DEPARTMENT

OFFICE OF OPERATIONS MANAGEMENT

DIRECTORATE

FLEET MANAGEMENT AND ADMINISTRATION

DIVISION

SUPPORT SERVICES

PROCUREMENT DOCUMENT

GOODS / SERVICES

Documents are to be obtained, free of charge, in electronic format, from the National Treasury's eTenders website or the eThekwini Municipality's website.

Tender No: 31892 - 1J

Title: SUPPLY AND DELIVERY OF VARIOUS TRAILERS FOR A PERIOD OF THIRTY-SIX (36) MONTHS (as and when required)

CLARIFICATION MEETING AND QUERIES

Clarification Meeting: There will be no clarification meeting.

Queries can be addressed to: All email queries are to be submitted by 2026-06-25. Email questions and answers will be consolidated and posted on eTenders/Municipal website for the benefit of all tenderers by 2026-07-02.

General / Contractual: Nondumiso Khumalo, 031 322 5093, Nondumiso.khumalo@durban.gov.za

DELIVERY OF TENDERS

Sealed Tenders, addressed to the City Manager and marked with the Tender Number, are to be placed in the Tender Box **located in the ground floor foyer of the Municipal Buildings, 166 KE Masinga Road (Old Fort Rd), Durban** (and not any other municipal department):Tenderers are to also make an electronic submission via the eThekwini Municipality JDE System (ESP Module)

ESP Queries: Contact: Lindo Dlamini: Tel: 031-322-7133 / 031-322 7153
Email: supplier.selfservice@durban.gov.za

Closing Date: Friday, 10 July 2026

Time: 11:00am

FACSIMILE, eMAIL or POSTED TENDERS WILL NOT BE ACCEPTED

Issued by:

ETHEKWINI MUNICIPALITY

Deputy Director: SUPPORT SERVICES

Issued: April 2026 **Document Version: 01/12/2025**

NAME OF TENDERER: .....

Tender Price: R ..... **VAT Registered: YES / NO** (circle applicable)

PROCUREMENT DOCUMENT (Goods / Services)

INDEX

SECTION 1: GENERAL INFORMATION

YOU ARE HEREBY INVITED TO TENDER FOR REQUIREMENTS OF THE ETHEKWINI MUNICIPALITY

TENDER No.: 31892 - 1J

DESCRIPTION: **SUPPLY AND DELIVERY OF VARIOUS TRAILERS FOR A PERIOD OF THIRTY-SIX (36) MONTHS (as and when required)**

CLOSING DATE / TIME: Friday, 10 July 2026 at 11:00am

All tenders must be submitted on official tender documentation issued (in electronic format) by the eThekwini Municipality from:

- the National Treasury's eTenders website (https://www.etenders.gov.za/), or
- the eThekwini Municipality's website (https://www.durban.gov.za/pages/business/procurement).

Electronically downloaded documentation should be printed by the tenderer.

- Bidders must submit a "hard copy" submission to the Tender Box located in the ground floor foyer of the Municipal Buildings, 166 KE Masinga Road (Old Fort Rd), Durban and an electronic submission via Supplier Self Service (ESP). Notwithstanding the electronic submission, a tender offer will only be deemed valid if the "hard copy" submission has been made. The "hard copy" submission will be deemed to be the ruling version. Bidders are responsible for resolving all access rights and submission queries before the tender closing date. Tender closing date and time remain unchanged

Tenderers are required to be registered on the **National Treasury Central Supplier Database** (CSD) as a service provider. In the case of a Joint Venture, this requirement will apply individually to each party in the Joint Venture.

Registration on the **eThekwini Municipality's Database** can be done via website:
https://ethekwinivendor.durban.gov.za/ and on **ESP:**supplier.selfservice@durban.gov.za

Tenderers should ensure that tenders are delivered timeously to the correct address as stated in the Conditions of Tender. If a tender is late, it will not be accepted for consideration.

The Municipality will consider a tender submitted in response to this request for tender to be an offer from your company to perform the supply on the basis of that tender. Accordingly, please review the attached General and Special Terms and Conditions which will form the basis for any supply arrangement entered into between the Municipality and your company.

The Municipality is seeking tenders from potential suppliers only and makes no representation or promise in relation to procuring work from a supplier or supplier. The Municipality will not be responsible for any costs associated with preparing and submitting a tender.

The Municipality does not bind itself to accept the lowest or any tender. It reserves the right to accept the whole or any part of a tender to place orders. Bidders shall not bind the Municipality to any minimum quantity per order. The successful Tenderer (s) shall be bound to provide any quantities stipulated in the specification.

The successful tenderer will be required to fill in and sign a written Contract Form (MBD 7).

NB: NO TENDER WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE
(as defined in Regulation 44 of the Local Government: Municipal Supply Chain Management Regulations).

THE FOLLOWING PARTICULARS MUST BE FURNISHED
(Failure to do so may result in your tender being disqualified)

Name of Tenderer: .....

Postal Address: .....

Street Address: .....

E-Mail Address: .....

Telephone Number:				-				-							
Cell phone Number:				-				-							
Facsimile Number:				-				-							

	Circle Applicable
Is your entity registered on the **eThekwini Municipality's supplier database**?	YES / NO
• **If YES insert** your PR Number:	**PR** .....
Is your entity registered on the **National Treasury Central Supplier Database** (CSD)?	YES / NO
• **If YES, insert** your MAAA Number:	**MAAA** .....
Insert a SARS Tax Compliance Status PIN	.....
Is your entity VAT registered?	YES / NO
• **If YES insert** Vat Registration Number:	.....
Has a **Declaration of Municipal Fees** been submitted?	YES / NO
Has a **Declaration of Interest** (MBD 4) been submitted?	YES / NO
Has a **Declaration for Procurement Above R10 Million** (MBD 5) been submitted?	YES / NO
Has a **Preference Points Claim** (MBD 6.1) been submitted?	YES / NO
Has a **Declaration of Bidder's Past SCM Practices** (MBD 8) been submitted?	YES / NO
Has a **Certificate of Independent Bid Determination** (MBD 9) been submitted?	YES / NO
Are you the accredited representative in South Africa for the goods / services / works offered? **If YES, enclose proof** at the back of the tender submission.	YES / NO

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

Name / Surname: ..... (in block capitals)

Capacity under which this tender is signed: .....

SECTION 2 : CONDITIONS OF TENDER – (Goods / Services : June 2019)

INDEX

STANDARD CONDITIONS OF TENDER (Goods / Services)

1. DEFINITIONS

General:

(1) Defined words / phrases are printed in Italic font.
(2) Definitions apply to the singular as well as the plural.
(3) Any reference to the masculine gender shall be taken to include the feminine and any reference to the feminine gender shall be taken to include the masculine.
(4) The words "bid" and "tender", and "bidder" and "tenderer" can be used interchangeably.
(5) All definitions as defined in the ***General Conditions of Contract*** are applicable to these ***Standard Conditions of Tender***. These definitions include:

- "Closing time"
- "Contract"
- "Contract Price"
- "Corrupt practice"
- "Countervailing duties"
- "Country of origin"
- "Day"
- "Delivery"
- "Delivery ex stock"
- "Delivery into consignees store or to his site"
- "Dumping"
- "Force majeure"
- "Fraudulent practice"
- "GCC"
- "Goods"
- "Imported content"
- "Local content"
- "Manufacture"
- "Order"
- "Project site"
- "Purchaser"
- "Republic"
- "SCC"
- "Services"
- "Supplier"
- "Tort"
- "Turnkey"
- "Written" or "in writing"

(6) **Bid or Tender**: The offer submitted in respect of an invitation to submit such an offer.
(7) **Bidder or Tenderer**: An entity (company, close corporation, partnership, joint venture, sole proprietor) which submits a *bid/tender*.
(8) **Municipality**: The eThekwini Municipality, as represented by the duly authorised delegate, official or committee.
(9) **SCT:** Special Conditions of Tender (found in Section 3).
(10) **Week**: A period of seven (7) consecutive *days*.
(11) **Material Deviation**: A material deviation or qualification is one which, in the *Municipality's* opinion, would:
  (a) Detrimentally affect the scope, quality, or performance of the services or supply identified in the Scope;
  (b) Significantly change the *Municipality's* or the *Tenderer's* risks and responsibilities under the contract; or
  (c) Affect the competitive position of other *Tenderers* presenting responsive *tenders*, if it were to be rectified.

2. CONDITIONS OF TENDER & CONTRACT

The specification will be governed by the ***Standard Conditions of Tender*** (Goods and Services), ***Special Conditions of Tender (SCT)***, ***General Conditions of Contract (GCC)*** (Government Procurement General Conditions (July 2010), as amended by National Treasury Circular 52 dated 30 July 2010), the ***Special Conditions of Contract (SCC)***, the ***Occupational Health and Safety Act*** (Act No. 85 of 1993), and the ***eThekwini Code of Conduct***.

Complete Acceptance of Conditions

Unless otherwise expressly stipulated in a letter covering the *tender*, every *Tenderer* shall be deemed to have waived, renounced, and abandoned any conditions printed or written upon any stationery used for the purpose of, or in connection with, the submission of their *tender*, which are in conflict with the ***General Conditions of Contract*** and ***Special Conditions of Contract***. *Tenderers* are advised that any *material divergences / qualifications* from the official Conditions or Specification will render their *tenders* liable to disqualification.

3. TENDER INFORMATION

(1) **General**
  (a) *Tenders* will be liable for rejection unless made out on the official tendering documentation.
  (b) Any alterations effected upon any of the tendering documents must be clearly shown by means of a hand written (black, non-erasable ink), or typed, entry and must be signed in full by the *Tenderer*. **The use of correction fluid is not permitted**.
  (c) *Tenderers* may submit alternative solutions that, in the *Tenderer's* opinion, are to the *Municipality's* advantage economically and technically. Full technical details of the alternative *tender(s)* shall be submitted with the tender documents. Alternative *tender(s)* shall be submitted separately.

(2) **Obtaining Tender Documentation**

All tenders must be submitted on official tender documentation issued, in electronic format, by the eThekwini Municipality. Electronically downloaded documentation (obtainable free of charge) should be printed and suitably bound by tenderer.

(3) **Queries Relating to this Tender**

Queries can be directed to the person / Department as stated in the ***SCT***.

(4) **Briefing Session (Clarification Meeting)**

Details of the briefing session are stated in the ***SCT***.
Failure to attend a compulsory briefing session will invalidate the *tender*. *Tenderers* must sign the attendance list in the name of the tendering entity. Tenders will only be evaluated from those tendering entities appearing on the attendance list.

(5) **Closing Date and Delivery of Tender Submissions**

Sealed *tenders* made out on the enclosed Official Tender Form, which shall be signed by or on behalf of the *Tenderer* , and addressed to the City Manager, marked with the appropriate Tender number, must be placed in the **Tender Box** as stated in the ***SCT*** not later than the **date and time** as stated in the ***SCT***, where after they will be opened publicly.

All tender documents **must** be placed directly into the Tender Box and should not be delivered to any other Municipal Department. *Bidders* are advised that *tenders* submitted by post, fax or email **will not** be considered. All couriered documents must be placed directly into the Tender Box and should not be delivered to any other Municipal Department.

Any *tender* received after the closing date and time stated for the receipt thereof **shall not** be accepted for consideration and shall be returned to the *Tenderer*.

(6) **Tender Validity and Withdrawal of Tenders**

Tenders must hold good until 16:00 of the 5th week following the date on which *tenders* are opened, or during such other period as may be specified in the ***SCT***. The *Municipality* may, during the period for which *tenders* are to remain open for acceptance, authorize a *Tenderer* to withdraw their *tender* in whole or in part on condition that the *Tenderer* pays to the *Municipality* on demand, a sum of one thousand Rand (R1,000.00). The *Municipality* may, if it thinks fit, waive payment of such sum in whole or in part.

4. **RETURNABLE SCHEDULES, FORMS, CERTIFICATES**

Each *Tenderer* shall complete fully and accurately the following documents and submit these documents with the *tender*:

(1) **Authority of Signatory:** In terms of Clause 4(5)(c) of the Conditions of Tender.

(2) **Tax Compliance Status PIN / Tax Clearance Certificate:** SARS has introduced a new Tax Compliance Status System. Tenderers can submit a Tax Compliance Status PIN (TCS PIN) instead of an original Tax Clearance Certificate. This TCS PIN can be used by third parties to certify the taxpayer's real-time compliance status.

(3) **Declaration of Municipal Fees:** Only those *Bidders* whose municipal fees are fully paid, or those that have concluded acknowledgement of debt agreements with the *Municipality*, are eligible to *tender*.

All Bidders must sign the Declaration of Municipal Fees returnable form, declaring that their municipal fees are in order or that acknowledgement of debt agreements have been concluded, and include the relevant account numbers in the declaration. Failure to include account numbers or sign will invalidate the *tender*. The completion of the declaration is also applicable to *Bidders* outside of the eThekwini Municipal Area.

(4) **Declaration with respect to the Occupational Health and Safety Act:** Acceptance of undertaking in terms of the Occupational Health and Safety Act (Act 85 of 1993) and the relevant Regulations.

(5) **Municipal Biding Documents** (which includes):

(a) **MBD 4:** Declaration of Interest: All Bidders are to sign the Declaration of Interest wherein they declare any relationship that may exist with an official of the Municipality involved in the evaluation process.

Regulation 44 of the Supply Chain Management Regulations states that a Municipality or Municipal Entity may not make any award to a person:

(i) Who is in the service of the state;
(ii) If that person is not a natural person, of which any Director, Manager, Principal, Shareholder or Stakeholder is a person in the service of the state; or
(iii) Who is an advisor or consultant contracted with the Municipality or municipal entity.

Should a contract be awarded, and it is subsequently established that Regulation 44 has been breached, the Municipality shall have the right to terminate the contract with immediate effect.

(b) **MBD 5:** Declaration for Procurement Above R10 Million (if applicable): For all procurement expected to exceed R10 million (all applicable taxes included), tenderers must complete this questionnaire.

(c) **MBD 6.1**: Preference Points Claim Form: For the awarding of Preference Points, Bidders are required to complete the attached MBD 6.1 form and return it with their tender submission. Failure on the part of a tenderer to complete and submit this form will be interpreted to mean that preference points for **Specific Goals** are not claimed.

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

(d) **MBD 8**: Declaration of Bidders Past Supply Chain Management Practices Form: This form serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

(e) **MBD 9**: Certificate of Independent Bid Determination: Section 4(1)(b)(iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms if it involves collusive tendering or tender rigging. In order to give effect to this, the Certificate of Bid Determination must be completed and submitted with the tender.

(5) **Official Tender Form** (see Section 9)

(a) Legal Status of Tenderer
It is essential for the purpose of entering into a legal contract that *Bidders* state on the Official Tender Form, under "Name and Address of Tenderer ", their full legal status:
(i) the full registered name of the company making a *tender*; or
(ii) if the *Tenderer* is a person conducting business under a recognised trading name then:
- State the name of the person(s);
- State recognised trading name; and
- State whether an owner, co-owner, proprietor, etc.

(b) **Signing of Official Tender Form**
Failure of a *Tenderer* to complete, in its entirety, and sign the Official Tender Form will invalidate the *tender*.

(c) **Authority of Signatory**
Bidders are to complete and sign the Authority of Signatory returnable document, and attach the required additional documents.

(d) **Differences or Discrepancies**
Should there be any difference or discrepancy between the prices or price contained in the Official Tender Form and those contained in any covering letter from the Tenderer, the prices or price contained in the Official Tender Form shall prevail.

(6) **Any additional Schedules, Forms, or Certificates as stated in the *SCT*.**

5. **INFORMATION TO BE SUPPLIED REGARDING SUB-CONTRACTORS**

Bidders are to state in their *tenders*, or covering letters, whether, if the contract were to be awarded to them, the whole of the work would be executed by them in their own workshop / factory. If the answer is in the negative, they are required to state which part(s) would be handed to sub-contractors and the name and address of such sub-contractors.

6. **SAMPLES**

Bidders may be required to state where samples of the full range of products can be inspected or be required to submit samples for inspection prior to the closing date of the *tender*.

7. **MANUFACTURERS**

The names of the manufacturers of the goods or equipment offered must be stated in the *tender*.

Bidders who are not manufacturers, accredited distributors, or agents must provide a valid agreement / Joint Venture Agreement, entered into with the manufacturer, accredited distributors, or agents, with their submission. This agreement must meet all the requirements as laid down in the *tender* document, and must cover the contract period.

8. **CLARIFICATION**

The Head: Supply Chain Management Unit, or an authorized representative, may request clarification or further information on any aspect of the *tender*. The *Tenderer* **must** supply the requested information within the time specified. Failure to comply will render the *tender* non-responsive.

9. **PRICING**

Bidders would be precluded from this *tender* if their pricing structure deviates from the Official Tender Form.

(1) **Nett Prices**
All prices shall be quoted in South African currency (Rand) after deduction of any brokerage or discount allowed to the Municipality.

(2) **Unit Prices**
Bidders shall quote only one price in respect of each item. Such price is to hold good for the full duration of the contract period, being subject to variation only in accordance with specified criteria, as stated in the ***Conditions of Contract***.

(3) **Firm Tenders**
Bidders may submit firm prices for each 12 month period. These prices shall be free from all fluctuations, including any statutory increases.

(4) **Value Added Tax (V.A.T)**
Prices exclusive and inclusive of VAT must be stated separately on the Official Tender Form.

10. **ESTIMATED QUANTITIES**

The estimated quantities are set out in Section 8 : Bill of Quantities / Schedule of Rates/Activities which forms part of the official tender documents. The quantities are stated purely for the information of the *Bidders* and are in order to ascertain an estimated total contract price. The *Supplier* will, however, be bound to supply whatever quantity or quantities the *Municipality* may actually require, and may exceed, or be less than, the estimated quantities stated.

11. **DELIVERY, RISK, PACKAGES, ETC**

(1) Unless otherwise provided, all goods are to be supplied only against the form of order issued by the *Municipality*.
(2) *Bidders* shall quote a unit price which shall include delivery to the specified delivery point, as stated in the ***SCT.***
(3) The risk in all goods purchased by the *Municipality* under the contract shall remain with the *Supplier* until such goods shall have been duly delivered.
(4) *Bidders* shall clearly state the period within which delivery will be made after receipt of the official order, as this may be material in the adjudication of the *tender*.

12. **RATES OF EXCHANGE**

(1) Where the goods are imported the *Supplier* shall, within seven days of date of official Purchase Order, arrange through their bankers for the foreign commitment to be covered forward down to the Rand in order to fix the rate of exchange. The *Supplier* shall notify the *Municipality* as soon as possible thereafter regarding the rate which has been fixed on such forward exchange.

Any increase or decrease between the basic rate of exchange as at a date seven days prior to the date of closing of *tenders* and that existing at the date of establishment of the forward exchange cover within the period stipulated above shall be paid or deducted by the Municipality. Upon the failure of the *Supplier* to arrange forward exchange cover, the *Supplier* shall be liable should there be any increase in the basic rate of exchange occurring after the last mentioned date.

The bank charges incurred in obtaining the forward exchange cover shall be for the *Municipality's* account.

(2) The *Supplier* shall on request:
(a) Submit documentary proof of the rate of exchange; and
(b) When an adjustment is claimed in terms of this sub-clause, whether by the *Supplier* or the *Municipality*, submit documentary proof to the satisfaction of the Deputy City Manager: Treasury in respect of such claim.

13. **IMPORT PERMITS**

(1) In order to minimise special importation, *Bidders* should, where possible, have recourse to local suppliers and / or manufacturers.
(2) *Bidders* must state whether their *tender* is dependent upon the issue of a special import permit or whether they are able to supply the goods by making use of the import facilities available to them.
(3) In the event of a tender being dependent upon the issue of a special import permit, application for such special import permit shall be made by the Tenderer , unless otherwise provided for in the ***SCT***.

14. **EVALUATION PROCESS**

The procedure for evaluation of responsive Tender Offers will be in accordance with the eThekwini Municipality's current SCM Policy and the Preferential Procurement Policy Framework Act (5 of 2000), and the Preferential Procurement Policy Framework Act Regulations (November 2022).

Details of additional evaluation criteria, if applicable, are stated in the *SCT*.

Evaluation points for price and preference will only be calculated for *Bidders* who comply with the contractual and technical specification, and if applicable, have attained the minimum Functionality Score as stated in the ***SCT***.

The evaluation process of responsive *tenders* will be as follows:

- Score each *tender* in respect of the financial offer made and preferences claimed (if any);
- Calculate the total number of evaluation points (T_{EV}) in accordance with the following formula:
  $T_{EV} = N_{FO} + N_P$ where: N_{FO} : is the number of evaluation points awarded for the financial offer; and N_P : is the number of evaluation points awarded for preferences claimed.
- Rank *tenders* from the highest number of evaluation points to the lowest.
- Recommend the *Tenderer* with the highest number of evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- Rescore and re-rank all *Bidders* should there be compelling and justifiable reasons not to recommend the *Tenderer* with the highest number of evaluation points, and recommend the *Tenderer* with the highest number of evaluation points, unless there are compelling and justifiable reasons not to do so, and the process set out in this sub-clause is repeated.

(1) **Evaluation points awarded for the financial offer:**

Reference is to be made to the Special Conditions of Tender (***SCT)***, and returnable form 5(c) in Section 4.

INCOME-GENERATING CONTRACTS

The financial offer will be scored using the formula:

$$N_{FO} = W\left(1 + \frac{Pt - Pmax}{Pmax}\right)$$

GOODS and SERVICES

The financial offer will be scored using the formula:

$$N_{FO} = W\left(1 - \frac{Pt - Pmin}{Pmin}\right)$$

Where the value of W is:

(a) **90** where the financial value inclusive of VAT of all responsive *tenders* received have a value in excess of R 50,000,000; OR
80 where the financial value inclusive of VAT of one or more responsive *tenders* offers have a value that equals or is less than R 50,000,000.
It is unclear (at the time of advertising) which of the two preference point systems applies. Either the 80/20 or 90/10 preference point system will apply, determined by the price offered by the lowest acceptable tender.

(b) **Pmax** is the comparative offer of the most favourable comparative offer (highest acceptable tender).

(c) **Pmin** is the comparative offer of the most favourable comparative offer (lowest acceptable tender).

(d) **Pt** is the comparative offer of the *tender* offer under consideration.

(2) **Evaluation points awarded for preference:**

The **Specific Goals** for Preference Points are specified in the ***SCT***.

15. **BRIBERY AND COMMUNICATION WITH COUNCILLORS / OFFICIALS**

(1) **Bribery**

No *Tenderer* shall offer, promise or give to any person or person connected with a *tender* or the awarding of a contract, any gratuity, bonus or discount etc, in connection with the obtaining of a contract.

(2) **Communication, Councillors and Officials**

A *Tenderer* shall not in any way communicate with a member of the *Municipality* or with any official of the *Municipality* on a question affecting any contract for the supply of goods or for any work, undertaking or services which is the subject of a *tender* during the period between the closing date for receipt of *tenders* and the dispatch of the written notification of the *Municipality's* decision on the award of the contract; provided that a *Tenderer* shall not hereby be precluded:

(a) At the request of the Head: SCM Unit, or an authorized representative, from furnishing him with additional information or with a sample or specimen for testing purposes or otherwise from giving a demonstration so as to enable the recommendation to the Bid Committee on the award of the contract to be formulated;

(b) From obtaining from the Head : SCM Unit, or an authorised representative, information as to the date upon which the award of the contract is likely to be made, or, after the decision upon the award has been made by the *Municipality* or any Committee to which the *Municipality* has delegated its powers, information as to the nature of the decision or such information as was publicly disclosed at the opening of *tenders* or from submitting to the Accounting Officer in writing any communication relating to their *tender* or the award of the contract or a request for leave to withdraw their *tender*; and

(c) Provided further that nothing contained herein shall be construed so as to prevent information being sought and obtained from an Official in regard to any decision taken at an open Municipal meeting, or any Committee to which the *Municipality* has delegated its powers.

A contravention of subsection (1) and / or (2), or an attempt to contravene such subsection, shall be reported to the Accounting Officer, who may on receipt of such report disqualify the *tender* of the *Tenderer* concerned.

16. **NEGOTIATIONS WITH PREFERRED BIDDERS**

The *Municipality* reserves the right to invoke Regulation 24 of Municipal Finance Management Act if required.

(1) The Accounting Officer may negotiate the final terms of a contract with *Bidders* identified through a competitive tendering process as preferred *Bidders*, provided that such negotiation:

- Does not allow any preferred *Tenderer* a second or unfair opportunity;
- Is not to the detriment of any other *Tenderer* ; and
- Does not lead to a higher price than the *tender* as submitted.

(2) Minutes of such negotiations must be kept for record purposes.

(3) Such negotiation may be delegated by the Accounting Officer.

17. **CANCELLATION OF TENDER PROCESS**

The municipality is entitled to cancel the tender at any time before the award of a tender and the decision to cancel the tender shall be published in the same manner in which the original tender invitation was advertised. The Municipality shall, in no way, be liable for any damages whatsoever, including, without limitation, damages for loss of profit, in any way connected with the cancellation of this bid.

18. **ACCEPTANCE OF BID**

(1) The *Municipality* does not bind itself to accept the lowest or any *tender*, and reserves the right to accept the whole or any part of a *tender* to place orders.

(2) The *Municipality* reserves the right to accept more than one technically and contractually compliant *tender* for part or the whole of the contract and to place orders on the price and availability.

(3) *Bidders* shall not bind the *Municipality* to any minimum quantity per order.

(4) The successful *Tenderer (s)* shall be bound to provide any quantities stipulated in the specification.

(5) Tenders will only be accepted on condition that:

(a) The *tender* is signed by a person authorised to sign on behalf of the *Tenderer* .

(b) A valid (at time of close of tenders), original, Tax Clearance Certificate OR Tax Compliance Status PIN is included with the *tender* submission. Both should have sufficient validity to ensure the process is adequately covered;

(c) A *Tenderer* who submitted their *tender* as a Joint Venture has included an acceptable Joint Venture Agreement and a B-BBEE Certificate pertaining to the Joint Venture with their *tender*.

(6) Financial Standing: The Head: Supply Chain Management reserves the right to require *Bidders* to submit evidence that their financial standing is adequate to meet their obligations under the contract should they be successful.

(7) Change of Ownership or Major Policy: Where it is known to a *Tenderer* that a change in ownership or major policy (of the tendering entity) will occur, or is likely to occur, during a specified contract period, the scope and effect thereof must be fully defined in a covering letter to be submitted with the *tender*.

(8) Purchase of Goods From Other Sources: Nothing contained in this contract shall be held to restrain the *Municipality* from purchasing from persons other than the *Supplier*, any of the goods described or referred to in this contract, if it shall in its discretion think fit to do so.

(9) Capability and Breach of Contract: Tenderers that do not have the capability of undertaking this enquiry in terms of the requirements of the contract or have been in breach of contract previously will not be considered.

19. **PAYMENT and FACTORING**

Payment conditions will be as per the ***Conditions of Contract***.

Payment will be made only to the *Supplier(s).* Factoring arrangements will not be accepted.

20 **APPEALS**

In terms of Regulation 49 of the Municipal Supply Chain Management Regulations persons aggrieved by decisions or actions taken by the *Municipality*, may lodge an appeal within 14 days of the decision or action, in writing to the *Municipality*. The appeal (clearly setting out the reasons for the appeal) and queries with regard to decision of award are to be directed to the office of the City Manager, attention:

Ms. S. Pillay, P.O. Box 1394, Durban, 4000;
eMail: Simone.Pillay@durban.gov.za.

SECTION 3: SPECIAL / ADDITIONAL CONDITIONS OF TENDER

3.1 SPECIAL CONDITIONS OF TENDER (SCT)

The ***Standard Conditions of Tender*** (Goods / Services) make several references to the ***Special Conditions of Tender*** *(SCT)* for details that apply specifically to this tender. The ***Special Conditions of Tender*** shall have precedence in the interpretation of any ambiguity or inconsistency between it and the ***Standard Conditions of Tender***.

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

SCT 3(1) **TENDER INFORMATION: General**

The tender document comprises of a cover page and 204 pages.

SCT 3(2) **TENDER INFORMATION: Obtaining Tender Documentation**

Documents are issued by the eThekwini Municipality electronic format.

Electronically downloaded documentation is obtainable from:

- the National Treasury's eTenders website
  - (https://www.etenders.gov.za/), or
- the eThekwini Municipality's website
  - (https://www.durban.gov.za/pages/business/procurement).

The entire document should be printed on A4 paper (one sided) and suitably bound by the tenderer.

SCT 3(3) **TENDER INFORMATION: Queries Relating to this Tender**

General and Contractual Queries are to be directed to:

Nondumiso Khumalo, 031 322 5093, Nondumiso.khumalo@durban.gov.za

SCT 3(4) **TENDER INFORMATION: Briefing Session**

There will be no clarification meeting.

SCT 3(5) **TENDER INFORMATION: Closing Date and Delivery of Tender Submissions**

1. Tenderers are hereby advised to submit the following, no later than **Friday, 05 June 2026 at 11:00 am**:

   a) A signed **hard copy** of the Tender Document that is sealed, addressed to the City Manager and clearly marked with the Tender Number. This **hard copy** shall be deposited into the Tender Box **located in the ground floor foyer of the Municipal Buildings at 166 KE Masinga Road (Old Fort Rd), Durban**; and

   b) An **electronic copy** of the Tender Document, identical to that of the signed **hard copy**, via the eThekwini Municipality JDE System (ESP Module).

2. Notwithstanding the submission of the **electronic copy** of the Tender Document via the JDE System (ESP Module):

   a) The Tender Offer shall only be deemed valid if the **hard copy** submission has been made; and

   b) The **hard copy** submission shall take precedence and be utilised for the evaluation of Tenders.

3. In the event of any ambiguity or inconsistency within the **hard copy** submissions, eThekwini Municipality reserves the right to verify the information by comparing the **hard copy** with the corresponding **electronic copy**. Subsequently, if the **electronic copy** is found not to be identical to the **hard copy**, the Tender Offer shall be deemed invalid.

4. Tenderers shall ensure all access rights and submission queries related to the JDE system are resolved prior to the closing date.:

BID VIEWING, TENDER DOCUMENT DOWNLOAD AND BID SUBMISSION PROCESS

5. The following link must be followed for login, to view advertised bids, and to submit a bid advertised by eThekwini Municipality.

   https://rfq.durban.gov.za/jde/E1Menu.maf

   All queries related to the JDE system shall be directed to:

ESP Queries:Lindo Dlamini Tel: 031-3227133 / 031-3227153 Email: supplier.selfservice@durban.gov.za	**ESP Technical Queries**: Jabulane Chauke: Tel: 031 322 9535 Email: Jabulani.chauke@durban.gov.za

SCT 3(6) **TENDER INFORMATION: Tender Validity and Withdrawal of Tenders**

1. Tenders must remain valid for a period of 120 days following the date on which the Tenders are opened. This period is referred to as the **original validity period**.

2. In addition to the original validity period, Tenders must remain valid for acceptance for a further period of twelve (12) months, unless the Municipality is advised otherwise by the bidder in writing.

3. eThekwini Municipality reserves the right to request confirmation of Tender validity at any time during the twelve (12) month period.

SCT 4(6) **RETURNABLE SCHEDULES, FORMS, CERTIFICATES**

There are no additional returnable schedules, forms, certificates

SCT 14 **EVALUATION PROCESS**

14.1.1 Mandatory Requirement for Supply of Trailers

Offers will be considered from Original Equipment Manufacturer (OEM) or an accredited agent from the OEM.

In a case of a bidder being an accredited agent, a letter confirming the accreditation from the OEM must be submitted as part of the tender submission.

If these mandatory requirements are not met in the tender submission, it will invalidate the tender.

14.2 Price and Preference

The procedure for the evaluation of responsive tenders is **PRICE AND PREFERENCE** in accordance with the Employer's current SCM Policy, the Preferential Procurement Policy Framework Act (5 of 2000), and the Preferential Procurement Policy Framework Act Regulations (2022).

The **80/20** preference points system will be applied. The Formula used to calculate the **Price Points (max. 80)** will be according to that specified Regulation 4.1.

14.2 Preference Point System and Specific Goals

The definitions as per the SCM Policy are applicable.

Preference Points (either 20 or 10) will be derived from points claimed on Returnable Document **MBD 6.1: "Preference Points Claim Form"** (in Section 4 of this procurement document) for the **Specific Goal(s)** as indicated on the table(s) below, and according to the specified **Goal Weightings**.

RDP Goal: The promotion of South African owned enterprises

The tendering entity's **Address** (as stated on the National Treasury Central Supplier Database (CSD) or on the eThekwini Municipality Vendor Portal) is to be used in the determination of the tenderer's claim for **Preference Points** for this Specific Goal.

Goal Weighting 70%		
Location	**80/20**	
Not in South Africa	0	
South Africa	5.6	
KZN	9.8	
ETM	14	
Proof of claim as declared on MBD 6.1 (1 or more of the following will be used in verifying the tenderer's status) • CSD report		

Ownership Goal

The tendering entity's **Percentage Ownership**, in terms of the **Ownership Category(s)** listed below, is to be used in the determination of the tenderer's claim for **Preference Points**.

Goal Weighting 30%			
Ownership Categories	**Criteria**	**80/20**	
Race: Black (100%)	0%	0	
	>0% and <51%	2.4	
	≥51% and <100%	4.2	
	100%	6	

Proof of claim as declared on MBD 6.1 (1 or more of the following will be used in verifying the tenderer's status)

- Companies and Intellectual Property Commission registration document (CIPC)
- CSD report.
- B-BBEE Certificate of the tendering entity.
- Consolidated B-BBEE Certificate if the tendering entity is a Consortium, Joint Venture, or Trust (Issued by verification agency accredited by the South African Accreditation System).
- Agreement for a Consortium, Joint Venture, or Trust.

SCT 20 COMPLAINTS AND OBJECTIONS

In terms of Section 49 of the Ethekwini SCM Policy any person aggrieved by the decisions taken in the implementation of the SCM System may lodge within 14 days of notification, a written objection against the decision of the following:

The City Manager
Attention: Ms S Pillay **(E-Mail: Simone.Pillay@durban.gov.za)**
P O Box 1394
DURBAN
4000

Please be advised that any objection to this decision will only be processed upon receipt of a non-refundable administration fee of R1814.00 including VAT as stipulated in the municipality's SCM Policy approved on 29/08/2024 as well as the municipal budget for the financial year 2025/26. An objection will only be considered upon receipt of proof of payment of this fee. This amount must be paid into the following bank account as a real-time payment:

EThekwini Municipality
FNB – 631 6574 6331
Reference Number: *Please insert contract number*

3.2 ADDITIONAL CONDITIONS OF TENDER (ACT)

ACT 1 ELIGIBILITY – CSD REGISTRATION

Tenderers are required to be registered on the National Treasury Central Supplier Database (CSD) as a service provider. In the case of a Joint Venture, this requirement will apply individually to each party in the Joint Venture. Tenderers not so registered, at time of closing of tenders, will not be eligible to submit tenders.

The Tenderer's CSD Supplier Number (starting with "MAAA") is to be provided on the information table in Section 1.

Tenderers who wish to register on the CSD may do so via web address https://secure.csd.gov.za.

ACT2. QUOTATION GUIDANCE

It is not compulsory for bidders to quote on all items for this tender. Bidders have the liberty to quote for only the items they wish to submit a tender to.

ACT 3 INTENTION TO AWARD

The Municipality intends to award this tender to more than one responsive bidder. The award will be per item.

The bidder is not compelled to bid for every item in the tender.

SECTION 4: RETURNABLE TENDER DOCUMENTS

The required returnable documents are as detailed in Section 2 (Clause 4): "Returnable Schedules, Forms, Certificates" of the Conditions of Tender / Special Conditions of Tender.

1) Authority of Signatory
2) Tax Compliance Status PIN / Tax Clearance Certificate
3) Declaration of Municipal Fees
4) Declaration with respect to The Occupational Health and Safety Act
5(a) MBD 4: Declaration of Interest
5(b) MBD 5: Declaration for Procurement Above R10 Million
5(c) MBD 6.1: Preference Points Claim
5(d) MBD 8: Declaration of Bidder's Past Supply Chain Management Practices
5(e) MBD 9: Certificate of Independent Bid Determination

The Tender Form can be found in Section 9: "Official Tender Form", and any additional schedules, forms, certificates can be found in Section 10: "Annexures".

1) AUTHORITY OF SIGNATORY

Reference is made to the Conditions of Tender: Clause 4(5)(c).

Indicate the status of the tenderer by ticking the appropriate box hereunder.

COMPANY		CLOSE CORPORATION		PARTNERSHIP		JOINT VENTURE		SOLE PROPRIETOR	
Refer to Notes at the bottom of the page									

I / We, the undersigned, being the Chairperson (Company), Member(s) (Close Corporation), Partners (Partnership), Sole Owner (Sole Proprietor), Lead Partner (JV), in the company / business trading as:

……

hereby authorise Mr/Mrs/Ms ……

acting in the capacity of .....

to sign all documents in connection with the tender for Contract No. **31892 - 1J** and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

Notes

Tenderers are to include, at the back of their tender submission document, a printout of the following documents:

If a Company : a “Resolution of the Board” in this regard.
If a Joint Venture : a “Power of Attorney” signed by the legally authorised signatories of all the partners to the Joint venture.

2) TAX COMPLIANCE STATUS PIN / TAX CLEARANCE CERTIFICATE

SARS has introduced a new Tax Compliance Status System. Tenderers can submit a Tax Compliance Status PIN (TCS PIN) instead of an original Tax Clearance Certificate. This TCS PIN can be used by third parties to certify the taxpayer's real-time compliance status.

Separate Tax Clearance Certificates / TCS PINs are required for each entity in a Joint Venture.

The TCS PIN(s) are to be entered on the information table in **SECTION 1: GENERAL INFORMATION.**

Tenderers are to include, at the back of their tender submission document, a printout of their Tax Compliance Status PIN (TCS PIN) OR an original Tax Clearance Certificate.

Failure to include the required document will make the tender submission non-responsive.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, ***and that the requested documentation has been included in the tender submission****.*

NAME (Block Capitals): _____ **Date**

SIGNATURE: ---------- ----------

3) DECLARATION OF MUNICIPAL FEES

I, the undersigned, do hereby declare that the Municipal fees of

.....

(full name of Company / Close Corporation / partnership / sole proprietary/Joint Venture)

(hereinafter referred to as the TENDERER) are, as at the date hereunder, fully paid or an Acknowledgement of Debt has been concluded with the Municipality to pay the said charges in instalments.

The following account details relate to property of the said TENDERER:

Account	Account Number: to be completed by tenderer.
Consolidated Account No.	
Electricity	
Water	
Rates	
Other	

I acknowledge that should the aforesaid Municipal charges fall into arrears, the Municipality may take such remedial action as is required, including termination of any contract, and any payments due to the Contractor by the Municipality shall be first set off against such arrears.

- Where the TENDERER'S place of business or business interests are outside the jurisdiction of eThekwini Municipality, a copy of the accounts/agreements from the relevant municipality must be attached (to the back inside cover of this document).
- Where the tenderer's Municipal Accounts are part of their lease agreement, then a copy of the agreement, or official letter to that effect is to be attached (to the back inside cover of this document).

Tenderers are to be include, at the back of their tender submission document, a printout of the above account's and or agreements signed with the municipality.

Failure to include the required document will make the tender submission non-responsive.

NAME (Block Capitals): ---------- **Date**

SIGNATURE: _____ ----------

4) DECLARATION WITH RESPECT TO THE OCCUPATIONAL HEALTH AND SAFETY ACT

Definitions

The Act: The Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and any associated / applicable Regulations.

Declaration by Tenderer

1. I, the undersigned, hereby declare and confirm that I am fully conversant with the Act.

2. I hereby declare that my company has the competence and the necessary resources to safely carry out the work / supply / services under this contract in compliance with the Act, and the Employer's / Purchaser's / Client's Health and Safety Specifications.

3. I hereby undertake, if my tender is accepted, to provide on request a suitable and sufficiently documented Health and Safety Plan which plan shall be subject to approval by the Employer / Purchaser / Client.

4. I hereby confirm that adequate provision has been made in my tendered rates to cover the cost of all resources, actions, training and all health and safety measures envisaged in the Act, and that I will be liable for any penalties that may be applied by the Employer / Purchaser / Client for failure to comply with the provisions of the Act.

5. I agree that my failure to complete and execute this declaration to the satisfaction of the Employer / Purchaser / Client will mean that I am unable to comply with the requirements of the Act and accept that my tender will be prejudiced and may be rejected at the discretion of the Employer / Purchaser / Client.

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

5(a) MBD 4: DECLARATION OF INTEREST

NOTES
MSCM Regulations: "**in the service of the state**" means to be:
(a) a member of:
  (i) any municipal council.
  (ii) any provincial legislature.
  (iii) the national Assembly or the national Council of provinces.
(b) a member of the board of directors of any municipal enterprise.
(c) an official of any municipality or municipal enterprise.
(d) an employee of any national or provincial department, national or provincial public enterprise or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999).
(e) a member of the accounting authority of any national or provincial public enterprise.
(f) an employee of Parliament or a provincial legislature.

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

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

2 Any person, having a kinship with persons **in the service of the state**, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to **persons in service of the state**, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.

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

3.1 Name of enterprise	
Name of enterprise's representative	
3.2 ID Number of enterprise's representative	
3.3 Position enterprise's representative occupies in the enterprise	
3.4 Company Registration number	
3.5 Tax Reference number	
3.6 VAT registration number	

3.7 The names of all directors / trustees / shareholders / members / sole proprietors / partners in partnerships, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below. In the case of a joint venture, information in respect of each partnering enterprise must be completed and submitted.

	Circle Applicable	
3.8 Are you presently in the service of the state?	YES	NO

If yes, furnish particulars:
……

……

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

If yes, furnish particulars:
……

……

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

If yes, furnish particulars:

……

……

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

If yes, furnish particulars:

……

……

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

If yes, furnish particulars:

……

……

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

If yes, furnish particulars:

……

……

3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract ?	YES	NO

If yes, furnish particulars:

……

……

4 The names of all directors / trustees / shareholders / members / sole proprietors / partners in partnerships, their individual identity numbers and state employee numbers must be indicated below. In the case of a joint venture, information in respect of each partnering enterprise must be completed and submitted

Full Name	Identity No.	State Employee No.	Personal income tax No.
Use additional pages if necessary			

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): ..... **Date**

SIGNATURE: ....

5(b) MBD 5: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION
(ALL APPLICABLE TAXES INCLUDED)

For all procurement expected to exceed R10 million (all applicable taxes included), bidders must complete the following questionnaire.

		Circle Applicable	
1.0	Are you by law required to prepare annual financial statements for auditing?	YES	NO
1.1	**If YES, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.**		
2.0	Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days?	YES	NO
2.1	If NO, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.		
2.2	If YES, provide particulars.		
	…….		
	…….		
3.0	Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract?	YES	NO
3.1	If YES, provide particulars.		
	…….		
	…….		
4.0	Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic?	YES	NO
4.1	If YES, provide particulars.		
	…….		
	…….		

If required by 1.1 above, tenderers are to include, at the back of their tender submission document, a printout of their audited annual financial statements.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, ***and, if required, that the requested documentation has been included in the tender submission****.*

NAME (Block Capitals): ..... **Date** .....

SIGNATURE: .....

5(c) MBD 6.1: PREFERENCE POINTS CLAIM
In terms of THE PREFERENTIAL PROCUREMENT REGULATIONS (2022)

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

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

1.0 GENERAL CONDITIONS

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

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

1.2 The applicable preference point system for this tender is the **80/20 preference point system**.

1.3 Preference Points for this tender shall be awarded for:

- **Price** and **Specific Goals**: Either 80 or 90 (price) and 20 or 10 (specific goals), in terms of 1.2 above.
- The total Preference Points, for Price and Specific Goals, is 100.

1.4 Failure on the part of the tenderer to submit the required proof or documentation, in terms of the requirements in the (Special) Conditions of Tender for claiming **Specific Goal** preference points, will be interpreted that preference points for **Specific Goals** are not claimed.

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

2.0 DEFINITIONS

2.1 "**tender**" means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation.

2.2 "**price**" means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts.

2.3 "**rand value**" means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes.

2.4 "**tender for income-generating contracts**" means a written offer in the form determined by Municipality in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the Municipality and a third party that produces revenue for the Municipality, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions.

2.5 "**the Act**" means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3.0 FORMULA FOR CALCULATION OF PREFERENCE PRICE POINTS

3.1 PROCUREMENT OF GOODS AND SERVICES

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

80 / 20 Points System **OR** **90 / 10 Points System**

$$Ps = 80\left(1 - \frac{Pt - Pmin}{Pmin}\right) \qquad Ps = 90\left(1 - \frac{Pt - Pmin}{Pmin}\right)$$

Where:
Ps = Points scored for price of tender under consideration
Pt = Price of tender under consideration
Pmin = Price of lowest acceptable tender

3.2 DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

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

80 / 20 Points System **OR** **90 / 10 Points System**

$$Ps = 80\left(1 + \frac{Pt - Pmax}{Pmax}\right) \qquad Ps = 90\left(1 + \frac{Pt - Pmax}{Pmax}\right)$$

Where:
Ps = Points scored for price of tender under consideration
Pt = Price of tender under consideration
Pmax = Price of highest acceptable tender

4.0 POINTS AWARDED FOR SPECIFIC GOALS

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

4.2 In cases where the municipality intends to use Regulation 3(2) of the Regulations, which states that if it is unclear whether the 80/20 or 90/10 preference point system applies, the municipality must, in the tender documents, stipulate in the case of:

(a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system, or
(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

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

TABLE 1: Specific Goals for the tender and maximum points for each goal are indicated per the table below.

Tenderers are to indicate their points claim for each of the Specific Goals in the shaded blocks.

The Specific Goals to be allocated points in terms of this tender	Number of points ALLOCATED (80/20 system)	Number of points ALLOCATED (90/10 system)	Number of points CLAIMED (80/20 system)
Ownership Goal: Race (Black)	6	N/A	
RDP Goal: The promotion of South African owned enterprises.	14	N/A	
Total point claimed	**20**		
Should the municipality apply a combination of Specific Goals, the **points for the individual goals** will be weighted according to the **Goal Weightings** specified in the Tender Data to arrive at the final points for **Preferential Points for Specific Goals**.			

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, certify that the points claimed, based on the specific goals as specified in the tender, qualifies the tendering entity for the preference(s) shown.

I acknowledge that:

1) The information furnished is true and correct.

2) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.klkj

3) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct.

4) If the specific goals have been claimed or obtained on a fraudulent basis, or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have:

   (a) disqualify the person from the tendering process.
   (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct.
   (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation.
   (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
   (e) forward the matter for criminal prosecution, if deemed necessary.

NAME (Block Capitals): ---------- **Date**

SIGNATURE: _____ ----------

5(d) MBD 8: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1.0 This Municipal Bidding Document must form part of all bids invited.

2.0 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

3.0 The bid of any bidder may be rejected if that bidder, or any of its directors have:

a) abused the municipal entity's supply chain management system or committed any improper conduct in relation to such system.
b) been convicted for fraud or corruption during the past five years.
c) wilfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years.
d) been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).

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

	Circle Applicable	
4.1 Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer / Authority of the institution that imposed the restriction after the audi alteram partem rule was applied.) The Database of Restricted Suppliers now resides on the National Treasury's website (www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.	YES	NO

4.1.1 If YES, provide particulars.

……

……

4.2 Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.	YES	NO

4.2.1 If YES, provide particulars.

……

……

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

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

I accept that, in addition to cancellation of a contract, action may be taken against me should this declaration prove to be false.

NAME (Block Capitals): **Date**

SIGNATURE:

5(e) MBD 9: CERTIFICATE OF INDEPENDENT BID DETERMINATION

NOTES

[1] Includes price quotations, advertised competitive bids, limited bids and proposals.

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

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

1.0 This Municipal Bidding Document (MBD) must form part of all **bids**[1] invited.

2.0 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or **bid rigging**).[2] Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.

3.0 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:

a. take all reasonable steps to prevent such abuse;
b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.

4.0 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of **bid rigging**.

5.0 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid.

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Municipality / Municipal Entity)

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

I certify, on behalf of:

(Name of Bidder)

that:

1. I have read and I understand the contents of this Certificate.

2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect.

3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;

4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;

5. For the purposes of this Certificate and the accompanying bid, I understand that the word “competitor” shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
   (a) has been requested to submit a bid in response to this bid invitation.
   (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience.
   (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder.

6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement, or arrangement with any competitor. However, communication between partners in a joint venture or consortium[3] will not be construed as collusive bidding.

7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
   (a) prices.
   (b) geographical area where product or service will be rendered (market allocation).
   (c) methods, factors or formulas used to calculate prices.
   (d) the intention or decision to submit or not to submit, a bid.
   (e) the submission of a bid which does not meet the specifications and conditions of the bid.
   (f) bidding with the intention not to win the bid.

8. In addition, there have been no consultations, communications, agreements, or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.

9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

SECTION 5: CONDITIONS OF CONTRACT

GOVERNMENT PROCUREMENT: CONDITIONS OF CONTRACT (July 2010)

The ***Conditions of Contract*** are the ***General Conditions of Contract*** as published by the National Treasury titled "Government Procurement: General Conditions of Contract (July 2010), as amended by National Treasury Circular 52 dated 30 July 2010, hereinafter referred to as ***GCC***.

THE NATIONAL TREASURY

Republic of South Africa

GOVERNMENT PROCUREMENT:

GENERAL CONDITIONS OF CONTRACT

July 2010

TABLE OF CLAUSES

1. Definitions

The following terms shall be interpreted as indicated:

1.1 "Closing time" means the date and hour specified in the bidding documents for the receipt of bids.

1.2 "Contract" means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

1.3 "Contract price" means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.

1.4 "Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

1.5 "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.

1.6 "Country of origin" means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.

1.7 "Day" means calendar day.

1.8 "Delivery" means delivery in compliance of the conditions of the contract or order.

1.9 "Delivery ex stock" means immediate delivery directly from stock actually on hand.

1.10 "Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the goods are so delivered and a valid receipt is obtained.

1.11 "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.

1.12 "Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

1.13 "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.

1.14 "GCC" means the General Conditions of Contract.

1.15 "Goods" means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.

1.16 "Imported content" means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the goods covered by the bid will be manufactured.

1.17 "Local content" means that portion of the bidding price, which is not included in the imported content provided that local manufacture does take place.

1.18 "Manufacture" means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.

1.19 "Order" means an official written order issued for the supply of goods or works or the rendering of a service.

1.20 "Project site," where applicable, means the place indicated in bidding documents.

1.21 "Purchaser" means the organization purchasing the goods.

1.22 "Republic" means the Republic of South Africa.

1.23 "SCC" means the Special Conditions of Contract.

1.24 "Services" means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the supplier covered under the contract.

1.25 "Supplier" means the successful bidder who is awarded the contract to maintain and administer the required and specified service(s) to the State.

1.26 "Tort" means in breach of contract.

1.27 "Turnkey" means a procurement process where one service provider assumes total responsibility for all aspects of the project and delivers the full end product / service required by the contract.

1.28 "Written" or "in writing" means hand-written in ink or any form of electronic or mechanical writing.

2. Application

2.1 These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services (excluding professional services related to the building and construction industry), sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.

2.2 Where applicable, special conditions of contract are also laid down to cover specific goods, services or works.

2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

3. General

3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.

3.2 Invitations to bid are usually published in locally distributed news media and on the municipality/municipal entity website.

4. Standards

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

5. Use of contract documents and information inspection

5.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

5.2 The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.

5.3 Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.

5.4 The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

6. Patent Rights

6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.

6.2 When a supplier developed documentation / projects for the municipality / municipal entity, the intellectual, copy and patent rights or ownership of such documents or projects will vest in the municipality / municipal entity.

7. Performance security

7.1 Within thirty (30) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.

7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.

7.3 The performance security shall be denominated in the currency of the contract or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:

(a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or

(b) a cashier's or certified cheque.

7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified.

8. Inspections, tests and analyses

8.1 All pre-bidding testing will be for the account of the bidder.

8.2 If it is a bid condition that goods to be produced or services to be rendered should at any stage be subject to inspections, tests and analyses, the bidder or contractor's premises shall be open, at all reasonable hours, for inspection by a representative of the purchaser or organization acting on behalf of the purchaser.

8.3 If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.

8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the goods to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.

8.5 Where the goods or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such goods or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.

8.6 Goods and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.

8.7 Any contract goods may on or after delivery be inspected, tested or analysed and may be rejected if found not to comply with the requirements of the contract. Such rejected goods shall be held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with goods, which do comply with the requirements of the contract. Failing such removal the rejected goods shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute goods forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected goods, purchase such goods as may be necessary at the expense of the supplier.

8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 22 of GCC.

9. Packing

9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

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

10. Delivery and documents

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

11. Insurance

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

12. Transportation

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

13. Incidental Services

13.1 The supplier may be required to provide any or all of the following services, including additional services, if any:

(a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;

(b) furnishing of tools required for assembly and/or maintenance of the supplied goods;

(c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;

(d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and

(e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

14. Spare parts

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

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

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

(I) advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and

(ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

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

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

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

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

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

16. Payment

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

16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfilment of other obligations stipulated in the contract.

16.3 Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.

16.4 Payment will be made in Rand unless otherwise stipulated.

17. Prices

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

18. Variation orders

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

19. Assignment

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

20. Subcontracts

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

21. Delays in the supplier's performance

21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.

21.2 If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.

21.3 The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the goods are required, or the supplier's services are not readily available.

21.4 Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of penalties.

21.5 Upon any delay beyond the delivery period in the case of a goods contract, the purchaser shall, without cancelling the contract, be entitled to purchase goods of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

22. Penalties

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

23. Termination for default

23.1 The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:

(a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;

(b) if the supplier fails to perform any other obligation(s) under the contract; or

(c) if the supplier, in the judgement of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

23.2 In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner, as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.

23.3 Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.

23.4 If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the supplier as having no objection and proceed with the restriction.

23.5 Any restriction imposed on any person by the purchaser will, at the discretion of the purchaser, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the purchaser actively associated.

23.6 If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information:

(i) the name and address of the supplier and / or person restricted by the purchaser;

(ii) the date of commencement of the restriction

(iii) the period of restriction; and

(iv) the reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

23.7 If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website.

24. Antidumping and countervailing duties and rights

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

25. Force Majeure

25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.

25.2 If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

26. Termination for insolvency

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

27. Settlement of Disputes

27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.

27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.

27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.

27.4 Notwithstanding any reference to mediation and/or court proceedings herein,

(a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and

(b) the purchaser shall pay the supplier any monies due the supplier for goods delivered and / or services rendered according to the prescripts of the contract.

28. Limitation of Liability

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

(a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and

(b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

29. Governing language

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

30. Applicable law

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

31. Notices

31.1 Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice.

31.2 The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.

32. Taxes and duties

32.1 A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.

32.2 A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.

32.3 No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid SARS must have certified that the tax matters of the preferred bidder are in order.

32.4 No contract shall be concluded with any bidder whose municipal rates and taxes and municipal services charges are in arrears.

33. Transfer of Contracts

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

34. Amendment of contracts

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

35. Prohibition of restrictive practices

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

35.2 If a bidder(s) or contractor(s) based on reasonable grounds or evidence obtained by the purchaser has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in section 59 of the Competition Act No 89 0f 1998.

35.3 If a bidder(s) or contractor(s) has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.

SECTION 6: SPECIAL / ADDITIONAL CONDITIONS OF CONTRACT

The ***Conditions of Contract*** make reference to the ***Special Conditions of Contract (SSC)*** for details that apply specifically to this bid. The ***Special Conditions of Contract*** shall have precedence in the interpretation of any ambiguity or inconsistency between it and the ***Conditions of Contract***.

Each item below is cross-referenced to the clause in the ***Conditions of Contract*** to which it mainly applies.

SCC 1.2 **CONTRACT**

This contract is a 36 month contract.

SCC 7.1 **PERFORMANCE SECURITY**

The liability of the Performance Security shall be Nil.

SCC 10.1 **DELIVERY AND DOCUMENTS**

The complete unit will have to be delivered to eThekwini Municipality Premises and have to be accompanied by an invoice. Delivery will only take place after the prototype and relevant documentation have been received and assessed by eThekwini Municipality's officials responsible.

10.1.1 The following documentation (soft and hard copies) shall accompany the vehicle:

a) Detailed maintenance manual
a) Operating manual
b) Training manual
c) Spares manual

10.1.2 The following documentation shall accompany the tender response:

a) An assembly drawing indicating the general arrangement of the trailer and/or;
b) A product catalogue showing the trailer specifications.

SCC 11.1 **INSURANCE**

The successful service provider is to take adequate insurance to cover the unit when it leaves the premises of the bidder until it is fully delivered and commissioned at eThekwini Municipality Premises.

SCC 12.1 **TRANSPORTATION**

No separate costs will be paid by the Municipality for transportation of the goods, the service provider must provide a price which is inclusive of delivery costs.

SCC 14.1 **SPARE PARTS**

The service provider must have service representation in South Africa that can provide spare parts for the unit tendered on.

SCC 15.5 **WARRANTY**

All components fitted (excl. chassis and load barring structures) including the hydraulic/electrical/pneumatic system to be covered by a minimum 2-year warranty. The trailer shall have a minimum of a 5-year warranty for its application. The paintwork shall be covered by

a 10-year corrosion warranty. Warranty and servicing to be provided by dealer/manufacturer at delivery address of the vehicle.

SCC 16.1 **PAYMENT**

The Contractor shall submit to the Department concerned a detailed account which shall reflect the identifying number of each item / service. Payment will be made on this account when checked and substantiated by the authorised official.

Payment for goods received and accepted by the Municipality shall be made no later than 30 days after submission of invoice or claim, provided however that all the terms of the contract are duly complied with.

Payment will be made only to the supplier. Factoring arrangements will not be accepted.

SCC 17 **PRICES**

Prices must be fixed for the first 6-month period(s) and thereafter price adjustment will be in line Consumer Price Index. Such request for price adjustment must be supported by necessary documentation.

SCC 21.1 **DELAYS IN THE SUPPLIER'S PERFORMANCE**

The time schedule for the delivery of goods and performance of services is 26 weeks from the date of confirmation of an order

SCC 22.1 **PENALTIES**

"If the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price (as a penalty):

- A penalty of R 5000 per day for each day delivery is delayed.

ADDITIONAL CONDITIONS OF CONTRACT

ACC1 PERFORMANCE MONITORING & ASSESSMENT OF SERVICE PROVIDERS

For contract awards that are greater than R10m, the Contractor shall be subjected to "Performance Monitoring" assessments in terms of the applicable Section of the Council's current Supply Chain Management Policy.

ACC2 QUALITY OF PRODUCTS

No inferior products will be accepted under this enquiry.

Should there be any cause for complaint against the standard of service or quality of products offered which is not resolved within a period of 10 working days, the Municipality reserves the right to cancel the contract after serving one month's notice, in writing, to the supplier involved. Should such notice be given, the supplier shall nevertheless be obliged to perform the duties covered by the contract up to the date of expiration of the period of notice.

ACC3 SATISFACTORY PERFORMANCE

The supplier shall employ for the purpose of this contract only such personnel as are careful and competent and the Municipality shall be at liberty to object to and require the supplier to remove from the job forthwith any person, including supervisory staff, employed by the supplier who, in the opinion of the Municipality, misconducts himself/herself or is incompetent or negligent in the proper performance of his/her duties and such person shall not again be employed upon this contract without the permission of the Municipality.

ACC4 OCCUPATIONAL INJURIES AND DISEASES ACT

This act replaces the Workmen's Compensation Act:

The supplier **shall, before commencement of work, produce documentary proof to the Deputy Municipal Manager, Treasury: Finance that he has complied in all respects with the provisions of the Occupational Injuries and Diseases Act**. The supplier undertakes that he/she will perform and comply with all provisions of the Occupational Injuries and Diseases Act and more particularly that he/she will render all returns and pay all assessments for which he/she is liable in terms of such Act.

ACC5 DAMAGE TO PERSONS AND PROPERTY

(1) The supplier **shall** indemnify and keep indemnified the Council against any claim for death, injury, damage or loss to any person or property whatsoever in respect thereof or in relation thereto.

(2) The supplier enters into this contract as an independent contractor and shall be solely liable in respect of any claim for death, injury, damage or loss to any person or property whatsoever in respect thereof or in relation thereto.

ACC6 RATE OF EXCHANGE VARIATION

Where the goods are imported the Contractor shall within seven days of date of Official Purchase Order, arrange through his bankers for the foreign commitment to be covered forward down to the Rand in order to fix the rate of exchange. The Contractor shall notify the Municipality as soon as possible thereafter regarding the rate which has been fixed on such forward exchange. The

forward cover shall be from a reputable South African bank. The Contractor is to confirm with the employer prior to placing forward cover if the service provider is acceptable.

Any increase or decrease between the basic rate of exchange as at 12:00 on the date of close of the bid and that existing at the date of establishment of the forward exchange cover within the period stipulated above shall be paid or deducted by the Municipality. Upon the failure of the Contractor to arrange forward exchange cover, the Contractor shall be liable should there be an increase in the basic rate of exchange occurring after the last-mentioned date.

The bank charges incurred in obtaining the forward exchange cover must be included in the Tenderer's bid.

ACC7 **ESTIMATED QUANITITIES**

The quantities stated in Section 8 are applicable for evaluation purposes only. The final quantity of goods and services required shall vary, depending on the total number of actual instances a service/goods will be required over the Contract Period. The rates tendered shall be applicable, irrespective of the total quantity of goods and services procured over the contract duration.

ACC8 **SERVICE PROVIDER OFFICE REQUIREMENTS**

The service provider must have, for the duration of the contract, a local presence (within the geographical eThekwini boundary).

ACC 9 **HOMOLIGATION AND REGISTRATION OF THE TRAILER**

The trailer shall be completely homologated, registered and licensed. Registration and licensing, fitment of license plates and disks with holders according to SANS 1116 and SANS 973 shall be carried out by the bidder at their expense. All relevant documentation shall accompany the delivered trailer. This will be applicable on all items of bid where necessary and compulsory. Registration numbers shall be provided by eThekwini Municipality.

SECTION 7: SCOPE AND SPECIFICATION OF REQUIRED SUPPLY / SERVICES

The trailers with the customisation shall be supplied complete and fully assembled in all respects, including standard equipment supplied by the manufacturer and shall comply with the South African Occupational Health and Safety Act, Act 85 of 1993/as amended and the applicable current Road Traffic Legislation. All work on the vehicle including the customisation is to be constructed by an SABS/SANS approved trailer/body/coach/vehicle manufacturer/ builder. The total operating mass of the trailer and its customisation should not exceed the units legal V rating. The layout should also ensure that the laden individual axle loads do not exceed the legal limits.

The trailer and its customisation must be operationally friendly, easy to operate and maintain. All replaceable items including (but not limited to) critical components shall be designed for easy access, removal and replacement. There shall be a prescreening design phase of the concept of the vehicle provided by the bidder before getting approval from eThekwini City Fleet to go ahead with the prototype. Prototype will be used in field conditions before being accepted or revised. Thereafter consent will be provided for production (if multiple units required).

The trailer and its customisation shall be to I.S.O. Metric Standards, and instrumentation gauges, dials, etc. shall be in Systeme International (S.I.) units. Prospective tenderers must ensure that they read the specific Contractual Conditions applicable to this contract which appear in the section immediately preceding Section 7.

Each trailer must be supplied with detailed maintenance, operating, training and spares manuals (in English), including technical data for each spare, as well as general arrangement drawings and a bill of materials.

There must be sufficient information to allow the capture of maintenance schedules in terms of inspections, servicing and replacement of parts.

Three hardcopies and three electronic copies of the operating, maintenance, training and spare parts manuals shall be provided, as well as a training manual for each trainee.

All tanks shall be expected to be nondestructive tested, 10x x-ray, water-fill and pressure tested. All exposed electrical wiring looms of the trailer and equipment shall be full encased in a flexible protective metallic conduit and securely clamped with fasteners to the chassis or the structure.

All trailers >3 500 kg shall be configured when uncoupled from the prime mover the trailer braking system for each axle/wheel shall be locked/applied on as default. Only when the trailer is recoupled mechanically/pneumatically the brakes may release for trailer movement.

Trailers that call for a self powered system with a power source must have a lockable battery unit to be fitted on the chassis of the trailer. A solar panel should provide charge to the battery when decoupled from the towing vehicle. When coupled and in motion there should be an electric supply that can charge the battery via the towing vehicle or a generator on the trailer's axles. Where self powered systems cannot be supplied the bidder shall make the requirements known for the towing vehicle and bid with that system.

Maintenance free bushings and bearings are preferred for trailers >3 500 kg which have mechanical systems. If the bushes and/or bearings are of the maintenance type, then an automatic trailer greasing system shall be programmed and supplied for the said trailer.

All trailers that shall be used to carry other vehicles and equipment must have suitable ramps and ramp extensions with suitable materials (steel, wood, rubber etc.) for the loading of eThekwini Municipality's various vehicles and equipment for that trailer. Bidder therefore must be able to understand the requirements and the material such that the vehicles/equipment can be safely loaded with ease.

The bidder is asked to practice diligence in understanding the requirements of the tender and the specifications as the trailers requested shall be supplied fully operational for the application, homologated and licensed in all aspects.

List of items for supply:

Item 1: Trailer for transporting horses
Item 2: Trailer with ablution facility and load area
Item 3: Workshop trailer
Item 4: Woodchipper trailer
Item 5: Sludge tank trailer
Item 6: Generator trailer
Item 7: Mobile lighting tower trailer
Item 8: Trailer with ablution facilities
Item 9: Emulsion sealant tank trailer
Item 10: Rapid deployment razor wire trailer
Item 11: Core drilling trailer
Item 13: Multipurpose box trailer
Item 14: Water tanker interlink trailer
Item 15: Multi-purpose recreational vehicle trailer
Item 16: Multi-purpose sea craft trailer
Item 17: Drawbar water tanker trailer
Item 18: Slurry pumping station trailer with a Tractor and beach cleaning implement
Item 19: Police Road block trailer
Item 20: Compressor trailer
Item 21: Refuse Compactor semi-trailer
Item 22: Container trailer (20 ft and 40 ft)
Item 23: Firefighting trailer
Item 24: Trailer for transporting heavy duty vibratory roller
Item 25: Trailer with a vacuum pump
Item 26: Trailer Mounted Jetting Unit
Item 27: Side tipping trailer
Item 28: Lowbed semi-trailer (step-deck with winch)
Item 29: Multi-purpose trailer
Item 30: Trailer to transport equipment
Item 31: Fuel bowser trailer
Item 32: Multi-purpose caged sides trailer
Item 33: Lowbed semi-trailer (detachable gooseneck)
Item 34: Trailer Dolly

Item 1: Technical specification for a Trailer to transport horses

1.Scope

The intent of this specification is to provide for a fully operational enclosed trailer that can be used to transport two horses for the eThekwini Municipality metro police department.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer shall be the design and size of a three berth to accommodate the two work horses as the animals are large in size approximately 800 kg each.

The horse trailer and the customization shall be designed according to these critical specifications (latest revisions shall be used and summary of evidence shall be provided):

1.1 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 Overrun anti lock brakes is mandatory. Option of a pneumatic/secondary brake shall be offered.

2.4 The end of Chapter 7 covers other specifications/standards that will be adhered to.

3. Material specification

The load bearing items of the trailer shall be constructed out of non-corrosive metallic steel suitable for the application. The panels and interior fittings can be constructed from polyester or other composite materials.

4. Construction requirements

4.1Trailer features

1.1.1 Quick release breast and breach bars fully adjustable in the enclosure with safe fastening method. Panic lock shall be integrated.

4.1.2 Adjustable centre partition with head partition.

4.1.3 Interior walls, partitioning and bars shall be cushioned for safety and comfort where the horse can be in contact with it.

4.1.4 Drop down bucket holders mounted to accommodate 20-25 litre buckets (included).

4.1.5 Structurally mounted interior and exterior tie rings.

4.1.6 The floor shall be metallic with an anti-slip rubber lining on the inner-interior surface. Mounted in a manner for easy maintenance.

4.1.7 The roof shall be aerodynamically shaped with adequate insulation/ventilation to keep the internal temperature comfortable for the animals.

4.1.8 Large entry rear door with three point locking mechanism.

4.1.9 Rear ramp lined with anti-slip rubber for loading and offloading. Gas filled struts for user friendly operation.

4.1.10 The rear door can be a drop down which will serve a dual function as the ramp, or it can be a two-piece door which opens/closes from the centre and has a pull out ramp in the sub-chassis of the trailer under the floor.

4.1.11 Should the door be a two piece type it shall have internal padding where the horse can come in to contact with it.

4.1.12 The door shall be hydraulically assisted to self-close and self-open.

4.1.13 Extra to the hydraulic assist in 4.1.12 there shall be mechanical holders provided to secure the doors.
4.1.14 Windows with external mounted protective grids on both sides of the trailer. Gas struts to assist depending on opening orientation if not sliding type.
4.1.15 Draught and water free interior ventilation system to also be installed adequate for the animals.
4.1.16 Large opening front door on one side of the trailer with a floor ramp such that the horse can exit easily. Ramp shall be lined with anti-slip rubber.
4.1.17 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
4.1.18 Trailer tyres shall be adopted for highway speeds.
4.1.19 Suspension to accommodate terrain that this vehicle is normally used in.
4.1.20 The wheel arches shall have mud flaps.
4.1.21 Front and rear retractable or rotatable mechanical stabilising legs.

4.2 Saddle Box and storage box/compartment

4.2.1 Lockable saddle compartment including saddle holder, snaffle holder and securing net for accessories.
4.2.2 Lockable storage box/compartment for tools such as a spade, clippers etc.

4.3 Water tank

A 100 litre drinking water tank/caddy shall be accommodated in the trailer with a tap that can accept a hose pipe.
Pair of raised height troughs to be included with holders mounted in the trailer.

Access to the components and areas should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps should be installed to provide access to the areas of the trailer that require it. Provision should be made to remove the water tank if needed. All ramps must be completely lined including the edges, there shall be no exposed metallic surfaces which can injure the animal.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material.

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:
5.1 Descale all metal surfaces
5.2 Grind down & smooth all rough edges
5.3 Thoroughly clean all surfaces
5.4 Prime using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.
5.5 Thereafter paint using two coats of premium quality twin pack automotive paint
5.6 Paint film thickness must not be less than 80 microns each. Two primer coats and one-color coat.

6. Colors

Underside of Body	Black
Trailer	Metro Police blue and white with branding

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless-steel flange with hoods and guards.
7.2 Dual indicator stop and taillight units to be fitted.
7.3 Interior lights (minimum of three) with switches easily accessible at one of the trailer entrances.
7.4 Interior lights shall have the option to be self-powered. Auxiliary battery and solar panel shall be installed to power them should the prime mover vehicle be decoupled.
7.5 Reversing warning light to be installed when reverse gear is engaged.
7.6 Electrical connector complying to;
7.7 SANS 1327: Electrical connectors for towing and towed vehicles and,
SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation
7.8 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers
7.9 Four x 4 Head, 3 watt, Mini Blue Cree Linear LED Module to be mounted, rear facing, on the trailer tailgate. Shall have random flash pattern which shall be connected to the towing vehicle cab.

7.10 CCTV System;

Camera type	Automatic sensing day and night vision wide angle with minimum 500 TVL resolution
Quantity	Minimum of four cameras for a clear view of the trailer sides, front and rear
Operating Voltage:	12V
Mounting	To be mounted in a manner that will improve and enhance the driver's visibility Inside and at the rear of the Horse Box Trailer and whilst slowly moving the vehicle in forward or reverse direction. To be mounted on a bracket with a clear protective cover encasing the camera.
Functionality	All cameras shall be clearly visible at any given time via a split screen system. Should any camera need to be viewed completely on the screen it shall be easily identified and selected to be a full screen stream. System to automatically switch to the full screen stream of the rear camera when reverse gear is engaged.
Monitor	Minimum 10" in size with a resolution of 1000 x 600. To be fitted to the vehicle in consultation with a City Fleet representative.
Water proofing	To withstand operating conditions including rain and vehicle pressure washing. Scratch resistant lenses.
Installation	To be completely installed. All wiring to be protected with a non-corrosive metallic conduit and trunked neatly through the vehicle. Where brackets maybe required for mounting purposes, supplier shall have to supply and install these.
Linking of system from Trailer to Vehicle	Cameras fitted on the Horse Trailer to be coupled to the drawing vehicle via a male female adaptor/plug-in coupling system that is easy to connect whilst able to with stand operational and weather conditions. *NB* linking of the trailer to the drawing vehicle and Trailer Movement, when attached to the vehicle, must be considered during this installation.

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board to be fitted underneath the ramp (visible when raised) or on the rear of the split rear doors. Plastic mudguards to the rear wheels. Both items conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

8.6 Animal transporting signage to be placed at the sides and rear of the trailers indicating; animals being transported, drive cautiously and do not hoot.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted in a suitable place on the trailer.
9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.
9.3 Additional stabiliser legs at the front and rear shall be installed.

Item 2: Technical specification for a trailer with ablution facility and load area

1.Scope

The intent of this specification is to provide for a fully operational trailer that can be used to transport equipment such as ride on lawn mowers, quad bikes, motor bikes and similar equipment for the eThekwini Municipality parks and recreation department. The trailer is also expected to have a drive on/off rear ramp, storage/tool box and an ablution facility.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer shall be the design and size to accommodate the various equipment as mentioned in the scope. Should the need be it shall be expected to carry two pieces of equipment loaded laterally next to one another.

The trailer and the customization shall be designed according to these critical specifications (latest revisions shall be used and summary of evidence shall be provided):

2.1Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 The end of Chapter 7 covers other specifications/standards that will be adhered to.

3. Material specification

The load bearing items of the trailer shall be constructed out of non-corrosive metallic steel suitable for the application. The ablution facility, panels and interior fittings can be constructed from polymers or other composite materials.

4. Construction requirements

4.1Trailer features

4.1.1 Quick release ride on/off ramp which shall also serve as a rear headboard. It shall be 1800-2000 mm high and have a gradual angle to safely load and offload equipment with no obstructions. The ramp shall have solid front and rear ends with the centre being composed of 3CR12 mesh.

4.1.2 Ramp shall have chains to lower and adjust the height if necessary. Quick release tailgate locks shall be employed at both ends. Chains must also serve as a safety catch when ramp is in headboard position.

4.1.3 The floor of the trailer shall be solid plate and lined with a non-slip material.

4.1.4 Side panels of the trailer shall be equally divided longitudinally lined with 3CR12 mesh. Sides shall be approx. 450 mm high.

4.1.5 The pair of side panels closest to the trailer hitch shall be drop sides.

4.1.6 The front of the trailer shall have a full size toolbox the entire lateral length, 450 mm deep and 450 mm. The lid shall be outside hinged and have two lockable points on the front.

4.1.7 The floor of the toolbox shall be lined with an anti-slip rubber on the inner surface. Mounted in a manner for easy maintenance.

4.1.8 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.

4.1.9 Trailer tyres shall be adopted for highway speeds.

4.1.10 Suspension to accommodate terrain that this vehicle is normally used in.
4.1.11 The wheel arches shall have mud flaps.
4.1.12 Overrun anti lock brakes is mandatory.

4.2 Ablution facility

4.2.1 Shall be mounted at the front end of the trailer behind the toolbox in 4.1.6. The drop sides in 4.1.5 shall allow access to the facility. Floor of trailer shall be customized accordingly to securely hold the facility whilst in transit.
4.2.2 Full size entrance door lockable from the inside.
4.2.3 Rear shall have removable septic tank for easy maintenance. Water tank shall be easily accessible to refill.
4.2.4 Interior shall be equipped with a fully functioning toilet with lid, a basin with tap, toilet roll holder, soap dispenser and paper towel dispenser. The water dispensing mechanism shall be robust and easily maintainable.
4.2.5 The ablution facility shall be portable and demountable such that it can be replaced and maintained if required.

Access to the components and areas should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps should be installed to provide access to the areas of the trailer that require it. Provision should be made to remove the septic and water tank.
All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material.

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:
5.1 Descale all metal surfaces
5.2 Grind down & smooth all rough edges
5.3 Thoroughly clean all surfaces
5.4 Prime using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.
5.5 Thereafter paint using a premium quality twin pack automotive paint.
5.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one color coat.

6. Colors

Underside of Body	Black
Trailer	Verdigris green

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.
7.2 Dual indicator, stop and taillight units to be fitted.

7.3 Reversing warning light to be installed when reverse gear is engaged.
7.4 Electrical connector complying to;
7.5 SANS 1327: Electrical connectors for towing and towed vehicles and,
SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation
7.6 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board underneath the ramp (visible when raised) and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted in a suitable place on the trailer.
9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.
9.3 Additional stabiliser legs at the front and rear shall be installed.

Item 3: Technical specification for a workshop trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer that can be used to transport tools and material for onsite work such as pipes, flanges, spades, hand tools, road cones and similar equipment for the eThekwini Municipality water and sanitation department. The trailer shall be designed as a mobile workshop trailer which will compromise of a fully enclosed body.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer shall be the design and size to accommodate the various equipment as mentioned in the scope.

The trailer and the customization shall be designed according to these critical specifications (latest revisions shall be used and summary of evidence shall be provided):

2.1Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 The end of Chapter 7 covers other specifications/standards that will be adhered to.

2.4 Overrun anti lock brakes is mandatory.

3. Material specification

The load bearing items of the trailer shall be constructed out of non-corrosive metallic steel suitable for the application.

4. Construction requirements

4.1Trailer features

4.1.1 The trailer shall be 1 500- 1 800 mm high from ground level, 1 200-1 500 mm longitudinal length and 750-900 mm in lateral width.

4.1.2 The trailer shall be divided into two tiers.

4.1.3 The top tier shall be 450-600 mm in height. It shall have have a gradient shaped roof allowing water to roll off to side sills on either lateral side.

4.1.4 The passenger side shall have an outside hinged full length door with a minimum of three lockable quick release handles. The door shall have chains and hooks at each end to hold the door in various positions or to completely release it open.

4.1.5 The top tier panels shall be light weight for a single user. It can be perforated with apertures to assist reducing mass if necessary.

4.1.6 The bottom tier shall be completely enclosed and shall be used to store various equipment and tooling.

4.1.7 Above the passenger side wheel shall be an outside hinged lockable door with two heavy duty pull out shelves to hold hand tools. Shelves shall be 400-500 mm deep and mounted on glide rollers with stays to lock it in position when closed. The shelving must be designed to not allow release of the tools when the trailer is in transit.

4.1.8 Two outside hinged lockable doors at either end of the passenger side shall also be installed to load and off-load larger tools and equipment.

4.1.9 On the driver's side there shall be a door as in 4.1.7 located behind the shelves. There shall be a pair of steel support structures on each side to hold equipment in position.
4.1.10 The floor of the bottom tier shall be lined with an anti-slip rubber on the inner surface. Mounted in a manner for easy maintenance.
4.1.11 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
4.1.12 Trailer tyres shall be adopted for highway speeds.
4.1.13 Suspension to accommodate terrain that this trailer is normally used in.
4.1.14 The wheel arches shall have mud flaps.

Access to the components and areas should be through suitable spaces. The layout should be designed to enhance maintenance of the unit.
All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material.

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

5.1 Descale all metal surfaces
5.2 Grind down & smooth all rough edges
5.3 Thoroughly clean all surfaces

5.4 Prime using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.
5.5 Thereafter paint using a premium quality twin pack automotive paint
5.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one colour coat is required.

6. Colors

Underside of Body	Black
Trailer	White with water and sanitation branding (vinyl decal)

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 Two pairs of taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.
7.2 Dual indicator, stop and taillight units to be fitted.
7.3 There shall be a pair of LED scene lights integrated to the roof to illuminate the surrounding work area.
7.4 Reversing warning light to be installed when reverse gear is engaged.
7.5 Electrical connector complying to;
7.6 SANS 1327: Electrical connectors for towing and towed vehicles and,
SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation
7.7 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers

7.8 3 or 4 watt LED amber modules with random flashing pattern shall be installed on the sides and the rear of the trailer. Two on each side and two at the rear of each trailer.

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted in a suitable place on the trailer.
9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.
9.3 Additional stabiliser legs at the front and rear shall be installed.

Item 4: Technical specification for a Trailer Mounted Woodchipper unit

1.Scope

The intent of this specification is to provide for a fully operational trailer that can be used for the parks and recreation department to convert tree branches and small trunks to chippings. Trailer will be used on roads and uneven terrain. The woodchipper system must be powered by an auxiliary engine.

The engine, pump and fuel tank should be enclosed by means of purpose built bodywork/removable panels.

2.Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.
The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).
2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.
2.3 Overrun anti lock brakes is mandatory.
2.4 At the end Section 7 other specifications/standards are covered that will be adhered to.

3. Material specification

The load bearing items of the trailer shall be constructed out of non-corrosive metallic steel suitable for the application.

4. Construction requirements

1.2 Chipper

4.1.1 Chipper should have a minimum capacity of a 250/375 mm roller feeding system and a large enough opening for a typical application. Bidder shall have the option of bidding on both variants in Section 8.
4.1.2 Dual hydraulic rollers to feed the chipper with emergency shut off in case of jamming or seizing.
4.1.3 The chipper should be designed to not allow any discharge of wood onto the user whilst feeding the machine.
4.1.4 The discharge chute must be completely adjustable and be able to have an attachment to feed either the rear load bin of a vehicle or a skip/container.
4.1.5 Safety hoods shall be supplied for the inlets and outlets to protect the machine from externalities when not in use.
4.1.6 Hydraulic lifting system is preferred.
4.1.7 Easily replaceable cutting bits/teeth. A high tensile/diamond tip is preferred if offered.
4.1.8 All functions must be clearly marked.

4.2 Tool Box

A lockable storage box incorporating two hinged lids shall be fitted and supplied for general maintenance tools.

for locking purposes.

4.3 Control Panel

All controls for the operation of the machine shall be fitted to an illuminated, lockable, water resistant control panel on the left side of the unit.

Access to the components should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps should be installed to provide

access to the areas of the trailer. Provision should be made to remove the chipper engine, control panel and hydraulic system if needed.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Auxiliary Engine for driving the pump

5.1 The pump should be driven by an air cooled, diesel engine with a power output approximately 45 kW. The engine shall be an industry proven “popular” model with easily available service and spare parts support in the country and region by the bidder and other

5.2 The engines exhaust should be directed down and out to the side of the trailer.

5.3 Engine is to be fitted with efficient air, fuel and lubricating oil filters. A dry type air cleaner, with replaceable paper elements of South African manufacture, is required.

5.4 The engine should be direct coupled to the pump by a suitable flexible coupling.

5.5 All rotating drive systems and locations on the engine that dissipate excessive heat should be guarded in accordance with the Occupational Health and Safety Act Regulations (Act 85 of 1993).

5.6 The engine must produce the required speed and power to drive the pump and produce the required flow and pressure.

5.7 A suitable in-line disc filtration system should be incorporated to protect the pump from contaminated water.

5.8 The engine shall achieve its fuelling and electric requirements from standalone supplies on the trailer.

5.9 The engine shall achieve its fuelling requirements from a standalone minimum 50 litre supply mounted on the vehicle.

5.10 An enclosure shall be built around the engine such that it is protected and encased. There shall be ventilated removable lockable panels/doors to access the engine for maintenance.

6. Lighting

A flood light should be installed in a suitable position illuminating the working area at the rear of the trailer.

Suitable lighting should be installed near the engine, control panel and for the toolbox area.

A LED flashing hazard light should be mounted above the trailer and at the rear of the trailer. The hazard light should be protected from damage.

7. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

7.1 Descale all metal surfaces
7.2 Grind down & smooth all rough edges
7.3 Thoroughly clean all surfaces
7.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.
7.5 Thereafter paint using a coat of premium quality twin pack automotive paint.
7.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one color coat.

8. Colors

Underside of trailer	Black
Trailer	Verdigris Green/Safety Yellow

9. Electrical and coupling requirements

All additional electrical circuits are to be suitably fused and must not interfere with or adversely affect the existing electrical system.

9.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

9.2 Dual indicator, stop and taillight units to be fitted.

9.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.

9.4 Solar panel shall be installed to supplement charge of the auxiliary engine battery should the prime mover vehicle be decoupled.

9.5 Uninterrupted power supply points shall be made available for the trailer tracking and fuel master monitoring system.

9.6 Electrical connector complying to;
SANS 1327: Electrical connectors for towing and towed vehicles and,

9.7 SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation

9.8 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers.

9.9 Suitable fans to be installed in the auxiliary engine compartment to provide additional cooling through the enclosure if required. Fans shall be connected to the thermostat of the engine.

10. Signage and Markings

10.1 Data plates shall be fitted for:

a) The chipper systems indicating capacity, system pressures, fluid type/grade, and other relevant data.

b) The engine and hydraulic system indicating engine make and model, capacity, serial number, oil type and grade etc.

c) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

10.2 Chevron board and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

10.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

10.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

10.5 Retro-reflective tape shall be fitted to both sides and the rear of the tank as well as the rear bumper.

11. Miscellaneous items

11.1 Full size spare wheel to be mounted in a suitable place/supplied with the trailer.

11.2 A locking fuel cap and anti-siphon device for the fuel tank.

11.3 The battery box is to be lockable (lock to be provided).

11.4 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position.

11.5 Wheel arches to have mud flaps.

11.6 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
11.7 Additional stabiliser legs at the rear shall be installed.

Item 5: Technical specification for a Sludge tanker trailer

1.Scope

This specification is for a rear tipping trailer that has a cylindrical mounted tank. The tank shall be able to carry a minimum payload of 17 500 kg. It will primarily be used to transport slurry sludge. Furthermore, the tank shall have a hydraulically opening/closing top hinged rear lid with multiple sealing points over the pcd of the rear lid to the rest of the tank. The slurry sludge volume and mass shall be accommodated in the design and supply of the completed trailer.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 SANS 1518 Transport of dangerous goods — Design, construction, testing, approval and maintenance of road vehicles and portable tanks.

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 ABS brakes is mandatory.

2.4 NRTA TRH11-dimensional, mass limitations and other requirements for abnormal load vehicles.

2.5 NRTA Regulation 225

2.6 At the end Section 7 other specifications/standards are covered that will be adhered to.

3.Material specification

The load baring items including of the trailer shall be made out of structural steel to withstand the payload. Structural steels such as Domex for the structural rolled sections and flat plate is recommended for the trailer chassis. The tank outer and inner skin shall be constructed of chromium corrosion resistant steel (3CR12 and stainless steel respectively).

Furthermore, the inner floor and the interior side panels of the tank shall have wear plates seated on top of the steel structure. For the wear plates a suitable chromium/stainless steel/composite liner shall be used with adequate strength and corrosion properties.

4. Construction requirements

4.1 Trailer, Tank and mounting

4.1.1 Shall be designed with high strength and low tare mass for the application.

4.1.2 Steel suspension.

4.1.3 Kingpins shall be bolt on for easy maintenance and comply to DIN 74080, ISO 337 and ISO 4086

4.1.4 Kingpin gauge and two locks shall be included.

4.1.5 Landing legs to be adjustable and bolt on type.

4.1.6 All electrical wiring to be neatly trunked and fastened through the chassis.

4.1.7 Chassis shall have strengthening gussets (in between flanges) at each of the suspension pedestals.

4.1.8 The tank's mounting shall be so designed to eliminate any chassis flex being transmitted to the tank. Preferably rubber block type to allow for movement when negotiating rough roads as it will be used in this terrain.

4.1.9 Hydraulically controlled stabiliser legs shall be installed to allow levelling of chassis on uneven terrain when loading/unloading.

4.2 Tank Body

4.2.1 The tank body shall be mounted at the most effective position of the rear chassis such that the mass distribution over the axles, and the center of gravity shall allow optimum operation.

4.2.2 Minimum payload of 17 500 kg and volumetric capacity of 12 500 liters shall be expected.

4.2.3 Rolled circumference sections and internal baffles shall be installed for reinforcement, structural integrity and longevity of the structure.

4.2.4 Structural members to reinforce the length of the tank when carrying the payload and tipping shall be required.

4.2.5 There shall be sight glasses mounted strategically around the tanker (one on each side and one at the rear) to indicate level of the tank. The sight glasses should indicate with markings from empty, half to full capacity.

4.2.6 The tank shall have a fully opening top hinged rear door with hydraulic opening and closing. Hinges should be self-adjustable.

4.2.7 The door shall have a minimum of 6 hydraulic operated clamps around the pcd of the rear door with mechanical locking to prevent accidental opening while driving.

4.2.8 The door shall be secured when in the open position by a mechanical safety mechanism.

4.2.9 The tank rear door shall be designed with a heavy duty replaceable EPDM seal that is corrosion resistant and offers high mechanical wear resistance. The seal shall be an off-the-shelf component and mounted in a user friendly method. A double seal shall be used if necessary one on the lid and one on the body of the tank.

4.2.10 There shall be a rear guide outside the tank for control of the offloading to avoid spillage. This guide shall be a box section or strengthened using stiffeners/gussets if flat plate.

4.2.11 A large manhole with hinged cover approximately 600 mm diameter shall be used to fill the tank on the top. It should be strategically placed to allow even distribution loading of tank contents.

4.2.12 The height of the manhole opening shall be 3 800 mm from the ground to accommodate the lowest loading chute.

4.2.13 An adjustable funnel shall be supplied to accommodate 4 500 mm loading chutes. The component shall be made of lightweight yet structurally adequate non corrosive material. There shall be an easy method to slot and remove the funnel such that its stable when loading. A suitable holder shall also be made to accommodate the funnel when the vehicle is in motion.

4.2.14 There shall be a primary opening mechanism to release built pressure before the manhole lid is safe to open using a secondary system.

4.2.15 Accessible and safe ladders with full length walkways and safety railings to be constructed for the longitude of the tank.

4.2.16 There shall be easy access to the manhole lid. Safety harness attachment points where working at-heights is required.

4.2.17 Platforms, walkways, tank roof (manhole lid) and ladder steps shall be covered with tread plate (Vastrap).

4.2.18 Nondestructive testing, water-fill and pressure test shall be performed on tank.

4.3 Tipping

4.3.2 The tipping operation shall be achieved by means of a hydraulic cylinder mounted at the front of the tank. It shall be a multi-stage hydraulic cylinder which is mounted upon a suitably reinforced full-length sub frame. Tipping angle shall be sufficient to empty the contents.

4.3.3 An electrical switch shall be mounted on the sub frame/chassis which automatically activates a buzzer and light fitted inside the cab's dashboard and on the trailer when the tank is being raised.

4.3.4 The raising of the body shall only occur when the rear door is in the full open position. A control device shall ensure this method of operation.

4.3.5 The raising action shall be done gradually or in a staged process to avoid the full laden capacity to be raised at maximum height at once.
4.3.6 The tipping controls shall incorporate the process mentioned in 4.3.3 and 4.3.4.
4.3.7 When released the control must automatically enter the “Hold” position.

4.4 Headboard

Supply of frame type headboard raised approx. 100 mm high above the chassis cab. 3 mm 3CR12 mesh shall be installed over the headboard surface area.

4.5 Tool Box

A steel storage box incorporating two front hinged lids and running 1 000 mm longitudinally shall be positioned on the chassis of each of the trailer. The depth of the boxes to be approx. 400 mm. Hasp and staple fittings to be fitted for locking purposes.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5 Hydraulic system

5.1 In respect of the hydraulic system the following shall be required:
5.2 The hydraulic valves shall be grouped together for ease of maintenance.
5.3 The hydraulic cylinders shall have maintenance free bushings/bearings.
5.4 Test points for testing hydraulic pressures shall be fitted and grouped together.
5.5 Where possible steel tubing, which shall be treated with suitable corrosion protection, in lieu of rubber hosing shall be used for hydraulic lines.
5.6 All hydraulic fittings shall be wrapped with a petrolatum impregnated tape or sprayed with a petrolatum primer to prevent corrosion.
5.7 Safety hold valve for cylinder in case of hydraulic failure.
5.8 Hydraulic controls for the operation of the loading/offloading shall be fitted in a user friendly manner for ease of operation. The outside controls shall be protected by means of an waterproof enclosure.
5.9 All control actions will be fully adjustable at variable speeds for the operation of the hydraulics. A plug in, modular type, control panel is preferred for ease of maintenance.
5.10 Safety portable pump shall be installed in case of failure or prime mover vehicle not available.
5.11 Hydroelectric power pack on the trailer and/or portable powerpack hydraulic supply system.

6. Lighting

6.1 A protected LED light should be installed in a suitable position illuminating the working area at the rear and on either side of the skip on each of the trailers.

6.2 Two pairs of 3-watt LED amber flashing hazard lights should be mounted at the rear of the trailer. The hazard light should be protected from damage.
6.3 Two pairs (four) of 3-watt LED amber flashing hazard lights to be installed on each side of the trailer for increased visibility.

6.4 Suitable lighting should be installed near control panels and toolboxes.

7. Metal Preparation and Painting Procedure

The following procedure must be adhered to:
7.1 Descale all metal surfaces
7.2 Grind down & smooth all rough edges
7.3 Thoroughly clean all surfaces (clean and shot blast)
7.4 Prime the tank exterior and trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.
7.5 Thereafter paint using premium quality twin pack automotive paint

7.6 Film thickness must not be less than 80 microns each. Two coats of primer and one coat of paint.

8. Colors

Trailer	: Black
Tank interior	: Black epoxy tar protective coating/suitable chemical resistant epoxy coating
Tank exterior	: Safety Yellow

9. Electrical

All electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover electrical system.

9.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange. Ones set at the bottom of the trailer and one set at the top of the tank.

9.2 Dual indicator, stop and taillight units to be fitted.

9.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.

10. Signage and Markings

10.1 Data plates shall be fitted for:

a) The hydraulics indicating capacity, system pressures, fluid type/grade, and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

The main tank indicating capacity and details.

c) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

d) Safe work load/capacity of the main tank on either side.

10.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section above rear underrun bumper and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

10.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

10.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

10.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

10.6 Hazardous chemical transporting signage to be placed at the sides and rear of the trailers according to SANS 10232.

11. Miscellaneous items

11.1 Full size spare wheel to be mounted in a suitable place on each trailer.

11.2 A pair of 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.

11.3 Spare set of pneumatic and hydraulic hoses with couplers for each trailer.

12. Agitator, water system and cleaning apparatus

An agitator shall be installed in the tank together with a water feeding system such that the sludge viscosity can be controlled to assist the tipping process when off-loading. The water system shall also serve as a cleaning apparatus for cleaning of the tank. It shall be fed via a high pressure water and/or steam supply. The apparatuses should be installed in the tank without damaging the structure and shall assist the longitude of

the tank. It should have a multivalve system optimally positioned to spread the steam/water effectively over the surface area of the tank. Apparatus should be constructed of suitable non corrosive materials for the application. The agitator will be variable speed and hydraulically/electrically driven and will form part of the hydraulic/electrical system and hydraulic/electric controls.

Item 6: Technical specification for a Generator trailers

1.Scope

The intent of this specification is to provide for a fully operational trailer that can has a self powered silent diesel generator. The trailer and generator will be used to power tools, machinery and equipment on remote urban and rural sites. It shall also serve as a backup generator in case of emergency.

2.Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 Overrun anti lock brakes is mandatory.

2.4 At the end Section 7 other specifications/standards are covered that will be adhered to.

3. Material specification

The load bearing items of the trailer shall be constructed out of non-corrosive metallic steel suitable for the application.

4. Construction requirements

4.1 Generator

4.1.1 A 60-65kVA generator. Voltage shall be AC 380-440V with a current rating better than 60A. Minimum of three AC outlets are required.

4.1.2 The generator's mounting shall be designed to eliminate any vehicle chassis flex being transmitted to the tank. Preferably rubber block type to allow for movement when negotiating rough terrains.

4.1.3 Generator shall have a fully enclosed sound and waterproof enclosure with adequate ventilation for the self powered engine.

4.1.4 Fuel tank for the generator shall be of adequate capacity for a 6 hour shift of continuous use.

4.1.5 All functions must be clearly marked.

4.1.6 The system shall be a self powered. Lockable battery unit to be fitted on the chassis. A solar panel should provide charge to the battery when decoupled from the towing vehicle. When coupled and in motion there should be an electric supply that can charge the battery via the towing vehicle or a generator on the trailer's axles.

4.1.7 Battery shall be maintenance free high capacity unit.

4.1.8 The engine shall be a "famous" brand with adequate suppliers of service and spare parts available.

4.1.9 Emergency shut down.

4.1.10 Overload cut off.

4.1.11 Engine protection device for overheating and low oil pressure.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Lighting

A LED flood light should be installed in a suitable position illuminating the working area of the trailer to assist using the control panel and coupling the electrical machinery and equipment.

A pair of 3 watt amber LED flashing hazard light modules shall be mounted on each side and at the rear of the trailer. The lights should be protected from damage.

6. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

6.1 Descale all metal surfaces

6.2 Grind down & smooth all rough edges

6.3 Thoroughly clean all surfaces

6.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

6.5 Thereafter paint using a coat of premium quality twin pack automotive paint.

6.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one colour coat.

7. Colors

Underside of trailer	Black
Trailer	Safety Yellow

8. Electrical and coupling requirements

All additional electrical circuits are to be suitably fused and must not interfere with or adversely affect the existing electrical system.

8.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

8.2 Dual indicator, stop and taillight units to be fitted.

8.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.

8.4 Uninterrupted power supply points shall be made available for the trailer tracking and fuel master monitoring system.

8.5 Electrical connector complying to;
SANS 1327: Electrical connectors for towing and towed vehicles and,

8.6 SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation

8.7 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers.

9. Signage and Markings

9.1 Data plates shall be fitted for:

a) The generator indicating capacity, operating voltages and loads, fuel type/grade, and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

9.2 Chevron board with rear lights to be fitted and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

9.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

9.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

9.5 Retro-reflective tape shall be fitted to both sides and the rear of the generator as well as the rear bumper.

10. Miscellaneous items

10.1 Full size spare wheel to be mounted in a suitable place.
10.2 A locking fuel cap and anti-siphon device for the fuel tank.
10.3 The battery box is to be lockable (lock to be provided).
10.4 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position.
10.5 Wheel arches to have mudflaps.
10.6 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
10.7 Additional stabiliser legs at the rear shall be installed.

Item 7: Technical specification for a Mobile lighting tower trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer that can has a self powered silent diesel generator with a mobile lighting tower with multiple light sets .The trailer and generator will be used to light up remote urban and rural sites where work will be carried out.

2.Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 Overrun anti lock brakes is mandatory.

2.4 At the end Section 7 other specifications/standards are covered that will be adhered to.

3. Material specification

The load bearing items of the trailer shall be constructed out of non-corrosive metallic steel suitable for the application.

4. Construction requirements

4.1Generator and lights

1.2.1 A minimum 6kVA generator. There should be at least one AC outlet as well.

4.1.2 The generator's mounting shall be designed to eliminate any vehicle chassis flex being transmitted to the tank. Preferably rubber block type to allow for movement when negotiating rough terrains.

4.1.3 There shall be three pairs of adjustable LED waterproof lights mounted on a telescopic mounting system. The lights shall be adjustable in an array to provide focused lighting and/or in a 360 degree view around the trailer. LED lights shall be minimum 300W each.

4.1.4 Lights shall be modular type and easily replaceable should the need arise.

4.1.5 Generator shall have a fully enclosed sound and waterproof enclosure with adequate ventilation for the self powered engine.

4.1.6 Minimum mast height of 8 000 mm.

4.1.7 Fuel tank for the generator shall be of adequate capacity for a 6 hour shift of continuous use.

4.1.8 All functions must be clearly marked.

4.1.9 The system shall be a self powered. Lockable battery unit to be fitted on the chassis. A solar panel should provide charge to the battery when decoupled from the towing vehicle. When coupled and in motion there should be an electric supply that can charge the battery via the towing vehicle or a generator on the trailer's axles.

4.1.10 Battery shall be maintenance free high capacity unit.

4.1.11 The engine shall be a "famous" brand with adequate suppliers of service and spare parts available.

4.1.12 Emergency shut down.

4.1.13 Overload cut off.

4.1.14 Engine protection device for overheating and low oil pressure.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Lighting

A LED flood light should be installed in a suitable position illuminating the working area of the trailer to assist using the control panel and coupling the electrical tool or equipment at the ac outlet.

A pair of 3 watt amber LED flashing hazard light modules shall be mounted on each side and at the rear of the trailer. The lights should be protected from damage.

6. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

6.1 Descale all metal surfaces

6.2 Grind down & smooth all rough edges

6.3 Thoroughly clean all surfaces

6.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

6.5 Thereafter paint using a coat of premium quality twin pack automotive paint.

6.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one color coat.

7. Colors

Underside of trailer	Black
Trailer	Safety Yellow

8. Electrical and coupling requirements

All additional electrical circuits are to be suitably fused and must not interfere with or adversely affect the existing electrical system.

8.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless-steel flange.

8.2 Dual indicator, stop and taillight units to be fitted.

8.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.

8.4 Uninterrupted power supply points shall be made available for the trailer tracking and fuel master monitoring system.

8.5 Electrical connector complying to;

SANS 1327: Electrical connectors for towing and towed vehicles and,

8.6 SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation

8.7 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers.

9. Signage and Markings

9.1 Data plates shall be fitted for:

a) The generator and lights indicating capacity, operating voltages and loads, fuel type/grade, and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

9.2 Chevron board with rear lights to be fitted and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

9.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

9.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

9.5 Retro-reflective tape shall be fitted to both sides and the rear of the generator as well as the rear bumper.

10. Miscellaneous items

10.1 Full size spare wheel to be mounted in a suitable place.
10.2 A locking fuel cap and anti-siphon device for the fuel tank.
10.3 The battery box is to be lockable (lock to be provided).
10.4 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position.
10.5 Wheel arches to have mudflaps.
10.6 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
10.7 Additional stabiliser legs at the rear shall be installed.

Item 8: Technical specification for a trailer with ablution facilities

1.Scope

The intent of this specification is to provide for a fully operational single axle trailer that has a pair of ablution facilities. Bidder can also bid on a double axle trailer that has two pairs of ablution facilities. These trailers shall be used in public with a high level of use of public persons. The design and materials must be robust, hard wearing, tamper-proof and user-friendly.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (latest revisions shall be used and summary of evidence shall be provided):

2.1Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.4 The end of Chapter 7 covers other specifications/standards that will be adhered to.

3. Material specification

The load baring items of the trailer shall be constructed out of non-corrosive metallic steel suitable for the application. The ablution facility, panels and interior fittings can be constructed from polymers or other composite materials. The interior and fittings of the trailer must be completely waterproof for cleaning purposes.

4. Construction requirements

4.1Trailer features

4.1.1 The front of the trailer shall have a full size lockable storage box the entire lateral length. The lid shall be outside hinged and have lockable points on the front. Locks shall be supplied with keys. It shall be used to house cleaning items and toilet rolls. Size should be able accommodate this.

4.1.2 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.

4.1.3 Trailer tyres shall be adopted for highway speeds.

4.1.4 Suspension to accommodate terrain that this vehicle is normally used in.

4.1.5 The wheel arches shall have mud flaps.

4.1.6 Overrun anti lock brakes is mandatory on the double axle unit. For the single axle unit bidder can provide a quote on an unbraked unit.

4.2 Ablution facility

4.2.1 Pair (Two pairs for the double axle unit) of identical mounted side by side ablution facilities. The design should be identical however the front doors should have a sign which can display male or female (signs to be included).

4.2.2 Full size entrance door with a standard door handle and lock system for the cubicles.

4.2.3 Shall have easily maintainable septic tank for easy maintenance. Water tank shall be easily accessible to re-fill. Bidder shall supply two options for the water system; gravity fed system and a powered system.

Due to these trailers being used in public the tanks must be of maximum capacity. Water tanker should be minimum 75L for each cubicle and the sewer tank should be at least 200L for each cubicle. The gravity fed water tank can be an overhead system built and concealed into the roof of the trailer roof/ceiling.
4.2.4 Interior shall be equipped with a fully functioning toilet with lid, a basin with tap, toilet roll holder, soap dispenser, paper towel reel dispenser and a bin. The water dispensing mechanism shall be robust and easily maintainable. Items should be plastic manufactured as far as possible for easy maintenance and to reduce theft.
4.2.6 Collapsible/ Fold down stair cases for each facility with a safety hand rail for support to enter and exit the cubicle.
4.2.7 Unit must have a solar rechargeable light and a skylight (if possible) for each cubicle.
4.2.8 There must also be a window for each cubicle.

Access to the components and areas should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps should be installed to provide access to the areas of the trailer that require it.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material. The interior should be made of materials such that a deep clean of the entire interior can be done without damaging any material or fixtures.

5. Metal Preparation and Painting Procedure of the trailer chassis

The following procedure must be adhered to:
5.1 Descale all metal surfaces
5.2 Grind down & smooth all rough edges
5.3 Thoroughly clean all surfaces
5.4 Prime using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.
5.5 Thereafter paint using a premium quality twin pack automotive paint.
5.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one colour coat.

6. Colors

Underside of Body	Black
Trailer	White

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.
7.2 Dual indicator, stop and taillight units to be fitted.
7.3 Electrical connector complying to;
7.4 SANS 1327: Electrical connectors for towing and towed vehicles and,

SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation

7.5 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers

7.6 High capacity maintenance free battery with a solar panel shall be installed such that the trailer can operate independently for the powered system.

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board with rear lights to be fitted and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted in a suitable place on the trailer.

9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.

9.3 Additional stabiliser legs at the front and rear shall be installed.

9.4 One lockable wheel clamp for security purposes when the trailer is on site.

Item 9: Technical specification for an emulsion sealant tanker trailer

1.Scope

This specification is for a trailer that has a cylindrical/elliptical mounted tank with a heating and spray system. The tank shall be able to carry a minimum payload of 2-3 000 kg. It will primarily be used to transport emulsion asphalt sealant to road work sites. The sealant volume and mass shall be accommodated in the design and supply of the completed vehicle.
The spray system must be powered by an auxiliary engine.
The engine, pump and fuel tank should be enclosed by means of purpose built bodywork/removable panels.

2.Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.
The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).
2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.
2.3 Overrun anti lock brakes is mandatory.
2.4 At the end Section 7 other specifications/standards are covered that will be adhered to.

3. Material specification

The tank and tank ends will be made out of 3CR12 or stainless steel with a minimum thickness of 4.5 mm.

4. Construction requirements

4.1 Tank

4.1.1 A 2000-3000 litre elliptical, baffled tank designed to withstand the additional rigours of road transport is required with a low centre of mass design.

1.2.2 The tank's mounting shall be so designed to eliminate any vehicle chassis flex being transmitted to the tank. Preferably rubber block type to allow for movement when negotiating rough terrains.
1.2.3 Rolled circumference sections and internal baffles shall be installed for reinforcement, structural integrity and longevity of the structure.
1.2.4 Structural members to reinforce the length of the tank when carrying the payload and driving on uneven terrain shall be required.
1.2.5 The tank shall be insulated by means of an outer skin with a suitable heat insulated material. The material should aid the convection heat retention for the main tank contents.
1.2.6 There shall be a level indicator for the tank contents in increments every 100 liters with a manual dipstick method to verify contents as well.
1.2.7 A large manhole with a hinged cover approximately 450-600 mm diameter shall be used to fill the tank on the top. It should be strategically placed to allow even distribution loading of tank contents.
1.2.8 There shall be a primary opening mechanism to release built pressure before the manhole lid is safe to open using a secondary system.
1.2.9 A pressure and heat release system/valve shall also be installed to assist the pressures of transport and thermal working range of the contents.
1.2.10 There shall be a rear platform at the tank with access to the roof of the tank. The platform shall be full enclosed with a safety lock entry door from the passenger side.
1.2.11 Accessible and safe ladders with full length walkways and safety railings to be constructed for the longitude of the tank.

1.2.12 There shall be easy access to the manhole lid. Safety harness attachment points where working at-heights is required. Safety harness to be supplied for two persons.

1.2.13 There shall be a rear mounted drain valve mounted clear of the chassis and superstructure to drain the tank of contents when cleaning.

1.2.14 There shall be a drip tray mounted to the superstructure to catch any of the emulsion sealant. The overflow valve, pump outlets, hose outlets and the spray gun holders should all be catered for in this drip tray. The drip tray shall funnel to a catchment tank that can be removed from the superstructure.

1.2.15 Platforms, walkways, tank roof (manhole lid) and ladder steps shall be covered with tread plate (Vastrap).

1.2.16 Nondestructive testing, water-fill and pressure test shall be performed on tank.

1.3 Heating of the tank

4.2.1 The heating operation shall be achieved preferably by the means of immersion heaters located throughout the tank. They shall be strategically positioned to offer maximum heat transfer to the contents of the tank.

4.2.1 The source shall be electric preferably. Flame, gas and any other type of ignite systems is discouraged.

4.2.2 Temperature range of the system shall operate according to the temperature ranges laid out in BS EN 12591:2000 Bitumen and bituminous binders. Specifications for paving grade bitumens.

4.2.3 System shall be thermostatically controlled. Thermostat shall be adjustable such that the user can change the operating range should they wish to.

4.2.4 System shall be dual voltage, such that the trailer DC source can be used from the towing vehicle and if parked for a longer period it can be plugged into an AC outlet.

4.3 Dispensing valves and hoses

4.3.1 There shall be two dispensing spray systems mounted on the rear platform. These shall have control valves to engage and disengage them individually. They should have freedom of movement and such that it can also be locked into position if required.

4.3.2 There shall be a pair of self retracting 10 m hoses on the rear platform. They shall be enclosed by protective covers and have a guide such that the hose can freely move with a range of 60 degrees or better behind the vehicle. They shall have couplings at either end; on one end to couple to the pump and the other on the dispensing spray gun.

4.3.3 The spray guns shall be mounted at a user-friendly height with variable settings for spray and pressure/distance. When not in use it shall be securely disengaged/lock out and held in place by a secure clamp and cover or toolbox. All valve/coupling/nozzles parts shall be premium steel (stainless steel/brass/bronze) and shall be removable for cleaning and easy maintenance.

4.3.4 There shall be one outlet located at the side of the vehicle that can be used to transfer emulsion sealant from the tanker at a site. A pair of eight meter non corrosive hoses for the application to be supplied with couplers. Concealed hose holders to be placed on the side of the tank.

4.5 Control Panel

All controls for the operation of the machine shall be fitted to an illuminated, lockable, water resistant control panel on the rear of the tank. The design shall be such that the operator will be able to operate the unit whilst standing in front of the control panel.

The unit must have the following controls as a minimum:

a) Temperature gauge (Mounted externally)

b) Light switches

c) Tank level gauge

d) Engine start/stop, oil level, pressure, temperature and variable speed control with read out.

e) Low level tank contents alarm that sounds when the emulsion level reaches 100 litres with a relay to switch off the alarm after 30 seconds and automatically resets itself when tank is filled.

f) A low level cut out device that disengages the high-pressure pump when the emulsion in the tank reaches 50 litres and automatically resets itself when the tank is filled.

g) Emergency shut off.

All functions must be clearly marked. Control panel shall have a lock-out feature to protect against unwarranted use.

Access to the components should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps should be installed to provide access to the areas of the trailer. Provision should be made to remove the tank if needed.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Auxiliary Engine for driving the pump

5.1 The pump should be driven by an air cooled, diesel engine with a power output approximately 50 kW @ 2500 rpm and a torque exceeding 120 Nm @ 1500 rpm. The engine shall be an industry proven “popular” model with easily available service and spare parts support in the country and region by the bidder and other agents.

5.2 The engines exhaust should be directed down or up (with hinged cap) and out to the side of the vehicle.

5.3 Engine is to be fitted with efficient air, fuel and lubricating oil filters. A dry type air cleaner, with replaceable paper elements of South African manufacture, is required.

5.4 The engine should be direct coupled to the pump by a suitable flexible coupling.

5.5 All rotating drive systems and locations on the engine that dissipate excessive heat should be guarded in accordance with the Occupational Health and Safety Act Regulations (Act 85 of 1993).

5.6 The engine must produce the required speed and power to drive the pump and produce the required flow and pressure for a typical shift.

7.7 A suitable in-line disc filtration system should be incorporated to protect the pump.

5.8 The engine shall achieve its fuelling requirements from the existing vehicles fuel tank.

5.9 A roofed enclosure shall be built for the engine such that it is protected. There shall be lockable removable ventilated doors to access the engine and pump for maintenance. The design shall allow maximum ventilation with the addition of cooling fans if and where required.

5.10 Engine to have thermal protection shut off and low oil level and pressure shut off.

5.11 The pump shall be suitable for the application such that it can dispense the product for the required outlets at an adjustable suitable pressure range.

6. Lighting

A flood light should be installed in a suitable position illuminating the working area at the rear of the trailer.

Suitable lighting should be installed near the engine, tank and for the toolbox area.

A LED flashing hazard light should be mounted above rear of the trailer and the tank. The hazard light should be protected from damage.

7. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

7.1 Descale all metal surfaces

7.2 Grind down & smooth all rough edges

7.3 Thoroughly clean all surfaces

7.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

7.5 Thereafter paint using a coat of premium quality twin pack automotive paint.

7.6 Film thickness must not be less than 80 microns each. Two coats of primer and one color coat.

8. Colors

Underside of trailer	Black
Top of trailer and tank exterior	Safety Yellow
Tank interior	Black epoxy tar protective coating

9. Electrical and coupling requirements

All additional electrical circuits are to be suitably fused and must not interfere with or adversely affect the existing electrical system.

9.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

9.2 Dual indicator, stop and taillight units to be fitted.

9.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.

9.4 An additional set of rear light units to be installed on top of the tank.

9.5 Solar panel shall be installed to supplement charge of the auxiliary engine battery should the prime mover vehicle be decoupled.

9.6 Uninterrupted power supply points shall be made available for the trailer tracking and fuel master monitoring system.

9.7 Electrical connector complying to;
SANS 1327: Electrical connectors for towing and towed vehicles and,

9.8 SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation

9.9 Trailer coupling to be dual type and interchangeable; SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers and a 3/40 mm tow eye. Load ratings of the tow eye shall be of the correct D value and vertical loading based on the vehicles loading and tare masses.

9.10 Suitable fans to be installed in the auxiliary engine compartment to provide additional cooling through the enclosure if required. Fans shall be connected to the thermostat of the engine.

10. Signage and Markings

10.1 Data plates shall be fitted for:

a) The tank and spray systems indicating tank capacity, system pressures, fluid type/grade, and other relevant data.

b) The pump and engine indicating engine make and model, capacity, serial number, oil type and grade etc.

c) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

10.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section above rear underrun bumper and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

10.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

10.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

10.5 Retro-reflective tape shall be fitted to both sides and the rear of the tank as well as the rear bumper.

11. Miscellaneous items

11.1 Full size spare wheel to be mounted in a suitable place.
11.2 A locking fuel cap and anti-siphon device for the fuel tank.
11.3 The battery box is to be lockable (lock to be provided).
11.4 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position.
11.5 Wheel arches to have mudflaps.
11.6 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
11.7 Additional stabiliser legs at the front and rear shall be installed.

Item 10: Technical specification for a Rapid deployment razor wire trailer

1.Scope

The intent of this specification is to provide for a fully operational enclosed trailer that can be used to efficiently deploy a razor wire barrier for use by the eThekwini Municipality metro police department.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (latest revisions shall be used and summary of evidence shall be provided):

2.1 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 Overrun anti lock brakes is mandatory.

2.1 The end of Chapter 7 covers other specifications/standards that will be adhered to.

3. Material specification

The load bearing items of the trailer shall be constructed out of non-corrosive metallic steel with chromium content suitable for the application. Corten, 3Cr12, automotive grade stainless steel or similar/better shall be used. The razor wire and joiners for the coils shall shall be galvanized or a non corrosive steel.

4. Construction requirements

4.1Trailer features

4.1.1 The razor wire barrier shall consist of three coils in configuration with a minimum height of 2000 mm and be able to cover a minimum distance of 100 m. The wire shall have blade type razors.

4.1.2 The trailer shall be built with the wire barrier enclosed by roof and side panels.

4.1.3 The rear tailgate shall be a dual system (open and drop down feeder) for efficient deployment of the barrier.

4.1.4 The internal sides, roof and floor of the trailer shall have structural supports (cylindrical tubes/pipe or similar) to offer efficient deployment of the barrier. The floor should have an angled ramp to allow easy deployment without damaging the razor wire.

4.1.5 The razor wire shall be secured and configured such that it can be easily collected and removed from site. A winch system is preferred.

4.1.6 Side panels shall be removable or accessed via lockable doors for maintenance and replacement of any parts and/or the wire.

4.1.7 The floor shall be lined on the inner surface suited for the application.

4.1.8 The roof shall be aerodynamically shaped with adequate drainage and sills to keep water away.

4.1.9 Gas filled struts for user friendly operation of access doors and storage boxes.

4.1.10 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.

4.1.11 Trailer tyres shall be adopted for highway speeds.

4.1.12 Suspension to accommodate terrain that this vehicle is normally used in.

4.1.13 The wheel arches shall have mud flaps.

4.2 Storage box/compartment

4.2.1 Lockable compartments for and including road cones, fire extinguisher, safety gloves for four persons, recovery tools for the wire barrier accessories.

Access to the components and areas should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps should be installed to provide access to the areas of the trailer that require it. All ramps must be completely lined including the edges, there shall be no exposed metallic surfaces which can injure the users.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material.

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

5.1 Descale all metal surfaces
5.2 Grind down & smooth all rough edges
5.3 Thoroughly clean all surfaces
5.4 Prime using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.
5.5 Thereafter paint using two coats of premium quality twin pack automotive paint
5.6 Paint film thickness must not be less than 80 microns each. Two primer coats and one color coat.

6. Colors

Underside of Body	Black
Trailer	Metro Police blue and white with branding

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.
7.2 Dual indicator, stop and taillight units to be fitted.
7.3 Reversing warning light to be installed when reverse gear is engaged.
7.4 Electrical connector complying to;
7.5 SANS 1327: Electrical connectors for towing and towed vehicles and,
SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation
7.6 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers
7.7 Four x 4 Head, 3 watt, Mini Blue Cree Linear LED Module to be mounted, rear facing, on the trailer tailgate. Shall have random flash pattern which shall be connected to the towing vehicle cab.

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board with rear lights to be fitted and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted in a suitable place on the trailer.
9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.
9.3 Recovery tool kit and PPE (four persons) for the wire barrier systems.

Item 11: Technical specification for a Core drilling trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer that can has a self powered core drill to undertake mobile asphalt testing. The trailer should be a single axle unit with a low tare mass as the primary lab technicians to use it are female. The trailer shall enclose all critical components such as the generator, drill and their controls. It shall have adequate road clearance and safety guards for the critical components when transporting.

2.Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 Overrun anti lock brakes is mandatory.

2.4 At the end Section 7 other specifications/standards are covered that will be adhered to.

3. Material specification

The load bearing items of the trailer shall be constructed out of non-corrosive metallic steel suitable for the application.

4. Construction requirements

4.2 Trailer features

4.2.1 Generator features

1.3.1 A suitable petrol/diesel generator for the supplied coring drill. In addition, generator should have a spare AC outlet for miscellaneous use.

4.2.2 The generator's mounting shall be designed to eliminate any vehicle chassis flex being transmitted to the equipment. Preferably rubber block type to allow for movement when negotiating rough terrains.

4.2.3 Generator shall have a fully enclosed sound and waterproof enclosure with adequate ventilation for the self powered engine.

4.2.4 Fuel tank for the generator shall be of adequate capacity for a coring operations sample process of three sites.

4.2.5 All functions must be clearly marked.

4.2.6 The system shall be a self powered. Lockable battery unit to be fitted on the chassis. A solar panel should provide charge to the battery when decoupled from the towing vehicle. When coupled and in motion there should be an electric supply that can charge the battery via the towing vehicle or a generator on the trailer's axles.

4.2.7 Battery shall be maintenance free high capacity unit.

4.2.8 The generator/engine shall be a "famous" brand with adequate suppliers of service and spare parts available.

4.2.9 Emergency shut down.

4.2.10 Overload cut off.

4.2.11 Engine protection device for overheating and low oil pressure.

4.2.12 Easy access to refuel.

4.3 Drill features

4.3.1 The coring drill shall have a bit capacity of 400 mm and have a two speed setting.

4.3.2 Thermal protection, overload protection and on/off switch easily accessible to the user or via remote control operation.

4.3.3 The drill shall be mounted at the rear of the trailer and shall be on a platform that can easily access the road level thereafter with an adjustable stroke of 600 mm or better.

4.3.4 The drill shall be able to be raised to a safe height before being transported on the trailer.

4.3.5 There shall be a removable rear bumper/enclosure to protect the drill and other critical components at the rear.

4.3.6 There shall be a guard to protect the user from asphalt pieces when coring.

4.4 Cooling

4.4.1 There shall be a 100 litre gravity fed water tank that can provide water at the point of coring.

4.4.2 Tank can be a single unit or one large unit. Shall be easy to refill and the dispensing valves and hoses to the point of coring shall be user friendly. Steel braided hoses are recommended with fastened couplings.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Lighting

A minimum waterproof 27w LED work light should be installed in a suitable position illuminating the core drilling working area of the trailer. Switch shall be clearly marked and located at the rear of the trailer or the control panel.

A pair of 3 watt amber LED flashing hazard light modules shall be mounted on each side and at the rear of the trailer.

All the lights should be protected from damage with fastened guards.

6. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

6.1 Descale all metal surfaces

6.2 Grind down & smooth all rough edges

6.3 Thoroughly clean all surfaces

6.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

6.5 Thereafter paint using a coat of premium quality twin pack automotive paint.

6.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one colour coat.

7. Colors

Underside of trailer	Black
Top of trailer	Safety Yellow

8. Electrical and coupling requirements

All additional electrical circuits are to be suitably fused and must not interfere with or adversely affect the existing electrical system.

5.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

5.2 Dual indicator, stop and taillight units to be fitted.
5.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.
5.4 Uninterrupted power supply points shall be made available for the trailer tracking and fuel master monitoring system.
5.5 Electrical connector complying to;
SANS 1327: Electrical connectors for towing and towed vehicles and,
5.6 SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation
5.7 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers.

9. Signage and Markings

9.1 Data plates shall be fitted for:

a) The generator, drill and water tanks indicating capacity, operating voltages and loads, fuel type/grade, and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

9.2 Chevron board with rear lights to be fitted and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

9.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

9.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

9.5 Retro-reflective tape shall be fitted to both sides and the rear of the generator as well as the rear bumper.

10. Miscellaneous items

10.1 Full size spare wheel to be mounted in a suitable place.
10.2 A jerry can and holder for spare fuel for the generator.
10.3 The battery box is to be lockable (lock to be provided).
10.4 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position.
10.5 Wheel arches to have mud flaps.
10.6 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
10.7 Additional stabiliser legs at the rear shall be installed.

Item 12: Technical specification for a Multi-purpose box trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer that can be used to transport general commodities for the various eThekwini Municipality departments. The trailer shall be designed as a fully enclosed body with a solid top opening door and a front storage box. Payload will be approximately 400 kg.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer shall be the design and size to accommodate the various equipment as mentioned in the scope.

The trailer and the customization shall be designed according to these critical specifications (latest revisions shall be used and summary of evidence shall be provided):

2.1Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 The end of Chapter 7 covers other specifications/standards that will be adhered to.

2.4 Overrun anti lock brakes is mandatory.

3. Material specification

The load bearing structures and shall be made from light weight structural steel to withstand the payload and wear.

4. Construction requirements

4.1Trailer features

4.1.1 The trailer shall be minimum 2500 mm in length, 1500 mm wide and 1200 mm high.

4.1.2 The top door shall open clearly to allow the full width to be used for loading. There shall be robust holders (mechanical or hydraulic) on each side to hold the door open. Dual locking system with lock to be included.

4.1.3 The floor of the trailer shall be covered with tread plate (Vastrap).

4.1.4 The top lid of the trailer shall have a permanent steel roof rack on it with lateral flat structural supports over the entire surface. Rope hooks shall be provided for the exterior circumference of the trailer to adequately hold and secure items loaded to the roof rack. A pair of quick release galvanized/stainless steel/aluminum ratchets and straps shall be included.

4.1.5 The front of the trailer shall have a lockable storage box/nose cone.

4.1.6 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.

4.1.7 Trailer tyres shall be adopted for highway speeds.

4.1.8 The wheel arches shall have mud flaps.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material.

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

5.1 Descale all metal surfaces

5.2 Grind down & smooth all rough edges

5.3 Thoroughly clean all surfaces

5.4 Prime using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

5.5 Thereafter paint using a premium quality twin pack automotive paint

5.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one color coat is required.

6. Colors

Underside of Body	Black
Trailer	White/Blue/Green/Yellow/Metro police blue with branding

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 One pair of taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

7.2 Dual indicator, stop and taillight units to be fitted.

7.3 Reversing warning light to be installed when reverse gear is engaged.

7.4 Electrical connector complying to;

7.5 SANS 1327: Electrical connectors for towing and towed vehicles and,
SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation

7.6 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers

7.7 Four 3 or 4 watt LED amber/blue modules with random flashing pattern shall be installed on the rear of the trailer.

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board with rear lights to be fitted and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted in a suitable place on the trailer.
9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.
9.3 Additional stabiliser legs at the rear shall be installed.

Item 14: Technical specification for a Water tanker interlink trailer

1.Scope

The intent of this specification is to provide for a fully operational interlink trailer with water tankers. The trailer will be used primarily to transport fresh drinking water. Tandem trailers are expected to carry a minimum volumetric capacity of 13-20 000 liters and a tridem to carry 30-45 000 liters, however bidder may submit their configuration of interlink configuration with respective volumetric capacities that are similar/better. The trailers are expected to operate independently or coupled together.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 SANS 1518 Transport of dangerous goods — Design, construction, testing, approval and maintenance of road vehicles and portable tanks.

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 ABS brakes are mandatory.

2.4 NRTA TRH11-dimensional, mass limitations and other requirements for abnormal load vehicles.

2.5 NRTA Regulation 225

2.6 At the end Section 7 other specifications/standards are covered that will be adhered to.

3.Material specification

The load baring items including of the trailer shall be made from structural steel to withstand the payload. Structural steels such as Domex for the structural rolled sections and flat plate is recommended for the trailer chassis. The tanks primary material shall be constructed of 3CR12 steel which is a corrosion resistant variant.

4.Construction requirements

4.1 Water Tank

4.1.1 The tank must have a low centre of mass design.

4.1.2 Baffled water tank designed to withstand the additional rigours of road transport.

4.1.3 The tank's mounting shall be so designed to eliminate any vehicle chassis flex being transmitted to the tank. Rubber block type to allow for movement when negotiating rough road.

4.1.4 The following shall be incorporated;

a) A large rear manhole with hinged cover approximately 450 mm diameter.

b) Access ladder with steps covered from non-slip tread plate (Vastrap) to be positioned to access the manhole. Accommodation for safety harnesses (to be supplied) to be made along and on top of the tank.

c) Suitable ventilation to ensure that there is an uninterrupted supply to the valves/pump.

d) Tank over flow, draining to the left hand side of the trailer.

e) Rear/Front mounted sight glass to view tank contents and level in increments.

f) Provision to fill the tank on the left hand side from a hydrant or water tanker pump. Agricultural type hoses shall be supplied to connect the water tanker pump system to fill or dispatch water, at least 12 metres for each trailer.

4.2 Tank plumbing, valves and hoses

4.2.1 The valves and piping for the tank will be of a permanent nature and will be so arranged that by means of quick operating valves that can be used for filling the tank as well as discharge. These valves shall be located in a storage box preferably on the passenger side.
4.2.2 Distribution valves with hoses and couplers for the tank shall be from the floor of the tank to utilise all of the tank contents and it must have no issues distributing water if parked on a gradient. It shall consist of 8 outlets with detachable 600 mm long hoses with holders and 1-inch ball valves shall be supplied per side of the trailer. The valves must be in a user friendly access point that can be used by adults and children.
4.2.4 Ø 50 mm Perspex sight tube indicator with protective cover.
4.2.5 Ø 50 mm dump valve enclosed at the passenger side for quick discharge of tank.

4.3 Trailer chassis

4.3.1 Shall be designed with high strength and low tare mass for the application.
4.3.2 Steel suspension.
4.3.3 Kingpins shall be bolt on for easy maintenance and comply to DIN 74080, ISO 337 and ISO 4086
4.3.4 Kingpin gauge and two locks shall be included.
4.3.5 Landing legs to be adjustable and bolt on type to withstand the full payload.
4.3.6 All electrical wiring to be neatly trunked and fastened through the chassis.
4.3.7 Fifth wheel on the leading trailer shall have a safety lock and release.
4.3.8 Chassis shall have strengthening gussets (in between flanges) at each of the suspension pedestals.

4.4 Hose tray

A galvanized steel or 3CR12 lockable hose tray shall be installed on the passenger side of each trailer.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Water Pump

A self powered pump shall be supplied to fill the tank to maximum capacity and such that it can be used to fill portable water tanks (JOJO tanks). The couplings and piping shall be supplied of adequate length (at least 12 meters). There shall be a lockable storage box on the trailer for the pump and a lockable hose tray (4.4).

6. Lighting

6.1 Suitable lighting should be installed near the pump.

6.2 3 or 4 watt LED amber modules with random flashing pattern shall be installed on the sides and the rear of the trailer. Four on each side and two at the rear of each trailer.

6.3 Two pairs of scene LED lights mounted on each side of each tank downward facing. This shall be to illuminate the area around the trailer for persons taking water. The trailer must have its own lockable power source to power these lights.

7. Metal Preparation and Painting Procedure

The following procedure must be adhered to:
7.1 Descale all metal surfaces
7.2 Grind down & smooth all rough edges
7.3 Thoroughly clean all surfaces (clean and shot blast)
7.4 Prime the tank exterior and trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.
7.5 Thereafter paint using premium quality twin pack automotive paint
7.6 Film thickness must not be less than 80 microns each. Two coats of primer and one coat of paint.

8. Colors

Trailer	: Black/Grey
Tank interior	: Solvent free, amine cured epoxy coating in white
Tank exterior	: Safety Yellow/White

9. Electrical

All electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover electrical system.

9.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

9.2 Dual indicator, stop and taillight units to be fitted. Additional set of lights on top of each tank.

9.3 Reversing buzzer and warning light to be installed when reverse gear is engaged for each trailer.

9.4 Solar panel and regulator to charge the power source for 6.3 and the self powered water pump.

10. Signage and Markings

10.1 Data plates shall be fitted for:

a) The tanks indicating capacity, system pressures, fluid type/grade, and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

10.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section above rear underrun bumper and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

10.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

10.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

10.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

11. Miscellaneous items

11.1 Full size spare wheel to be mounted in a suitable place on each trailer.

11.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on each trailer.

11.3 Spare set of pneumatic, hydraulic and water hoses with couplers for each trailer.

Item 15: Technical specification for a multi-purpose recreational vehicle trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer that can be used to transport recreational vehicles for the various eThekwini Municipality departments. The trailer shall be designed as a rear ramp trailer with a top deck that can transport motorbikes, quad bikes, golf carts, ride on mowers and similar wheeled vehicles. The trailer shall be large enough to accommodate at least two of these items at a time with modular holders that can be positioned around the trailer's deck to safely keep the vehicle in place whilst in transit.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer shall be the design and size to accommodate the various equipment as mentioned in the scope.

The trailer and the customization shall be designed according to these critical specifications (latest revisions shall be used and summary of evidence shall be provided):

2.1Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 The end of Chapter 7 covers other specifications/standards that will be adhered to.

2.4 Overrun anti lock brakes is mandatory.

3. Material specification

The load bearing structures and shall be made from light weight structural steel to withstand the payload and wear.

4. Construction requirements

4.1Trailer features

4.1.1 Trailer should be able to accommodate a payload of 1 500 kg.

4.1.2 The trailer shall be 2500-3000 mm in length, minimum 1500 mm wide and suitable height.

4.1.3 The full width rear ramp shall open clearly at a low angle to allow the full width to be used for loading. There shall be robust ramp extensions to assist loading of vehicles with low ground clearance . Dual locking system to be included for the ramps.

4.1.4 The floor of the trailer shall be covered with tread plate (Vastrap) where there are walkways.

4.1.5 The top of the trailer shall have a permanent steel deck on it with lateral adjustable flat structural supports over the entire surface to be used to secure the wheels of the various vehicles. Rope hooks shall be provided for the exterior circumference of the trailer to adequately hold and secure items loaded to the trailer deck. Four sets of quick release galvanized/stainless steel/aluminum ratchets and straps shall be included.

4.1.6 For motorbikes there shall be wheel holders that can be slotted in at the front of the trailer such that the front wheel can be inserted into it for stability. The rear wheel should have a floor mount guide holder to hold the wheel so the motorbike stays upright.

4.1.7 The front of the trailer shall have a lockable storage box/nose cone.

4.1.8 There shall be a manual winch with cable and safety hook on the front of the trailer to help hoist the vehicle onto the trailer. Winch and cable shall be of stainless steel/galvanized steel or a similar anti corrosive steel.

4.1.9 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.

4.1.10 Trailer tyres shall be adopted for highway speeds.

4.1.11 The wheel arches shall have rear mud flaps.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material.

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

5.1 Descale all metal surfaces

5.2 Grind down & smooth all rough edges

5.3 Thoroughly clean all surfaces

5.4 Prime using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

5.5 Thereafter paint using a premium quality twin pack automotive paint

5.6 Film thickness must not be less than 80 microns each. Two coats of primer and one colour coat is required.

6. Colors

Underside of Body	Black
Trailer	Verdigris Green/ White/Blue/Green/Yellow/Metro police blue

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 One pair of taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

7.2 Dual indicator, stop and taillight units to be fitted.

7.3 Reversing warning light to be installed when reverse gear is engaged.

7.4 Electrical connector complying to;

7.5 SANS 1327: Electrical connectors for towing and towed vehicles and,
SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation

7.6 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers
7.7 Four 3 or 4 watt LED amber/blue modules with random flashing pattern shall be installed on the rear of the trailer.

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board to be fitted underneath the rear ramp (to correctly display when ramp is raised) conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted/supplied in a suitable place on the trailer.
9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.
9.3 Additional stabiliser legs at the rear shall be installed.
9.4 One jerry can and jerry can holder.

Item 16: Technical specification for a multi-purpose sea craft trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer that can be used to transport jet skis/wave runners and Inflatable rescue boats with outboard motors for the Sea and Rescue eThekwini Municipality department. The trailer shall be designed with at least four longitudinal structural holders with rollers. The trailer shall be large enough to accommodate either of these items at a time with modular holders that can be positioned around the trailer's deck to safely keep the vehicle in place whilst in transit.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer shall be the design and size to accommodate the various equipment as mentioned in the scope.

The trailer and the customization shall be designed according to these critical specifications (latest revisions shall be used and summary of evidence shall be provided):

2.1Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 The end of Chapter 7 covers other specifications/standards that will be adhered to.

2.4 Overrun anti lock brakes is mandatory.

3. Material specification

The load bearing structures and shall be made from galvanised steel/aluminium or an automotive grade stainless steel as this trailer will be used on the beach.

4. Construction requirements

4.1Trailer features

4.1.1 Trailer should be able to accommodate a payload of 750 kg.

4.1.2 The trailer shall be minimum 3000 mm in length, 1500 mm wide and suitable height.

4.1.3 The minimum of four loading guides shall have rollers with maintenance free bushings/bearings. Each roller shall be lined with a protective sleeve (insertion rubber or a heavy duty felt) to protect the hull of the sea craft.

4.1.4 The floor of the trailer shall be covered with tread plate (Vastrap) where there are walkways/steps.

4.1.5 Rope hooks shall be provided for the exterior circumference of the trailer to adequately hold and secure items loaded to the trailer deck. Four sets of quick release galvanized/stainless steel/aluminum ratchets and straps shall be included.

4.1.6 The front of the trailer shall have a lockable storage box/nose cone.

4.1.7 Facility or lined U-holders for rescue skis with paddles on exterior of the trailer lateral width.

4.1.8 There shall be a manual winch with cable and safety hook on the front of the trailer to help hoist the sea craft onto the trailer. Winch and cable shall be of same material as in Chapter 3.
4.1.9 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
4.1.10 Trailer tyres shall be adopted for all terrain application including beach sand.
4.1.11 The wheel arches shall have rear mud flaps.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material.

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:
5.1 Descale all metal surfaces
5.2 Grind down & smooth all rough edges
5.3 Thoroughly clean all surfaces
5.4 Prime using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.
5.5 Thereafter paint using a premium quality twin pack automotive paint
5.6 Film thickness must not be less than 80 microns each. Two coats of primer and one colour coat is required.

6. Colors

Underside of Body	Black
Trailer	Red and Yellow

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 One pair of taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.
7.2 Dual indicator, stop and taillight units to be fitted.
7.3 Reversing warning light to be installed when reverse gear is engaged.
7.4 Electrical connector complying to;
7.5 SANS 1327: Electrical connectors for towing and towed vehicles and,
SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation
7.6 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers
7.7 Four 3 or 4 watt LED amber/blue/red modules with random flashing pattern shall be installed on the rear of the trailer.

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board to be fitted underneath the rear ramp (to correctly display when ramp is raised) conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted/supplied in a suitable place on the trailer.
9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.
9.3 Additional stabiliser legs at the rear shall be installed.
9.4 One jerry can and jerry can holder.

Item 17: Technical specification for a drawbar water tanker trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer that shall be used primarily to transport drinking water. The trailer shall be towed by a high-powered water tanker using a Rockinger type tow coupler. The trailer shall be equipped with a self-steering drawbar/dolly system. Bidder shall provide the option of three trailers;

16.1 Two axle double wheel (4 wheels per axle) unit with a minimum tank capacity of 8 000 liters.

16.2 Three axle double wheel unit (4 wheels per axle) with a minimum tank capacity of 16 000 liters.

16.3 Four axle double wheel unit (4 wheels per axle) with a minimum tank capacity of 22 000 liters.

2.Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 SANS 1518 Transport of dangerous goods — Design, construction, testing, approval and maintenance of road vehicles and portable tanks.

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 ABS brakes are mandatory.

2.4 NRTA TRH11-dimensional, mass limitations and other requirements for abnormal load vehicles.

2.5 NRTA Regulation 225

2.6 At the end Section 7 other specifications/standards are covered that will be adhered to.

3 Material specification

The load baring items including of the trailer shall be made from structural steel to withstand the payload. Structural steels such as Domex for the structural rolled sections and flat plate is recommended for the trailer chassis. The tanks primary material shall be constructed of 3CR12 steel which is a corrosion resistant variant.

4.Construction requirements

4.1Water Tank

4.1.1 The tank must have a low centre of mass design.

4.1.2 Baffled water tank designed to withstand the additional rigours of road transport.

4.1.3 The tank's mounting shall be so designed to eliminate any vehicle chassis flex being transmitted to the tank. Rubber block type to allow for movement when negotiating rough road.

4.1.4 The following shall be incorporated;

a) A large rear manhole with hinged cover approximately 450 mm diameter.

b) Access ladder with steps covered from non-slip tread plate (Vastrap) to be positioned to access the manhole. Accommodation for safety harnesses (to be supplied) to be made along and on top of the tank.

c) Suitable ventilation to ensure that there is an uninterrupted supply to the valves/pump.

d) Tank over flow, draining to the left hand side of the trailer.
e) Rear/front mounted sight glass to view tank contents and level in increments.
f) Provision to fill the tank on the left hand side from a hydrant using the pump from a water tanker. Agricultural type hoses shall be supplied to connect the water tanker pump system to the trailer water tank, at least 12 metres.

4.2 Tank plumbing, valves and hoses

4.2.1 The valves and piping for the tank will be of a permanent nature and will be so arranged that by means of quick operating valves that can be used for filling the tank as well as discharge.
4.2.2 Distribution valves with hoses and couplers for the tank shall be from the floor of the tank to utilise all of the tank contents and it must have no issues distributing water if parked on a gradient. It shall consist of 8 outlets with detachable 600 mm long hoses with holders and 1-inch ball valves shall be supplied per side of the trailer. The valves must be in a user friendly access point that can be used by adults and children.
4.2.4 Ø 50 mm Perspex sight tube indicator with protective cover.
4.2.5 Ø 50 mm dump valve enclosed at the passenger side for quick discharge of tank

4.3 Trailer chassis

4.3.1 Shall be designed with high strength and low tare mass for the application.
4.3.2 Steel suspension.
4.3.3 The A frame shall fit into couplings system on the trailer chassis (bushes/bearings to be maintenance free) and it shall be level when hitched onto the skip loader towing vehicle.
4.3.4 4/50 mm tow eye shall be fitted. Load ratings of the tow eye shall be of the correct D value and vertical loading based on the vehicles loading and tare masses.
4.3.5 Landing leg and heavy duty jockey wheel to be adjustable and bolt on type for the A frame.
4.3.6 All electrical wiring to be neatly trunked and fastened through the chassis.
4.3.7 Chassis shall have strengthening gussets (in between flanges) at each of the suspension pedestals.

4.3 Hose tray

A galvanized steel or 3CR12 hose tray with holders shall be installed on the passenger side of the trailer.

Access to the components should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps and platforms should be installed to provide access to the skips of the trailer for maintenance and use of the tarpaulins.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Lighting

5.1 A pair of protected LED emergency lights should be installed at the rear of the trailer in a suitable position.
5.2 Two pairs of amber LED lights shall be installed on each of the sides of the trailer illuminating the length.

5.3 Two pairs of scene LED lights mounted on each side of the tank downward facing. This shall be to illuminate the area around the trailer for persons taking water. The trailer must have its own lockable power source to power these lights.

6. Metal Preparation and Painting Procedure

The following procedure must be adhered to:
6.1 Descale all metal surfaces
6.2 Grind down & smooth all rough edges
6.3 Thoroughly clean all surfaces (clean and shot blast)
6.4 Prime the tank exterior and trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

6.5 Thereafter paint using premium quality twin pack automotive paint
6.6 Film thickness must not be less than 80 microns each. Two primer coats and one color coat.

7. Colors

Trailer	: Black
Tank interior	: Solvent free, amine cured epoxy coating in white
Tank exterior	: Safety Yellow/White

8. Electrical

All electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover electrical system.
8.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.
8.2 Dual indicator, stop and taillight units to be fitted. Additional set of lights on top of each tank.
8.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.
8.4 Solar panel and regulator to charge the battery for lights in 5.3.

10. Signage and Markings

10.1 Data plates shall be fitted for:

a) The tanks indicating capacity, system pressures, fluid type/grade, and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

10.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section above rear underrun bumper and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

10.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

10.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

10.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

11. Miscellaneous items

11.1 Full size spare wheel to be mounted in a suitable place on the trailer.
11.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on each trailer.
11.3 Spare set of pneumatic, hydraulic and water hoses with couplers for each trailer.

Item 18: Technical specification for a slurry pumping station trailer with a tractor and beach cleaning implement

1.Scope

The intent of this specification is to provide for a fully operational trailer that shall be used primarily to pump beach sand slurry for the Coastal Engineering Soil Enrichment Program. The slurry composition is approx. 70% water and 30% sand combination. The trailer shall be used as a booster station from one point to another approx. 2 to 4 kilometers away. The shift of operation is approx. 12hours. A shift of operation can pump approx. 3 to 12 000 m^3 of slurry depending on availability, the pump should be sufficient to operate in these conditions. Current pipes are 400 mm for the suction diameter and 900 mm for the discharge diameter.

The trailer shall be self powered equipped with a generator, motor, pump and coupling system with pipes. The trailer chassis, suspension, rims and the superstructure containing the powered drive and pump components shall be manufactured out of high corrosion resistant materials to withstand the humid coastline environment where it will be in operation and stored.

The bidder shall also provide a high powered 4WD tractor to shunt the trailer on the beach shore to carry out its operations. In addition, a heavy duty large beach cleaning implement must be supplied for the tractor.

2.Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high anti-corrosive properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

a. SANS 1518 Transport of dangerous goods — Design, construction, testing, approval and maintenance of road vehicles and portable tanks.
b. SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.
c. ABS brakes are mandatory.
d. NRTA TRH11-dimensional, mass limitations and other requirements for abnormal load vehicles.
e. NRTA Regulation 225
f. At the end Section 7 other specifications/standards are covered that will be adhered to.

2. Material specification

The load baring items shall be made out of structural steel to withstand the payload. Structural steels that are galvanised or have suitable corrosion resistance such as aluminium or an automotive grade stainless steel shall be used. Furthermore, the floor panels of the trailer shall have wear plates seated on top of the steel structure. For the wear plates a suitable composite liner shall be used with adequate strength and corrosion properties.

3. Construction requirements

4.1 Trailer

4.1.1 There shall be a rear tandem axle bogie, with a tandem front axle dolly drawbar system. Trailer shall be drawn on the coastline using plant equipment such as a tractor, TLB or an excavator. A bolt on tow eye is preferred such that it can be suitably changed depending on the vehicles used to draw the trailer.

4.1.2 The trailer shall be expected to house the drive components and pump. It shall be enclosed by a solid; roof, front and rear superstructure. The solid panels shall be fastened such that they can be easily removed if required for operation and maintenance purposes. The longitudinal sides of the trailers shall have robust reinforced tarpaulin curtains or solid door panels for the full length and height of the trailer. Depending on the powered drive system and pump, the side panels shall either be one piece or two pieces per side with locking systems when in open and closed position.

4.1.3 All structural sections be it channels, bent plate etc. shall be reinforced using gussets evenly spaced in them such that they do not warp or buckle.

4.1.4 The wear plates shall be installed such that maintenance of these components can be carried out when minimum thickness is reached. This shall be near the pump and drive system where the slurry contents can cause wear and tear on the trailer.

4.2 Trailer chassis

4.2.1 Shall be designed with high strength and low tare mass for the application.

4.2.2 Steel suspension.

4.2.3 The A frame shall fit into couplings system on the trailer chassis (bushes/bearings to be maintenance free) and it shall be level when hitched onto the skip loader towing vehicle.

4.2.4 40/50 mm tow eye shall be fitted. Load ratings of the tow eye shall be of the correct D value and vertical loading based on the vehicles loading and tare masses.

4.2.5 Landing leg and heavy duty jockey wheel to be adjustable and bolt on type for the A frame.

4.2.6 All electrical wiring to be neatly trunked and fastened through the chassis.

4.2.7 Chassis shall have strengthening gussets (in between flanges) at each of the suspension pedestals.

4.2.8 Suitable outriggers and levelling pads shall be integrated into the trailer for the terrain it shall be operating in. A minimum of four is required.

5. Pump

5.1 The slurry pump must be capable of producing a minimum volumetric flow of 3000 cubic meters per hour with a suitable head for the operation from the harbor entrance to the coastline. A Warman AH 14/12 TAHPP pump or similar/better is recommended.

5.2 The pump shall be durable enough to handle the beach sand slurry. The pump should have an extended life impeller and throat-bush option for these and other internal components for increased lifespan of the pump.

5.3 High quality materials such as stainless steel on the inlet and outlet valves, ceramic coated internals of the pump, hardened materials for the internals and pump head, double bearing and seal system is recommended for the pump.

5.4 Where possible the pump shall have maintenance free/sealed bearings and bushings. If lubrication is required an automated self-lubricating system shall be supplied.

5.5 Dry running shaft seals shall be fitted where possible.

5.6 If the pump requires priming, bidder shall be responsible to provide a system that is adequate for the operation.

6. Power system for driving the pump (Electric, Engine Driven, or Hydraulic)

6.1 The pump should be driven by a motor with a power output approximately 25% more than required by the pump. The bidder can provide an option of a diesel powered engine, hydraulic powered system and an electric three phase powered system. Any fuel powered engines shall preferably be minimum of Euro 3.

6.2 The motor shall be rated at least 25% more the power and load requirements of the pump. Low noise variants are preferred (75dB or better if possible, for the application).

6.3 The system shall be enclosed in case of failure and/or spillage as it will be working on the coastline.

6.4 An automatic fire suppression system shall be equipped for the power system in case of emergency.

For powered engines;

6.5 Any fuel powered engines shall preferably be minimum of Euro 3. The engines exhaust should be directed upward and out to the top of the trailer with an exhaust flap. Exhaust shall be configured for low noise (75dB or better if possible, for the application).

6.6 Engine is to be fitted with efficient air, fuel and lubricating oil filters. A dry type air cleaner, with replaceable paper elements of South African manufacture, is required.

6.7 The engine should be direct coupled to the pump by a suitable flexible coupling.

6.8 All rotating drive systems and locations on the engine that dissipate excessive heat should be guarded in accordance with the Occupational Health and Safety Act Regulations (Act 85 of 1993).

6.9 The engine must produce the required speed and power to drive the pump and produce the required flow and pressure.

6.10 A suitable in-line disc filtration system should be incorporated to protect the pump and engine from contamination.

6.11 The engine shall achieve its fuelling and electric requirements from standalone supplies on the trailer.

6.12 An enclosure shall be built around the engine such that it is protected and encased. There shall be ventilated removable lockable panels/doors to access the engine for maintenance.

6.13 Cooling fans shall be thermostatically controlled to provide additional cooling for the engine.

7. Piping

A pair of reinforced natural rubber or polyurethane pipes shall be supplied for the inlet and outlet valves of the pump. Current pipes are 400 mm for the suction diameter and 900 mm for the discharge diameter. The pipes shall have a stainless-steel bolt on flange on either end such that it can be used from the pump to the existing pipe system installed on the coastline. Pipes supplied shall be at least 20 m in length. There shall be a storage box on the trailer to house these pipes.

8. Storage boxes

A steel storage box incorporating two front hinged lids shall be positioned on each side of the chassis of each of the trailer. Hasp and staple fittings to be fitted for locking purposes. The boxes are meant to hold the piping, general tools and consumables for the trailer and its pumping system.

Access to the components should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps and platforms should be installed to provide access to the skips of the trailer for maintenance and use of the tarpaulins.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

9. Lighting

A pair of protected LED emergency lights should be installed at the rear and front of the trailer in a suitable position. Three pairs of amber marker LED lights shall be installed on each of the sides of the trailer illuminating the length.

Suitable lighting should be installed near the toolbox and inside the superstructure of the trailer. It shall be focused towards illuminating the controls of the pump. LED scene lights to be installed on the roof of the trailer focusing and illuminating the area around the trailer. A minimum of four is required with a minimum capacity of 100w each.

Lighting shall attain its power from the power system for the pump. All switches shall be clearly marked.

10. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

10.1 Descale all metal surfaces

10.2 Grind down & smooth all rough edges

10.3 Thoroughly clean all surfaces (clean and shot blast)

10.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

10.5 Thereafter paint using premium quality twin pack automotive paint

10.6 Film thickness must not be less than 80 microns each. Two primer coats and one color coat.

11. Colors

Trailer	Blue RAL 5002/Pantone 280C or Safety Yellow
Bed and Superstructure	Black

12. Electrical

All electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover electrical system.

12.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless-steel flange.

12.2 Dual indicator stop and taillight units to be fitted.

12.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.

12.4 The exterior roof of the trailer to have a pair of solar panels with an in-line voltage regulator to charge the batteries for the power drive system.

12.5 There shall be a 50 m self retractable 2.5 mm^2 three core electrical extension cord mounted on the trailer. This shall get its supply from the pump power system. It shall be used for powering of tools on site. An electrically powered socket wrench shall be supplied for the piping in Chapter 7.

12.6 There shall be an option of an electronic system such that the powered drive, pump and valves be operated by a SCADA linked software actuated system.

13. Signage and Markings

13.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) The powered system for the pump indicating tank capacity, system pressure, fluid type/grade specifications and test criteria.

c) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

13.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section above rear underrun bumper and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

13.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

13.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

13.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

14. Miscellaneous items

14.1 Full size spare wheel to be mounted in a suitable place on the trailer.

14.2 A pair of 4.5 kg fire extinguishers should be supplied and fitted in an accessible position on the trailer.

14.3 Spare set of pneumatic hoses with couplers for the trailer.

15. High Powered 4WD Tractor and beach cleaning Implement

It shall be 4WD tractor with a fully enclosed cab. This tractor shall be used for shunting the slurry pump station trailer. Bidder shall provide the necessary wheels (rims and tyres) for beach application. The trailer and the tractor must have all coupling equipment to operate effortlessly including brakes, electrical, hydraulic and any pneumatic or other powered systems.

15.1 The chassis/body shall have a minimum Gross Vehicle Mass (GVM) of 5500 kg.

15.2 Transmission shall be preferably fully automatic, or power assisted. Manual assisted or manual shall be equipped with at least twelve forward and twelve reverse gears.

15.3 Minimum diesel engine requirements shall be: Euro 3 to 5, 100 kW of power and 600 Nm of torque.

15.4 Vehicle should have a limited top speed of not more than 40 km/hr.

15.5 Minimum wheelbase of 2 500 mm.

15.6 Steel suspension.

15.7 Fitment of a steel under belly plate (fastened with lock washers) to protect the radiator, engine/motors and other exposed drive items.

15.8 4WD drive tractors shall have a driver's cab which shall be ROPS/FOPS compliant.

15.9 Clear visibility through all sides of the vehicle.
15.10 A fully laden minimum grade ability of 40 % shall be expected.
15.11 To safely and comfortably accommodate driver using a suspended type seat. To be adjustable.
15.12 Wide angle adjustable mirrors.
15.13 Heater, windscreen demister and air-conditioning system should be adequate for the cab of the 4WD tractor.
15.14 12v charger socket.
15.15 Rear and front windscreen wipers with washer spray.
15.16 Fuel tank shall be at least 250 liters with a lockable fuel cap and anti-siphon device.
15.17 Automated fuel management system to remove water and dirt before delivery to the engine.
15.18 Heat sensing engine protection device, mechanical monitoring system to safely shut down engine if engine cylinder head increases to an unsafe temperature.
15.19 Auto lubrication system (if required), maintenance free bearings/bushings preferred.
15.20 The vehicle and the customisation shall be designed according to these critical specifications (summary of evidence shall be provided):

a) ROPS/FOPS compliant.
b) SANS 1447-1 (SABS 1447-1), Braking (motor and towed vehicles, designed for low speed or for use off public roads) - Part 1: Low speed vehicles.
c) SANS 10205 (SABS 0205), The measurement of noise emitted by motor vehicles in motion
d) The end of Section 7 covers other specifications/standards that shall be adhered to.

A collector attachment with an enclosed collection hopper/tank with a working width of 2 000 mm or better. Collection tank shall have a capacity of 2 000- 3 000 litres with a tank capacity indicator. The system should be able to handle applications for the beaches and coastal shorelines of the eThekwini region. It is expected to handle refuse litter as well. It shall be able to offload itself into a trailer or truck with a discharge reach of 2 000 mm or better. The lid/s shall automatically open and close and hold the position when loading and off-loading. It shall have levelling capabilities before collection of litter (tool attachments shall be included). Collection shall be done preferably by a rotating system with replaceable blades and filtration of finer particles. It shall be height adjustable. Wheels to be placed for transporting the unit at tractor top speed (40km/hr). Due to the nature of the operation this system shall be preferably made with automotive grade stainless steel especially for the working parts.

Item 19: Technical specification for a Police Road Block trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer that can be used to transport equipment for road blocks which shall be conducted by the eThekwini Municipality Metro Police department. The trailer shall be designed as a fully enclosed body with a solid top opening door and a front storage box. Payload will be approximately 400-600 kg.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer shall be the design and size to accommodate the various equipment as mentioned in the scope.

The trailer and the customization shall be designed according to these critical specifications (latest revisions shall be used and summary of evidence shall be provided):

2.1Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 The end of Chapter 7 covers other specifications/standards that will be adhered to.

2.4 Overrun anti lock brakes is mandatory.

3. Material specification

The load bearing structures and shall be made from light weight structural steel to withstand the payload and wear.

4. Construction requirements

4.1Trailer features

4.1.1 The trailer shall be minimum 2500 mm in length, 1500 mm wide and 1200 mm high.

4.1.2 The top door shall open clearly to allow the full width to be used for loading. There shall be robust holders (mechanical or hydraulic) on each side to hold the door open. Dual locking system with lock to be included.

4.1.3 The floor of the trailer shall be covered with tread plate (Vastrap).

4.1.4 The top lid of the trailer shall have a permanent steel roof rack on it with lateral flat structural supports over the entire surface. Rope hooks shall be provided for the exterior circumference of the trailer to adequately hold and secure items loaded to the roof rack. A pair of quick release galvanized/stainless steel/aluminum ratchets and straps shall be included.

4.1.5 The front of the trailer shall have a lockable storage box which shall house a dual battery system and inverter.

4.1.6 In between the main storage box and the front storage box shall be a slimline enclosed slot to hold a minimum of three road signs.

4.1.7 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.

4.1.8 Trailer tyres shall be adopted for highway speeds.

4.1.9 The wheel arches shall have mud flaps.

Item 4.2: Dual power supply system for front storage box

The components shall include batteries, inverter, regulator, ac outlet boxes and all relevant hardware and consumables to successfully install the items. A solar panel with intelligent regulator/charger shall also be supplied. The batteries should be able to charge from the towing vehicle when the trailer electrical socket is connected to the vehicle.

4.2 Power system

4.2.1 A pair of batteries and 12v DC-AC 220-230v inverter shall be installed in a purpose-built housing. It shall be well ventilated, lockable and have an isolator switch.

4.2.2 Batteries shall be maintenance free 55Ah deep cycle type. Batteries shall sit above the ground in a rack such that it is secure for transit.

4.2.3 Inverter shall be 1 000 W with a surge double the capacity. Should have built in cooling to allow extended periods of uninterrupted use. South African plug receptacle 15-20A output. Inverter to be equipped with overload and thermal protection.

4.2.4 There shall be two double 3-pin AC outlets positioned in the trailer (one in the front storage box one in the rear storage box) with switched receptacles. The points shall be communicated as per installation by the eThekwini City Fleet Official.

4.2.5 The solar panel shall be supplied with a regulator/charger to charge the above batteries. Supply shall include installation.

Item 4.3: Equipment for the road block trailer

4.3.1 A pair of rechargeable LED tripod lights. Minimum specification of waterproof (IP55), 18v Li-ion, 2 metre tripod and 3000 lumens. Each light shall include two batteries and a charger. The trailer must have a compartment and partition to hold these lights safely for transit. The on board inverter power system shall charge the spare battery for swap out on long shifts.

4.3.2 2 x waterproof portable LED flood lights and 2 x 30m extension cords on reels.

4.3.3 2 x rechargeable waterproof LED portable work lights with a charger for each.

4.3.4 24 Orange traffic cones. The trailer must have a dedicated slot for these cones.

4.3.5 1 x measuring wheel.

4.3.6 Supply of three high reflective road signs with holders. These shall be made of lightweight, corrosive resistant steel. Final signs will be communicated at time of order by the department.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material. Bidder shall use proprietary fasteners and brackets for the complete installation.

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

5.6 Descale all metal surfaces

5.7 Grind down & smooth all rough edges

5.8 Thoroughly clean all surfaces

5.9 Prime using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

5.10 Thereafter paint using a premium quality twin pack automotive paint

5.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one color coat is required.

6. Colors

Underside of Body	Black
Trailer	Metro police blue with branding

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 One pair of taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

7.2 Dual indicator, stop and taillight units to be fitted.

7.3 Reversing warning light to be installed when reverse gear is engaged.

7.4 Electrical connector complying to;

7.5 SANS 1327: Electrical connectors for towing and towed vehicles and,
SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation

7.6 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers

7.7 Four 3- or 4-watt LED blue modules with random flashing pattern shall be installed on the rear of the trailer and powered from the trailer batteries.

7.8 Pair of LED amber/red marker lights on each side of the trailer including the rear. These must be powered from the trailers batteries.

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board with rear lights to be fitted and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted in a suitable place on the trailer.
9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.
9.3 Additional stabiliser legs at the rear shall be installed.

Item 20: Technical specification for a Compressor trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer that can has a self powered silent compressor. The trailer and compressor will be used to power tools, machinery and equipment on remote urban and rural sites. It shall also serve as a generator in case with an AC outlet.

2.Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.
The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.5 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).
2.6 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.
2.7 Overrun anti lock brakes is mandatory.
2.8 At the end Section 7 other specifications/standards are covered that will be adhered to.

3. Material specification

The load bearing items of the trailer shall be constructed out of non-corrosive metallic steel suitable for the application.

4. Construction requirements

4.3 Compressor

The compressor shall be encased in a weather proof enclosure that can withstand the vigor of road conditions and weather elements. The enclosure and the compressor components and materials must be suitably corrosion protected for the coastal environment. Diesel/Petrol powered engine. The bidder shall have the option of bidding with different tier/euro engine ratings if offered.

Minimum specifications	Item 19.1 Compressor trailer	Item 19.2 Heavy duty Compressor trailer
Nominal working pressure	7 bars	7 bars
Free air delivery	50 l/s	120 l/s
Engine power	30 kW	80 kW

4.3.1 Low noise operation level.

4.3.2 Easy to service via accessible panels.

4.3.3 Thermal, overload and power save protection.

4.3.4 Emergency shut off.

4.3.5 Relevant couplings, connectors and hoses to be included in supply for use of the compressor in a general application for pneumatic tools. Two sets are required per compressor (one 10m and one 20m).

4.3.6 The generator's mounting shall be designed to eliminate any vehicle chassis flex being transmitted to the tank. Preferably rubber block type to allow for movement when negotiating rough terrains.

4.3.7 Fuel tank for the compressor shall be of adequate capacity for a 6 hour shift of continuous use.

4.3.8 All functions must be clearly marked.

4.3.9 The system shall be a self powered. Lockable battery unit to be fitted on the chassis. A solar panel should provide charge to the battery when decoupled from the towing vehicle. When coupled and in motion there should be an electric supply that can charge the battery via the towing vehicle or a generator on the trailer's axles.

4.3.10 Battery shall be maintenance free high capacity unit.

4.3.11 The engine shall be a "famous" brand with adequate suppliers of service and spare parts available.

4.3.12 Emergency shut down.

4.3.13 Overload cut off.

4.3.14 Engine protection device for overheating and low oil pressure.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Lighting

A LED flood light should be installed in a suitable position illuminating the working area of the trailer to assist using the control panel and coupling the machinery and equipment.

A pair of 3 watt amber LED flashing hazard light modules shall be mounted on each side and at the rear of the trailer. The lights should be protected from damage.

6. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

6.1 Descale all metal surfaces

6.2 Grind down & smooth all rough edges

6.3 Thoroughly clean all surfaces

6.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

6.5 Thereafter paint using a coat of premium quality twin pack automotive paint.

6.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one colour coat.

7. Colors

Underside of trailer	Black
Trailer	Safety Yellow

8. Electrical and coupling requirements

All additional electrical circuits are to be suitably fused and must not interfere with or adversely affect the existing electrical system.

8.8 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.
8.9 Dual indicator, stop and taillight units to be fitted.
8.10 Uninterrupted power supply points shall be made available for the trailer tracking and fuel master monitoring system.
8.11 Electrical connector complying to;
SANS 1327: Electrical connectors for towing and towed vehicles and,
8.12 SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation
8.13 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers.

9. Signage and Markings

9.1 Data plates shall be fitted for:

a) The compressor indicating capacity, operating capacities, fuel type/grade, and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

9.2 Chevron board with rear lights to be fitted and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

9.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

9.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

9.5 Retro-reflective tape shall be fitted to both sides and the rear of the generator as well as the rear bumper.

10. Miscellaneous items

10.1 Full size spare wheel to be mounted in a suitable place.
10.2 A locking fuel cap and anti-siphon device for the fuel tank.
10.3 The battery box is to be lockable (lock to be provided).
10.4 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position.
10.5 Wheel arches to have mudflaps.
10.6 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
10.7 Additional stabiliser legs at the rear shall be installed.

Item 21: Refuse Compactor semi- trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer with a refuse compactor superstructure. The trailer will be used primarily to hold waste which shall be compactable household and commercial waste.

Tandem trailers are expected to carry a minimum volumetric capacity of 10 tons and a tridem to carry 15 tons, however bidder may submit their configuration of trailer configuration with respective volumetric and mass capacities that are similar/better. The trailers are expected to operate independently with their own self powered hydraulic power pack. The bidder can also bid on the option of a pair of hydraulic bin-lifters and a skip lifting mechanism for the rear mount of the trailers supplied.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 SANS 1518 Transport of dangerous goods — Design, construction, testing, approval and maintenance of road vehicles and portable tanks.

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 ABS brakes are mandatory.

2.4 NRTA TRH11-dimensional, mass limitations and other requirements for abnormal load vehicles.

2.5 NRTA Regulation 225

2.6 At the end Section 7 other specifications/standards are covered that will be adhered to.

3.Material specification

The load baring items including of the trailer shall be made from structural steel to withstand the payload. Structural steels such as Domex for the structural rolled sections and flat plate is recommended for the trailer chassis. For the superstructure steel with chromium content to withstand the payload and corrosive nature of the refuse application. Corten steel is recommended for the superstructure. Whilst Hardox for the wear pads on the floor of the compactor body, tailgate/hopper.

4.Construction requirements

4.1 The rear box compaction body superstructure shall preferably be a ribbed type body with bracing to support the payload and the operation of the hydraulic mechanism using structural members on the exterior of the body.

4.2 The pair of rear lifters for the bins shall be designed to be compatible with CSW/DSW municipal bins. They shall operate with independent manual lever controls.

4.3 A height adjustable stopper when offloading the bins shall be installed for the inner lateral width of the tailgate.

4.4 The rear roof mounted winch/lifting system for the skip containers shall be designed to be compatible with CSW/DSW municipal skip containers. It shall operate with independent controls and there shall be a visual and audible indicator on the operational panel to show operational status (home position, lifting, locked).

4.5 Lifting system including lifting tackle shall be supplied and certified according to SANS 10388.

4.6 The lifting hook shall have a safety clip installed and the unit must be painted in safety yellow. A stowaway point shall be installed at the rear such that the hook and cable are safe in transit.

4.7 Both bin-lifters and skip lifting controls must have a lock-out system on the control panel.

4.8 The hopper shall have a manual locking system with tailgate screws when closed.

4.9 A serviceable EPDM seal shall be fitted to the compaction body and rear hopper where they meet when closed for the entire circumference.
4.10 There shall be a reinforced flared chute fastened through the lateral length of the floor of the compaction body such that the eject of contents will not allow relapse of waste into or under the trailer chassis.
4.11 The hydraulic cylinder/s shall be suitable for the application and positioned at the applicable angle to the rear compaction body and the hopper. The main ejector blade cylinder shall be mid or floor mounted. Maintenance free bushings/bearings shall be used.
4.12 An automotive grade stainless steel tank shall be mounted at the rear floor to hold any sewage liquids from the compaction body and hopper. This shall be fitted with a drain valve to easily drain.
4.13 Lateral guides shall be incrementally installed between the trailer chassis and rear body for the payload and safety.
4.14 All slides used in the rear compaction body and hopper shall be of the self-lubricating type. Alternatively, an automated greasing system shall be installed.

4.15 Trailer chassis

4.15.1 Shall be designed with high strength and low tare mass for the application.
4.15.2 Steel suspension.
4.15.3 Kingpins shall be bolt on for easy maintenance and comply to DIN 74080, ISO 337 and ISO 4086
4.15.4 Kingpin gauge and two locks shall be included.
4.15.5 Landing legs to be adjustable and bolt on type to withstand the full payload.
4.15.6 All electrical wiring to be neatly trunked and fastened through the chassis.
4.15.7 Fifth wheel on the leading trailer shall have a safety lock and release.
4.15.8 Chassis shall have strengthening gussets (in between flanges) at each of the suspension pedestals.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5.Hydraulic system

5.1 In respect of the hydraulic system the following shall be required:
5.2 The hydraulic valves shall be grouped together for ease of maintenance.
5.3 The hydraulic cylinders shall have maintenance free bushings/bearings.
5.4 Test points for testing hydraulic pressures shall be fitted and grouped together.
5.5 Where possible steel tubing, which shall be treated with suitable corrosion protection, in lieu of rubber hosing shall be used for hydraulic lines.
5.6 All hydraulic fittings shall be wrapped with a petrolatum impregnated tape or sprayed with a petrolatum primer to prevent corrosion.
5.7 Safety hold valve for cylinder in case of hydraulic failure.
5.8 Hydraulic controls for the operation of the loading/off-loading shall be fitted in a user friendly manner for ease of operation. The outside controls shall be protected by means of a lockout waterproof enclosure.
5.9 All control actions will be fully adjustable at variable speeds for the operation of the hydraulics. A plug in, modular type, control panel is preferred for ease of maintenance.
5.10 Hydro-electric power pack shall be installed on the trailer.

6. Lighting

6.1 Suitable lighting should be installed near the controls.

6.2 3 or 4 watt LED amber modules with random flashing pattern shall be installed on the sides and the rear of the trailer. Two on each side and two at the rear of each trailer.

6.3 Three pairs of scene LED lights mounted on each side and the rear of the superstructure downward facing. This shall be to illuminate the area around the trailer for persons working in the vicinity. The trailer must have its own lockable rechargeable power source to power these lights.

7. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

7.1 Descale all metal surfaces

7.2 Grind down & smooth all rough edges

7.3 Thoroughly clean all surfaces (clean and shot blast)

7.4 Prime the tank exterior and trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

7.5 Thereafter paint using premium quality twin pack automotive paint

7.6 Film thickness must not be less than 80 microns each. Two coats of primer and one coat of paint.

8. Colors

Trailer	Black
Superstructure	CSW Blue RAL 5002/Pantone 280C

9. Electrical

All electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover electrical system.

9.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

9.2 Dual indicator, stop and taillight units to be fitted. Additional set of lights on top of each tailgate.

9.3 Reversing buzzer and warning light to be installed when reverse gear is engaged for each trailer.

9.4 Solar panel and regulator to charge the power source for the self powered hydraulic system and the scene lights.

9.5 Bidder can provide the option a high quality robust rear HD camera and in cab 7” HD monitor for operation.

10. Signage and Markings

10.1 Data plates shall be fitted labelling the storage areas and capacity. Safe working loads should be labelled where necessary:

a) The hydraulic system indicating tank capacity, system pressure, fluid type/grade, hydraulic cylinder specifications and test criteria.

b) Safe working loads to be clearly labeled on the structure on both sides of the compaction body and hopper.

10.2 Safety, operation, technical data, dates of manufacture, manufacturer’s details etc.

10.3 Chevron board to be fitted section above rear underrun bumper and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

10.4 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

10.5 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

10.6 Retro-reflective tape shall be fitted to both sides and the rear of the vehicle as well as the rear bumper.

10.7 Registration number to be clearly marked on roof (left to right, 80-90% size of the roof).

10.8 CSW/DSW corporate branding to be fitted on bolt on chromadek sheeting and mounted on both sides of the compaction body using brackets. It shall have multiple brackets and fastening points (minimum of four longitudinal and lateral brackets and four mounting points on each). It shall be 90-100% the size of the actual body. Branding design will be supplied at the time of the order.

11. Miscellaneous items

11.1 Full size spare wheel to be mounted in a suitable place on each trailer.
11.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on each trailer.
11.3 Spare set of pneumatic, hydraulic and water hoses with couplers for each trailer.
11.4 Two pairs of heavy duty wheel chocks.

Item 22: Technical specification for a Fire Fighting Trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer with a self-propelled water pump system for firefighting. The tank and pumping system shall be built onto the trailer. Trailer will be used on roads and uneven terrain.

The pump system must be powered by an auxiliary engine.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.
The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).
2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.
2.3 Overrun anti lock brakes is mandatory.
2.4 At the end Section 7 other specifications/standards are covered that will be adhered to.

3. Material specification

The tank and tank ends will be made out of a composite material or 3CR12/stainless steel. Bidder can bid on either or both options in Section 8.

4. Construction requirements

1.4 Tank

4.1.1 A 2000-2500 litre elliptical, baffled water tank designed to withstand the additional rigours of road transport is required with a low centre of mass design.

5.10.1 The tank's mounting shall be so designed to eliminate any vehicle chassis flex being transmitted to the tank. Preferably rubber block type to allow for movement when negotiating rough terrains.

4.2 Pump System and Hose reels

4.2.1 Water from the high pressure pump must be fed to an easily accessible hose system preferably on a reel. There shall be two sets of hoses 20 metres in length each with spray nozzles.

4.3 Tool Box

A steel storage box incorporating two hinged lids and running the length of the tank to be positioned on one side of the tank. The depth of the boxes to be approx. 300 mm. Hasp and staple fittings to be fitted for locking purposes.

5. High Pressure Pump

5.1 The high pressure water pump must be capable of producing a flow of not less than 15 000 liters per hour at a constant pressure from 6 bar.
5.2 The pump shall be durable enough to handle recycled water if required.
5.3 High quality materials such as stainless steel on the inlet and outlet valves, ceramic coated internals of the pump, hardened materials for the internals and pump head, double bearing and seal system is recommended for the pump.
5.4 The pump's oil level shall be easily visible with an indicator.
5.5 Should be robust, high volume and high pressure.
5.6 It must be fitted as per manufacturer's specifications in an easily accessible place with all relevant safety features i.e. regulator, secondary filtration, tank returns etc.
5.7 The fitment of the high pressure pump should not negatively impact on the vehicles ground clearance.

6. Auxiliary Engine for driving the pump

6.1 The pump should be driven by an air cooled, diesel engine with a power output approximately 3 kW. The engine shall be an industry proven "popular" model with easily available service and spare parts support in the country and region by the bidder and other

6.2 The engines exhaust should be directed down and out to the side of the trailer.

6.3 Engine is to be fitted with efficient air, fuel and lubricating oil filters. A dry type air cleaner, with replaceable paper elements of South African manufacture, is required.

6.4 The engine should be direct coupled to the pump by a suitable flexible coupling.

6.5 All rotating drive systems and locations on the engine that dissipate excessive heat should be guarded in accordance with the Occupational Health and Safety Act Regulations (Act 85 of 1993).

6.6 The engine must produce the required speed and power to drive the pump and produce the required flow and pressure, preferably with 25% more power than the required rated by the pump.

6.7 A suitable in-line disc filtration system should be incorporated to protect the pump from contaminated water.

6.8 The engine shall achieve its fuelling and electric requirements from standalone supplies on the trailer.

6.9 The engine shall achieve its fuelling requirements from a standalone supply mounted on the trailer.

6.10 An enclosure shall be built above the engine such that it is protected and encased. It shall be ventilated/ removable to access the engine for maintenance.

7. Lighting

A flood light should be installed in a suitable position illuminating the working area at the rear of the trailer.

Suitable lighting should be installed near the engine, tank and for the toolbox area.

A LED flashing hazard light shall be mounted above the hose reel, control box and at the rear of the trailer above the tank. The hazard light should be protected from damage.

8. Metal Preparation and Painting Procedure

The following procedure must be adhered to:
8.1 Descale all metal surfaces
8.2 Grind down & smooth all rough edges
8.3 Thoroughly clean all surfaces
8.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

8.5 Thereafter paint using a coat of premium quality twin pack automotive paint.
8.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one color coat.

9. Colors

Underside of trailer	Black
Top of trailer and tank exterior	White/Safety Yellow
Tank interior (Steel)	Black epoxy tar coating

10. Electrical and coupling requirements

All additional electrical circuits are to be suitably fused and must not interfere with or adversely affect the existing electrical system.

10.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.
10.2 Dual indicator, stop and taillight units to be fitted.
10.3 An additional set of rear light units to be installed on top of the tank.
10.4 Solar panel shall be installed to supplement charge of the auxiliary engine battery should the prime mover vehicle be decoupled.
10.5 Uninterrupted power supply points shall be made available for the trailer tracking and fuel master monitoring system.
10.6 Electrical connector complying to;
SANS 1327: Electrical connectors for towing and towed vehicles and,
10.7 SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation
10.8 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers.

11. Signage and Markings

11.1 Data plates shall be fitted for:

a) The tank and jetting systems indicating tank capacity, system pressures, fluid type/grade, and other relevant data.

b) The pump and engine indicating engine make and model, capacity, serial number, oil type and grade etc.

c) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

11.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section at the rear conforming with the appropriate SABS/SANS standard.

11.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

11.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

11.5 Retro-reflective tape shall be fitted to both sides and the rear of the tank as well as the rear bumper.

12. Miscellaneous items

12.1 Full size spare wheel to be mounted in a suitable place.
12.2 A locking fuel cap and anti-siphon device for the fuel tank.
12.3 The battery box is to be lockable (lock to be provided).

12.4 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position.
12.5 Wheel arches to have mudflaps.
12.6 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
12.7 Additional stabiliser legs at the rear shall be installed.
12.8 Jerry can and holder.

Item 23: Technical specification for a container trailer with the option of self powered tipping

1.Scope

The intent of this specification is to provide for a fully operational trailer that shall be used primarily to transport shipping containers. The bidder shall quote on a trailer that can accommodate a DIN/ISO 20-foot shipping container and 40-foot container at full payloads. The trailer shall have twist locks to secure the trailer and generous tie down points for securing general cargo. The trailer may also be configured to load and offload Roll On/Roll Off trash compactor containers. The top of the bed must have a wear plate for these containers and general purpose cargo for operations. The bidder can also bid on a trailer that can tip a container with a self powered hydraulic system.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

a. SANS 1518 Transport of dangerous goods — Design, construction, testing, approval and maintenance of road vehicles and portable tanks.
b. SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.
c. ABS brakes are mandatory.
d. NRTA TRH11-dimensional, mass limitations and other requirements for abnormal load vehicles.
e. NRTA Regulation 225
f. At the end Section 7 other specifications/standards are covered that will be adhered to.

3. Material specification

The load baring items shall be made out of structural steel to withstand the payload. Structural steels such as Domex for the structural rolled sections and flat plate is recommended for the trailer chassis. Furthermore, the floor panels of the trailer shall have wear plates seated on top of the steel structure. For the wear plates a suitable steel like hardox or a composite liner shall be used with adequate strength and corrosion properties.

4. Construction requirements

4.1 Rear bed

4.1.1 There shall be a rear tandem/tridem axle bogie, with a kingpin on the front of the trailer.
4.1.2 The trailer shall be expected to carry a 20/40-foot shipping container. The trailer will be geometrically designed such that loading and off-loading can be comfortably done using a crane/gantry/spreader vehicle.
4.1.3 All structural sections be it channels, bent plate etc. shall be reinforced using gussets evenly spaced in them such that they do not warp or buckle.
4.1.4 There shall be two pairs of tapered guides for each side of the trailer, which can comfortably guide the container onto the flat bed and hold it in position when in transit.
4.1.5 The wear plates shall be installed such that maintenance of these components can be carried out when minimum thickness is reached.
4.1.6 There shall be generous amounts of tie down points to secure general cargo.

4.2 Trailer chassis

4.2.1 Shall be designed with high strength and low tare mass for the application.
4.2.2 Steel suspension.
4.2.3 Kingpins shall be bolt on for easy maintenance and comply to DIN 74080, ISO 337 and ISO 4086
4.2.4 Kingpin gauge and lock shall be included.
4.2.5 Landing legs to be adjustable and bolt on type.
4.2.6 All electrical wiring to be neatly trunked and fastened through the chassis.
4.2.7 Chassis shall have strengthening gussets (in between flanges) at each of the suspension pedestals.

Bidder can also bid on the option of this trailer in a drawbar configuration;
4.2.8 The A frame shall fit into couplings system on the trailer chassis (bushes/bearings to be maintenance free) and it shall be level when hitched onto the skip loader towing vehicle.
4.2.9 4/50 mm tow eye shall be fitted. Load ratings of the tow eye shall be of the correct D value and vertical loading based on the vehicles loading and tare masses.
4.2.10 Landing leg and heavy duty jockey wheel to be adjustable and bolt on type for the A frame.
4.2.11 All electrical wiring to be neatly trunked and fastened through the chassis.
4.2.12 Chassis shall have strengthening gussets (in between flanges) at each of the suspension pedestals.

4.3 Tool Box

A steel storage box incorporating two front hinged lids and running 1000 mm longitudinally shall be positioned on the chassis of each of the trailer. The depth of the boxes to be approx. 400 mm. Hasp and staple fittings to be fitted for locking purposes. Locks and keys to be included.

Access to the components should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps and platforms should be installed to provide access to the bed of the trailer for maintenance and use of the ratchets.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Lighting

A pair of protected LED emergency lights should be installed at the rear of the trailer in a suitable position. Three pairs of amber LED maker lights shall be installed on each of the sides of the trailer illuminating the length.

Suitable lighting should be installed near the toolbox.

6. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

6.1 Descale all metal surfaces

6.2 Grind down & smooth all rough edges

6.3 Thoroughly clean all surfaces (clean and shot blast)

6.4 Prime the skips and trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

6.5 Thereafter paint using premium quality twin pack automotive paint

6.6 Film thickness must not be less than 80 microns each. Two primer coats and one color coat.

7. Colors

Trailer	CSW Blue RAL 5002/Pantone 280C or Safety Yellow
Bed	Black

8. Electrical

All electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover electrical system.

8.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

8.2 Dual indicator, stop and taillight units to be fitted.

8.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.

9. Signage and Markings

9.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, kingpin information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

9.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section above rear underrun bumper and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

9.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

9.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

9.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

10. Miscellaneous items

10.1 Full size spare wheel to be mounted in a suitable place on the trailer.

10.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.

10.3 Spare set of pneumatic hoses with couplers for the trailer.

10.4 Eight sets of heavy duty galvanised/stainless steel tie down ratchets with sleeved chains or heavy duty sleeved straps for the cargo that will be transported. They shall each be of sufficient length to go over the trailer and cargo.

Item 24: Technical specification for a Caravan

1.Scope

The intent of this specification is to provide for a fully operational caravan that can be used by employees for remote operations and on-site tasks. The bidder can bid on a 2-sleeper unit and a 4-sleeper unit in Section 8.

2. Caravan

It shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The caravan shall be the design and size to accommodate the various equipment as mentioned in the scope.

The caravan and the customization shall be designed according to these critical specifications (latest revisions shall be used and summary of evidence shall be provided):

2.1Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 The end of Chapter 7 covers other specifications/standards that will be adhered to.

2.4 Overrun anti lock brakes is mandatory.

3. Material specification

The load bearing structures and shall be made from light weight structural steel to withstand the payload and wear.

4. Construction requirements

4.1 Caravan features

Minimum Specification	Item 23.1 Two Sleeper Caravan	Item 23.2 Four Sleeper Caravan
Axles	Single with 14” wheels	Double with 14” wheels
Fridge/Freezer	Yes	Yes
Hot water geyser	Yes	Yes
Microwave	Yes	Yes
Toilet	Yes	Yes
Bathroom/Shower	Yes	Yes
Water tank	50-liter	100-liter
Pull out kitchen with stove and sink	Yes	Yes
Roof vent	Yes	Yes
Interior and Exterior lights	Yes	Yes
Full Gas cylinder	Yes	Yes
Inverter and battery	Yes	Yes
Solar power system	Yes	Yes

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material.

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

5.1 Descale all metal surfaces

5.2 Grind down & smooth all rough edges

5.3 Thoroughly clean all surfaces

5.4 Prime using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

5.5 Thereafter paint using a premium quality twin pack automotive paint

5.6 Film thickness must not be less than 80 microns each. Two coats of primer and one colour coat is required.

6. Colors

Underside of Body	Black

Trailer	Verdigris Green/ White/Blue/Green/Yellow/Metro police blue

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 One pair of taillight units shall be premium quality equal light units.
7.2 Dual indicator, stop and taillight units to be fitted.
7.3 Reversing warning light to be installed when reverse gear is engaged.
7.4 Electrical connector complying to;
7.5 SANS 1327: Electrical connectors for towing and towed vehicles and,
SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation
7.6 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The caravan indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board to be fitted conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the caravan.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted/supplied in a suitable place on the unit.
9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the unit.
9.3 Additional stabiliser legs at the rear shall be installed.

Item 24: Technical specification for a trailer to transport a heavy duty vibratory roller

1.Scope

The intent of this specification is to provide for a fully operational trailer that can be used to transport an industrial vibratory roller (1 200 to 1 500 kg) for the eThekwini Municipality Roads department. The trailer shall also have a large enclosed storage area with dual outward opening doors and a front nose cone top hinged lid type toolbox. All to be lockable.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer shall be the design and size to accommodate the various equipment as mentioned in the scope.

The trailer and the customization shall be designed according to these critical specifications (latest revisions shall be used and summary of evidence shall be provided):

2.2 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.3 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.4 Overrun anti lock brakes is mandatory.

2.4 The end of Chapter 7 covers other specifications/standards that will be adhered to.

3. Material specification

The load bearing items of the trailer shall be constructed out of non-corrosive metallic steel suitable for the application. The caged mesh shall be 3CR12 with a fine aperture.

4. Construction requirements

4.1Trailer features

4.1.1 The trailer shall have solid sides 600 mm high. The trailer should then have an enclosed canopy to cover the vibratory roller from the outdoor elements.

4.1.2 Quick release ride on/off ramp which shall also serve as a rear headboard. It shall be full lateral width and have a gradual angle to safely load and off-load equipment with no obstructions. The ramp shall be reinforced solid plate with a structural frame to support the equipment.

4.1.3 Ramp shall have chains to lower and adjust the height if necessary. Quick release tailgate locks shall be employed at both ends. Chains must also serve as a safety catch when ramp is in headboard position.

4.1.4 The height of the ramp/headboard shall be angled to not inhibit operation of the trailer in either position/mode of use.

4.1.5 The floor of the trailer shall have a wear plate and lined with a non-slip material around the circumference so a user can safely walk and tie down the equipment. Wear plates to be at least 4.5 mm.

4.1.6 Against the locker described in 4.1.8 and the load area shall be a caged enclosure to hold road signs and warning boards. The doors shall be side opening.

4.1.7 Numerous tie down points around the load area. At least four on each side. To include three heavy duty galvanised/stainless steel ratchet tiedowns for securing the roller.

4.1.8 In between the equipment load area there shall be a large locker storage box. It shall be approx. 1 200-1 500 mm in height, and 900-1 200 mm in longitudinal length and full width of the trailer. There shall be two outside hinged lockable doors on each side of the locker storage box. Shelves and holders shall be defined by the user department at the time of order depending on current tools and equipment used. On the top of the storage locker shall be an open caged area approx. 400 mm high. There shall be tie down points on the front and rear of the locker box to hold larger items down. A tarpaulin cover shall be included for the open top.

4.1.9 The front of the trailer shall have a full size toolbox integrated with the design of the trailer. The lid shall be outside hinged and have two lockable points on the front. It shall be 600 mm high and full lateral width.

4.1.10 The floor of the locker and toolbox shall be lined with an anti-slip rubber on the inner surface. Mounted in a manner for easy maintenance.

4.1.11 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.

4.1.12 Trailer tyres shall be adopted for highway speeds.

4.1.13 Suspension to accommodate uneven terrain that this trailer is normally used in.

4.1.14 The wheel arches shall have mud flaps.

4.1.15 Rear of trailer to have a pair of mechanical drop down supports.

Access to the components and areas should be through suitable spaces. The layout should be designed to enhance maintenance of the unit.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material.

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

5.1 Descale all metal surfaces

5.2 Grind down & smooth all rough edges

5.3 Thoroughly clean all surfaces

5.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

5.5 Thereafter paint using a coat of premium quality twin pack automotive paint.

5.6 Paint film thickness must not be less than 80 microns each. Two primer coats and one colour coat.

6. Colors

Underside of Body	Black
Trailer	Safety Yellow

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 Two pairs of taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

7.2 Dual indicator, stop and taillight units to be fitted.

7.3 Reversing warning light to be installed when reverse gear is engaged.
7.4 One pair of stalk marker LED red/amber lights on either side of the rear of the trailer for increased visibility to the prime mover driver/operator.
7.5 Electrical connector complying to;
7.6 SANS 1327: Electrical connectors for towing and towed vehicles and,
SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation
7.7 40/50 mm bolt on tow eye shall be fitted. Load ratings of the tow eye shall be of the correct D value and vertical loading based on the vehicles loading and tare masses.
7.8 3 or 4 watt LED amber modules with random flashing pattern shall be installed on the sides and the rear of the trailer. Two on each side and two at the rear of each trailer.

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board to be fitted underneath the ramp (visible when raised) and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted in a suitable place on the trailer.
9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.

Item 25: Technical specification for a vacuum pump trailer

1.Scope

This specification is for a trailer that has a self priming vacuum pump which shall be used to move large amounts of liquids. The liquids will be rain water with debris, sewage, sludge and slurry and other forms of contaminated liquids with solids. The trailer shall be self powered with an auxillary engine, fuel supply and all associated systems for the pump.
The engine, pump and fuel tank should be enclosed by means of purpose built bodywork/removable panels.

2.Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.
The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).
2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.
2.3 Overrun anti lock brakes is mandatory.
2.4 At the end Section 7 other specifications/standards are covered that will be adhered to.

3. Material specification

The load bearing items of the trailer shall be constructed out of non-corrosive metallic steel suitable for the application. Due to the application 3CR12 is recommended. All valve/coupling/nozzles parts for the pump shall be premium steel (stainless steel/brass/bronze) and shall be removable for cleaning and easy maintenance.

4. Construction requirements

4.1 Pump

4.1.1 The pump shall be self-priming non-clogging type and for sewage application.
4.1.2 The mounting shall be designed to eliminate any vehicle chassis flex being transmitted to the pump. Preferably rubber block type to allow for movement when negotiating rough terrains.
4.1.3 Bidder can provide the option of a 6-inch and 8-inch pump in Section 8.
4.1.4 The pump should be able to handle a head of 10 – 30 m.
4.1.5 Quick self priming time.
4.1.6 Pump must be able to handle a suitable amount of air in the system, 100 Cfm or better.
4.1.7 The pump shall be suitable for the application such that it can dispense the product for the required outlets at an adjustable suitable pressure range.

4.4 Dispensing valves and hoses

4.4.1 There shall be two sets of pipes to accompany the trailer. These shall have couplings to engage and disengage them individually. They should have freedom of movement and such that it can also be locked into position if required.
4.4.2 There shall be two sets of 12 m hoses supplied with each trailer. They shall be enclosed by protective covers or storage area. They shall have couplings at either end; such that they can be coupled to a suitable length for the site its needed.

4.5 Control Panel

All controls for the operation of the machine shall be fitted to an illuminated, lockable, water resistant control panel on the rear of the tank. The design shall be such that the operator will be able to operate the unit whilst standing in front of the control panel.

The unit must have the following controls as a minimum:

a) Temperature gauge (Mounted externally)

b) Light switches

c) Engine start/stop, oil level, pressure, temperature and variable speed control with read out.

d) Emergency shut off.

All functions must be clearly marked. Control panel shall have a lock-out feature to protect against unwarranted use.

Access to the components should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps should be installed to provide access to the areas of the trailer.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Auxiliary Engine for driving the pump

5.1 The pump should be driven by an air cooled, diesel engine with a power output approximately 25% more than the requirements of the pump. The engine shall be an industry proven “popular” model with easily available service and spare parts support in the country and region by the bidder and other agents.

5.2 The engines exhaust should be directed down or up (with hinged cap) and out to the side of the vehicle.

5.3 Engine is to be fitted with efficient air, fuel and lubricating oil filters. A dry type air cleaner, with replaceable paper elements of South African manufacture, is required.

5.4 The engine should be direct coupled to the pump by a suitable flexible coupling.

5.5 All rotating drive systems and locations on the engine that dissipate excessive heat should be guarded in accordance with the Occupational Health and Safety Act Regulations (Act 85 of 1993).

5.6 The engine must produce the required speed and power to drive the pump and produce the required flow and pressure for a typical shift.

5.7 A suitable in-line disc filtration system should be incorporated to protect the pump.

5.8 The engine shall achieve its fuelling requirements from a standalone fuel tank suitable for typical shift.

5.9 A roofed enclosure shall be built for the engine such that it is protected.

5.10 Engine to have thermal protection shut off and low oil level and pressure shut off.

6. Lighting

A flood light should be installed in a suitable position illuminating the working area at the rear of the trailer.

Suitable lighting should be installed near the engine, tank and for the toolbox area.

A LED flashing hazard light should be mounted above rear of the trailer and the tank. The hazard light should be protected from damage.

7. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

7.4 Descale all metal surfaces

7.5 Grind down & smooth all rough edges

7.6 Thoroughly clean all surfaces

7.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

7.7 Thereafter paint using a coat of premium quality twin pack automotive paint.

7.8 Film thickness must not be less than 80 microns each. Two coats of primer and one color coat.

8. Colors

Underside of trailer	Black
Top of trailer and tank exterior	Safety Yellow

9. Electrical and coupling requirements

All additional electrical circuits are to be suitably fused and must not interfere with or adversely affect the existing electrical system.

9.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

9.2 Dual indicator, stop and taillight units to be fitted.

9.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.

9.4 An additional set of rear light units to be installed on top of the tank.

9.5 Solar panel shall be installed to supplement charge of the auxiliary engine battery should the prime mover vehicle be decoupled.

9.6 Uninterrupted power supply points shall be made available for the trailer tracking and fuel master monitoring system.

9.7 Electrical connector complying to;
SANS 1327: Electrical connectors for towing and towed vehicles and,

9.8 SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation

9.9 Trailer coupling to be dual type and interchangeable; SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers and a 3/40 mm tow eye. Load ratings of the tow eye shall be of the correct D value and vertical loading based on the vehicles loading and tare masses.

9.10 Suitable fans to be installed in the auxiliary engine compartment to provide additional cooling through the enclosure if required. Fans shall be connected to the thermostat of the engine.

10. Signage and Markings

10.1 Data plates shall be fitted for:

a) The fuel tank indicating tank capacity, system pressures, fluid type/grade, and other relevant data.

b) The pump and engine indicating engine make and model, capacity, serial number, oil type and grade etc.

c) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

10.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section above rear underrun bumper and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

10.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

10.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

10.5 Retro-reflective tape shall be fitted to both sides and the rear of the tank as well as the rear bumper.

11. Miscellaneous items

11.1 Full size spare wheel to be mounted in a suitable place.
11.2 A locking fuel cap and anti-siphon device for the fuel tank.
11.3 The battery box is to be lockable (lock to be provided).
11.4 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position.
11.5 Wheel arches to have mudflaps.
11.6 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
11.7 Additional stabiliser legs at the front and rear shall be installed.

Item 26: Technical specification for a Trailer Mounted Jetting Unit

1.Scope

The intent of this specification is to provide for a fully operational trailer with a high pressure water jetting system for the maintenance of drains, sewers and associated tasks. The high pressure jetting system shall be built onto the trailer. Trailer will be used on roads and uneven terrain.

The jetting system must be powered by an auxiliary engine.
The engine, pump and fuel tank should be enclosed by means of purpose built bodywork/removable panels.

3. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.
The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.5 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.6 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.7 Overrun anti lock brakes is mandatory.

2.8 At the end Section 7 other specifications/standards are covered that will be adhered to.

3. Material specification

The tank and tank ends will be made out of 3CR12 or stainless steel.

4. Construction requirements

1.1 Tank

4.1.1 A 1000-1500 litre elliptical, baffled water tank designed to withstand the additional rigours of road transport is required with a low centre of mass design.

4.1.2 The tank's mounting shall be so designed to eliminate any vehicle chassis flex being transmitted to the tank. Preferably rubber block type to allow for movement when negotiating rough terrains.

4.2 Jetting System and Hose reel

4.2.1 Water from the high pressure pump must be fed to an easily accessible hydraulically operated hose reel. The hose reel should be mounted on a rotating platform allowing at least a 30° rotation to either side of centre.

4.2.2 The hose reel must have a suitable method of locking it in the in the centre position or in the left or right 30° position as well as the transport position.

4.2.3 The hose reel must be fitted with a suitable rotary joint and operate hydraulically in both directions at variable speeds with a constant torque.

4.2.4 The hose reel must be capable of holding 180 m of 25 mm sewer hose and be supplied with 120 m of suitable urethane covered reinforced hose.

4.2.5 Suitable guide rollers must be provided to guide the hose between the hose reel and the manhole.

4.3 Hosing and Nozzles

The following nozzles shall be supplied per truck:

a) Ø 1 X ENZ 1" (30.100) Retro jet nozzle or similar approved
b) Ø 1 X ENZ 1" (60.100) Pointed Nozzle or similar approved
c) Ø 1 X ENZ 1" (40.100) Grenade Bomb Nozzle or similar approved

d) Ø 1 X ENZ 1" (04.060) Rotating Pipe Cleaning Nozzle or similar approved

4.4 Tool Box

4.4.1 A steel storage box incorporating two hinged lids and running the length of the tank to be positioned on one side of the tank. The depth of the boxes to be approx. 300 mm. Hasp and staple fittings to be fitted for locking purposes.

4.5 Control Panel

All controls for the operation of the machine shall be fitted to an illuminated, lockable, water resistant control panel on the left side of the hose reel. The design shall be such that the operator will be able to operate the unit whilst standing in front of the control panel.

The controls shall where possible be electronic, and activate the necessary servos (either pneumatic or hydraulic) that will activate the operation. All actions will be fully adjustable at variable speeds for the operation of the machine. A plug in, modular type, control panel is preferred for ease of maintenance.

All servos and valves to be mounted in a safe and easily accessible place for ease of maintenance.
All electrical devices must be splash resistant.
The unit must have the following controls as a minimum:
a) Water pressure gauge (Mounted externally)
b) Hose reel control lever
c) Reel speed controller
d) Three-way change valve control
e) Light switches
f) Water level gauge
g) Engine start/stop, fuel level, oil level and pressure, coolant temperature and variable speed control with read out.
h) Low level water alarm that sounds when the water reaches the 200 litres level with a relay to switch off the alarm after 30 seconds and automatically resets itself when tank is filled.
i) A low level cut out device that disengages the high pressure pump when the water in the tank reaches 20 litres and automatically resets itself when the tank is filled.
All functions must be clearly marked.

Access to the components should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps should be installed to provide access to the areas of the trailer. Provision should be made to remove the water tank if needed.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. High Pressure Pump

5.1 The high pressure water pump must be capable of producing a flow of not less than 230 liters per minute at a constant pressure variable from 65 to 250 bar.
5.2 The pump shall be durable enough to handle recycled water.
5.3 High quality materials such as stainless steel on the inlet and outlet valves, ceramic coated internals of the pump, hardened materials for the internals and pump head, double bearing and seal system is recommended for the pump.
5.4 The pump's oil level shall be easily visible with an indicator.
5.5 Should be robust, high volume, high pressure, gear driven, three piston pump or better.
5.6 It must be fitted as per manufacturer's specifications in an easily accessible place with all relevant safety features i.e. regulator, secondary filtration, tank returns etc.
5.7 The fitment of the high pressure pump should not negatively impact on the vehicles ground clearance.
5.8 The pump should include an adjustable by-pass valve and pressure release valve. A three way change over valve should redirect the flow from the hose reel to a manual by-pass or to an auxiliary take off point.

6. Auxiliary Engine for driving the pump

6.1 The pump should be driven by an air cooled, diesel engine with a power output approximately 90 kW @ 2500 rpm and a torque exceeding 200Nm @ 1500 rpm. The engine shall be an industry proven “popular” model with easily available service and spare parts support in the country and region by the bidder and other

6.2 The engines exhaust should be directed down and out to the side of the trailer.

6.3 Engine is to be fitted with efficient air, fuel and lubricating oil filters. A dry type air cleaner, with replaceable paper elements of South African manufacture, is required.

6.4 The engine should be direct coupled to the pump by a suitable flexible coupling.

6.5 All rotating drive systems and locations on the engine that dissipate excessive heat should be guarded in accordance with the Occupational Health and Safety Act Regulations (Act 85 of 1993).

6.6 The engine must produce the required speed and power to drive the pump and produce the required flow and pressure.

6.7 A suitable in-line disc filtration system should be incorporated to protect the pump from contaminated water.

6.8 The engine shall achieve its fuelling and electric requirements from standalone supplies on the trailer.

6.9 The engine shall achieve its fuelling requirements from a standalone 50 litre supply mounted on the vehicle.

6.10 An enclosure shall be built around the engine such that it is protected and encased. There shall be ventilated removable lockable panels/doors to access the engine for maintenance.

7. Lighting

A flood light should be installed in a suitable position illuminating the working area at the rear of the trailer.

Suitable lighting should be installed near the engine, tank and for the toolbox area.

A LED flashing hazard light shall be mounted above the hose reel, control box and at the rear of the trailer above the tank. The hazard light should be protected from damage.

8. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

8.7 Descale all metal surfaces

8.8 Grind down & smooth all rough edges

8.9 Thoroughly clean all surfaces

8.10 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

8.11 Thereafter paint using a coat of premium quality twin pack automotive paint.

8.12 Paint film thickness must not be less than 80 microns each. Two coats of primer and one color coat.

9. Colors

Underside of trailer	Black
Top of trailer and tank exterior	White/Safety Yellow
Tank interior	Black epoxy tar coating

10. Electrical and coupling requirements

All additional electrical circuits are to be suitably fused and must not interfere with or adversely affect the existing electrical system.

10.9 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

10.10 Dual indicator, stop and taillight units to be fitted.

10.11 Reversing buzzer and warning light to be installed when reverse gear is engaged.

10.12 An additional set of rear light units to be installed on top of the tank.

10.13 Solar panel shall be installed to supplement charge of the auxiliary engine battery should the prime mover vehicle be decoupled.

10.14 Uninterrupted power supply points shall be made available for the trailer tracking and fuel master monitoring system.

10.15 Electrical connector complying to;
SANS 1327: Electrical connectors for towing and towed vehicles and,

10.16 SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation

10.17 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers.

10.18 Suitable fans to be installed in the auxiliary engine compartment to provide additional cooling through the enclosure if required. Fans shall be connected to the thermostat of the engine.

11. Signage and Markings

11.1 Data plates shall be fitted for:

a) The tank and jetting systems indicating tank capacity, system pressures, fluid type/grade, and other relevant data.

b) The pump and engine indicating engine make and model, capacity, serial number, oil type and grade etc.

c) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

11.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section at the rear conforming with the appropriate SABS/SANS standard.

11.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

11.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

11.5 Retro-reflective tape shall be fitted to both sides and the rear of the tank as well as the rear bumper.

12. Miscellaneous items

12.1 Full size spare wheel to be mounted in a suitable place.

12.2 A locking fuel cap and anti-siphon device for the fuel tank.

12.3 The battery box is to be lockable (lock to be provided).

12.4 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position.

12.5 Wheel arches to have mudflaps.

12.6 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.

12.7 Additional stabiliser legs at the rear shall be installed.

Item 27: Technical specification for a Side tipping trailer

1.Scope

The intent of this specification is to provide for a fully operational interlink trailer with hydraulically actuated side tipping skips. The trailer will be used primarily to transport sludge from waste treatment facilities. Each skip is expected to carry a volumetric capacity of 20 m^3 with a payload mass of 17 500 kg. The trailers are expected to operate independently or coupled together.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 SANS 1518 Transport of dangerous goods — Design, construction, testing, approval and maintenance of road vehicles and portable tanks.

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 ABS brakes are mandatory.

2.4 NRTA TRH11-dimensional, mass limitations and other requirements for abnormal load vehicles.

2.5 NRTA Regulation 225

2.6 At the end Section 7 other specifications/standards are covered that will be adhered to.

3.Material specification

The load baring items including of the trailer shall be made out of structural steel to withstand the payload. Structural steels such as Domex for the structural rolled sections and flat plate is recommended for the trailer chassis. The skip's primary material shall be constructed of Corten steel which is a corrosion resistant variant. Furthermore, the inner floor and the interior side panels of the skip shall have wear plates seated on top of the steel structure. For the wear plates a suitable chromium/stainless steel/composite liner shall be used with adequate strength and corrosion properties.

4.Construction requirements

4.1 Tipper skips

4.1.1 The geometric shape shall offer maximum capacity and easy loading and off-loading.

4.1.2 The top rim of the skip shall be reinforced throughout with a heavy duty structural member to act as a bump guard.

4.1.3 All structural sections be it channels, bent plate etc. shall be reinforced using gussets evenly spaced in them such that they do not warp or buckle.

4.1.4 The floor of the skip shall be reinforced using structural members.

4.1.5 The inner wear plates shall be installed such that maintenance of these components can be carried out when minimum thickness is reached.

4.1.6 A tarpaulin cover shall be provided with each skip. The skip shall have tie down points that can secure the tarpaulin. The tarpaulin shall have the tie system integrated into it and should be easy to fasten. The skip shall hold the tarpaulin on a retractable reel where it can be safely and securely stored whilst being loaded and offloaded.

4.2 Trailer chassis

4.2.1 Shall be designed with high strength and low tare mass for the application.

4.2.2 Steel suspension.

4.2.3 Kingpins shall be bolt on for easy maintenance and comply to DIN 74080, ISO 337 and ISO 4086
4.2.4 Kingpin gauge and two locks shall be included.
4.2.5 Landing legs to be adjustable and bolt on type.
4.2.6 All electrical wiring to be neatly trunked and fastened through the chassis.
4.2.7 Fifth wheel on the leading trailer shall have a safety lock and release.
4.2.8 Chassis shall have strengthening gussets (in between flanges) at each of the suspension pedestals.

4.3 Tool Box

A steel storage box incorporating two front hinged lids and running 1 000 mm longitudinally shall be positioned on the chassis of each of the trailer. The depth of the boxes to be approx. 400 mm. Hasp and staple fittings to be fitted for locking purposes.

Access to the components should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps and platforms should be installed to provide access to the skips of the trailer for maintenance and use of the tarpaulins.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5 Hydraulic system

5.1 In respect of the hydraulic system the following shall be required:
5.2 The hydraulic valves shall be grouped together for ease of maintenance.
5.3 The hydraulic cylinders shall have maintenance free bushings/bearings.
5.4 Test points for testing hydraulic pressures shall be fitted and grouped together.
5.5 Where possible steel tubing, which shall be treated with suitable corrosion protection, in lieu of rubber hosing shall be used for hydraulic lines.
5.6 All hydraulic fittings shall be wrapped with a petrolatum impregnated tape or sprayed with a petrolatum primer to prevent corrosion.
5.7 Safety hold valve for cylinder in case of hydraulic failure.
5.8 Hydraulic controls for the operation of the loading/offloading shall be fitted in a user friendly manner for ease of operation. The outside controls shall be protected by means of an waterproof enclosure.
5.9 All control actions will be fully adjustable at variable speeds for the operation of the hydraulics. A plug in, modular type, control panel is preferred for ease of maintenance.
5.10 Hydroelectric power pack shall be installed on the trailer.

6. Lighting

A protected LED light should be installed in a suitable position illuminating the working area at the rear and on either side of the skip on each of the trailers.

Suitable lighting should be installed near control panels and toolboxes.

3 or 4 watt LED amber modules with random flashing pattern shall be installed on the sides and the rear of the trailer. Four on each side and two at the rear of each trailer.

7. Metal Preparation and Painting Procedure

The following procedure must be adhered to:
7.1 Descale all metal surfaces
7.2 Grind down & smooth all rough edges
7.3 Thoroughly clean all surfaces (clean and shot blast)
7.4 Prime the skips and trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

7.5 Thereafter paint using premium quality twin pack automotive paint
7.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one coat of paint.

8. Colors

Trailer	: Black
Skip interior	: Black epoxy tar protective coating
Skip exterior	: Yellow/CSW Blue

9. Electrical

All electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover electrical system.
9.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.
9.2 Dual indicator, stop and taillight units to be fitted.
9.3 Reversing buzzer and warning light to be installed when reverse gear is engaged for each.
9.4 Solar panel for the battery system of the trailers hydroelectric power pack.

10. Signage and Markings

10.1 Data plates shall be fitted for:

a) The hydraulics indicating capacity, system pressures, fluid type/grade, and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

10.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section above rear underrun bumper and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard for each trailer.

10.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

10.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

10.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

10.6 Hazardous chemical transporting signage to be placed at the sides and rear of each trailer according to SANS 10232.

11. Miscellaneous items

11.1 Full size spare wheel to be mounted in a suitable place on each trailer.
11.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on each trailer.
11.3 Spare set of pneumatic and hydraulic hoses with couplers for each trailer.

Item 28: Technical specification for a Lowbed semi-trailer (step-deck with winch)

1.Scope

The intent of this specification is to provide for a fully operational lowbed semi-trailer with a self powered (electric/hydraulic) driven winch and a hydraulically actuated rear ramp. The trailer shall be used primarily to transport heavy plant vehicles such as TLBs, tractors, payloaders and 6x4 to 8x4 specialised trucks. The trailer shall be expected to carry a minimum payload mass of 40 000-50 000 kg.

The trailer shall be a step-deck type trailer with a fixed goose-neck and it shall have low profile tyres for optimal deck height and low angle ramp for paving and milling plant equipment/machines.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

3.1 SANS 1518 Transport of dangerous goods — Design, construction, testing, approval and maintenance of road vehicles and portable tanks.

3.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

3.3 ABS brakes are mandatory.

3.4 NRTA TRH11-dimensional, mass limitations and other requirements for abnormal load vehicles.

3.5 NRTA Regulation 225

3.6 At the end Section 7 other specifications/standards are covered that will be adhered to.

3.7 Trailer should be at least 4 meters wide to accommodate the various vehicles.

3. Material specification

The load baring items shall be made out of structural steel to withstand the payload. Structural steels such as Domex for the structural rolled sections and flat plate is recommended for the trailer chassis. Furthermore, the floor panels of the trailer shall have wear plates seated on top of the steel structure. For the wear plates a suitable steel like hardox or a composite liner shall be used with adequate strength and corrosion properties.

4. Construction requirements

4.1 Rear loading bed

4.1.1 The geometric shape shall offer maximum surface area and easy loading and off-loading for the vehicles.

4.1.2 All structural sections be it channels, bent plate etc. shall be reinforced using gussets evenly spaced in them such that they do not warp or buckle.

4.1.3 The wear plates shall be installed such that maintenance of these components can be carried out when minimum thickness is reached.

4.1.6 There shall be generous amounts of tie down points to secure the vehicle on top of the trailer.

4.1.7 There shall be outrigger extensions for the deck of the trailer on both longitudinal sides of the trailers. This shall be for wider machinery supplied with top plates for the width of the extension outriggers. It shall have an easy installation method with all fasteners provided.

4.1.8 The rear ramp shall have maintenance free bushing/bearings. It shall be full width of the deck of the trailer in terms of construction and reinforced accordingly. It shall have a safety locking system for additional safety when travelling.

4.1.9 Ramp shall be designed with as low of an loading angel/gradient as possible, 8-12 degrees.

4.1.10 Pair of extension adapters shall be supplied to ease the gradient for loading.

4.1.11 Two pairs of heavy duty wheel chocks to be supplied with holders.

4.1.12 The winch shall be mounted in an optimum position on the gooseneck with a suitable removable weatherproof cover.

4.1.13 Rear landing legs for additional stability for heavy and wider machinery.

4.2 Trailer chassis

4.2.1 Shall be designed with high strength and low tare mass for the application.

4.2.2 Steel suspension.

4.2.3 Kingpins shall be bolt on for easy maintenance and comply to DIN 74080, ISO 337 and ISO 4086

4.2.4 Kingpin gauge and lock shall be included.

4.2.5 Landing legs to be adjustable and bolt on type.

4.2.6 All electrical wiring to be neatly trunked and fastened through the chassis.
4.2.7 Chassis shall have strengthening gussets (in between flanges) at each of the suspension pedestals.

4.3 Tool Box

A lockable waterproof steel storage box mounted near the winch/gooseneck deck to store; PPE, flag poles, fasteners, tie down ratchets, tools, heavy duty jacks and other items. Box should be as large as possible with partitions to accommodate all these items safely and in place when in transit.

There shall be other storage racks/shelves on the trailer for the extension ramps for the rear, the outrigger extension width plates and vehicle items in case of an accident damaged/broken down vehicle being recovered.

Access to the components should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps and platforms should be installed to provide access to the skips of the trailer for maintenance and use of the tarpaulins.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Hydraulic system

5.1 In respect of the hydraulic system the following shall be required:
5.2 The hydraulic valves shall be grouped together for ease of maintenance.
5.3 The hydraulic cylinders shall have maintenance free bushings/bearings.
5.4 Test points for testing hydraulic pressures shall be fitted and grouped together.
5.5 Where possible steel tubing, which shall be treated with suitable corrosion protection, in lieu of rubber hosing shall be used for hydraulic lines.
5.6 All hydraulic fittings shall be wrapped with a petrolatum impregnated tape or sprayed with a petrolatum primer to prevent corrosion.
5.7 Safety hold valve for the cylinder in case of hydraulic failure.
5.8 Hydraulic controls for the operation of the raising/lowering shall be fitted in a user friendly manner for ease of operation. The outside controls shall be protected by means of an waterproof enclosure.
5.9 All control actions will be fully adjustable at variable speeds for the operation of the hydraulics. A plug in, modular type, control panel is preferred for ease of maintenance.
5.10 Safety hand driven pump shall be installed in case of failure or power pack/prime mover vehicle not available.

6. Lighting

6.1 A pair of protected LED emergency lights should be installed at the rear of the trailer in a suitable position. Amber LED lights shall be installed on the side and on the bed of the trailer illuminating the loading area either side of the trailer.

6.2 Suitable lighting should be installed near the winch, control panels and toolboxes.

6.3 3 or 4 watt LED amber modules with random flashing pattern shall be installed on the sides and the rear of the trailer. Six on each side and four at the rear of the trailer.

7. Metal Preparation and Painting Procedure

The following procedure must be adhered to:
7.1 Descale all metal surfaces
7.2 Grind down & smooth all rough edges
7.3 Thoroughly clean all surfaces (clean and shot blast).

7.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.
7.5 Thereafter paint using premium quality twin pack automotive paint
7.6 Film thickness must not be less than 80 microns each. Two coats of primer and one coat of paint.

8. Colors

Trailer	Yellow/Blue
Top of Bed	Black

9. Electrical

All electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover electrical system.

9.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.
9.2 Dual indicator, stop and taillight units to be fitted.
9.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.
9.4 The hydraulic planetary winch shall be able to draw vehicles with a mass of 22 000 Kg. Cable shall be 30 m with a hook and safety catch. Must have operational controls at the winch and remote control operation. (Trailer shall have a cable guide such that loading more than one vehicle is possible).
9.5 A solar panel and regulator to charge the batteries of the hydraulic pack on the trailer.

10. Signage and Markings

10.1 Data plates shall be fitted for:

a) The winch and hydraulics indicating capacity, system pressures, fluid type/grade, and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

10.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section above rear underrun bumper and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

10.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

10.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

10.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

10.6 Holder with an ABNORMAL sign board for display at the rear.

10.7 Flag holders with RED flag poles for wider loads when required.

11. Miscellaneous items

11.1 Full size spare wheel to be supplied with the trailer.
11.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.
11.3 Spare set of pneumatic and hydraulic hoses with couplers for the trailer.
11.4 Four sets of heavy duty galvanised/stainless steel tie down ratchets with sleeved chains or heavy duty sleeved straps for the vehicles and plant equipment that will be transported.
11.5 Six heavy duty road cones and road cone holder on the trailer.
11.6 A jerry can with a holder on the trailer.

Item 29: Technical specification for a multi-purpose trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer that shall be used primarily to transport skips. A minimum payload mass of 40 000-45 000 kg.

5. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

a. SANS 1518 Transport of dangerous goods — Design, construction, testing, approval and maintenance of road vehicles and portable tanks.
b. SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.
c. ABS brakes are mandatory.
d. NRTA TRH11-dimensional, mass limitations and other requirements for abnormal load vehicles.
e. NRTA Regulation 225
f. At the end Section 7 other specifications/standards are covered that will be adhered to.

6. Material specification

The load baring items shall be made out of structural steel to withstand the payload. Structural steels such as Domex for the structural rolled sections and flat plate is recommended for the trailer chassis. Furthermore, the floor panels of the trailer shall have wear plates seated on top of the steel structure. For the wear plates a suitable steel like hardox or a composite liner shall be used with adequate strength and corrosion properties.

7. Construction requirements

4.1 Rear bed

4.1.1 There shall be a rear tandem axle bogie, with a tandem front axle dolly drawbar system.

4.1.2 The trailer shall be expected to carry three laden skips. The trailer will be geometrically designed such that loading and off-loading can be comfortably done using a skip loader/telehoist vehicle. There shall be a turntable system for the center positioned skip.

4.1.3 All structural sections be it channels, bent plate etc. shall be reinforced using gussets evenly spaced in them such that they do not warp or buckle.

4.1.4 There shall be two pairs of tapered guides for each side of each skip which can comfortably guide the skip onto the flat bed and hold it in position when in transit.

4.1.5 The wear plates shall be installed such that maintenance of these components can be carried out when minimum thickness is reached.

4.1.6 There shall be generous amounts of tie down points to secure the skips and skip covers.

4.2 Trailer chassis

4.2.1 Shall be designed with high strength and low tare mass for the application.

4.2.2 Steel suspension.

4.2.3 The A frame shall fit into couplings system on the trailer chassis (bushes/bearings to be maintenance free) and it shall be level when hitched onto the skip loader towing vehicle.

4.2.4 50 mm tow eye shall be fitted. Load ratings of the tow eye shall be of the correct D value and vertical loading based on the vehicles loading and tare masses.

4.2.5 Landing leg and heavy duty jockey wheel to be adjustable and bolt on type for the A frame.

4.2.6 All electrical wiring to be neatly trunked and fastened through the chassis.

4.2.7 Chassis shall have strengthening gussets (in between flanges) at each of the suspension pedestals.

4.3 Tool Box

A steel storage box incorporating two front hinged lids and running 600 mm longitudinally shall be positioned on the chassis of each of the trailer. The depth of the boxes to be approx. 400 mm. Hasp and staple fittings to be fitted for locking purposes.

Access to the components should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit. Steps and platforms should be installed to provide access to the skips of the trailer for maintenance and use of the tarpaulins.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Lighting

A pair of protected LED emergency lights should be installed at the rear of the trailer in a suitable position. Three pairs of amber LED lights shall be installed on each of the sides of the trailer illuminating the length.

Suitable lighting should be installed near the toolbox.

6. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

4.1 Descale all metal surfaces

4.2 Grind down & smooth all rough edges

4.3 Thoroughly clean all surfaces (clean and shot blast)

4.4 Prime the skips and trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

4.5 Thereafter paint using premium quality twin pack automotive paint

4.6 Film thickness must not be less than 80 microns each. Two primer coats and one color coat.

7. Colors

Trailer	CSW Blue RAL 5002/Pantone 280C or Safety Yellow
Bed	Black

8. Electrical

All electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover electrical system.

8.4 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

8.5 Dual indicator, stop and taillight units to be fitted.

8.6 Reversing buzzer and warning light to be installed when reverse gear is engaged.

9. Signage and Markings

9.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

9.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section above rear underrun bumper and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

9.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

9.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

9.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

9.6 Hazardous chemical transporting signage to be placed at the sides and rear of the trailers according to SANS 10232.

10. Miscellaneous items

10.1 Full size spare wheel to be mounted in a suitable place on the trailer.
10.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.
10.3 Spare set of pneumatic hoses with couplers for the trailer.
10.4 Eight sets of heavy duty galvanised/stainless steel tie down ratchets with sleeved chains or heavy duty sleeved straps for the laden skips that will be transported.

Item 30: Technical specification for a trailer to transport equipment

1.Scope

The intent of this specification is to provide for a fully operational trailer that can be used to transport industrial equipment for the eThekwini Municipality water and sanitation department. The equipment shall be mainly used to transport walk behind self powered pavement saws and industrial compressors.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer shall be the design and size to accommodate the various equipment as mentioned in the scope.

The trailer and the customization shall be designed according to these critical specifications (latest revisions shall be used and summary of evidence shall be provided):

2.1 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.4 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.5 Overrun anti lock brakes is mandatory.

2.4 The end of Chapter 7 covers other specifications/standards that will be adhered to.

3. Material specification

The load bearing items of the trailer shall be constructed out of non-corrosive metallic steel suitable for the application. The caged mesh shall be 3CR12 with a fine aperture.

4. Construction requirements

4.1Trailer features

4.1.1 The trailer shall have caged drop sides 600-800 mm high.

4.1.2 Quick release ride on/off ramp which shall also serve as a rear headboard. It shall be full lateral width and have a gradual angle to safely load and offload equipment with no obstructions. The ramp shall be reinforced solid plate with a structural frame to support the equipment.

4.1.3 Ramp shall have chains to lower and adjust the height if necessary. Quick release tailgate locks shall be employed at both ends. Chains must also serve as a safety catch when ramp is in headboard position.

4.1.4 The height of the ramp/headboard shall be angled to not inhibit operation of the trailer in either position/mode of use.

4.1.5 The floor of the trailer shall be solid plate and lined with a non-slip material.

4.1.6 There shall be a sub chassis frame mounted vertically at the front of the load area to mount the winch that shall be used to hoist the equipment. The winch and the controls shall be enclosed and lockable.

4.1.7 There shall be a pair of guided rollers mounted underneath the chassis (one at each end). A heavy duty steel cable shall with a safety hook and catch at either shall be mounted on the cable. This will allow the equipment to be moved to the rear of the trailer using the winch when off-loading.

4.1.8 The front of the trailer shall have a full size toolbox integrated with the design of the trailer. The lid shall be outside hinged and have two lockable points on the front.

4.1.9 The floor of the toolbox shall be lined with an anti-slip rubber on the inner surface. Mounted in a manner for easy maintenance.

4.1.10 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.

4.1.11 Trailer tyres shall be adopted for highway speeds.

4.1.12 Suspension to accommodate uneven terrain that this trailer is normally used in.

4.1.13 The wheel arches shall have mud flaps.

4.1.14 Trailer to have a pair of mechanical drop down supports at the front and rear.

Access to the components and areas should be through suitable spaces. The layout should be designed to enhance maintenance of the unit.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material.

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

5.1 Descale all metal surfaces

5.2 Grind down & smooth all rough edges

5.3 Thoroughly clean all surfaces

5.4 Prime the skips and trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

5.5 Thereafter paint using a coat of premium quality twin pack automotive paint.

5.6 Paint film thickness must not be less than 80 microns each. Two primer coats and one colour coat.

6. Colors

Underside of Body	Black
Trailer	White with water and sanitation branding (vinyl decals)

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 Two pairs of taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.
7.2 Dual indicator, stop and taillight units to be fitted.
7.3 Reversing warning light to be installed when reverse gear is engaged.
7.4 Electrical connector complying to;
7.5 SANS 1327: Electrical connectors for towing and towed vehicles and,
SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation
7.6 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers.
7.7 The electric (12VDC) planetary winch shall be able to draw vehicles with a mass of 1 000 Kg. Cable shall be at least 10 m with a hook and safety catch. Must have enclosed operational controls at the winch. Winch shall be powered by the towing vehicle/prime mover. Bidder to provide a robust detachable fused connection to meet the current and voltage draw.
7.8 3 or 4 watt LED amber modules with random flashing pattern shall be installed on the sides and the rear of the trailer. Two on each side and two at the rear of each trailer.

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board with rear lights to be fitted and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted in a suitable place on the trailer.
9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.

Item 31: Technical specification for a Fuel Bowser trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer that can transport diesel to remote sites for municipality commercial and plant vehicles. The trailer is expected to have its own independent self powered dispensing fuel unit to refuel.

2.Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 Overrun anti lock brakes is mandatory.

2.4 At the end Section 7 other specifications/standards are covered that will be adhered to.

3. Material specification

The tank and tank ends will be made out of 3CR12 or stainless steel.

4. Construction requirements

4.5 Tank

4.1.1 A 2000-2500 litre elliptical, baffled fuel tank designed to withstand the additional rigours of road transport is required with a low centre of mass design.

4.1.2 The tank's mounting shall be so designed to eliminate any vehicle chassis flex being transmitted to the tank. Preferably rubber block type to allow for movement when negotiating rough terrains.

4.1.3 Tank shall have a level indicator that shows the liter capacity available in the tank.

4.1.4 Low level alarm that sounds when the fuel reaches a low level with a relay to switch off the alarm after 30 seconds and automatically resets itself when tank is filled.

4.1.5 A low level cut out device that disengages the pump when the fuel in the tank reaches 20 litres and automatically resets itself when the tank is filled.

4.1.6 All functions must be clearly marked.

4.2 Fuel dispensing system

4.2.1 The system shall be a self powered DC electric pump. Lockable battery unit to be fitted on the chassis. A solar panel should provide charge to the battery when decoupled from the towing vehicle. When coupled and in motion there should be an electric supply that can charge the battery via the towing vehicle or a generator on the trailer's axles.

4.2.2 Battery shall be maintenance free high capacity unit (minimum 3 year warranty).

4.2.3 Dispense system shall be fully fitted and supplied with pump, control box, digital meter, dispenser, filter and automatic nozzle. A protective cover should enclose components where possible.

4.2.4 The hose reel must be self retracting and capable of holding a minimum of 10 m of fuel dispensing hose and be supplied with suitable reinforced hose of at least 10 m.

4.3 Tool Box

A lockable storage box incorporating two hinged lids shall be fitted and supplied for general maintenance tools.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Lighting

A LED flood light should be installed in a suitable position illuminating the working area of the trailer to assist refueling in low light conditions.

A pair of 3 watt amber LED flashing hazard light modules shall be mounted on each side and at the rear of the trailer.

6. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

6.1 Descale all metal surfaces

6.2 Grind down & smooth all rough edges

6.3 Thoroughly clean all surfaces

6.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

6.5 Thereafter paint using a coat of premium quality twin pack automotive paint.

6.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one colour coat.

7. Colors

Underside of trailer	Black
Top of trailer and tank exterior	Safety Yellow
Tank interior	Solvent free, amine cured epoxy coating in white

8. Electrical and coupling requirements

All additional electrical circuits are to be suitably fused and must not interfere with or adversely affect the existing electrical system.

8.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

8.2 Dual indicator, stop and taillight units to be fitted.

8.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.

8.4 An additional set of rear light units to be installed on top of the tank.

8.5 Uninterrupted power supply points shall be made available for the trailer tracking and fuel master monitoring system.

8.6 Electrical connector complying to;
SANS 1327: Electrical connectors for towing and towed vehicles and,

8.7 SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation

8.8 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers.

9. Signage and Markings

9.1 Data plates shall be fitted for:

a) The tank and refueling systems indicating tank capacity, system pressures, fuel type/grade, and other relevant data.

b) The pump indicating make and model, capacity, serial number, oil type (if applicable) and grade etc.

c) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

9.2 Chevron board and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

9.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

9.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

9.5 Retro-reflective tape shall be fitted to both sides and the rear of the tank as well as the rear bumper.

10. Miscellaneous items

10.1 Full size spare wheel to be mounted in a suitable place.
10.2 A locking fuel cap and anti-siphon device for the fuel tank.
10.3 The battery box is to be lockable (lock to be provided).
10.4 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position.
10.5 Wheel arches to have mudflaps.
10.6 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
10.7 Additional stabiliser legs at the rear shall be installed.

Item 32: Technical specification for a Multi-purpose caged sides trailer

1.Scope

The intent of this specification is to provide for a fully operational trailer that can be used to transport general commodities for the various eThekwini Municipality departments. The trailer shall be designed as a fully enclosed body with a solid floor and caged sides with a pair of rear opening doors and a tarpaulin cover. Payload will be approximately 500 kg.

2. Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer shall be the design and size to accommodate the various equipment as mentioned in the scope.

The trailer and the customization shall be designed according to these critical specifications (latest revisions shall be used, and summary of evidence shall be provided):

2.1Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 The end of Chapter 7 covers other specifications/standards that will be adhered to.

2.4 Overrun anti lock brakes is mandatory.

3. Material specification

The load bearing structures and caged sides shall be made from light weight structural steel to withstand the payload and wear. Aluminium, stainless steel or galvanised steel is recommended for the caged sides, rear caged doors and grab handles. The fasteners shall be the same material including the lock washers to hold the structural members. Minimum material thickness of 3 mm.

4. Construction requirements

4.1Trailer features

4.2.6 The trailer body shall be minimum 3000 mm in length, 1800 mm wide and 1800 mm high.
4.2.7 The trailer sides and floor shall be adequately strengthened using structural members for the vertical, longitudinal and lateral directions. There shall be no forming of depressions on the panels.
4.2.8 The rear doors shall open clearly to allow the full rear width to be used for loading. There shall be a robust holder on each side to hold the rear doors open. Rear locking system with lock to be included.
4.2.9 Two grab handles 400 mm each in length shall be fitted to assist entry on both the right-hand side and the left-hand side of the rear.
4.2.10 The floor of the trailer shall be covered with tread plate (Vastrap).
4.2.11 Rope hooks shall be provided for the exterior circumference of the trailer to adequately hold and secure the tarpaulin cover (included).
4.2.12 Automatic jockey wheel and solid landing leg, both rotatable from 0-180 degrees for safe stow away when driving.
4.2.13 Trailer tyres shall be adopted for highway speeds.
4.2.14 The wheel arches shall have mud flaps.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces. Drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the trailer should be coated with a non-slip resistant material.

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:
5.1 Descale all metal surfaces
5.2 Grind down & smooth all rough edges
5.3 Thoroughly clean all surfaces
5.4 Prime using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.
5.5 Thereafter paint using a premium quality twin pack automotive paint
5.6 Paint film thickness must not be less than 80 microns each. Two coats of primer and one colour coat is required.

6. Colors

Underside of Body	Black
Trailer	White/Blue/Green/Yellow/Metro police blue

7. Electrical and coupling requirements

Electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover's electrical system.

7.1 Two pairs of taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.
7.2 Dual indicator stops and taillight units to be fitted.

7.3 Reversing warning light to be installed when reverse gear is engaged.
7.4 Electrical connector complying to;
7.5 SANS 1327: Electrical connectors for towing and towed vehicles and,
SANS 11446/ lSO 11446: Passenger cars and light commercial vehicles with 12 V systems -3-pole connectors between towing vehicles and trailers - Dimensions and contact allocation
7.6 Trailer coupling to comply with SABS 1505, Ball type couplings and towing brackets for towing caravans and light trailers
7.7 Four 3 or 4 watt LED amber modules with random flashing pattern shall be installed on the rear of the trailer.

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The trailer indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board with rear lights to be fitted and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

9. Miscellaneous items

9.1 Full size spare wheel to be mounted in a suitable place on the trailer.
9.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.
9.3 Additional stabiliser legs at the rear shall be installed.

Item 33: Technical specification for a Lowbed semi-trailer (detachable gooseneck)

1.Scope

The intent of this specification is to provide for a fully operational lowbed semi-trailer with a self powered (electric/hydraulic) detachable gooseneck. The trailer shall be used primarily to transport heavy plant vehicles such as TLBs, tractors, payloaders and 6x4 to 8x4 specialised trucks. The trailer shall be expected to carry a minimum payload mass of 35 000-40 000 kg. The trailer shall be a detachable goose-neck type that can allow the vehicles/plant equipment to drive on via ramps and ramp extensions.

It shall have low profile tyres for optimal deck height and low angle ramps and extensions for paving and milling plant equipment/machines.

2.Trailer

Trailer shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties.

The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

2.1 SANS 1518 Transport of dangerous goods — Design, construction, testing, approval and maintenance of road vehicles and portable tanks.

2.2 SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.

2.3 ABS brakes are mandatory.

2.4 NRTA TRH11-dimensional, mass limitations and other requirements for abnormal load vehicles.

2.5 NRTA Regulation 225

2.6 At the end Section 7 other specifications/standards are covered that will be adhered to.

2.7 Trailer should be at least 4 meters wide to accommodate the various vehicles.

3 Material specification

The load baring items shall be made out of structural steel to withstand the payload. Structural steels such as Domex for the structural rolled sections and flat plate is recommended for the trailer chassis. Furthermore, the floor panels of the trailer shall have wear plates seated on top of the steel structure. For the wear plates a suitable steel like Hardox or a composite liner shall be used with adequate strength and corrosion properties.

4 Construction requirements

4.1 Drive on loading bed

4.1.1 The geometric shape shall offer maximum surface area and easy loading and off-loading for the vehicles.

4.1.2 All structural sections be it channels, bent plate etc. shall be reinforced using gussets evenly spaced in them such that they do not warp or buckle.

4.1.3 The wear plates shall be installed such that maintenance of these components can be carried out when minimum thickness is reached.

4.1.6 There shall be generous amounts of tie down points to secure the vehicle on top of the trailer.

4.1.7 There shall be outrigger extensions for the deck of the trailer on both longitudinal sides of the trailers. This shall be for wider machinery supplied with top plates for the width of the extension outriggers. It shall have an easy installation method with all fasteners provided.

4.1.8 Maintenance free bushing/bearings shall be used.

The gooseneck system shall be adequate width of the deck of the trailer in terms of construction and reinforced accordingly when clamped for transit. It shall have a safety locking system for additional safety when travelling.

4.1.9 Ramp shall be designed with as low of an loading angel/gradient as possible.

4.1.10 Pair of ramp extension adapters shall be supplied to ease the gradient for loading.

4.1.11 Two pairs of wheel chocks to be supplied with holders.

4.2 Trailer chassis

4.2.1 Shall be designed with high strength and low tare mass for the application.

4.2.2 Steel suspension.

4.2.3 Kingpins shall be bolt on for easy maintenance and comply to DIN 74080, ISO 337 and ISO 4086

4.2.4 Kingpin gauge and lock shall be included.

4.2.5 Landing legs to be adjustable and bolt on type.

4.2.6 All electrical wiring to be neatly trunked and fastened through the chassis.

4.2.7 Chassis shall have strengthening gussets (in between flanges) at each of the suspension pedestals.

4.3 Tool Box

A lockable waterproof steel storage box mounted to store; PPE, flag poles, fasteners, tie down ratchets, tools, heavy duty jacks and other items. Box should be as large as possible with partitions to accommodate all these items safely and in place when in transit.

There shall be other storage racks/shelves on the trailer for the extension ramps for the rear, the outrigger extension width plates.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. The floor should be such that water does not accumulate.

5 Hydraulic system

5.1 In respect of the hydraulic system the following shall be required:

5.2 The hydraulic valves shall be grouped together for ease of maintenance.

5.3 The hydraulic cylinders shall have maintenance free bushings/bearings.

5.4 Test points for testing hydraulic pressures shall be fitted and grouped together.

5.5 Where possible steel tubing, which shall be treated with suitable corrosion protection, in lieu of rubber hosing shall be used for hydraulic lines.

5.6 All hydraulic fittings shall be wrapped with a petrolatum impregnated tape or sprayed with a petrolatum primer to prevent corrosion.

5.7 Safety hold valve for the cylinder in case of hydraulic failure.

5.8 Hydraulic controls for the operation of the raising/lowering shall be fitted in a user friendly manner for ease of operation. The outside controls shall be protected by means of a waterproof enclosure.

5.9 All control actions will be fully adjustable at variable speeds for the operation of the hydraulics. A plug in, modular type, control panel is preferred for ease of maintenance.

5.10 Safety hand driven pump shall be installed in case of failure or power pack/prime mover vehicle not available.

6. Lighting

6.1 A pair of protected LED emergency lights should be installed at the rear of the trailer in a suitable position. Amber LED marker lights shall be installed on the side and on the bed of the trailer illuminating the loading area either side of the trailer.

6.2 3- or 4-watt LED amber modules with random flashing pattern shall be installed on the sides and the rear of the trailer. Six on each side and four at the rear of the trailer.

7. Metal Preparation and Painting Procedure

The following procedure must be adhered to:

7.1 Descale all metal surfaces

7.2 Grind down & smooth all rough edges

7.3 Thoroughly clean all surfaces (clean and shot blast).

7.4 Prime the trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

7.5 Thereafter paint using premium quality twin pack automotive paint

7.6 Film thickness must not be less than 80 microns each. Two coats of primer and one coat of paint.

8. Colors

Trailer	Yellow/Blue

Top of Bed	Black

9. Electrical

All electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover electrical system.

9.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

9.2 Dual indicator, stop and taillight units to be fitted.

9.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.

10. Signage and Markings

10.1 Data plates shall be fitted for:

a) The hydraulics indicating capacity, system pressures, fluid type/grade, and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

10.2 Chevron board with rear lights to be fitted on a steel channel (3CR12) section above rear underrun bumper and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

10.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

10.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

10.5 Retro-reflective tape shall be fitted to both sides and the rear of the trailer as well as the rear bumper.

10.6 Holder with an ABNORMAL sign board for display at the rear.

10.7 Flag holders with flags and flag poles for wider loads.

11. Miscellaneous items

11.1 Full size spare wheel to be supplied with the trailer.
11.2 A 4.5 kg fire extinguisher should be supplied and fitted in an accessible position on the trailer.
11.3 Spare set of pneumatic and hydraulic hoses with couplers for the trailer.
11.4 Four sets of heavy duty galvanised/stainless steel tie down ratchets with sleeved chains or heavy duty sleeved straps for the vehicles and plant equipment that will be transported.
11.5 Six heavy duty road cones and road cone holder on the trailer.
11.6 A jerry can with a holder on the trailer.

Item 34: Technical specification for a trailer dolly

1.Scope

The intent of this specification is to provide for a fully operational trailer dolly that can be used primarily to hitch trailers with a kingpin system and tow it via drawbar coupled to prime mover with a Rockinger type tow bar. Bidder shall provide the option of two types; 26.1 Dolly with a single axle and 4 wheels and 26.2 Dolly with a dual axle and 4 wheels per axle (8 wheels in total)

4. Dolly

It shall be ergonomically designed with low tare mass, low center of mass and high aerodynamic properties. The trailer and the customization shall be designed according to these critical specifications (summary of evidence shall be provided):

a. SANS 1518 Transport of dangerous goods — Design, construction, testing, approval and maintenance of road vehicles and portable tanks.
b. SANS 20013 Surface vehicles. This specification covers the braking system of motor vehicles and trailers. Maximum design speed exceeding 35km/h intended for use on public roads.
c. ABS brakes are mandatory.
d. NRTA TRH11-dimensional, mass limitations and other requirements for abnormal load vehicles.
e. NRTA Regulation 225
f. At the end Section 7 other specifications/standards are covered that will be adhered to.

3.Material specification

The load baring items shall be made out of structural steel to withstand the payload. Structural steels such as Domex for the structural rolled sections and flat plate is recommended for the trailer chassis. Furthermore, the floor panels of the trailer shall have wear plates seated on top of the steel structure. For the wear plates a suitable steel like Hardox

4. Construction requirements

4.1. Shall be designed with high strength and low tare mass for the application and maximum load ratings in all directions of the fifth wheel.
4.2 Steel suspension.
4.3 The A frame shall fit into the tow coupler system of the prime mover chassis (bushes/bearings to be maintenance free) and it shall be level when hitched onto the prime mover.
4.4 4/50 mm tow eye shall be fitted (shall be confirmed at time of the order). Load ratings of the tow eye shall be of the correct D value and vertical loading based on the vehicles loading and tare masses.
4.5 Landing leg and heavy duty jockey wheel to be adjustable and bolt on type for the A frame.
4.6 All electrical wiring to be neatly trunked and fastened through the chassis.
4.7 Chassis shall have strengthening gussets (in between flanges) at each of the suspension pedestals.
4.8 Pass through electrical, pneumatic and hydraulic quick couplers to be positioned on the dolly such that cables and hoses from the prime mover can be coupled to the dolly and hoses from the dolly coupled to the trailer. Two sets of electrical cables and pneumatic and hydraulic hoses shall be supplied.

Fifth wheel

4.9 To accommodate kingpins that comply to DIN 74080, ISO 337 and ISO 4086.
4.10 Have the option of 2 and 3.5 inch kingpins.
4.11 Mounting pedestals should offer maximum movement to couple various types of trailers on all terrain.
4.12 Shall be mounted to distribute maximum load from trailer to rear and front axles of prime mover.

Access to the components should be through suitable spaces with adequate weather proof ventilation and the layout should be designed to enhance maintenance of the unit.

All items in chapter 4 must be thoroughly sealed with an approved sealer to prevent rusting between mating surfaces and drain holes must be provided in areas where water can accumulate. Any floor that persons will use on the body should be coated with a hard wearing, slip resistant material (Vastrap).

5. Metal Preparation and Painting Procedure

The following procedure must be adhered to:
5.1 Descale all metal surfaces
5.2 Grind down & smooth all rough edges
5.3 Thoroughly clean all surfaces (clean and shot blast)

5.4 Prime the skips and trailer using a two component self-curing inorganic zinc ethyl silicate or two component zinc rich polyamide cured epoxy primer.

5.5 Thereafter paint using premium quality twin pack automotive paint

5.6 Film thickness must not be less than 80 microns each. Two primer coats and one color coat.

6. Colors

Dolly	Black/Grey

7. Electrical

All electrical circuits are to be suitably fused and must not interfere with or adversely affect the prime mover electrical system.

7.1 Taillight units shall be premium quality equal light units incorporating 30 LEDs or more approx. 100 mm in diameter that are screwed into position with a stainless steel flange.

7.2 Dual indicator, stop and taillight units to be fitted.

7.3 Reversing buzzer and warning light to be installed when reverse gear is engaged.

8. Signage and Markings

8.1 Data plates shall be fitted for:

a) The dolly indicating axle loads and braking capacity for each axle, relevant masses, braking system information, towing eye information and other relevant data.

b) Safety, operation, technical data, dates of manufacture, manufacturer's details etc.

8.2 Chevron board with rear lights to be fitted and plastic mudguards to the rear wheels both conforming with the appropriate SABS/SANS standard.

8.3 Durable, ultraviolet resistant and weather resistant warning signs shall be provided at all locations of the vehicle that impose a danger to persons.

8.4 Durable, ultraviolet resistant and weather resistant information signs shall be provided in specific locations to assist the driver/maintenance staff with the operation/maintenance of the vehicle.

8.5 Retro-reflective tape shall be fitted to both sides and the rear.

9. Miscellaneous items

9.1 Spare set of electrical cables and pneumatic and hydraulic hoses shall be supplied.

9.2 A storage box or compartment for the cables and hoses.

9.3 Spare wheel (rim and tyre).

Applicable standards and specifications for all items;

The following, not necessarily comprehensive, list of standard specifications are relevant (latest revisions to be adhered to):

ANSI/AWS D1.1 Structural Welding Code

Steel BS-EN 287 Part 1 Approval testing of welders/fusion welding

BS-EN 288 Part 3 Specification and approval of welding procedures for metallic materials

BS 5135 Metal arc welding of carbon and carbon manganese steels

BS 3923 Methods for ultrasonic examination of welds

BS 2600 Radiographic examination of fusion welded butt joints in steel

BS 5493 Code of practice for protective coating of iron and steel structures against corrosion

DIN 1026 Metric channels

ISO R657 Angles

SANS 135 ISO metric bolts, screws and nuts (hexagon and square) (coarse thread, free fit series)

SANS 136 ISO metric precision hexagon-head bolts and screws, and hexagon nuts (coarse thread medium fit series)

SANS 064 Preparation of steel surfaces for coating

SANS 763 Hot-dip (galvanized) zinc coatings

SANS 1091 National colour standards for paint

SANS 1431 Weldable structural steels

SABS 1046, SABS 1376 Lights and retro-reflective devices

SABS 1051, 1447, SANS 20013, SANS 6292 Brakes and braking equipment

SABS 1329 Rear warning sign (chevron)

SANS 1055 Rear underrun protection device

SANS 1496 Wheel flaps

SABS 1447 Pneumatic braking connections

SANS 3779 Vehicle identification number

Vehicle dimensions NRTA Act no.93 of 1996

Data plates Compulsory Vehicle Standards

COMPULSORY QUESTIONNAIRE FOR TECHNICAL SPECIFICATIONS

Questionnaire forms part of the tender documents and must be completed in its entirety. Where proof is provided the bidder shall clearly mark these as appendices and highlight in the submission the sections that are valid.

Can your company adhere to the following specifications when manufacturing and supplying various trailers?	**Yes / No**	**If Yes, please provide proof. Appendix no. with submission.**

Compulsory items:
• Are you an OEM/Certified agent/SABS/SANS certified manufacturer of trailers? (Certified proof provided)
• Can the relevant documents be provided for Section 6, SCC 10.1 and ACC1 with the vehicles?
  ○ Detailed maintenance manual
  ○ Operating manual
  ○ Training manual
  ○ Spares manual
  ○ Electrical wiring circuit/diagram
  ○ Design report showing that the criteria for SANS 1518 has been met.
  ○ The vehicle complies to SANS 20013.
  ○ A CAD model in. STEP format for the customisation either on CD or USB (where applicable).
  ○ Quality management plan and documents
• Has Section 6, SCC 10.1.2 been submitted for the tender?
  ○ An assembly drawing indicating the general arrangement of the chassis and the subassemblies making up the customization.
  ○ A mass distribution diagram of the loading forces in relation to the kingpin and axles.
  ○ Design calculations (where applicable) showing supplied systems are operating safely.
  ○ Material data, primer and paint data sheets?
• Can the warranty obligations be met in Section 6, 15.2 (2, 5 and 10 years as specified) ? (Terms and conditions shall be submitted)
• Have the returnable documents from Sections 3 and 4 being provided?		

Specifications and standards • Are supplied products and system/s in accordance and recgonised by the relevant SABS/SANS specification/standard? • Water tanks non destructive tested, 10 x-ray, waterfill and pressure tested?		

Item 1: Trailer for transporting horses		
Trailer items • Designed to standards as mentioned in Item 1 chapter 2? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes? • Secondary braking system option? • Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		
Trailer capacity: • What material is used to construct the trailer? • What material is used for the wear linings? • Trailer payload capacity (recommended 2 x 800 kg horses)? • Can criteria in Section 7 Item 1, chapter 4 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 1, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 2: Trailer with ablution facility and load area		
Trailer items • Designed to standards as mentioned in Item 2 chapter 2? • Meeting requirements in SANS 20013 or better? • Meets all of NRTA requirements for homologation? • Overrun anti lock brakes? • What material is used for the trailer chassis?		
Trailer capacity: • What material is used to construct the trailer? • What material is used for the ablution facility? • Trailer payload capacity (recommended 2 x equipment)? • Can criteria in Section 7 Item 2, chapter 4 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 2, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 3: Workshop trailer		
Trailer items • Designed to standards as mentioned in Item 3 chapter 2? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes? • Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		
Trailer capacity: • What material is used to construct the trailer? • Trailer payload capacity? • Can criteria in Section 7 Item 3, chapter 4 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 7, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 4: Trailer Mounted Woodchipper Unit		
Vehicle items • Designed to Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).or better? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes?		
Woodchipper system: • What grade steel is used (data sheet to be submitted)? • Chipper capacity (recommended 250/375 mm roller system)? • Can criteria in Section 7 Item 4, chapter 4, 7, 8 be met without any exclusions?		
Operating capacity • Auxiliary engine minimum power rating (specify brand, model and power ratings)? • Noise rating (specify dBA ratings of system)? • Adjustable discharge chute with guide? • Safety deflectors for inlets and outlets? • Emergency shut off? • Can criteria in Section 7 Item 4, chapter 5-6 be met without any exclusions?		

Sub systems and miscellaneous items • Can items in section 7 Item 11, chapter 8-12 in the technical specification be met without any exclusions?		

Item 5: Sludge tank trailer		
Trailer items • Designed to SANS 1518? • Meeting requirements in SANS 20013 or better? • ABS Braking? • Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		
Tank and Tipping system: • What material is used for the trailer? • What material is used for the tank? • What material is used for the wear lining in the tank? • Tank holding capacity (recommended 17 500 kg and 12 500 liters)? • Hydraulic capacity? • Hydraulic power pack on trailer? • Tilt angle? • Mountings and mounting method of tank to chassis? • Sight glasses with level indication? • Top hinged hydraulic operated door? • Minimum of 6 hydraulic operating locking clamps for the tank door? • Manhole diameter and two stage entry/access system? • Safety access ladders, walkways with safety railings? • Safety harness points for working at heights? • Manhole height of 3800 mm for loading? • Extension funnel for 4500 mm loading chutes? • Electrical warnings for manhole and tank door? • Height and funnel requirements can be met? • Agitator and water system/cleaning apparatus (specify details)? • Can criteria in Section 7 Item 5, chapter 4, 5, and 11 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 12, chapter 6,7,8,9 and 10 in the technical specification be met without any exclusions?		

Item 6: Generator trailer		
Vehicle items • Designed to Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).or better? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes?		
Systems: • What grade steel is used (data sheet to be submitted)? • Generator capacity (data sheet to be submitted)? • Noise rating (specify dBA ratings of system)? • Engine make and model? (specify details) • Can criteria in Section 7 Item 6, chapter 4 and 5 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 6, chapter 7-10 in the technical specification be met without any exclusions?		

Item 7: Mobile lighting tower trailer		
Vehicle items • Designed to Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).or better? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes?		
Systems: • What grade steel is used (data sheet to be submitted)? • Generator capacity (data sheet to be submitted)? • LED Light capacity (data sheet to be submitted)? • Mast height (recommended 8 000 mm)? • How is the mast raised and lowered? • Noise rating (specify dBA ratings of system)? • Engine make and model? (specify details)		

• Can criteria in Section 7 Item 7, chapter 4 and 5 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 7, chapter 7-10 in the technical specification be met without any exclusions?		

Item 8: Trailer with ablution facilities		
Trailer items • Designed to standards as mentioned in Item 8 chapter 2? • Meeting requirements in SANS 20013 or better? • Meets all of NRTA requirements for homologation? • Overrun anti lock brakes? • What material is used for the trailer chassis?		

Trailer capacity:
• What material is used to construct the trailer?
• What material is used for the ablution facility?
• Pull out/Fold down retractable stair cases?
• What are you bidding on;
  o Pair of ablution facilities
  o Two pairs of ablution facilities
• What water systems can you provide;
  o Gravity
  o Powered
• What capacity are the tanks on the trailer;
  o Water
  o Waste		

Sub systems and miscellaneous items • Can items in section 7 Item 8, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 9: Emulsion sealant tanker trailer

Vehicle items • Designed to Compulsory specification for category O1 and O2 vehicles (caravans and light trailers) or better? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes?		
Operating system: • What grade stainless steel is used for the tank (data sheet to be submitted)? • Tank capacity (recommended 2000-3000 liters)? • Two stage low contents level alarm? (specify details) • Can criteria in Section 7 Item 9, chapter 4, 7, 8 be met without any exclusions?		
Operating capacity • High pressure pump and auxiliary engine minimum power rating of 50 kW and 120Nm of torque (specify brand, model and power ratings)? • Noise rating (specify dBA ratings of system)? • Hose reel capacity of 10m with 60º rotation minimum (specify amount)? • Guide rollers for hose? • Can criteria in Section 7 Item 9, chapter 4-6 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 9, chapter 7-12 in the technical specification be met without any exclusions?		

Item 10: Rapid deployment razor wire trailer		
Trailer items • Designed to standards as mentioned in Item 10 chapter 2? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes? • Meets all NRTA requirements for homologation? • What material is used for the trailer chassis?		
Trailer capacity: • What material is used to construct the trailer? • What material is used for the razor wire? • How high and long is the razor barrier? (minimum height and length of 2m and 100m respectively) • How does the rapid deployment system work? • How does the razor wire recoil back into the trailer?		

• Can criteria in Section 7 Item 10, chapter 4 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 10, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 11: Core drilling trailer		
Vehicle items • Designed to Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).or better? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes? • Tare mass with equipment?		
Systems: • What grade steel is used (data sheet to be submitted)? • Generator make, model and capacity (data sheet to be submitted)? • Core drill make, model and capacity (data sheet to be submitted)? • Water cooling? (tank capacity and how is the water fed)? • Can criteria in Section 7 Item 11, chapter 4 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 11, chapter 7-10 in the technical specification be met without any exclusions?		

Item 12: Multi-purpose box trailer		
Trailer items • Designed to standards as mentioned in Item 12 chapter 2? • Meets all of NRTA requirements for homologation? • Overrun anti lock brakes? • What material is used for the trailer chassis? • What material is being used for the enclosures? • Roof rack on lid? • Mechanical/Hydraulic holding mechanisms for the enclosure lids? • Robust locking system with locks included for all enclosures?		

Trailer capacity: • Trailer payload capacity (recommended 400 kg)? • Can criteria in Section 7 Item 12, chapter 4 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 12, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 13: Water tanker interlink trailer		
Trailer items • Designed to SANS 1518? • Meeting requirements in SANS 20013 or better? • ABS Braking? • Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		

Tank system:
• What material is used for the tanks?
• Are you offering a;
  ○ tandem,
  ○ tridem or
  ○ both in your trailer configuration (please specify options)?
• Tank volumetric holding capacity?
  ○ tandem,
  ○ tridem or
  ○ both in your trailer configuration (please specify capacities)?
• Self powered pump? (please specify details)
• Safety access ladders and platforms?
• Can criteria in Section 7 Item 13, chapter 4, 5, and 11 be met without any exclusions?		

Sub systems and miscellaneous items • Can items in section 7 Item 13, chapter 6,7,8,9 and10 in the technical specification be met without any exclusions?		

Item 14: Multi-purpose recreational vehicle trailer		
Trailer items • Designed to standards as mentioned in Item 14 chapter 2? • Meets all of NRTA requirements for homologation? • Overrun anti lock brakes?		

• What material is used for the trailer chassis?		

Trailer capacity:
• Trailer payload capacity (recommended 1 500 kg)?
• Trailer dimensions of deck/loading area?
• What vehicles can be held on the deck for transport?
  o Ride on mower
  o Quad bike
  o Golf cart
  o Can it hold two motorbikes with guides at the front and rear?
• Robust locking system for deck/wheels?
• Low angle full width ramp with extensions?
• Can criteria in Section 7 Item 14, chapter 4 be met without any exclusions?		

Sub systems and miscellaneous items • Can items in section 7 Item 14, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 15: Multi-purpose sea craft trailer		
Trailer items • Designed to standards as mentioned in Item 15 chapter 2? • Meets all of NRTA requirements for homologation? • Overrun anti lock brakes? • What material is used for the trailer chassis? • Coastline/Beach anti-corrosion protection?		

Trailer capacity:
• Trailer payload capacity (recommended 750 kg)?
• Trailer dimensions of deck/loading area?
• What vehicles can be held on the deck for transport?
  o Jet Ski/Wave Runner
  o IRB with outboard motor
• Facility for loading rescue skis with paddles?		

• Robust lined rollers on longitudinal structural supports? • Manual winch? • Can criteria in Section 7 Item 15, chapter 4 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 15, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 16: Drawbar water tanker trailer		
Trailer items • Designed to SANS 1518? • Meeting requirements in SANS 20013 or better? • ABS Braking? • Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		

Tank system:
• What material is used for the tanks?
• Which trailer configuration are you offering (please specify options)?
  ○ 16.1 Two axle double wheel unit
  ○ 16.2 Three axle double wheel unit
  ○ 16.3 Four axle double wheel unit
• Tank volumetric holding capacity (please specify capacity)?
  ○ 16.1 minimum tank capacity of 8 000 liters.
  ○ 16.2 minimum tank capacity of 16 000 liters.
  ○ 16.3 minimum tank capacity of 22 000 liters.
• Water tanker pump filling valves and accessories? (please specify details)
• Safety access ladders and platforms?
• Can criteria in Section 7 Item 16, chapter 4, 5, and 11 be met without any exclusions?		

Sub systems and miscellaneous items • Can items in section 7 Item 16, chapter 6,7,8,9 and10 in the technical specification be met without any exclusions?		

Item 17: Slurry pumping station trailer with a tractor and beach cleaning implement		
Trailer items • Designed to SANS 1518? • Meeting requirements in SANS 20013 or better?		

• Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		

Pumping system:
• Pump make and model (submit specification catalogue)?
• Pump capacity (Flow rate and head)?
• Pump suitable for application and commodity?
• Pump power requirements (kW)?
• Power system capacity for pump (25% more recommended- kW)?
• Power system type;
  ○ Engine driven system
  ○ Hydraulic pack
  ○ Generator/electrical system
• Provide details on the power system type/s?
• Can the piping requirements be met in Item 27, chapter 7?
• Can criteria in Section 7 Item 27, chapter 4, 8,9 and 12 be met without any exclusions?
• SCADA control system option?		

High Powered 4WD tractor: • Tractor make and model (submit specification catalogue)? • Is it suitable for the application and towing the trailer pumping stage? • Minimum Euro 3 engine and what is the power (kW)? • Fully enclosed cab? • Anti-corrosion protection and wheels suitable for beach operation?		
Beach Cleaning Implement: • Implement make and model (submit specification catalogue)?		
Sub systems and miscellaneous items • Can items in section 7 Item 17, chapter 13 and 14 in the technical specification be met without any exclusions?		

Item 18: Police Road Block trailer		
Trailer items • Designed to standards as mentioned in Item 18 chapter 2? • Meets all of NRTA requirements for homologation? • Overrun anti lock brakes? • What material is used for the trailer chassis? • What material is being used for the enclosures?		

• Roof rack on lid? • Mechanical/Hydraulic holding mechanisms for the enclosure lids? • Robust locking system with locks included for all enclosures?		
Trailer capacity: • Trailer payload capacity (recommended 400-600 kg)? • Can criteria in Section 7 Item 18, chapter 4 be met without any exclusions?		
Sub systems and miscellaneous items • Can the batteries, inverter, solar charging, road cones, lights, road signs and other items be supplied as requested? • Can items in section 7 Item 18, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 19: Compressor trailer		
Vehicle items • Designed to Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).or better? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes?		

Systems:
• What grade steel is used (data sheet to be submitted)?
• Compressor capacity (data sheet to be submitted)?
  ○ 19.1 50l/s and 30kw minimum
  ○ 19.2 120l/s and 80kW minimum
• Noise rating (specify dBA ratings of system)?
• Engine make and model? (specify details)
• Can you also supply engines with minimum Euro/Tier 3 rating?
• Can criteria in Section 7 Item 19, chapter 4 and 5 be met without any exclusions?		

Sub systems and miscellaneous items • Can items in section 7 Item 19, chapter 7-10 in the technical specification be met without any exclusions?		

Item 20: Refuse Compactor semi-trailer		
Trailer items • Designed to SANS 1518? • Meeting requirements in SANS 20013 or better?		

• ABS Braking? • Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		

Compactor system:
• What material is used for the tanks?
• Are you offering a;
  ○ tandem,
  ○ tridem or
  ○ both in your trailer configuration (please specify options)?
• Compactor mass and volumetric holding capacity?
  ○ tandem,
  ○ tridem or
  ○ both in your trailer configuration (please specify capacities)?
• Self powered hydraulic pump system? (please specify details)
• Option of bin lifters? (please specify details)
• Option of skip lifting mechanism? (please specify details)
• Can criteria in Section 7 Item 20, chapter 4, 5, and 11 be met without any exclusions?		

Sub systems and miscellaneous items • Can items in section 7 Item 20, chapter 6,7,8,9 and10 in the technical specification be met without any exclusions?		

Item 21: Container trailer		
Trailer items • Designed to SANS 1518? • Meeting requirements in SANS 20013 or better? • ABS Braking? • Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		
Trailer capacity: • What material is used to construct the trailer? • What material is used for the wear linings? • Trailer payload capacity (20-foot shipping container)? • Have you also bid on a tipping trailer option? • Trailer payload capacity (40-foot shipping container)? • Have you also bid on a tipping trailer option?		

• Is the hydraulic system on the trailer and self powered with an electrical;/pneumatic/hydraulic system? • Can criteria in Section 7 Item 21, chapter 4 and 5 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 21, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 22: Fire fighting trailer		
Vehicle items • Designed to Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).or better? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes?		
Tank and pump system: • What polymer/composite is used for 20.1 (data sheet to be submitted)? • What grade stainless steel is used for 20.2 (data sheet to be submitted)? • Water tank capacity (recommended 2000-2500 liters)? • Can criteria in Section 7 Item 20, chapter 4, 7, 8 be met without any exclusions?		
Operating capacity • High pressure pump (specify details)? • Auxiliary engine (specify brand, model and power ratings)? • Can criteria in Section 7 Item 20, chapter 4-6 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 20, chapter 7-12 in the technical specification be met without any exclusions?		

Item 23: Caravans		
Caravan items • Designed to standards as mentioned in Item 23 chapter 2? • Meets all of NRTA requirements for homologation? • Overrun anti lock brakes?		

• What material is used for the caravan chassis? • What material is being used for the caravan superstructure? • 14” wheels?		

Caravan capacity:
• Trailer payload capacity;
  o 2 sleepers (make and model)?
  o 4 sleepers (make and model)?
• Can criteria in Section 7 Item 23, chapter 4 be met without any exclusions?		

Sub systems and miscellaneous items • Can the equipment, accessories and other items be supplied as requested? • Can items in section 7 Item 23, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 24: Trailer to transport heavy duty vibratory roller		
Trailer items • Designed to standards as mentioned in Item 24 chapter 2? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes? • Meets all of NRTA requirements for homologation?		
Trailer capacity: • What material is used to construct the trailer? • What material is used for the wear linings? • Payload capacity? (specify amount) • Ramps? (specify details) • Enclosed canopy for the roller? • Tarpaulin cover for open area on top of lockers? • Rear mechanical outriggers? • Can criteria in Section 7 Item 24, chapter 4, 5, and 11 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 24, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 25: Vacuum pump trailer

Vehicle items • Designed to Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).or better? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes?		

Operating capacity
• High pressure pump (specify details and provide catalogue)?
  o 6-inch
  o 8-inch
• Auxiliary engine (specify brand, model and power ratings)?
• Can criteria in Section 7 Item 25, chapter 4-6 be met without any exclusions?		

Sub systems and miscellaneous items • Can items in section 7 Item 25, chapter 7-12 in the technical specification be met without any exclusions?		

Item 26: Trailer Mounted Jetting Unit		
Vehicle items • Designed to Compulsory specification for category O1 and O2 vehicles (caravans and light trailers).or better? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes?		
Jetting system: • What grade stainless steel is used (data sheet to be submitted)? • Water tank capacity (recommended 1000-1500 liters)? • Two stage water level alarm? (specify details) • Can criteria in Section 7 Item 26, chapter 4, 7, 8 be met without any exclusions?		
Operating capacity • High pressure pump 230l/min at 115 bars minimum (specify amount)? • Auxiliary engine (specify brand, model and power ratings)? • Noise rating (specify dBA ratings of system)? • Hose reel capacity of 180m with 30º rotation minimum (specify amount)? • Guide rollers for hose? • Can criteria in Section 7 Item 26, chapter 4-6 be met without any exclusions?		

Sub systems and miscellaneous items • Can items in section 7 Item 26, chapter 7-12 in the technical specification be met without any exclusions?		

Item 27: Side tipping trailer		
Trailer items • Designed to SANS 1518? • Meeting requirements in SANS 20013 or better? • ABS Braking? • Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		
Tipping system: • What material is used for the skip? • What material is used for the wear lining in the skip? • Skip holding capacity (recommended 17 500 kg)? • Skip cover? (specify details) • Hydraulic capacity? • Hydraulic power pack on trailer? • Safety access ladders and platforms? • Can criteria in Section 7 Item 27, chapter 4, 5, and 11 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 27, chapter 6,7,8,9 and10 in the technical specification be met without any exclusions?		

Item 28: Lowbed semi-trailer (step-deck with winch)		
Trailer items • Designed to SANS 1518? • Meeting requirements in SANS 20013 or better? • ABS Braking? • Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		
Trailer capacity: • What material is used to construct the trailer bed? • What material is used for the wear linings?		

• Trailer payload capacity (recommended 40-45 000 kg)? • Trailer width? (please specify, recommended 4 meters) • Outrigger width? (please specify) • Ramps and extensions? (specify details) • Safety access ladders/steps, walkways (lined with non-slip material) with safety railings? • Winch (make, model and rating)? • Hydraulic outriggers? (if applicable) • Safety system in case of hydraulic failure? • Hydraulic power pack on trailer or portable? • Hydraulic controls clearly marked? • Can criteria in Section 7 Item 28, chapter 4, 5, and 11 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 28, chapter 6,7,8,9 and 10 in the technical specification be met without any exclusions?		

Item 29: Multi-purpose trailer		
Trailer items • Designed to SANS 1518? • Meeting requirements in SANS 20013 or better? • ABS Braking? • Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		
Trailer capacity: • What material is used to construct the trailer? • What material is used for the wear linings? • Trailer payload capacity (recommended 40-45 000 kg)? • Can criteria in Section 7 Item 29, chapter 4 and 5 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 29, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 30: Trailer to transport equipment		
Trailer items • Designed to standards as mentioned in Item 8 chapter 2? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes? • Meets all of NRTA requirements for homologation?		
Trailer capacity: • What material is used to construct the trailer? • What material is used for the wear linings? • Ramp and headboard? (specify details) • Electric winch (make, model and rating)? • Rear mechanical outriggers? • Can criteria in Section 7 Item 30, chapter 4, 5, and 11 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 30, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 31: Fuel Bowser trailer		
Trailer items • Designed to standards as mentioned in Item 10 chapter 2? • Meeting requirements in SANS 20013 or better? • Overrun anti lock brakes? • Meets all of NRTA requirements for homologation?		
Trailer and tank capacity: • What material is used to construct the trailer? • What material is used for the tank? • Tank capacity? (2-2500 liters) • Refueling system? (specify details) • Read out system? (specify details) • Low level alarm? • Can criteria in Section 7 Item 31, chapter 4, 5, and 8 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 31, chapter 6,7,9 and 10 in the technical specification be met without any exclusions?		

Item 32: Multi-purpose caged enclosed trailer		
Trailer items • Designed to standards as mentioned in Item 18 chapter 2? • Meets all of NRTA requirements for homologation? • Overrun anti lock brakes? • What material is used for the trailer chassis? • What material is being used for the caged sides? • Has structural reinforcement being provided adequately for the caged sides? • Robust rear locking system with lock included?		
Trailer capacity: • Trailer payload capacity (recommended 500 kg)? • Can criteria in Section 7 Item 32, chapter 4 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 32, chapter 6,7,8 and 9 in the technical specification be met without any exclusions?		

Item 33: Lowbed semi-trailer (detachable gooseneck)		
Trailer items • Designed to SANS 1518? • Meeting requirements in SANS 20013 or better? • ABS Braking? • Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		
Trailer capacity: • What material is used to construct the trailer bed? • What material is used for the wear linings? • Trailer payload capacity (recommended 35-40 000 kg)? • Trailer width? (please specify, recommended 4 meters) • Outrigger width? (please specify) • Ramps and extensions? (specify details) • Safety access ladders/steps, walkways (lined with non-slip material) with safety railings? • Detachable gooseneck system (specify details)? • Hydraulic system (specify details, trailer mounted)?		

• Safety system in case of hydraulic failure? • Hydraulic power pack on trailer or portable? • Hydraulic controls clearly marked? • Can criteria in Section 7 Item 33, chapter 4, 5, and 11 be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 33, chapter 6,7,8,9 and 10 in the technical specification be met without any exclusions?		

Item 34: Trailer Dolly		
Dolly items • Designed to SANS 1518? • Meeting requirements in SANS 20013 or better? • ABS Braking? • Meets all of NRTA requirements for homologation? • What material is used for the trailer chassis?		

Dolly capacity:
• What material is used to construct the trailer?
• Dolly payload capacity (specify amount)?
  ○ 26.1 Single axle (4 wheels)
  ▪ Vertical
  ▪ Longitudinal
  ○ 26.2 Two axle (8 wheels)
  ▪ Vertical
  ▪ Longitudinal
• What fifth wheel and pedestals are being provided? (please submit catalogue)
• Fifth wheel payload capacity (specify amount)?
  ○ 26.1 Single axle (4 wheels)
  ▪ Vertical
  ▪ Longitudinal
  ○ 26.2 Two axle (8 wheels)
  ▪ Vertical
  ▪ Longitudinal
• Electrical connector with two sets of cables?
• Pneumatic quick couplers with two sets of hoses?
• Hydraulic quick couplers with two sets of hoses?		

• Can other criteria in Section 7 Item 34, be met without any exclusions?		
Sub systems and miscellaneous items • Can items in section 7 Item 34, chapter 5-9 in the technical specification be met without any exclusions?		

SECTION 8: BILL OF QUANTITIES / SCHEDULE OF RATES / ACTIVITIES

Bidders shall itemise the pricing below and provide a total amount exclusive of value added tax (VAT);

Where options are provided the bidder shall quote accordingly.

Item 1: Trailer to transport horses	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Secondary braking system (if an option)		
Electrical items (lights, battery, solar panel)		
CCTV system		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 1 (Excl. VAT) to tender form		

Item 2: Trailer with ablution facility and load area	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Ablution facility		
Electrical items		
All relevant miscellaneous items and consumables.		
Delivery, licensing, homologation and commissioning.		
Total 2 (Excl. VAT) to tender form		

Item 3: Workshop trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Electrical items		
All relevant miscellaneous items and consumables.		
Delivery, licensing, homologation and commissioning.		
Total 3 (Excl. VAT) to tender form		

Item 4.1: Trailer Mounted Woodchipper Unit – 250 mm	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Body customization (woodchipper)		
Auxiliary Engine		
Hydraulic system		
Hydraulic lift and crush		
Electrical systems (lights, solar panel etc.)		
All relevant miscellaneous items, consumables and hydraulic oil.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 4.1 (Excl. VAT) to tender form		

Item 4.2: Trailer Mounted Woodchipper Unit – 375 mm	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Body customization (woodchipper)		
Auxiliary Engine		
Hydraulic system		
Hydraulic lift and crush		
Electrical systems (lights, solar panel etc.)		
All relevant miscellaneous items, consumables and hydraulic oil.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 4.2 (Excl. VAT) to tender form		

Item 5: Sludge tank trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, landing legs etc.)		
Tank		
Accessories		
Hydraulic system (cylinders, power pack, stabilizing legs etc.)		
Electrical items		
Agitator and water system/cleaning apparatus		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 5 (Excl. VAT) to tender form		

Item 6: Generator trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Generator		
Electrical systems (lights, control systems etc.)		
All relevant miscellaneous items, consumables and hydraulic oil.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 6 (Excl. VAT) to tender form		

Item 7: Mobile lighting tower trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Generator		
Lights		
Electrical systems and lights for the trailer		
All relevant miscellaneous items, consumables and hydraulic oil.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 7 (Excl. VAT) to tender form		

Item 8.1: Single Axle trailer with a pair of ablution facilities with a gravity fed water system	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Ablution superstructure		
Lighting and cables		
All relevant miscellaneous items and consumables.		
Delivery, homologation licensing and commissioning.		
Total 8.1.1 (Un-Braked trailer) (Excl. VAT) to tender form		
Total 8.1.2 (Braked trailer) (Excl. VAT) to tender form		

Item 8.2: Single Axle trailer with a pair of ablution facilities with a powered water system	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Ablution facilities		
Electrical items		
All relevant miscellaneous items and consumables.		
Delivery, homologation licensing and commissioning.		
Total 8.2.1 (Un-Braked trailer) (Excl. VAT) to tender form		
Total 8.2.2 (Braked trailer) (Excl. VAT) to tender form		

Item 8.3: Double Axle trailer with two pairs of ablution facilities with a gravity fed water system	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Ablution superstructure		
Lighting and cables		
All relevant miscellaneous items and consumables.		
Delivery, homologation licensing and commissioning.		
Total 8.3 (Braked trailer) (Excl. VAT) to tender form		

Item 8.4: Double Axle trailer with two pairs of ablution facilities with a powered water system	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Ablution superstructure		
Electrical Items		
All relevant miscellaneous items and consumables.		
Delivery, homologation licensing and commissioning.		
Total 8.4 (Braked trailer) (Excl. VAT) to tender form		

Item 9: Emulsion sealant tanker trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Body customization (tank, platform, drip tray etc.)		
Auxiliary Engine and pump		
Hosing and hose accessories		
Electrical systems (lights, control systems etc.)		
All relevant miscellaneous items, consumables and hydraulic oil.		
Training		
Delivery, licensing, homologation and commissioning.		

Total 9 (Excl. VAT) to tender form		

Item 10: Rapid deployment razor wire trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Razor wire		
Electrical items (lights)		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 10 (Excl. VAT) to tender form		

Item 11: Core drilling trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, enclosure, brakes, jockey wheel etc.)		
Generator		
Core drill		
Water cooling system		
Electrical items (lights)		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 11 (Excl. VAT) to tender form		

Item 12: Multi-purpose box trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Enclosures (main storage compartment, nose cone, roof rack etc.)		
Electrical items (lights)		
All relevant miscellaneous items and consumables.		
Delivery, licensing, homologation and commissioning.		
Total 12 (Excl. VAT) to tender form		

Item 13.1: Water tanker interlink trailer (Configuration 1)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, landing legs etc.)		
Tanks		
Accessories		
Self powered pump		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 13.1 (Excl. VAT) to tender form		

Item 13.2: Water tanker interlink trailer (Configuration 2)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, landing legs etc.)		
Tanks		
Accessories		
Self powered pump		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 13.2 (Excl. VAT) to tender form		

Item 14: Multi-purpose recreational vehicle trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel, rear ramp etc.)		
Trailer storage and accessories (nose cone, extensions for ramp etc.)		
Electrical items (lights)		
All relevant miscellaneous items and consumables.		
Delivery, licensing, homologation and commissioning.		
Total 14 (Excl. VAT) to tender form		

Item 15: Multi-purpose sea craft trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel, rollers and guides etc.)		
Trailer storage and accessories (nose cone, jerry can etc.)		
Manual winch		
Electrical items (lights)		
All relevant miscellaneous items and consumables.		
Delivery, licensing, homologation and commissioning.		
Total 15 (Excl. VAT) to tender form		

Item 16.1: Drawbar water tanker trailer (2 axle)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, A frame etc.)		
Tank		
Accessories		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 16.1 (Excl. VAT) to tender form		

Item 16.2: Drawbar water tanker trailer (3 axle)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, A frame etc.)		
Tank		
Accessories		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 16.2 (Excl. VAT) to tender form		

Item 16.3: Drawbar water tanker trailer (4 axle)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, A frame etc.)		
Tank		
Accessories		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 16.3 (Excl. VAT) to tender form		

Item 17: Slurry pumping station trailer with a tractor and beach cleaning implement	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, outriggers, superstructure etc.)		
Pump		
Accessories		
Power system (Engine/Hydraulic system/Generator)		
Electrical items		
Piping		
High power 4WD tractor with enclosed cab		
Beach cleaning Implement		
Training		
Delivery, licensing, homologation and commissioning.		
All relevant miscellaneous items and consumables.		
Total 17A (Euro 3 Tractor) (Excl. VAT) to tender form		
Total 17B (Euro 4 Tractor) (Excl. VAT) to tender form		
Total 17C (Euro 5 Tractor) (Excl. VAT) to tender form		
SCADA electronic/electrical control system option		

Item 18: Police Road Block Trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Enclosures (main storage compartment, nose cone, roof rack etc.)		
Electrical items (lights, inverter, batteries etc.)		
Road Cones, Road Signs, Accessories etc.		
All relevant miscellaneous items and consumables.		
Delivery, licensing, homologation and commissioning.		

Total 18 (Excl. VAT) to tender form		

Item 19.1: Compressor trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Compressor		
Electrical systems (lights, control systems etc.)		
All relevant miscellaneous items, consumables and hydraulic oil.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 19.1 (Excl. VAT) to tender form		

Item 19.2: Compressor trailer -Heavy Duty	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Compressor		
Electrical systems (lights, control systems etc.)		
All relevant miscellaneous items, consumables and hydraulic oil.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 19.2 (Excl. VAT) to tender form		

Item 20.1: Refuse Compactor semi-trailer (tandem)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, landing legs etc.)		
Compactor		
Accessories		
Self powered pump		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 20.1 (Excl. VAT) to tender form		
Option of a pair of bin lifters		
Option of a skip lifting mechanism		
Option of a rear camera and monitor		

Item 20.2: Refuse Compactor semi-trailer (tridem)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, landing legs etc.)		
Compactor		
Accessories		
Self powered pump		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		

Total 20.2 (Excl. VAT) to tender form		
Option of a pair of bin lifters		
Option of a skip lifting mechanism		
Option of a rear camera and monitor		

Item 21.1: Container trailer 20 foot (King-pin configuration)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, gooseneck etc.)		
Accessories		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 21.1.1 (Excl. VAT) to tender form		
Total 21.1.2 Tipping container trailer 20 foot (King-pin configuration) (Excl. VAT) to tender form		

Item 21.2: Container trailer 20 foot (Drawbar configuration)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, A-frame etc.)		
Accessories		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 21.2.1 (Excl. VAT) to tender form		
Total 21.2.2 Tipping container trailer 20 foot (Drawbar configuration) (Excl. VAT) to tender form		

Item 21.3: Container trailer 40 foot (King-pin configuration)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, gooseneck etc.)		
Accessories		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 21.3.1 (Excl. VAT) to tender form		
Total 21.3.2 Tipping container trailer 40 foot (King-pin configuration) (Excl. VAT) to tender form		

Item 21.4: Container trailer 40 foot (Drawbar configuration)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, A-frame etc.)		
Accessories		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 21.4.1 (Excl. VAT) to tender form		
Total 21.4.2 Tipping container trailer 40 foot (Drawbar configuration) (Excl. VAT) to tender form		

Item 22.1: Firefighting trailer with a polymer/composite tank	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Body customization (tank)		
Auxiliary Engine and pump		
Hosing and hose accessories		
Electrical systems (lights, control systems etc.)		
All relevant miscellaneous items, consumables and hydraulic oil.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 22.1 (Excl. VAT) to tender form		

Item 22.2: Firefighting trailer with a stainless steel tank	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Body customization (tank)		
Auxiliary Engine and pump		
Hosing and hose accessories		
Electrical systems (lights, control systems etc.)		
All relevant miscellaneous items, consumables and hydraulic oil.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 22.2 (Excl. VAT) to tender form		

Item 23.1: Caravan 2 sleeper	**Price per item**	**Make and Model**
Caravan		
Equipment and Accessories		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 23.1 (Excl. VAT) to tender form		

Item 23.2: Caravan 4 sleeper	**Price per item**	**Make and Model**
Caravan		
Equipment and Accessories		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 23.2 (Excl. VAT) to tender form		

Item 24: Trailer to transport vibratory roller	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Accessories (cover)		
Electrical items		
All relevant miscellaneous items and consumables.		

Delivery, licensing, homologation and commissioning.		
Total 24 (Excl. VAT) to tender form		

Item 25.1: 6 inch vacuum pump trailer	**Price per item**	**Make and Model**
Trailer		
Pump, Equipment and Accessories		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 25.1 (Excl. VAT) to tender form		

Item 25.2: 8 inch vacuum pump trailer	**Price per item**	**Make and Model**
Trailer		
Pump, Equipment and Accessories		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 25.2 (Excl. VAT) to tender form		

Item 26: Trailer Mounted Jetting Unit	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Body customization (tank)		

Auxiliary Engine and pump		
Hosing and hose accessories		
Electrical systems (lights, control systems etc.)		
All relevant miscellaneous items, consumables and hydraulic oil.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 26 (Excl. VAT) to tender form		

Item 27: Side tipping trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, landing legs etc.)		
Skip/s		
Accessories		
Hydraulic system (cylinders, power pack etc.)		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 27 (Excl. VAT) to tender form		

Item 28: Lowbed semi-trailer (step-deck with winch)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, landing legs etc.)		
Ramp and extensions		
Accessories		
Hydraulic system (cylinders, power pack etc.)		
Winch and controls		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 28 (Excl. VAT) to tender form		

Item 29: Multi-purpose semi-trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, landing legs etc.)		
Electrical items		
All relevant miscellaneous items and consumables.		
Delivery, licensing, homologation and commissioning.		
Total 29 (Excl. VAT) to tender form		

Item 30: Trailer to transport equipment	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Accessories		
Winch and controls		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 30 (Excl. VAT) to tender form		

Item 31: Fuel Bowser trailer	**Price per item**	**Remarks**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Body customization (tank)		
Pump and fuel delivery system		
Electrical systems (lights, control systems etc.)		
All relevant miscellaneous items, consumables and hydraulic oil.		
Training		

Delivery, licensing, homologation and commissioning.		
Total 31 (Excl. VAT) to tender form		

Item 32: Multi-purpose caged sides trailer	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, jockey wheel etc.)		
Caged sides and tailgate		
Electrical items (lights)		
All relevant miscellaneous items and consumables.		
Delivery, licensing, homologation and commissioning.		
Total 32 (Excl. VAT) to tender form		

Item 33: Lowbed semi-trailer (detachable gooseneck)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, gooseneck etc.)		
Ramp and ramp extensions		
Accessories		
Hydraulic system (cylinders, power pack etc.)		
Electrical items		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 33 (Excl. VAT) to tender form		

Item 34.1: Trailer Dolly (Single axle-4 wheels)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, A-Frame etc.)		
Fifth wheel		
Quick couplers and connectors		

Cables and hoses (3 sets)		
Electrical items (lights etc.)		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 34.1 (Excl. VAT) to tender form		

Item 34.2: Trailer Dolly (Double axle-8 wheels)	**Price per item**	**Make and Model**
Trailer (structural chassis, brakes, A-Frame etc.)		
Fifth wheel		
Quick couplers and connectors		
Cables and hoses (3 sets)		
Electrical items (lights etc.)		
All relevant miscellaneous items and consumables.		
Training		
Delivery, licensing, homologation and commissioning.		
Total 34.2 (Excl. VAT) to tender form		

The bidder shall quote for the maintenance of the various trailers bid on in the below table. This must be the complete maintenance of the trailer including the primary structural chassis, axles, wheels and the superstructure including the electrical/pneumatic/hydraulic systems and all accessories. Parts mark-up shall not exceed 10% the cost price.

Name of Company that shall undertake the maintenance of the trailers within the eThekwini Region	Address of the company (this shall be the address for the site visit requirements noted in the Annexure)	Labor rate per hour. (excl. VAT)	Parts Mark up (not to exceed 10%)	Trailers bid on (Please note item number)

SECTION 9 : OFFICIAL TENDER FORM

Part A: OFFER BY TENDERER - In response to **Tender Number : 31892 - 1J** I / we hereby offer to supply the goods / services detailed hereunder in accordance with the Technical Specification, and subject to the Standard and Special Conditions of Tender (Goods/Services), and General and Special Conditions of Contract, which accompanied your Tender (with which I / we acknowledge myself / ourselves to be fully acquainted) at the price stated below, or in the case of individual rates are indicated in Section 8 : Bill Of Quantities / Schedule of Rates / Activities.

I / We hereby agree that this tender will hold good and remain open for acceptance as specified in the Conditions of Tender or during such other period as may be specified in the Special Conditions of Tender.

eThekwini Vendor Portal Registration Number: **PR**

C.S.D Registration Number: **MAAA**

S.A.R.S Pin Number:

Completion of the following is compulsory. Failure to declare the following will invalidate your offer.

Declaration of Interest

Are any of the entity's directors, managers, principle shareholder or stakeholders currently in the service of the state or have been in the service of the state in the past twelve (12) months? ☐ Yes ☐ No				
Is any spouse, child or parent of the entity's directors, managers, principle shareholder or stakeholder currently in the service of the state or have been in the service of the state in the past twelve (12) months? ☐ Yes ☐ No				
Name of entity's member	**Position in Entity**	**Name of Relative (if applicable)**	**Name of State Institution**	**Nature of Relationship**
Do you or any other directors, managers, principle shareholder or stakeholder of your entity have any relationship (spouse, family, friend, associate) with persons in the service of the state and/or who may be involved with the evaluation of this quotation? If yes please furnish particulars below ☐ Yes ☐ No				
Name of entity's member	**Position in Entity**	**Name of Relative (if applicable)**	**Name of State Institution**	**Nature of Relationship**

Refer to the Consolidated MBD Documents in Section 4(d) for the definition of "in service of the State"

*** Signature :** _____ *** Name** *(capitals)*: _____

Date: _____ **Capacity:** _____

*** Name of Business:** _____ **Tel:** _____

Address: _____ **Fax:** _____

_____

*** Denotes Mandatory Information**

Failure to complete the Mandatory Information and sign this Tender Form will invalidate the tender

Part B: ACCEPTANCE BY PURCHASER - The Purchaser, as represented by the following Official, hereby accepts the Tenderer's offer in terms of the Conditions of Tender, Specifications, and Conditions of Contract.

Signature: **Name** *(capitals)*:

Date: **Capacity:**

SECTION 10: ANNEXURES (if applicable)

N/A