

TENDER NUMBER: DRT11/06/2024 TRAFFIC SIGNAL MAINTENANCE, AND GEOMETRIC UPGRADES TO CATER FOR NEW INSTALLATION, FOR FIVE (5) REGIONS, AS AND WHEN REQUIRED.



PROCUREMENT DOCUMENT

AUGUST 2025

ISSUED BY:



HEAD OF DEPARTMENT

DEPARTMENT OF ROADS AND TRANSPORT

PRIVATE BAG X83

MARSHALLTOWN

2107



GAUTENG PROVINCE

ROADS AND TRANSPORT
REPUBLIC OF SOUTH AFRICA

NAME OF TENDERING ENTITY:.....

ADDRESS:.....

TEL. NO. FAX NO.....

TOTAL PRICES INCLUSIVE OF VALUE ADDED TAX:

R.....

Contents

Part T1.1 Tender Notice and Invitation to Tender	7
Part T1.2 Tender Data	7
Part T2.1 List of Returnable Documents	28
Compulsory Enterprise Questionnaire	30
Record of Addenda to tender documents.....	35
Certificate of Authority	36

Schedule of Proposed Subcontractors	38
Schedule of recently completed and current contracts	40
Schedule of Equipment	43
Occupational Health and Safety Act: Statement by Tendering Entity	46
Experience of Key Staff and Number of Staff Employed	47
T2.13 Schedule of Key Staff: Civil Engineer / Managerial Record	48
T2.14 Schedule of Key Staff: Civil Engineer (Traffic Engineer) / Managerial Record	49
T2.15 Schedule of Key Staff: Traffic Safety Officer / Managerial Record	50
T2.16 Schedule of Key Staff Electrical Engineer / Managerial Record	52
T2.17 Schedule of Key Staff Electricians / Managerial Record	53
Technical/Managerial Experience	54
Tenderer's Bank Details	55
Schedule of Tenderer's Litigation History	58
Tax Clearance Certificate for Tenders	59

Form of Intent to Provide a Form of Guarantee	61
Registration with Construction Industry Development Board	62
Certificate of Insurance Cover	62
Part C2: Pricing Data	65
Part C2.1 Pricing Instructions	65
SBD1 1	
SBD 4 6	
SBD 7.1 11	
C3: SCOPE OF WORKS	16
C4: SITE INFORMATION	58
APPENDIX(CES) Error! Bookmark not defined.	
BILL OF QUANTITIES	68

Part T1.1 Tender Notice and Invitation to Tender

Part T1.1 Tender Notice and Invitation to Tender

THE GAUTENG PROVINCE, DEPARTMENT OF ROADS AND TRANSPORT REQUESTS INTERESTED SERVICE PROVIDERS TO BID FOR THE FOLLOWING TENDER:

TENDER NUMBER	SERVICE	CIDB LEVEL	COMPULSORY SITE BRIEFING	CLOSING DATE
DRT 11/06/2024	The Traffic Signal Maintenance, Technology Upgrades, And Geometric Upgrades to Cater for New Installation for a period of 36 months in the Gauteng Province.	7CE and 7EP or Higher	Venue: Main Boardroom, Department of Roads and Transport 1215 Nico Smith Street Koedoespoort Pretoria Date: 20 August 2025 Time: 10h00 am	12 September 2025 at 11H00 Tender Box Gauteng Department of Roads and Transport, Ground floor, Life Centre Building, 45 Commissioner Street, Johannesburg.

			NB: Failure to attend site briefing will result in disqualification	
--	--	--	--	--

TENDER NO: DRT11/062024 TRAFFIC SIGNAL MAINTENANCE, TECHNOLOGY UPGRADES, AND GEOMETRIC UPGRADES TO CATER FOR NEW INSTALLATION

We adhere to all relevant Acts, and circulars, including Supply Chain Management Circular 5 of 2016/2017, the Black Economic Empowerment Act No.46 of 2013, the Preferential Procurement Policy Framework Act No.5 of 2000 and the Employment Equity Act No. 55 of 1998.

NB: The department reserves the right to award tenders on the basis of a principle that work shall be fairly or equitably distributed amongst consultants/entities that had not been awarded contracts previously.

In terms of Preferential Procurement Regulation of January 2022, the department will be applying the 80/20 or 90/10 preference point system. Broad-Based Black Economic Empowerment (B-BBEE) requires that bidders submit original and valid B-BBEE Status Level Verification Certificates or certified copies thereof to substantiate their B-BBEE rating claims.

COMPULSORY/MANDATORY TENDER REQUIREMENTS:

Failure to submit the following required documents will render the bidders tender disqualified:

- Required proof of current CIDB grading of 7CE & 7EP or Higher.
 - The Construction Manager and/or Traffic Engineer (jointly if same person and severally if separate persons) must be registered with ECSA as an active Professional Civil Engineer/Professional Civil Engineering Technologist (PrEng/Tech).
 - The Electrical Engineer **must** be registered with ECSA as an active Professional Electrical Engineer/Professional Electrical Technologist (PrEng/Tech). The prospective bidders **must** attach proof of registration with the mentioned professional bodies. Certified copies of the professional registration certificate or the applicable registration number must be attached as part of the bidder's tender documents (certification of documents should not be older than three months)
 - Bidders must attend the compulsory site briefing as indicated above. The attendance register must be completed and will be used as proof of your attendance.
 - Complete, sign and submit all compulsory SBD documents, i.e. SBD 4 and SBD 6.1
 - Joint Ventures or Consortium entities must attach a detailed Joint Venture Agreement.
- **NB: Bidders who are listed on the National Treasury's register of defaulters and restricted suppliers will be automatically disqualified.**

OTHER KEY RETURNABLES:

- Valid Tax Clearance and / or Tax registration pin code (A trust, consortium or joint venture must submit consolidated Tax Clearance or tax clearance Certificates of each partner in the trust, consortium or joint venture) at the point of awarding, failure to submit will result in disqualifications of the bidder.
- Certified ID copies of Company Members and Shareholders (certification of documents should not be older than three months)
- Company Registration Documents (CIPC)

FUNCTIONALITY EVALUATION:

Functionality will be scored out of 100 points and the minimum threshold to qualify is 80 points. Bidders who fail to meet the minimum threshold will not be considered for further evaluation. The functionality evaluation criteria are outlined in the table below:

Functionality: Phase 1 (75 points)

KEY PERSONNEL	COMPANY EXPERIENCE:	PROJECT PLAN	BANK RATING
(Max 25 points) Bidders MUST complete T2.3 (forms B1 and B2) attached in the bid documents for key personnel that will be involved with the project and MUST separately and clearly indicate the personnel's' traffic signal design and construction experience, project description, duration and contactable references. NB: (Failure to complete T2.3 and	in Electrical reticulation and Traffic Signals design, installation, commissioning and maintenance, and telecommunications. (Max 30 points) (Failure to attach required completion certificates will result in the bidder getting zero points) NB: completion certificates must be signed by all relevant parties (Certificate	and QUALITY CONTROL PLAN (Max 15 points) (Failure to attach relevant documents which clearly indicate the requirements listed below will result in the bidder getting zero points)	(Max 5 points) (Failure to attach proof of bank rating from the relevant bank will result in the bidder getting zero points) and NB: the date of certification must be less than 12 months from the date of the bid closure

attach certified qualifications will result in the bidder getting zero points)	that is not signed by all relevant parties will result in the bidder forfeiting points)		
CONSTRUCTION MANAGER: registered with ECSA as an active (Pr Eng/Tech). A Construction Manager with traffic signal design and construction experience, before and after professional registration, will be assessed as follows: (Max 5 points) Experience: •5 years or more experience traffic signal design and construction (5 points) •3 to less than 5 years' experience in traffic signal design and construction (3 points) •1 to less than 3 years' experience in traffic signal design and construction (2 points) •Less than 1 year experience in traffic signal design and construction (0 points) TRAFFIC ENGINEER: registered with ECSA as an active (Pr Eng/Tech). A Civil Engineer with Traffic Engineering and Traffic Signal design and operation experience, before and after professional registration, will be assessed as follows: (Max 5 points)	Completed Traffic Signals and Electrical Reticulation Network Design and Construction with completion certificates over the past ten (10) years will be assessed as follows: (Max 30 points) •3 or more projects completed with Traffic Signals Experience: (30 points) •2 or more projects completed with Traffic Signals Experience: (20 points) •1 project completed with Traffic Signals Experience: (10 points)	Project Plan: (Max 10 points) Briefly outline: project plan indicating time allocations, milestones, cost predictions and resources related to: Work program and sequence of activities, resources required and how they will be utilised (5 points) project Quality Control Plan: Max 10 points) Briefly outline: quality control procedure plan indicating the following: Activities ensuring quality control in line with engineering standards	Rating A or B: (5 points) Rating C: (3 points) Rating D: (2 points) Rating E-G: (0 points)

Experience: •5 years or more experience traffic signal design and construction(5 points) •3 to less than 5 years' experience in traffic signal design and construction (3 points) •1 to less than 3 years' experience in traffic signal design and construction (2 points) •Less than 1 year experience in traffic signal design and construction (0 points) ELECTRICAL ENGINEER: registered with ECSA as an active (PrEng/Tech). An Electrical Engineer with experience in electrical and electronic design, installation, operations and maintenance of traffic signal, before and after professional registration, will be assessed as follows: (Max 5 points) Experience: •5 years or more experience in electrical and electronic design, installation, operations and maintenance of traffic signal (5 points)		Resources required to ensure quality control and timing of utilisation of resources (5 points)	
--	--	---	--

•3 to less than 5 years' experience in electrical and electronic design, installation, operations and maintenance of traffic signal (3 points) •1 to less than 3 years' experience in electrical and electronic design, installation, operations and maintenance of traffic signal (2 points) •Less than 1 year experience in electrical and electronic design, installation, operations and maintenance of traffic signal (0 points) 2x Qualified Electricians: trade test certificate and single phase wireman's license. Electricians with traffic signal wiring and cabling experience will be assessed as follows: (Max 5 points) Experience: •5 years or more experience in traffic signal wiring and cabling (5 points) •3 to less than 5 years' experience in traffic signal wiring and cabling (3 points) •1 to less than 3 years' experience in traffic signal wiring and cabling (2 points) •Less than 1 year experience in traffic signal wiring and cabling (0 points)			
--	--	--	--

SAFETY OFFICER: with a relevant qualification, a qualified Safety Officer with road construction experience, before and after qualification, will be assessed as follows: (Attach certified qualification/ certification) (5 points)

Experience:

- 3 years or more experience in road construction (5 points)

- 1 to less than 3 years' experience in traffic signal design and construction (3 points)

- Less than 1 year experience in traffic signal design and construction (0 points)

Functionality: Phase 2 (25 points)

NEW TECHNOLOGY OPERATIONAL CAPABILITY SPECIFICATION REQUIREMENTS	
MAXIMUM POINTS (25)	
TRAFFIC SIGNAL CONTROLLER EMBEDDED COMMUNICATION CAPABILITIES (GPS AND/OR SIM/SLM/ AND/OR EQUIVALENT)	POSITIVE TEST RESULTS AND OPERATION DATA SHEET WITH SANS/SABS/INTERNATIONAL EQUIVALENT ATTACHED (5 POINTS) NO TESTING AND OPERATION DATA SHEET WITH SANS/SABS/INTERNATIONAL EQUIVALENT ATTACHED (0 POINTS)
SMART CONTROLLER MUST BE CONTINUOUSLY TRACEABLE AND TRACKABLE.	POSITIVE TEST RESULTS AND OPERATION DATA SHEET WITH SANS/SABS/INTERNATIONAL EQUIVALENT ATTACHED (5 POINTS) NO TESTING AND OPERATION DATA SHEET WITH SANS/SABS/INTERNATIONAL EQUIVALENT ATTACHED (0 POINTS)
GPDRS SHALL AUTHORISE ALL GADGETS AND EQUIPMENT/DEVICES DURING AND AFTER INSTALLATION AND/OR WHEN A MODULE IS REPLACED NO MODULE MUST BE USEABLE AND WORK ANYWHERE ELSE.	POSITIVE TEST RESULTS AND OPERATION DATA SHEET WITH SANS/SABS/INTERNATIONAL EQUIVALENT ATTACHED (5 POINTS) NO TESTING AND OPERATION DATA SHEET WITH SANS/SABS/INTERNATIONAL EQUIVALENT ATTACHED (0 POINTS)
EMBEDDED POLE AND EQUIPMENT TEMPERING DETECTION – ALARM AND ALERT.	POSITIVE TEST RESULTS AND OPERATION DATA SHEET WITH SANS/SABS/INTERNATIONAL EQUIVALENT ATTACHED (5 POINTS) NO TESTING AND OPERATION DATA SHEET WITH SANS/SABS/INTERNATIONAL EQUIVALENT ATTACHED (0 POINTS)

RMS/TRAFFIC SIGNAL CONTROLLER MUST MONITOR AND REPORT THE INCOMING AND OUTGOING POWER OF PRIMARY AND SECONDARY POWER SUPPLIES.

POSITIVE TEST RESULTS AND OPERATION DATA SHEET WITH SANS/SABS/INTERNATIONAL EQUIVALENT ATTACHED **(5 POINTS)**

NO TESTING AND OPERATION DATA SHEET WITH SANS/SABS/INTERNATIONAL EQUIVALENT ATTACHED **(0 POINTS)**

PRICE AND PREFERENCE POINT SYSTEM EVALUATION:

In terms of Preferential Procurement Regulation of 2022, the Department will be applying the 80/20 or 90/10 preference point system, which is applicable to bids with a Rand value of up to R 50 million (all applicable taxes included), shall be applied, where a maximum of 80 or 90 points will be allocated for price and maximum of 20 or 10 will be allocated for the Specific Goals specified in this tender.

A maximum score of eighty (80 or 90) points will be allocated for Price quoted by the Bidder, as per Regulation 4 of PPR 2022. The identified Specific Goals are aligned to the Department's Procurement Development Plan and twenty (20 or 10) points are allocated in line with the persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of race, gender and disability including the implementation of programmes of the Reconstruction and Development Programme as published in Government Gazette No. 16085 dated 23 November 1994.

AREA POINTS	POINTS	
	80/20	90/10
Price	80	90
Preference Point – Specific Goals	20	10
Total points for Price and Preference Points	100	100

Specific Goals Requirements:

To qualify for Specific Goal points, Bidders must provide evidence of ownership of 51% or more per the specified Historically Disadvantaged Individuals (HDI) categories. Bidders must submit verifiable documentation as proof to claim the Preference Points.

Bidders who fail to submit valid B-BBEE credentials will forfeit their preference points.

SPECIFIC GOALS	PROOF OF EVIDENCE	POINTS (20)	POINTS (10)
HDI	The bidder must submit a valid B-BBEE Certificate or Sworn Affidavit with at least 51% black ownership to claim points.	1	1
Women	The bidder must submit a valid B-BBEE Certificate or Sworn Affidavit with at least 51% owned by women to claim points.	7	3
Youth	The bidder must submit a valid B-BBEE Certificate or Sworn Affidavit with at least 51% owned by youth and certified copies of Identity Documents for Directors to claim points. (Certification of documents should be older than three months)	5	2
Disability	The bidder must submit a valid B-BBEE Certificate or Sworn Affidavit with at least 51% owned people with disability and certified copies of Identity Documents for Directors to claim points. Doctor's confirmation report/ letter confirming disability must be attached to claim points	5	2
Bidder must be located within Gauteng Province	The bidder must submit a copy of a municipal rates & taxes invoice or statement not older than three (3) months in the name of the bidder or proof of lease agreement in the name of the Lessee signed by both parties.	2	2

Guidance on valid B-BBEE Certificates and/or valid Sworn Affidavits to substantiate preference points claims.

- Valid B-BBEE Certificate issued by a SANAS accredited agency.
- Bidders qualifying as EME/QSE can submit a valid Sworn Affidavit (DTIC) or B-BBEE Certificate issued by the Companies & Intellectual Property Commission (CIPC) on behalf of the DTIC, which serves as an Affidavit.
- Any Consortium or JV must submit a valid consolidated B-BBEE Certificate issued by a SANAS accredited agency. No sworn affidavit will be accepted for a Consortium or JV.
- The Department is requesting the B-BBEE credentials in order to validate and evaluate the points claimed by the Bidder based on the Specific Goals outlined in this tender document and the SBD 6.1.

NB: The submission of a fraudulent B-BBEE certificate will result in the bidder being disqualified and criminal proceedings being instituted against the bidder. The bidder, the shareholders and / or directors will further be restricted from doing business with any organ of the state for a maximum period of 10 years.

THE PRINCIPLE OF THE “WORK-SPREAD MODEL” WILL BE IMPLEMENTED AS FOLLOWS AT THE TENDER EVALUATION:

(Bidders must complete Page 21: Schedule of recently completed and current contracts in the Department)

- A bidder will be disqualified:
 - if the bidder has three (3) or more contracts that are currently in progress or have not been certified as practically complete at the time of tender closure with the Department; or
 - If the bidder has contract/s that amounts to more than R250 million which have a contractual remaining period of more than 12 months with the Department that are currently in progress or have not been certified as practically complete at the time of tender closure.

OBJECTIVE CRITERIA:

1.The Department will apply their work spread model as objective criteria to multiple tenderers, irrespective of highest total number of points scored, which comprises the following:

- 1.1 A tenderer will not be awarded more than two (2) bills of quantity (contracts). The tenderer scoring the highest points for more than two (2) bills of quantity (contracts), will be limited to the two (2) highest Rand value bills of quantity (contracts), at the time of award.
- 1.2 The remaining bills of quantity will be awarded to the qualifying tenderers scoring the highest points.
- 1.3 In the event that there are insufficient qualifying bidders for the remaining bills of quantity, the Department reserves the right to award more than two (2) bills of quantity (contracts) to a qualifying tenderer, provided that the tenderer submitted a price proposal for the applicable bill of quantity (contract)

Bidders should note the following:

- Functionality will be scored out of 100 points.
- Where the proposed prices of critical items to be supplied to the Department are considerably less than the expected market price or rates.
- The Department will conduct a detailed risk assessment on the recommended bidder/s.
- Potential suppliers must note that in terms of Departmental policy, the Department reserves the right to cancel a contract and blacklist any supplier for a period of at least 12 months if the supplier fails to adequately perform in terms of the awarded contract.
- The bid validity period is One Hundred and twenty (120) days (excluding public holidays). However, the Department reserves the right to request all bidders to extend such validity period should the need arise.
- The successful bidder will be required to enter into a formal contract with the Department. Such contract will be governed in terms of the General Conditions of Contract dated 2015.
- The Department will not compensate the bidder for any costs incurred in the preparation and submission of a bid offer, including the costs of any testing necessary to demonstrate that aspect of the offer complies with requirements.
- Tenderers who are listed in the National Treasury's register of defaulters and restricted suppliers will be disqualified.
-

Correspondence

- For the availability of the bid document and technical specification enquiries contact Supply Chain Management (SCM) on the following e-mail eyase.ramokhoase@gauteng.gov.za/ 011 355 7270
- Closing date for enquires: 12 September 2025
- Bidders to expect responses within 7 days prior to the closing date
- Bidders are not allowed to initiate communication with the Department after the closing date.
- Bidders must regularly check, e-Portal and Departmental Websites for publication of responses and other communication.

Tender Documents

Prospective bidders can download and print their own version of the tender document at no cost (free of charge) by accessing the e-Tender Publication Portal website (www.etenders.gov.za). Bidders are advised to ensure that all bid documents are properly bound upon submission on the closing date. Failure to submit all the required pages of the Bid Document may result in the bidder either being disqualified or forfeiting the available points on functionality, depending on the nature of the submission. Tender documents will be available on 08 August 2025

Bid Submission

Electronic submission of bids will **NOT** be accepted.

Telegraphic, telephone, telex, facsimile, emails of bids and late bids will **NOT** be accepted.

Requirements for sealing, addressing, delivery, opening and assessment of bids are stated in the bid documents.

Clearly numbered Bid Documents together with all applicable attachments must be deposited in the tender box at the foyer at ground floor Life Centre Building, at 45 Commissioner Street, Johannesburg, by no later than 11h00 on the closing date indicated above.

Part 1

T1.2 Tender Data

The conditions of tender are the Standard Conditions of Tender as contained in Annexure F of the CIDB Standard for Uniformity in Construction Procurement (June 2009). (Not included, see www.cidb.org.za).

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

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

Clause number	Tender Data
F.1.1	The employer is the Department of Roads and Transport, Chief Directorate Design and Traffic Engineering Services of the Gauteng Provincial Government, Life Centre Building, 45 Commissioner Street.

F.1.2	The Tender Documents issued by the employer comprise the following documents: THE TENDER Part T1: Tendering procedures T1.1 - Tender notice and invitation to tender T1.2 - Tender data Part T2: Returnable documents T2.1 - List of returnable documents T2.2 - Returnable schedules THE CONTRACT Part C1: Agreements and Contract data C1.1 - Form of offer and acceptance C1.2 - Contract data C1.3 - Other Contract Forms
-------	---

Clause number	Tender Data
	Part C2: Pricing data C2.1 - Pricing instructions C2.2 - Bill of Quantities Part C3: Scope of work C3 - Scope of work Part C4: Site information C4 - Site information Part C5 : Appendices
F.2.1	Only tenders, who are registered with the Construction Industry Development Board (CIDB) with a contractor grading designation of 5CE and 5EP or higher, are eligible to tender.
F.2.7	The arrangements for a compulsory clarification meeting are:

Clause number	Tender Data
	Venue: Main Boardroom, 1215 Nico Smith (<i>previously Michael Brink</i>) Street, Koedoespoort, Pretoria Date: 20 August 2025 starting at 10:h00am. Tenderers should note that only competent persons are to attend the clarification meeting.
F.2.12	No alternative tenders will be considered.
F.2.13.1	Tenderers are to submit one tender only, either as a single tendering entity or as a member of a Joint Venture.
F2.13.3	Each tender offer communicated on paper shall be submitted as original, plus 0 copies.
F.2.13.4	Submit only the signed original tender
F.2.13.5 F.2.15.1	The employer's details and address for delivery of tender offers and identification details that are to be shown on each tender offer package are: Life Centre Building, 45 Commissioner Street. Identification details: TENDER NUMBER: DRT 11/06/2024 - TRAFFIC SIGNAL MAINTENANCE, AND GEOMETRIC UPGRADES TO CATER FOR NEW INSTALLATION and the closing date and time of the tender- 12 September 2025
F2.13.6	A two-envelope procedure will not be followed.

Clause number	Tender Data
F.2.15	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
F.2.15	No telegraphic, telephonic, telex, facsimile or electronic tender offers will be accepted.
F.2.16	The tender offer validity period is 120 days.
F.2.20	The tenderer is required to submit with his tender a letter of intent from an approved insurer to provide the Form of Guarantee to the format included in Part T2.2 of this procurement document.
F.2.23	The tenderer is required to submit with his tender the following documents: • Required proof of current CIDB grading of 7CE & 7EP or Higher. • The Construction Manager and/or Traffic Engineer (jointly if same person and severally if separate persons) must be registered with ECSA as an active Professional Civil Engineer/Professional Civil Engineering Technologist (PrEng/Tech). • The Electrical Engineer must be registered with ECSA as an active Professional Electrical Engineer/Professional Electrical Technologist (PrEng/Tech). • The prospective bidders must attach proof of registration with the mentioned professional bodies. Certified copies of the professional registration certificate or the applicable registration number must be attached as part of the bidder's tender documents. • Proof of ECASA registration (Electrical Contractor Association of South Africa) for bidder must be attached. • Bidders must attend the compulsory site briefing as indicated above. The attendance register must be completed and will be used as proof of your attendance. • Complete, sign and submit all compulsory SBD documents, i.e. SBD 4 and SBD 6.1 which form part of the tender document.
F.2.24	Bidders should note the following: • Functionality will be scored out of 100 points • Material should, where possible, be sourced locally (within South African borders).

Clause number	Tender Data
	• Where the proposed prices of critical materials to be supplied to the Department are considerably less than the expected market price or rates, the Department reserves the right to verify the proposed prices by requesting quotations from the supplier(s) cited in the compilation of the bid. • The Department reserves the right to conduct site visits and interview officials whose qualifications have been submitted for verification • Only suppliers who are registered on the National Centralized Supplier Database (CSD) will be considered for appointment. • Recommended bidders will be subject to supplier security screening processes. Only suppliers who obtain security clearance will be considered for appointment. • Potential suppliers must note that in terms of Departmental policy, the Department reserves the right to cancel a contract and blacklist any supplier for a period of at least 12 months if the supplier fails to adequately perform in terms of the awarded contract. • The bid validity period is 120 days. However, the Department reserves the right to request all bidders to extend such a validity period should the need arise. • In terms of OHS Act the contractor is required to appoint a registered Safety officer with SACPCMP. Compliance in respect of OHS Act is the responsibility of the contractor. • Prospective bidders should be represented at the compulsory briefing session by suitable/qualified and experienced individuals who can fully comprehend the scope and complexities of the work involved. • The successful bidder will be required to enter into a formal contract with the Department. Such contract will be governed in terms of the General Conditions of Contract dated 2015. • The Department will not compensate the bidder for any costs incurred in the preparation and submission of a bid offer, including the costs of any testing necessary to demonstrate that aspect of the offer complies with requirements. • The Department reserves the right to request for additional information for verification and to verify all information submitted. • The bidder should attach Sworn affidavits template from DTI or CIPRO

F.3.13.1	Tender offers will only be accepted if: a) The tenderer submits a valid Tax Clearance Certificate in the name of the tendering entity as issued by the South African Revenue Services or has made arrangements to meet outstanding tax obligations; b) <u>The proposed Guarantor</u> must complete the form of intent to provide a Guarantee to the tenderer on the format included in Part T2.2 of this procurement document c) The tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation. d) The tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; e) The tenderer has not: i) abused the Employer's Supply Chain Management System; or ii) failed to perform on any previous contract and has been given a written notice to this effect; f) Has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract; g) The tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer; h) The employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2014 (as amended), issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely.
----------	---

Part T2.1 List of Returnable Documents

1 Documents required for tender administrative purposes

- Compulsory Enterprise Questionnaire
- Record of Addenda to Tender Documents
- Proposed Amendments and Qualifications
- Certificate of Authority
- Schedule of recently completed and current contracts
- Schedule of plant and equipment
- Occupational Health and Safety Act: Statement by Tendering Entity
- Experience of Key Staff and number of Staff employed
- Quality management questionnaire
- Tenderer's Bank Details

2. Returnable Schedules required for tender evaluation purposes

- Tax Clearance Certificate for Tenders
- Form of Intent to Provide a Form of Guarantee
- Registration with Construction Industry Development Board
- Certificate of Insurance Cover
- SBD 4: Declaration of Interest
- Tenderer's Litigation History

3 Returnable Schedules that will be used for tender evaluation purposes and be incorporated into the contract

- B-BBEE Verification Certificate
- SBD 6.1: Preference Points Claim Form in Terms of the Preferential Procurement Regulation 2022
- SBD 6.2:
- Contract Participation Goal: Direct Participation of Targeted Labour
- Contract Participation Goal: Direct Participation of Targeted Enterprises

4 C1.1 Offer portion of Form of Offer and Acceptance

5 C1.2 Contract Data (C1.2.3)

6 C2.2 Bill of quantities

Compulsory Enterprise Questionnaire

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

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships (attach certified ID Copies)

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: Record in the service of the state

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

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

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

Name of sole proprietor, Partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*insert separate page if necessary

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

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

☐ a member of any municipal council

☐

- ☐ a member of any provincial legislature
- ☐ a member of the National Assembly or the National Council of Province
- ☐ a member of the board of directors of any municipal entity
- ☐ an official of any municipality or municipal entity
- ☐ an employee of any provincial department, national or provincial public entity or constitutional institution
- ☐ within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ an employee of Parliament or a provincial legislature

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

*insert separate page if necessary

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

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

Signed

Date

Name

Position

Enterprise name

Record of Addenda to tender documents

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:		
	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		



Attach additional pages if more space is required.

Signed

Date

Name

Position

Enterprise name

Certificate of Authority

This Returnable Schedule is to be completed by the tendering entity.

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

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
CIDB registration number: 		Signature. Name Designation
CIDB registration number: 		Signature Name Designation
CIDB registration number: 		Signature

.....		Name
		Designation

Schedule of Proposed Subcontractors

T2.1.C. SCHEDULE OF PROPOSED SUBCONTRACTORS

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

Name and address of proposed Subcontractor		Company Registration No & CIDB Classification	Description of Work to be executed by Subcontractor
1.			

2.			
3.			

4.			
5.			

Schedule of recently completed and current contracts

List not more than seven contracts completed in the last five years

Contract title:	Employer (name)	Reference person			Date of
-----------------	-----------------	------------------	--	--	---------

T2.40

		Place (town)	Name	Tel	Contract Amount (R million)	Contract Period (months)	Completion*
1							
2							
3							
4							
5							
6							
7							

*Completed means that a certificate has been issued in terms of a contract by the employer, signifying that the whole of the construction works have reached a state of readiness for occupation or use for the purposes intended, although some minor work may be outstanding.

List all current contracts not complete at the time

Project:	Employer (name)	Reference person		Contract Amount	Contract Period	Date of commencement	Date of expected Completion*
	Place (town)	Name	Tel				

T2.41

Reference no. DRT 11/06/2024

					(R million)	(months)		
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

*Date when defects liability period commenced



Signed

Date

Name

Position

Enterprise name

Schedule of Equipment

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

(a) Details of major equipment that is owned by and immediately available for this contract. **(Attach vehicle registration documents as proof of ownership)**

Description, size, capacity, etc.	Quantity

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired, or acquired for this contract if my / our tender is acceptable. **(Attach a letter of intent from Rental Companies)**

Description, size, capacity, etc.	Quantity

Attach additional pages if more space is required.

Signed

Date

Name

Position



Tenderer

.....

Occupational Health and Safety Act: Statement by Tendering Entity

I, duly authorised

to represent (company name)

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

.....

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

Signed

Date

Name

Position

Tenderer

Experience of Key Staff and Number of Staff Employed

Attach a CV of not more than 2 pages and certified copies of qualifications of the following:

1. Civil Engineer (Construction Manager)
2. Civil Engineer (Traffic Engineering)
3. Electrical Engineer (Site Engineer)
4. Traffic Safety Officer
5. 2x Electricians

2.13 Schedule of Key Staff: Civil Engineer / Managerial Record

Name	Date of Birth	Position in team	Qualification

Note1:

List only the projects completed in the last 5 years or more that the tenderer considers relevant to the specified scope of works.

Technical/Managerial Experience

Client & Project No.	Project Type	Relevant experience started	Relevant Experience ended	Value	Position Held	Contact Person and position	Contact No.

T2.14 Schedule of Key Staff: Civil Engineer (Traffic Engineer) / Managerial Record

NAME	DATE OF BIRTH	POSITION IN TEAM	QUALIFICATION

Note1:

List only the projects completed in the last 5 years or more that the tenderer considers relevant to the specified scope of works.

Technical/Managerial Experience

CLIENT & PROJECT	PROJECT TYPE	RELEVANT	RELEVANT	VALUE	POSITION HELD	CONTACT PERSON AND POSITION	CONTACT No.
------------------	--------------	----------	----------	-------	---------------	-----------------------------	-------------

No.		EXPERIENCE STARTED	EXPERIENCE ENDED				

T2.15 Schedule of Key Staff: Traffic Safety Officer / Managerial Record

NAME	DATE OF BIRTH	POSITION IN TEAM	QUALIFICATION

T2.50

--	--	--	--

Note1:

List only the projects completed in the last 5 years or more that the tenderer considers relevant to the specified scope of works.

Technical/Managerial Experience

CLIENT & PROJECT No.	PROJECT TYPE	RELEVANT EXPERIENCE STARTED	RELEVANT EXPERIENCE ENDED	VALUE	POSITION HELD	CONTACT PERSON AND POSITION	CONTACT No.

T2.16 Schedule of Key Staff Electrical Engineer / Managerial Record

NAME	DATE OF BIRTH	POSITION IN TEAM	QUALIFICATION

Note1:

List only the projects completed in the last 5 years or more that the tenderer considers relevant to the specified scope of works.

Technical/Managerial Experience

CLIENT & PROJECT No.	PROJECT TYPE	RELEVANT EXPERIENCE STARTED	RELEVANT EXPERIENCE ENDED	VALUE	POSITION HELD	CONTACT PERSON AND POSITION	CONTACT No.

T2.17 Schedule of Key Staff Electricians / Managerial Record

Name	Date of Birth	Position in team	Qualification

Note1:

List only the projects completed in the last 5 years or more that the tenderer considers relevant to the specified scope of works.

Technical/Managerial Experience

Client & Project No.	Project Type	Relevant experience started	Relevant Experience ended	Value	Position Held	Contact Person and position	Contact No.

Tenderer's Bank Details

Notes to tenderer:

1. The tenderer shall attach to this form a letter from the bank at which he declares he conducts his account. The contents of the bank's letter must state the credit rating that it, in addition to the information required below, accords to the tenderer for the business envisaged by this tender as well as the working capital at the disposal of the tenderer. Failure to provide the required letter with the tender submission may render the tenderer's offer unresponsive in terms of tender condition F.3.8.
2. The tenderer's banking details as they appear below shall be completed.
3. In the event that the tenderer is a joint venture enterprise, details of all the members of the joint venture shall be similarly provided and attached to this form.

The tenderer shall provide the following:

- i) Name of Account Holder:
- ii) Account Number:.....
- iii) Bank name:



iv) Branch Number:

v) Bank and branch contact details

.....

SIGNED BY TENDERER:

Attach to this page:

Project Plan

Briefly outline: project plan indicating time allocations, milestones, cost predictions and resources related to installation of manhole grids

- Work program and sequence of activities
- Resources required and how they will be utilised

Quality Control Procedures

Briefly outline: quality control procedure plan indicating cutting procedures, site clearance procedures and measurements

- Activities ensuring quality control in line with engineering standards
- Resources required to ensure quality control and timing of utilisation of resources

Schedule of Tenderer's Litigation History

Note to tenderer:

The tenderer shall list below details of any litigation with which the tenderer (including its directors, shareholders or other senior members in previous companies) has been involved with any organ of state or state department within the last ten years. The details must include the year, the litigating parties, and the subject matter of the dispute, the value of any award or estimated award if the litigation is current and in whose favour the award, if any, was made.

Employer	Other litigating party	Dispute	Award value	Date resolved

SIGNED BY TENDERER:

Tax Clearance Certificate for Tenders

The tenderer is to affix to this page:

A Valid Tax Clearance Certificate for Tenders issued by the South African Revenue Services (S.A.R.S.) in the Name of the Tendering Entity indicating the Trading Name.

Note:



Failure to affix such a certificate may result in this tender not being considered for the award of the contract

This certificate must still be valid on the closing date of this tender.

Form of Intent to Provide a Form of Guarantee

- 1 With reference to the tender of (Hereinafter referred to as the “**TENDERER**” for the project (Hereinafter referred to as the “**CONTRACT**” for the DEPARTMENT OF ROADS AND TRANSPORT of the Gauteng Provincial Government, (hereinafter referred to as the “**EMPLOYER**” for the tender dated for the offered total of prices of (R.....) (in words)
- 2 I/We in my/our capacity as and hereby representing (hereinafter referred to as the “**GUARANTOR**” advise that the “**GUARANTOR**” undertakes to provide a **Form of Guarantee** to the **EMPLOYER** to the Employer’s format included in Part C1.3 of this document within five (5) working days of the written acceptance of the contractor’s tender offer.

Thus, done and signed at on

.....

Name of signatory

.....

Capacity of authorised signatory

.....

As witness

.....

*for and on behalf of the **Guarantor** who by signature hereof warrants authorization hereto*

Registration with the Construction Industry Development Board

Note:

1. Failure to affix such documentation as prescribed to this page shall result in this tender not being further considered for the award of the contract.
2. In the case of a joint venture, a combined CIDB registration document must be attached.

Certificate of Insurance Cover

Note to tenderer:

In the event of the tenderer being a joint venture/consortium, the details of the individual members must also be provided.

The tenderer shall provide the following details of this insurance cover:

- i) Name of Tenderer:
- ii) Period of Validity:

iii) Value of Insurance:

- Insurance for Works and Contractor's Equipment

Company:

Value:

- Insurance for Contractor's Personnel

Company:

Value:

- General Public Liability

Company:



Value:

- SASRIA

Company:

Value:

SIGNED BY TENDERER:

Part C2: Pricing Data

Part C2.1 Pricing Instructions

EXPANDED PUBLIC WORKS PROGRAMME (EPWP)

Rates for the use of EPWP (Expanded Public Works Programme) individual learners **must be provided** on items. With Rands (R), Non-compliance to this may lead to disqualification of the bidder.

A list of EPWP learners will be provided by the GDRT. These rates will include the quality control and final inspection of these items. The rate should also include the training that will be provided to the EPWP learners. GDRT reserves the right to supply the potential contractor/s with EPWP learners.

For more information on EPWP please visit www.epwp.gov.za.

PREAMBLE TO THE SCHEDULE OF RATES

T2.65

1. GENERAL

- (a) This preamble to the Schedule of Rates provides the Bidder(s) with guidelines and requirements regarding the completion of the Schedule of Rates. The Schedule must be completed in black ink.
- (b) The Schedule of Rates shall be read with all the documents which form part of this Contract.
- (c) The following words shall have the meanings hereby assigned to them:
 - Unit: The unit of measurement for each item of work.
 - Rate: The payment per unit of work at which the Bidder(s) bids to do the work.
 - Lump sum: An amount bid for an item, the extent of which is described in the Schedule of Quantities and the Special Conditions and Specifications, but the quantity of work of which is not measured in any units.
- (d) Where Provisional Costs Sums are specified, the Contractor(s) will be required to submit a quotation from the service provider for the cost and indicate the handling fee that he will be charge on this amount.
- (e) No separate amount is allowed for establishment on site. The rates shall make provision for establishment on site at each location / installation.
- (f) The schedule of Rates makes provision for a typical traffic light intersection and includes sections for reconstruction and maintenance. The total of the summary is not the contract value - the total value of the contract will depend on the number of new traffic signal installations, the layout of each intersection, the number of intersections reconstructed and the extent of routine maintenance required by the Employer.

2. PAY ITEMS

- (a) The abbreviated descriptions of the payment items given in the Schedule of Rates are only for the purposes of identifying the items and providing specific details. Reference shall be made, inter alia, to the Special Conditions and Specifications, General Conditions of Contract and Conditions of Bid for more detailed information regarding the extent of the work entailed under each item.
- (b) The item numbers appearing in the Schedule of Rates do not correspond to the item numbers in the Special Conditions and Specifications.
- (c) The units of measurement indicated in the Schedule of Rates are metric units. The following abbreviations are used in the pay items of the Schedule of Rates:

lm = Linear metre

m² = square metre

m ³	=	cubic metre
l	=	litre
h	=	hour
No	=	number
%	=	percent
prov sum	=	provisional sum
The Lot	=	all equipment on TS pole

3. RATES

- (a) The Bidder(s) must fill in a rate for each item in the Schedule of Rates. Items against which no rate is entered or where a word or phrase such as “included” or “provided elsewhere” has been entered, will be accepted as a rate of nil (R0,00) having been entered against such items.

Any work executed to which such a pay item applies, shall be measured under the appropriate items in the Schedule of Rates and valued at a rate of nil (R0,00). The rate of nil shall be valid irrespective of the quantities during the execution of the Contract.

- (b) The Bidder(s) shall not group together a number of items and bid one rate for such group of items.
- (c) All rates and sums of money quoted in the Schedule of Rates shall be in rands and whole cents. Fractions of a cent shall be discarded.
- (d) The rates submitted must exclude VAT
- (e) A list of EPWP learners will be provided by GDRT. These rates will include the quality control and final inspection of these items. The rate should also include the training that will be provided to the EPWP learners.
- (f) GDRT reserves the right to supply the potential contractor/s with EPWP learners.

4. METHOD OF MEASUREMENT

- (a) The work shall be measured in accordance with the methods described in the documents which form part of this Contract. Attention is directed to the provisions of the Special Conditions and Specifications regarding the measurement of quantities.

Unless otherwise stated, items are measured nett in accordance with the drawings and Project Specifications and no allowance is made for waste or work more than that specified

BILL OF QUANTITIES

Part C2.2 Bill Of Quantities

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (Excl. Vat)	AMOUNT	RATES Using EPWP Individulas (Excl. Vat)
SECTION A: EXCAVATION OF TRENCHES, HORIZONTAL DRILLING AND INSTALLATION OF SLEEVES						
C3.10	Obtaining information pertaining to other services: If the Gauteng Department of Road and Transport is unable to supply suitable way leaves or to supply them in time then the contractor(s) must obtain the required information from the other service providers (SP) at these quoted rates	per intersection	8	R	R	
C3.36.4	Tracing of existing ducts (measured per running metre of excavation 600 mm wide and less than 1,5 metre deep)	m3	200	R	R	R
C3.36.7	Cutting, lifting and replacing of: a) Interlocking blocks / bricks or concrete slabs (existing materials to be reused)	m²	40	R	R	R

T2.68

C3.36.8	b)	Solid concrete, including supply of materials (10 MPa minimum)	m ²	200	R	R	R
	c)	Asphalt paving (including supply of materials)	m ²	20	R	R	R
		Removal and preserving of lawn grass	m ²	400	R	R	R
C3.36.8		Excavating, backfilling and compaction of trenches					
C3.36.6	a)	In existing pick-able soil	m ³	200	R	R	R
	b)	In hard pick-able soil with boulders	m ³	400	R	R	R
	c)	In hard material	m ³	160	R	R	R
		Road Crossing					
	a)	Cutting and lifting of the surface					
	i	Tarmac	Lm	600	R	R	R
	ii	Cement	Lm	160	R	R	R
	iii	Paving (including stockpiling of re-useable paving)	Lm	300	R	R	R
	b)	Excavating and stockpile of spoil material per linear meter trench and backfilling with approved material	Lm	300	R	R	R
	c)	Re-instatement of road surface to original state					
	i	Tarmac	Lm	600	R	R	R
	ii	Cement	Lm	160	R	R	R

T2.69

C3.36.12	iii	Paving (including stockpiling of re-useable paving)	Lm	300	R	R	R
	Under-road direct drilling in pick able soil (excluding supply of sleeves / pipes)						
	a)	40 or 50 mm hole direct drilling					
	i	Up to 12m long	No	20	R	R	R
	ii	12 – 25 m long	No	20	R	R	R
	iii	Longer than 25 metres	No	20	R	R	R
	b)	Extra-over sub item(a) for drilling in hard pick able soil with boulders	m	20	R	R	R
	c)	Extra-over sub item(a) for drilling in hard material, irrespective of length	m	20	R	R	R
TOTAL CARRIED FORWARD TO NEXT PAGE							

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (Excl. Vat)	AMOUNT	RATES Using EPWP Individulas (Excl. Vat)
TOTAL BROUGHT FORWARD FROM PREVIOUS PAGE					R	
C3.36.12	d) 110 mm hole direct drilling					
	i Up to 12m long	No	200	R	R	
	ii 12 – 25 m long	No	160	R	R	
	iii Longer than 25 metres	No	2	R	R	
	e) Extra-over sub item(d) for drilling in hard pick able soil with boulders	m	20	R	R	
	f) Extra-over sub item (d) for drilling in hard material, irrespective of length	m	20	R	R	
	Under-road directional drilling in pick able soil (excluding supply of sleeves / pipes)					
	a) 40 or 50 mm hole directional drilling					
	i Up to 12m long	No	10	R	R	
	ii 12 – 25 m long	No	20	R	R	
	iii Longer than 25 metres	No	2	R	R	

T2.71

	b)	Extra-over sub item(a) for drilling in hard pick able soil with boulders	m	2	R	R	
	c)	Extra-over sub item(a) for drilling in hard material, irrespective of length	m	4	R	R	
	d)	40 or 50 mm hole directional drilling					
	i	Up to 12m long	No	10	R	R	
	ii	12 – 25 m long	No	10	R	R	
	iii	Longer than 25 metres	No	10	R	R	
	e)	Extra-over sub item(a) for drilling in hard pick able soil with boulders	m	10	R	R	
	f)	Extra-over sub item(a) for drilling in hard material, irrespective of length	m	2	R	R	
		Installation of sleeves / pipes and draw wire under roadway for excavated trenches, including the supply of 1,5mm galvanised steel wire, excluding the supply of sleeves.					
C3.36.18	a)	110 mm sleeves	m	400	R	R	

C3.36.18	Installation of sleeves / pipes and draw wire for direct and directional drilling, including the supply of sleeves as well as draw wire					
a)	110 mm sleeves	m	400	R	R	R
C3.36.18	Installation of sealing caps					
a)	110 mm	No.	48	R	R	
C3.42	Disposal of rock or spoil from excavations	m³	30	R	R	
C3.42	Supply of imported selected material / filling soil	m³	20	R	R	
C3.42	Supplying of paving bricks (upon approval)					
a)	60mm thick	No.	500	R	R	
b)	80mm thick	No.	500	R	R	
TOTAL CARRIED FORWARD TO SUMMARY PAGE						

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (Excl. Vat)	AMOUNT	RATES Using EPWP Individulas (Excl. Vat)
SECTION B: INSTALLATION OF CABLES AND CUTTING OF LOOPS						

T2.73

C3.37.4	Cutting of inductive loops for vehicle actuated signals or traffic responsive systems, eg SCOOT					
	a) Cut in asphalt for inductive loops	m	400	R	R	
	b) Cut in concrete for inductive loops	m	20	R	R	
C3.37.6	Placing of loop wire including bedding and Epoxy / bitumen seal	m	400	R	R	
C3.37.6	Supply and placing of 20mm PVC conduit in excavated surfaces	m	20	R	R	
C.37.5	Installation of OVERHEAD detector	No.	20	R	R	
C3.2	Installation of Magnetometer detector	No.	20	R	R	
C3.2	Make alive, test and commission detector installation	No.	20	R	R	
C3.37.3	Supply and Laying of Cables , drawing cable through sleeves, laying in trenches and connection at end points:					

T2.74

	a)	16mm ² x 2core supply cable	m	600	R	R	
	b)	1,5mm ² x 2core loop cable	m	400	R	R	
	c)	2,5mm ² x 19core cable	m	1200	R	R	
	d)	2,5mm ² x 27core cable	m	2000	R	R	
	e)	2,5mm ² x 12core cable	m	800	R	R	
	f)	3 Pair Sheathed Comms Cable	m	100	R	R	
	g)	16 mm ² bare copper earth wire	m	400	R	R	
	h)	Extra-over sub item (b) for an additional turn of wire	m	400	R	R	
C3.37.3		Cable Joint(s)					
	a)	16mm ² x 2core + earth	No.	20	R	R	
	b)	1,5mm ² x 2core loop cable	No.	10	R	R	
	c)	2,5mm ² x 19core	No.	40	R	R	
	d)	2,5mm ² x 27core	No.	40	R	R	
	e)	2,5mm ² x 12core	No.	20	R	R	
C3.37.3		Cable Termination - With glands					
	a)	16mm ² x 2core + earth	No.	20	R	R	

T2.75

b)	1,5mm ² x 2core loop cable	No.	20	R	R	
c)	2,5mm ² x 19core	No.	400	R	R	
d)	2,5mm ² x 27core	No.	400	R	R	
e)	2,5mm ² x 12core	No.	60	R	R	
f)	22 mm 3 pair sheathed comms cable	No.	10	R	R	
TOTAL CARRIED FORWARD TO SUMMARY PAGE						

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (Excl. Vat)	AMOUNT	RATES Using EPWP Individulas (Excl. Vat)
SECTION C: INSTALLATION OF TRAFFIC SIGNAL POLES AND HEADS						
C3.38.2	Installation of concrete bases for traffic signal poles, including excavation, casting of concrete footing and placing of steel base-plate and frame					
a)	for standard height pole (0,5m x 0,5m x 0,5m) per footing in all types of material	No	200	R	R	

T2.76

C3.38.3	b)	for high pole (1,0m x 1,0m x 1,0m) per footing in all types of material	No	20	R	R	
	c)	for cantilever pole (1,0m x 1,0m x 1,0m) per footing in all types of material	No	20	R	R	
	Collection and installation of						
	a)	standard height traffic signal pole	No	600	R	R	
	b)	Extended height signal pole	No	40	R	R	
	c)	Cantilever traffic signal pole	No	80	R	R	
C3.38.4	Painting of poles with 2 coats anti-corrosive paint followed by golden yellow paint, with top 750mm of pole in black enamel for:						
	a)	Standard height traffic signal pole	No	600	R	R	R
	b)	Extended height signal pole	No	40	R	R	R
	c)	Cantilever traffic signal pole	No	80	R	R	R
C3.38.4	Installation of Reflective tape on traffic signal poles		Per pole	680	R	R	R

T2.77

C3.38.5	Assembly and installation of traffic signal heads including backing boards, all visors, lenses, lamps, cabling, straps for fixtures, including material and labour:					
	a) Three aspect signal head : Type S1, S1L, S1R, S2, S3 or S4	No	780	R	R	
	b) Four aspect signal head: S5, S6 or S7	No	20	R	R	
	c) Five aspect signal head: Type S8 or S9	No	300	R	R	
	d) Two aspect signal head: S10	No	180	R	R	
	e) Two aspect pedestrian signal head: S11	No	160	R	R	
	f) Extra over for installation on extended pole	No	10	R	R	
	g) Extra over for installation on cantilever pole	No	10	R	R	
C3.38.7	Installation of pedestrian push buttons	No	20	R	R	
C3.38.8	Installation devices for visually handicapped pedestrians	No	10	R	R	
C3.38.9	Installation of pole top connectors	No	2000	R	R	
C3.38.11	Installation of Directional Signs	No	30	R	R	
TOTAL CARRIED FORWARD TO SUMMARY PAGE						

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (Excl. Vat)	AMOUNT	RATES Using EPWP Individulas (Excl. Vat)
---------	-------------	------	----------	------------------------	--------	---

T2.78

SECTION D: INSTALLATION OF TRAFFIC SIGNAL POLES AND HEADS (Control)						
C3.39.2	Installation of controller footing, controller pole, if required and controller cabinet, including excavation for controller pole 0,4 m³ in all types of material and casting of concrete base.	No	78	R	R	R
C3.39.2	Installation of controller, including transportation to site, drawing all cables from signal poles into the controller cabinet and marking of cables to indicate signal heads, drawing of cable from power supply into controller cabinet:					
	a) Automotor ESA10, or similar	No	30	R	R	
	b) Automotor ESA22, or similar	No	6	R	R	
	c) Automotor ESA32, or similar	No	6	R	R	
	d) Siemens ST900/ST950, or similar	No	6	R	R	
	e) Syntell Movac 4 (plinth mounted), or similar	No	3	R	R	
	f) Syntell MX, or similar	No	24	R	R	

T2.79

	g) Syntell TMPC, or similar	No	3	R	R	
C3.39.3	Connection of the controller to the main power supply	No	78	R	R	
C3.39.4	Commissioning of intersection and testing of operation in the presence of a representative of the GDRT	No	78	R	R	
C3.2.1	Electrical certificate of compliance (COC)	No	78	R	R	
TOTAL CARRIED FORWARD TO SUMMARY PAGE						

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (Excl. Vat)	AMOUNT	RATES Using EPWP Individulas (Excl. Vat)
SECTION E: REMOVAL OF OLD EQUIPMENT, REPAIR AND REPLACEMENT OF EXISTING TRAFFIC SIGNAL INSTALLATIONS						
C3.40.6	Remove all old equipment from traffic signal poles as indicated by the GDRT Project Manager					
	a) Standard height traffic signal pole	The lot	8	R	R	
	b) Extended height traffic signal pole	The lot	8	R	R	

T2.80

C3.40.3	c) Cantilever traffic signal pole	The lot	8	R	R	
	Remove old traffic signal poles, disassemble as indicated by the GDRT Project Manager					
	a) Standard height traffic signal pole	No	8	R	R	
	b) Extended height traffic signal pole	No	8	R	R	
C3.40.4	c) Cantilever traffic signal pole	No	8	R	R	
	Dismantling the controller and removal of the controller.	No	8	R	R	
C3.40.5	Remove damaged concrete bases for					
	a) Standard height pole (0,5m x 0,5m x 0,5m)	No	20	R	R	R
	b) Extended range pole (1m x 1m x 1m)	No	12	R	R	R
	c) Cantilever type pole (1m x 1m x 1m)	No	12	R	R	R
C3.2.10	Cut and remove existing damaged cable	m	320	R	R	
C3.2.10	Reconnection of traffic signal heads					

T2.81

	a)	Disconnect and reconnect 5-Aspect signal head	No.	40	R	R	R
	b)	Disconnect and reconnect 4-Aspect signal head	No.	8	R	R	R
	c)	Disconnect and reconnect 3-Aspect signal head	No.	60	R	R	R
	d)	Disconnect and reconnect 2-Aspect signal head	No.	20	R	R	R
C3.2.10		Fault finding on Traffic Signal installations	hour	150	R	R	
C3.2.10		Underground cable fault location	No	200	R	R	
C3.2.10		Megger Cable, Including disconnecting and reconnecting both cable ends	No	200	R	R	
TOTAL CARRIED FORWARD TO SUMMARY PAGE							

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (Excl. Vat)	AMOUNT	RATES Using EPWP Individulas (Excl. Vat)
SECTION E: REMOVAL OF OLD EQUIPMENT, REPAIR AND REPLACEMENT OF EXISTING TRAFFIC SIGNAL INSTALLATIONS						

C3.2.11	APPLYING HOT-APPLIED THERMO PLASTIC ROAD MARKING MATERIALS Hot-applied thermo-plastic road marking material, procured, supplied and applied as directed by the GDRT in accordance with SARTSM					
	a) White lines (broken or unbroken)	Lm	3000	R	R	
	b) Yellow lines (broken or unbroken)	Lm	1000	R	R	
	c) Red lines (broken or unbroken)	Lm	200	R	R	
	d) White lettering and symbols	m ²	1000	R	R	
	e) Yellow lettering and symbols	m ²	200	R	R	
	f) Traffic island markings, and stop lines (any colour)	m ²	1000	R	R	
C3.2.11	APPLYING TWO PART COLD PLASTIC ROAD MARKING MATERIALS Two part cold-plastic road marking material, procured, supplied and applied as directed by the GDRT in accordance with SARTSM					
	a) White lines (broken or unbroken)	Lm	3000	R	R	
	b) Yellow lines	Lm	1000	R	R	

	(broken or unbroken)					
	c) Red lines (broken or unbroken)	Lm	200	R	R	
	d) White lettering and symbols	m ²	100	R	R	
	e) Yellow lettering and symbols	m ²	200	R	R	
	f) Traffic island markings, and stop lines (any colour)	m ²	1000	R	R	
C3.41.13	Setting out and pre-marking lines as required including all materials (1 linear meter = 1 m x 100mm)	LM	1000	R	R	

C3.41.13	ROADSTUDS					
	a)	Supply road studs (Stimsonit C80 or similar)	No	100	R	R
	b)	Applied with Epoxy	No	100	R	R
	c)	Applied with epoxy and drilling a 15mm hole in the road surface and filled with epoxy	No	50	R	R
C3.2.11	REMOVAL OF EXISTING, TEMPORARY OR PERMANENT ROAD MARKINGS					
	Removal of existing, temporary or permanent road markings by means of					
	a)	Sand blasting	m ²	200	R	R
	b)	Water jet	m ²	200	R	R
	c)	Shot blast	m ²	200	R	R
TOTAL CARRIED FORWARD TO SUMMARY PAGE						
ITEM NO						

T2.85

SECTION G: INSTALLATION OF ROAD TRAFFIC SIGNS

	DESCRIPTION		UNIT	QUANTITY	RATE (Excl. Vat)	AMOUNT	RATES Using EPWP Individulas (Excl. Vat)
C3.36							
	ERECTION OF GROUND MOUNTED SIGNS Supply and Erection of signs on poles less than 4m high in accordance with SARTSM.						
	a)	Regulatory and Warning Signs					
	EXCAVATION AND BACKFILLING FOR ROAD AND TRAFFIC SIGN SUPPORTS						
	a)	Excavation for the footings of road sign posts in all types of material including the removal of paving material, lawn and/or concrete, if any, all equipment, tools, ladders, safety signs, barricades, the disposal of the surplus excavated soil, concrete and/or paving material, if any, at an approved dumping site. hole (300mm x 300mm x 600mm deep)	No	40	R	R	
	b)	Installation of poles for street and traffic signs < 4m					

T2.86

	c)	Installation of poles for street and traffic signs > 4m	No	40	R	R	R
	d)	Backfilling holes using 20kg mix Crete (to be supplied by Contractor(s)) and compacted in 100mm layers per specifications	No	20	R	R	R
	e)	Extra-over for rock excavation per hole (300mm x 300mm x 600mm deep)	No	20	R	R	R
	f)	Replacing Concrete Paving Slabs	No	40	R	R	R
	g)	Replacing Paving Bricks	No	10	R	R	R
TOTAL CARRIED FORWARD TO SUMMARY PAGE							

T2.87

SECTION H: NEW TECHNOLOGY INNOVATION								
C3.44.2	INNOVATIVE TECHNOLOGY							
	INDICATION OF COMPROMISE TECHNOLOGY							
C3.44.2.1	Visual surveillance, detectors, alarms, alerts, communications systems							
C3.44.3	UNITERRUPTIBLE POWER SUPPLY TECHNOLOGY							
C3.44.3.1	Alternative Power Supply Innovative Technology.							

C3.44.4	IINNOVATIVE SMART MATERIAL USE.							

SECTION I: PROVISIONAL SUM TO ALLOW FOR CONTINGENCIES

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (Excl. Vat)	AMOUNT	RATES Using EPWP Individulas (Excl. Vat)
	-					
	Provisional sum for geometric works which may be required for new traffic signal installation for 4-way/3-way intersections	sum	For 4-way/3-way	R 1,000,000	R 1,000,000	

T2.89

	PROVISIONAL SUM FOR CONTINGENCIES This item is an allowance for items that is not covered in the above, which is required for the execution of the works as above. This can include where the need has arisen unforeseeably so, where upon the contractor can supply a quote and upon approval by the GDRT project manager, can supply the required material.	Provisional Sum	Portion as required	R 500,000	R 500,000	
	Provisional Sum for students in training(5)	Provisional Sum	Portion as required	R 400,000	R 400,000	
	Provisional sum for extra work/additional duties and day works	Provisional Sum	Portion as required	R	R	
	Provide grade "C" security gaurds, in areas to be gaurded 24hrs/day	Provisional Sum	Portion as required	R	R	

Day Works						
Labour rates for:						
a)	Electrical Engineer/Technologist	hr	Rate	R		
b)	Civil Engineer/Technologist	hr	Rate	R		
c)	Artisan	hr	Rate	R		
d)	Foreman	hr	Rate	R		
e)	semi-skilled labour	hr	Rate	R		
f)	Labour	hr	Rate	R		
Transport(Vehicles):						
a)	up to and including 1500kg	Km	Rate	R		
b)	between 1500kg and 3000kg	Km	Rate	R		
c)	Vehicles over 3000kg with crane	Km	Rate	R		

T2.91

TOTAL CARRIED FORWARD TO SUMMARY PAGE						

SUMMARY OF BILL OF QUANTITIES			
ITEM NO	DESCRIPTION	AMOUNT	RATES Using EPWP Individulas (Excl. Vat)
	SECTION A: EXCAVATION OF TRENCHES, HORIZONTAL DRILLING AND INSTALLATION OF SLEEVES	R	R
	SECTION B: INSTALLATION OF CABLES AND CUTTING OF LOOPS	R	R
	SECTION C: INSTALLATION OF TRAFFIC SIGNAL POLES AND HEADS	R	R
	SECTION D: INSTALLATION OF TRAFFIC SIGNAL POLES AND HEADS (Control)	R	R
	SECTION E: REMOVAL OF OLD EQUIPMENT, REPAIR AND REPLACEMENT OF EXISTING TRAFFIC SIGNAL INSTALLATIONS	R	R

T2.92

	SECTION G: INSTALLATION OF ROAD TRAFFIC SIGNS	R	R
	SECTION H: NEW TECHNOLOGY INNOVATION.		
	SECTION I: PROVISIONAL SUM TO ALLOW FOR CONTINGENCIES	R	R
GRAND TOTAL			



GAUTENG PROVINCE

ROADS AND TRANSPORT
REPUBLIC OF SOUTH AFRICA

TENDER NUMBER: DRT11/06/2024 TRAFFIC SIGNAL MAINTENANCE, AND GEOMETRIC UPGRADES TO CATER FOR NEW INSTALLATION, FOR FIVE (5) REGIONS, AS AND WHEN REQUIRED.

SBD1

**PART A
INVITATION TO BID**

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (NAME OF DEPARTMENT/ PUBLIC ENTITY)					
BID NUMBER:		CLOSING DATE:		CLOSING TIME:	
DESCRIPTION					
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)					



BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO			TECHNICAL ENQUIRIES MAY BE DIRECTED TO:	
CONTACT PERSON			CONTACT PERSON	
TELEPHONE NUMBER			TELEPHONE NUMBER	
FACSIMILE NUMBER			FACSIMILE NUMBER	
E-MAIL ADDRESS			E-MAIL ADDRESS	
SUPPLIER INFORMATION				
NAME OF BIDDER				
POSTAL ADDRESS				
STREET ADDRESS				
TELEPHONE NUMBER	CODE		NUMBER	
CELLPHONE NUMBER				
FACSIMILE NUMBER	CODE		NUMBER	
E-MAIL ADDRESS				
VAT REGISTRATION NUMBER				



SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		OR	CENTRAL SUPPLIER DATABASE No:	MAAA
2.1 ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]	2.2 ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES OFFERED?		☐ Yes ☐ No [IF YES, ANSWER THE QUESTIONNAIRE BELOW]	
QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS					
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? ☐ YES ☐ NO DOES THE ENTITY HAVE A BRANCH IN THE RSA? ☐ YES ☐ NO DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA? ☐ YES ☐ NO DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? ☐ YES ☐ NO IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION? ☐ YES ☐ NO IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 BELOW.					

PART B: TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:
1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION. 1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED (NOT TO BE RE-TYPED) OR IN THE MANNER PRESCRIBED IN THE BID DOCUMENT. 1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT. 1.4. THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).
2. TAX COMPLIANCE REQUIREMENTS
2.3 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS. 2.4 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS. 2.5 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA. 2.6 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID. 2.7 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED; EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER. 2.8 WHERE NO TCS PIN IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED. 2.9 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE."

NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

SIGNATURE OF BIDDER:

.....

CAPACITY UNDER WHICH THIS BID IS SIGNED:

.....

(Proof of authority must be submitted e.g. company resolution)

DATE:

.....

SBD 4

DECLARATION OF INTEREST

1. Any legal person, including persons employed by the state*, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes a price quotation, advertised competitive bid, limited bid or proposal). In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest, where-
 - the bidder is employed by the state; and/or
 - the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the bid.
2. **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**
 - 2.1 Full Name of bidder or his or her representative:

- 2.2 Identity Number:
- 2.3 Position occupied in the Company (director, shareholder etc):.....
- 2.4 Company Registration Number:
- 2.5 Tax Reference Number:
- 2.6 VAT Registration Number:

* "State" means –

- (a) any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);
- (b) any municipality or municipal entity;
- (c) provincial legislature;
- (d) national Assembly or the national Council of provinces; or
- (e) Parliament.

- 2.7 Are you or any person connected with the bidder **YES / NO**
presently employed by the state?

2.7.1 If so, furnish the following particulars:

Name of person / director / shareholder/ member:

Name of state institution to which the person is connected:

Position occupied in the state institution:

Any other particulars:

.....

.....

2.8 Did you or your spouse, or any of the company's directors
shareholders / members or their spouses conduct business
with the state in the previous twelve months?

YES / NO

2.8.1 If so, furnish particulars:

.....

.....

.....

TENDER NUMBER: DRT11/06/2024 TRAFFIC SIGNAL MAINTENANCE, AND GEOMETRIC UPGRADES TO CATER FOR NEW INSTALLATION, FOR FIVE (5) REGIONS, AS AND WHEN REQUIRED.

2.9 Do you, or any person connected with the bidder, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this bid? **YES / NO**

2.9.1 If so, furnish particulars.

.....

2.10 Are you, or any person connected with the bidder, aware of any relationship (family, friend, other) between the bidder and any person employed by the state who may be involved with the evaluation and or adjudication of this bid? **YES / NO**

2.10.1 If so, furnish particulars.

.....

2.11 Do you or any of the directors /shareholders/ members of the company have any interest in any other related companies whether or not they are bidding for this contract? **YES / NO**



2.11.1 If so, furnish particulars:

.....

DECLARATION

I, THE UNDERSIGNED (NAME).....

CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 2.1 TO 2.11.1 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY ACT AGAINST ME IN TERMS OF PARAGRAPH 23 OF THE GENERAL CONDITIONS OF CONTRACT SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....

Signature

.....

Date

.....

Position

.....

Name of bidder

SBD 7.1

CONTRACT FORM - PURCHASE OF GOODS/WORKS

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

PART 1 (TO BE FILLED IN BY THE BIDDER)

1. I hereby undertake to supply all or any of the goods and/or works described in the attached bidding documents to (name of institution)..... in accordance with the requirements and specifications stipulated in bid number..... at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the purchaser during the validity period indicated and calculated from the closing time of bid.

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

(i) Bidding documents, viz

- *Invitation to bid*;
- *Tax clearance certificate*;
- *Pricing schedule(s)*;
- *Technical Specification(s)*;
- Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2011;

- Declaration of interest;
- Declaration of bidder's past SCM practices;
- Certificate of Independent Bid Determination
- Special Conditions of Contract;
- (ii) General Conditions of Contract; and
- (iii) Other (specify)

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

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

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

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



NAME (PRINT)

CAPACITY

SIGNATURE

NAME OF FIRM

DATE

WITNESSES

1

2.

DATE:

CONTRACT FORM - PURCHASE OF GOODS/WORKS

PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. I..... in my capacity as.....accept your bid under reference number
.....dated.....for the supply of goods/works indicated hereunder and/or further specified in the annexure(s).

2. An official order indicating delivery instructions is forthcoming. I undertake to make payment for the goods/works delivered in accordance with the terms and

ITEM NO	PRICE (ALL APPLICABLE TAXES INCLUDED)	BRAND	DELIVERY PERIOD	B-BBEE STATUS LEVEL OF CONTRIBUTION	MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)

conditions of the contract, within 30 (thirty) days after receipt of an invoice accompanied by the delivery note.

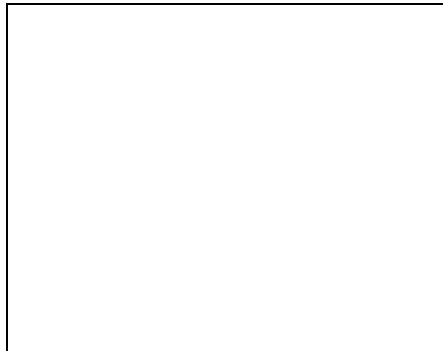


SIGNED ATON.....

NAME (PRINT)

SIGNATURE

OFFICIAL STAMP



WITNESSES

1.

2.

DATE

C3: SCOPE OF WORKS

General Requirements

- C3.1.1 The purpose of this Bid is to enable the GDRT to integrate all aspects of the implementation of new traffic signals, signs and markings as well as the repair, replacement and maintenance of traffic signal equipment as per the SARTSM requirements and compliance.
- C3.1.2 The advantage of one integrated contract would be that the coordination of tasks and project management as well as the communication between sub-contractor(s) and ECSA registered consultants(s)/Engineer(s)/Technologist(s) would become the responsibility of the Main Contractor(s) and not the GDRT. It will also increase available resources to meet a variable demand in workflow and improve service delivery.
- C3.1.3 Main Contractor(s) may form consortia to ensure that they have the capabilities required for this contract, however only the prime contractor(s) may be in direct contact with the GDRT.
- C3.1.4 This is an "as and when" contract for a period of 3 years from the date of award of this Bid.

C3.2 PROJECT SCOPE OF WORK

- C3.2.1 The project entails the execution of work connected with the installation of traffic signals in accordance with SARTSM, including road crossings (the excavation of trenches or underground horizontal drilling), laying of cables, casting of concrete footings, installation of traffic signal poles, threading of cables and installation of traffic signal heads and controllers. The work also includes cutting and installation of loops or core drilling and installation magnetometer for traffic signal equipment and all electrical work related to connecting the signal heads with the controller, connection of the traffic signal controller to the main

electrical power supply and related electrical and maintenance work. All major electrical work might require a certificate of compliance (CoC) upon completion. The contract will also include the installation of road signs and road markings related to traffic signals.

- C3.2.2 All labour, designs for new installation, supervision, transport, specialized plant, equipment and facilities as well as minor consumables necessary to execute the Works must be supplied by the Main Contractor(s).
- C3.2.3 The work has a civil, electrical as well as electronic engineering component. Bidder(s) must ensure that all these competencies are within their company's capacity. The Bidder(s) may choose to subcontract other competencies that are not within their company's capacity. Should the Bidder(s) subcontract other competencies, the name and full details of the specific subcontractor(s) and Consultant(s)/Engineer(s)/Technologist(s) must be provided in the necessary form attached. An agreement between the Bidder(s) and subcontractor(s) should be attached to the bid document before submission.
- C3.2.4 The location and the detail drawings for the traffic signal installations will be prepared by a professional Traffic Engineer and approved by the GDRT; it will therefore be supplied to the Contractor(s) in the form of a works order by the GDRT Project Manager for each installation.
- C3.2.5 All traffic signal material and equipment to be installed, such as cables, sleeves, poles, signal heads, visors, backing boards, lenses, traffic signal controllers, will be supplied by the Contractor(s). The Contractor(s) shall have adequate insurance cover against the loss of or damage to any material or equipment for which he has taken delivery.
- C3.2.6 The Contractor(s)'s insurance should cover any damage caused by the Contractor(s) or his staff to electrical, water, sewer, gas, telephone or any other services or to private or GDRT property.
- C3.2.7 The description of the work is merely a broad exposition of the work, and will not limit the work carried out by the Contractor(s) under this contract.
- C3.2.8 The work connected with the installation of traffic signals entail different aspects of work, with the following making up the most important elements of the contract:
- C3.2.9 The contractor will be responsible for the designs and execution of geometric works which may be required for new traffic signal installation or upgrades of existing signalised intersections.
- C3.2.10 Crossing of existing streets for the laying of ducts where ducts are not available. This includes cutting of the asphalt, excavation, laying of ducts, backfilling and compaction of material and repairing of asphalt.
 - a) Obtaining information on the locality of services as well as the way leave.
 - b) Underground horizontal drilling and installation of sleeves (sleeves for this operation to be provided by contractor(s) for roads which cannot be trenched across.
 - c) Collection of material(s) and equipment from the supplier and transporting to site.
 - d) Installation of traffic signal poles, which includes the excavation for and casting of footings and the mounting of the traffic signal poles onto the footings.
 - e) Assembling and mounting of traffic signal heads.



- f) Installation of the traffic signal controller.
- g) Excavation of trenches for the laying of cables to the nearest electricity point of supply.
- h) Laying of ducts in trenches and threading of cables through ducts/sleeves.
- i) Connection of the signal to the controller.
- j) Cutting in asphalt or concrete and installation of inductor loop detectors for vehicle-actuated signals and traffic responsive control systems, eg Split Cycle Offset Optimisation Technique (SCOOT).
- k) Installation of magnetometer detection devices (core drilling required)
- l) Installation of any type of pushbutton
- m) Supply and installation of PVC conduits as alternative to cutting in concrete slabs or roads with block paved surfacing.
- n) Reconstruction of existing traffic signal controlled intersections, including the removal of signal heads, poles, controller, tracing of existing cables and conduits, etc.
- o) Where faults occur within the controller as a result of poor workmanship by the Contractor(s), the Contractor(s) will be notified to repair such faults under supervision of the GDRT Project Manager. All controllers will be maintained by the Main Contractor(s) and the Sub-Contractor(s) will not be allowed to open the controller, unless upon instruction / request from the Main Contractor after commissioning and final acceptance of the installation by the GDRT.
- p) Installation of equipment into the controller,
- q) Maintenance on traffic signals
- r) Call outs
- s) Revising of the timing cycles of existing signalised intersection as per the engineer(s) instructions and approved by the GDRT.

C3.2.11 Installation of Thermo-Plastic, Cold-Plastic or Water Based Road markings The road markings may comprise any of the following types, either separately or in combination:

- (i) Transverse marking
- (ii) Longitudinal markings



- (iii) Arrows
 - (iv) Painted islands
 - (v) Symbols
 - (vi) Words, letters and/or numerals
 - (vii) Road studs
- a) The intention for including road markings is to get road markings at signalized intersections SARTSM compliant.
- b) Main Contractor(s) will be required to supply thermo plastic, cold plastic and water based road marking products.
- c) The application of road markings entails different aspects of work, with the following making up the most important elements of the contract:
- (i) Permanent marking of the road surface with white, yellow or road painted lines or symbols using thermo-plastic, cold-plastic or water based paint supplied by the Contractor(s).
 - (ii) The fixing of retro-reflective road studs supplied by the Contractor(s).
 - (iii) Removal of existing, temporary or permanent road markings.
 - (iv) Supply of plant, labour, supervision, transport, specialized plant, equipment and facilities as well as consumables (such as nozzles, brushes, measuring tape, chalk, stencils, paint cleaning products, etc) necessary to execute the work.
 - (v) Attendance of regular site meeting with the GDRT.
- d) The description of the work is merely a broad exposition of the work, and will not limit the work carried out by the Contractor(s) under this contract.
- e) The GDRT reserves the right to extend the scope of the work at the rates supplied by the Bidder(s) in the Schedule of Quantities.
- f) All labour and equipment must be supplied by the Main Contractor(s).

C3.2.12 Installation of road signs. The erection of road and traffic signs entails different aspects of work, with the following making up the most important elements:

- (i) Erection of road and traffic signs, which includes the excavation for and backfilling for planting of poles and/or the mounting of the signs onto the poles.



- (ii) Erection of standard regulatory and warning traffic signs.
- (iii) Collection of material(s) and equipment from the supplier and transporting to site.
- (iv) Removal and/or re-erection of GDRT road and traffic signs for maintenance of the signs.
- (v) Attendance of regular site meeting with the GDRT.

- a) All labour, designs, supervision, transport, specialized plant, equipment, tools and facilities as well as minor consumables (such as bolts, nuts, rivets and concrete) necessary to execute the work must be supplied by the Main Contractor(s).

C3.2.13 The GDRT reserves the right to extend the scope of the work at the rates bided in the Schedule of Quantities.

C3.2.14 Routine maintenance will be carried out by the Main Contractor(s), but the Sub-Contractor(s) will be required to provide hourly rates for work related routine maintenance if required by the Main Contractor(s) in emergency situations.

C3.3 EXTRA WORK/ADDITIONAL DUTIES AND DAY WORK

C3.3.1 The Bidder(s) shall take cognizance of the fact that this is an "As and When" contract and the GDRT cannot guarantee the extent of work to be carried out nor the amount of money to be used.

C3.3.2 The successful Bidder(s) will be required to undertake this work, as and when required, anywhere within the areas of supply covered by the GDRT in the Gauteng Province.

C3.3.3 The Contract will be awarded to the Bidder(s) who attains the highest points in terms of the adjudication system.

C3.3.4 An "alternative" or "additional" contractor(s) may be required to undertake work described in this bid should the primary contractor(s) not be available and/or capable to perform the work.

C3.3.5 The GDRT may issue additional duties when the need arises and that work will form part of this scope.

C3.3.6 Day works includes labour and plant that will be required to undertake work on the contract that is not individually itemised, and item of extra work. The contractor is to price each item in the schedule of quantities.

C3.4 QUANTITIES

C3.4.1 This is an "As and When" contract and no quantities are provided in the contract document. The quantities will be dependent on the budget that the GDRT has available for this type of work. Quantities for each installation will be measured and agreed between the GDRT and the Main Contractor(s).

C3.5 RATES

C3.5.1 The rates submitted must **Exclude VAT**.

C3.5.2 The Main Contractor(s) will be required to complete the Schedule of Rates in the Form of Bid section of this document.

C3.5.3 Rates for the use of EPWP (Expanded Public Works Programme) individual learners **must be provided** on items. With Rands (R), Non-compliance to this may lead to disqualification of the bidder. A list of EPWP learners will be provided by GDRT. These rates will include the quality control and final inspection of these items. The rate should also include the medical exam and training that will be provided to the EPWP learners. GDRT reserves the right to supply the potential contractor/s with EPWP learners. For more information on EPWP please visit www.epwp.gov.za.

C3.5.4 The increase after one (1) year shall not exceed CPIX, where after the prices will remain firm again for a year before a further price increase will be allowed and again it shall not exceed CPIX.

C3.6 EMPLOYER

C3.6.1 The Employer of this contract is the Gauteng Department of Roads and Transport (GDRT). The GDRT's representative will be the GDRT Project Manager and the Contractor(s) will be advised of whom will fulfil that role on each project.

C3.7 ADJUDICATION OF BID

C3.7.1 The GDRT may, before Bids are considered for acceptance, examine and take into account the following, although not limited thereto:

- a) The financial standing of Bidder(s)s,
- b) The Bidder(s)'s good standing with the GDRT,
- c) The Bidder(s) ability to fulfil their obligations in terms of the bid documents.



- d) The Bidder(s)'s minimum capacity should consist of at least: four (4) vehicles (ldv's/trucks), one (1) tower wagon and at least four (4) qualified electricians in their permanent employment and an engineer/Technologist ECSA registered (traffic signals/Civil). Full details and proof should be submitted with the bid document. CV's of the electricians and Engineer with a copy of their trade test certificate and certificates must be included in bid submission. If however the bidder does not currently meet this minimum capacity then proof must be submitted on how the bidder will acquire these within seven days (7) upon award of the Bid. If the other competencies are subcontracted, the full details and proof of the subcontractor (s) must also be submitted as well.
- e) Proof that the Bidder(s) and their subcontractor(s) performing electrical installations are registered with the Electrical Contracting Board of South Africa.

C3.7.2 The remaining responsive bids shall be adjudicated per the following, as applicable:

- a) The unit rates and prices,
- b) A total bid price for all items (brought to a comparative level, based on the historical quantities used on each item by GDRT on previous installations done by JRA and Local Authorities.
- c) Resources available (including qualified electricians and consultants)
- d) Any qualification to the bid,
- e) The points awarded as described in the Conditions of Bid.
- f) A site visit to the Bidder(s)'s premises may be performed by GDRT's Bids Committee (s).

C3.8 ACCEPTANCE OF BID

C3.8.1 A valid and binding contract will be concluded at the time that the GDRT send a letter of acceptance of this Bid to the Bidder(s).

C3.9 TIME FOR PLACING OF ORDERS AND RATE OF DELIVERY

- C3.9.1 Orders will be issued during the period of the contract commencing on the date of award, stating details of order or project. Delivery of service must generally be made within three days, even if the delivery date extends beyond the expiry date of the Contract.
- C3.9.2 The rate of delivery and date of completion of work for each order or project will be stated and agreed between the Contractor(s) and the GDRT Project Manager at the time of placing each order; if this is not stated then it should be accepted that the works should be completed within three days.

C3.10 CONTRACTOR(S) GENERAL RESPONSIBILITIES

- C3.10.1 The Main Contractor(s) shall with due care and diligence execute and complete the works and remedy any defects therein in accordance with the provisions of the Contract.
- C3.10.2 Unless otherwise stated, the Main Contractor(s) shall at his own expense supply and provide all the designs, superintendence, constructional tools, plant, machinery, labour, consumables, specialized equipment and facilities required, transport to and from the sites and anything else required for the completion and maintenance of the works.
- C3.10.3 The Contractor(s) shall collect from supplier and transport to site all materials and equipment required to carry out the work as specified. Once the Contractor(s) has taken delivery of the materials or equipment, it becomes the Contractor(s)'s responsibility and he shall be adequately insured against any loss or damage to such material(s) or equipment.
- C3.10.4 The Contractor(s) shall return all excess and recovered materials or equipment to the/her Traffic Signals Depot on completion of each project.
- C3.10.5 It will be the Contractor(s)'s responsibility to liaise with the relevant departments of the GDRT to ascertain the correct positions of stop lines, pedestrian crossings, property boundaries, kerbs and any other future services, in order that signal poles, cables and other equipment can be properly located.
- C3.10.6 If the GDRT is unable to supply the required way leaves, the contractor(s) must obtain his own information on the locality of services from the other service providers and apply for the wayleave.
- C3.10.7 The Contractor(s) must engage and give preference to local labour in the provision of services and engineering works required for the fulfilment of the Contract.
- C3.10.8 Ensure that all of the contractor(s)'s staff maintains cordial approaches, attitude and behaviour to all members of the public.
- C3.10.9 Notwithstanding anything previously stated, all works, repairs, connections, etc shall comply with the appropriate Standard Regulations current in the Republic, the local By-Laws at the time of installation and the Traffic Ordinance.

C3.11 CONTRACTOR(S) RESPONSIBILITIES RELATED TO COMMUNICATION WITH GDRT

C3.11.1 The Contractor(s) shall supply the GDRT Project Manager with daily timesheets of work completed.

C3.11.2 The timesheet should be submitted within 24 hours after completion of the works; failing this the contractor(s) could be at risk not being paid for the works completed on the timesheet.

C3.11.3 The rates on the timesheet received by the GDRT shall not be changed by the main contractor(s); the contractor(s) stand a chance of the contract being cancelled if these rates are changed by the contractor(s).

C3.11.4 A layout indicating cable locations as well as measurements should accompany timesheets in cases where cables were installed.

C3.11.5 The Contractor(s) shall maintain a registered and permanent based office during normal working hours, suitably staffed so that messages and instructions may be relayed through it to his field staff.

C3.11.6 The following procedures should take place before any project site is handed over to the Contractor(s):

- GDRT Project Manager to approve detailed designs from the contractor's consultants(s) and to Contractor(s).
- Contractor(s) should identify the appropriate materials or equipment to be supplied and must have it approved by the GDRT Project Manager.
- Materials will be approved not later than 24 hours before commencement of project. Once the contractor(s) has taken delivery of the materials, he takes full responsibility for any losses or damage to the materials.
- Way leave applications and utility applications should be completed.
- Photographs should be taken of the site in at least two directions to confirm the condition of the site prior to site hand-over.
- Work order placed with Contractor(s) to be confirmed by the GDRT and scope of work agreed.
- Contractor(s) and GDRT Project Manager to agree time scales for each project / installation.
- Contractor(s) and GDRT Project Manager to agree action-dated deadlines for each project or installation.

C3.11.7 The GDRT Project Manager will provide milestones for each project to the Contractor(s) before commencement of the work. This would for example be the requirement to inspect and sign off all sleeve installations before re-instatement of excavations or trenches can proceed, etc.

C3.11.8 Once the Contractor(s) is on site, he shall make allowance for the GDRT's Project Manager and/or Quality Assurer to inspect any part of the work when certain project milestones have been reached.

C3.11.9 After completion of the work the following procedures / inspections should take place:

- Once the GDRT Quality Assurer is satisfied that the work has been completed in accordance with the GDRT requirements and specifications, the Quality Assurer will issue a final acceptance and approve the handover of the installation to the GDRT.
- The Contractor(s) shall supply a breakdown of materials used;
- The Contractor(s) shall issue an invoice for the project within one week of project sign off;
- Financial sign off has to be reached between GDRT and GDRT Project Manager before payment is made for the specific project.

C3.11.10 Where these communication procedures are not being adhered to or if the Contractor(s) fails to meet the agreed deadlines on any project, without due notice and reasonable cause for the delay, the GDRT Project Manager may order the Contractor(s) to move off site and work will be continued by an alternative contractor(s) and no compensation will be made for work to date on that project.

C3.12 CONTRACTOR(S) RESPONSIBILITIES RELATED TO SAFETY

C3.12.1 The Contractor(s) shall develop a Safety file, which must be submitted to GDRT before commencement of any work. The Safety file or copies thereof must also be kept on site. The Contractor(s) shall ensure at all times the safety of both the public and his personnel during the entire period of the Contract and keep the Site and the Works in an orderly state appropriated to the avoidance of danger to such persons.

C3.12.2 At no time must open trenches be left unprotected. The Contractor(s) must erect temporary fences/security barriers around all excavations and piles of soil. These fences must be plainly marked by means of suitable discs hung from the wires and by red reflectors to the GDRT Project Manager's approval.

C3.12.3 The Contractor(s) must at all times bear in mind the requirements of road and pavement users and must cause as little inconvenience and obstruction as possible. No trench may be left open for more than 24 hours.

C3.12.4 The Contractor(s) shall provide and maintain at its own cost all barriers/fencing, lights, warning signs and watching if required for the protection of the project site and for the safety and convenience of the public or others.

C3.12.5 The Contractor(s) shall ensure that all relevant duties, obligations and prohibitions imposed in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), and Regulations will be fully complied with at all times. A written agreement in accordance with the Occupational Health and Safety Act must be entered into on award of Bid.

C3.12.6 The Contractor(s) shall at all times observe proper and adequate safety precautions on the Site. Where adequate safety precautions are not being observed, the GDRT Project Manager may order the Contractor(s) to move off-site and work will be continued by another contractor(s) and no compensation will be made for work to date on that project.

C3.12.7 You shall provide the client with a written safety plan which is in accordance with the specification he provided you with as well as legislation Section (5) (1)

C3.12.8 You shall monitor all contractors appointed by you and ensure that they comply with the Occupational Health and Safety Specification of the Client as well as legislation. Section (5) (2)

C3.12.9 The Occupational Health and Safety Specification, Safety Plan as well as the inspection on the Contractor must be done by a person deemed competent by the Construction Regulations Section (7)

C3.13 THE GDRT'S RESPONSIBILITIES

C3.13.1 Furnish the main contractor(s) with written instructions, approve drawings, documentation etc indicating the project site and the nature and extent of work to be performed as required.

C3.13.2 Approval and issuing of wayleave.

C3.13.3 Managing the project and processing of payments as agreed on this contract.

C3.14 PLANNING AND EXECUTION OF WORK

C3.14.1 All work associated with this bid must be executed in such a manner that the installation becomes available for service as soon as possible.

C3.14.2 The Bidder(s) must program his workflow and staffing requirements and make suitable arrangements to meet with GDRT's personnel on site prior to carrying out the work on site, as no payment will be made for standing or waiting time.

C3.14.3 The Contractor(s) shall make allowance for the GDRT's Project Manager and/or Quality Assurer to inspect any part of the work when certain project milestones, as agreed for each project, have been reached.

C3.15 WORKMANSHIP

C3.15.1 The GDRT Project Manager shall have authority to issue instructions for the removal and proper re-execution of any work which, in respect of materials or workmanship is not, in the opinion of the GDRT Project Manager or Quality Assurer, in accordance with the required GDRT standards.

C3.15.2 Should any of the work carried out by the Contractor(s), become defective within a period of three (3) months from the date of final acceptance of the installation as a result of poor workmanship or negligence on the side of the Contractor(s), the Contractor(s) will be ordered to repair and re-execute the work at no cost to the GDRT. Should the Contractor(s) fail to comply with this order, the GDRT Project Manager shall have the right to remove and have the work reinstated by another contractor(s) and the cost will be recovered from the Contractor(s).

C3.15.3 No part of the works shall be covered up or put out of view without approval of the GDRT Project Manager or the GDRT's Quality Assurer and the Contractor(s) shall afford full opportunity for the GDRT to examine and measure any such part of the work which is about to be covered up. The Contractor(s) shall give notice to the GDRT whenever any such part is ready for examination and the GDRT's Quality Assurer shall without unreasonable delay, unless he considers it unnecessary and advises the Contractor(s) accordingly; attend for the purpose of examining such part of the work.

C3.16 DEFECTS LIABILITY PERIOD

- C3.16.1 The Contractor(s) shall be responsible for all defects as a result of poor workmanship or negligence on the side of the Contractor(s), for a period of three (3) months after the issuing of the final acceptance of the installation.
- C3.16.2 Should the GDRT discover on re-opening of any installation completed by the Contractor(s), even after the three month liability period has expired, that the installation did not comply with the GDRT specifications, the GDRT may cancel the Contract with the Contractor(s) and appoint another Contractor(s) to fulfil the obligations for the remaining Contract Period.
- C3.16.3 On completion of the installation, the contractor(s) shall test each piece of equipment and each circuit for correct functioning under supervision of the Quality Assurer of the GDRT. During the commissioning testing, any necessary adjustments and calibration procedures shall be carried out.
- C3.16.4 Should, during the three (3) months defects liability period, controllers / installations not function correctly or becomes damaged as a result of poor workmanship on the side of the Contractor(s) (e.g. due to loose or incorrect connections), the Contractor(s) shall be liable for repairing the damage or replacing the controller at his own cost.

C3.17 DEFECTIVE MATERIALS

- C3.17.1 The Contractor(s) shall, at his own cost and within a reasonable time as specified by the GDRT, remove any materials which in the opinion of the GDRT Project Manager or Quality Assurer are not in accordance with the specification or his instructions and substitute with proper materials and properly re-execute any work with materials and workmanship which, in the opinion of the GDRT Project Manager, are in accordance with the GDRT specifications. The Contractor(s) shall amend and make good any defects, shrinkage, defaults or other damage which may appear arising from defective or improper materials or workmanship or from any neglect, omission, act or default of the Contractor(s) or from any accident, fire, drought, flood, frost or tempest.

C3.18 STANDARDS AND CODES

- C3.18.1 All work carried out must comply with the following: -

- a) Occupational Health and Safety Act (Act 85 of 1993) [OHS Act];
- b) South African National Standard specifications SANS 1507: Electric cables with extruded solid dielectric insulation for fixed installations [SANS 1507];
- c) The Wiring Code SANS 10142-1 (Standards relating to electrical installations)
- d) The Greater Johannesburg Metropolitan Council's By-Laws [By-Laws];
- e) The Greater Johannesburg Metropolitan Council's Electricity By-Laws.

- f) South African National Standard specifications SANS 1459: Traffic signals [SANS 1459];
- g) SANS 1200 Standardized specification for Civil Engineering Construction: Various applicable Sections [SANS 1200]
- h) The South African Road Traffic Signs Manual Volume 3: Traffic Signal Design, April 2001 [SARTSM].
- i) The "Codes of Practice for Work in the Road Reserve".

C3.19 ELECTRICIANS / ELECTRICAL CONTRACTOR(S)

C3.19.1 In some instances the Contractor(s)'s staff will be required to work on live equipment. The Contractor(s) must therefore provide proof that he has a person in his **permanent** employ with the necessary qualifications to carry out the electrical work.

C3.19.2 The Contractor(s)'s electrical/electronic technicians must also be fully conversant with Automotor, Syntell and Siemens traffic signal systems.

C3.19.3 The Contractor(s) shall complete the necessary documentation showing the qualification of the electrical/electronic technician.

C3.19.4 A list of qualified electricians should be attached with a copy of their certificate.

C3.19.5 Only a qualified electrician will be allowed to perform the connections and terminations of all cables.

C3.19.6 The Bidder(s) as well as any subcontractor(s) who will perform electrical work shall be registered with the Electrical Contracting Board of South Africa.

C3.19.7 The Bidder(s) shall have an employee with a valid wireman license.

C3.20 CONSULTANT(S)/PROFESSIONAL ENGINEER/TECHNOLOGIST.

- The contractor(s) will be required to provide proof that he has a person in his permanent employment with necessary qualifications to carry out the Traffic Signal/ Civil Engineering works (designing of geometric layouts to cater for new installations of traffic signals).
- The contractor(s) must complete necessary qualifications of the Traffic Engineer/ Technologist along with relevant experience in connection with traffic signals.

C3.21 STANDARD OF SERVICE

C3.21.1 The Contractor(s) must ensure that the GDRT Project Manager's and GDRT's best interests are served at all times during the contract period. Recommendations and advice must be based on impartial observations, responsible opinions and pertinent facts. Any information gained by the Contractor(s) during the course of the contract must be kept in strict confidence and may not be used without the written permission of the GDRT Project Manager.

C3.22 CLEANLINESS OF WORK SITE

C3.22.1 As the work will be performed mainly in residential areas, the work site must be kept clean at all times and must be cleared of scrap on a daily basis.

C3.23 REGISTERED OFFICE

C3.23.1 The Contractor(s) must maintain a permanently based office during normal working hours suitably staffed so that messages and instructions etc. may be relayed through it to his field staff.

C3.23.2 The Contractor(s) must be in possession of a cellular phone so that his office may contact him at all times.

C3.24 WORKING HOURS

C3.24.1 Payment for work will be made as per bided rates; these rates will be used for work performed during normal working hours as well as work performed outside normal working hours, weekends and public holidays.

C3.24.2 There will be no additional (higher) rate for work performed outside normal working hours.

C3.25 STANDING TIME

C3.25.1 The GDRT will endeavour to maintain continuity of work to the Contractor(s). However if, for reasons outside the GDRT's control, work cannot be carried out there will be no compensation for standing time.

C3.26 OPERATING CONDITIONS

C3.26.1 The Contractor(s) will be required to work under the following operating conditions: Ambient temperatures: - 3°C to 35°C

- a) Altitude above sea level: 1 800 m
- b) Average humidity: 68
- c) Lightning: Severe
- d) Dust: Severe
- e) Voltages: High voltage systems = 11 000V – 3 phase
 Medium voltage system = 400 / 230V – 3 phase, 4 wire
 Low voltage systems = 230V – single phase

C3.27 SECURITY

C3.27.1 The Contractor(s) shall be responsible for the loss of all equipment and or material for which he has taken delivery. He should have adequate insurance cover against theft and damage of the material and equipment, including Traffic Signal Controllers.

C3.27.2 The Contractor(s) must familiarize himself with the risks and conditions especially pertaining to the safety of personnel where areas of work occur. The GDRT will only provide security for the Contractor(s)'s personnel under exceptional circumstances and only if approved by the GDRT Project Manager.

C3.28 REMOVAL OF SURPLUS MATERIAL

C3.28.1 The Contractor(s) must remove all soil, tarmac, rocks and other material left over after excavation and backfilling and must dispose of this material. The site must be left clean and level after completion of the contract. All blocks removed must be neatly stacked at the rear of the pavement. The cost of this work must be included in the excavation work. No work will be passed for payment before this requirement has been met.

C3.29 OBSTRUCTION TO TRAFFIC

C3.29.1 At no time may pavements be closed to pedestrians, unless approved by the GDRT Quality Manager.

C3.29.2 No methods may be employed which could be a source of danger to the public.

C3.29.3 When working in the roadway, danger signs complying with the traffic regulation must be used. The GDRT will make no special arrangements for the diversion of traffic.

C3.29.4 The Contractor(s) must notify the GDRT project manager prior to commencing any work that would cause a disruption to traffic.

C3.30 TREES

C3.30.1 Where trees interfere with the work the matter must be reported to the GDRT Project Manager who will arrange for the trees to be trimmed.

C3.31 SIGN BOARDS

C3.31.1 The GDRT may require the Contractor(s) to display signboards notifying the public of upgrades to the Traffic Signal Systems. The signs required should be installed by the Contractor(s) in accordance with the GDRT requirements.

C3.31.2 When excavations are being carried out, the Contractor(s) shall display a sign board at each end of the excavations showing the name of the company telephone number, fax number, client working for and contract name and number.

C3.32 CONTROL OF LABOUR

C3.32.1 The requirements of the Medical Officer of Health, the Johannesburg Metropolitan Police Department (JMPD) and the GDRT Project Manager must be strictly adhered to.

C3.33 DAMAGE AND INSURANCE

C3.33.1 The Contractor(s) will be held responsible for all damage to existing services or any damage caused by actions of the Contractor(s) or his staff to electrical, water, sewer, gas, telephone or any other services or to private or GDRT property and must be repaired at the Contractor(s)'s expense.

C3.33.2 The Contractor(s) has to acquaint himself with the locations of all existing services, such as sewerage pipes, storm water pipes, culverts, water pipes, manholes, valve casings, electric cables, telephone cables or any other services, before any work is commenced that could affect existing services.

C3.33.3 Any property found damaged by others, which could implicate the Contractor(s) in any way, must be reported to the GDRT Project Manager before any work commences. Any resultant repair costs will be wholly for the Contractor(s)'s account and no claims of prior weakness or defects to the structure will be considered.

C3.33.4 The Contractor(s) must have adequate insurance cover against any damage caused by the Contractor(s) or his staff to electrical, water, sewer, gas, telephone or any other services or to private or GDRT property. The Contractor(s) shall also insure against the loss of or damage to any of the traffic signal material or equipment of which he has taken delivery.

C3.34 INFORMATION REQUIRED

C3.34.1 The Bidder(s) must attach to this document a Company Profile.

C3.34.2 The Contractor(s) must complete all details required in this document as well as the Technical Data Sheet, Omissions and Variations Sheet and Compliance Sheet included in the Form of Bid, failing which his bid will not be considered.

C3.35 ENQUIRIES

For the availability of the bid document and technical specification enquiries contact Supply Chain Management (SCM) on the following e-mail @
Eyase.Ramokhoase@gauteng.gov.za

C3.36 EXCAVATION OF TRENCHES, HORIZONTAL DRILLING AND INSTALLATION OF SLEEVES

C3.36.1 SCOPE

This section covers the technical details for the provision of labour, supervision, transport, specialized equipment and facilities for excavation and backfilling of trenches, underground horizontal drilling and installation of sleeves.

C3.36.2 MATERIALS / EQUIPMENT TO BE SUPPLIED BY CONTRACTOR(S)

The Contractor(s) must supply the following materials / equipment:

- All tools, plant or drilling machinery, drills / cutting equipment and fuel, if required, for the machinery.
- All transport for his staff, machinery and equipment.
- Consumable items such as cement, cable marker tape, adhesive solvents, soaps, cleaning rags, hand cleaner cotton waste, insulation tape, etc.
- Specialised equipment eg ultrasonic and radio detection equipment for locating other services.

C3.36.3 INFORMATION PERTAINING TO OTHER SERVICES

If the GDRT is unable to supply suitable way leaves or to supply them in time then the contractor(s) must obtain the required information from the other service providers (SP) at these quoted rates.

C3.36.4 RELOCATION AND PROTECTION OF SERVICES

The item is provided as a provisional sum to be used to the discretion of the GDRT Project Manager to protect services or relocate services if required at a specific intersection.

C3.36.4 TRACING OF EXISTING SLEEVES

The tracing of existing sleeves shall be carried out on instruction of the GDRT Project Manager and will consist of hand excavated trenches to determine the position of existing ducts. The trenches shall be backfilled and compacted on completion. The item will be measured in running meter (m), less than 1,5m deep, of material excavated.

C3.36.5 ACCOMMODATION OF TRAFFIC

The accommodation of traffic is deemed to be included in the rates, including all road signs, arrangements with the traffic department or the provision of manpower as required ensuring the safe accommodation of traffic during installations.

The road signs supplied by the Contractor(s) for the accommodation of traffic, have to be in good condition and will be inspected by the GDRT Quality Assurer prior to or during the commencement of construction, as instructed in the works order.

C3.36.6 CROSSING OF ROADWAYS

Where cables cross roadways, the Contractor(s) must ascertain whether sleeves have been installed to pull the cables through. The sleeves will be within 1m on either side of the mark and generally one (1) meter below finished road level.

Roads may only be excavated across where there are no existing sleeves and authority must first be obtained from the GDRT Project Manager. It is the responsibility of the contractor(s) to find out what roads are "No Dig" Roads. This information can be obtained the GDRT way leave office.

Under no circumstances may the roadway be excavated where sleeves are available.

Open trenches must be covered at night and over weekends by means of suitable covers to allow reasonable access to the properties by both pedestrians and vehicles. No driveway may be excavated unless the occupant of the premises has been given at least 24 hours' notice.

C3.36.7 CUTTING, LIFTING AND REPLACING OF ROAD SURFACE

The lifting and replacement of the various types of road surfaces, i.e. interlocking blocks, concrete or asphalt will be required when crossing existing roadways. The standard GDRT paving blocks are 60mm or 80mm thick grey interlocking concrete blocks. The rate shall include cutting and lifting of the surface, stock piling of re-usable material, removal of spoil material and reinstatement of road surface by reusing existing material or providing new material. Where reinstatement of asphalt surfacing is required, it shall be done to a minimum thickness of 40mm.

If any specialised paving materials are encountered or where existing materials cannot be re-used, instructions and agreed rates in the form of a variation order from the GDRT Project Manager must be received by the Contractor(s) before lifting of the materials commences.

C3.36.8 EXCAVATION FOR ROAD CROSSINGS

Where sleeves are not available, trenching across existing roadways or excavations for crossing of existing streets will be required for the installation of sleeves. This includes the excavation of a 600mm wide trench to a depth of 600 mm, stock piling of re-usable material and removal of spoil material, laying of ducts, backfilling and compaction of material, compaction must be done in Layers and must pass a DCP test. The item will be measured in cubic meters of trench excavated and reinstated and should include all work related to the road crossing (i.e. cutting, lifting, excavating, laying of sleeve, re-instatement, etc.)

C3.36.9 REMOVAL AND REPLACEMENT OF LAWN GRASS

When trenches are excavated in lawn grass, the Contractor(s) shall carefully lift and preserve the grass and replant after backfilling and compaction of the trenches. The item will be measured in square meters of lawn grass lifted and replaced.

C3.36.10 CROSSING OF DRIVEWAYS

Where cables are to be installed under paved driveways, it is preferred that such paving is not disturbed and that the excavations are carefully tunnelled under the driveway.

Where the Contractor(s) is unable, for any reason, to carry out this tunnelling operation and has to cut through the paving, the paving must be reinstated at the Contractor(s)'s cost to the satisfaction of the GDRT Project Manager and the property owner within 48 hours.

C3.36.11 EXCAVATION FOR THE INSTALLATION OF SLEEVES

Excavation for trenches next to the road, for installation of sleeves or traffic signal, loop and electrical cables in all classes of material. All excavations shall be classified as follows for payment purposes:

- a) In soft pick able soil: material that can be excavated by hand using picks.
- b) In pick able soil with boulders: that can be excavated by hand using picks, but containing boulders in excess of 0,15 m³ in volume.
- c) In hard material: Hard material which cannot be excavated except by using wedges, power drilling, blasting or with the use of pneumatic or mechanical breakers shall be classified as hard material.

NOTE: IF BLASTING IS REQUIRED IT MAY ONLY BE CARRIED OUT ON WRITTEN INSTRUCTIONS IN THE FORM OF A VARIATION ORDER FROM THE GDRT PROJECT MANAGER AND AFTER SUBMISSION OF A COMPLETED BLASTING INDEMNITY FORM.

The Contractor(s) must use 110mm diameter PVC pipes for installation in trenches.

The item shall include the excavation of trenches, stock piling of re-usable material, removal of spoil material installation of sleeves in accordance with the GDRT specifications, backfilling by reusing existing material or using suitable fill material and compaction. All excavations for trenches and installations of sleeves shall comply with the relevant clauses of SANS 1200 as specified below.

C3.36.12 UNDERGROUND HORIZONTAL DRILLING AND INSTALLATION OF SLEEVES

This item includes for direct and direction drilling under roadways which cannot be trenched across. Contractor(s) will require specialised drilling machinery and drills or cutting equipment. The item includes the excavation, compacting and backfilling of entry holes for drilling equipment and holes on the opposite side of the drilling equipment.

The Contractor(s) shall supply sleeves / pipes in straight lengths which must be manufactured from high density polyethylene and must comply with the European standard EN 50086 2 - 4 1994 - Conduit Systems for electrical installations Part 2 - 4 in particular requirements for Conduit Systems buried underground. Alternatively continuous lengths of high density black polyethylene pressure pipe which must comply with SANS 533, 1982 can be used. Provision shall be made by the Contractor(s) for the GDRT Project Manager to inspect samples of the equipment to be installed as and when reasonably requested to do so. This is especially important where a different type of material is used than what is presently used by the GDRT.

C3.36.13 SURCHARGE FOR DRILLING NEAR OTHER SERVICES

The rates quoted for drilling must be for locations where no other services exist. A surcharge in the form of a percentage may be included by the contractor(s) at the end of the schedule of rates, for drilling in locations at less than one metre from existing services.

C3.36.14 BACKFILLING OF TRENCHES

All trenches must be inspected and approved by the GDRT's Quality Assurer before cables are laid. Backfilling of trenches must be done in accordance with the "Code of Practice for Work" in the road reserve.

C3.36.15 EXCAVATIONS IN MAJOR BUSINESS DISTRICTS

All excavations in the Major business centres can only be carried out between the hours of 20h00 and 06h00 during the week and between 12h00 on Saturday and 06h00 the following Monday, unless otherwise instructed by the GDRT or in emergency situations.

C3.36.16 EXCAVATED MATERIAL

All excavated material must be piled in positions where it will offer the least obstruction to traffic. Under no circumstances may drainage systems be obstructed. Excavated material not required for backfilling must be removed within 24 hours.

C3.36.17 PROTECTION OF EXCAVATION SITES

At no time must open trenches be left unprotected. The Contractor(s) must at all times bear in mind the requirements of road and pavement users and must cause as little inconvenience and obstruction as possible. No trench may be left open for more than 48 hours.

C3.36.18 INSTALLATION OF SLEEVES / PIPES

All sleeves / pipes shall be installed as follows:-

- All holes / sleeves and pipes must be installed at a minimum depth of 500 mm from the top of the hole / sleeve or pipe to the road surface.
- The sleeves must extend at least 500 mm beyond the kerbs into the pavement area.
- The sleeves must be installed complete with 1,5 mm galvanised steel draw wire. The bid rate should include the supply of this steel wire.
- The concrete kerbs at road crossings must be marked by means of the letter "TS" ground into the concrete.
- The ends of all sleeves / pipes must be blanked or sealed off by means of end caps to suit the sleeves / pipes.
- Plastic bags or sheeting placed over the end or other materials pushed into the pipes will not be accepted.

C3.36.19 RELEVANT STANDARDS

All excavations of trenches and installation of sleeves shall comply with the relevant clauses of SANS 1200.



- Selected granular material and selected fill material: The requirements for selected granular materials or selected fill material given in SANS 1200LB, if relevant, shall apply.
- Bedding: Bedding materials for ducts shall comply with Clause 3.2.1 of SANS 1200LC.
- Backfill materials and materials for the reinstatement of roads and paved areas: The requirements of SANS 1200 DB Clauses 3.5 and 3.6 shall apply.
- Selection of materials: Clause 3.7 of SANS 1200 DB shall apply, where relevant.
- Excavation equipment: The Contractor(s) shall use plant in good order that can excavate trenches to widths that will assure proper backfilling.
- Control of water: Clause 4.2 of SANS 1200 DB and Clause 4.2 of SANS 1200 LC, shall apply.
- Compaction equipment: Clause 4.3 of SANS 1200 DB and Clause 4.2 of SANS 1200 LC, shall apply.
- Construction precautions: The Contractor(s)'s attention is drawn to the provisions of Sections D16 of Chapter V of the Regulations gazetted under the Factories, Machinery and Building Works Act 1941 (Act 22 of 1941), as amended, which lays down the statutory precautions to be taken in all trench excavations.
- Storm water, seepage and dewatering of excavations: The Contractor(s) shall properly and adequately protect the works from flooding, damage by storm water, flow from springs and seepage and he shall comply with the conditions of SANS 1200 A sub clause 5.5.
- Accommodation of traffic and access to properties: Clause 5.1.3 of SANS 1200 CB shall apply.
- Existing services that intersect or adjoin trenches: The requirements of Sub-Clause 5.4 of SANS 1200 A shall apply.
- Trench widths and depths: The minimum trench dimensions for ducts shall be as specified in Clause 5.1.1 of SANS 1200 LC.
- Cables that are not laid in ducts shall have a minimum of 500mm cover for 500V cables or less, and 900 mm cover for cables more than 500V. Minimum trench width shall be 250mm or the total width of the group of cables plus 100mm on each side.
- The use of narrow trenching plant, moles or such other equipment shall be subject to the approval of the GDRT Project Manager and shall be conditional upon the specified degree of compaction of backfill being achieved.
- Bedding and compaction of bedding: SANS 1200 LB-1983 shall apply.
- Ducts: Clause 5.2 of SANS 1200 LC shall apply.
- Cables without ducts: A layer of bedding material 100 mm thick shall be placed at the bottom of the trench, and well compacted before the cables are laid. At least 150 mm of bedding material shall be placed over the cable and compacted carefully with a tamping tool as specified in SANS 1200 LC Clause 4.2 before normal backfilling can commence.
- Backfilling and compaction: The relevant requirements of Clause 5.6 and 5.7 of SANS 1200 CB shall apply.
- Concrete encasement: Where so required, ducts shall be encased in concrete with minimum curb strength of 15 MPa after 28 days.

- Minimum distances between electricity cables and detector lead-in cables or telecommunication cables: Trenches shall be excavated in such positions that detector lead-in cables or existing telecommunication cables and electrical power cables are separated by at least 300 mm of soil. Where this is not possible, the Contractor(s) shall seek the GDRT Project Manager's instructions before laying the cables.
- Marking cables and ducts: Cable marking tape shall be placed in the backfill, 300 mm above the cable or duct. The relevant requirements of Sub-Clauses 5.9 and 5.10 of SANS 1200 LC shall apply.
- Reinstatement of surfaces: Existing paved surfaces shall be repaired and reinstated as required in terms of Sub-Clauses 5.9 and 5.10 of SANS 1200 DB.
- Tolerances: The requirements of Clause 6 of SANS 1200 LC shall apply for cable and duct trenches.
- Testing: The requirements of Clause 6 of SANS 1200 LC shall apply.
- Rates: The relevant requirements of Clause 8 of SANS 1200 CB shall apply, but the Contractor(s) shall include the cost of supplying and laying marking tape in his rates for trenching.

C3.37 INSTALLATION OF CABLES CUTTING OF LOOPS AND INSTALLATION OF OVERHEAD BASED DETECTORS

C3.37.1 SCOPE

This section covers the installation of traffic signal cables and the cutting and installation of inductor loop detectors for vehicle-actuated signals and traffic responsive control systems such as Urban Traffic Control (UTC). The work shall include the provision of labour, supervision, transport, specialized plant and facilities and minor consumables.

C3.37.2 MATERIALS TO BE SUPPLIED

The contractor(s) shall provide the material and transport to site. The Contractor(s) must supply the following materials / equipment:

- a) All cutting equipment and fuel, if required, for the machinery.
- b) All transport for his staff, machinery and equipment.
- c) Silicone sand for bedding and bitumen/epoxy compound for sealing of the cuts.
- d) 20mm PVC conduit, where required
- e) Consumable items such ferrules, lugs, insulation tape, adhesive solvents, soaps, cleaning rags, hand cleaner cotton waste etc.

C3.37.3 PROCEDURE FOR INSTALLATION OF CABLES

For road crossings the cables must be installed in cable sleeves, which must be laid at a minimum depth of 500mm from the top of the sleeve to the road surface. The sleeves shall protrude by at least 500mm from the kerb or road edge into the footway on both sides of the road.

Cables must only be laid in trenches having smooth flat bottom surfaces. Where these surfaces are irregular they must be smoothed off before installing the cables. Where cables are installed in trenches cut in rock, a 75 mm layer of fine riddled earth must be placed on the bottom of the trench to serve as bedding for the cable.

Rock encountered in trenches is to be removed with the use of mechanical rock breakers such as a pneumatic hammer and wedge. The use of explosives will only be considered under special circumstances and blasting may only be undertaken with the written permission of the GDRT Project Manager.

All cables shall operate within their current ratings and shall be protected by appropriately rated circuit breakers or fuses.

Cables between the controller and signals shall have the number of cores as specified by the GDRT Project Manager. Care shall be taken to ensure that armour wires are correctly seated and that all parts are properly tightened.

Cores shall be designed to firmly clamp the conductor by means of a pressure plate such that the clamping pressure is not generated by direct contact between the terminal clamping screw and the conductor. There shall be no appreciable mechanical strain on the core at the termination.

Cores shall normally be terminated directly into circuit breakers or onto terminal strips fixed to suitable mounting rails such that modules of equipment can be removed without disconnecting incoming or outgoing cables. Adequate space shall be allowed to facilitate access for installation and maintenance.

The cables between the point of connection to the electricity supply and the controller shall also be installed by the Contractor(s).

Joints in the cables will only be permitted at full drum lengths or at termination points. At all terminations, cable armouring shall be bonded to earth. Joints, if required, shall be of the cast resin type using joint kits from reputable suppliers approved by the cable manufacturer.

Two (2) metres of slack is to be looped at the base of each signal pole and at the controller to reduce the risk of breakage in the event of a vehicle colliding with the pole.

C3.37.4 PROCEDURE FOR CUTTING AND INSTALLING LOOPS

On roads with asphalt surfacing, slots should be cut sufficiently deep to accommodate the wire, filling material and the slot sealant. On roads with block paving surface, loop wires must be installed in a 20mm PVC conduit or pipe. Either method may be applied to loops that are to be installed in concrete slabs and will be specified by the GDRT Project Manager.

Loops must be properly and carefully installed to ensure that breakage of the wire or breakdown of the insulation, causing ingress of water and variations in resistance to earth and induction do not occur.

Cutting of the slot must be done at an even depth, particularly at corners where the cut must continue slightly beyond the end of the loop to accommodate the circular shape of the saw. The slots should be free from any sharp edges that could damage the loop wire insulation and should be clean and dry before laying the loop. The wire should be laid in the slot without the application of undue pressure or force. Wire should not be pushed into the slot with a screwdriver or any other sharp instrument.

The loop wires and wire tails from the loop should be one continuous length of wire and joints are not permitted. The wire tails are joined to the detector lead-in cable (DLC) and the joint should be encapsulated in a waterproof resin compound.

If there is a kerb, a hole must be drilled through or below the kerb and a conduit provided for the wire tails.

ECSA registered engineer must prepare the detailed drawings for each installation.

C3.37.5 INSTALLATION OF OVERHEAD DETECTORS

The installation of the equipment shall comply fully with the installation instructions by the manufacturer.

C3.37.6 MEASUREMENT AND PAYMENT

a) Installation of Electrical Cables

This item will include collection from the supplier and draw of cable through ducts, laying in trenches and connection at end points. The item will be measured per meter of type of cable installed.

b) Cable Joints and Terminations

This item is for the joining and termination of traffic signal cables and will be measured per cable joint including termination with or without glands.

c) Cut in asphalt for inductive loops

The item will include a cut in existing asphalt and kerbs to the dimensions as specified in the detail drawings. The type of loop to be cut will be specified per intersection. The item will be measured per meter cut in asphalt.

d) Cut in concrete for inductive loops

The item will include a cut in the concrete slab to the dimensions as specified in the detail drawings. The type of loop to be cut will be specified per intersection. The item will be measured per meter cut in concrete.

e) Placing of loop wire

The item will include the collection and placing of all loop wire necessary for the construction of a loop in the road surface, namely 1,5 mm silicone wire, minimum 3 turns in the loop. Silicone sand and epoxy compound, which will be supplied by the contractor(s), shall be placed as shown in the detail drawings. The item will be measured per meter of loop wire installed as described.

f) Supply and placing of 20mm PVC conduit

As alternative to cutting in the concrete slab or on roads with block paved surfacing, PVC conduits shall be placed in the concrete slab or below the block paving with the loop wire placed inside, within a minimum of 3 turns. The conduit shall be placed at the depth as specified in the detail drawing.

The loop wire shall be placed in the conduit before placing the conduit in the concrete / under the paving. The 1,5mm silicone wire must be installed inside the conduit for drawing cables.

The item makes provision for the supply and installation of the PVC conduit and will be measured per meter of conduit.

g) Installation of low tension splicing kit

The loop wire shall be connected to the feeder cable (2 core 1,5mm² cable) via a low voltage splicing kit, voltage rating 1,1 kV.

The item shall include the collection and installation of the splicing kit and will be paid per number installed.



h) Extra over for additional loop wire

If the size of the loop circumference warrants an additional turn of wire, the additions must be approved by the GDRT Project Manager; the additional wire will be measured and paid per meter wire.

i) Commissioning

This item will include the making alive, testing and commissioning of vehicle actuated or responsive systems.

C3.38 INSTALLATION OF TRAFFIC SIGNAL POLES AND SIGNAL HEADS

C3.38.1 SCOPE

This section covers the technical details for the provision of labour, supervision, transport, specialized plant and facilities, cement and minor consumables for the installation of traffic signal poles, heads and direction signages(ST signs) including the excavation for and casting of concrete bases and installation of base plates.

C3.38.2 INSTALLATION OF TRAFFIC SIGNAL BASES

The bases for traffic signal poles will be hand excavated and the rate shall allow for excavation in all types of material. The rate for installation of bases for traffic signal poles shall include the casting of in-situ concrete as per GDRT specifications, the excavation for the footing and the installation of the steel frame base plate.

The item will be measured per number of completed bases, per type of traffic signal pole and the rate shall allow for the supply of concrete, as well as excavation.

C3.38.3 INSTALLATION OF TRAFFIC SIGNAL POLES

This item covers the installation of traffic signal poles for different heights and types. Rates must include collection of poles, transport to site and supply of labour for the installation of the poles. The item will be measured per type of pole and per number of poles installed.

C3.38.4 PAINTING OF POLES

All poles shall be painted with two layers of anti-corrosive paint followed by golden yellow paint and black enamel paint on the top 750mm of the pole, as specified in the South African Roads Traffic Signs Manual. The rate shall provide for the labour to paint the complete pole. The item will be measured per type of pole and per number of poles painted.

C3.38.5 ASSEMBLY AND INSTALLATION OF SIGNAL HEADS

The Contractor(s) is responsible for the collection, assembly and transport of traffic signal heads to site. Each signal head item, as specified in the schedule of rates, shall include the complete assembly of all the elements, which shall include the following:

- Lenses (LED modules)
- Visors
- Modular background screens
- Pole mounting straps

C3.38.6 INSTALLATION PROCEDURE

The installation shall comply with the specification in the SARTSM. The height of the centre of the green signal aspect of the S1 signal heads shall not be less than 2,3m and not more than 3m above the level of the carriageway. The same height requirements apply to the amber right turn arrow of the S10 signal heads. Where indicated on the drawings, the yellow right turning arrow of the S10 signal heads shall be located to the right of and in a horizontal line with the yellow aspect of the S1 signal heads. Similarly, the green right turning arrow of the S10 signal heads shall be in a horizontal line with the green aspect of the S1 signal head.

When fitted, the background screens shall be practically on the same plane as the lenses and shall be rigidly mounted to withstand the rigorous weather conditions encountered in South Africa.

The unit of measurement will be the number of signal heads, and the rate shall include all the items specified above and all other items to install the signal heads to the satisfaction of the GDRT Project Manager.

C3.38.7 INSTALLATION OF PEDESTRIAN PUSH BUTTONS

This item will include the installation of push button, including supply and transport and assembly. The push button shall be installed at the height and with the layout of cabling as shown on the drawings.

The item will be measured per number of push button assembled and installed.

C3.38.8 INSTALLATION OF DEVICES FOR VISUALLY HANDICAPPED PEDESTRIANS

Visually handicapped pedestrians can be assisted to locate pedestrian actuated signals, and to know when the pedestrian phase is operating, by the installation of audio-tactile devices in the pedestrian button assembly.

Accessible pedestrian signals (APS's) supplement pedestrian signal indications with audible and/or vibrotactile information, which could include directly audible or transmitted tones, speech messages, talking signs, and vibrating surfaces.

Main Contractor(s) must supply a rate for the installation and testing, including decibel testing of any audio-tactile devices per crossing at traffic signal intersections, as specified by the GDRT in the works order.

C3.38.9 INSTALLATION OF POLE TOP CONNECTORS

Pole top connectors shall be installed at the positions shown on the detail drawings. The pole top connectors will be measured per number supplied and installed. This rate should include the rate for the terminations of the cables.

C3.38.10 COVERING OF HEADS

The signal head aspects shall be covered for the period between installation and commissioning. Note - Signal heads will only be installed once the electrical supply is provided at said intersection.

C3.38.11 INSTALLATION OF DIRECTION SIGNS



The direction signs shall be installed at the positions shown on the detailed drawings.

The installation will be measured per sign installed.

C3.39 INSTALLATION OF SIGNAL CONTROLLERS

C3.39.1 SCOPE

This section covers the installation, connection, commissioning and testing of traffic signal controllers. It includes the excavation and casting of the concrete base for the controller poles, the installation of the controller cabinet and controller, connection to electrical supply, commissioning and testing of the controller.

The controller, complete with cabinet and pole, shall be supplied by the contractor(s) and the programming of the software will be the responsibility of the contractor(s). The rates shall include collection of the materials from the supplier(s), transport to site as well as the provision of the required labour, supervision, transport, specialized plant and facilities and consumables such as concrete, ferrules, lugs, insulation tape, etc.

C3.39.2 INSTALLATION OF CONTROLLER, POLE AND CABINET

The Contractor(s) shall be responsible for the supply and complete installation of the controller. The item will include for the controller pole, excavation of existing material, removal of spoil material from site, compaction of the work surface and casting a concrete base. The base for the controller cabinet shall be hand excavated and the rate shall allow for excavation in all types of material.

C3.39.3 CONNECTION TO THE MAIN ELECTRICAL SUPPLY

The Contractor(s) shall liaise with the GDRT, City Power or Eskom or any other supply authority to determine the nature and location of the power supply and shall be responsible for establishing the location of the main electrical power supply and will be required to excavate trenches and install sleeves between the controller and the main electrical point of supply.

C3.39.4 COMMISSIONING

On completion of the installation, the contractor(s) shall test each piece of equipment and each circuit for correct functioning under supervision of the Quality Assurer of the GDRT. During the commissioning testing, any necessary adjustments and calibration procedures shall be carried out.

A certificate of compliance might be requested by the GDRT where after it must be issued to the GDRT on final acceptance by the GDRT Quality Assurer at all new traffic signal installations as well as re-cabled traffic signal installations. The rate will be measured per intersection.

C3.40 REMOVAL, REPAIR AND REPLACEMENT OF EXISTING TRAFFIC SIGNAL INSTALLATIONS

C3.40.1 SCOPE

This section covers the technical details for the provision of labour, supervision, transport, specialized plant and facilities and minor consumables for the removal of old equipment, repair and/or replacement of traffic signal equipment within the area covered by the GDRT.

C3.40.2 MATERIALS / EQUIPMENT TO BE SUPPLIED BY CONTRACTOR(S)

The Contractor(s) must supply the following materials / equipment:

- All equipment, tools and fuel, if required, for the machinery required to complete the work
- All transport for his staff, machinery and equipment.
- Consumable items such as cement, insulation tape, ferrules, lugs, adhesive solvents, soaps, cleaning rags, hand cleaner cotton waste etc.
- Specialised equipment eg ultrasonic and radio detection equipment for locating other services.
- All safety equipment required by the Contractor(s).
- Any specialised tool / handheld / laptop as required.

C3.40.3 PROCEDURE FOR REMOVAL OF OLD EQUIPMENT

Existing traffic signal heads shall be removed as indicated by the GDRT Project Manager. This will consist of switching off the power to the signal heads, removal of cables and removal of the signal heads as indicated by the GDRT Project Manager. The Contractor(s) shall notify the GDRT Project Manager before commencement and before switching off a traffic signal installation. The GDRT Project Manager will also indicate to the Contractor(s) which signal heads should be kept for re-use and which signal heads should be taken.

The removal of poles will consist of unbolting the poles from the steel frame and base plate if cantilever or high poles, or the excavation of the pole if a standard height pole is to be removed. An extra over item is provided if the frame is to be cut off directly above the concrete level and the reinstatement of the area to the natural ground level. This will be measured in number of poles.

The rate for disassembling will be a sum per traffic signal pole and must make provision for all costs to remove poles, disassemble and transport the signal heads and poles to the location indicated by the GDRT Project Manager.

C3.40.4 REMOVAL AND REPLACEMENT OF CONTROLLER BOX

This item shall include the switching off and isolating of the power supply, removal of poles, dismantling the controller, excavating the controller pole and removal of the controller and the pole from site to a location indicated by the GDRT Project Manager. The item will be paid per number of controllers removed.

C3.40.5 REMOVAL OF DAMAGED CONCRETE BASES

Where required, the GDRT Project Manager will request the Contractor(s) to remove the concrete bases of the traffic signal poles. The rate must make provision for the breaking up and removal of the concrete footing, backfill and compaction and re-instatement of the area the natural ground level. The item will be measured per concrete base removed and different rates should be provided for the removal of bases for the different types of poles.

C3.40.6 REPLACEMENT OF TRAFFIC SIGNAL EQUIPMENT

The procedure for the replacement of traffic signal equipment will be similar to that of installing new equipment and is covered under the installation of new equipment in the Schedule of Rates.

C3.40.7 COMPLETION OF INSTALLATION AND TOUCHING UP

After installation, any touching up of paintwork or realignment of signal poles or heads required by the GDRT Project Manager must be done by the Contractor(s) at the Contractor(s)'s expense and to the satisfaction of the GDRT Project Manager.

C3.40.8 FAULT FINDING: LABOUR

When repairs to a traffic signal installations are required other than the work described above (even when minimal parts or material is used), the Contractor(s) will be required to execute such work on an hourly basis. The bided rates for such labour shall fully allow for travelling costs to and from the required traffic signal installation site and no separate payment will be made for travelling time.

C3.41 INSTALLATION OF THERMO-PLASTIC ROADMARKING

C3.41.1 SCOPE

This section covers the permanent marking of the road surface with white, yellow or red painted lines or symbols and retro-reflective road studs as indicated by the GDRT Project Manager.

All road markings for the control, warning, guidance or information of road users shall be applied in accordance with the provisions of the Road Traffic Act (Act 29 of 1989) and its regulations and SARTSM, except where otherwise indicated by the GDRT Project Manager.

The section provides technical details for the provision of labour, supervision, transport, specialized plant and tools, consumables required for the application of the roads markings.

C3.41.2 MATERIALS

Introduction

Road markings will be applied using hot-applied thermoplastic, standard road-marking paint and/or any approved alternative materials or products offered by the Bidder(s).

Thermoplastic material is applied hot with an appropriate hand or mechanical applicator. It sets on laying and forms a cohesive film by cooling. The GDRT will require the use of thermo-plastic material because of its good durability. On motorways and other high order roads, mechanical application will be required as it can be laid in long runs using motorised equipment with minimum disruption to traffic.

Hot-applied thermoplastic road marking materials

Hot-applied plastic road-marking materials shall comply with the requirements of BSEN 1871 - Road Marking Materials - Physical Properties and Laboratory Tests. The binder shall be a plasticized synthetic resin and the material shall be reflectorized by mixing in 20% by mass Class A glass beads. The colors to be used shall be bright white, yellow or red. The color of the yellow and red paint shall be as specified in SANS 731-1"

Skid resistance

All types of products offered shall have an acceptable skid resistance.

Colour

The colours to be used shall be bright white, yellow or red. The colour of the yellow and red road marking materials shall be as specified in SANS 731-1.

Retro-reflectivity

Retro-reflectivity is the ability of a white line to reflect light from a vehicle's headlights back to the driving position of a vehicle. The materials offered shall have at least 100 millicandelas per lux per square metre (mcd/lux/m²),, but preferably 250 mcd/lux/m², at 7 days, and 200 mcd/lux/m² after 6 months.

The GDRT Quality Assurer may from time to time perform spot checks to ensure compliance with retro-reflectivity

Road studs

Road studs complying with the requirements of SABS 1442 will be supplied by the Contractor(s).

C3.41.3 STANDARDS APPLICABLE TO ROAD MARKING MATERIALS

BSEN 1436 - Road Marking Materials - Road Performance for Users

The standard specifies the performance for the road user of white and yellow road markings by retro-reflectivity, retro-reflectivity in wet conditions, skid resistance and luminance.

BSEN 1824 - Road Marking Materials: Road Trials

BSEN 1824 provides the methodology for testing the performance of road marking products, against the categories laid down in the specification. It gives guidance for conducting road trials for road marking materials intended for use in both permanent and temporary road marking. If required by the GDRT, the products offered by the Bidder(s) will be tested for performance using this standard as follows:

- i. Luminance factor, divided into performance classes
- ii. Retro-reflectivity, divided into performance classes
- iii. Skid resistance, divided into performance classes
- iv. Erosion, within a rating system framework
- v. Colour co-ordinates, where colours must match those within a colour box

The road trial report should cover other details such as the application rate for materials and drop on materials, the type of application and the type of road surface.

Trials will last for a minimum of twelve months and thereafter determined by the number of wheel passages. This trial system, is more reflective of "on road" conditions as the performance levels are set in relation to traffic volume rather than a set time interval.

If materials have already been tested against these standards, Bidder(s) should include such results.

C3.41.4 WEATHER LIMITATIONS

Road marking shall not be applied to a damp surface or at temperatures lower than 10°C, or when, in the opinion of the GDRT Quality Assurer, the wind strength is such that it may adversely affect the painting operations.

C3.41.5 MECHANICAL EQUIPMENT FOR APPLYING ROAD MARKINGS

The equipment shall consist of an apparatus for cleaning the surfaces, a mechanical road marking machine and all additional hand-operated equipment necessary for completing the work.

The machine shall be so designed that it will be capable of painting the road markings everywhere to uniform width with sides within the tolerances specified, without the thermo plastic running or splashing.

The machine shall further be capable of painting lines of different widths by adjusting the spray jets on the means or by means of additional equipment attached to the machine.

The machine shall be equipped with a device that will enable the driver to follow a target on the roadway or to follow previously placed lines. The machine shall be capable of adjusting the spacing of dotted lines in such a way that existing road markings can be reinstated.

The machine shall be capable of spraying at a speed of not less than 5,0 km/h and shall be provided with clearly visible warning flashing lights which shall always be in operation when the machine is on the road.

C3.41.6 SURFACE PREPARATION

Before any paint is applied, the road surface shall be clean and dry and completely free from any soil, grease, oil, acid or any other material which will be detrimental to the bond between the thermo plastic and the road surface. The surface where the road-marking materials are to be applied shall be properly cleaned by means of watering, brooming or compressed air if required.

Traffic markings shall be applied to new bituminous surfaces only after sufficient time has elapsed to ensure damage will not be caused to the painted surface by volatiles evaporating from the road surface.

Thermoplastic road marking material must be applied to a dry road surface, with no surface dampness, dew or subsurface wetness to ensure good adhesion. The ambient temperature shall be above 10°C or the temperature recommended by the Manufacturer.

C3.41.7 SETTING OUT THE ROAD MARKINGS

The dimensions and positions of road markings required by the GDRT shall be shown on the drawings provided by the contractor(s) or his consultant(s) and shall be in accordance with SARTSM.

In the case of new road markings, the lines, symbols, figures or marks shall be pre-marked by means of paint spots of the same colour as that of final lines and marks. These points shall be at such intervals as will ensure that the traffic markings can be applied, and in no case shall they be more than 1,5 m apart. Normally spots of approximately 10mm in diameter should be sufficient.

After pre-marking the positions of the proposed road markings such as broken lines and the starting and finishing points of barrier lines shall be indicated on the road. These pre-markings shall be approved by the GDRT Project Manager prior to any painting operations being commenced.

The positions and outlines of special markings shall be produced on the road surface in chalk and shall be approved by the GDRT Project Manager before they are fixed in position.

C3.41.8 APPLICATION OF THERMO-PLASTIC PAINTS

Thermo-plastic paints shall be applied in accordance with the manufacturer's specification. Once heated to the correct temperature the thermoplastic becomes viscous and can be applied. The thermo-plastic shall be heated carefully to the optimum temperature as if over-heated it can become brittle and be more prone to wear and disintegration, as well as discolouring. The material shall therefore be heated to a maximum temperature specified by the manufacturer of the material. The GDRT may take random measurements of the temperature of the material.

It shall be applied at approximately 1.5mm to allow the thermoplastic to melt into the upper road surface filling all holes in porous surfaces, as it cools it firmly adheres to the road surface.

Before the material cools completely, additional glass beads may be applied if required by the GDRT Project Manager. As the marking wears, the glass beads within the thermoplastic mix will be exposed ensuring consistent retro-reflectivity throughout the life of the line.

C3.41.9 ROADSTUDS

The road studs shall be positioned and applied in accordance with the instructions of the GDRT Project Manager and SARTSM.

The road studs shall be fixed by means of an approved epoxy resin in accordance with the manufacturer's instructions, subject to such amendment methods as may be required by the GDRT Project Manager. The studs shall be protected against impact until the adhesive has hardened.

Before fixing the road studs the surfaces shall be thoroughly cleaned as specified in Clause B5.

C3.41.10 TOLERANCES

Road markings shall be applied to an accuracy within the tolerances given below:

a) Width

The width of lines and other markings shall not be less than the specified width, nor shall it exceed the specified width by more than 10mm

b) Position

The position of lines, letters, figures, arrows, retro-reflective road studs and other markings shall not deviate from the true position by more than 100mm in the longitudinal and 20mm in the transverse direction.

c) Alignment of markings

The alignment of the edges of longitudinal lines shall not deviate from the true alignment by more than 10mm in 15m.

d) Broken Lines

The length of segments of broken longitudinal lines shall not deviate by more than 150mm from the specified length.

C3.41.11 GENERAL

In broken lines the length of segments and the gap between segments shall be as indicated on the drawings provided by the GDRT Project Manager and in accordance with SARTSM.

Lines on curves whether broken or unbroken shall consist of chords but shall follow the correct radius.

C3.41.12 PROTECTION

After the paint has been applied, the traffic markings shall be protected against damage by traffic or other causes. The Contractor(s) shall be responsible for erecting, placing and removing warning boards, flags, cones, barricades, and other protective measures which may be necessary in terms of any statutory provision and/or as may be recommend SARTSM

C3.41.13 MEASUREMENT AND PAYMENT

Fixing Road studs

The unit of measurement for applying road studs shall be the actual number of road studs placed.

The Bid rate shall include full compensation for supply, fixing and transporting the material to site, providing labour and equipment, and for fixing and maintenance as specified. Distinction shall be made between fixing road studs by applying the epoxy resin with and without drilling 15mm holes in the surfacing before.

Setting out and pre-marking the lines

The unit of measurement for setting out lines (excluding traffic-island markings, lettering and symbols) shall be the kilometre of lines set out and marked. Where two or three lines are to be painted next to each other, the setting-out of lines shall be measured only once.

The Bid rate shall include full compensation for setting out and pre-marking the lines as specified, including all materials.

Reinstating existing road markings

The unit of measurement for re-painting the lines shall be a kilometre of each specified width of line and the quantity paid for shall be actual length of line painted in accordance with the instructions of the GDRT Project Manager and SARTSM, excluding the gaps in broken lines.

The unit of measurement for re-painting the lettering, symbols or traffic island markings shall be a square meter and the quantity to be paid for shall be the actual surface area of lettering, symbols or traffic island markings complete. Distinction shall be made between the different types of lines, islands and colour of the markings.

The Bid rate per kilometre or per square metre as the case may be for reinstating the traffic markings shall include full compensation for supplying or transporting the material to site, providing the necessary labour and equipment, and for painting and protecting as specified.



In the case of hot-applied thermo-plastic paint or alternative road marking products offered by the Bid, the Bid rate shall also include full compensation for procuring and furnishing all material.

Removal of existing, temporary or permanent road markings

The unit of measurement shall be the square metre of existing road markings removed by means of sand blasting, water jetting / hydro blasting on the instruction of the GDRT Project Manager. Over-painting markings with black paint or bituminous solutions is not allowed.

The Bid rate shall include full compensation for sand, all plant, labour, consumables, water, cleaning of the road surface and all other costs involved.

C3.42 INSTALLATION OF ROAD TRAFFIC SIGNS

Scope

This section covers the erection of permanent road traffic signs alongside the carriageway, ramps and cross road at intersections and interchanges, at the locations indicated by the GDRT Project Manager.

All signs shall be erected in accordance with the provisions of the Road Traffic Act (Act 29 of 1989) and its regulations and SARTSM, except where otherwise indicated by the GDRT Project Manager.

The signs to be erected will be of the standard regulatory, warning and information signs including street name plates and route markers in accordance with SARTSM.

The section provides the technical details for the provision of labour, supervision, transport, specialized plant and tools, cement and minor consumables required for the installation of posts for road and traffic signs, including the excavation for bases for posts and where required casting of concrete bases.

Storage and handling

All road signs or parts of signs at the contractor's office or depot shall be so handled and so stored in a weather-proof storeroom as to prevent any damage and deformation.

All unpainted surfaces and steelwork shall be protected against corrosion.

All traffic signs shall be stored in a vertical position with a suitable protection on the sign face.

Excavation and backfilling

Excavations for the erection of road and traffic signs shall be made according to the GDRT Project Manager's requirements and the holes will typically have a minimum diameter of 300 mm and be 600 mm deep.

The footings for traffic sign poles shall be hand excavated.

The lifting and replacement of the various types of surfaces, i.e. interlocking blocks, concrete or asphalt may be required when excavating for road sign posts. The standard GDRT paving blocks are 60mm or 80mm thick grey interlocking concrete blocks. When excavations are made in lawn grass, the Contractor(s) shall carefully lift and preserve the grass and replant after backfilling and compaction of the holes.

If any specialised paving materials are encountered or where existing materials cannot be re-used, instructions and agreed rates in the form of a variation order from the GDRT Project Manager must be received by the Contractor(s) before lifting of the materials commences.

The item will be measured per number of complete excavated footings with dimensions as shown in the typical drawings, per type of sign.

The excavations shall to be backfilled with 20kg mix Crete thoroughly compacted at optimum moisture content in 100 mm thick layers to a minimum of 90% of modified AASHTO density for each excavation.

The item will be measured per number of completed footings and the rate shall allow for all labour, tools and materials. The rate shall include cutting and lifting of the existing surface, stock piling of re-usable material, removal of spoil material and reinstatement of the shoulder surface by reusing existing material or providing new material.

Erecting Road and Traffic Signs

Position and placement of signs

Road signs shall be erected in the positions indicated by the GDRT Project Manager in accordance SARTSM.

Unless otherwise specified the road signs should be located on the left hand side of the road, or if mounted overhead as close as possible to the centreline of lanes(s) to which they apply. Only duplicate signs may be placed on the right hand side of the road for extra emphasis and in particular on one-way roadways.

Signs and their supports should as far as possible be positioned so as not to obstruct sidewalks.

Sign supports should be sited to minimise risks to road users.

The lateral off-set of road signs from the edge of the roadway or edge of the shoulder and recommended vertical mounting heights are given in SARTSM (particularly Figures 1.17 and 1.18 and Table 1.3 of SARTSM – Volume 1, Part 1).

Display Angle

Fully retro-reflective ground mounted signs, shall be mounted so that the sign face is angled at approximately 93° to the direction of travel. If located on the outside of a curve it shall be placed at 93° to the tangent of the curve for the expected point from where the sign will be read as shown in Figures 1.19 of SARTSM – Volume 1, Part 1.

If the road gradient, when approaching an overhead fully retro-reflective sign is at +2% or greater the vertical axis of the sign should be parallel to a plumb line. If the road gradient is less than +2% the sign should be aligned so that the vertical axis is inclined to face upward at a rate of 10mm per metre of vertical sign face of each 1% the road gradient differs from +2% as shown in Figures 1.18 of SARTSM – Volume 1, Part 1.

Erection

Traffic signs shall be erected as directed by the GDRT Project Manager. During erection the structural steelwork shall be firmly bolted and protected to prevent any buckling or damage being caused during erection or by the equipment used for erection.

Posts to which signs are to be fixed shall be vertical, and the undersides of signs shall be horizontal after having been erected.

Field welding

All welding done during erection shall be done in accordance with EN1011 which replaced BS 5135.

Bolts, nuts and rivets

Steel bolts and nuts shall conform with SANS 135 or SANS 1143. Aluminium nuts shall be manufactured from alloy B51S or D65S.

All steel bolts, nuts and washers shall have a hot-dip (galvanized) zinc coating that complies with the requirements of SABS 763 for coatings on Type C1 articles in the case of bolts and nuts and type A2 in the case of washers.

Protection and Maintenance

Damage or defects caused by faulty workmanship or negligence shall be made good by the Contractor(s), at his own cost, to the satisfaction of the GDRT Project Manager.

Measurement and Payment

Erection of Road and Traffic signs – Regulatory and Warning Signs (Single Posts)

The unit of measurement shall be the number (No) of signs erected in accordance with SARTSM and as specified by the GDRT. New signs to be erected will be supplied by the contractor(s) complete with clamps, brackets, washers and rivets.

The Bid rate shall include full compensation for riveting signs to posts with 6mm blind rivets, drilling of holes in sign supports to match the spacing of the rivet holes, painting of the exposed surface where galvanising removed with two coats of an approved SABS quick dry aluminium paint.

Excavation and Backfilling for Road and Traffic Sign Supports

The unit of measurement shall be the cubic metre (m³) of excavation measured in place per the neat dimension of the footings or excavations as directed by the GDRT and the rate shall allow for excavation in all types of material.

The rate shall include full compensation for the complete installation of the pole, backfilling the hole with 20kg bag mix Crete per pole footing and compacting it thoroughly at optimum moisture content in 100 mm thick layers to a minimum of 90% of modified AASHTO density.

The rate shall include full compensation for the supplying, additional cost of mixing and compacting the mix Crete.

The Bid rate shall include full compensation for the removal of paving material, lawn and/or concrete, if any, all equipment, tools, ladders, safety signs, barricades, the disposal of the surplus excavated soil, concrete and/or paving material, if any, at an approved dumping site at the expense of the Contractor(s).

The bid rate shall include compensation for planting of poles to a minimum depth of 600mm.

Extra-over for rock excavation

The unit of measurement shall be per hole excavated for sign supports to a minimum of 600mm deep and 600mm diameter, where rock had to be removed.

The rate provided by the Bidder(s) in the Schedule of Rates shall include full compensation for rock breakers, tools and equipment, the disposal of the rock at an approved dumping site at the Contractor(s)s expense.

Replacing Concrete Paving Bricks

The unit of measurement shall be the square metre (m²) of concrete paving bricks supplied and installed. The standard paving blocks are 60mm or 80mm thick grey interlocking concrete blocks.



The Rate provided by the Bidder(s) in the Schedule of Rates shall include full compensation for all material, transport, 25 mm river sand bedding, grouting, cutting etc. and all other incidentals for the completion of the job.

Replacing Paving Bricks

The unit of measurement shall be the square metre (m²) of paving bricks supplied and installed.

The Rate provided by the Bidder(s) in the Schedule of Rates shall include full compensation for the supply of all material, bricks, 25 mm river sand bedding, grouting, cutting, and all other incidentals for the completion of the job

C3.43 TRAINING:

The main contractor shall be responsible for the training of students to complete their practical training to obtain their qualifications.

C4: SITE INFORMATION

All signalised intersections and or warranted intersections for new installation within Gauteng province under the jurisdiction of the Gauteng Department of Roads and Transport.