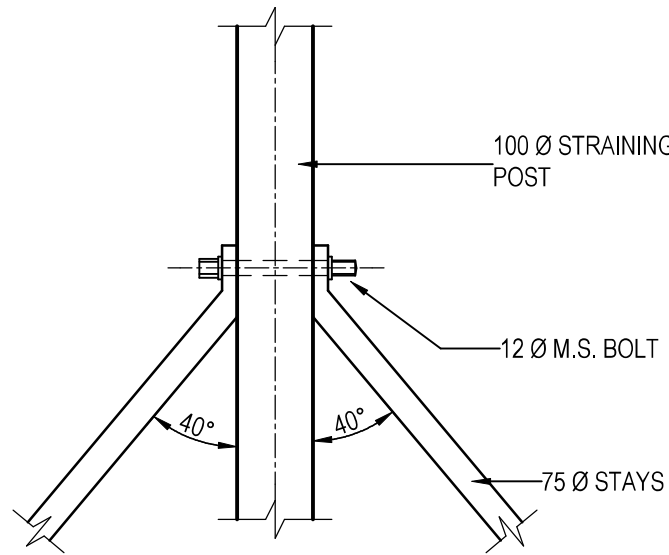
DETAIL A

SCALE : 1:10



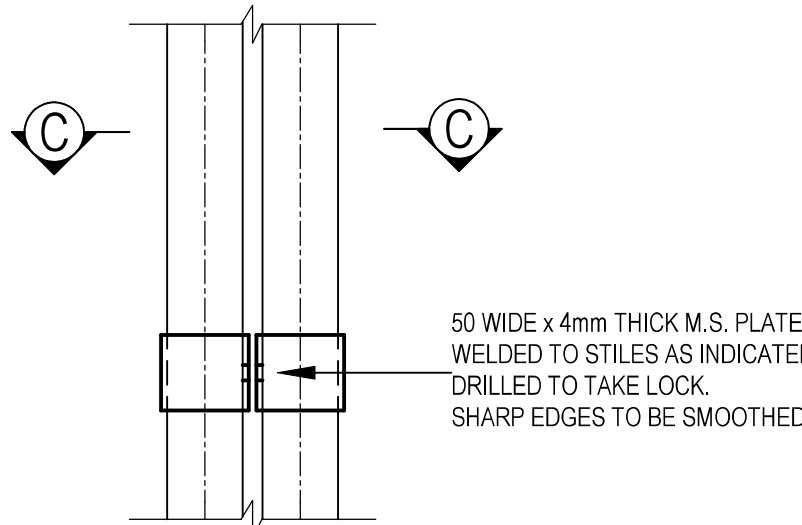
SECTION B-B

SCALE : 1:10



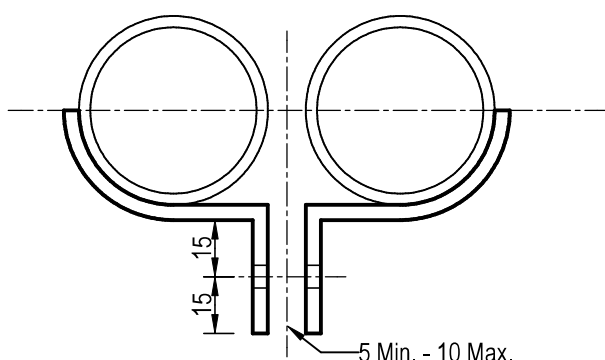
DETAIL E

SCALE : 1:10



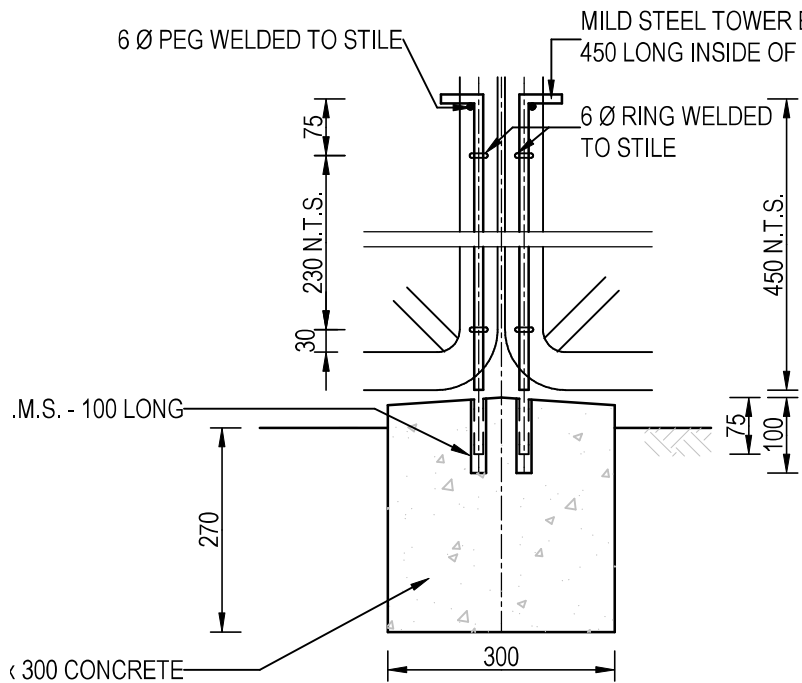
DETAIL B

SCALE : 1:5



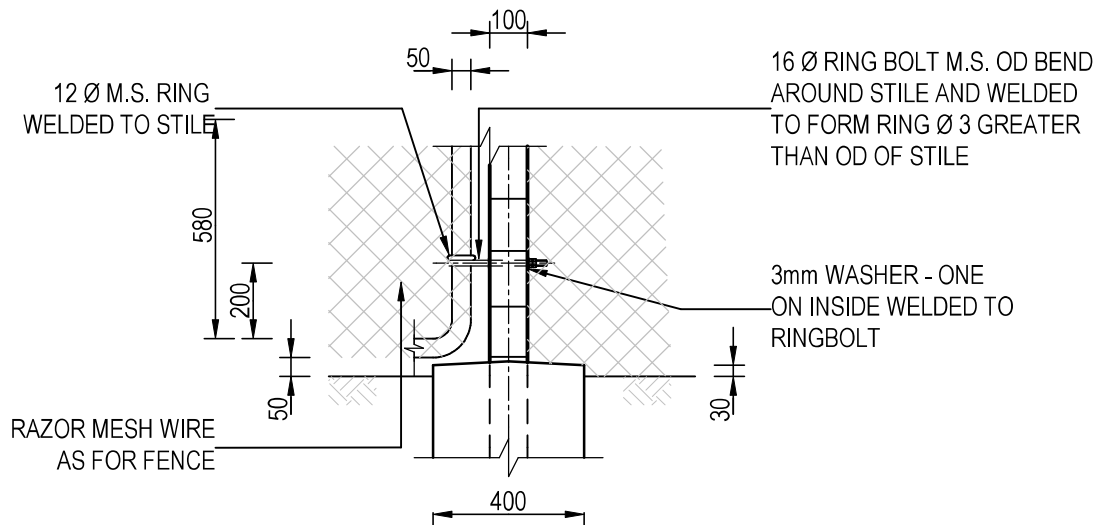
SECTION C-C

SCALE : 1:2



DETAIL C

SCALE : 1:10



DETAIL D

SCALE : 1:20

NOTES :

1. WIRE  
1.1 GENERAL

TYPE WIRE	NOMINAL DIMENSIONS (mm)		STANDARD SPECIFICATION
	GALVANISED	PLAS.COATED	
TENSIONWIRES	4,00 Ø	4,00 Ø	SABS 675
RAZOR MESH	50 RAZOR 2.5-2.8 Ø	2,95 Ø	CKS 229
BARBED WIRE	2 x 2.5 Ø ROUND WITH ONEWAY TWIST AND 2.0 Ø BARES @ 150 c/c	N.A.	CKS 164
TIE WIRES	2,0 Min. Ø	2,95 Ø	SABS 675
DIVIDING WIRES	4,0 Ø	N.A.	SABS 675

ALL WIRES MILD STEEL TO SABS 675  
1.2 HOT DIPPED GALVANISED CLASS A COATING TO SABS 675  
1.3 RAZOR MESH - EDGE FINISH - TOP CRIMPED TOGETHER - BOTTOM OPEN

2. POLES  
2.1 GENERAL  
2.2 GALVANISED - HOT DIPPED WITH COATING 75mm @ 600 g/m

3. GATES  
3.1 GENERAL:  
TYPE A : DOUBLE LEAF - TYPE 6m OUTSIDE WIDTH x 2m HEIGHT  
TYPE B : SINGLE LEAF - TYPE 1,2m OUTSIDE  
3.2 GALVANISED - HOT DIPPED WITH COATING 75mm @ 600 g/m

TYPE POLE	NOMINAL DIMENSIONS (mm)
	MILD STEEL
CORNER, STRAINING AND GATE POSTS	100 Ø x 3 000 x 4 WALL THICKNESS
DROPPERS & STAYS	75 Ø x 2 750 x 2,5 WALL THICKNESS
OVERHANG	TO SUIT

REFERENCE DRAWINGS

Drawing Name Drawing No.

REVISIONS

Rev. No.	Description	Date
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APPROVED

DATE

Project Name:

REHABILITATION & CLOSING OF  
VONDELING LANDFILL SITE

Project Component:

FENCING & SECURITY GATE

Drawing Name:

SECURITY GATE &  
FENCING DETAIL

Drawing No.:

19T0300 S D FS 02 01

Revisions

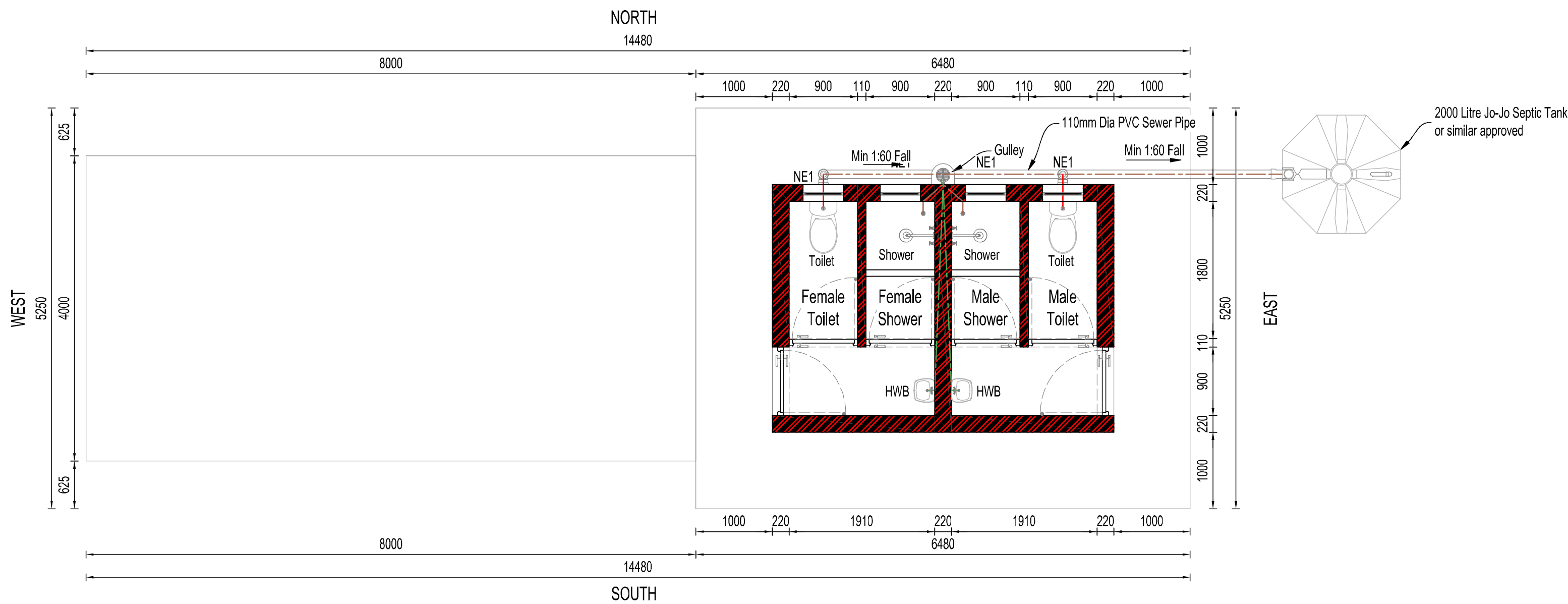
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Contract No.:

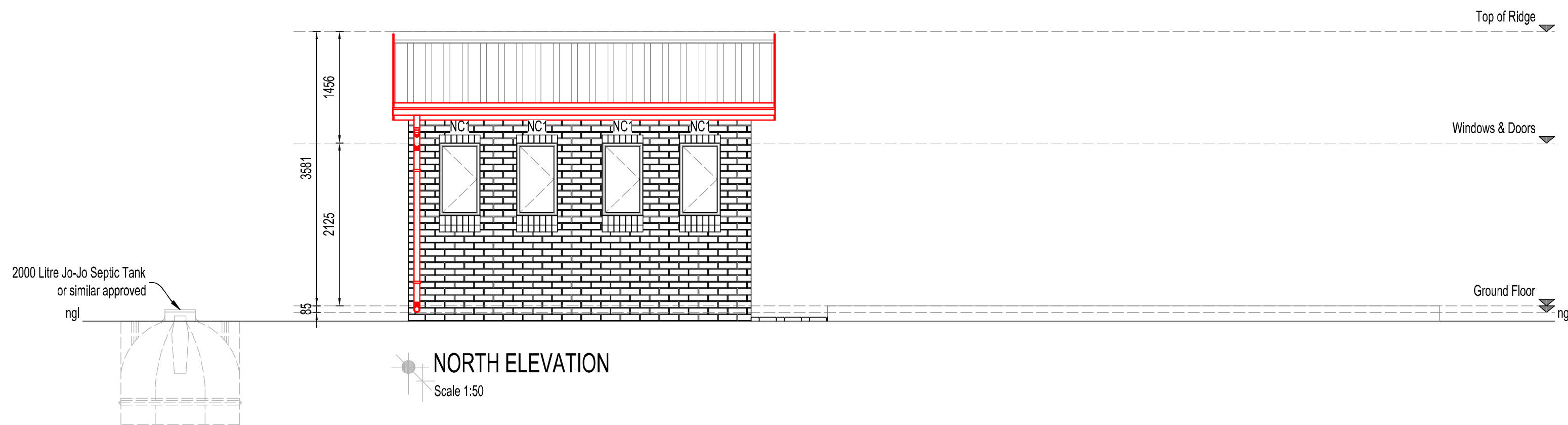
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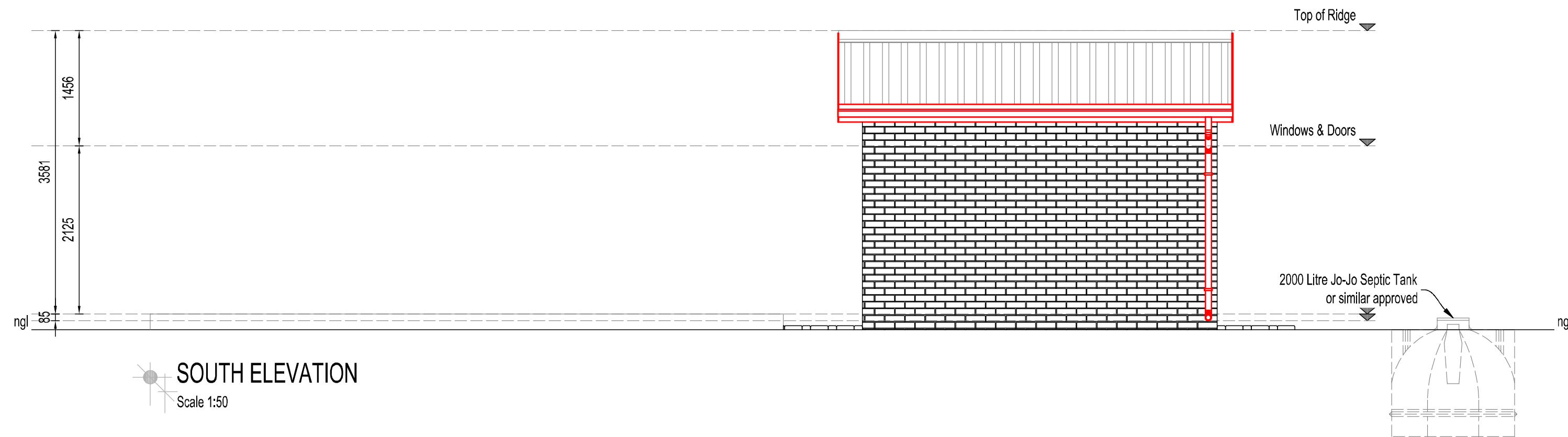




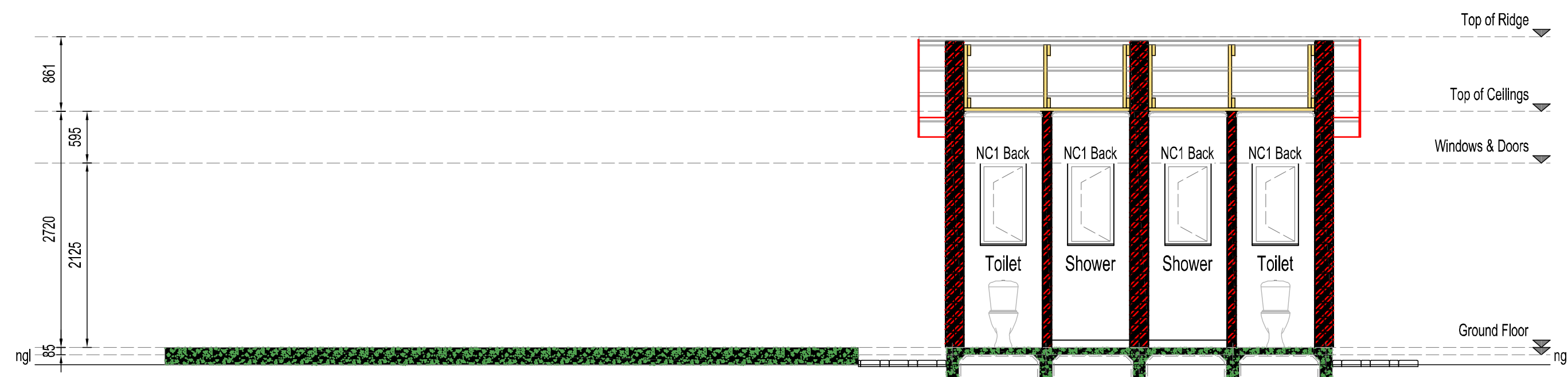
GROUND FLOOR PLAN  
(14,560m<sup>2</sup>)  
Scale 1:50



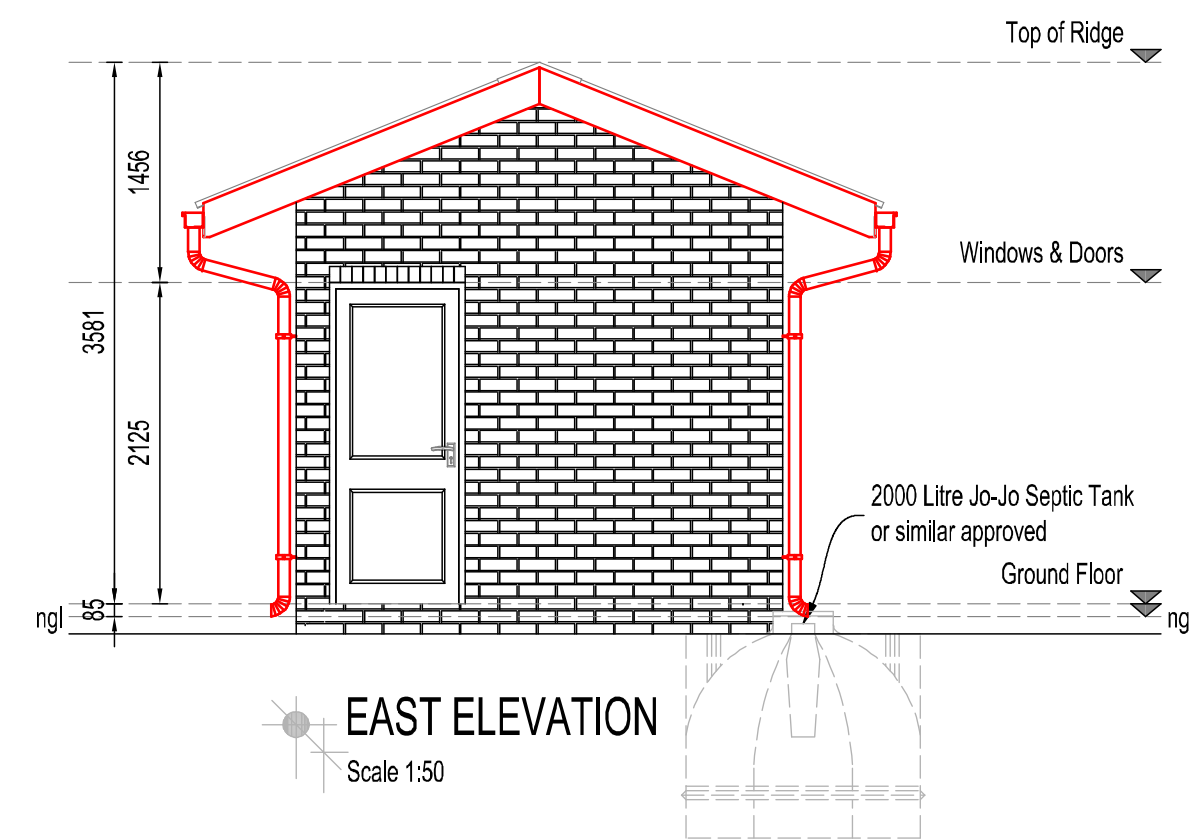
NORTH ELEVATION  
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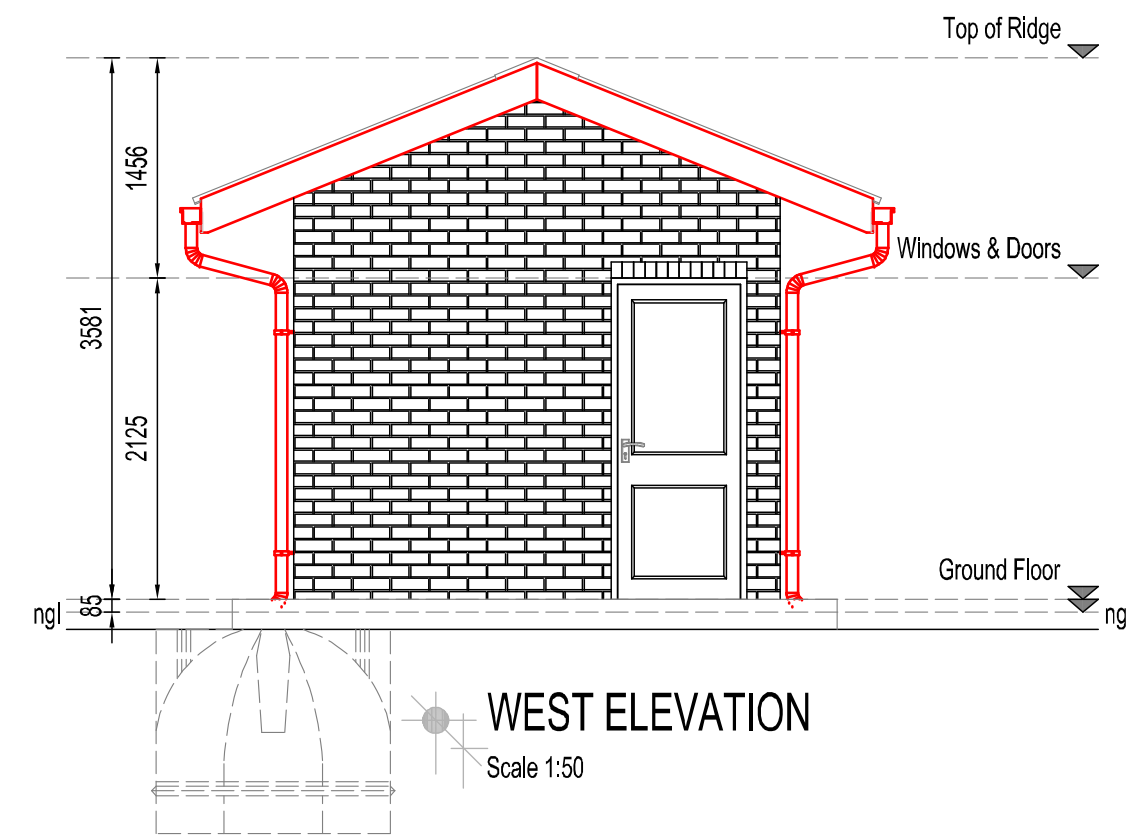
SOUTH ELEVATION  
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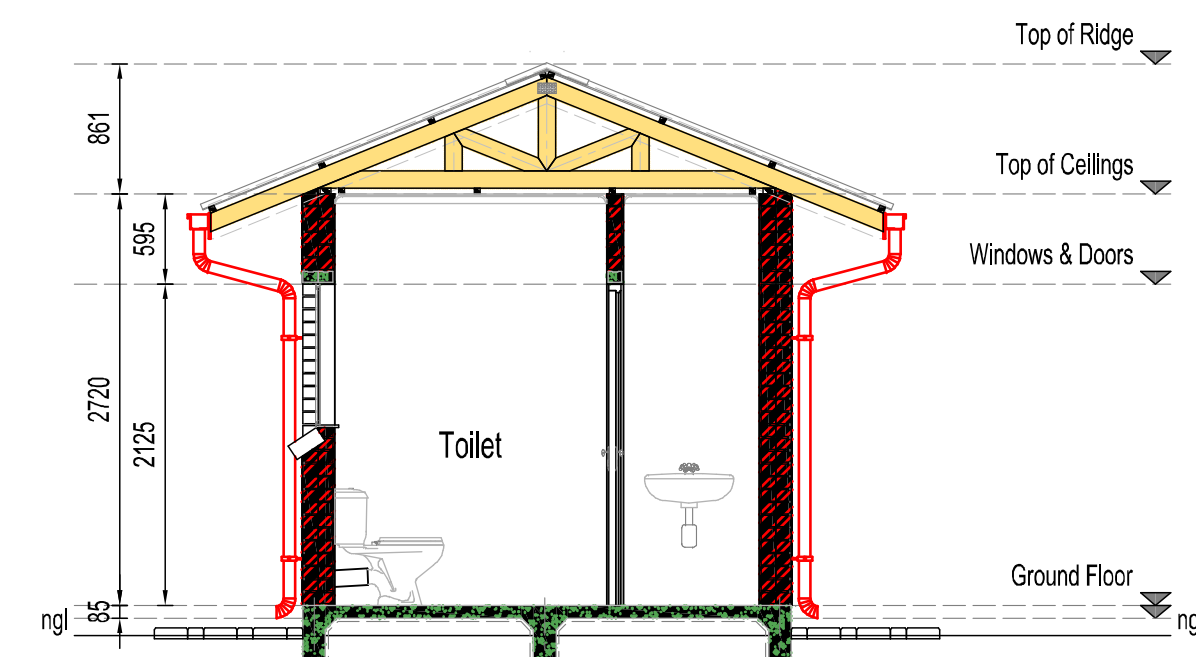
SECTION A-A  
Scale 1:50



EAST ELEVATION  
Scale 1:50



WEST ELEVATION  
Scale 1:50



SECTION B-B  
Scale 1:50

#### REFERENCE DRAWINGS

Drawing Name	Drawing No.

#### REVISIONS/MYSIGINGS

Rev. No.	Description	Date



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#### REHABILITATION & CLOSING OF VONDELING LANDFILL SITE

#### GUARDHOUSE

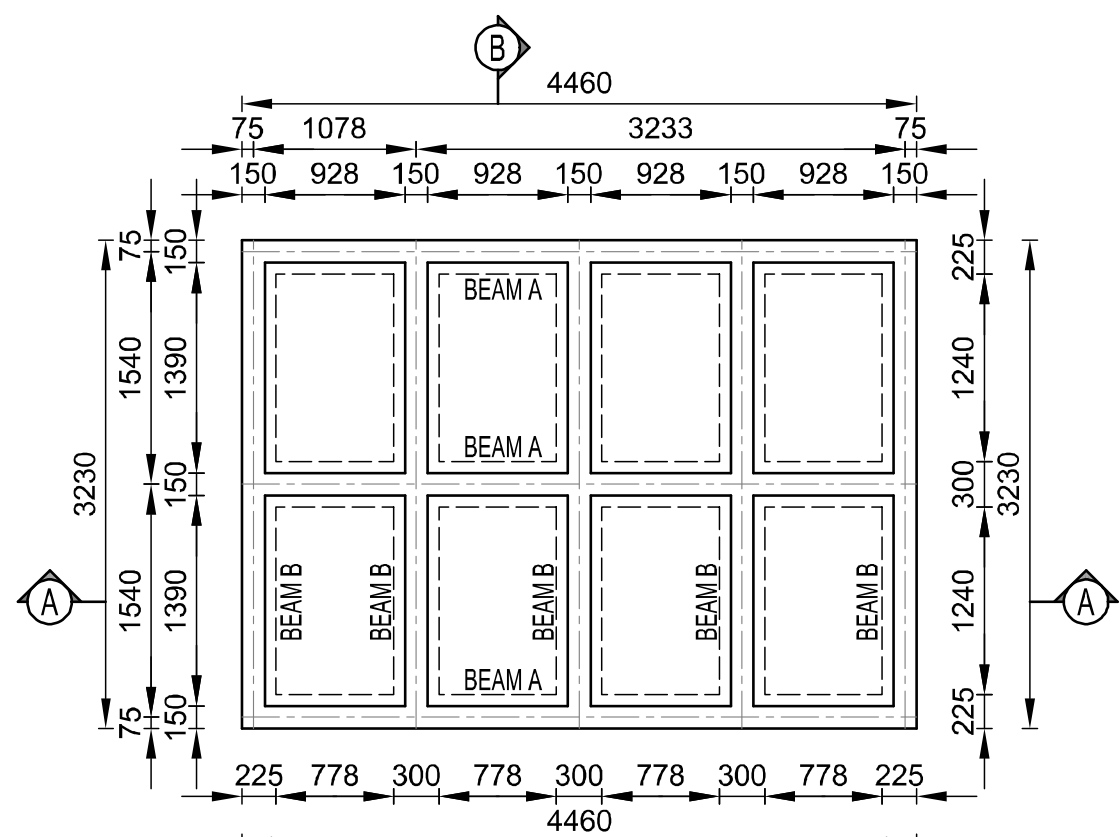
#### FLOOR PLAN, ROOFPLAN, SECTIONS & ELEVATIONS

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Project Component:	
Drawing Name:	
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Revisions	0
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Designed	W.S.S.
Drawn	J.J.L.
Original Size:	A 1
Checked	R.J.D.

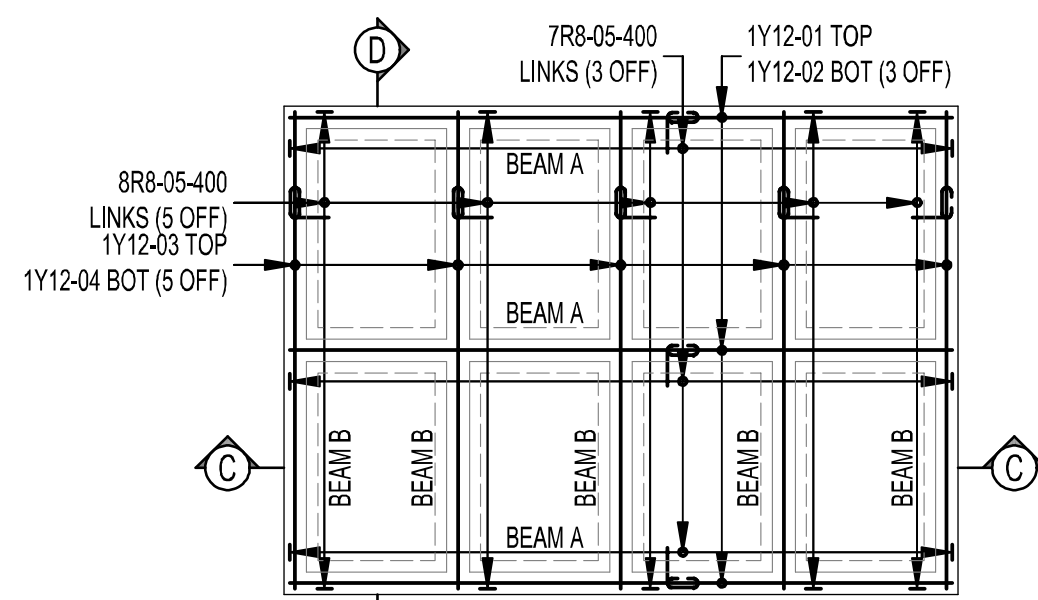
47/2018

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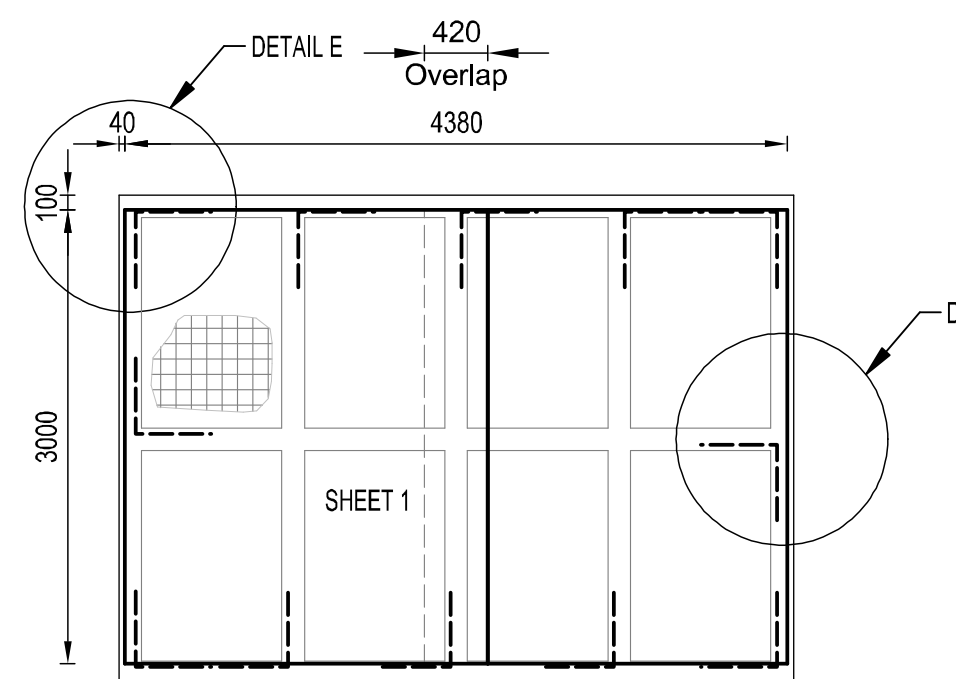
18 Sep 2022



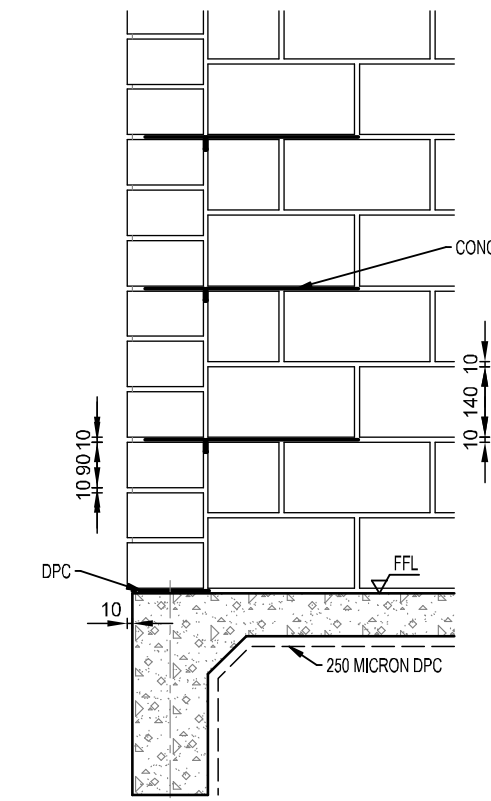
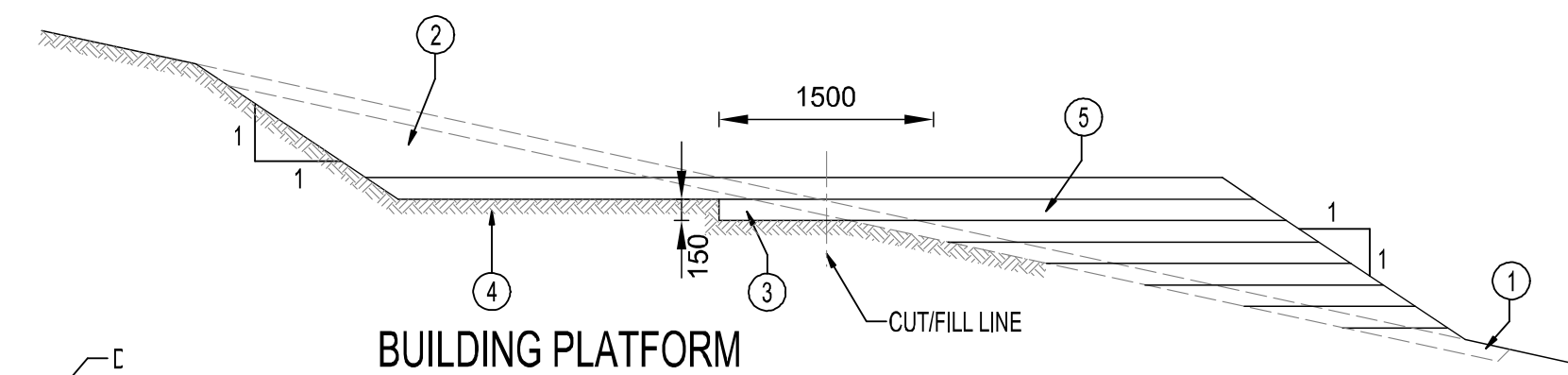
PLAN LAYOUT : FOUNDATION PLAN  
CONCRETE DETAILS  
Scale 1:50



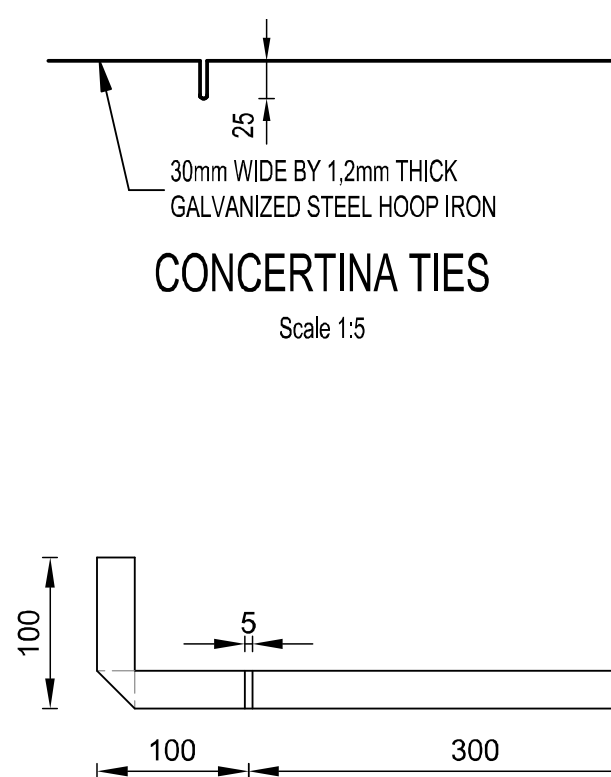
PLAN LAYOUT : FOUNDATION PLAN  
REINFORCING DETAIL  
Scale 1:50



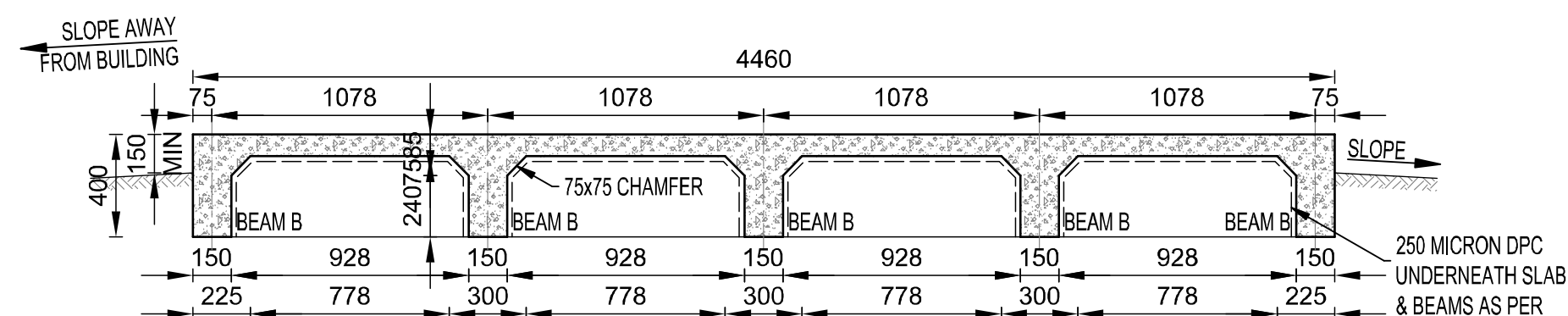
PLAN LAYOUT : SLAB REINFORCING (MESH REF 193)  
REINFORCING DETAIL  
Scale 1:50



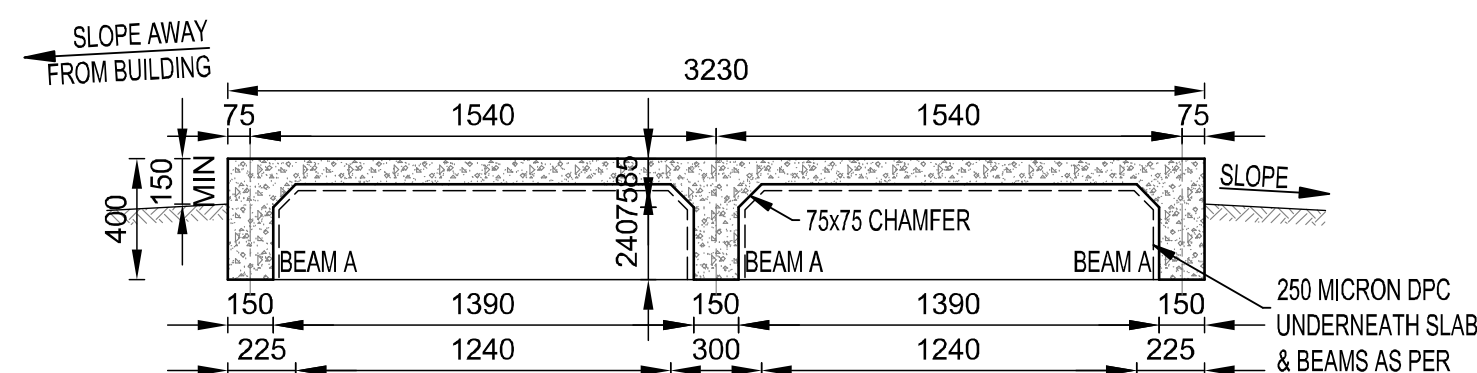
ELEVATION  
POSITIONING OF CONCERTINA TIES  
Scale 1:10



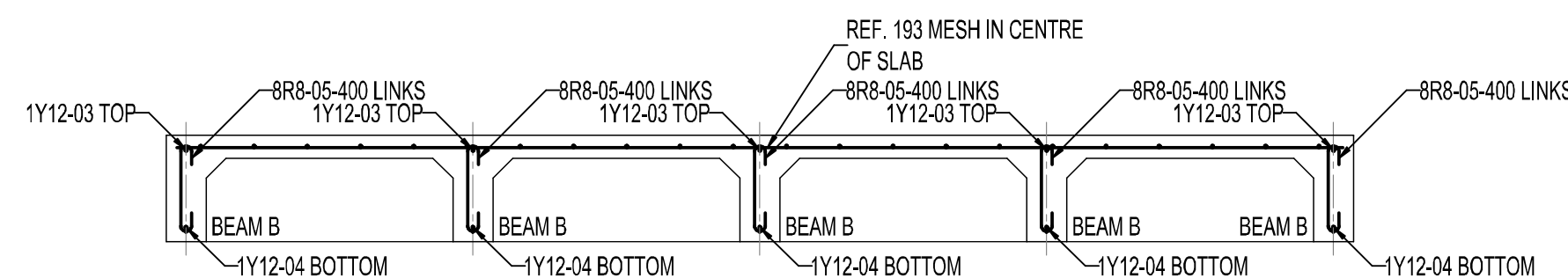
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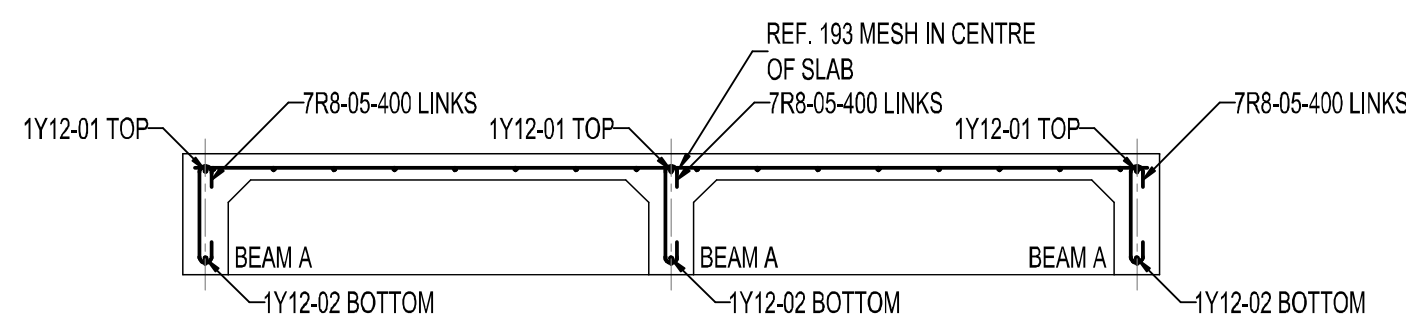
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CONCRETE DETAILS  
Scale 1:25



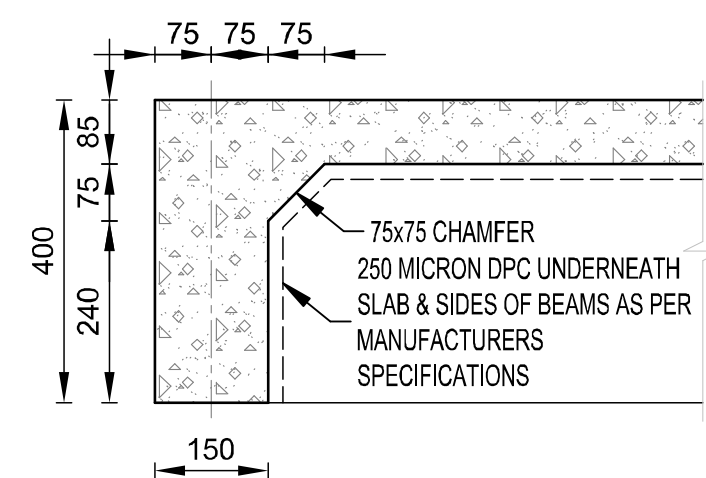
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CONCRETE DETAILS  
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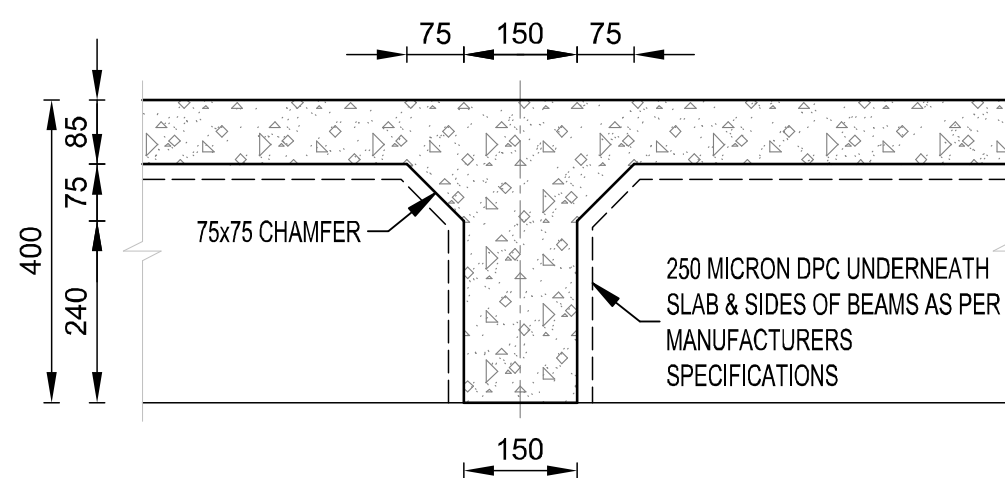
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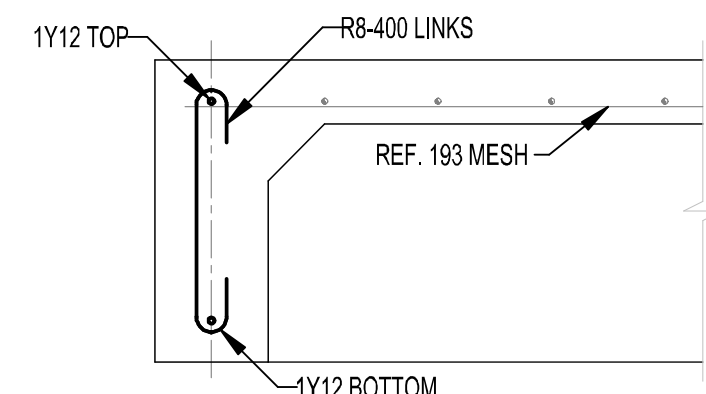
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REINFORCING DETAILS  
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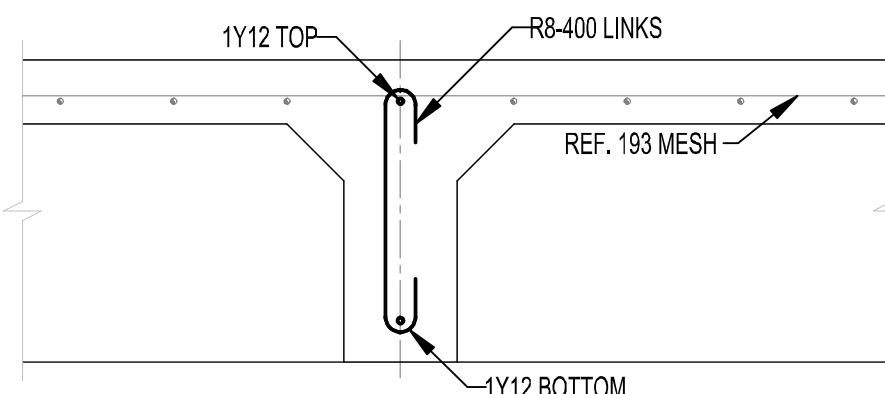
DETAIL A  
Scale 1:10



DETAIL B  
Scale 1:10



DETAIL C  
Scale 1:10



DETAIL D  
Scale 1:10

#### CONSTRUCTION OF BUILDING PLATFORMS ON SITES WITH STEEP FALL

1. REMOVE TOPSOIL 1m WIDER THAN FOOTPRINT OF HOUSE
  2. EXCAVATE TO STOCKPILE TO LEVEL OUT THE PLATFORM
  3. EXCAVATE EXTRA 150mm DEEP x 1.5m WIDE ON CUT/FILL LINE
  4. RIP, WATER AND COMPACT IN-SITU FORMATION WHILE MEASURING THE DROP IN THE SURFACE AFTER EVERY 4 PASSES OF THE ROLLER. NB. TOP WHEN THE DROP IS LESS THAN 2mm PER 4 PASSES. BOMAG 212D OR PD IS RECOMMENDED
  5. BACKFILL AND COMPACT TO 95% MOD AASHTO IN 150mm LAYERS AT OPTIMUM MOISTURE CONTENT. TOP LAYER TO BE 150mm TYPE G7 MATERIAL COMPACTED TO 95% MOD AASHTO.
- NB. THE PLATFORM MUST BE THOROUGHLY WATERED BEFORE THE FILL IS PLACED, AND AGAIN BEFORE THE CONCRETE IS CAST

#### NOTES:

1. ALL MESH TO BE REF. 193 IN 6.0m x 2.4m SHEETS
2. MIN. OVERLAP OF SHEETS TO BE 300mm
3. LAP LENGTH OF REINFORCING TO BE 55 x BAR DIAMETER
4. ALL CONCRETE TO BE 20 MPa
5. ALL COVER TO BE 40mm

#### GENERAL NOTES:

1. EARTHWORKS SHOULD BE DONE BEFORE SERVICES ARE CONSTRUCTED.
2. FINISHED FLOOR LEVELS MUST BE 150mm MINIMUM ABOVE THE SURROUNDING GROUND LEVEL.
3. SURROUNDING GROUND MUST BE SHAPED SO THAT STORMWATER DRAINS AWAY FROM THE BUILDINGS.
4. INTERNAL WALLS MUST BUTT AGAINST EXTERNAL WALL, i.e. NOT BE BUILT INTO EXTERNAL WALL. HOOP IRON CONCERTINA TIES AS PER DETAIL TO BE USED EVERY THIRD (3rd) COURSE. (SEE DETAIL ON DWG 10P0601/8P/8F/T3/F/R/01)
5. PROVIDE ARTICULATION JOINTS IN ALL WALLS LONGER THAN 6m, APPROXIMATELY IN CENTRE.
6. USE 2 (TWO) HIGH TENSILE DEFORMED REINFORCING BARS, 5.6mm DIAMETER IN TOP COURSE OF BRICK WORK, REINFORCING TO STOP AT ARTICULATION JOINTS.

#### BENDING SCHEDULE

MEMBER	NO OF	BARS/MEMBER	DIA.	CUT/LENGTH	MARK	CODE	A	B	C	D
BEAM A	3	1	Y12	2550	7650	01	20	2250		
		1	Y12	2550	7650	02	20	2250		
		7	R8	560	11760	05	33	360		
BEAM B	5	1	Y12	3120	15600	03	20	3120		
		1	Y12	3120	15600	04	20	3120		
		8	R8	560	22400	05	33	360		
L-BARS	2	4	Y10	980	7840	06	37	500	500	
		8	Y10	980	15680	07	37	500	500	

#### MESH REINFORCING

		NO OF SHEETS (6.0x2.4m = 14.4m²)							
REF. 100									
REF. 193		Area: 14.4m² = 1 SHEETS							
MASS OF REINFORCEMENT (kg)									
GRADE/DIA		5,6	8	10	12	16	20	TOTAL kg	
R			14						
Y				15	42				
TOTAL			14	15	42			71	

ALLOW 15% FOR MESH LAPPING & WASTAGE.

#### REFERENCE DRAWINGS

Drawing Name	Drawing No.

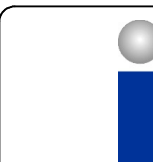
#### REVISIONS/MYSIGINGS

Rev. No.	Description	Date
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#### APPROVED

DATE

#### REHABILITATION & CLOSING OF VONDELING LANDFILL SITE

#### Project Component:

#### GUARDHOUSE

#### Drawing Name:

#### RAFT FOUNDATION LAYOUT & DETAILS

#### Drawing No.:

19T0300 S D GH 01 02

#### Revisions

Scale:	AS SHOWN	Designed	W.S.S.	APR 2022
		Drawn	J.J.L.	APR 2022
Original Size:	A 1	Checked	R.J.D.	APR 2022

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