



TRANSNET FREIGHT RAIL, a division of

TRANSNET SOC LTD

Registration Number 1990/000900/30

[hereinafter referred to as **Transnet**]

REQUEST FOR QUOTATION [RFQ] No BFX/52857

FOR THE PROVISION OF FILL COMPACT AND GRADE OF GRAVEL ROADS IN BLOEMFONTEIN ARE (HUMP GRAVEL ROAD FROM INFRA TO WAGONS AND INFRA AREA)

PERIOD MAY/JUNE 2014, SEPT/OCT 2014 AND JAN/FEB 2015

ISSUE DATE : 27 MARCH 2014
CLOSING DATE : 22 APRIL 2014
CLOSING TIME : 10:00
FORMAL BRIEFING : 8 APRIL 2014 AT 10:00 - A COMPULSORY PRE-QUOTATION SITE MEETING AND/OR BRIEFING SESSION WILL BE CONDUCTED AT TRANSNET FREIGHT RAIL, ENTRANCE GATE, RAIL NETWORK, NATHAN STREET, BLOEMFONTEIN

NOTE:

RFQ DOCUMENTS MAY BE OBTAINED ON AND AFTER THURSDAY, 27 MARCH 2014 AT TRANSNET FREIGHT RAIL, SUPPLY CHAIN SERVICES, ROOM 102, 1ST FLOOR, TRANSNET ENGINEERING ADMIN BUILDING, TRANSNET ROAD, BLOEMFONTEIN

LAST DATE OF ISSUE - RFQ BFX/52857 WILL ONLY BE ISSUED UNTIL 15:00 ON FRIDAY, 4 APRIL 2014

FOR ENQUIRIES REGARDING COLLECTION OF DOCUMENTS, CONTACT GIDEON JOUBERT, TEL. NO. 051 – 408 2167 OR E-MAIL Gideon.Joubert@Transnet.net

Section 1
NOTICE TO BIDDERS

Quotations which must be completed as indicated in Section 2 of this RFQ are to be submitted as follows:

METHOD: Courier or By hand
CLOSING VENUE: The Secretariat
Acquisition Council
Admin Support Office
Tender Box
Office No. 2
Real Estate Management Building
Austen Street, Beaconsfield
Kimberley (Contact person: Maggie Pain Tel. 053-838 3341)

1 RESPONSES TO RFQ

Responses to this RFQ [**Quotations**] must not include documents or reference relating to any other quotation or proposal. Any additional conditions must be embodied in an accompanying letter.

2 BROAD-BASED BLACK ECONOMIC EMPOWERMENT [B-BBEE]

Transnet fully endorses and supports the Government's Broad-Based Black Economic Empowerment Programme and it would therefore prefer to do business with local business enterprises who share these same values. Transnet will accordingly allow a "preference" to companies who provide a valid B-BBEE Verification Certificate. All procurement transactions will be evaluated accordingly.

2.1 B-BBEE Scorecard and Rating

As prescribed in terms of the Preferential Procurement Policy Framework Act (PPPFA), Act 5 of 2000 and its Regulations, Respondents are to note the following:

- In this RFQ, Transnet will apply **80/20** preference point system prescribed in the PPPFA.
- Proposals will be evaluated on price which will be allocated 80 points and preference which will be allocated 20 points.
- The 80/20 preference point system applies where the acquisition of the Services will be less than R1 000 000.00. However, if the 80/20 preference point system is stipulated in this RFQ and all Bids received exceed R1 000 000.00, the RFQ will be cancelled.

In compliance with the Government Gazette No 34612, Notice No. 754 dated 23 September 2011, as from 1 October 2011 valid B-BBEE Verification Certificates must be issued by:

- (i) Verification Agencies accredited by the South African National Accreditation System [SANAS]; or
- (ii) Registered Auditors approved by the Independent Regulatory Board of Auditors [IRBA], in accordance with the approval granted by the Department of Trade and Industry.

Enterprises will be rated by such agencies based on the following:

- (a) **Large Enterprises [i.e. annual turnover greater than R35 million]:**
 - Rating level based on all seven elements of the B-BBEE scorecard

- (b) **Qualifying Small Enterprises – QSE** [i.e. annual turnover between R5 million and R35 million]:
- Rating based on any four of the elements of the B-BBEE scorecard
- (c) **Exempted Micro Enterprises – EME** [i.e. annual turnover less than R5 million]:

In accordance with B-BBEE Codes of Good Practice [Statement 000, Section 4], any enterprise with an annual total revenue of R 5 million or less qualifies as an EME.

- Automatic rating of B-BBEE Level 4 irrespective of race or ownership
- Black ownership greater than 50% or Black Women ownership greater than 50% automatically qualify as B-BBEE Level 3

Sufficient evidence to qualify as an EME would be a certificate (which may be in the form of a letter) from an auditor or accounting officer or a certificate from a Verification Agency accredited by SANAS. The certificate must confirm the company's turnover, black ownership / black female ownership, B-BBEE status level and validity date.

Respondents are required to furnish proof of the above to Transnet. [i.e. a valid detailed scorecard as stipulated above in respect of Large Enterprises and QSEs, or a valid certificate in respect of EMEs].

Transnet will accordingly allocate a maximum of **20 [twenty] points** to the Respondent's final score based on an entity's B-BBEE scorecard rating.

N.B. Failure to submit a B-BBEE certificate, which is valid as at the Closing Date of this RFP, will result in a score of zero being allocated for B-BBEE.

[Refer clause 18 below for Returnable Documents required]

3 COMMUNICATION

- a) Respondents are warned that a response will be liable for disqualification should any attempt be made by a Respondent either directly or indirectly to canvass any officer(s) or employee of Transnet in respect of this RFQ between the closing date and the date of the award of the business.
- b) A Respondent may, however, before the closing date and time, direct any written enquiries relating to the RFQ to the following Transnet employee:
- Name: Gideon Joubert
Email: Gideon.Joubert@Transnet.net
- c) Respondents may also, at any time after the closing date of the RFQ, communicate with Supply Chain Services Admin Support on any matter relating to its RFQ response:
- Telephone 053 838 3341**
Email Maggie.Pain@Transnet.net

4 TAX CLEARANCE

The Respondent's original valid Tax Clearance Certificate must accompany the Quotation. Failure to provide this document with the RFQ submission may result in disqualification.

5 VAT REGISTRATION

The valid VAT registration number must be stated here: *[if applicable].*

6 LEGAL COMPLIANCE

The successful Respondent shall be in full and complete compliance with any and all applicable national and local laws and regulations.

7 CHANGES TO QUOTATIONS

Changes by the Respondent to its submission will not be considered after the closing date and time.

8 PRICING

All prices must be quoted in South African Rand on a fixed price basis, excluding VAT.

9 PRICES SUBJECT TO CONFIRMATION

Prices quoted which are subject to confirmation will not be considered.

10 NEGOTIATIONS

Transnet reserves the right to undertake post-tender negotiations with selected Respondents or any number of short-listed Respondents.

11 BINDING OFFER

Any Quotation furnished pursuant to this Request shall be deemed to be an offer. Any exceptions to this statement must be clearly and specifically indicated.

12 DISCLAIMERS

Transnet is not committed to any course of action as a result of its issuance of this RFQ and/or its receipt of a Quotation in response to it. Please note that Transnet reserves the right to:

- modify the RFQ's goods / service(s) and request Respondents to re-bid on any changes;
- reject any Quotation which does not conform to instructions and specifications which are detailed herein;
- disqualify Quotations submitted after the stated submission deadline;
- not necessarily accept the lowest priced Quotation;
- reject all Quotations, if it so decides;
- place an order in connection with this Quotation at any time after the RFQ's closing date;
- award only a portion of the proposed goods / service/s which are reflected in the scope of this RFQ;
- split the award of the order/s between more than one Supplier/Service Provider; or
- make no award at all.

In addition, Transnet reserves the right to exclude any Respondent from the bidding process who has been convicted of a serious breach of law during the preceding 5 [five] years, including but not limited to breaches of the Competition Act 89 of 1998. Respondents are required to indicate below whether or not they have been found guilty of a serious breach of law during the past 5 [five] years:

I/We _____ do hereby certify that *I/we have/have not been* found guilty during the preceding 5 [five] years of a serious breach of law, including but not limited to a breach of the Competition Act, 89 of 1998, by a court of law, tribunal or other administrative body. The type of breach that the Respondent is required to disclose excludes relatively minor offences or misdemeanours, e.g. traffic offences.

Where found guilty of such a serious breach, please disclose:

NATURE OF BREACH:

DATE OF BREACH: _____

Furthermore, I/we acknowledge that Transnet SOC Ltd reserves the right to exclude any Respondent from the bidding process, should that person or entity have been found guilty of a serious breach of law, tribunal or regulatory obligation.

13 EVALUATION CRITERIA**Stage 1****Prequalification criteria CIDB Level 2GB or higher****(Stage one must be passed to progress to stage two)****Stage two**

Transnet will utilise the following criteria [not necessarily in this order] in choosing a Supplier/Service Provider, if so required:

- **Administrative responsiveness** - Completeness of response and returnable documents
- **Substantive responsiveness** – Prequalification criteria, if any, must be met and whether the Bid materially complies with the scope and/or specification given
- Weighted evaluation based on 80/20 preference point system as indicated in paragraph 2 above :
 - Pricing and price basis [firm] - whilst not the sole factor for consideration, competitive pricing and overall level of unconditional discounts¹ will be critical
 - B-BBEE status of company

Preference points will be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (80/20 system)
1	20
2	18
3	16
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

14 VALIDITY PERIOD

Transnet desires a validity period of 90 [ninety] days from the closing date of this RFQ.

This RFQ is valid until _____.

15 BANKING DETAILS

BANK: _____

BRANCH NAME / CODE: _____

ACCOUNT HOLDER: _____

ACCOUNT NUMBER: _____

16 COMPANY REGISTRATION

Registration number of company / C.C. _____

Registered name of company / C.C. _____

Respondent's Signature

Date & Company Stamp

17 DISCLOSURE OF PRICES QUOTED

Respondents must indicate here whether Transnet may disclose their quoted prices and conditions to other Respondents:

YES NO

Returnable Documents means all the documents, Sections and Annexures, as listed in the tables below.

- a) Respondents are required to submit with their Quotations the **Returnable Documents**, as detailed below.

Failure to provide all these Returnable Documents at the Closing Date and time of this RFQ may result in a Respondent's disqualification. Respondents are therefore urged to ensure that all these Documents are returned with their Quotations.

All Sections, as indicated in the footer of each page, must be signed, stamped and dated by the Respondent. Please confirm submission of these mandatory Returnable Documents by so indicating [Yes or No] in the table below:

Returnable Documents	Submitted [Yes or No]
SECTION 1 : Notice to Bidders	
- Valid B-BBEE Verification Certificate [RSA Large Enterprises and QSEs] Note: failure to provide a valid B-BBEE Verification Certificate at the closing date and time of the tender will result in an automatic score of zero being allocated for B-BBEE scorecard	
- Valid B-BBEE certificate from auditor, accounting officer or SANAS accredited Verification Agency [RSA EMEs] Note: failure to provide a valid B-BBEE Verification Certificate at the closing date and time of the tender will result in an automatic score of zero being allocated for B-BBEE scorecard	
- In the case of Joint Ventures, a copy of the Joint Venture Agreement or written confirmation of the intention to enter into a Joint Venture Agreement	
SECTION 2 : Quotation Form	
SECTION 3 : Vendor Application Form	
- Original cancelled cheque or bank verification of banking details	
- Certified copies of IDs of shareholder/directors/members [as applicable]	
- Certified copy of Certificate of Incorporation [CM29/CM9 name change]	
- Certified copy of share certificates [CK1/CK2 if C.C.]	
- Entity's letterhead	
- Certified copy of VAT Registration Certificate [RSA entities only]	
- Certified copy of valid Company Registration Certificate [if applicable]	
- Original valid Tax Clearance Certificate [Consortia / Joint Ventures must submit a separate Tax Clearance Certificate for each party]	
- General & Special conditions of contract Part A	
- Project Specification Part B	
- Proof of CIDB Rating- 2GB or higher	

- b) In addition to the requirements of section (a) above, Respondents are further required to submit with their Quotations the following **additional documents** as detailed below.

ADDITIONAL DOCUMENTS	SUBMITTED [Yes or No]
- Letter of Good Standing	
- Form E.4E Transnet (Jan 2004) Safety arrangements and Procedural compliance with the Occupational Health and Safety act (Act 85 of 1993 and applicable regulations	
- E7/1 Specification for general work and works on, over, under or adjacent to Railway lines and near high voltage equipment	

"PREVIEW COPY ONLY"

.....
Respondent's Signature

.....
Date & Company Stamp

Section 2
QUOTATION FORM
(freight rail)

I/We _____

hereby offer to supply the goods/services at the prices quoted in the Price Schedule below, in accordance with the conditions related thereto.

I/We agree to be bound by those terms and conditions in:

- the Standard Terms and Conditions for the Supply of Goods or Services to Transnet [Section 3 hereof]; and
- any other standard or special conditions mentioned and/or embodied in this Request for Quotation.

I/We accept that unless Transnet should otherwise decide and so inform me/us, this Quotation [and, if any, its covering letter and any subsequent exchange of correspondence], together with Transnet's acceptance thereof shall constitute a binding contract between Transnet and me/us.

I/We further agree that if, after I/we have been notified of the acceptance of my/our Quotation, I/we fail to deliver the said goods/service/s within the delivery lead-time quoted, Transnet may, without prejudice to any other legal remedy which it may have, cancel the order and recover from me/us any expenses incurred by Transnet in calling for Quotations afresh and/or having to accept any less favourable offer.

Price Schedule

I/We quote as follows for the service required, on a "delivered nominated destination" basis, excluding VAT:

Filling of gravel roads where necessary water and compact. (infra & Hump)

Item No.	Description	Unit	Quantity	Rate	Total
1.	<u>1st Quarter May - June 2014</u>				
1.a.	<u>P & G</u>	Job	1	R.....	R.....
1.b.	<u>Risk & Safety</u>	Job	1	R.....	R.....
1.1	Fill section of road 800m long x7m wide x,150mm thick fill compact water and grade to final finish	M ³	840	R.....	R.....
1.2	Fill of gravel roads where necessary water and compact. (Hump)	M ³	120	R.....	R.....
1.3	Filling of gravel roads where necessary water and compact. (infra)	M ³	20	R.....	R.....
1.4	Final grade to fair finish (7 m wide Hump)	M	2100	R.....	R.....

1.5	Final grade to fair finish (Infra)	M	300	R.....	R.....
1.6	Repair to existing speed bumps	Ea	29	R.....	R.....
2	2 nd Quarter Sep-Oct 2014				
2.a.	P & G	Job	1	R.....	R.....
2.b.	Risk & Safety	Job	1	R.....	R.....
2.1	Fill of gravel roads where necessary water and compact (hump & infra)	M ³	50	R.....	R.....
2.2	Final grade to fair finish(7m wide Hump)	M	2100	R.....	R.....
2.3	Final grade to fair finish (Infra)	M	300	R.....	R.....
2.4	Repair to existing speed bumps	Ea	29	R.....	R.....
3.	3rd Quarter Jan-Feb2015				
3.a.	P & G	Job	1	R.....	R.....
3.b.	Risk & Safety	Job	1	R.....	R.....
3.2	Filling of gravel roads where necessary water and compact. (infra)	M ³	20	R.....	R.....
3.3	Final grade to fair finish (7M wide Hump)	M	2100	R.....	R.....
3.4	Final grade to fair finish (Infra)	M	300	R.....	R.....
3.5	Repair to existing speed bumps	Ea	29	R.....	R.....
GRAND TOTAL (QUARTER 1, 2 AND 3) EXCL. VAT					R.....

Notes to Pricing:

- a) All Prices must be quoted in South African Rand, exclusive of VAT
- b) To facilitate like-for-like comparison bidders must submit pricing strictly in accordance with this price schedule and not utilise a different format. Deviation from this pricing schedule could result in a bid being disqualified.
- c) Please note that should you have offered a discounted price(s), Transnet will only consider such price discount(s) in the final evaluation stage if offered on an unconditional basis.

Respondent's Signature

Date & Company Stamp

Section 3
VENDOR APPLICATION FORM

"PREVIEW COPY ONLY"

.....
Respondent's Signature

.....
Date & Company Stamp



Transnet Supplier Declaration/Application

The Financial Director or Company Secretary

Transnet Vendor Management has received a request to load your company on to the Transnet vendor database. Please furnish us with the following to enable us to process this request:

1. Complete the "Supplier Declaration Form" (SDF) on page 2 of this letter
2. **Original** cancelled cheque **OR** letter from the bank verifying banking details (**with bank stamp**)
3. **Certified** copy of Identity document of Shareholders/Directors/Members (where applicable)
4. **Certified** copy of certificate of incorporation, CM29 / CM9 (name change)
5. **Certified** copy of share Certificates of Shareholders, CK1 / CK2 (if CC)
6. A letter with the company's letterhead confirming physical and postal addresses
7. **Original** or **certified** copy of SARS Tax Clearance certificate and Vat registration certificate
8. A signed letter from the Auditor / Accountant confirming most recent annual turnover and percentage black ownership in the company **AND/OR** BBBEE certificate and detailed scorecard from an accredited rating agency (SANAS member).

NB:

- **Failure to submit the above documentation will delay the vendor creation process.**
- **Where applicable, the respective Transnet business unit processing your application may request further information from you. E.g. proof of an existence of a Service/Business contract between your business and the respective Transnet business unit etc.**

IMPORTANT NOTES:

- a) **If your annual turnover is less than R5 million**, then in terms of the DTI codes, you are classified as an Exempted Micro Enterprise (EME). If your company is classified as an EME, please include in your submission, a signed letter from your Auditor / Accountant confirming your company's most recent annual turnover is less than R5 million and percentage of black ownership and black female ownership in the company **AND/OR** BBBEE certificate and detailed scorecard from an accredited rating agency (e.g. permanent SANAS Member), should you feel you will be able to attain a better BBBEE score.
- b) **If your annual turnover is between R5 million and R35million**, then in terms of the DTI codes, you are classified as a Qualifying Small Enterprise (QSE) and you claim a specific BBBEE level based on any 4 of the 7 elements of the BBBEE score-card, please include your BEE certificate in your submission as confirmation of your status.
NB: BBBEE certificate and detailed scorecard should be obtained from an accredited rating agency (e.g. permanent SANAS Member).
- c) **If your annual turnover is in excess of R35million**, then in terms of the DTI codes, you are classified as a Large Enterprise and you claim a specific BEE level based on all seven elements of the BBBEE generic score-card. Please include your BEE certificate in your submission as confirmation of your status.
NB: BBBEE certificate and detailed scorecard should be obtained from an accredited rating agency (permanent SANAS Member).
- d) **To avoid PAYE tax being automatically deducted from any invoices received from you**, you must also contact the Transnet person who lodged this request on your behalf, so as to be correctly classified in terms of Tax legislation.
- e) Unfortunately, **No payments can be made to a vendor** until the vendor has been registered, and no vendor can be registered until the vendor application form, together with its supporting documentation, has been received and processed.
- f) Please return the completed Supplier Declaration Form (SDF) together with the required supporting documents mentioned above to the Transnet Official who is intending to procure your company's services/products in order that he/she should complete and Internal Transnet Departmental Questionnaire before referring the matter to the appropriate Transnet Vendor Master Office.

Regards,

Transnet Vendor/Supplier Management .Contact person Carol tell: 021 940-3846 fax 021 940-3883.



Supplier Declaration Form

Company Trading Name							
Company Registered Name							
Company Registration Number Or ID Number If A Sole Proprietor							
Form of entity	CC	Trust	Pty Ltd	Limited	Partnership	Sole Proprietor	
VAT number (if registered)							
Company Telephone Number							
Company Fax Number							
Company E-Mail Address							
Company Website Address							
Bank Name				Bank Account Number			
Postal Address						Code	
Physical Address						Code	
Contact Person							
Designation							
Telephone							
Email							
Annual Turnover Range (Last Financial Year)		< R5 Million	R5-35 million		>R35 million		
Does Your Company Provide		Products	Services		Both		
Area Of Delivery		National	Provincial		Local		
Is Your Company A Public Or Private Entity		Public			Private		
Does Your Company Have A Tax Directive Or IRP30 Certificate		Yes			No		
Main Product Or Service Supplied (E.G.: Stationery/Consulting)							
BEE Ownership Details							
%Black Ownership		% Black women ownership		% Disabled person/s ownership			
Does your company have a BEE certificate			Yes		No		
What is your broad based BEE status (Level 1 to 9 / Unknown)							
How many personnel does the firm employ			Permanent		Part time		
Transnet Contact Person							
Contact number							
Transnet operating division							
Duly Authorised To Sign For And On Behalf Of Firm / Organisation							
Name				Designation			
Signature				Date			
Stamp And Signature Of Commissioner Of Oath							
Name				Date			
Signature				Telephone No.			

NB: Please return the completed Supplier Declaration Form (SDF) together with the required supporting documents mentioned above to the Transnet Official who is intending to procure your company's services/products.

Transnet Vendor/Supplier Management .Contact person Carol tell: 021 940-3846 fax 021 940-3883

Respondent's Signature

Date & Company Stamp

Section 4

BREACH OF LAW FORM

NAME OF ENTITY: _____

I/We _____

do hereby certify that *I/we have/have not been* found guilty during the preceding 5 [five] years of a serious breach of law, including but not limited to a breach of the Competition Act, 89 of 1998, by a court of law, tribunal or other administrative body. The type of breach that the Respondent is required to disclose excludes relatively minor offences or misdemeanours, e.g. traffic offences.

Where found guilty of such a serious breach, please disclose:

NATURE OF BREACH:

DATE OF BREACH: _____

Furthermore, I/we acknowledge that Transnet SOC Ltd reserves the right to exclude any Respondent from the bidding process, should that person or entity have been found guilty of a serious breach of law, tribunal or regulatory obligation.

SIGNED at _____ on this _____ day of _____ 20____

SIGNATURE OF WITNESS

SIGNATURE OF RESPONDENT

Section 5

SUPPLIER CODE OF CONDUCT

Transnet aims to achieve the best value for money when buying or selling goods and obtaining services. This however must be done in an open and fair manner that supports and drives a competitive economy. Underpinning our process are several acts and policies that any supplier dealing with Transnet must understand and support. These are:

- The Transnet Supply Chain Policy
- Section 217 of the Constitution - the five pillars of Public PSCM [Procurement and Supply Chain Management]: fairness, equity, transparency, competitiveness and cost effectiveness;
- The Public Finance Management Act [PFMA];
- The Broad-Based Black Economic Empowerment Act [B-BBEE]; and
- The Prevention and Combating of Corrupt Activities Act.

This Code of Conduct has been included in this rfq to formally apprise prospective Transnet Suppliers of Transnet's expectations regarding the behaviour and conduct of its Suppliers.

Prohibition of bribes, kickbacks, unlawful payments, and other corrupt practices

Transnet is in the process of transforming itself into a self-sustaining State Owned Company [SOC], actively competing in the logistics industry. Our aim is to become a world class, profitable, logistics organisation. As such, our transformation is focused on adopting a performance culture and to adopt behaviours that will enable this transformation.

- a) *Transnet will not participate in corrupt practices and therefore expects its Suppliers to act in a similar manner.*
- Transnet and its employees will follow the laws of this country and keep accurate business records that reflect actual transactions and payments to our Suppliers.
 - Employees must not accept or request money or anything of value, directly or indirectly, to:
 - illegally influence their judgement or conduct or to ensure the desired outcome of a sourcing activity;
 - win or retain business or to influence any act or decision of any decision stakeholders involved in sourcing decisions; or
 - gain an improper advantage.
 - There may be an occasion when a Supplier is confronted with fraudulent or corrupt behaviour by a Transnet employee. We expect our Suppliers to use our "Tip-offs Anonymous" Hot line to report these acts [0800 003 056].

b) *Transnet is firmly committed to the ideas of free and competitive enterprise.*

- Suppliers are expected to comply with all applicable laws and regulations regarding fair competition and antitrust.
- Transnet does not engage with non-value adding agents or representatives solely for the purpose of increasing B-BBEE spend [fronting].

c) *Transnet's relationship with Suppliers requires us to clearly define requirements, exchange information and share mutual benefits.*

- Generally, Suppliers have their own business standards and regulations. Although Transnet cannot control the actions of our Suppliers, we will not tolerate any illegal activities. These include, but are not limited to:
 - misrepresentation of their product [e.g. origin of manufacture, specifications, intellectual property rights];
 - collusion;
 - failure to disclose accurate information required during the sourcing activity [e.g. ownership, financial situation, B-BBEE status];
 - corrupt activities listed above; and
 - harassment, intimidation or other aggressive actions towards Transnet employees.
- Suppliers must be evaluated and approved before any materials, components, products or services are purchased from them. Rigorous due diligence is conducted and the Supplier is expected to participate in an honest and straight forward manner.
- Suppliers must record and report facts accurately, honestly and objectively. Financial records must be accurate in all material respects.

Conflicts of interest

A conflict of interest arises when personal interests or activities influence [or appear to influence] the ability to act in the best interests of Transnet. Examples include, but are not limited to:

- Transnet employees awarding business to entities in which their family members or business associates have an interest
- Transnet employees having a financial interest in a bidding entity

Bidding entities are required to disclose any interest/s which exist between themselves and any employee and/or Transnet Board member.



**FOR THE PROVISION OF FILL COMPACT AND GRADE OF GRAVEL ROADS IN BLOEMFONTEIN ARE
(HUMP GRAVEL ROAD FROM INFRA TO WAGONS AND INFRA AREA)**

PART A

GENERAL & SPECIAL CONDITIONS OF CONTRACT

1. Scope of work

The extent of this contract consists of the filling of section of road, compacting grading and repairs to an existing gravel road at Bloemfontein **Hump and Infra (2100m)** depot all preparation work such as formation layers (sub-base), base, storm water drainage and grading.

Included in the price of the work must be the cost of all items with respect to the repair of the road as per specification hereinafter, and shall include all material and labour necessary for the proper execution and completion of the work in every respect (except for such items that are expressly excluded) according to the true intent and meaning of the contract documents and drawings taken together.

2. Site location

The site is situated at **Bloemfontein**

3. Contract documents

The tenderer are required to acquaint themselves with the contents of the aforesaid documents complete the, Price Schedule, Section 2.

The tenderers are required to check the number of pages and should any be found to be missing or in duplicate or the figures or writing to be indistinct or should there be any doubt or obscurity as to the meaning of any particular word or phrase or descriptions or should tenderers consider that any item is incorrectly or inadequately described they must inform the Manager, **Gideon Joubert Tel :051 408 2167 Fax :051 408 3547 Chain Supply Services P.O.Box 857** Bloemfontein 9300 at once in writing under reference and have the matter rectified or explained as the case may be as no liability whatsoever will be admitted by Spoornet in respect of errors in a tender due to the foregoing.

No alterations, erasures or additions of any kind shall be made by the tenderers in, from or to any part of this specification unless expressly required to be made by written notice and should any unauthorised alterations, erasures or additions be made they will not be recognised by Transnet.

4. Time to complete the work

The time to complete the work should not exceed **30 days.(Per Quarter)** This period shall be inclusive of weekends, public holidays and statutory holiday periods.

Failing completion of the work within the period as stipulated above or with any shorter period offered by the contenders and accepted by Transnet, the contractor shall pay to Transnet as penalty the sum of **R 200.00 (Two hundred Rand)** for every day or part thereof during which the works remain incomplete.

5. Manager

Manager, Technical Services, Civil shall appoint a competent person to undertake the Engineering duties with a duly appointed project representative. Where reference is made to engineer is will mean manager and vice verse.

6. Guarantee

All workmanship and material shall be guaranteed for a period of 3 months, from the date of completion of work, and this will include maintenance work as required by the contractor, as and when necessary.

7. Inspection of works

No work shall be covered up or put out of view without the approval of the manager. The Contractor shall



freight roll

afford full opportunity for the manager to examine and measure any work, which is about to be covered up or put out of view and to examine/test the layers before the final layer work is placed thereon.

The Contractor shall give due notice to the manager whenever any work that is ready or about to be ready for examination. The manager shall, without unreasonable delay, examine and or measure such work as required.

The Contractor shall uncover any part or parts of the work or make openings in or through the same as may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the manager.

8. Site Diary

The Contractor shall provide a diary, in triplicate to record all day-to-day incidents that could occur during the contract period. This includes weather, name & number of workers on the site, material that has been delivered, material that has been loaded and disposed off, incidents that have occurred, nature of work to be done on that day, etc.

9. Site Instruction Book

The Contractor shall provide a site instruction book, in triplicate for the engineer to place all instructions that are needed to compliment the specifications and drawings and any other instruction that may affect the cost of the work.

No work will be recognised for additional payment unless it has been recorded and signed in the aforesaid book.

10. Programme & Planning of the work

The contractor shall provide to the manager a detail plan of how he intends to do the work and this plan must be to the requirements of the operation of Transnet workshop with minor disruptions as no delays must be allowed in this regard. Bar chart will be submitted once the contractor has been appointed

The programme must be agreed to (in the site instruction book) before any work will be allowed to commence on the workshops, per se. The programme can be in a form of a pert (bar) chart and will be used as a guide to measure progress of the work.

12. Cash flow

Payment will be made only when job is completed and to assist Transnet an estimate of how the contractor foresees the work will pan out.

13. Water supply

Water may be made available for the purpose of construction of the works only. The water shall be used conservatively and if not, this privilege shall be removed and the water shall be metered, and the cost of the metered water shall be borne by the Contractor as well as all charges as entertained by Spoornet. The Contractor must supply all connections, hoses, etc., as necessary.

14. Electricity supply

Electricity will not be made available to the Contractor.

15. Access to site

The areas are restricted and the contractor must ensure he complies with the regulations of Spoornet in every way. Contractor and/or any sub-contractors shall be required to apply for permission to enter the restricted area in writing. A list of workmen shall be given to the manager to arrange for the necessary permits. 48 Hours minimum notice is necessary for the processing of these permits. This includes changes to staff during the contract period.



Freight rail

16. Materials found on site

The Contractor shall not use any materials found on the site without the prior written consent of the manager. No material that is lying on the site (other than that from this contract) or on Spoornet's property may be removed, even if deemed as scrap, by the contractor.

17. Working outside normal working hours

Normal working hours are between 07:30 and 16:00 Mondays to Fridays. If it is required to work outside the stated normal working hours the Contractor must obtain written permission at least 24 hours before such work needs to be undertaken. Transnet will not unreasonably withhold permission; however the Contractor may have to pay for Spoornet's supervisory personnel.

18. VAT

Value Added Tax (VAT) shall be excluded in the Schedule of Rates and Prices Part C. **I.E. Vat is excluded in the rates and prices of the Schedule of Rate and Prices. These prices shall be totalled to give a net price (exclusive of VAT) and transferred to the Tender Form (E4). However, for record purposes 14% VAT must be shown on the Schedule of Rates and prices and a grand total to be given (inclusive of VAT).**

19. Escalation

This contract does not make provision for compensation in respect of increased costs. The contenders must allow in his fixed price for any increased costs, which he may encounter during the contract period or such extended period as agreed upon by both parties.

20. Payment

Payment shall be made by Transnet within 30 [thirty] days after date of receipt by Transnet of the Supplier's statement together with the relevant undisputed Tax Invoice(s) and supporting documentation for each part of the work, as and when completed, (minus retention money of 10%), in accordance with the Schedule of Rates and Prices Part. If the period in the project is longer than one month a progress payment may be made.

The item in the Schedule of Rates and prices, part C is "provisional" work (material and/or labour) that could be requested. The quantity may be nil or either more or less than the stated rate given in the part C. The workmanship and material completed shall be measured by the manager and in the present of the Contractor. The quantities of such work executed including the material supplied shall be paid in accordance with the rate quoted.

When there is no provision in the Schedule of Rate and Prices, the manager shall determine a fair valuation of the item (labour and material) in the form of a variation order. The variation order shall be a fair and reasonable rate based on the Schedule of Rates and prices and shall be agreed by both the Manger and the Contractor. The variation order shall be substantiated in an agreement (Variation Order Form) and approved by management. If no agreement can be reached then the dispute route could be followed.

21. Safety precautions and Insurance

21.1 Damage to Transnet's Assets and liability

The contractor shall provide the insurance for the following:-

- ◆ Contract Work;
- ◆ Public Liability;

21.2. Act 85

The contractor shall comply with the Occupational Health & Safety Act, 1993 (Act 85 of 1993). The form E.4E as placed in this Specification must be adhered to.

21.3 Environment

The Contractor shall, at all times, comply with the statutes that prohibit pollution of any kind. These statutes are enacted in the following legislation.

- The National Environmental Management Act, 107/1998;
- The Environmental Conservation Act, 73/1989; and
- The National Water Act, 36/1998.
-

The Contractor shall appoint a responsible person to ensure that no incident shall occur on site that could cause pollution. Where the Contractor was negligent and caused any form of pollution the damage shall be rectified at the Contractors cost

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.....
Respondent's Signature

.....
Date & Company Stamp

**FOR THE PROVISION OF FILL COMPACT AND GRADE OF GRAVEL ROADS IN BLOEMFONTEIN ARE
(HUMP GRAVEL ROAD FROM INFRA TO WAGONS AND INFRA AREA)**

PART B

PROJECT SPECIFICATION

SECTION 1

GENERAL

1 P&G :

Shall include all overheads such as setting up site and dismantle of site, all Act 85 issues, PPE required to do necessary work and running costs to be able to do the work

1.1 Risk & Safety:

Risk and Safety requirements to work safe will be included. Act 85 issues, PPE required doing necessary work and running costs to be able to do the work. Making site safe for period of contract while staff complete work safely.

1.2 Standard Specification

In so far as they can be applied, the following specifications shall be regarded as being embodied in this specification.

- a) Fill section of road 800m long x 7m wide x150mm thick compact and grade,
- b) Fill holes and compact,
- c) Import soil where necessary,
- d) Water and compact between processes before grading and after grading,
- e) This above work will be done as, As And When required (June, October 2014 and January 2015)
- f) Total length of road 2100m

Included in the price of the work must be the cost of all items with respect to the repair of the road as per specification hereinafter, and shall include all material and labour necessary for the proper execution and completion of the work in every respect (except for such items that are expressly excluded) according to the true intent and meaning of the contract documents and drawings taken together.

1.3 Standard Specification

In so far as they can be applied, the following specifications shall be regarded as being embodied in this specification.

1.4 Transnet's Specifications (Enclosed)

Specification for work on, over, under or adjacent to railway lines and near high voltage equipment E7/1.

1.5 SABS Specifications (To be obtained by the tenderer)

Concrete (Small works)SABS 1200GA - 1982

Roads SABS 1200M - 1981

Sub-base SABS 1200ME - 1981

Base SABS 1200MF - 1981

Asphalt base and surfacing SABS 1200MH - 1981

Guidelines for the provision of Engineering services in Residential Townships - by Department of Community Development.

TRH 20 (1990) "The Structural Design, Construction and Maintenance of Unpaved Roads" Dept. of Transport, Pretoria.

1.6 To be supplied by the Contractor

The Contractor shall provide all labour, transport, consumable stores, plant, equipment, tools, services, materials and ingredients of every description required for the carrying out and completion of the Works as per this specification and any further work as may be ordered by the Project Manager/Manager.



[right:60]

1.3 **Site meetings**

The Contractor shall be called upon to attend meetings on the site to discuss the progress of WORKS with the Transnet representatives.

1.4 **Recording of the works:**

The Contractor shall keep and maintain accurate records in the site diary of all work so that any disputes can be resolved and that the extent of the required tests on the materials can readily be determined.

1.5 **Setting out of the works:**

The setting out of the work shall be the sole responsibility of the Contractor and shall be done in accordance with the Guidelines for the provision of Engineering Services in Residential Townships" by The Department of Community Development.

1.6 **Keep site tidy:**

The Contractor shall keep the site tidy at all times and remove all old material and such as rubble, off-cuts, demolished material, surplus material and carry away and dump or store onto or at an approved site.

A permit must be obtained from the Municipalities to transport material on their roads, when required.

1.7 **Day work Rates:**

The contractor shall be paid as per the tender rates and prices and any addition or omissions shall be to the discretion of the Project Manager all as per the site instruction book. When an item is not in the schedule then a variation shall be given based on day work rates and shall be recorded in the diary (day book) plus material with handling costs (percentage), all as per the preambles in the Schedule of Rates and Prices, herein.

THIS (SCHEDULE OF RATES AND PRICES) MUST BE FILLED IN AND ADDED TO THE TOTAL CONTRACT PRICE.

The profit required to do the work shall be to the contractor's consideration and must be allowed for in the entire Schedule of Rates and Prices.

1.8 **Fundamentals:**

1.8.1 **Maintenance**

The successful contractor shall ensure that the road is maintained in an acceptable and comfortable riding condition for the six months by allowing for continuous maintenance. This shall include remedial action against dust, potholes, stoniness, corrugations, ruts, cracks, ravelling, slipperiness and erosion all as per the TRH 20 document.

1.8.2 **Material selection**

The gravel used for the final layer shall be suitable grading material as recommended in TRH 20 (Dr. Paige-Green – Transportek, CSIR) this material shall fall in the "E - block" (good). IE: Shrinkage Product (S_p)^b between 100-250 with a grading coefficient (G_c)^c between 16-34.

The CBR shall not be less than 15% at 95% Mod. AASHO compaction at OMC^d when tested immediately after compaction. No material shall be greater than 37.5mm (passing a 37,5mm sieve).

The grading operator (grader and rollers) shall be done by skilled operators to give a solid well-finished gravelled surface to a camber of 3% as recommended in the practical guide.

Caution must be taken not to damage water pipes and electrical cables.



1.8.3 Storm Water Channels (Mitre Drains and Turnouts)

Allowance to be made for storm water chain furrows to lead away from the road by forming mitre drains and turnouts. The open channels shall have a fall of 2% (1:50) see detail diagram A.

1.8.4 Mixing and watering

The compaction shall be kept moist during construction with a moisture content that will be the optimum for the construction equipment employed. The equipment shall be capable of achieving the densities as specified elsewhere in these Specifications. Only approved water of good quality shall be used.

The required amount of water shall be added by repeated trips of approved pneumatic tyre water lorries fitted with two or more sprinkler bars. Wherever possible most of the required water shall be added on the day preceding compaction, in order to obtain a more uniform distribution.

Thorough mixing of water with the material to be compacted shall be carried out with approved equipment and continued until a uniform and homogeneous mixture is obtained to the satisfaction of the Project Manager.

1.8.5 Compactions

Compaction of each layer under construction shall only be carried out when the material in that layer has been mixed and watered to the satisfaction of the Project Manager. Compaction shall be carried out over the full width of the layer under construction by means of approved plant and equipment and shall continue until the whole layer has attained a density as specified in the contract.

The Contractor shall advise the Project Manager when the compaction of the layer has been carried out to the extent required. The contractor shall conduct the necessary field density tests under the supervision of the Project Manager and forward the results for approval (see Section 10). The Project Manager may instruct the Contractor to re-compact at his own expense any section of the layer, which has not been compacted as specified. If he deems it necessary the Project Manager may instruct the Contractor to cut out any weak spot, repair it with sound material, and re-compact it all at his own expense to the satisfaction of the Project Manager. The Contractor shall repair in a similar manner all damage caused by any field density tests having been carried out. When the Project Manager is satisfied with the compaction obtained he will authorise the construction of the following layer; in no case shall any materials be placed on the approved layer without the prior written authorization of the Project Manager. The finished surface shall also be free from potholes, corrugations, ruts, loose patches, depressions or humps and shall present a hard compacted layer.

SECTION 2

FORMATION LAYER:

2.1 Disposal of soil

All excavated material, and other surplus material or backfill shall be carted and disposed of by the contractor to an approved dumpsite.

2.2 Sub-Base

Existing gravel road to be ripped up as and where **required** to loosen the soil up to 100 mm deep and prepare to grade. Where necessary allow for extra material to compliment the existing and to assist in reshaping the formation to the new profiles.

Grade the existing road to the required geometries shape and to form drainage along the edge, elsewhere described. Width of road to be 5 m. Allow for the wetting of the road to the correct moisture content so as to be able to form the sub-base. The cross fall shall not be greater than 5% and less than 3% (1:20 to 1:33,3)



Use a roller and keep the road moist to compact the road to 90% mod AASTHO using gravel as before described and a CBR of 5% (minimum). Leave the road ready for the new base course.

2.3 Mixing and watering

As per cl 1.8.4 of this part "B".

2.4 Sub-standard materials

The Contractor shall not order or deliver to the site any material, which has not been approved by the Project Manager. If sub-standard material is delivered, the Project Manager may order the Contractor to remove all such material from the site and the cost of material and cartage shall be for the Contractor's account.

2.5.1 Material

The sub-base shall be the institute road and worked by adding imported material to give a formation as specified and to receive the top (base) layer.

Materials shall contain no vegetable matter, rubbish or other deleterious matter, and shall conform to the following Specifications:-

A minimum CBR of 5% at 90% Modified AASHTO Density.

2.6 Grading and Placing of materials and wetting

The sub-grade material shall be spread out over the full width specified and shall be thoroughly mixed and broken up by rotary cultivator, blading or dicing to ensure that there are no clods or lumps which might prevent the uniform distribution of the material. Breaking up of clods or lumps shall in no way affect layers already compacted and approved. The mixing and wetting of the material shall be done in accordance with the provisions of Clause 1.8 the minimum thickness placed for any lift shall be 100mm.

2.7 Compaction

The compaction of the selected layer of the sub-grade course shall be done as described in Clause 1.8.5 But to a minimum degree of compaction required would be at least 90% of Mod AASTHO.

The finished surface of the sub-base shall be free from depressions exceeding 15mm when measured with a straight edge 3m long.

SECTION 3

STORM WATER

3.1.1 Furrows:

Where necessary allow for open drainage channels and form furrows to drain storm water away from the road. This is to be on the "runoff" sides and will be to various depths and to a minimum fall of 1 in 100 (1%) and a maximum of 1 in 50 (2%).

3.2 Outlets:

Form outlets alongside the road as required and lead the storm water from the furrow so as to drain the storm water into the open land. Or lead the storm water to lead to other storm water channel or river or form an excavated pit to allow the water to drain naturally into the ground.



freight road

SECTION 4

FINAL LAYER (BASE)

4.1 Description

Form a final layer (base) of 150mm graded material all as in Section 1 described and further herein.

4.2 Properties of the base material

The base material shall have the following properties:-

- Maximum size 37,5mm passing a standard sieve.
- A California Bearing Ration (CBR) of at least 15% at 95% Modified AASHTO Density.
- A CBR Swell not exceeding 0,2% at Modified AASHTO Density.
- A lower Liquid Limit not exceeding 25.
- Linear Shrinkage not exceeding 3%.
- After compaction the grading of the material is placed on the road and shall conform to the following grading envelope:

SIEVE (mm)	NOMINAL SIZE OF AGGREGATE
	37,5
	Max Allowable Mass on Sieve (kg)
26,5	0,8
19,0	0,6
13,2	0,4
6,7	0,3
4,75	0,25
2,0	0,2
0,425	0,2
0,075	0,1

The grading shall be kept as near the mean of the specified grading envelope shown above as possible.

4.3 Placing of materials and wetting

The base shall be constructed in a layer not less than 100mm in thickness, measured after compaction.

4.4 Compaction

After being shaped to levels and cross-sections, each layer shall be compacted to a minimum of 95% Modified AASHTO Density over the full specified width of the layer. Compaction shall be carried out as specified in Clause 2.2.2 and 2.2.3.

4.5 Preparation of surface

After the final layer has been compacted to the required density at optimum moisture content, the final surface shall be watered and subjected to additional rolling in order to obtain a firm, even, well-knit surface.

Grade the road to a level surface to a camber of not greater than 3% so as to allow for storm water to drain to the furrows and to further lead the water away from the road all as described in Section 3.

TRANSNET SOC LIMITED

(Registration no. 1990/000900/30)

SAFETY ARRANGEMENTS AND PROCEDURAL COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993) AND APPLICABLE REGULATIONS

1. General

- 1.1 The Contractor and Transnet Limited (hereinafter referred to as "Transnet") are individual employers, each in its own right, with their respective duties and obligations set out in the Occupational Health and Safety Act, Act 85 of 1993 (the Act) and applicable Regulations.
- 1.2 The Contractor accepts, in terms of the General Conditions of Contract and in terms of the Act, his obligations as an employer in respect of all persons in his employ, other persons on the premises or the Site or place of work or on the work to be executed by him, and under his control. He shall, before commencement with the execution of the contract work, comply with the provisions set out in the Act, and shall implement and maintain a Health and Safety Plan as described in the Construction Regulations, 2003 and as approved by Transnet, on the Site and place of work for the duration of the Contract.
- 1.3 The Contractor accepts his obligation to complying fully with the Act and applicable Regulations notwithstanding the omission of some of the provisions of the Act and the Regulations from this document.
- 1.4 Transnet accepts, in terms of the Act, its obligations as an employer of its own employees working on or associated with the site or place of work, and the Contractor and Technical Officer or his deputy shall at all times, co-operate in respect of the health and safety management of the site, and shall agree on the practical arrangements and procedures to be implemented and maintained during execution of the Works.
- 1.5 In the event of any discrepancies between any legislation and this specification, the applicable legislation will take precedence.

2. Definitions

- 2.1 In this Specification any word or expression to which a meaning has been assigned in the Construction Regulations, shall have the meaning so assigned to it, unless the context otherwise indicates: -
- 2.2 The work included in this Contract shall for the purposes of compliance with the Act be deemed to be "**Construction Work**", which, in terms of the Construction Regulations, 2003 means any work in connection with: -
 - (a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
 - (b) the installation, erection, dismantling or maintenance of fixed plant where such work includes the risk of a person falling;
 - (c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
 - (d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work;
- 2.3 "**competent person**" in relation to construction work, means any person having the knowledge, training and experience specific to the work or task being performed: Provided that where appropriate qualifications and training are registered as per the South African Qualifications Authority Act, 1995 these qualifications and training shall be deemed to be the required qualifications and training;
- 2.4 "**contractor**" means principal contractor and "subcontractor" means contractor as defined by the Construction Regulations, 2003.
- 2.5 "**fall protection plan**" means a documented plan, of all risks relating to working from an elevated position, considering the nature of work undertaken, and setting out the procedures and methods applied to eliminate the risk;

- 2.6 **"health and safety file"** means a file, or other record in permanent form, containing the information required to be kept on site in accordance with the Act and applicable Regulations;
- 2.7 **"Health and Safety Plan "** means a documented plan which addresses the hazards identified and include safe work procedures to mitigate, reduce or control the hazards identified;
- 2.8 **"Risk Assessment"** means a programme to determine any risk associated with any hazard at a construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard;
- 2.9 **"the Act"** means the Occupational Health and Safety Act No. 85 of 1993.

3. Procedural Compliance

- 3.1 The Contractor who intends to carry out any construction work shall, before carrying out such work, notify the Provincial Director in writing if the construction work:-
- (a) includes the demolition of a structure exceeding a height of 3 metres; or
 - (b) includes the use of explosives to perform construction work; or
 - (c) includes the dismantling of fixed plant at a height greater than 3m,
- and shall also notify the Provincial Director in writing when the construction work exceeds 30 days or will involve more than 300 person days of construction work and if the construction work:-
- (a) includes excavation work deeper than 1m; or
 - (b) includes working at a height greater than 3 metres above ground or a landing.
- 3.2 The notification to the Provincial Director shall be on a form similar to Annexure A of the Construction Regulations, 2003, also shown in Annexure 1 of this Specification. The Contractor shall ensure that a copy of the completed notification form is kept on site for inspection by an inspector, Technical Officer or employee.
- 3.3 The Contractor shall, in accordance with the Act and applicable Regulations, make all the necessary appointments of competent persons in writing on a form similar to Annexure 2 of this Specification and deliver copies thereof to the Technical Officer. Copies should also be retained on the health and safety file.
- 3.4 Subcontractors shall also make the above written appointments and the Contractor shall deliver copies thereof to the Technical Officer.
- 3.5 In the case of a self-employed Contractor or any subcontractor who has the appropriate competencies and supervises the work himself, the appointment of a construction supervisor in terms of regulation 6.1 of the Construction Regulations, 2003 will not be necessary. The Contractor shall in such a case execute and sign a declaration, as in Annexure 3, by which he personally undertakes the duties and obligations of the "Chief Executive Officer" in terms of section 16(1) of the Act.
- 3.6 The Contractor shall, before commencing any work, obtain from the Technical Officer an access certificate as in Annexure 4 executed and signed by him, permitting and limiting access to the designated site or place of work by the Contractor and any subcontractors under his control.
- 3.7 Procedural compliance with Act and Regulations, as above, shall also apply to any subcontractors as employers in their own right. The Contractor shall furnish the Technical Officer with full particulars of such subcontractors and shall ensure that they comply with the Act and Regulations and Transnet's safety requirements and procedures.

4. Special Permits

Where special permits are required before work may be carried out such as for hotwork, isolation permits, work permits and occupations, the Contractor shall apply to the Technical Officer or the relevant authority for such permits to be issued. The Contractor shall strictly comply with the conditions and requirements pertaining to the issue of such permits.

5. Health and Safety Programme

- 5.1 The Tenderer shall, with his tender, submit a Health and Safety Programme setting out the practical arrangements and procedures to be implemented by him to ensure compliance by him with the Act and Regulations and particularly in respect of: -
- (i) The provision, as far as is reasonably practical, of a working environment that is safe and without risk to the health of his employees and subcontractors in terms of section 8 of the Act;
 - (ii) the execution of the contract work in such a manner as to ensure in terms of section 9 of the Act that persons other than those in the Contractor's employment, who may be directly affected by the contract work are not thereby exposed to hazards to their health and safety;
 - (iii) ensuring, as far as is reasonably practical, in terms of section 37 of the Act that no employee or subcontractor of the Contractor does or omits to do any act which would be an offence for the Contractor to do or omit to do.
- 5.2 The Contractor's Health and Safety Programme shall be based on a risk assessment in respect of the hazards to health and safety of his employees and other persons under his control that are associated with or directly affected by the Contractor's activities in performing the contract work and shall establish precautionary measures as are reasonable and practical in protecting the safety and health of such employees and persons.
- 5.3 The Contractor shall cause a risk assessment contemplated in clause 5.2 above to be performed by a competent person, appointed in writing, before commencement of any Construction Work and reviewed during construction. The Risk Assessments shall form part of the Health and Safety programme to be applied on the site and shall include at least the following:
- (a) The identification of the risks and hazards that persons may be exposed to;
 - (b) the analysis and evaluation of the hazards identified;
 - (c) a documented Health and Safety Plan, including safe work procedures to mitigate, reduce or control the risks identified;
 - (d) a monitoring and review plan.
- 5.4 The Health and Safety Plan shall include full particulars in respect of: -
- (a) The safety management structure to be instituted on site or place of work and the names of the Contractor's health and safety representatives and members of safety committees where applicable;
 - (b) the safe working methods and procedures to be implemented to ensure the work is performed in compliance with the Act and Regulations;
 - (c) the safety equipment, devices and clothing to be made available by the Contractor to his employees;
 - (d) the site access control measures pertaining to health and safety to be implemented;
 - (e) the arrangements in respect of communication of health and safety related matters and incidents between the Contractor, his employees, subcontractors and the Technical Officer with particular reference to the reporting of incidents in compliance with Section 24 and General Administrative Regulation 8 of the Act and with the pertinent clause of the General Conditions of Contract forming part of the Contract and
 - (f) the introduction of control measures for ensuring that the Safety Plan is maintained and monitored for the duration of the Contract.
- 5.4 The Health and Safety programme shall be subject to the Technical Officer's approval and he may, in consultation with the Contractor, order that additional and/or supplementary practical arrangements and procedures be implemented and maintained by the Contractor or that different working methods or safety equipment be used or safety clothes be issued which, in the Technical Officer's opinion, are necessary to ensure full compliance by the Contractor with his obligations as an employer in terms of the Act and Regulations. The Technical Officer or his deputy shall be allowed to attend meetings of the Contractor's safety committee as an observer.

- 5.5 The Contractor shall take reasonable steps to ensure that each subcontractor's Health and Safety Plan is implemented and maintained on the construction site: Provided that the steps taken, shall include periodic audits at intervals mutually agreed to between the them, but at least once every month.
- 5.6 The Contractor shall stop any subcontractor from executing any construction work, which is not in accordance with the Contractor's, and/or subcontractor's Health and Safety Plan for the site or which poses a threat to the health and safety of persons.
- 5.7 The Contractor shall ensure that a copy of the Health and Safety Plan is available on site for inspection by an inspector, Technical Officer, agent, subcontractor, employee, registered employee organisation, health and safety representative or any member of the health and safety committee.
- 5.8 The Contractor shall consult with the health and safety committee or, if no health and safety committee exists, with a representative group of employees, on the development, monitoring and review of the Risk Assessment.
- 5.9 The Contractor shall ensure that all employees under his control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the Risk Assessment.
- 5.10 The Contractor shall ensure that all subcontractors are informed regarding any hazard as stipulated in the Risk Assessment before any work commences, and thereafter at such times as may be determined in the Risk Assessment.
- 5.11 The Contractor shall ensure that all visitors to a construction site undergoes health and safety induction pertaining to the hazards prevalent on the site and shall be provided with the necessary personal protective equipment.

6. Fall Protection Plan

- 6.1.1 In the event of the risk and hazard identification, as required in terms of clause 5.3 of this Specification, revealing risks relating to working from an elevated position the contractor shall cause the designation of a competent person, responsible for the preparation of a fall protection plan;
- 6.2 The Contractor shall implement, maintain and monitor the fall protection plan for the duration of Contract. The Contractor shall also take such steps to ensure the continued adherence to the fall protection plan.
- 6.3 The fall protection plan shall include:-
- (a) A Risk Assessment of all work carried out from an elevated position;
 - (b) the procedures and methods to address all the identified risks per location;
 - (c) the evaluation of the employees physical and psychological fitness necessary to work at elevated positions;
 - (d) the training of employees working from elevated positions; and
 - (e) the procedure addressing the inspection, testing and maintenance of all fall protection equipment.

7. Hazards and Potential Hazardous Situations

The Contractor and the Technical Officer shall immediately notify one another of any hazardous or potentially hazardous situations which may arise during performance of the Contract by the Contractor or any subcontractor and, in particular, of such hazards as may be caused by the design, execution and/or location and any other aspect pertaining to the contract work.

8. Health and Safety File

- 8.1 The Contractor shall ensure that a health and safety file is opened and kept on site and shall include all documentation required as per the Act and applicable regulations, and made available to an inspector, the Technical Officer, or subcontractor upon request.

- 8.2 The Contractor shall ensure that a copy of the both his Health and Safety Plan as well as any subcontractor's Health and Safety Plan is available on request to an employee, inspector, contractor or the Technical Officer.
- 8.3 The Contractor shall hand over a consolidated health and safety file to the Technical Officer upon completion of the Construction Work and shall in addition to documentation mentioned in the Act and applicable Regulations include a record of all drawings, designs, materials used and other similar information concerning the completed structure.

"PREVIEW COPY ONLY"

ANNEXURE 1**OCCUPATIONAL HEALTH AND SAFETY ACT, 1993****Regulation 3(1) of the Construction Regulations****NOTIFICATION OF CONSTRUCTION WORK**

-
-
- 1(a) Name and postal address of principal contractor:

- (b) Name and tel. no of principal contractor's contact person:

2. Principal contractor's compensation registration number: _____
- 3.(a) Name and postal address of client:

- (b) Name and tel no of client's contact person or agent:

- 4.(a) Name and postal address of designer(s) for the project:

- (b) Name and tel. no of designer(s) contact person:

5. Name and telephone number of principal contractor's construction supervisor on site appointed in terms of regulation 6(1).

6. Name/s of principal contractor's construction sub-ordinate supervisors on site appointed in terms of regulation 6(2). _____
7. Exact physical address of the construction site or site office:

8. Nature of the construction work:

9. Expected commencement date: _____
10. Expected completion date: _____

11. Estimated maximum number of persons on the construction site: _____

12. Planned number of contractors on the construction site accountable to the principle contractor:

13. Name(s) of contractors already chosen.

Principal Contractor

Date

Client

Date

* THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR **PRIOR TO COMMENCEMENT** OF WORK ON SITE.

* **ALL PRINCIPAL CONTRACTORS** THAT QUALIFY TO NOTIFY MUST DO SO EVEN IF ANOTHER PRINCIPAL CONTRACTOR ON THE SAME SITE HAD DONE SO PRIOR TO THE COMMENCEMENT OF WORK.

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ANNEXURE 2

(COMPANY LETTER HEAD)

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT 85 OF 1993) :

SECTION/REGULATION: _____

REQUIRED COMPETENCY: _____

In terms of _____ I, _____

representing the Employer) do hereby appoint _____

As the Competent Person on the premises at _____

(physical address) to assist in compliance with the Act and the applicable Regulations.

Your designated area/s is/are as follows :-

Date : _____

Signature :- _____

Designation :- _____

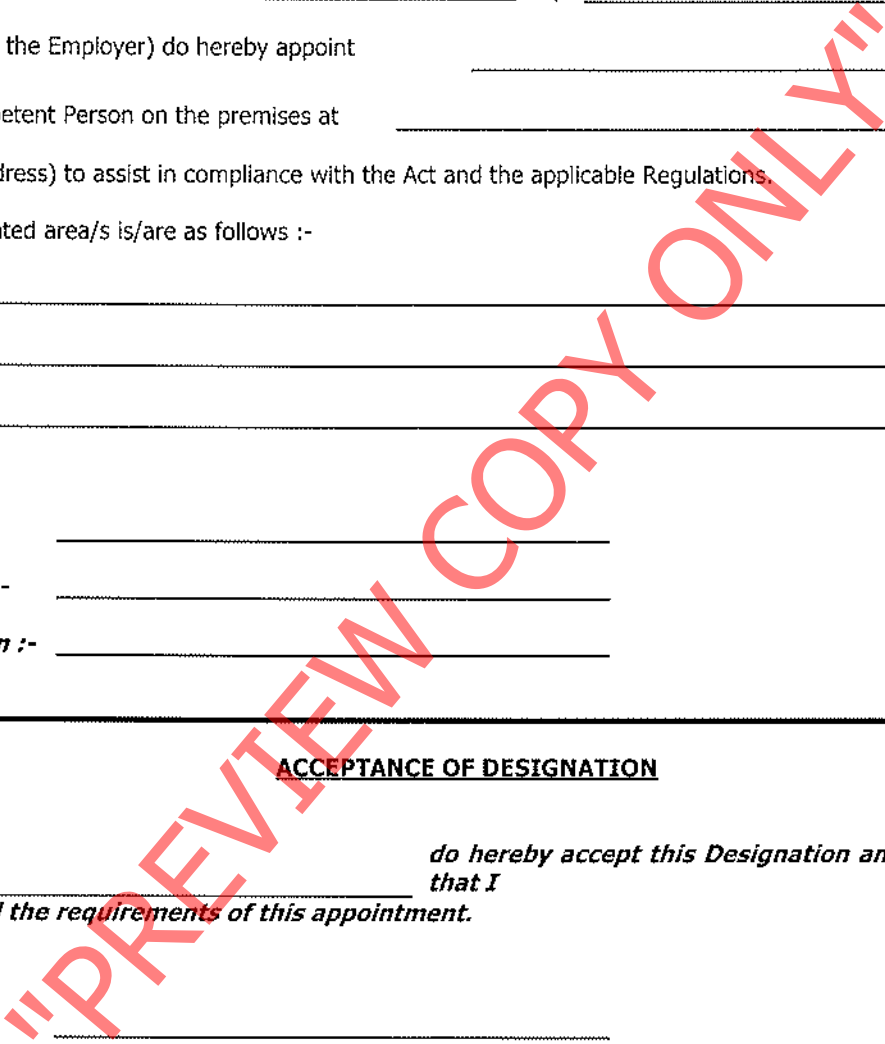
ACCEPTANCE OF DESIGNATION

I, _____ do hereby accept this Designation and acknowledge that I understand the requirements of this appointment.

Date : _____

Signature :- _____

Designation :- _____



ANNEXURE 3**(COMPANY LETTER HEAD)****OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT 85 OF 1993) :****DECLARATION**

In terms of the above Act I, _____ am personally assuming the duties and obligations as Chief Executive Officer, defined in Section 1 of the Act and in terms of Section 16(1), I will, as far as is reasonably practicable, ensure that the duties and obligations of the Employer as contemplated in the above Act are properly discharged.

Signature :- _____

Date : _____

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ANNEXURE 4

(LETTER HEAD OF BUSINESS DIVISION OR UNIT OF TRANSNET LIMITED)

SITE ACCESS CERTIFICATE

Access to : _____ (Area)
Name of Contractor/Builder :- _____
Contract/Order No.: _____

The contract works site/area described above are made available to you for the carrying out of associated works

In terms of your contract/order with
(company) _____

Kindly note that you are at all times responsible for the control and safety of the Works Site, and for persons under your control having access to the site.

As from the date hereof you will be responsible for compliance with the requirements of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) as amended, and all conditions of the Contract pertaining to the site of the works as defined and demarcated in the contract documents including the plans of the site or work areas forming part thereof.

Signed : _____ **Date :** _____
TECHNICAL OFFICER

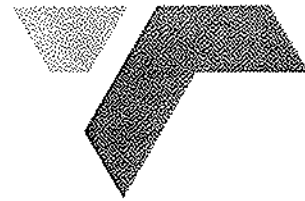
ACKNOWLEDGEMENT OF RECEIPT

Name of Contractor/Builder _____ **I,**
:- _____
_____ **do hereby acknowledge and accept the**
_____ **duties**
and obligations in respect of the Safety of the site/area of Work in terms of the Occupational
Health and Safety Act; Act 85 of 1993.

Name : _____ **Designation :** _____

Signature : _____ **Date :** _____

TRANSNET



Transnet SOC Limited Registration Number 1990/00900/06

TRANSNET SPECIFICATION

E7/1 - SPECIFICATION FOR GENERAL WORK AND WORKS ON, OVER, UNDER OR ADJACENT TO RAILWAY LINES AND NEAR HIGH VOLTAGE EQUIPMENT

(This specification shall be used in network operator contracts)

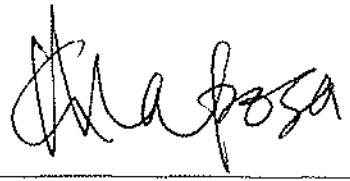
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(This page not to be issued with contract)

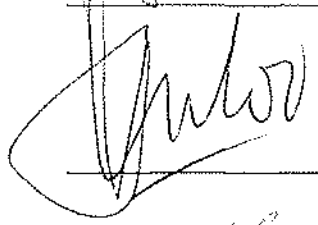
SPECIFICATION FOR GENERAL WORK AND WORKS ON, OVER, UNDER OR ADJACENT TO RAILWAY LINES AND NEAR HIGH VOLTAGE EQUIPMENT

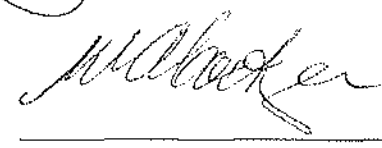
Author: Project Manager
Capital Program (Electrical) G. Maposa 

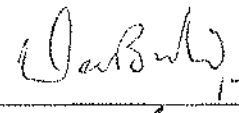
Approved: Senior Engineer
Infra Engineering
(Train Authorisation Systems) J. van den Berg 


“ Principal Engineer
Infra Engineering (Track) M. Marutla 

“ Principal Engineer
Infra Engineering (Structures) J. Homan 

“ Principal Engineer
Infra Engineering (Electrical) J. Vosloo 

“ Principal Engineer
Technology Management (Electrical) W. Coetzee 

“ Chief Engineer
Transport Telecoms D. Botha 
17 June 11

Authorised: Chief Engineer
Infrastructure Engineering J. van Aardt 
2011/06/30

Date: May 2011

(This page not to be issued with contract)

TRANSNET



Transnet SOC Limited Registration Number 1990/00900/06

TRANSNET SPECIFICATION

E7/1 - SPECIFICATION FOR GENERAL WORK AND WORKS ON, OVER, UNDER OR ADJACENT TO RAILWAY LINES AND NEAR HIGH VOLTAGE EQUIPMENT

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1.0 SCOPE

1.1 This specification covers the network operator's requirements for general work and works on, over, under or adjacent to railway lines and near high voltage equipment.

2.0 DEFINITIONS

The following definitions shall apply:

"Authorised Person" - A person whether an employee of the network operator or not, who has been specially authorised to undertake specific duties in terms of Transnet's publication Electrical Safety Instructions, and who holds a certificate or letter of authority to that effect.

"Barrier" Any device designed to restrict access to "live" high-voltage electrical equipment.

"Bond" - A short conductor installed to provide electrical continuity.

"Contractor" - Any person or organisation appointed by the network operator to carry out work on its behalf.

"Contract Supervisor" - The person or juristic person appointed by the network operator from time to time as the Contract Supervisor, to administer the Contractor's performance and execution of the Works according to the powers and rights held by and obligations placed upon the Contract Supervisor in terms of the Contract.

"Dead" - Isolated and earthed.

"Electrical Officer (Contracts)" - The person appointed in writing by the Project Manager in terms of this specification as the person who shall be consulted by the Contractor in all electrical matters to ensure that adequate safety precautions are taken by the Contractor.

"Executive Officer" - The person appointed by the network operator from time to time as the Executive Officer to act according to the rights and powers held by and obligations placed upon him in terms of the Contract.

"High-Voltage" - A voltage normally exceeding 1000 volts.

"Live" - A conductor is said to be "live" when it is at a potential different from that of the earth or any other conductor of the system of which it forms a part.

"Near" - To be in such a position that a person's body or the tools he is using or any equipment he is handling may come within 3 metres of "live" exposed high-voltage electrical equipment.

"Occupation" - An authorisation granted by the network operator for work to be carried out under specified conditions on, over, under or adjacent to railway lines.

"Occupation Between Trains" - An occupation during an interval between successive trains.

"Optical Fibre Cable" - Buried or suspended composite cable containing optical fibres used in:

- telecommunication networks for transmission of digital information and
- safety sensitive train operations systems.

"Project Manager" - As defined in the special conditions of the contract. The person or juristic person appointed by the network operator from time to time as the Project Manager, to administer the Contract according to the powers and rights held by and obligations placed upon him in terms of the Contract.

"Responsible Representative" - The responsible person in charge, appointed by a contractor, who has undergone specific training (and holds a certificate) to supervise (general or direct) staff under his control who perform general work or to work on, over, under or adjacent to railway lines and in the vicinity of high-voltage electrical equipment.

"Total Occupation" - An occupation for a period when trains are not to traverse the section of line covered by the occupation.

"Work on" - Work undertaken on or so close to the equipment that the specified working clearances to the "live" equipment cannot be maintained.

"Work Permit" - A combined written application and authority to proceed with work on or near dead electrical equipment.

"Works" - The contractual intent for the work to be done as defined in the contract at a defined work site.

PART A - GENERAL SPECIFICATION**3.0 AUTHORITY OF OFFICERS OF TRANSNET**

- 3.1 The Contractor shall co-operate with the officers of the network operator and shall comply with all instructions issued and restrictions imposed with respect to the Works which bear on the existence and operation of the network operator's railway lines and high-voltage equipment.
- 3.2 Without limiting the generality of the provisions of clause 3.1, any duly authorised representative of the network operator, having identified himself, may stop the work if, in his opinion, the safe passage of trains or the safety of the network operator's assets or any person is affected. **CONSIDERATIONS OF SAFETY SHALL TAKE PRECEDENCE OVER ALL OTHER CONSIDERATIONS.**

4.0 CONTRACTOR'S REPRESENTATIVES AND STAFF

- 4.1 The Contractor shall nominate Responsible Representatives of whom at least one shall be available at any hour for call-out in cases of emergency. The Contractor shall provide the Contract Supervisor with the names, addresses and telephone numbers of the representatives.
- 4.2 The Contractor guarantees that he has satisfied himself that the Responsible Representative is fully conversant with this specification and that he shall comply with all his obligations in respect thereof.
- 4.3 The Contractor shall ensure that all contractor staff receives relevant awareness, educational and competence training regarding safety as prescribed.

5.0 OCCUPATIONS AND WORK PERMITS

- 5.1 Work to be done during total occupation or during an occupation between trains or under a work permit shall be done in a manner decided by the Contract Supervisor and at times to suit the network operator requirements.
- 5.2 The Contractor shall organise the Works in a manner which will minimise the number and duration of occupations and work permits required.
- 5.3 The network operator will not be liable for any financial or other loss suffered by the Contractor arising from his failure to complete any work scheduled during the period of an occupation or work permit.
- 5.4 The Contractor shall submit to the Contract Supervisor, in writing, requests for occupations or work permits together with details of the work to be undertaken, at least 21 days before they are required. The network operator does not undertake to grant an occupation or work permit for any particular date, time or duration.
- 5.5 The network operator reserves the right to cancel any occupation or work permit at any time before or during the period of occupation or work permit. If, due to cancellation or change in date or time, the Contractor is not permitted to start work under conditions of total occupation or work permit at the time arranged, all costs caused by the cancellation shall be born by the Contractor except as provided for in clauses 5.6 to 5.8.
- 5.6 When the Contractor is notified less than 2 hours before the scheduled starting time that the occupation or work permit is cancelled, he may claim reimbursement of his direct financial losses caused by the loss of working time up to the time his labour and plant are employed on other work, but not exceeding the period of the cancelled occupation or work permit.
- 5.7 When the Contractor is notified less than 2 hours before the scheduled starting time, or during an occupation or work permit, that the duration of the occupation or work permit is reduced, he may claim reimbursement of his direct financial losses caused by the loss of working time due to the reduced duration of the occupation or work permit.
- 5.8 Reimbursement of the Contractor for any loss of working time in terms of clause 5.6 and 5.7, shall be subject to his claims being submitted within 14 days of the event with full details of labour and plant involved, and provided that the Contract Supervisor certifies that no other work on which the labour and plant could be employed was immediately available.
- 5.9 Before starting any work for which an occupation has been arranged, the Contractor shall obtain from the Contract Supervisor written confirmation of the date, time and duration of the occupation.
- 5.10 Before starting any work for which a work permit has been arranged, the Responsible Representative shall read and sign portion C of the Work Permit, signifying that he is aware of the work boundaries within which work may be undertaken. After the work for which the permit was granted has been completed, or when the

work permit is due to be terminated, or if the permit is cancelled after the start, the same person who signed portion C shall sign portion D of the Work Permit, thereby acknowledging that he is aware that the electrical equipment is to be made "live". The Contractor shall advise all his workmen accordingly.

6.0 SPEED RESTRICTIONS AND PROTECTION

- 6.1 When speed restrictions are imposed by the network operator because of the Contractor's activities, the Contractor shall organise and carry out his work so as to permit the removal of the restrictions as soon as possible.
- 6.2 When the Contract Supervisor considers protection to be necessary the Contractor shall, unless otherwise agreed, provide all protection including flagmen, other personnel and all equipment for the protection of the network operator's and the Contractor's personnel and assets, the public and including trains.
- 6.2.1 The network operator will provide training free of charge of the Contractor's flagmen and other personnel performing protection duties. The Contractor shall consult with the Contract Supervisor, whenever he considers that protection will be necessary, taking into account the minimum permissible clearances set out in the Manual for Track Maintenance (Document no. BBB0481):
- Drawing no. BE-97 Sheet 1: Horizontal Clearances: 1065mm gauge (Annexure 1 sheet 1)
 - Drawing no. BE-97 Sheet 2: Vertical Clearances: 1065mm gauge (Annexure 1 sheet 2)
 - Drawing no. BE-97 Sheet 3: Clearances: Platform (Annexure 1 sheet 3)
 - Drawing no. BE-97 Sheet 5: Clearances: 610mm Gauge (Annexure 1 sheet 5)
- 6.3 The Contractor shall appoint a Responsible Representative to receive and transmit any instruction which may be given by the network operator personnel providing protection.

7.0 ROADS AND ROADS ON THE NETWORK OPERATOR'S PROPERTY

- 7.1 The Contractor shall take every reasonable precaution to prevent damage to any roads or bridges used to obtain access to the site, and shall select routes, use vehicles, and restrict loads so that any extraordinary traffic as may arise from the moving of plant or material to or from the site shall be limited as far as is reasonably possible.
- 7.2 The Contractor shall not occupy or interfere in any way with the free use of any public or private road, right-of-way, path or street unless the Contract Supervisor has obtained the approval of the road authority concerned.

8.0 CLEARANCES

- 8.1 No temporary works shall encroach on the appropriate minimum clearances set out in the Manual for Track Maintenance (Document no. BBB0481):
- Drawing no. BE-97 Sheet 1: Horizontal Clearances: 1065mm gauge (Annexure 1 sheet 1)
 - Drawing no. BE-97 Sheet 2: Vertical Clearances: 1065mm gauge (Annexure 1 sheet 2)
 - Drawing no. BE-97 Sheet 3: Clearances: Platform (Annexure 1 sheet 3)
 - Drawing no. BE-97 Sheet 5: Clearances: 610mm Gauge (Annexure 1 sheet 5)

9.0 STACKING OF MATERIAL

- 9.1 The Contractor shall not stack any material closer than 3m from the centre line of any railway line without prior approval of the Contract Supervisor.

10.0 EXCAVATION, SHORING, DEWATERING AND DRAINAGE

- 10.1 Unless otherwise approved by the Contract Supervisor any excavation adjacent to a railway line shall not encroach on the hatched area shown in Figure 1.

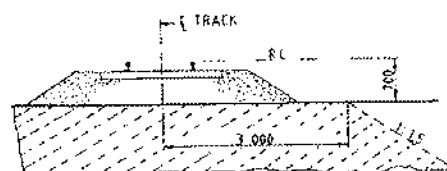


Fig 1

- 10.2 The Contractor shall provide, at his own cost any shoring, dewatering or drainage of any excavation unless otherwise stipulated elsewhere in the Contract.
- 10.3 Where required by the Contract Supervisor, drawings of shoring for any excavation under or adjacent to a railway line shall be submitted and permission to proceed, obtained before the excavation is commenced.
- 10.4 The Contractor shall prevent ingress of water to the excavation but where water does enter, he shall dispose of it as directed by the Contract Supervisor.
- 10.5 The Contractor shall not block, obstruct or damage any existing drains either above or below ground level unless he has made adequate prior arrangements to deal with drainage.

11.0 FALSEWORK FOR STRUCTURES

- 11.1 Drawings of falsework for the construction of any structure over, under or adjacent to any railway line shall be submitted to the Contract Supervisor and his permission to proceed obtained before the falsework is erected. Each drawing shall be given a title and a distinguishing number and shall be signed by a registered professional engineer certifying that he has checked the design of the falsework and that the drawings are correct and in accordance with the design.
- 11.2 After the falsework has been erected and before any load is applied, the Contractor shall submit to the Contract Supervisor a certificate signed by a registered professional engineer certifying that he has checked the falsework and that it has been erected in accordance with the drawings. Titles and numbers of the drawings shall be stated in the certificate. Notwithstanding permission given by the Contract Supervisor to proceed, the Contractor shall be entirely responsible for the safety and adequacy of the falsework.

12.0 PILING

- 12.1 The Contract Supervisor will specify the conditions under which piles may be installed on the network operator's property.

13.0 UNDERGROUND SERVICES

- 13.1 No pegs or stakes shall be driven or any excavation made before the Contractor has established that there are no underground services which may be damaged thereby.
- 13.2 Any damage shall be reported immediately to the Contract Supervisor, or to the official in charge at the nearest station, or to the traffic controller in the case of centralised traffic control.

14.0 BLASTING AND USE OF EXPLOSIVES

- 14.1 When blasting within 500m of a railway line, the Contractor shall observe the requirements stipulated in this specification.
- 14.2 No blasting shall be carried out except with the prior written permission of the Contract Supervisor and under such conditions as he may impose.
- 14.3 On electrified lines the Contractor shall also obtain the permission of the Electrical Officer (Contracts) before blasting, and shall give at least 21 days notice of his intention to blast. No blasting shall be done in the vicinity of electrified lines unless a member of the network operator's electrical personnel is present.
- 14.4 The Contractor shall arrange for the supply, transport storage and use of explosives.
- 14.5 The Contractor shall have labour, tools and plant, to the satisfaction of the Contract Supervisor, available on the site to clear immediately any stones or debris deposited on the track or formation by blasting, and to repair any damage to the track or formation immediately after blasting. Repairs to the track shall be carried out only under the supervision of a duly authorised representative of the network operator.
- 14.6 The Contractor shall notify the Contract Supervisor of his intention to blast at least 21 days before the commencement of any blasting operations.
- 14.7 Before any blasting is undertaken, the Contractor and the Contract Supervisor shall jointly examine and measure up any buildings, houses or structures in the vicinity of the proposed blasting to establish the extent of any existing cracking or damage to such structures, etc. The Contractor, shall, subject to the provisions stipulated in the Contract Insurance Policy, make good any deterioration of such buildings, houses, or structures, which, in the opinion of the Contract Supervisor, was directly caused by the blasting.
- 14.8 After completion of the blasting the Contractor shall obtain a written clearance from each landowner in

the vicinity of the blasting operations to the effect that all claims for compensation in respect of damage caused by the blasting operations to their respective properties, have been settled.

14.9 The Contractor shall provide proof that he has complied with the provisions of clauses 10.17.1 to 10.17.4 of the Explosives Regulations (Act 26 of 1956 as amended).

14.10 Blasting within 500m of a railway line will only be permitted during intervals between trains. A person appointed by the Contract Supervisor, assisted by flagmen with the necessary protective equipment, will be in communication with the controlling railway station.

Only this person will be authorised to give the Contractor permission to blast, and the Contractor shall obey his instructions implicitly regarding the time during which blasting may take place.

14.11 The flagmen described in clause 14.10, where provided by the network operator, are for the protection of trains and the network operator's property only, and their presence does not relieve the Contractor in any manner of his responsibilities in terms of Explosives Act or Regulations, or any obligation in terms of this Contract.

14.12 The person described in clause 14.10 will record in a book provided and retained by the network operator, the dates and times:-

(i) when each request is made by him to the controlling station for permission to blast;

(ii) when blasting may take place;

(iii) when blasting actually takes place; and

(iv) when he advises the controlling station that the line is safe for the passage of trains.

14.13 Before each blast the Contractor shall record in the same book, the details of the blast to be carried out. The person appointed by the Contract Supervisor and the person who will do the blasting shall both sign the book whenever an entry described in clause 14.12 is made.

15.0 RAIL TROLLEYS

15.1 The use of rail trolleys or trestle trolleys on a railway line for working on high voltage equipment will be permitted only if approved by the Contract Supervisor and under the conditions stipulated by him.

15.2 All costs in connection with trolley working and any train protection services requested by the Contractor shall, be borne by the Contractor, unless otherwise agreed.

16.0 SIGNAL TRACK CIRCUITS

16.1 Where signal track circuits are installed, the Contractor shall ensure that no material capable of conducting an electrical current makes contact between rails of railway line/lines.

16.2 No signal connections on track-circuited tracks shall be severed without the Contract Supervisor's knowledge and consent.

17.0 PENALTY FOR DELAYS TO TRAINS

17.1 If any trains are delayed by the Contractor and the Contract Supervisor is satisfied that the delay was avoidable, a penalty will be imposed on the Contractor as stipulated in the contract, for the period and number of trains delayed.

18.0 SURVEY BEACONS AND PEGS

18.1 The Contractor shall not on any account move or damage any beacon, bench mark, reference mark, signal or trigonometrical station in the execution of the Works without the written approval of the Contract Supervisor.

Should the Contractor be responsible for any such occurrence, he shall report the circumstances to the Contract Supervisor who will arrange with the Director-General of Surveys for replacement of the beacon or mark at the cost of the Contractor.

18.2 The Contractor shall not move or damage any cadastral or mining beacon without the written approval of the Contract Supervisor and before it has been referenced by a registered land surveyor. Any old boundary beacon, which becomes an internal beacon on creation of new boundaries, shall not be moved without the written approval of the Contract Supervisor.

Should the Contractor move or damage any cadastral or mining beacon without authority, he shall be responsible for having it replaced, at his cost, by a land surveyor.

- 18.3 The Contractor shall preserve all pegs and bench marks. Such survey points shall not be removed without the written approval of the Contract Supervisor. Should any peg or benchmark be removed without authority, the Contract Supervisor will arrange for its replacement and the cost will be recovered from the Contractor. No claim will be considered for delay in replacing any such peg or bench mark. Each peg replaced shall be checked by the Contractor.
- 18.4 Where a new boundary has been established, beacons on the fence line shall not be disturbed, and fence posts or anchors may not be placed or excavations made within 0,6 m of any beacon without the prior written approval of the Contract Supervisor.

19.0 TEMPORARY LEVEL CROSSINGS

- 19.1 The Contract Supervisor may, on request of the Contractor, and if necessary for the purpose of execution of the Works, permit the construction of a temporary level crossing over a railway a line at a position approved by the Contract Supervisor and at the Contractor's cost. The period for which the temporary level crossing is permitted will be at the discretion of the Contract Supervisor.
- 19.2 The Contractor will provide protection and supervise the construction of the road over the track(s) and within the railway servitude at the level crossing, as well as the erection of all road signs and height gauges. All cost to be borne by the applicant.

The Contractor shall exercise extreme caution in carrying out this work, especially in respect of damage to tracks, services, overhead power and communications routes and prevent contact with "live" overhead electrical equipment.

Unless otherwise agreed, the Contractor will provide the service deviations or alterations to the network operator's track-, structure-, drainage-, electrical-, telecommunications- and train authorisation systems to accommodate the level crossing.

- 19.3 The Contractor shall take all necessary steps including the provision of gates, locks and, where necessary, watchmen to restrict the use of the temporary level crossing to himself and his employees, his subcontractors and their employees, the staff of the network operator and to such other persons as the Contract Supervisor may permit and of whose identity the Contractor will be advised. If so ordered by the Contract Supervisor, the Contractor shall provide persons to control road traffic using the temporary level crossing. Such persons shall stop all road traffic when any approaching train is within seven hundred and fifty (750) metres of the temporary level crossing, and shall not allow road traffic to proceed over it until the lines are clear.
- 19.4 The Contractor shall maintain the temporary level crossing within the railway servitude in good condition for the period it is in use. A temporary agreement with the road authority to be concluded for the maintenance of the level crossing outside the railway servitude.
- 19.5 When the temporary level crossing is no longer required by the Contractor, or permitted by the network operator, the Contractor shall at his own cost remove it and restore the site and the network operator's track-, structure-, drainage-, electrical-, telecommunications- and train authorisation systems to its original condition. Work over the tracks and within the railway servitude will be supervised by the network operator.

20.0 COMPLETION OF THE WORKS

- 20.1 On completion of the works, the Contractor shall remove all the remaining construction plant and material from the site, other than material which is the property of the network operator, and leave the site in a clean, neat and tidy condition. If material and plant is required for the liability and maintenance period the Contract supervisor must authorise it's retention on site.

21.0 PROTECTION OF PERSONS AND PROPERTY

- 21.1 The Contractor shall provide and maintain all lights, guards, barriers, fencing and watchmen when and where necessary or as required by the Contract Supervisor or by any statutory authority, for the protection of the Works and for the safety and convenience of the public.

Red, yellow, green or blue lights may not be used by the Contractor as they can be mistaken for signals. Red, yellow, green or white flags shall only be used for protection by the Contractor. Within the precincts of a port the Contractor shall obtain the permission of the Port Captain before installing any light.

- 21.2 The Contractor shall take all the requisite measures and precautions during the course of the Works to:
- (i) protect the public and property of the public,
 - (ii) protect the property and workmen of both the network operator and the Contractor,
 - (iii) avoid damage to and prevent trespass on adjoining properties, and
 - (iv) ensure compliance with any instruction issued by the Contract Supervisor or other authorised person, and with any stipulation embodied in the contract documents which affects the safety of any person or thing.
- 21.3 The network operator will provide, at its own cost, protection for the safe working of trains during such operations as the Contract Supervisor may consider necessary. Protection by the network operator for any purpose whatsoever, does not absolve the Contractor of his responsibilities in terms of the Contract.
- 21.4 The Contractor shall take all precautions and appoint guards, watchmen and compound managers for prevention of disorder among and misconduct by the persons employed on the Works and by any other persons, whether employees or not, on the work site and for the preservation of the peace and protection of persons and property in the direct neighbourhood. Any relocation of camps because of disorder shall be at the Contractor's expense.
- 21.5 All operations necessary for the execution of the Works, including the provision of any temporary work and camping sites, shall be carried out so as not to cause veldt fires, ground and environmental pollution, soil erosion or restriction of or interference with streams, furrows, drains and water supplies.
- If the original surface of the ground is disturbed in connection with the Works, it shall be made good by the Contractor to the satisfaction of the land owner, occupier or responsible authority.
- 21.6 The Contractor shall take all reasonable steps to minimise noise and disturbance when carrying out the Works, including work permitted outside normal working hours.
- 21.7 Dumping of waste or excess materials by the Contractor shall, in urban areas, be done under the direction and control of, and at sites made available by the local authority. Dumping outside local authority boundaries shall be done only with the express permission and under the direction and control of the Contract Supervisor.
- 21.8 The Contractor shall comply with environmental protection measures and specifications stipulated by the Contract Supervisor and/or local and environmental authorities.
- 22.0 INTERFERENCE WITH THE NETWORK OPERATOR'S ASSETS AND WORK ON OPEN LINES**
- 22.1 The Contractor shall not interfere in any manner whatsoever with an open line, nor shall he carry out any work or perform any act which affects the security, use or safety of an open line except with the authority of the Contract Supervisor and in the presence of a duly authorised representative of the network operator.
- 22.2 The Contractor shall not carry out any work or operate any plant, or place any material whatsoever nearer than three metres from the centre line of any open line except with the written permission of the Contract Supervisor and subject to such conditions as he may impose.
- 22.3 Care must be taken not to interfere with or damage any services such as overhead wire routes, cables or pipes and optical fibre cable, except as provided for the work specified. The Contractor will be held responsible for any damage to or interruption of such services arising from any act or omission on his part or of any of his employees, or persons engaged by him on the Works. The cost of repairing, replacing or restoring the services, as well as all other costs arising from any damage to services, shall be borne by, and will be recovered from the Contractor.
- 22.4 Authority granted by the Contract Supervisor and the presence of an authorised representative of the network operator in terms hereof, shall not relieve the Contractor of his duty to comply with this specification.
- 23.0 ACCESS, RIGHTS-OF-WAY AND CAMPSITES**
- 23.1 Where entry onto the network operator's property is restricted, permission to enter will be given only for the purpose of carrying out the Works and will be subject to the terms and conditions laid down by the network operator.
- 23.2 The Contractor shall arrange for campsites, workplaces and access thereto as well as for any right-of-

way over private property to the site of the Works, and for access within the boundaries of the network operator's property. The owners of private property to be traversed shall be approached and treated with tact and courtesy by the Contractor, who shall, if necessary, obtain a letter of introduction to such property owners from the Contract Supervisor.

The Contractor shall be responsible for the closing of all gates on roads and tracks used by him or his employees. Except with the prior approval of the Contract Supervisor and the owner or occupier of any private land to be traversed, the Contractor shall not cut, lower, damage, remove or otherwise interfere with any fence or gate which is either on the network operator's property or on private property and which restricts access to the Works. Where such approval has been given, the Contractor shall prevent entry of animals or unauthorised persons onto the network operator's or private property, and shall make the fences safe against trespass at the close of each day's work.

23.3 The Contractor shall take all reasonable steps to confine the movement of vehicles and plant to the approved right-of-way to minimise damage to property, crops and natural vegetation.

23.4 When access is no longer required, and before completion of the Works, the Contractor shall repair, restore or replace any fence or gate damaged during execution of the Works to the satisfaction of the Contract Supervisor and shall furnish the Contract Supervisor with a certificate signed by the owner and occupier of land over which he has gained access to a campsite, workplace and the Works, certifying that the owner and occupier have no claim against the Contractor or the network operator arising from the Contractor's use of the land. Should the Contractor be unable to obtain the required certificate, he shall report the circumstances to the Contract Supervisor.

24.0 SUPERVISION

24.1 The Contract Supervisor will provide overall technical superintendence of the Works, and may direct the Contractor in terms of the provisions of the Contract or in respect of any measures which the Contract Supervisor may require for the operations of the network operator, the safety of trains, property and workmen of the network operator, and for the safety of other property and persons. The Contractor shall carry out the directions of the Contract Supervisor. The superintendence exercised by the Contract Supervisor, including any agreement, approval, refusal or withdrawal of any approval given, shall not relieve the Contractor of any of his duties and liabilities under the Contract, and shall not imply any assumption by the network operator or by the Contract Supervisor of the legal and other responsibilities of the Contractor in carrying out the Works.

24.2 The Contract Supervisor may delegate to any deputy or other person, any of his duties or functions under the Contract. On receiving notice in writing of such delegation, the Contractor shall recognise and obey the deputy or person to whom any such duties or functions have been delegated as if he were the Contract Supervisor.

24.3 The Contractor shall exercise supervision over the Works at all times when work is performed or shall be represented by an agent having full power and authority to act on behalf of the Contractor. Such agent shall be competent and responsible, and have adequate experience in carrying out work of a similar nature to the Works, and shall exercise personal supervision on behalf of the Contractor. The Contract Supervisor shall be notified in writing of such appointment which will be subject to his approval.

24.4 The Contractor or his duly authorised agent shall be available on the site at all times while the Works are in progress to receive the orders and directions of the Contract Supervisor.

25.0 HOUSING OF EMPLOYEES

25.1 The Contractor shall, where necessary, make his own arrangements for suitable housing of his employees. Where temporary housing is permitted by the Contract Supervisor on any part of the site, the Contractor shall provide suitable sanitation, lighting and potable water supplies in terms of the requirements of the local authority or the current network operator's specification; Minimum Communal Health Requirements in Areas outside the Jurisdiction of a Local Authority - E.4B, as applicable.

25.2 Fouling the area inside or outside the network operator's boundaries shall be prevented. The Contractor will be called upon by the Contract Supervisor to dispose of any foul or waste matter generated by the Contractor.

26.0 OPTICAL FIBRE CABLE ROUTES

26.1 The Contractor shall not handle, impact, move or deviate any optical fibre cable without prior approval.

26.2 Works that in any way affect the optical fibre cable requires prior approval from the Contract Supervisor

who will determine the work method and procedures to be followed.

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PART B - SPECIFICATION FOR WORK NEAR HIGH-VOLTAGE ELECTRICAL EQUIPMENT**27.0 GENERAL**

27.1 This specification is based on the contents of Transnet's publication ELECTRICAL SAFETY INSTRUCTIONS, as amended, a copy of which will be made available on loan to the Contractor for the duration of the contract.

These instructions apply to all work near "live" high-voltage equipment maintained and/or operated by the network operator, and the onus rests on the Contractor to ensure that he obtains a copy.

27.2 This specification must be read in conjunction with and not in lieu of the Electrical Safety Instructions.

27.3 The Contractor's attention is drawn in particular to the contents of Part I, Sections 1 and 2 of the Electrical Safety Instructions.

27.4 The Electrical Safety Instructions cover the minimum safety precautions which must be taken to ensure safe working on or near high-voltage electrical equipment, and must be observed at all times. Should additional safety measures be considered necessary because of peculiar local conditions, these may be ordered by and at the discretion of the Electrical Officer (Contracts).

27.5 The Contractor shall obtain the approval of the Electrical Officer (Contracts) before any work is done which causes or could cause any portion of a person's body or the tools he is using or any equipment he is handling, to come within 3 metres of any "live" high-voltage equipment.

27.6 The Contractor shall regard all high-voltage equipment as "live" unless a work permit is in force.

27.7 Safety precautions taken or barriers erected shall comply with the requirements of the Electrical Officer (Contracts), and shall be approved by him before the work to be protected is undertaken by the Contractor. The Contractor shall unless otherwise agreed, bear the cost of the provision of the barriers and other safety precautions required, including the attendance of the network operator's staff where this is necessary.

27.8 No barrier shall be removed unless authorised by the Electrical Officer (Contracts)

28.0 WORK ON BUILDINGS OR FIXED STRUCTURES

28.1 Before any work is carried out or measurements are taken on any part of a building, fixed structure or earthworks of any kind above ground level situated within 3 metres of "live" high-voltage equipment, the Electrical Officer (Contracts) shall be consulted to ascertain the conditions under which the work may be carried out.

28.2 No barrier erected to comply with the requirements of the Electrical Officer (Contracts) shall be used as temporary staging or shuttering for any part of the Works.

28.3 The shuttering for bridge piers, abutments, retaining walls or parapets adjacent to or over any track may be permitted to serve as a barrier, provided that it extends at least 2,5 metres above any working level in the case of piers, abutments and retaining walls and 1,5 metres above any working level in the case of parapets.

29.0 WORK DONE ON OR OUTSIDE OF ROLLING STOCK, INCLUDING LOADING OR UNLOADING

29.1 No person may stand, climb or work, whilst on any platform, surface or foothold:

29.1.1 higher than the normal unrestricted access way, namely -

29.1.1.1 external walkways on diesel, steam and electric locomotives, steam heat vans, etc. and

29.1.1.2 walkways between coaches and locomotives.

29.1.2 of restricted access ways in terms of the Electrical Safety Instructions namely -

29.1.2.1 the floor level of open wagons

29.1.2.2 external walkways or decks of road-rail vehicles, on-track maintenance machines and material trains.

29.1.3 Unauthorised staff working on these platforms must be directly supervised by duly authorised persons in terms of clause 607.1.3 of the Electrical Safety Instructions. These persons must attend the relevant electrical safety module training. A letter of training must then be issued by an accredited training authority. A Category C Certificate of Authority must be obtained from the

local depot examining officer.

- 29.2 When in the above positions no person may raise his hands or any equipment he is handling above his head.
- 29.3 In cases where the Contractor operates his own rail mounted equipment, he shall arrange for the walkways on this plant to be inspected by the Electrical Officer (Contracts) and approved, before commencement of work.
- 29.4 The handling of long lengths of material such as metal pipes, reinforcing bars, etc should be avoided, but if essential they shall be handled as nearly as possible in a horizontal position below head height.
- 29.5 The Responsible Representative shall warn all persons under his control of the danger of being near "live" high-voltage equipment, and shall ensure that the warning is fully understood.
- 29.6 Where the conditions in clauses 30.1 to 30.4 cannot be observed the Electrical Officer (Contracts), shall be notified. He will arrange for suitable Safety measures to be taken. The Electrical Officer (Contracts), may in his discretion and in appropriate circumstances, arrange for a suitable employee of the Contractor to be specially trained by the network operator and at the Contractor's cost, as an Authorised Person to work closer than 3 metres from "live" overhead conductors and under such conditions as may be imposed by the senior responsible electrical engineer of the network operator.

30.0 USE OF EQUIPMENT

30.1 Measuring Tapes and Devices

- 30.1.1 Measuring tapes may be used near "live" high-voltage equipment provided that no part of any tape or a person's body comes within 3 metres of the "live" equipment.
- 30.1.2 In windy conditions the distance shall be increased to ensure that if the tape should fall it will not be blown nearer than 3 metres from the "live" high-voltage equipment.
- 30.1.3 Special measuring devices longer than 2 metres such as survey sticks and rods may be used if these are of non-conducting material and approved by the responsible Electrical Engineer of the network operator, but these devices must not be used within 3 metres of "live" high-voltage equipment in rainy or wet conditions.
- 30.1.4 The assistance of the Electrical Officer (Contracts) shall be requested when measurements within the limits defined in clauses 31.1.1 to 31.1.3 are required.
- 30.1.5 The restrictions described in 31.1.1 to 31.1.3 do not apply on a bridge deck between permanent parapets nor in other situations where a barrier effectively prevents contact with the "live" high-voltage equipment.

30.2 Portable Ladders

- 30.2.1 Any type of portable ladder longer than 2 metres may only be used near "live" high-voltage equipment under the direct supervision of the Responsible Representative. He shall ensure that the ladder is always used in such a manner that the distance from the base of the ladder to any "live" high-voltage equipment is greater than the fully extended length of the ladder plus 3 metres. Where these conditions cannot be observed, the Electrical Officer (Contracts) shall be advised, and he will arrange for suitable safety measures to be taken.

31.0 CARRYING AND HANDLING MATERIAL AND EQUIPMENT

- 31.1 Pipes, scaffolding, iron sheets, reinforcing bars and other material which exceeds 2 metres in length shall be carried completely below head height near "live" high-voltage equipment. For maximum safety such material should be carried by two or more persons so as to maintain it as nearly as possible in a horizontal position. The utmost care must be taken to ensure that no part of the material comes within 3 metres of any "live" high-voltage equipment.
- 31.2 Long lengths of wire or cable shall never be run out in conditions where a part of a wire or cable can come within 3 metres of any "live" high-voltage equipment unless the Electrical Officer (Contracts) has been advised and has approved appropriate safety precautions.
- 31.3 The presence of overhead power lines shall always be taken account of especially when communications lines or cables or aerial cables, stay wires, etc. are being erected above ground level.

32.0 PRECAUTIONS TO BE TAKEN WHEN ERECTING OR REMOVING POLES, ANTENNAE, TREES ETC.

- 32.1 A pole may be handled for the purpose of erection or removal near high-voltage equipment under the following conditions:

(i) If the distance between the point at which the pole is to be erected or removed and the nearest "live" high-voltage equipment is more than the length of the pole plus 3 metres, the work shall be supervised by the Responsible Representative.

(ii) If the distance described in (i) is less than the length of the pole plus 3 metres, the Electrical Officer (Contracts) shall be consulted to arrange for an Authorised Person to supervise the work and to ensure that the pole is earthed where possible. The pole shall be kept in contact with the point of erection, and adequate precautions shall be taken to prevent contact with "live" high-voltage equipment.

32.2 The cost of supervision by an Authorised Person and the provision of earthing shall, unless otherwise agreed, be borne by the Contractor.

32.3 The provisions of clauses 33.1 and 33.2 shall also apply to the erection or removal of columns, antennae, trees, posts, etc.

33.0 USE OF WATER

33.1 No water shall be used in the form of a jet if it can make contact with any "live" high-voltage equipment or with any person working on such equipment.

34.0 USE OF CONSTRUCTION PLANT

34.1 "Construction plant" entails all types of plant including cranes, piling frames, boring machines, excavators, draglines, dewatering equipment and road vehicles with or without lifting equipment.

34.2 When work is being undertaken in such a position that it is possible for construction plant or its load to come within 3 metres of "live" high-voltage equipment, the Electrical Officer (Contracts) shall be consulted. He will arrange for an Authorised Person to supervise the work and to ensure that the plant is adequately earthed. The Electrical Officer (Contracts) will decide whether further safety measures are necessary.

34.3 The cost of any supervision by an Authorised Person and the provision of earthing shall, unless otherwise agreed, be borne by the Contractor.

34.4 When loads are handled by cranes, non-metallic rope hand lines shall be used, affixed to such loads so as to prevent their swinging and coming within 3 metres of "live" high-voltage equipment.

34.5 Clauses 35.1 to 35.4 shall apply *mutatis mutandis* to the use of maintenance machines of any nature.

35.0 WORK PERFORMED UNDER DEAD CONDITIONS UNDER COVER OF A WORK PERMIT

35.1 If the Responsible Representative finds that the work cannot be done in safety with the high-voltage electrical equipment "live", he shall consult the Electrical Officer (Contracts) who will decide on the action to be taken.

35.2 If a work permit is issued the Responsible Representative shall-

(i) before commencement of work ensure that the limits within which work may be carried out have been explained to him by the Authorised Person who issued the permit to him, and that he fully understands these limits.

(ii) sign portion C of the permit before commencement of work;

(iii) explain to all persons under his control the limits within which work may be carried out, and ensure that they fully understand these limits;

(iv) care for the safety of all persons under his control whilst work is in progress; and

(v) withdraw all personnel under his control from the equipment on completion of the work before he signs portion D of the work permit.

36.0 TRACTION RETURN CIRCUITS IN RAILS

36.1 DANGEROUS CONDITIONS CAN BE CREATED BY REMOVING OR SEVERING ANY BOND.

36.2 Broken rails with an air gap between the ends, and joints at which fishplates are removed under "broken bond" conditions, are potentially lethal. The rails on either side of an air gap between rail ends on electrified lines shall not be touched simultaneously until rendered safe by the network operator personnel.

36.3 The Contractor shall not break any permanent bonds between rails or between rails and any structure. He shall give the Contract Supervisor at least 7 days written notice when removal of such bonds is necessary.

36.4 No work on the track which involves interference with the traction return rail circuit either by cutting or removing the rails, or by removal of bonds shall be done unless the Electrical Officer (Contracts) is consulted. He will take such precautions as may be necessary to ensure continuity of the return circuit before permitting the work to be commenced.

37.0 HIGH-VOLTAGE ELECTRICAL EQUIPMENT NOT MAINTAINED AND/OR OPERATED BY THE NETWORK OPERATOR

Where the work is undertaken on or near high-voltage electrical equipment which is not maintained and/or operated by the network operator, the Occupational Health and Safety Act No. 85 of 1993, and Regulations and Instructions, or the Mines Health and Safety Act (Act 29 of 1996), shall apply.

Such equipment includes:-

- (i) Eskom and municipal equipment;
- (ii) The Contractor's own power supplies; and
- (iii) Electrical equipment being installed but not yet taken over from the Contractor.

END

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HORIZONTAL CLEARANCES :
1 065mm TRACK GAUGE

ANNEXURE 1
SHEET 1 of 5



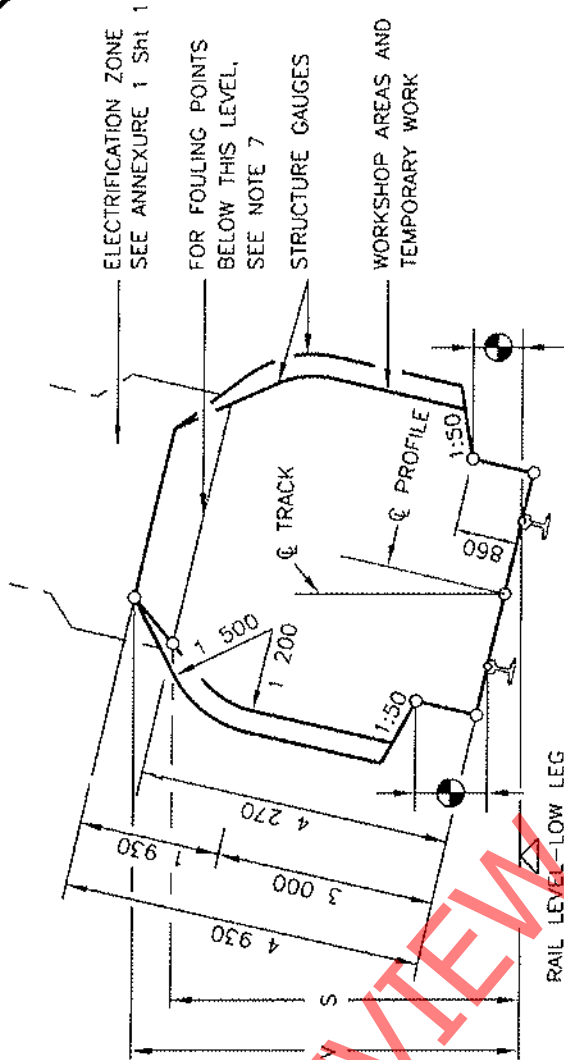
RADIUS (m)	WITH CANT		NO CANT		WITH CANT	
	H (mm)	L (mm)	H & L	B (mm)	C (mm)	C (mm)
90	2 730	3 090	2 780	1 130	2 100	2 100
100	2 700	3 030	2 750	1 140	2 050	2 050
120	2 650	2 970	2 700	1 160	2 010	2 010
140	2 620	2 920	2 660	1 175	1 990	1 990
170	2 590	2 870	2 630	1 190	1 970	1 970
200	2 570	2 820	2 600	1 205	1 950	1 950
250	2 550	2 790	2 580	1 230	1 920	1 920
300	2 540	2 760	2 560	1 250	1 900	1 900
350	2 530	2 730	2 540	1 270	1 890	1 890
400	2 520	2 710	2 530	1 290	1 875	1 875
500	2 510	2 680	2 520	1 320	1 850	1 850
600	2 500	2 660	2 510	1 340	1 830	1 830
800	2 490	2 620	2 500	1 365	1 790	1 790
1 000	2 480	2 600	2 490	1 380	1 760	1 760
1 200	2 480	2 580	2 490	1 200	1 730	1 730
1 500	2 480	2 550	2 480	1 415	1 700	1 700
2 000	2 480	2 500	2 480	1 440	1 660	1 660
3 000	2 470	2 470	2 470	1 500	1 600	1 600
>5 000	2 460	2 450	2 460	1 600	1 600	1 600

REMARKS:

- H AND B IS THE REQUIRED HORIZONTAL CLEARANCE ON THE HIGH LEG OF THE CURVE BASED ON MINIMUM CANT.
- L AND C IS THE REQUIRED HORIZONTAL CLEARANCE ON THE LOW LEG OF THE CURVE BASED ON MAXIMUM CANT.
- INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
- FOR WORKSHOP AREAS AND TEMPORARY WORK, CLEARANCES H AND L MAY BE REDUCED BY 300mm.
- SEE ANNEXURE 1 SHEET 3 FOR PLATFORM CLEARANCES.
- ALSO REFER TO REMARKS 4 TO 6 OF ANNEXURE 1 SHEET 2.
- USE SMALLER RADIUS IF RADIUS IN BETWEEN

VERTICAL CLEARANCES :
1 065mm TRACK GAUGE

ANNEXURE 1
SHEET 2 of 5



LOCATION	NOT ELECTRIFIED	ELECTRIFIED (PRESENT OR FUTURE)	
		3kV & 25kV	50kV
RADIUS (mm)	S (mm)	V (mm)	V (mm)
100	4 470	5 050	5 400
300	4 410	5 020	5 370
600	4 370	5 000	5 350
1 000	4 350	4 990	5 340
1 500	4 310	4 960	5 310
2 000	4 290	4 940	5 290
>3 000	4 270	4 930	5 280
* OVER OR NEAR POINTS AND CROSSING IF REQUIRED BY ELECTRICAL IRRESPECTIVE OF RADIUS			
ALL AREAS OTHER THAN THOSE INDICATED BY * BELOW			

REMARKS:

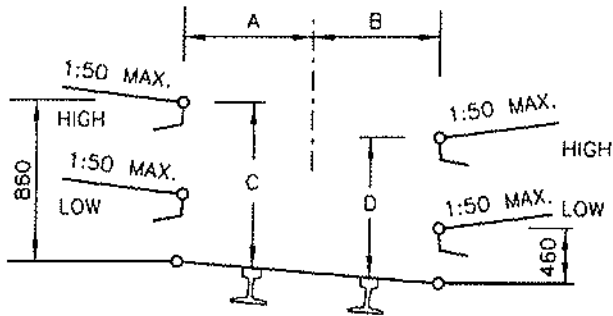
1. V IS THE REQUIRED VERTICAL CLEARANCE EXCEPT WHERE REDUCED CLEARANCE S APPLIES.
2. S IS THE MINIMUM VERTICAL CLEARANCE FOR STRUCTURES AND TEMPORARY WORK OVER NON-ELECTRIFIED LINES.
3. INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
4. FOR APPLICATION AT CURVES
 - 4.1 APPLY INCREASED CLEARANCES FOR CURVES TO POINTS 3m BEYOND THE ENDS OF THE CIRCULAR CURVE.
 - 4.2 REDUCE CLEARANCES AT A UNIFORM RATE OVER THE REMAINDER OF THE TRANSITION CURVE.
 - 4.3 FOR NON-TRANSITIONED CURVES REDUCE AT A UNIFORM RATE OVER A LENGTH OF 15m ALONG STRAIGHTS.
5. NEW STRUCTURES: SEE BRIDGE CODE.
6. TUNNELS: SEE DRAWING BE 82-35.
7. FOULING POINTS: SEE CLAUSE 8.1.
8. CLEARANCES ARE BASED ON 15m BOGIE CENTRES AND 21.2m VEHICLE BODY LENGTH.
9. SEE ANNEXURE 1 SHEET 3 FOR PLATFORM CLEARANCES.

CLEARANCES : PLATFORMS

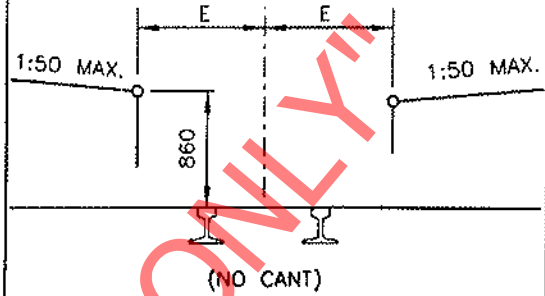
ANNEXURE 1
SHEET 3 of 5

PLATFORMS : TRACK GAUGE 1 065mm

PASSENGERS



GOODS

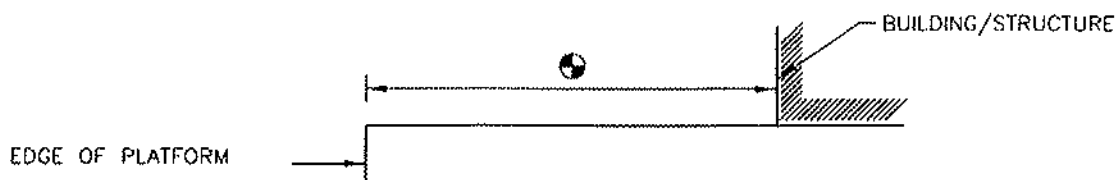


RADIUS (m)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
90	1 690	1 820	890	810	1 840
100	1 650	1 790	890	810	1 810
120	1 610	1 740	890	810	1 760
140	1 580	1 700	890	810	1 720
170	1 550	1 660	890	810	1 690
200	1 530	1 630	890	820	1 670
250	1 520	1 600	890	820	1 640
300	1 520	1 580	890	830	1 620
350	1 520	1 560	880	830	1 600
400	1 520	1 550	880	840	1 590
500	1 520	1 540	880	850	1 580
600	1 520	1 530	870	850	1 570
800	1 520	1 520	860	860	1 560
1 200	1 520	1 520	860	860	1 550
2 000	1 520	1 520	860	860	1 540
3 000	1 520	1 520	860	860	1 530
STRAIGHT	1 520	1 520	860	860	1 520

REMARKS:

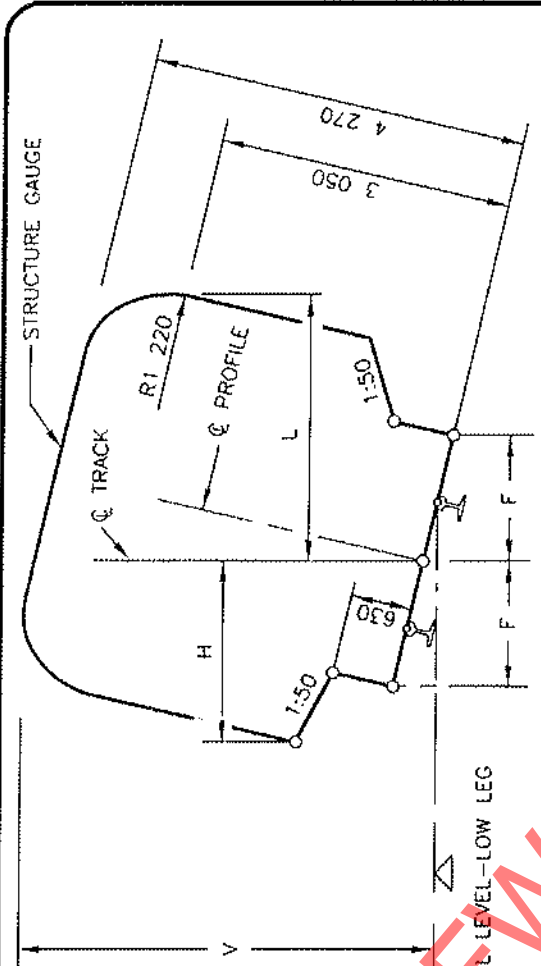
- NO CANT TO BE APPLIED EXCEPT WHEN THE GOODS PLATFORM IS ON A RUNNING LINE.
- INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
- 8m TO MAIN STATION-BUILDINGS AND 3m TO ALL OTHER STRUCTURES.
- TOLERANCES : SEE CLAUSE 8.0.10.
- ALWAYS USE THE SMALLEST RADIUS

STRUCTURES ON PLATFORMS : 1 065mm AND 610mm TRACK GAUGE



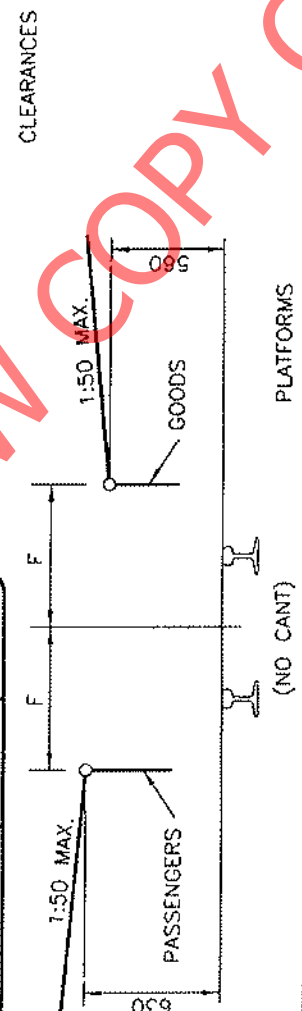
CLEARANCES : 610mm TRACK GAUGE

ANNEXURE 1
SHEET 5 of 5



RADIUS (m)	F (mm)
50	1 550
60	1 510
80	1 460
100	1 430
120	1 410
140	1 390
170	1 380
200	1 370
250	1 360
300	1 350
600	1 330
1 000	1 320
>2 000	1 320
STRAIGHT	1 310

RADIUS (m)	WITH CANT		NO CANT		V (mm)
	H (mm)	L (mm)	H & L (mm)		
50	2 370	2 490	2 400		4 320
70	2 310	2 420	2 330		4 310
100	2 260	2 370	2 280		4 310
140	2 220	2 340	2 250		4 310
200	2 200	2 300	2 220		4 300
300	2 190	2 270	2 200		4 300
500	2 180	2 230	2 190		4 290
700	2 170	2 200	2 180		4 270
1 000	2 170	2 170	2 170		4 270
>2 000	2 160	2 160	2 160		4 270



REMARKS:

- H IS THE MINIMUM HORIZONTAL CLEARANCE ON THE OUTSIDE OF THE CURVE BASED ON MINIMUM CANT.
- L IS THE MINIMUM HORIZONTAL CLEARANCE ON THE INSIDE OF THE CURVE BASED ON MAXIMUM CANT.
- V IS THE MINIMUM VERTICAL CLEARANCE.
- FOR APPLICATION AT CURVES:
 - 4.1 APPLY INCREASED CLEARANCES FOR CURVES TO POINTS 2m BEYOND THE ENDS OF THE CIRCULAR CURVE.
 - 4.2 REDUCE CLEARANCES AT A UNIFORM RATE OVER THE REMAINDER OF THE TRANSITION CURVE.
 - 4.3 FOR NON-TRANSITIONED CURVES REDUCE AT A UNIFORM RATE OVER A LENGTH OF 18m ALONG STRAIGHTS.
- INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
- ALSO REFER TO REMARKS 5, 6 AND 7 OF ANNEXURE 1 SHEET 2.
- CLEARANCES ARE BASED ON 9 700mm BOGIE CENTRES AND 13 700mm VEHICLE BODY LENGTH.
- SEE ANNEXURE 1 SHEET 3 FOR STRUCTURES ON PLATFORMS.

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