CITY OF HOUSTON

Administration & Regulatory Affairs Department
Strategic Purchasing Division

Annise D. Parker
Mayor

Calvin D. Wells, Deputy Director
City Purchasing Agent
P.O. Box 1562
Houston, Texas 77251-1562

http://purchasing.houstontx.gov

December 4, 2012

Subject: **Letter of Clarification No. 2, Light, Medium and Heavy – Duty Trucks for Various Departments**

Reference: **Invitation to Bid No.: S38-N24404**

To: All Prospective Suppliers:

This letter of Clarification is issued for the following reason:

1. Note that the online bid form has been revised.
2. Replace the original bid document dated October 26, 2012, Pages 1 of 63 through Pages 63 of 63 with the attached revised bid document dated December 3, 2012, Pages 1of 62 through Pages 62 of 62.
3. **Bid Items No. 5 – 7 have been DELETED**
4. The revised bid opening date **has not** been changed from December 13, 2012.

This clarification is hereby incorporated in this bid document and all bidders are directed to bid accordingly.

When issued, Letter(s) of Clarification shall automatically become a part of the bid documents and shall supersede any previous specification(s) and/or provision(s) in conflict with the Letter(s) of Clarification. It is the responsibility of the bidder to ensure that it has obtained all such letter(s). By submitting a bid on this project, bidder shall be deemed to have received all Letter(s) of Clarification and to have incorporated them into this bid.

If you should have any questions, or if further clarification is needed regarding this Invitation for Bid, please contact me.

Lena Farris
Procurement Specialist
832-393-8729
lena.farris2@cityofhouston.net

cc: Bid File

CITY OF HOUSTON
INVITATION TO BID

Issued: October 26, 2012

Bid Opening:
Sealed bids, in duplicate, will be received by the City Secretary of the City of Houston, in the City Hall Annex, Public Level, 900 Bagby, Houston, Texas 77002, until **10:30 a.m. Thursday, December 13, 2012** and all bids will be opened and publicly read in the City Council Chamber, City Hall Annex, Public Level, 900 Bagby at 11:00 a.m. on that date for the purchase of:

LIGHT, MEDIUM & HEAVY -DUTY TRUCKS
VARIOUS DEPARTMENTS
BID INVITATION NO. S38-N24404
NIGP: 072-00

Buyer:
Questions regarding this solicitation package should be addressed to **Lena Farris at (832) 393-8729**, or e-mail to **lena.farris@houstontx.gov**.

Bidding forms, specifications, and all necessary information should be downloaded from the Internet at http://purchasing.houstontx.gov by registering and downloading this solicitation document, all updates to this solicitation document will be automatically forwarded via e-mail to all registered bidders. This information may also be obtained from the Supplier Assistance Desk, Strategic Purchasing Division, 901 Bagby, Concourse Level, Houston, Texas 77002.

Electronic Bidding:
In order to submit a bid for the items associated with this procurement, you must fill in the pricing information on the **"PLACE BID"** page.

Pre-Bid Conference:
A Pre-Bid Conference **was** held for all Prospective Bidders in the Strategic Purchasing Division, Concourse Level (Basement), Conference Room No. **2**, City Hall Basement, 901 Bagby, at **10:00 a.m.** on **Wednesday, November 14, 2012.**

Any revisions that may be incorporated into this solicitation will be confirmed in writing by Letter(s) of Clarification prior to the bid due date. Verbal responses will not otherwise alter the specifications, terms and conditions as stated herein.

The place of the bid opening may be transferred in accordance with Paragraph (b), (5) of Section 15-3 of The Code of Ordinances, Houston, Texas. The bid opening meeting may be rescheduled in accordance with Paragraph (b), (6) of said Section 15-3.

The City reserves the right to reject any or all bids, or to accept any bid or combination of bids deemed advantageous to it.

City Employees are prohibited from bidding on this solicitation in accordance with the Code of Ordinances, Section 15 - 1.

***CONTENTS:**

SECTION A: OFFER
SECTION B: SCOPE OF WORK/SPECIFICATIONS
SECTION C: GENERAL TERMS & CONDITIONS

***NOTE 1: Actual page numbers for each Section may change when the solicitation document is downloaded from the Internet or because of Letters of Clarification. Therefore, Bidders must read the bid document in its entirety and comply with all the requirements set forth therein.**

***NOTE 2: To be considered for award, please submit the electronic bid form and the forms listed in Section A, including the official signature page, which must be signed by a company official authorized to bind the company.**

INSTRUCTIONS for BIDDING and TERMS & CONDITIONS

NOTE: It is the policy of the City of Houston that a sealed, signed bid must be submitted to the City Secretary by the due date. After you submit your bid online, please print the online Official Bid Form and signature page, sign, and turn in to the City Secretary.

1. All bids must show the full name of the firm bidding and must be on the online Official Bid Form. Bids should be filed in duplicate and at least one copy of the online Official Bid Form must be manually signed in ink by an authorized officer of the company and their title must be shown. Obligations assumed by the signature must be fulfilled. **The bid number, title of the bid, and the bid due date must be shown on the front of the envelope(s) containing the Bid Form(s) when submitted to the Office of the City Secretary, Public Level, Room No. P101, City Hall Annex, 900 Bagby Street, Houston, TX 77002.**

2. **TIME AND DATE:** Bids **MUST** be in the Office of the City Secretary, City Hall Annex, Public Level, 900 Bagby, Houston, Texas 77002 at or before 10:30 A.M. on the day bids are due; an early postmark will not suffice. Be sure you have allowed ample time for postal delivery. **CAUTION**: Bids mailed on the day before bids are due may not be received in time to be considered.

3. **WITHDRAWAL OF BID OFFER**: If the bid has been submitted to the City Secretary, a bidder may withdraw its offer before the expiration of the time during which the offer may be submitted, without prejudice, by submitting a written request for its withdrawal to the City Secretary. The bidder should follow instructions listed on the Strategic Purchasing Division website to withdraw any bid submitted through the online bidding process.

4. The online Official Bid Form should indicate the Unit Price for the specified item(s). The Unit Price shall be inclusive of all costs, insurance and freight. **Cash discounts will not be considered in the award of bids.**

5. No change in price will be considered after bids have been opened.

6. Provisions of the City's online Official Bid Form, Specifications, and General Terms & Conditions shall not be altered. Any alteration of figures or terms may invalidate the bid on the item which the alteration is made. Submission or attachment of company "QUOTATION FORMS" containing alternative terms and/or conditions is not acceptable and may result in your bid being determined non-responsive.

7. If bidder wishes to submit more than one bid on the same item, separate online City Official Bid Forms for each bid, complete with its own original signature page, must be submitted both online and to the City Secretary.

8. All bids are for delivery not later than the time stated in the specifications, Prepaid F.O.B. Destination, the point of delivery stated in the Specifications and/or Bid Form.

9. Bidders are invited to be present at the opening of bids. After opening, bids may be inspected in the City Secretary's Office, City Hall Annex, Public Level, 900 Bagby, Houston, Texas 77002.

10. **Cost of Bid/Proposal Preparation** The City shall not reimburse the cost of developing, presenting or providing any response to this solicitation. Offers submitted for consideration should be prepared simply and economically, providing adequate information in a straightforward and concise manner.

SECTION A

FLEET FORMAL BID

LIGHT, MEDIUM & HEAVY-DUTY TRUCKS
VARIOUS DEPARTMENTS
BID INVITATION NO. S38-N24404
NIGP: 072-00

To the Honorable Mayor
and City Council Members
of the City of Houston, Texas (the "City")

The undersigned hereby offers to furnish and deliver prepaid F.O.B. destination point Houston, Texas, the item(s) listed on the **electronic bid form** and on individual Purchase Orders, in accordance with the price(s) bid and other conditions shown herein, and in accordance with the City's Specifications and General Terms & Conditions and/or samples/drawings provided herein. When issued by the City of Houston, Letters of Clarification shall automatically become part of this bid document and shall supersede any previous specifications or provisions in conflict with the Letters of Clarification. It is the responsibility of each bidder to ensure it has obtained all such Letters. By submitting a bid on this project, bidder shall be deemed to have received all Letters of Clarification and to have incorporated them into the bid.

The City may accept this bid offer by issuance of a Notice of Award Letter and/or a Purchase Order at any time on or before the 120th day following the day this Official Bid Form is opened by the City. This offer shall be irrevocable for 120 days after bid opening or for 90 days after City Council awards the bid, whichever comes last, but this period may be extended by written agreement of the parties.

The City reserves the option, after bids are opened, to adjust the quantities on the item(s) listed on the following page(s) upward or downward, subject to the availability of funds, and/or make award(s) on a line item basis.

The City reserves the right to INCREASE quantities during the twelve-month period following the issuance of the first purchase order(s) subject to agreement in writing by the Contractor/Supplier to honor the same bid price(s).

SECTION A

Bidding forms, specifications, and all necessary information should be downloaded from the Internet at http://purchasing.houstontx.gov by registering and downloading this solicitation document

Additional Required Forms to be Included with this Bid:

In addition to the electronic Bid Form and the Official Signature Page, the Forms listed in Table 1 **must be completed and submitted to the Office of the City Secretary on or before the date and time the bid is due:**

Table 1 - Required Forms
http://purchasing.houstontx.gov/forms/Affidavit_of_Ownership.doc
http://purchasing.houstontx.gov/forms/Bidders_Attachments_Fleet.doc
http://purchasing.houstontx.gov/forms/Conflict_of_Interest_Questionnaire.doc
http://purchasing.houstontx.gov/forms/Fair_Campaign_Ordinance.doc
http://purchasing.houstontx.gov/forms/Hire_Houston_First_Affidavit.pdf
http://purchasing.houstontx.gov/forms/Statement_of_Residency.doc

Table 2 lists other documents and forms that should be viewed/downloaded from the City's website, but are not required to be submitted with the bid. The City will request these forms, as applicable, to be completed and submitted to the City by the recommended/successful bidder:

Table 2 - Documents and Forms
http://purchasing.houstontx.gov/forms/Drug_Forms.doc
http://purchasing.houstontx.gov/forms/EEOC.doc
http://purchasing.houstontx.gov/forms/Equipment_Inspection_&_Receiver.doc
http://purchasing.houstontx.gov/forms/MWBE.doc

HIRE HOUSTON FIRST ORDINANCE:
http://www.houstontx.gov/hbsc/hirehoustonfirstordinance.pdf

Designation as a City Business or Local Business

To be designated as a City or Local Business for the purposes of the Hire Houston First Program, as set out in Article XI of Chapter 15 of the Houston City Code, a bidder or proposer must submit the **Hire Houston First Application and Affidavit ("HHF Affidavit")** to the Director of the Mayor's Office of Business Opportunities and receive notice that the submission has been approved prior to award of a contract. Bidders are encouraged to secure a designation prior to submission of a bid or proposal if at all possible.

Download the HHF Affidavit from the Office of Business Opportunities Webpage at the City of Houston e-Government Website at the following location:
http://www.houstontx.gov/hbsc/hirehoustonfirstaffidavit.pdf

HIRE HOUSTON FIRST: (Continued)

Submit the completed application form to: Mayor's Office of Business Opportunity, One Stop Business Center, 900 Bagby St., Public Level, Houston, TX 77002 or Application may be submitted via e-mail to HHF-MOBO@houstontx.gov or faxed to 832.393.0952.

Award of a Procurement of $100,000 or More for Purchase of Goods:

THE CITY WILL AWARD THIS PROCUREMENT TO A "CITY BUSINESS," AS THAT TERM IS DEFINED IN SECTION 15-176 OF THE CITY OF HOUSTON CODE OF ORDINANCES ("THE CODE"):

- **IF THE BID OF THE CITY BUSINESS IS THE LOWEST RESPONSIBLE BID OR IS WITHIN 3% OF THE LOWEST BID RECEIVED, AND**
- **UNLESS THE USER DEPARTMENT DETERMINES THAT SUCH AN AWARD WOULD UNDULY INTERFERE WITH CONTRACT NEEDS, AS PROVIDED IN SECTION 15-181 OF THE CODE.**

IF THERE IS NO BID OF A CITY BUSINESS THAT MEETS THESE CRITERIA, THE CITY WILL AWARD THE PROCUREMENT TO THE LOWEST RESPONSIBLE BIDDER.

Award of Procurement under $100,000 for Purchase of Goods:

THE CITY WILL AWARD THIS PROCUREMENT TO A " CITY BUSINESS," AS THAT TERM IS DEFINED IN SECTION 15-176 OF THE CITY OF HOUSTON CODE OF ORDINANCES ("THE CODE"):

- **IF THE BID OF THE CITY BUSINESS IS THE LOWEST RESPONSIBLE BID OR IS WITHIN 5% OF THE LOWEST BID RECEIVED, AND**
- **UNLESS THE USER DEPARTMENT DETERMINES THAT SUCH AN AWARD WOULD UNDULY INTERFERE WITH CONTRACT NEEDS, AS PROVIDED IN SECTION 15-181 OF THE CODE.**

IF THERE IS NO BID OF A CITY BUSINESS THAT MEETS THESE CRITERIA, THE CITY WILL AWARD THE PROCUREMENT TO THE LOWEST RESPONSIBLE BIDDER.

Award of Procurement that may be More or Less than $100,000 for Purchase of Goods:

THE CITY WILL AWARD THIS PROCUREMENT TO A " CITY BUSINESS," AS THAT TERM IS DEFINED IN SECTION 15-176 OF THE CITY OF HOUSTON CODE OF ORDINANCES ("THE CODE"):

- **IF THE BID OF THE CITY BUSINESS IS LESS THAN $100,000 AND IS THE LOWEST RESPONSIBLE BID OR IS WITHIN 5% OF THE LOWEST BID RECEIVED, OR**
- **IF THE BID OF THE CITY BUSINESS IS MORE THAN $100,000 AND IS THE LOWEST RESPONSIBLE BID OR IS WITHIN 3% OF THE LOWEST BID RECEIVED, AND**
- **UNLESS THE USER DEPARTMENT DETERMINES THAT SUCH AN AWARD WOULD UNDULY INTERFERE WITH CONTRACT NEEDS, AS PROVIDED IN SECTION 15-181 OF THE CODE.**

IF THERE IS NO BID OF A CITY BUSINESS THAT MEETS THESE CRITERIA, THE CITY WILL AWARD THE PROCUREMENT TO THE LOWEST RESPONSIBLE BIDDER.

SECTION B

SPECIFICATIONS

PART I
GENERAL SPECIFICATIONS

1.0 Bidding:

1.1 Pricing for Specified Item(s):

1.1.1 Bidders may bid on one or more of the specified items listed.

1.1.2 Bids submitted must contain a unit price for the specified item(s). For any bid solicitation that contains a request for separate pricing of options for the specified item(s), pricing must be provided for both the specified item(s) and option(s) listed. If pricing is provided for only the listed option(s), the bid for that specified item will be deemed as non-responsive and will be rejected.

1.1.3 The unit price for any specified item shall be defined as the price for the manufacturer's standard model, furnished complete with all standard equipment and factory installed accessories listed in the manufacturer's printed literature for the respective unit, and any additional equipment defined herein by the City of Houston that is to be included.

1.1.4 In the official e-bid form, if the bidder does not intend to submit a bid for one or more of the specified items listed, bidder shall check the "No Bid" Box.

1.2 Pricing for Listed Option(s): (If Applicable)

1.2.1 A unit price is required on every listed option for the specified item(s).

1.2.2 If a bidder "no bids" any listed option for which bids are requested for a specified item and the option is available for the specified item(s) , the bid for that specified item will be deemed as non-responsive and will be rejected.

1.2.3 In the official e-bid form, for any optional equipment requested, if the equipment that is requested is included as standard equipment by the manufacturer, or is offered by the bidder at no charge, the bidder shall check the "No Charge" Box, which will then indicate "$0.00" in the Unit Price column.

1.3 The City may accept this bid offer by issuance of a Notice of Award Letter and/or a Purchase Order covering award of bid to the Contractor/Supplier at any time on or before the 120th day following the day the Official Bid Form is opened by the City. This offer shall be irrevocable for 120 days after bid opening or for 90 days after City Council awards the bid, whichever comes last, but this period may be extended by written agreement of the parties.

1.4 Prices quoted shall remain firm through delivery and shall not be subject to increases (or supplemented on Contractor/Supplier's invoice(s) for payment).

1.5 The City reserves the option, after bids are opened, to adjust the quantities listed on the City's Official Bid Form upward or downward, subject to the availability of funds, and/or make award by line item. Therefore, the City shall not be liable for any contractual agreements/obligations the Contractor/Supplier enters into based on the City purchasing all the quantities specified herein.

1.6 The City reserves the right to INCREASE quantities during the twelve-month period following the issuance of the first purchase order subject to agreement in writing by the Contractor/Supplier to honor the same bid price. During this period, purchase orders will be issued for these items as needed. It is emphasized that the City of Houston does not guarantee any quantities; rather, the quantities may vary depending upon the actual needs of the various city departments.

2.0 Award:

2.1 Award will be made on the basis of the low total bid price for the specified item(s) meeting all specifications referenced herein plus listed options, if any.

3.0 Applicable Specifications:

3.1 The applicable specifications are comprised of the "Instructions for Bidding and Terms & Conditions", "Official Bid Forms", the "General Specifications", the "Technical Equipment Specifications", the "General Terms and Conditions" and other specifications that may be included herewith and the purchase orders which refer to these specifications.

4.0 Units Bid:

4.1 The unit(s) bid shall be new, manufacturer's latest make and model in current production as offered to commercial trade and shall be furnished complete with all factory-installed standard equipment and accessories listed in the manufacturer's latest literature for the respective unit and any additional optional equipment as may be defined in the detailed Technical Specifications.

4.2 Contractor/Supplier, by affixing their signature on the Official City Bid Form, has offered to furnish the equipment as specified herein in accordance with these specifications and all provisions set forth in this bid document. As such, it is the Contractor/Supplier's responsibility to adhere to these specifications. **Any exceptions or conditions to the specifications set forth in the bid documents will deem the bid non-responsive, and the bid will be rejected.**

4.3 The unit(s) bid shall be in full and complete compliance with all applicable safety and pollution requirements and regulations in effect at the time of bid submittal. This includes but is not limited to standards established by the United States Department of Transportation, including the Federal Motor Vehicle Safety Standards (FMVSS), the Occupational Safety and Health Administration (OSHA), the Environmental Protection Agency (EPA), the Texas Department of Transportation and the Texas Commission on Environmental Quality (TCEQ).

4.4 **The City of Houston requires that the unit(s) bid be the lowest emission unit(s), i.e. Nitrogen Oxides (NOx) and Fine Particulate Matter (PM) without increasing Hydrocarbons (HC), available on the market for the specified equipment.** The emission standards established by the EPA shall be considered only as minimum standards. In the absence of EPA standards or if California Air Resources Board (CARB) standards provide lower emissions, CARB standards will be considered as the minimum if the specified unit and any required fuel is available to the City of Houston. **Federally regulated engines must be covered by an EPA-issued Certificate of Conformity certifying the engine to be in compliance with federal emission standards and the Contractor/Supplier shall provide the Certificate of Conformity with their bid or within three calendar days from the written request of the City.** EPA emission label must be affixed to the vehicle and/or engine and be readily visible.

4.5 The term "Heavy Duty", or "HD" as may be applied to these specifications shall be interpreted to mean that the item referred to shall exceed the usual quality, quantity or capacity of that supplied with standard production units and shall be able to withstand the unusual strain, exposure, wear and use to be expected in the intended service. Where specification requirements are given, they shall be considered minimum requirements unless otherwise indicated.

4.6 Throughout these specifications, compatibility is of the essence and any modification, accessory, device, material or type of construction, whether to existing or to the specified equipment, which may be necessary to incorporate the specified equipment into the existing equipment shall be considered to be a part of these specifications whether detailed by item or not.

4.7 Units provided shall not have any decal, plate, sign, stencil, stamping, molding, or marking of any type pertaining to advertisement other than trademarks, trade names, or model designation normally installed by the manufacturer on equipment delivered to the City of Houston. No accessory item furnished on equipment shall advertise the name of the Contractor/Supplier.

5.0 Technical Literature:

5.1 To evaluate the bids, the user department and the City purchasing staff may require product literature/specification sheets. Technical literature may be provided with the bid submittal but is not required. However, the City reserves the right to request and require literature and/or clarifications, as needed, after bid submittal.

5.0 Technical Literature: (Continued)

5.2 If required, Bidder must submit a minimum of TWO SETS of the requested catalogue information, descriptive literature specifications and/or (if applicable) engineering drawings that completely identify the items bid. Bidder(s) shall furnish the requested literature within seven (7) calendar days after the receipt of the City's written request. FAILURE ON BIDDER'S PART TO FURNISH THE REQUESTED TECHNICAL DATA IN THE TIME LIMIT SPECIFIED MAY BE CAUSE FOR REJECTION OF THE BID.

6.0 Warranty:

6.1 A minimum twelve (12) month manufacturer's warranty on both materials and workmanship shall be provided. Any and all documents necessary to effect warranty shall be properly applied for and submitted by the Contractor/Supplier. The Contractor/Supplier shall provide to the City a manufacturer's warranty which will be honored by any of the manufacturer's authorized dealers and a compete copy shall be provided at the time of delivery. When additional warranties are available as standard, they shall be included as a part of the bid for the benefit of the City.

6.2 **DELAYED WARRANTIES** must be available for all equipment. Warranty start date shall be effective the date **that the completed unit is placed into service by the City.** The Contractor/Supplier shall furnish a delayed warranty card/document for each unit delivered and/or advise the City's Fleet Management/receiving department of the procedures to be followed for obtaining the delayed start of warranty coverage. Requests for delayed warranties will not exceed six months after delivery.

6.3 Additional warranties, if required, are listed in the Technical Specifications for each item.

6.4 With respect to any goods, materials, equipment, supplies and parts furnished by it, Contractor/Supplier warrants:

- That all items are new and free of defects in title, design, material and workmanship.
- That each item meets or exceeds the manufacturer's specifications and requirements for the equipment, structure, or other improvement in which the item is installed and conforms in all respects to the terms of the City Purchase Order and Specifications.
- That each replacement item is new, in accordance with original equipment
- Manufacturer's specifications are of a quality of at least as good as the quality of the item that it replaces (when the replaced item was new).
- That no item or its use infringes any patent, copyright or proprietary right.

6.5 The Contractor/Supplier's product shall be supported by an authorized service facility that can provide warranty repair, service and maintenance work within 24 hours from notification by the City.

6.6 Any warranty work shall be completed without cost to the City. Contractor/Supplier shall be responsible for all shipping and/or freight expense from the City's designated location to the Contractor/Supplier's facility for all warranty repair and/or maintenance and return to the City's designated location.

6.7 Contractor/Supplier shall provide a Manufacturer's Authorized Facility located within the Houston-Galveston Region (Harris County and its seven adjacent counties, Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery and Waller) for all warranty and maintenance service.

7.0 Licenses and Permits:

7.1 Contractor/Suppliers are to adhere to all applicable federal, state as well as local laws and regulations. It is the Contractor/Supplier's responsibility to acquire all necessary licenses and permits required by law.

7.2 Contractor/Supplier shall be responsible for securing any and all inspections required by law, including State Inspection stickers. Any fee charged for these inspections shall be the responsibility of the Contractor/Supplier and not the City of Houston.

7.3 At the time of delivery to the City of Houston, Contractor/Suppliers are required to provide temporary paper license tags/plates for motor vehicles or other equipment required by the State of Texas to be registered for operation on public highways.

7.0 Licenses and Permits: (Continued)

7.4 **TEXAS OCCUPATIONS CODE, TITLE 14, CHAPTER 2301** (Formerly known as "The Texas Motor Vehicle Commission Code"): **(If Applicable to this Procurement)**

7.4.1 Section 2301.251: License Required: Generally (a) Unless a person holds a license issued under this chapter authorizing the activity, the person may not (1)engage in business as, serve in the capacity of, or act as a dealer, manufacturer, distributor, converter, representative, vehicle lessor, or vehicle lease facilitator in this state.

7.4.2 Sec. 2301.252: License required: Sale of New Motor Vehicles:(a) A person may not engage in the business of buying, selling, or exchanging new motor vehicles unless the person: (1) holds a franchised dealer's license issued under this chapter for the make of new motor vehicle being bought, sold, or exchanged; or (2) is a bona fide employee of the holder of a franchised dealer's license.

7.4.3 **Licensed Franchised Dealers** submitting bids for new cabs & chassis with installed bodies and other equipment, by this Statute, are required to employ **properly licensed converters** for the conversions of the new motor vehicles.

7.4.4 **The Act of Submitting a Bid is regarded as doing business, as the entity is soliciting a sale.** Accordingly, each bidder must be a **licensed franchised dealer** at the time the bid is submitted.

8.0 Delivery / Inspection:

8.1 The item(s) specified herein, with delivery tickets and/or other required documents shall be delivered Prepaid F.O.B. Destination to the location(s) shown on the purchase order(s) **within the delivery time(s) as listed in the Technical Specifications** after receipt of City of Houston Purchase Order.

8.2 The Contractor/Supplier shall notify the City Contact listed in the "Ship To" section of the purchase order not less than three (3) days prior to expected delivery/arrival to permit inspection scheduling. The City Contact shall advise Contractor/Supplier as to the date, time and location of authorized delivery/location. An authorized representative of the Contractor/Supplier shall supervise delivery to the City. The City will not assume any liability for any vehicle/equipment delivered to an unauthorized location and/or any vehicle/equipment delivered but not accepted by the City.

8.3 **Documentation at time of Delivery:**

Contractor/Supplier shall provide the following documentation **per purchase order** upon delivery:

- Copy of purchase order(s) and invoice(s).
- Manufacturer's Certificate of Origin shall be made out to "City of Houston, Texas", 900 Bagby, 2nd Floor, Houston, TX 77002-2527 and delivered to the Fleet Management Department representative at the time of delivery of the vehicle/equipment, if applicable.
- Temporary paper license tags/plates paperwork, if applicable for equipment being delivered.
- Warranty policy(ies) and/or certifications as may be required in the Specifications.
- Parts, service, operator and maintenance manual(s) as may be required in the Technical Specifications.

8.4 **Line Tickets at time of Delivery:**

8.4.1 Vehicles (If Applicable):

8.4.1.1 Line sheets/line tickets from the manufacturer of the vehicle shall be provided for each vehicle and delivered along with other City-required documents and manuals. Each line sheet/line ticket shall list all components that make up the vehicle chassis and shall include the make, model, and serial number of each component. In addition, line sheets/line tickets shall be provided for all mounted bodies specified for cabs & chassis, and shall include but not be limited to manufacturer, serial number, size, and tare weight. All mounted equipment and components shall be listed by the manufacturer, serial number, weight restrictions (lifts, booms, hydraulic arms etc) and all other relevant data that identifies the component.

8.0 Delivery / Inspection: (Continued)

8.4 Line Tickets at time of Delivery: (Continued)

8.4.2 Other Equipment (If Applicable):

8.4.2.1 Line sheets/line tickets from the manufacturer of the equipment specified shall be provided for all equipment delivered along with other City-required documents and manuals. Each line sheet/line ticket shall list all components that make up the equipment and shall include the make, model, and serial number of each component.

8.5 **Weight Ticket Requirements per State of Texas Requirements for Title Transactions:**

8.5.1 A weight certificate shall be required on all new commercial motor vehicles covered by the manufacturer's certificate when the carrying capacity (in accordance with the State's Tonnage Rating Guidelines) is rated in excess of one ton by the manufacturer.

8.5.2 A weight certificate shall also be required when additional equipment has been added to the new commercial motor vehicle after it was delivered by the manufacturer.

8.6 Each unit shall be delivered clean and shall be complete with all equipment operable. Each unit shall be inspected by the City before tender of delivery to determine its compliance with the specifications and/or to test its ability to perform its intended use.

8.7 Upon acceptance and receipt of the vehicle/equipment unit by the City, Contractor/Supplier shall obtain the signatures and employee numbers of the City's receiving employees on the City's Equipment Inspection/Receiver Report.

9.0 Liquidated Damages:

9.1 Under the terms of this Contract (Purchase Order), the Contractor/Supplier certifies to complete delivery of any vehicle/equipment within the specified calendar days, listed in the Delivery Section of the Technical Specifications, counting from the date the City of Houston purchase order is received by the Contractor/Supplier. Contractor/Supplier agrees that time is of the essence in performance of this Contract. The Contractor/Supplier and the City of Houston understand and agree that a breach of contract as to completion on time will cause damages to the City and that the actual damages from the harm would be difficult to estimate accurately.

Therefore, for each and every calendar day that the vehicle/equipment is not delivered and/or accepted by the City beginning sixty-one (61) calendar days after the expiration of the time limit set in the Contract, the Contractor/Supplier shall be liable for and shall pay to the City the sum of **Fifty dollars ($50.00)** per vehicle/equipment per calendar day, or portion thereof, as liquidated damages and not as a penalty. It is further agreed that the sum stipulated as liquidated damages is a reasonable estimate of the damage that will result from a failure of the Contractor/Supplier to deliver the product/service in accordance with the Contract. The amount of the liquidated damages due may be deducted by the City from any payment or payments due to the Contractor/Supplier, or if all payments otherwise due to the Contractor/Supplier have been made, the amount of the liquidated damages shall be immediately due and payable upon demand.

9.2 Contractor/Supplier will not be liable for delays in performing its obligations to the extent such delays are caused by unforeseeable conditions that are beyond the Contractor/Supplier's reasonable control and directly interfere with performance, and are without Contractor/Supplier's fault or negligence (force majeure). However, Contractor/Supplier shall provide written notice to the City of the cause and extent of an **excusable delay** resulting from unforeseeable conditions. Upon cessation of the event causing the delay, Contractor/Supplier shall provide written notice to the City of the actual delay incurred. Determination of force majeure shall rest solely with the City Purchasing Agent and the receiving department.

10.0 Conflict in Terms:

10.1 Should there be any conflict between the General Specifications and the Technical Specifications, the Technical Specifications shall prevail.

11.0 Miscellaneous:

11.1 For purposes of this Contract (Purchase Order), the phrase "City Purchasing Agent" shall be deemed to include both the City Purchasing Agent, and his or her designated representative(s).

11.2 Prospective bidders may propose "equivalent equipment" as additional item(s) for City-approved equipment listings of acceptable equipment in this bid document. Prospective bidders must submit, in writing to the City Purchasing Agent, 1) a request for approval of proposed equipment, 2) Equipment Manufacturer's literature, and 3) a detailed comparison documenting that the equipment proposed is equivalent to existing equipment in the City-approved equipment listings. The approval request and all required documentation shall be in the Office of the City Purchasing Agent no later than 14 calendar days before the bids for this Contract are scheduled to be opened and publicly read. Requests for equipment approval not received by the time specified above will not be considered for this Contract. Determination as to whether the equipment proposed is equivalent to the items in the City-approved equipment listings shall rest solely with the City Purchasing Agent.

12.0 Contractor/Supplier References (See Exhibit No. 1):

12.1 In order to receive bid award consideration, the bidder must be able to demonstrate that it has provided, as a contractor/supplier, products that are similar to those offered on the electronic bid form to governmental agencies or other entities within the last two years.

12.2 If this information is required by the City, the bidder shall provide the information on Exhibit Form No. 1 within seven (7) calendar days after receipt of the City's written request. Failure by the Bidder to furnish the requested information in the time limit specified may be cause for the rejection of the bid.

EXHIBIT NO. 1

CONTRACTOR/SUPPLIER REFERENCES

In order to receive bid award consideration, the bidder must be able to demonstrate that it has provided, as a contractor/supplier, products that are similar to those offered on the electronic bid form to governmental agencies or other entities within the last two years. The references should be listed in the space provided below. Please attach additional pages as necessary. If references are not included with the bid, the bidder shall be required to provide such references to the City of Houston within five working days from receipt of a written request from the City of Houston to do so. **Bidder's capability and experience shall be a factor in determining the Contractor's responsibility.** The City of Houston reserves the right to determine if such products are appropriately similar to those offered.

1. Entity Name: _____

   Address: _____

   City & State: _____

   Name & Phone Number of Contact: _____

2. Entity Name: _____

   Address: _____

   City & State: _____

   Name & Phone Number of Contact: _____

3. Entity Name: _____

   Address: _____

   City & State: _____

   Name & Phone Number of Contact: _____

4. Entity Name: _____

   Address: _____

   City & State: _____

   Name & Phone Number of Contact: _____

5. Entity Name: _____

   Address: _____

   City & State: _____

   Name & Phone Number of Contact: _____

SECTION B

SPECIFICATIONS

PART II
TECHNICAL SPECIFICATIONS

ITEM NO. 1 **CAB & CHASSIS MOUNTED WITH GOOSENECK SERVICE BODY**
PR No. 10153944

1.0 GENERAL:

1.1 Equipment Description:

1.1.1 This specification is intended to describe a vehicle that will be used as a utility truck by the Public Works & Engineering Department, Public Utilities Division. This vehicle consists of a cab & chassis mounted with a gooseneck service body.

1.2 Prime Contractor/Supplier:

1.2.1 These specifications require the bidder to be a prime contractor/supplier and to bid on the cab & chassis mounted with the service body.

1.3 Quantity:

1.3.1 Identical units shall be furnished.

1.4 Equivalent Equipment:

1.4.1 Bidders proposing to provide equipment they believe to be equal to the specified model must provide sufficient operating and technical specifications for the City to evaluate the proposed equipment.

1.5 Equivalent Equipment Documentation:

1.5.1 A bidder proposing to provide equivalent to the specified model must be able to demonstrate upon request that it has manufactured an apparatus similar to the unit bid, and that the apparatus has been proven and tested in service satisfactorily. The bidder will provide records of warranty service repairs upon request. The City of Houston shall be the sole judge whether the apparatus in service similar to the unit bid has been proven and tested satisfactorily.

2.0 CAB AND CHASSIS:

2.1 General:

2.1.1 Ford F-450 4x4 Cab & Chassis with Regular Cab or City-approved equal. GVWR shall be not less than 15,000 lbs. with a 60" Cab-to-Axle.
2.1.2 Cab steps for all doors
2.1.3 Minimum 25 gallon fuel tank
2.1.4 Power door locks and windows, Manufacturer's Standard
2.1.5 Air Conditioning
2.1.6 AM/FM Radio

2.2 Engine:

2.2.1 An electronically governed **6.8 L V10, 300 HP GASOLINE** engine that will meet the current EPA engine emission levels shall be provided.

2.3 Transmission:

2.3.1 Automatic transmission
2.3.2 Transmission Cooler

3.0 GOOSENECK SERVICE BODY: Reference: (CM Model TM, 9FT. Gooseneck Bed)

3.1 Body:

3.1.1 All steel frame construction
3.1.2 4" steel channel frame rails
3.1.3 3" steel cross member
3.1.4 Steel tubing headache rack with "easy view" window grill
3.1.5 1/8" steel tread plate deck
3.1.6 Recessed gooseneck ball mounting box with easy access removable cover and 2 Pull up safety chain loops

ITEM NO. 1: CAB & CHASSIS MOUNTED WITH GOOSENECK SERVICE BODY: (Continued)

3.0 GOOSENECK SERVICE BODY (Continued):

3.1.7 Full length side skirt with rolled fenders and aluminum tread plate trim
3.1.8 Street side and curbside compartment configuration
3.1.8.1 Vertical hinge compartment at front
3.1.8.2 Top opening horizontal compartment over wheel well extending to rear of body
3.1.8.3 Rear compartment behind rear wheel under above horizontal compartment
3.1.9 Angled fuel fill
3.1.10 Full length rear skirt
3.1.11 Rear bed corners tapered for turning radius
3.1.12 Rear bumper with standard 8" tread plate
3.1.13 Class IV receiver hitch w/2 safety chain catch points and 30-Ton pintle hook.
3.1.14 Premium TGIC Polyester powder coating: Black
3.1.15 2 – recessed tail, brake and back up lights mounted in headache rack
3.1.16 Cargo light with toggles switch
3.1.17 Stop, turn back up lights in skirt
3.1.18 DOT requires lighting (clearance and marker lights)
3.1.19 All lighting must be wired to meet all DOT requirements as originally intended by the vehicle manufacturer

4.0 TRAINING:

4.1 Successful bidder shall instruct City of Houston personnel on proper operation and proper maintenance of units and accessories for a minimum of two (2) hours or satisfaction of City of Houston supervisory personnel, at no additional cost to the City of Houston.

5.0 MANUALS:

5.1 Three (3) sets each of Operator's, and Parts/Service for other associated equipment (electronic versions acceptable).

6.0 WARRANTY:

6.1 Cab & Chassis:
6.1.1 A minimum of a Manufacturer's 36-month/36,000 mile bumper-to-bumper warranty shall be provided.
6.1.2 Manufacturer's standard warranty shall be provided for emission controls, power train, and corrosion.
6.2 Body:
6.2.1 A minimum of one year on parts and workmanship.

7.0 DELIVERY:

71 The Truck unit(s) with all specified equipment shall be delivered One Hundred Sixty Five (165) calendar days after receipt of City of Houston Purchase Order FOB Destination, full freight allowed (FFA) to the location(s) as stated on each individual purchase order
7.2 Unit(s) shall have full tanks of fuel at time of delivery.
7.3 Unit(s) shall be accompanied with a copy of the original invoice, warranty policy(ies) and/or certification, as may be required.

ITEM NO. 2: CAB & CHASSIS MOUNTED WITH AERIAL BUCKET LIFT AND BODY
PR No. 10153632

1.0 GENERAL:

1.1 Equipment Description:

1.1.1 This specification is intended to describe a vehicle that will be used as an aerial bucket truck by the Public Works & Engineering Department, Traffic and Transportation Division. The vehicle consists of a cab & chassis mounted with an aerial bucket lift and service body.

1.2 Prime Contractor/Supplier:

1.2.1 These specifications require the bidder to be a prime contractor/supplier and to bid on the cab & chassis mounted with the aerial bucket lift and body.

1.3 Quantity:

1.3.1 Identical units shall be furnished.

1.4 Equivalent Equipment:

1.4.1 Bidders proposing to provide equipment they believe to be equal to the specified model must provide sufficient operating and technical specifications for the City to evaluate the proposed equipment.

1.5 Equivalent Equipment Documentation:

1.5.1 A bidder proposing to provide equivalent to the specified model must be able to demonstrate upon request that it has manufactured an apparatus similar to the unit bid, and that the apparatus has been proven and tested in service satisfactorily. The bidder will provide records of warranty service repairs upon request. The City of Houston shall be the sole judge whether the apparatus in service similar to the unit bid has been proven and tested satisfactorily.

2.0 CAB AND CHASSIS:

2.1 General:

2.1.1 Ford F-450 4x2 Cab & Chassis with Regular Cab or City-approved equal. GVWR shall be not less than 16,000 lbs. with a 60" Cab-to-Axle and 141" Wheelbase.
2.1.2 Rear axle ratio of 4.88
2.1.3 Heavy duty front springs
2.1.4 Cab height must allow for aerial device mounting to be at 10 foot 6 inches maximum
2.1.5 Minimum of 2 key pod type controls for keyless entry
2.1.6 Minimum 40 gallon fuel tank
2.1.7 5,000-lb Front Axle

2.2 Engine:

2.2.1 A **6.7 L V10 GASOLINE** engine 300 HP that will meet the current EPA engine emission levels shall be provided

2.3 Transmission:

2.3.1 A 5-speed automatic transmission with integral PTO provision shall be provided

2.4 Cab:

2.4.1 OEM air conditioning, heating and defroster shall be provided
2.4.2 AM/FM radio shall be provided
2.4.3 Electric windows and door locks shall be provided.
2.4.4 Vinyl bench type seat
2.4.5 Manufacturer's standard ABS brakes
2.4.6 White exterior color
2.4.7 Darkest interior color available
2.4.8 Electric Adjustable side mirrors
2.4.9 Rubber Floor Mats

ITEM NO. 2: CAB & CHASSIS MOUNTED WITH AERIAL BUCKET LIFT AND BODY: (Continued)

3.0 AERIAL BUCKET LIFT:

3.1 General:

3.1.1 Versalift Model TEL29EIH (254.717.3523) or City-approved equal

3.1.2 Insulated telescopic / articulated aerial device with a minimum platform height of 29 feet

3.1.3 Horizontal reach shall be a minimum of 23.5 feet

3.1.4 Travel height shall not exceed 10 foot 6 inches

3.1.5 Aerial Device to be mounted maximum of 12 inches behind the cab of the chassis to the front of the pedestal

3.1.6 Minimum platform capacity of 350 pounds

3.1.7 The aerial bucket lift device must be manufactured in an ISO 9001 Certified Facility

3.2 Control System:

3.2.1 The upper controls shall be of a Unitrol single stick design. They will consist of positive links with no cables. A safety trigger on the underside of the Unitrol handle will not allow boom movement until it is depressed. An emergency stop control is also to be provided at the upper controls at the basket.

3.2.2 Individual full-pressure controls at the turret actuate all boom functions. This lower control station is equipped with a selector valve to override the upper controls in event of injury, rescue or equipment malfunction.

3.2.3 The hydraulic control valves are full pressure and full flow.

3.2.4 The start/stop system will be designed so that the aerial lift cannot be operated normally unless a power switch is activated and the truck ignition switch is the "on" position. This feature makes it difficult for unauthorized individuals to operate the aerial when the truck is locked or unattended. Start/Stop controls will be located in the basket for the operator and at the lower control station.

3.2.5 The aerial will have an emergency power system installed. It will consist of a hydraulic pump driven by a DC motor. This will be powered from the chassis battery system. It will be designed for non-continuous use only. These systems controls will be installed at both the basket and lower control stations. The DC motor/pump will be installed in the pedestal of the aerial device to protect it from damage and the elements.

3.3 Outer/Inner Boom Assembly:

3.3.1 The outer/inner booms assembly consists of the outer boom, telescopic boom, extension system, and hydraulic hose assemblies. The hoses routed through outer/inner boom assembly are non-conductive and fully contained within the boom assembly.

3.3.2 The outer boom consists of a 7 inch X 9-inch steel section.

3.3.3 The insulated rectangular inner boom is housed within the outer boom. The inner boom is easily removed and disassembled for service and/or inspection.

3.3.4 The extension system consists of a hydraulic cylinder, and two integral holding valves Ultra high molecular weight plastic slide pads mounted on the outer boom can be changed without the removal of the inner boom. The inner boom slide pads can also be changed through service port windows without the removal of the inner boom.

3.3.5 Minimum Inner Boom Extension will be 116 inches.

3.3.6 The insulation gap must be a minimum of 42 inches when fully extended.

3.3.7 The outer/inner boom assembly articulates from -14 degrees below horizontal to +74 degrees above horizontal. A rubberized boom support cradle and ratchet type tie-down are installed.

3.3.8 Actuated by a double acting hydraulic cylinder that has two integral holding valves, the outer/inner boom assembly is offset to one side to provide easy access to the platform.

ITEM NO. 2: CAB & CHASSIS MOUNTED WITH AERIAL BUCKET LIFT AND BODY: (Continued)

3.0 AERIAL BUCKET LIFT (Continued):

3.4 Turret/Rotation:

3.4.1 The turret wings are ½ inch thick steel plate. A steel tube is welded between the turret wings to support the boom cylinder and provide rigidity. The turret wings are designed for strength and rigidity. The bearing cover is continuously welded to seal out moisture and prevent foreign material from obstructing the turret rotation.

3.4.2 The turret plate is machined flat to support the rotation bearing. A bearing cover is provided to prevent foreign material from interfering with lift rotation.

3.4.3 Rotation is non continuous.

3.4.4 The critical bolts holding the lift to rotation bearing are SAE grade 8. These bolts are torque seal marked to provide a quick means to inspect for loosening.

3.5 Pedestal:

3.5.1 The pedestal is a square shape with an access opening on both sides. These include easily removable doors to protect the internal components from damage and the elements. A 7-gallon hydraulic reservoir is built integral to the pedestal. The reservoir includes anti-slash baffles.

3.5.2 The top plate of the pedestal 1 inch steel plate machined flat to support the rotation bearing.

3.5.3 Dual sight gauges are furnished on the pedestal for monitoring the hydraulic oil level.

3.5.4 A 100-mesh suction strainer and 10-micron return filter with shut off valves are located inside the pedestal.

3.6 Platform:

3.6.1 24-inch X 30-inch X 42-inch deep platform completely closed with on access step.

3.6.2 Platform to be supported in the stowed position by a tubular rubber support mounted on the floor of the service body.

3.6.3 Platform must be end mounted with hydraulically leveled platform. The leveling system includes a master/slave cylinder arrangement that can be actuated from both the upper and lower controls for rescue or cleanout.

3.6.4 An extra-large full body harness with deceleration lanyard will be provided.

3.6.5 The anchor point for the lanyard is incorporated to the inner boom at the basket end.

3.6.6 A platform liner of 24-inches X 30-inches X 42-inches deep and rated for 50 kV will be supplied.

3.6.7 A bright orange or yellow soft stretch cover will be supplied to fit the 24X30x42 basket.

3.7 Hydraulic System:

3.7.1 The open-center hydraulic system operates at 2000 PSI and 3 GPM. A 10-micron return-line filter. Mounted above the hydraulic oil level and inside the pedestal, can easily be changed without draining the reservoir. A gate valve, located below the reservoir, prevents oil loss when the pump is serviced. A magnetic drain plug attracts metal particles from the oil and can easily be cleaned by removal when changing the system oil.

3.7.2 Hydraulic power is provided by a PTO and Pump configuration.

3.7.3 PTO/PUMP to be engaged by a toggle type switch on the dash of the chassis. There will be a red PTO indicator light dash mounted as well. There will be a PTO safety interlock installed and wired through the emergency brake of the chassis.

ITEM NO. 2: CAB & CHASSIS MOUNTED WITH AERIAL BUCKET LIFT AND BODY: (Continued)

3.0 AERIAL BUCKET LIFT (Continued):

3.8 Miscellaneous:

3.8.1 Non-lube bushings will be used at most points of motion. Rotation gearbox and rotation bearing require periodic lubrication.

3.8.2 The complete unit is primed and painted standard white urethane prior to assembly.

3.8.3 The high-pressure hoses routed through the booms are non-conductive hoses with swaged hose end fittings. Reusable hose fittings may be installed if a hose is damaged.

3.8.4 Three sets of operation and service manuals will be provided with the aerial lift.

3.8.5 All cylinders are equipped with AQ type seals, nylon back up rings, non-metallic bearings on the pistons and end glands, rod wipers, threaded end glands and chrome plated rods.

3.8.6 All lift and load holding type cylinders will be both threaded on the cylinder rod and then welded for dual retention and safety.

3.8.7 The extension cylinder has wear rings on the piston and end gland for extended seal life. Dual holding valves are mounted at the extension cylinder base to prevent boom creep during road travel or uncontrolled movement in case of hydraulic hose failure. A hydraulic regeneration feature on the extension cylinder provides extension and retraction at approximately the same speed.

3.8.8 Pins are high strength alloy steel and chrome plated for a hard finish and corrosion resistance. Cylinder pins are held in place with torque sealed bolts on one end and a pin cap washer and bolt that is torque sealed on the other.

3.9 Stabilization:

3.9.1 Rear Mounted Frame Torsion Bar

4.0 HEAVY-DUTY SERVICE BODY:

4.1 General:

4.1.1 Dakota Body or City-approved equal

4.1.2 Body to be install in relation to the aerial device and chassis specified above.

4.1.3 The body shall be a 108 inch body with tailself and entry steps on the curbside.

4.1.4 Streetside Compartmentation:

4.1.4.1 All compartment doors will be of a T-Handle lock design

4.1.4.2 Front vertical to have standard Dakota 108 shelving

4.1.4.3 Horizontal will have one material tray and 10 dividers

4.1.4.4 Rear vertical will have 4 pullout drawers. The top two drawers will have 3 sections with 3 cross sections to form 9 individual compartments for the (storage of small materials. The bottom two drawers will have 3 equal sections for tool storage. The drawers will all have a safety latch to prevent the drawer from sliding out if parked on an incline.

4.1.5 Curbside Compartmentation:

4.1.5.1 All compartment doors will be of a T-Handle lock design

4.1.5.2 Front Vertical to have standard Dakota 108 shelving

4.1.5.3 DELETE

4.1.5.4 Horizontal will have one adjustable material tray with 10 dividers

4.1.5.5 Rear vertical will have 5 fixed material hooks 1-3-1

4.2 Body Dimensions:

4.2.1 Floor width shall be 52 inches minimum

4.2.2 Body height shall be 40 inches minimum

4.2.3 Body length shall be 108 inches

4.2.4 Body width shall be 92 to 96 inches

4.2.5 Compartment depth shall be 18 inches minimum

ITEM NO. 2: CAB & CHASSIS MOUNTED WITH AERIAL BUCKET LIFT AND BODY: (Continued)

4.0 HEAVY-DUTY SERVICE BODY (Continued):

4.3 Tailshelf:
- 4.3.1 Maximum width shall match outside width of body
- 4.3.2 The tailshelf shall be of sufficient size to encompass the aerial device basket completely when in the stowed position.
- 4.3.3 Tailshelf shall have an area to insert an arrow stick at the rear
- 4.3.4 There shall be one cable step at curbside rear for entry
- 4.3.5 The tailshelf and all lights on the service body shall be of an LED design.

4.4 Tailgate:
- 4.4.1 A 2-inch X 6-inch steel tube type tailgate shall be installed.
- 4.4.2 It shall slide into horizontal slots on the body and to be configured where it will not interfere with the aerial device basket storage.
- 4.4.3 There shall be one quick pin to hold tailgate in position and for ease of removal.

4.5 Window Guard (Headache Rack):
- 4.5.1 An expanded metal window guard shall be installed to protect the rear windshield and/or the chassis.
- 4.5.2 Window guard shall have two mounts for low profile amber strobe lights with brush guards for the strobes.

4.6 Lighting:
- 4.6.1 There shall be a heavy-duty lighting package for service body.
- 4.6.2 All lighting shall be recessed except for marker clearance lights
- 4.6.3 Two low profile flashing, high – intensity LED warning lights (1 amber 1 blue) on the rear window guard with brush guards and control switches in the cab.
- 4.6.4 Install two low profile flashing, high-intensity LED warning lights (1 amber, 1 blue) with brush guards on each side of service body at the rear. These will have control switches in the cab
- 4.6.5 Install an arrowstick model number SYAS847 P.S.E. or equivalent with controls in the cab. This will be flush mounted in the tailself.
- 4.6.6 LED light (12VDC) will be installed in cab to supplement courtesy light.

4.7 Painting:
- 4.7.1 Paint Body OEM Color to match chassis
- 4.7.2 All walkways shall have anti-skid paint applied
- 4.7.3 All service body compartment tops shall have anti-skid paint applied
- 4.7.4 Interior of compartments shall be primer gray

5.0 MISCELLANEOUS EQUIPMENT AND ITEMS TO BE PROVIDED AND INSTALLED:

- 5.1 High Security lock on the body to gang lock body compartments
- 5.2 Install mudflaps anti sail with metal straps
- 5.3 Grab handle to aid in tail self entry, bolted on the rear of the service body curbside
- 5.4 Install backup alarm Ecco # 5A907 or City-approved equal
- 5.5 Treadplate installed on compartment tops
- 5.6 Provide a 5-pound ABC fire extinguisher to be mounted inside the cab behind driver's seat
- 5.7 Triangle reflector kit
- 5.8 Undercoating and rustproof
- 5.9 Install grill guard for front of chassis
- 5.10 Generator- 3 Kilowatt Generator Honda EU3000iS or City Approved Equal
- 5.11 Generator containment. One RKI V363624 or equivalent. 36" long x 36" tall x 24" deep with slide out tray, generator to be securely attached to the slide out tray in a way to allow for service and cooling of generator when running. Tray should have two slides with a minimum of 125lb capacity each. Tray must lock in closed position with a different key than box door. Box shall be screened on exhaust end of generator to allow for exhaust and for cooling air flow

ITEM NO. 2: CAB & CHASSIS MOUNTED WITH AERIAL BUCKET LIFT AND BODY: (Continued)

6.0 WARRANTY:

6.1 Cab & Chassis:

6.1.1 A minimum of a Manufacturer's 36-month/36,000 mile bumper-to-bumper warranty shall be provided

6.1.2 Manufacturer's standard warranty shall be provided for emission controls, power train, and corrosion

6.2 Aerial Lift:

6.2.1 Aerial bucket lift shall have a Manufacturer's standard one-year warranty and include a three-year warranty on all-hydraulic hoses and hydraulic cylinders

6.2.2 Warranty repairs to the aerial device shall be made at the City of Houston Traffic Operations Facility by Factory Authorized mechanics

6.3 Service Body:

6.3.1 One-year full warranty (parts and labor) shall be provided on service body and any listed options installed by manufacturer

6.3.2 If manufacturer's standard warranty is longer, the City of Houston will accept the longer warranty

6.3.3 Three-year full warranty (parts and labor) shall be provided for rust perforation

7.0 TRAINING:

7.1 Operator orientation training shall be provided to those employees designated by the Department of Public Works & Engineering. The orientation training will include a thorough briefing on daily pre trip, during and post trip operator checks and services, unique operating characteristics of the unit and suggested handling and operating techniques.

7.2 Technical orientation training shall be given to department technicians to familiarize them with the new equipment and about any special troubleshooting or diagnostic checks, techniques and services

7.3 Training shall be provided to the Department at no additional cost to the City.

8.0 LITERATURE:

8.1 Maintenance and Operator's Manuals:

8.1.1 Four sets of parts, service, shop, hydraulic schematics, lubrication charts and operator's manuals shall be provided with delivery of the first unit (electronic format is acceptable)

8.1.2 One set of operator's manuals shall be provided for each additional unit (electronic versions acceptable)

9.0 DELIVERY:

9.1 **All of the truck unit(s) specified above, with delivery tickets and/or other required documents shall be delivered Prepaid F.O.B. Destination to the Public Works & Engineering Department, Houston, Texas within two hundred ten (210) calendar days after receipt of City of Houston Purchase Order.**

9.2 Representatives from both the cab & chassis Prime Contractor/Supplier and the body/equipment Subcontractor shall be present at the time of delivery of the unit to the City of Houston.

ITEM NO. 3: MEDIUM DUTY WRECKER/WHEEL LIFT
PR No 10154206

1.0 GENERAL:

1.1 Equipment Description:
The unit described shall be a combination wrecker / wheel lift suitable for recovering and towing passenger cars and light duty trucks mounted on a minimum F550 series truck or equivalent for the Public Works & Engineering Department, Street Drainage Division.

1.2 Prime Contractor/Supplier:
1.2.1 These specifications require the bidder to be a prime contractor/supplier and to bid on the cab & chassis mounted with the wrecker / wheel lift body

1.3 Quantity:
1.3.1 Identical units shall be furnished.

1.4 Equivalent Equipment:
1.4.1 Bidders proposing to provide equipment they believe to be equal to the specified model must provide sufficient operating and technical specifications for the City to evaluate the proposed equipment

1.5 Equivalent Equipment Documentation:
1.5.1 A bidder proposing to provide equivalent to the specified model must be able to demonstrate upon request that it has manufactured an apparatus similar to the unit bid, and that the apparatus has been proven and tested in service satisfactorily. The bidder will provide records of warranty service repairs upon request. The City of Houston shall be the sole judge whether the apparatus in service similar to the unit bid has been proven and tested satisfactorily

2.0 CAB AND CHASSIS:

2.1 General:
2.1.1 Ford F-550 with Regular Cab or City-approved equal. GVWR shall be not less than 17,500 lbs. with a 84" Cab-to-Axle.
2.1.2 Minimum 25 gallon fuel tank
2.1.3 Mirrors, Manually Extendable Type
2.1.4 Power door locks and windows, Manufacturer's Standard
2.1.5 Air Conditioning
2.1.6 AM/FM Radio
2.1.7 Power Steering
2.1.8 Brakes, ABS Front and Rear
2.1.9 Cab Steps for all Doors
2.1.10 Grill Guard

2.2 Engine:
2.2.1 An electronically governed **6.7 L V8, 300 HP GASOLINE** engine that will meet the current EPA engine emission levels shall be provided.

2.3 Transmission:
2.3.1 Automatic transmission with PTO Provision
2.3.2 Transmission Cooler

3.0 WRECKER BODY

3.1 Body:
3.1.1 Suitable for installation on light duty chassis with eighty-four (84) inch cab to axle ratio
3.1.2 Overall body length, not including lift ninety-five (95) inches
3.1.3 Overall body width eighty-eight (88) inches
3.1.4 Approximate height of deck from ground forty-four (44) to fifty-four (54) inches
3.1.5 Unit weight, including body approximately 3,600 lbs.
3.1.6 Shall be constructed of eleven gauge sheet metal
3.1.7 Shall have a unitized design

ITEM NO. 3: MEDIUM DUTY WRECKER / WHEEL LIFT: (Continued)

3.0 WRECKER BODY (Continued):

3.1.8 Reinforced to retard vibration
3.1.9 Shall bolt to the wrecker sub frame to allow removal for major maintenance
3.1.10 Shall house the truck's wheels to protect chassis from damage and weather and to provide rear lighting
3.1.11 Shall be chemically cleaned and treated to allow good paint adhesion
3.1.12 Shall be finished in primer paint
3.1.13 Body floor shall be made of 12 gauge diamond plate steel
3.1.14 Frame rails shall be spaced 34" apart
3.1.15 Shall have a hand rail kit
3.1.16 Frame shall have maximum unladen height of 34"
3.1.17 Lighting
3.1.17.1 Whelen WHE-JFOBAAA Towmans Justice ten (10) thin light bar and include fold down for aluminum pylon Part #124 002 704 or City-approved equal
3.1.17.2 Shall meet FMVSS requirements

3.1.18 Two storage pockets for safety chains in rear tailboard section.
3.1.19 Two safety chains each minimum of 10 feet long
3.1.20 Switch panel for the PTO
3.1.21 Rear work lights
3.1.22 Mud flaps
3.1.23 Remote throttle cable
3.1.24 Medium-duty truck tow bar
3.1.25 Sealed wiring harness with sealed junction points
3.1.26 Sealed junction box
3.1.27 Pre-wired light connectors
3.1.28 Jerr-Dan aluminum tunnel tool box Part #2899000023S or equal for 84" C.A. chassis
3.1.29 Jumper kit Jump Max Part #JM304 with 30' cable or equal mounted midway curbside
3.1.30 Underlift designed to accommodate frame forks
3.1.25.1 One pair of frame forks with a four (4) inch opening and adapters
3.1.31 Extended lift rating of at least 6,000 lbs.
3.1.32 Tow rating 6,500 lbs.
3.1.33 Maximum reach from tailboard 66 inches
3.1.34 Retracted reach from tailboard 29.5"
3.1.35 Maximum tilt up 9 degrees
3.1.36 Maximum tilt down 7 degrees
3.1.37 Wheel retainers for lifting vehicle by its wheels
3.1.37.1 Constructed of fifty grade steel
3.1.37.2 Plated to prevent rust and corrosion
3.1.37.3 Shall be designed to intrinsically grip tires of vehicle being towed to avoid need for wheel straps
3.1.37.4 Wheel retainers shall be capable of quick and easy hook up to the vehicle being towed
3.1.37.5 Shall fit into a socket on the wheel lift stinger
3.1.37.6 Shall be able to pivot vertically and horizontally

3.2 Recovery Boom:
3.2.1 Structural rating 20,000 lbs.
3.2.2 Shall be constructed of high quality structural steel
3.2.3 Shall have sheaves and cable guides for two winch cables
3.2.4 Shall be powered to extend and retract, and raise and lower
3.2.5 Shall work in conjunction with the winches for recovering disabled vehicles from ditches or accidents
3.2.6 Shall have control handles for powered movements

ITEM NO. 3: MEDIUM DUTY WRECKER / WHEEL LIFT: (Continued)

3.0 WRECKER BODY WHEEL LIFT (Continued):

3.2.6.1 Control handles shall be mounted on the deck of the unit separated from the wheel lift controls
3.2.6.2 Duplicate set of control handles shall be mounted on the opposite side of the body
3.2.6.3 Control handles shall be marked to identify their functions

3.3 Winches (2):
- 3.3.1 Must meet SAEJ706
- 3.3.2 Dual-powered operated and identical
- 3.3.3 Wind cable in and out under hydraulic power
- 3.3.4 Provisions for free spooling the cable out
- 3.3.5 Shall hold rated load when hydraulic power is shut off
- 3.3.6 Control handle for in and out movement mounted on one side of body
- 3.3.7 Second control handle for in and out movement mounted on opposite side of body
- 3.3.8 Load rating first layer 10,000 Model 894 or equal
- 3.3.9 Winch factor of safety 5 to 1
- 3.3.10 Line speed 15 feet per minute

3.4 Winch Cable:
- 3.4.1 Length / Diameter 100 feet, 7/16 inch
- 3.4.2 Breaking strength 29,200 Lbs.
- 3.4.3 Safe working load 8,225 Lbs.

3.5 Hydraulic System:
- 3.5.1 PTO-driven hydraulic pump
- 3.5.2 System pressure 2500 PS
- 3.5.3 Closed Reservoir capacity 5.1 US gallons
  - 3.5.3.1 Filler
  - 3.5.3.2 Filler cap
  - 3.5.3.3 Provisions for draining
- 3.5.4 Hydraulic pump, type & rate Gear pump, 11.7 Gallons per minute
- 3.5.5 Hydraulic hoses that meet 100R2 specifications
- 3.5.6 Hydraulic hoses shall be wrapped in a protective loom, or be constructed of steel to avoid premature wear
- 3.5.7 Hydraulic cylinder rods exposed to elements shall have a covering of .0005 inches of chrome
- 3.5.8 Control valve type Spool type open center
- 3.5.9 Filter Hoses
- 3.5.10 Fittings
- 3.5.11 Cylinder bore boom extension cylinder 2.5 inches
- 3.5.12 Cylinder bore boom lift cylinder 4 inches
- 3.5.13 Cylinder bore wheel lift tile cylinder 4 inches
- 3.5.14 Cylinder bore wheel lift extension cylinder 2.5 inches
- 3.5.15 Cylinder bore wheel lift cylinder three inches
- 3.5.16 Boom extension cylinder stroke (10 Ton) 57.5 inches

ITEM NO. 3: MEDIUM DUTY WRECKER / WHEEL LIFT: (Continued)

3.0 WRECKER BODY WHEEL LIFT (Continued):

3.5.17 Boom lift cylinder stroke 14.5 inches
3.5.18 Wheel lift tilt cylinder stroke 6 and 1/16 inches
3.5.19 Wheel lift extension cylinder stroke 28.5 inches
3.5.20 Wheel lift cylinder stroke 18 and 5/8 inches

4.0 WARRANTY:

4.1 MANUFACTURER'S EXTENDED WARRANTY (NO EXCEPTIONS) FOR VEHICLES AND CABS & CHASSIS - shall extend the manufacturer's standard warranty to as follows with a $200.00 or less deductible.

Ford – Premium Extended Service Plan - Six years or 75,000 miles, whichever comes first
General Motors – Major Guard Extended Service Plan - Six years or 72,000 miles, whichever comes first
Daimler Chrysler – Maximum Care Upgrade - Six years or 70,000 miles, whichever comes first

5.0 TRAINING:

5.1 Eight (8)-hours of training for proper operation of rollbacks and wheel-lift

5.2 Training covering general maintenance and preventive maintenance needs shall be provided at the City's request

6.0 LITERATURE:

6.1 One (1) complete set of parts and service manuals shall be provided at time of delivery (electronic versions acceptable)

7.0 DELIVERY:

7.1 Successful bidder shall be responsible for mounting of the wrecker bodies and any other required equipment to the cab & chassis and delivering the complete unit to the designated delivery point

Houston, Texas.

7.2 Vehicle shall be delivered with weight ticket and current State Inspection.

7.3 The item(s) specified above, with delivery tickets and other required documents, shall be delivered Prepaid F.O.B. Destination to the location(s) shown on the purchase order(s) within one-hundred-fifty (150) calendar days after receipt of the City of Houston Purchase Order.

ITEM NO. 4: CAB & CHASSIS MOUNTED WITH HERBICIDE SPRAYER BODY
PR No. 10158290

1.0 GENERAL:

1.1 Equipment:

1.1.1 These specifications intend to describe a weed sprayer truck that will be used by the Parks & Recreation Department, Herbicide Application Group, to spray herbicides to control weed growth in right-of-ways, ditches and storm sewer easements.

1.2 Prime Contractor/Supplier:

1.2.1 These specifications require the bidder to be a prime contractor/supplier and to bid on all components specified herein, including any ancillary equipment. Award will be made on all or none basis. The prime contractor/supplier shall be capable of authorizing warranty repairs at the primary service facility, or if the city elects, at the city's facility.

1.3 Equivalent Equipment:

1.3.1 An equivalent or better product may be substituted except when otherwise specified. Bidder proposing to submit an equivalent product as a substitute for the equipment specified must supply sufficient operating and technical information to allow the city to evaluate the proposed substitute product.

1.3.2 Determination as to whether the item(s) bid is (are) equivalent to those specified shall rest solely with the City Purchasing Agent and the receiving department.

1.3.3 Bidder proposing to provide equipment equivalent to that specified must be able to demonstrate upon request that it has manufactured a product identical to the proposed item and that the product has been proven satisfactory in tests and in service.

1.3.4 The prime contractor/supplier must provide records of warranty service repairs as requested by the City.

2.0 CAB & CHASSIS:

2.1 General:

2.1.1 Ford F-550 4x4 Cab & Chassis with Regular Cab or City-approved equal. GVWR shall be not less than 19,500 lbs. with an 84" cab-to-axle.

2.2 Engine:

2.2.1 Current electronically-governed 6.7L diesel engine shall be provided.

2.3 Transmission:

2.3.1 A 6-speed automatic transmission with integral PTO provision shall be provided

2.4 Cab and Equipment:

2.4.1 OEM air conditioning, heating and defroster shall be provided
2.4.2 AM/FM radio shall be provided
2.4.3 Electric windows and door locks shall be provided.
2.4.4 Vinyl bench type seat
2.4.5 Manufacturer's standard ABS brakes
2.4.6 Colors (OEM Standard)
2.4.7 Darkest interior color available
2.4.8 Cab steps for all doors

ITEM NO. 4: CAB & CHASSIS MOUNTED WITH HERBICIDE SPRAYER BODY (Continued):

3.0 HERBICIDE SPRAYER SPECIFICATIONS:

3.1 General:

3.1.1 The purpose of these specifications is to describe a truck-mounted, high production right-of-way sprayer consisting of a front bumper-mounted, low drift, boom less, spray head containing only solid stream nozzles which are vibrated electromagnetically and sprays eight independently-controlled laterally adjacent swaths for 36 feet, and one water pump and a computer-controlled chemical injection system with all accessories meeting the following minimum specifications. **Referenced Supplier**: Cibilo, Johnny Kubacak, email address jlkubacak@yahoo.com

3.1.2 **NOTE**: Successful bidder to provide a list of three users with telephone numbers and contacts that have purchased at least three sprayer units that meet all of the specifications as listed below, including those on the boom less spray head listed below.

3.2 Single Application Spray Head:

3.2.1 The sprayer shall have the capability of applying herbicides in a SINGLE APPLICATION, in any of the techniques listed below in a single pass along the right-of-way.

3.2.1.1 Selective application of herbicides for spot treatment or broadcasting in multiple adjacent swaths across the right of way.

3.2.1.2 Spot treatment of herbicides to shoulders, edges of pavement, curbs, gutters, guardrails, signs, culvert ends, bridges, and medians.

3.2.1.3 Spot treatment with a handgun.

3.2.1.4 Three section rear batwing boom.

3.3 Low Drift Multiple Swath Boom Less Spray Head:

The spray head must meet all of the following features:

3.3.1 The spray head is boom less.

3.3.2 The spray head is non-motorized and sprays multiple laterally adjacent swaths.

3.3.3 The spray head consist of one curved (arc) longitudinal flat 1/2" thick stainless steel bar, approximately 18.5" long which is attached at its uppermost end. Mild steel is embedded in the non-attached end of the bar as an attractor. The electromagnet rapidly pulls and releases the non-attached end of the bar.

3.3.4 The end of the bar to be coated with a plastic coating to prevent corrosion.

3.3.5 The second stainless bar is approximately 10" long and 3/8" thick and contains nozzles which can be adjusted up or down in a slot and are held in position with a lock washer and hex nut.

3.3.6 The opposite end of the 18.5" bar is non-attached and free to move and is positioned near a 12 Volt D.C. electromagnet.

3.3.7 The magnetic force created by the magnet causes one end of the bar to move rapidly. The bar vibrates at a minimum of 45 hertz. As a result the rapid movement shakes or vibrates the straight streams causing them to break up and scatter uniformly over the area being sprayed. This process eliminates any gaps in the spray swath. The spray head runs smooth and quiet not generating any irritating noises.

3.3.8 All swaths consist of sets of miniature stainless nozzles, all of which produce straight streams. Nozzles located in the bottom of the 18.5" bar are screwed through the bar while the top nozzles are held in a slot with lock washers and hex nuts. All nozzles contain hose barbs with capillary hose pushed over with a clamp made of hose, which is pushed over the top of the barbs. The other end of each capillary hose is pushed over hose barbs mounted in brass manifolds screwed into solenoid valves. Each solenoid valve mounted in the spray head has a brass manifold with multiple hose barbs.

3.3.9 Each nozzle is mounted in the spray head on a predetermined fixed orientation to prevent movement of nozzles. All nozzles are screwed through holes threaded through the bar in permanent fixed positions.

3.3.10 Nozzles in the sets covering swath zones closer to the vehicle deliver smaller droplet sizes while nozzles in sets covering swath zones further away from the vehicle delivering larger droplets sizes.

SECTION B, PART II TECHNICAL SPECIFICATIONS (CONTINUED):

ITEM NO. 4: CAB & CHASSIS MOUNTED WITH HERBICIDE SPRAYER BODY (Continued):

3.0 HERBICIDE SPRAYER SPECIFICATIONS (Continued):

3.3 Low Drift Multiple Swath Boom Less Spray Head: (Continued)

3.3.11 A single ¾" hose carries fluid from the water pump to a stainless manifold mounted inside the spray head. This manifold is the supporting structure for all of the electric solenoids. Each solenoid has a second outlet manifold with multiple miniature stainless hose barbs screwed into the side. Capillary hoses connect each hose barb to each individual nozzle. Each swath consists of one solenoid and multiple capillary hoses and nozzles.

3.3.12 Eight brass solenoids are mounted directly in the spray head above the nozzles. The 8 multiple swaths consists of 4', 4', 4', 4', 6', 6', 6' and 6' for a total of 36 to 40 feet.

3.3.13 Vibrator Control Unit – A 4" X 5" X 7" metal box has controls mounted on the front-face side.

3.3.13.1 Controls consist of an on/off toggle switch with a bypass control mode.

3.3.13.2 The monitor is mounted in the cab of the vehicle and controls the pulses to the electromagnetic coil by voltage and frequency.

3.3.13.3 There are several different settings for adjusting the vibrating speed of the curved bar housing the nozzles.

3.3.14 The spray head to be constructed of a rigid frame and to be enclosed by protective shields (1 / 8 " plate) along the sides to protect it from damage from obstructions in the right-of-way.

3.3.14.1 The spray head to be mountable on the vehicle on an upright post and be independently moveable and be able to change the inclination of the spray head to spray slopes and inclines.

3.3.14.2 The spray head weighs approximately 60 pounds.

3.3.14.3 The spray head will apply approximately 25 gallons of water per acre at 12 miles per hour with uniform coverage obtained between each individual nozzle or any combination of swaths used.

3.3.14.4 THE SPRAY HEAD DOES NOT CONTAIN ANY MOTORS, SHAFTS, CAMS, BEARINGS, GREASE SERTS, NON--METALLIC NOZZLES OR ANY 90-DEGREE FITTINGS TO HOLD OR POSITION NOZZLES. NO OIL OR LUBRICATION IS REQUIRED. THE MULTIPLE SWATH SPRAY HEAD MUST ALSO NOT CONTAIN ANY FLAT FAN, OFF-CENTER OR ANGLE TYPE NOZZLES SINCE THESE ARE KNOWN TO PRODUCE FINE MIST WHICH DRIFTS OFF TARGET. THE SPRAYHEAD OPERATES SILENTLY.

3.4 Front Bumper:

3.4.1 The removable front-end assembly shall be mounted on an extended fixed frame rigidly attached to vehicle chassis utilizing manufactures factory installed front bumper if possible.

3.5 Spray Head Swinging Feature:

3.5.1 The spray head swings to either side of the vehicle by a hydraulic motor mounted on the front bumper frame and controlled from electric switches mounted in the in cab computer controls.

3.5.2 The frame will consist of a 3/8" X 3" X 38" inch long angle member located in front of and parallel with the bumper. Two additional 3" X 20" long angle iron members are welded vertically on each end of the 38" member. A fourth 3/8" X 3" X 38"long flat iron member is welded on top of the two sides and forms a rectangular frame which supports in the center a 1-1/2" vertical shaft. The shaft is mounted at each end in a 1-1/2" sealed flange bearing. One end of the 3" X 3"x 27" long square tubing is welded to the lower end of the 1-1/2" vertical shaft. A 3" x 3" x 27" horizontal square is welded internally a 2-1/2" square tubular 28" long. The 2-1/2" square tubing is the supporting structure for all spray bar extensions containing all spot spray nozzles, spray head, and breakaway apparatus.

ITEM NO. 4: CAB & CHASSIS MOUNTED WITH HERBICIDE SPRAYER BODY (Continued):

3.0 HERBICIDE SPRAYER SPECIFICATIONS (Continued):

3.5 Spray Head Swinging Feature: (Continued):

3.5.3 The 1 1/2"shaft allows the 3" X 3" X 27" tubing to swing to either side of the vehicle permitting the operator to spray from either side of the vehicle. A hydraulic motor is mounted on top of the bumper mounted frame and is attached to the top of the 1-1/2" shaft. When the operator touches a switch on the computer panel to swing left the hydraulic motor swings the spray head to the left side of the vehicle. When the operator touches the switch to swing right the hydraulic motor swings the spray head to the right side of the vehicle. It takes only about five seconds to swing the spray head to either side of the vehicle. The computer shall contain six separate electric switches to facilitate the operation of three hydraulic cylinders and one hydraulic motor.

3.6 Automatic Locking System:

3.6.1 The extension, single spray head, and pivoting arm must automatically lock into position. This safety-locking device consists of a hydraulically operated horizontal rocker arm with a weighted latch at each end. This hydraulic cylinder moves the latch into position to safely secure the spray head to either side of the vehicle. This allows the operator to safely and quickly spray to either side of the vehicle or spray the path in front of the vehicle without getting out of the vehicle. This allows the operator to quickly spray hard to reach areas such as around drainage ditches, points, corners, barricades, and at the end of dead end streets and roads. The operator uses only the swing switch and manual speed override switch. This operation reduces the amount of time spraying with the handgun. Two spray heads are not acceptable.

3.7 Front Bumper Mounted Extension Booms:

3.7.1 The extension supporting the spray head is constructed of heavy-duty 2-1/4" O.D. tubular steel. This extension has a breakaway feature at its end consisting of three 1" diameter stainless steel coil springs 5" long mounted at one end on a slid able bracket for adjustable tension. These springs allow the spray head to break away when the head accidentally contacts an obstacle in the right-of-way. This break away mechanism reduces damage to the spray head when it accidentally contacts delineators, signs, guardrails and etc., which pass by the spray truck.

3.8 Solenoids:

3.8.1 There will be a minimum of eight electric 12-volt nickel solenoids mounted inside the spray head. Five additional solenoids are mounted on the 2" square tubing with nozzles that spray 18", 18", and 18", 36", and 8 ft. across the front bumper.

3.9 Nozzles For Shoulders, Curb, Gutter And Guardrails:

3.9.1 A 2" tubular extension is attached parallel to the front side of the 2-/4" horizontal bar supporting the large spray head. This bar contains nozzles at 4 locations along the bar, which sprays shoulders, curbs and gutters, etc. The swaths from inside to outside are 18", 18", and 18", and 36".

3.9.2 Five 3/8" additional nickel solenoids are mounted above the 2" square tubing. The 3/8" I.D. solenoids are used to control the spray solution flow to additional swath locations. The solenoids will have an operating range of 5 to 125 PSI.

3.9.3 The corresponding switches with red indicator lights 1 through 5 are located on the computer panel, which electrically control the solenoids.

3.9.4 All hoses connecting solenoids to the nozzles of each swath are to be 3/8" I. D. and 150 PSI single braid hose.

3.9.5 All fittings on this bar are to be brass.

ITEM NO. 4: CAB & CHASSIS MOUNTED WITH HERBICIDE SPRAYER BODY (Continued):

3.0 HERBICIDE SPRAYER SPECIFICATIONS (Continued):

3.10 In-Cab Controls:

3.10.1 A single computer control module shall be pedestal mounted and swivel in order that either the driver or the passenger of the vehicle may operate it. The dimensions of the complete computer control module system including all keyboards and all hydraulic controls to be no less than 12" wide, 13" tall, and 8" deep. The computer module controls all sprayer functions except for control of the auxiliary engine.

3.10.2 A second panel shall contain controls for chemical tank agitators, fuses, agitator on/off toggle switches, auxiliary engine oil light, voltmeter and toggle switch to turn on/off. The panel also contains the sprayer engine throttle, electric start, and engine kill controls.

3.11 Chemical Injection System:

3.11.1 The computer's injection system dispenses concentrated chemicals and additives based on calculations by combining information from the variables of the rate per acre selected, changes in vehicle speed, and all combinations of swath widths. The computer processes this information and increases or decreases the speed of each injection pump accordingly. The computer must date information to each injection pump for necessary changes in rpm for every 2 degrees of revolution or 180 times per single revolution of each injection pump.

3.12 Computer Switches and Controls:

3.12.1 The computer to contain one master switch.

3.12.2 The master switch activates eight swath control switches and solenoids mounted in the boom less spray head and 3 additional switches for spot spraying shoulders, curb and gutter, edge of the pavement, under the guardrail and the swath covering the width of the truck. Switches 9, 10, and 11 also control the three-section rear booms. These switches also activate the computer injection system. Switches 1 through 5 also activate the electromagnet on the spray head vibrator.

3.13. Computer Menu:

3.13.1 The computer operation set up is menu driven and allows the operator to set up all procedures in a logical and easily understood fashion. This is accomplished in advance of any spraying. All variables are easily Identified in the multiple LCD display screen and selections can be made quickly during the spraying operation. The system is very user friendly.

3.14 Computer Features and Functions:

3.14.1 The computer console shall be digital and contain one microprocessor and one additional microprocessor for each injection pump for data storage and operation.

3.14.2 The computer shall contain an internal keyboard consisting of 43 individual and separate single function keys by which the operator can enter the information into the computer. All 28 lettered keys are arranged in alphabetical order and all 15 numbered keys are arranged in standard calculator order. All data can be easily obtained through selection of the designated keys.

3.14.3 The computer console shall contain a real time clock. The time and date can be read in the computer LCD display at any time.

3.14.4 The on-board computer must have sufficient EPROM memory capacity to accumulate data including acres of each chemical sprayed. total acres sprayed, volume of each chemical used, and linear distance traveled. No battery backup is required to maintain data storage. Data is maintained (even when power is turned off or interrupted) or until the operator clears memory.

ITEM NO. 4: CAB & CHASSIS MOUNTED WITH HERBICIDE SPRAYER BODY (Continued):

3.0 HERBICIDE SPRAYER SPECIFICATIONS (Continued):

3.14 Computer Features and Functions (Continued):

3.14.5 Computer LCD Display Screen:

3.14.5.1 The computer's 1-inch tall X 10 inch wide screen area is byline and consists of two separate rows or sentences each containing 40 characters. Each character is 1/2-inch size for easy reading. The display screen area is made up of multiple displays, which are all visible to the operator at the same time.

3.14.5.2 The computer's screen displays continually at the same time all of the following information.

3.14.5.2.1 Vehicle speed in MPH (4 characters - 0.1 mph resolution).

3.14.5.2.2 System voltage (4 characters)

3.14.5.2.3 Names of each chemical used with 3 characters truncated from the original entry.

3.14.5.2.4 Names of drift control agent or additives (3 characters truncated from the original entry of up to 9 characters).

3.14.5.2.5 Application rates of each pesticide injection pump can be selected in either ounces or pints applied per acre by the operator during setup while programming the computer. (4 characters each). Application rates of each pesticide can be changed on the go. The computer software allows from one to five programmable rates for each chemical injection pump. All rates are selected in ounces or pints. The middle rate is considered the normal rate with two increased and two decreased rates. Rates selected can be a portion of the normal rate to several times over the normal rate.

3.14.5.2.6 The drift control agent or additive rates (in ounces per 100 gallons of water) are entered through the computers numeric keypad and rates are easily changed during the spray operation.

3.14.5.2.7 Width of swath in feet (4 characters -0.1 ft. resolution). The most distant point sprayed to the side of the vehicle (4 characters).

3.14.5.2.8 Linear distance accumulated to .001 mile.

3.14.5.2.9 Accumulates acres of each separate pesticide sprayed to .0001 acre.

3.14.5.2.10 Accumulates total acres sprayed without reference to individual pesticides to .0001 acre.

3.14.5.2.11 Accumulates volume of each chemical used in ounces and to the nearest .01 gal. above 128 ounces.

3.14.5.2.12 An audible alarm continuously beeps when the handgun is operated to alert the operator that chemical is being injected. All pesticide injection pumps will properly inject chemical to the handgun. The computer accumulates acres sprayed with the handgun to .0001 acre and this data is displayed in the LCD.

3.15 Additional Display Selections:

3.15.1 The following additional display selections can be retrieved by the operator during spraying operations:

3.15.1.1 Date (computer maintained, entered by operator if incorrect)

3.15.1.2 Time of day (computer maintained, entered by operator if incorrect)

3.15.1.3 Spraying pressure is electronically maintained by the computer and displayed in the LCD display.

3.15.1.4 Detailed individual injection pump data including the full name of each chemical (up to 9 characters)

3.15.1.5 The computer automatically switches to the handgun mode when the handgun is triggered; no dials or switches are required.

ITEM NO. 4: CAB & CHASSIS MOUNTED WITH HERBICIDE SPRAYER BODY (Continued):

3.0 HERBICIDE SPRAYER SPECIFICATIONS (Continued):

3.16 Indicator Lights:

3.16.1 Separate red indicator lights are provided on the computer control to indicate when master control switch and each spray swath control switch is on.

3.17 Audible Alarms and Error Messages:

3.17.1 The computer shall give an audible alarm accompanied by a message in the display for these following conditions:

3.17.1.1 When any pesticide tank is nearing empty

3.17.1.2 When a condition exists that might cause misapplication (such as exceeding pump limits)

3.17.1.3 When proper pressure cannot be maintained

3.17.1.4 When computer system detects any malfunction of the spray system or controls, the audible alarms will reoccur at regular intervals until the operator corrects the problem reported in the display.

3.18 Set Up Procedure:

3.18.1 When the computer spray system is turned on, the display will reflect the prior settings as selected during previous setup. The operator may change these settings by using the menu. The computer will have a manual speed switch to override the radar mode, which is accessible through the menu system.

3.19 Peristaltic Injection Pumps:

3.19.1 Three pumps are used for herbicides and utilize 3/8 or 1/2" I.D. tubing giving a minimum output range of 0.2 ounces per minute to 150 ounces per minute, based on using water at 60 degrees Fahrenheit.

3.19.2 All pumps are mounted below the chemical tanks to allow for total clean out of liquid in the tank.

3.20 Vehicle Speed Sensing Device:

3.20.1 The computer is to include a GPS ground speed sensor to monitor vehicle speed.

3.20.2 The computer must be capable of displaying speeds from 0.00 to 25.00 MPH.

3.20.3 The computer control system checks and corrects for speed changes 20 times a second.

3.21 Calibration:

3.21.1 The operator prior to spraying calibrates each herbicide injection pump by collecting the dispensed amount of chemical through a three way, two-position ball valve located on the outlet side of each pump.

3.21.2 A plastic type graduated cylinder (1000 ml.) is to be provided for checking calibration.

3.22 Electronic Pressure Control System:

3.22.1 The spray pressure is automatically self adjusted by the computer and consists of a pressure sensor and a ball valve. The spray pressure automatically self adjusts for all combinations of swath widths as the operator turns on any combination of spray swaths. The system will maintain the intended operating pressure. This allows the operator to use the least amount of pressure necessary to cover the target area. The computer controls will allow the operator to quickly make a pressure adjustment if too many fine particles of spray are created causing off target drift. The selected spray pressure for the pumping system may be viewed in the computer display. The operator touches a pressure set button and then enters the numerical desired pressure setting. No manual pressure regulators and multiple pressure gauges will be permitted in this system.

ITEM NO. 4: CAB & CHASSIS MOUNTED WITH HERBICIDE SPRAYER BODY (Continued):

3.0 HERBICIDE SPRAYER SPECIFICATIONS (Continued):

3.23 Platform And Body Components:

3.23.1 There shall be a platform surrounding the water tank and shall be 1/8" thick with a diamond plate surface. The platform to be supported by 3" channel (4 lbs. per foot) and be on 18" to 20" centers. Platform should contain wheel wells to aid in keeping the tank on a lower center of gravity. The maximum permissible height from top of vehicle chassis to bottom of the low profile tank to be no more than 7 inches. Platform includes clearance lights. The platform body dimensions are to be 8 feet wide. Platform body to include clearance lights, stop lights, and reflectors, and anti-sail mud flaps. Platform body to be minimum 12 feet in length.

3.24 Auxiliary Engine:

3.24.1 The unit shall include a 13 HP gasoline Honda engine with electric start. The engine and water pump are mounted on the drivers side of the vehicle on a rectangular frame mounted below the level of the bed to allow for easy access and draining of the crankcase oil. The location of the engine and pump assembly is to be behind the cab and in front of the rear axles.

3.25 Auxiliary Engine Accessories:

3.25.1 Throttle adjustment and engine shut off are to be mounted on a control panel inside the cab. A cutout or drop from the platform body allows for low profile mounting. All belts shall have safety covers. Frame to have vibration isolators in each corner. A minimum 6-gallon auxiliary fuel tank to be provided with a fill hose to the auxiliary engine fuel tank. **An hour meter is connected to this engine.**

3.26 Water Pumping Systems:

3.26.1 Unit shall be provided with one 90 GPM at 40 PSI centrifugal pump driven by two v-belts from and auxiliary engine. The pump is to be engaged with a 12-volt electric clutch activated from the computer. Sprayer has one 3/4" filter on the discharge side of the water pump and one 1-1/4" filter between pump and large water tank.

3.27 Water Tank:

3.27.1 525 gallon, 48 inch diameter polyethylene

3.27.2 Water tank to have a 16" fill well lid and minimum of two straps over the top of the tank.

3.27.3 A 1" return line is provided from the water pump to the water tank with a shutoff. This 1" return line is intended to facilitate mixing of any additive to the large water tank.

3.28 Chemical Holding Tanks:

3.28.1 All chemical tanks to be cone shaped polyethylene.

3.28.2 Tank 1 shall be 35 gallon with no agitator

3.28.3 Tank 2 shall be 35 gallon with 1 mechanical agitator

3.28.4 Tank 3 shall be 15 gallon with no agitator

3.29 Chemical Agitators:

3.29.1 Each mechanical agitator is run by a 12-volt motor.

3.29.2 All agitators are to be controlled from inside the cab of the vehicle.

3.29.3 Agitation must be sufficient to keep granular or wetable powder formulations adequately suspended.

ITEM NO. 4: CAB & CHASSIS WITH HERBICIDE SPRAYER BODY (Continued):

3.0 HERBICIDE SPRAYER SPECIFICATIONS (Continued):

3.30 Automatic Handgun Chemical Dispensing System:

3.30.1 The operator need only to trigger the handgun and the selected chemical injection pump dispenses the appropriate amount of chemical. No activation switches are required to be turned on to run the handgun.

3.30.2 The handgun will deliver the selected rate of any chemical or combination of chemicals.

3.30.3 The computer automatically controls chemical dispensed to the handgun for the period only when the handgun trigger is activated.

3.30.4 The system to include a flow sensor.

3.30.5 The HANDGUN MODE accounts for any variation between different spray operators by basing the application on time in seconds it takes to spray 200 square feet. The operator enters his time in seconds into the computer's menu.

3.30.6 The computer must function for any type of handgun.

3.30.7 Acres sprayed for the handgun are accumulated to the nearest .0001 in the computers spray totals.

3.30.8 Handgun volume is accumulated in TOTALS of volume of chemical used.

3.30.9 The sprayer to consist of an electric rewind hose reel with 200 feet of 1/2" inch I.D., 600 PSI hose and one trigger type.

3.30.10 Handgun to be trigger type.

3.31 Electrical System:

3.31.1 The sprayer system to include a separate 24-volt alternator with a minimum of 30 amps, two 12 volt minimum 500 CCA batteries hooked in series, and a covered battery box. The alternator is to be belt driven from the auxiliary engine. A cover is mounted over the top and sides of the alternator.

3.32 Hydraulic Swing Out For Post Holding Spray Head:

3.32.1 The front bumper mounted post for supporting the spray head to include a heavy duty hinge on its lower extremity and a hydraulic cylinder mounted above the 3 springs to tilt the post and spray head out further away from the vehicle allowing the spray head to spray better on slopes or ditches. The hydraulic system to include 2 additional solenoids for cylinder control. One toggle switch to be included on the control pedestal for cylinder control.

3.33 Three-Section Rear Mounted Spray Boom with Breakaways:

3.33.1 A three-section spray boom is mounted on the rear of the platform bed. It consists of two outside spray swaths each covering 12 feet and one center section which covers 8 feet wide. A maximum of 3 hydraulic cylinders perform all hydraulic functions. The two outside sections pivot at the rear corners of the vehicle and hydraulically fold the booms to the outside of the platform bed directly behind the cab. The outside booms sections when folded do not extend past 102 inches width of the platform body. Only one 10 inch hydraulic cylinder both folds the outside boom in and also raises and lowers each side boom. The far ends of each boom are to be held in horizontal position. The center boom section which covers the width of the vehicle is made of 4" O.D. pipe. A single 24 inch hydraulic cylinder raises and lowers the 4" pipe and raises and lowers the total boom complex. A manifold with three brass solenoids provides fluid to the boom. All nozzles are stainless steel. The spray is turned on and off from the computer control panel. A hydraulic block with six directional spools and coils controls the three hydraulic cylinders.

3.34 Light Bar with GPS Guidance System:

3.34.1 The light bar permits the operator to spray laterally adjacent swaths (side by side) with the three- section rear boom without overlapping or skipping areas. It includes 5 Hz internal GPS engine with external antenna, a light bar guidance plus a graphical display for complete guidance, with a durable sealed rubber keypad. The control system to be mounted on the dash of the vehicle.

ITEM NO. 4: CAB & CHASSIS MOUNTED WITH HERBICIDE SPRAYER BODY (Continued):

3.0 HERBICIDE SPRAYER SPECIFICATIONS (Continued):

3.35 Anti Surge Baffles:

3.35.1 The water tank to contain polyethylene anti surge baffles. The level of baffles should be to about 1/2 of the tanks volume.

3.36 Hydraulic System:

3.36.1 The sprayer shall be furnished with a complete independent single unit type hydraulic system, including pump, 12-volt motor, and a 2 gallon reserve tank. Four separate sets of electric solenoids (8) are to control hydraulic flow to 3 hydraulic cylinders and 1 hydraulic motor. Electric switches located in the computer are to control all of the hydraulic functions.

3.37 Drift Induction Tube System:

3.37.1 A three-inch diameter clear PVC tube with a 44-ounce capacity is mounted on a supporting bracket near the auxiliary engine compartment. A ¼" ball valve is mounted under the tube allowing the operator to regulate the induction of drift control or other additives that flow to and are mixed with water and returned back to the large water tank. The tube is calibrated in 4-ounce increments.

3.38 Emergency Fresh Water Station:

3.38.1 A separate 10 gallon (minimum) container is located on the platform body. A 12 volt on demand electric pump with toggle switch and with 2 feet of tubing supplies water to an RV type handle and spray head. It can be used to supply clean water to wash hands, eyes, gloves, and containers.

3.39 Storage Compartment:

3.39.1 An aluminum storage compartment with minimum dimensions of 36" wide, 18" tall, and 18" deep to be securely fastened to platform body. The door shall contain a lock latch and be weatherproof.

3.40 Fire Hydrant Filling:

3.40.1 Tank is to be equipped with a 2 " line that will fill the tank through the water tank man way. There should be a 4" air gap between the end of the fill line and the opening of the water tank man way. Platform body shall include a storage area for a hydrant filler hose. A 2" male cam lock coupler shall be mounted on the platform body on the rear.

3.41 Strobe Lights:

3.41.1 The sprayer body to include two (2) strobe lights 7" high X 6" diameter, amber, and plainly visible to motorist behind the spray truck. Strobe lights shall be mounted on 2" square tubing behind the cab near the corners of the platform body.

3.42 Paint Coatings:

3.42.1 Sprayer front end and sprayer body to be black in color. All components to be rust free and must have been cleaned and to include one coat of primer and two separate coats of paint. Underside of the bed shall be painted too.

3.43 Accessories:

The following extra items are to be included with the sprayer:

3.43.1 One pint of tube lube.
3.43.2 Four extra 3/8" ED Plex hose, 18" long
3.43.3 One 3/4" 50 mesh strainer.
3.43.4 Four extra 1/2" ED Plex hose, 18" long
3.43.5 One 1/4" 50 mesh strainer.
3.43.6 Two repair kits for 1/2" brass solenoids

ITEM NO. 4: CAB & CHASSIS MOUNTED WITH HERBICIDE SPRAYER BODY (Continued):

4.0 SAFETY PLAQUES OR DECALS:

4.1 Safety plaques or decals shall be furnished and affixed include necessary warnings and precautions.

5.0 LITERATURE:

5.1 Each sprayer system furnished shall include two (2) operation manuals that cover all aspects of the system and diagrams of all spray systems and diagrams of all spray patterns and nozzles including complete operation of the computer system.

5.2 Each sprayer system furnished shall include two (2) service instruction manuals and two (2) illustrated parts list for the sprayer system and the engines.

6.0 TRAINING:

6.1 Training sessions shall be provided for operators covering the total system and vehicle, and each training session shall be a minimum of 16 hours for each unit and shall be limited to a maximum of two individuals.

6.2 Training shall include but not be limited to the following:

6.2.1 How to utilize the sprayer for all possible application techniques.
6.2.2 How to incorporate the various pesticide programs with the computerized injection system.
6.2.3 Maintenance programs.
6.2.4 Calibration procedures for the pesticide injection system.
6.2.5 How to reduce application error with the pesticide injection system.
6.2.6 How to maximize use of the boom less spray head.
6.2.7 How to reduce off target drift with the drift control system.
6.2.8 Using the computerized pressure control system and how it affects the spray swath.
6.2.9 How this spray system will reduce the misuse and overuse of herbicides in the environment.

7.0 WARRANTY:

7.1 Cab & Chassis:

7.1.1 A minimum of a Manufacturer's 36-month/36,000 mile bumper-to-bumper warranty shall be provided.
7.1.2 Manufacturer's standard warranty shall be provided for emission controls, power train, and corrosion.

7.2 Spray Unit:

7.2.1 The sprayer unit and all equipment shall be warranted against all defects in material and workmanship for a period of not less than twelve (12) months.
7.2.2 If manufacturer's standard warranty exceeds twelve (12) months for the sprayer unit and equipment, then the standard warranty period shall be in effect.

8.0 PARTS AND SERVICE:

8.1 The herbicide sprayer manufacturer and/or the distributor shall maintain an inventory of high usage parts and a source for low-usage parts for the sprayer unit.

9.0 DELIVERY:

9.1 **The item(s) specified above, with delivery tickets and/or other required documents shall be delivered Prepaid F.O.B. Destination to the location(s) shown on the purchase order(s) within two hundred ten (210) calendar days from receipt of the City of Houston Purchase Order.**

ITEM NO. 5: DELETED DELETED DELETED DELETED

1.0 GENERAL:

1.1 Equipment Description:

1.1.1 This specification is intended to describe a 35,000 GVWR medium duty crew cab truck cab & chassis mounted to a service body that will be used by the Public Works & Engineering Department, Street Drainage Division to transport field crews, tools, parts and supplies to and from water line repair worksites.

1.2 Prime Contractor/Supplier:

1.2.1 These specifications require the bidder to be a prime contractor/supplier and to bid on the cab & chassis mounted with the service body and all other components

1.3 Equivalent Equipment:

1.3.1 Bidders proposing to provide equipment they believe to be equal to the specified model must provide sufficient operating and technical specifications for the City to evaluate the proposed equipment

1.4 Equivalent Equipment Documentation:

1.4.1 A bidder proposing to provide equivalent to the specified model must be able to demonstrate upon request that it has manufactured an apparatus similar to the unit bid, and that the apparatus has been proven and tested in service satisfactorily. The bidder will provide records of warranty service repairs upon request. The City of Houston shall be the sole judge whether the apparatus in service similar to the unit bid has been proven and tested satisfactorily

2.0 CAB & CHASSIS:

2.1 General:

2.1.1 Crew Cab configuration
2.1.2 Cab-to-Axle shall be no greater than 157 inches.

2.2 Front Axle and Equipment:

2.2.1 12,000 lb. axle, Cognis EMGUARD® FE 75W-90 synthetic Lube
2.2.2 12,000 lb. suspension
2.2.3 Power Steering with Glidecoat splines on the steering shaft.

2.3 Rear Axle and Equipment:

2.3.1 23,000 lb. axle, single-speed, single – Locking rear differential
2.3.2 23,000 lb. suspension, Reyco 79KB Taper Leaf with shocks and 3,000 lb helper springs
2.3.3 Oil wheel seals
2.3.4 Differential ratio, 5.57, will be geared for truck to run approximately 67 MPH.
2.3.5 4S4M ABS Brakes
2.3.6 Front Brakes air cam dram 16.5" x 5"
2.3.7 Rear Brakes Air Cam Drum, 16.5" x 7"
2.3.8 Hubometer, miles on rear axle
2.3.9 Upsize, larger than standard, parking brakes, Drive Axle.
2.3.10 Bendix Smart ATC Traction Control
2.3.11 Gusseted cam brakes, steer axle and drive Axle.
2.3.12 Rear axle stabilizer bar

2.4 Brakes and Equipment Air with ABS

2.4.1 Bendix AD-IS EP Air Dryer with Heater
2.4.2 Air pressure gauge, dash-mounted w/light/buzzer for low air pressure.
2.4.3 Front and rear dust shields.
2.4.4 Air Compressor, 18.7 CFM.
2.4.5 Berg pull Cord Drain Valves – All air tanks.
2.4.6 Polished Alum. Air tanks outside frame rails.
2.4.7 Clear inside frame of all air system components and body connection box.
2.4.8 Air and electric lines EOF with 7-way socket.

SECTION B PART II TECHNICAL SPECIFICATIONS (CONTINUED):

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2.0 CAB & CHASSIS (Continued):

2.5 Cab and Equipment:
- 2.5.1 OEM severe service with tilting hood and fenders.
- 2.5.2 Hi-back front air suspension seat driver and passenger
- 2.5.3 3-man bench rear cabin seat with three seat belts, center seat lap belt.
- 2.5.4 Warning light and buzzer for low oil pressure and high temperature.
- 2.5.5 Heater
- 2.5.6 Assist handles
- 2.5.7 Dual sun visors
- 2.5.8 Tinted glass, all
- 2.5.9 Gauges - to include the following; water temp (eng.)., voltmeter, oil temp (trans.) oil pressure (eng), air pressure, and fuel
- 2.5.10 Speedometer/Odometer with trip odometer
- 2.5.11 Tachometer
- 2.5.12 Engine hour meter, which will actuate only with engine running, dash mounted
- 2.5.13 Dual electric horns
- 2.5.14 Mirrors, dual SS heated and motorized with switch on dash.
  - 2.5.14.1 (2) Convex 8 inch Heated SS mirrors, under mirror bracket.
  - 2.5.14.2 **DELETE**
- 2.5.15 Arm rest on all four doors
- 2.5.16 Factory air conditioning in the dash and AC under rear bench
- 2.5.17 Two (2) Hadley Air Horns, RECT 26" air horns with shields or City approved equal
- 2.5.18 Engine fan switch – ON/OFF
- 2.5.19 AM/FM/WB radio with (2) speakers
- 2.5.20 Tilt wheel, telescoping column
- 2.5.21 Power windows & Locks, all four doors
- 2.5.22 Painted outside sunvisor
- 2.5.23 Convex mirror over passenger door
- 2.5.24 CabMate cab air suspension

2.6 Electrical:
- 2.6.1 160 amp alternator
- 2.6.2 Batteries, Three (3) AGM12 V minimum 2400 CCA Total
- 2.6.3 Battery Box, left hand under cab, with non-slip step rubber pad under batteries
- 2.6.4 Plug in, reset able circuit breakers
- 2.6.5 L.E.D. marker and tail lights

2.7 Engine and Equipment:
- 2.7.1 Diesel 260 gross horsepower, 6 cylinders, minimum 660 ft. lbs. Torque
- 2.7.2 2010 Emission Compliant
- 2.7.3 Air cleaner, dry type with restriction indicator, dash mounted
- 2.7.4 Spin-on fuel/water separator/filter
- 2.7.5 Fan clutch
- 2.7.6 Deep Core radiator, 864 sq. in. frontal area, minimum
- 2.7.7 Cooling system shall be protected with permanent coolant, rated for service to -40F

2.8 Exhaust System:
- 2.8.1 Single vertical exhaust and pipe with rain cap or curved
- 2.8.2 Diesel particulate filter right hand under front cab door.
- 2.8.3 Select Catalytic Reduction device provided under right hand door as well with a minimum 18 gallon Diesel Exhaust Fluid tank provided.

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2.0 CAB & CHASSIS (Continued:

2.9 Frame and Equipment:
- 2.9.1 Minimum frame rating 3,468,000 RBM to meet GVW.
- 2.9.2 Minimum LH U/C 50 gallon and 70 gallon LH BOC capacity fuel tanks. (Left hand side preferred). Either side is acceptable. Prefer units on the same side for fueling purposes.
- 2.9.3 Frame-mounted towing hook(s) on front.
- 2.9.4 Truck(s) will be delivered with full tanks of fuel.
- 2.9.5 Minimum fuel capacity

2.10 Tires and Wheels:
- 2.10.1 Front - 11R22.5 16 ply steel belted radial tubeless on alum. disc type wheels (886677 LVL1) hub piloted 22.5 x 8.25) R280 Tire tread.
- 2.10.2 Rear – 11R22.5 14 Ply steel belted radial type tubeless for on/off road use with alum. disc type wheels (886677 LVL1) hub piloted 22.5 x 8.25 M726EL tread.

2.11 Transmission and Equipment:
- 2.11.1 Transmission, automatic 5-speed. May be used both on and off road shall be an Allison MD3000RDS transmission or City-approved equal
- 2.11.2 PTO opening 10-bolt

2.12 Miscellaneous:
- 2.12.1 Unless specified in the detailed vehicle specifications, the cab-to-axle dimension and/or wheel base shall be as required to properly mount the body on the chassis, with no more than four (4) inches between the Cab and Chassis unless a greater distance is required for proper operation.
- 2.12.2 Line setting ticket for each unit will be available at the time of inspection
- 2.12.3 Color: White OEM standard
- 2.12.4 Trailer towing package including air glad hand(s), six, and seven-way electrical connections at rear of frame for trailer application(s).
- 2.12.5 Lincoln Auto lubrication System, NO EXCEPTIONS.

3.0 SERVICE BODY:

3.1 General:
- 3.1.1 These specifications are intended to describe a service body, mounted to a 35,000-lb GVWR cab & chassis.
- 3.1.2 Service body @ 133.25" long or City approved equal
- 3.1.3 84" CA, Single axle, dual rear wheels
  - 3.1.3.1 94" wide
  - 3.1.3.2 58" floor width
  - 3.1.3.3 50" side compartment height
  - 3.1.3.4 18" deep compartments
  - 3.1.3.5 29" floor height
- 3.1.4 Construction:
  - 3.1.4.1 Body shell : 14 gauge galvanneal steel or City approved equal
  - 3.1.4.2 3/16" tread plate floor
  - 3.1.4.3 7 gauge cross members or City approved equal
- 3.1.5 Doors: Double panel 20 gauge galvanneal steel or City approved equal
  - 3.1.5.1 Stainless steel continuous hinges
- 3.1.6 Exterior prime: zinc phosphate coating
- 3.1.7 Interior paint: medium gloss gray epoxy paint

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3.0 SERVICE BODY (Continued):

3.1.8 Undercoating: water borne material
3.1.9 Standard equipment
3.1.10 Double spring door retainers
3.1.11 Light guards on rear panel
3.1.12 Rotary latches
3.1.13 Master lock system
3.1.14 Grab handles installed each side at rear
3.1.15 Rubber roll crown fenders
3.1.16 Door seal on edges of doors
3.1.17 Shelf retainers in each compartment
3.1.18 Tread plate overlay on compartment tops
3.1.19 Tread plate overlay on bulkhead
3.1.20 Tread plate overlay on compartment backs

3.2 Left side:
- 3.2.1 First vertical compartment:
  - 3.2.1.1 30.25" wide, with single opening door
  - 3.2.1.2 2 each adjustable shelves 16 x 30
- 3.2.2 Intermediate compartment:
  - 3.2.2.1 25" wide, with single opening door
  - 3.2.2.2 4 drawer shelving
  - 3.2.2.3 4 x 3 deep drawers 16.5" tall, 18" side, 16" deep
- 3.2.3 Horizontal:
  - 3.2.3.1 52.75" wide
  - 3.2.3.2 Double overlapping door
  - 3.2.3.3 1 each adjustable shelf 16 x 51
- 3.2.4 Rear compartment:
  - 3.2.4.1 25.25" wide
  - 3.2.4.2 Single open door
  - 3.2.4.3 2 each adjustable shelves 16 x 23

3.3 Right Side:
- 3.3.1 First vertical compartment
  - 3.3.1.1 30.25" wide
  - 3.3.1.2 Single open door
  - 3.3.1.3 2 adjustable shelves 16 x 30 or City approved equal
- 3.3.2 Intermediate compartment
  - 3.3.2.1 25" wide
  - 3.3.2.2 Single open door
  - 3.3.2.3 2 each adjustable shelves 16 x 24.63
  - 3.3.2.1 25" wide
  - 3.3.2.2 Single open door
  - 3.3.2.3 2 each adjustable shelves 16 x 24.63
- 3.3.3 Horizontal compartment
  - 3.3.3.1 52.75" wide
  - 3.3.3.2 Double overlapping door
  - 3.3.3.3 1 adjustable shelf 16 x 51
- 3.3.4 Rear compartment
  - 3.3.4.1 25.25" wide
  - 3.3.4.2 Single open door
  - 3.3.4.3 2 adjustable shelves

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3.0 SERVICE BODY RIGHT SIDE (Continued):

3.4 Tailgate:
- 3.4.1 Slam type with latches
- 3.4.2 Treadplate overlay

3.5 Rear bumper "Pintle Hitch" Reinforced:
- 3.5.1 Pintle hitch set up
- 3.5.2 2 each safety D- rings
- 3.5.3 7 way electrical plug
- 3.5.4 Air compensating pintle hitch
- 3.5.5 Air glad hands

3.6 Body Miscellaneous:
- 3.6.1 Cargo Area, Top and Back of Compartments and Top of Bumper
- 3.6.2 Overhead storage rack painted black
  - 3.6.2.1 Full length of body extending @ 5' over cab
  - 3.6.2.2 Steel construction
  - 3.6.2.3 Rear step at rear painted black
  - 3.6.2.4 Note: no floor on elevated rack

3.7 3000 watt inverter mounted in front side curbside compartment

3.8 Change horizontal exhaust to vertical tailpipe as requested

3.9 Paint:
- 3.9.1 One coat primer
- 3.9.2 Bottom of bed black acrylic enamel
- 3.9.3 Exterior white Jones Blair Acryl thane HS2 Urethane enamel to match cab and chassis paint color

4.0 SAFETY ITEMS:

4.1 Each unit will have one (1) set (two each) wheel chocks
4.2 Units will be rubber in material
4.3 Width will be minimum eight inches (8")
4.4 Height will be minimum 4 inches (4")
4.5 Length will be minimum 4 inches (4")
4.6 Rope length will be a minimum 4 feet (4')
4.7 Units will be reflective
4.8 Warranty will be one year (12 months) from acceptance of unit

5.0 LITERATURE:

5.1 Two (2) sets of Parts Manuals (electronic versions acceptable)
5.2 Two (2) sets of Service Manuals (electronic versions acceptable)

6.0 WARRANTY:

6.1 A minimum of five (5) year's /100,000 miles warranty on both workmanship and materials must be provided for cab & chassis.
6.2 One-year full warranty (parts and labor) shall be provided on service body and any listed options installed by manufacturer

7.0 DELIVERY/INSPECTION:

71 The Truck unit(s) with all specified equipment shall be delivered One Hundred Sixty Five (165) calendar days after receipt of City of Houston Purchase Order FOB Destination, full freight allowed (FFA) to the location(s) as stated on each individual purchase order
7.2 Unit(s) shall have full tanks of fuel at time of delivery.
7.3 Unit(s) shall be accompanied with a copy of the original invoice, warranty policy(ies) and/or certification, as may be required.

ITEM NO. 6: DELETED DELETED DELETED DELETED

1.0 GENERAL:

1.1 These specifications are intended to describe a Truck Cab and Chassis, 66,000 lb. GVWR, to be mounted with a12/14 cubic yard dump body Public Works & Engineering Department's Street & Drainage Division.

1.2 Prime Contractor/Supplier:

1.2.1 These specifications require the bidder to be a prime contractor/supplier and to bid on the cab & chassis mounted with dump body.

1.3 Equivalent Equipment:

1.3.1 Bidders proposing to provide equipment they believe to be equal to the specified model must provide sufficient operating and technical specifications for the City to evaluate the proposed equipment.

1.4 Equivalent Equipment Documentation:

1.4.1 A bidder proposing to provide equivalent to the specified model must be able to demonstrate upon request that it has manufactured a vehicle similar to the unit bid, and that the vehicle has been proven and tested in service satisfactorily. The bidder will provide records of warranty service repairs upon request. The City of Houston shall be the sole judge whether the vehicle in service similar to the unit bid has been proven and tested satisfactorily.

2.0 CAB & CHASSIS:

2.1 General:

2.1.1 OEM severe service with tilting hood and fenders.
2.1.2 Hi-back air suspension, driver and passenger seats.
2.1.3 Warning light and buzzer for low oil pressure and high temperature.
2.1.4 Heater
2.1.5 Assist handles
2.1.6 Dual sun visors
2.1.7 Tinted glass, all
2.1.8 Gauges - to include the following; water temp (eng.), voltmeter, oil temp (trans.) oil pressure (eng), air pressure, and fuel
2.1.9 Speedometer/Odometer with trip odometer
2.1.10 Tachometer
2.1.11 Engine hour meter, which will actuate only with engine running, dash mounted.
2.1.12 Dual electric horns
2.1.13 Mirrors, dual SS each side heated and motorized with switch on dash
2.1.13.1 (2) Convex 8 inch Heated SS mirrors, offset under mirror bracket
2.1.13.2 DELETE
2.1.14 Arm rest on both doors
2.1.15 Factory air conditioning
2.1.16 Two (2) Hadley Air Horns, RECT 26" air horns with shields or City approved equal
2.1.17 Engine fan switch – full on or automatic selections
2.1.18 AM/FM/WB radio with (2) speakers
2.1.19 Tilt wheel, telescoping column
2.1.20 Power Lift window, and door locks, driver and passenger door, driver controlled
2.1.21 Painted outside sunvisor
2.1.22 Convex mirror over passenger door
2.1.23 D.P.F. Three way switch on dash with in dash indicator light
2.1.24 CabMate cab air suspension

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2.0 CAB & CHASSIS: (Continued)

2.2 Engine & Equipment:
- 2.2.1 Diesel 330 gross horsepower, 6 cylinders, minimum 1,000 ft. lbs. Torque.
- 2.2.2 2010 Emission Compliant or newer as applicable
- 2.2.3 Air cleaner, dry type with restriction indicator, dash mounted.
- 2.2.4 Spin-on fuel/water separator/filter
- 2.2.5 Fan clutch
- 2.2.6 Deep Core radiator, 864 sq. in. frontal area, minimum.
- 2.2.7 Cooling system shall be protected with permanent coolant, rated for service to -40F

2.3 Transmission and Equipment:
- 2.3.1 Transmission automatic 6 speed, *Allison 3500RDS-P*, and must be compatible with horsepower and torque of engine proposed. Must be able to be used both on and off road
- 2.3.2 TranSynd automatic Transmission Fluid only.

2.4 Front Axle & Equipment:
- 2.4.1 20,000 lb. axle, Cognis EMGUARD® FE 75W-90 synthetic Lube
- 2.4.2 20,000 lb. suspension
- 2.4.3 Power Steering TRW THP60 Dual
- 2.4.4 Cab to Axle shall be no greater than 117 inches

2.5 Rear Axle and Equipment:
- 2.5.1 46,000 lb. axle, single-speed, tandem – Locking rear differential(s)
- 2.5.2 46,000 lb. suspension, Hendrickson HMX460 with shocks
- 2.5.3 Oil wheel seals
- 2.5.4 Differential ratio, 4.78, will be geared for truck to run approximately 67 MPH
- 2.5.5 6S6M ABS Brakes

2.6 Brakes and Equipment Air:
- 2.6.1 Air disc front brakes and Air cam rear, heavy duty, rear drum brakes 16.5" x 8.6"
- 2.6.2 Air pressure gauge, dash-mounted w/light/buzzer for low air pressure.
- 2.6.3 Front and rear dust shields.
- 2.6.4 Air Compressor, 18.7 CFM.
- 2.6.5 Bendix AD-IS EP heated air dryer or equal.
- 2.6.6 Wide tract, Heavy wall, rear axle with lube pump

2.7 Electrical:
- 2.7.1 160 amp alternator
- 2.7.2 Batteries, AGM 12 V Batteries Minimum 2400 CCA Total or City approved equal
- 2.7.3 Battery Box, left hand under cab, with non-slip step
- 2.7.4 Rubber pad under batteries.
- 2.7.5 Plug in, reset able circuit breakers.
- 2.7.6 L.E.D. marker and tail lights.

2.8 Exhaust System:
- 2.8.1 Single vertical exhaust and pipe with rain cap or curved
- 2.8.2 Diesel particulate filter right hand under cab
- 2.8.3 Select Catalytic Reduction device provided under right hand door as well with a minimum 18 gallon Diesel Exhaust Fluid tank provided

2.9 Frame and Equipment:
- 2.9.1 Minimum frame rating 3,468,000 RBM to meet GVW
- 2.9.2 Minimum 90 gallon capacity fuel tank(s)
- 2.9.3 Frame-mounted towing hook(s) on front
- 2.9.4 Truck(s) will be delivered with full tanks of fuel

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2.0 CAB & CHASSIS: (Continued):

2.10 Tire and Wheels:

2.10.1 Front - 315/80R22.5 20 ply steel belted radial tubeless on alum. disc type wheels (Alcoa 893630 hub piloted 22.5 x 9.00) M8460Tire tread

2.10.2 Rear – 11R22.5 16 Ply steel belted radial type tubeless for on/off road use with disc type wheels (Alcoa 885677 LVL1 hub piloted 22.5 x 8.25) M843 Tire tread

2.10.3 Polished wheels front and full rear

2.11 Miscellaneous:

2.11.1 Unless specified in the detailed vehicle specifications, the cab-to-axle dimension and/or wheel base shall be as required to properly mount the body on the chassis, with no more than four (4) inches between the Cab and Chassis unless a greater distance is required for proper operation

2.11.2 Triangle reflector kit, 5lb 3A:40bc fire extinguisher, and back up alarm, 107dB

2.11.3 Line setting ticket for each unit will be available at the time of inspection

2.11.4 Color: White OEM standard

2.11.5 Trailer towing package including air glad hand(s), six, and seven-way electrical connections at rear of frame for trailer application(s).

2.11.6 Lincoln Auto lubrication System, NO EXCEPTIONS

3.0 BODY:

3.1 General:

3.1.1 These specifications are intended to describe a dump body, 12 – 14 cubic yard capacity, mounted to a 66,000-lb GVWR cab & chassis

3.1.2 Major components shall be made with AR400 steel, minimum 155,000 PSI yield and 180,000 PSI tensile

3.1.3 Minor components shall be made with ASTM A607 grade class 2 steel, minimum 45,000 PSI yield and 55,000 PSI tensile

3.1.4 Manufacturer's reference is Warren Model WAR700 NO EXCPETIONS.

3.2 Specifications:

3.2.1 Capacity/Dimensions:

3.2.1.1 12 cubic yard water level

3.2.1.2 14 cubic yard with side boards

3.2.1.3 Length 14 feet

3.2.1.4 Width 87 inches

3.2.1.5 Side height 46 inches

3.2.1.6 Front 60 inches

3.2.1.7 Tailgate height 50 inches

3.2.2 Materials:

3.2.2.1 Floor 3/16" AR400 Brinnell hardness of 400

3.2.2.2 Sides 3/16" AR400 Brinnell hardness of 400

3.2.2.3 Front 3/16" AR400 Brinnell hardness of 400

3.2.2.4 Tailgate 3/16" AR400 Brinnell hardness of 400

3.2.2.5 Corner Post 10 gauge Hi-tensile 50,000 PSI

3.2.2.6 Cab Shield 10 gauge Hi-tensile 45,000 PSI Brinnell hardness of 150

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3.0 BODY: (Continued):

3.2.3 Construction (Full length welds, no stitch welding):
- 3.2.3.1 Under structure crossmember design
  - 3.2.3.1.1 Long members to be 10"x4"x1/4" wall tubing
- 3.2.3.2 Floor:
  - 3.2.3.2.1 One piece design
- 3.2.3.3 Sides:
  - 3.2.3.3.1 Side sheet constructed of AR400 steel with 24" side to floor radius
  - 3.2.3.3.2 Each side to have 35-degree full-length horizontal rub rail
  - 3.2.3.3.3 Curbside to have 2-rung ladder
- 3.2.3.4 Top rail:
  - 3.2.3.4.1 To be 4" x 4" x 1/8" structural tubing rotated 45-degress for dirt shedding
- 3.2.3.5 Front:
  - 3.2.3.5.1 Front head panel to be constructed of a one-piece sheet of steel with no weld seams
- 3.2.3.6 Tailgate:
  - 3.2.3.6.1 Three panel design
  - 3.2.3.6.2 Panel constructed of one-piece sheet
  - 3.2.3.6.3 All horizontal bracing, including top rail to be dirt shedding
  - 3.2.3.6.4 Upper tailgate hinge pins; 1-1/2" diameter with steel snap-lock device (no cotter pin)
  - 3.2.3.6.5 Lower tailgate hinge 1-1/2" diameter incorporated into lower vertical tailgate brace.
  - 3.2.3.6.6 Lower latch assembly, ¾" pin, 5/8" catch bar plate and reinforced with ¼" backing plate.
  - 3.2.3.6.7 Two (2) coil-proof spreader chains (loose).
  - 3.2.3.6.8 Tail gate shall be air operated
- 3.2.3.7 Corner post:
  - 3.2.3.7.1 Full depth enclosed with cut-out to house lights
- 3.2.3.8 Cab-shield:
  - 3.2.3.8.1 One piece - 30" in length
  - 3.2.3.8.2 Mount two Whelen strobe lights – amber, located on front face of cab shield, with Switch in cab, fuse protector/indicator light - all wiring enclosed

3.2.4 Hoist:
- 3.2.4.1 Twin cylinder twin arm Class 110
- 3.2.4.2 Underbody full sub-frame mounts
- 3.2.4.3 No dog house
- 3.2.4.4 Lift capacity 36.4 tons
- 3.2.4.5 Single stage - 24 inch stroke
- 3.2.4.6 Twin 8" inch diameter with 2-1/2" chrome plated piston rods
- 3.2.4.7 Dump angle 50 degrees minimum

3.2.5 Rear Hinge:
- 3.2.5.1 Platform design with pins, block and hinge bearings
- 3.2.5.2 Rear pins not to rotate
- 3.2.5.3 Block to have grease zerks, fed by Lincoln Auto Lube system.
- 3.2.5.4 Unit to have two body props

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3.0 BODY: (Continued):

3.2.6 Provide and install Whelen 5G "Smart L.E.D." lightheads:
- 3.2.6.1 One each side in the rear body stanchion facing left side and right side
- 3.2.6.2 One each side in the rear body stanchion facing rearward
- 3.2.6.3 Two (2) forward facing in the leading edge of the cab shield

3.2.7 Towing:
- 3.2.7.1 Units to be equipped with mounting plate
- 3.2.7.2 Plate to be mounted to truck frame and sufficiently reinforced to provide mounting for the following:
  - 3.2.8.2.1 Holland Pintle Hitch PH200.
  - 3.2.8.2.2 Two folding "D" rings Buyer model B48 3 x 3 inch ID and 1 inch OD
  - 3.2.8.2.3 One six way, and one 7 way pin receptacles with weather-tight door hinge
  - 3.2.8.2.4 Air and Electrical connections.

3.2.8 Hydraulic:
- 3.2.8.1 Hydraulic system to use direct mount pump with relief setting of 2,000 PSI
- 3.2.8.2 Hydraulic tank maximum capacity to operate system
- 3.2.8.3 Provide filter system on return line

3.2.9 PTO/Controls:
- 3.2.9.1 Allison automatic transmission
- 3.2.9.2 Air brakes
- 3.2.9.3 Chelsea power-shift with electric-over-air-control and EOS-100 over-speed switch
- 3.2.9.4 "Power tower" operating controls
- 3.2.9.5 Control console to include
  - 3.2.10.5.1 One lever
  - 3.2.10.5.2 Console
  - 3.2.10.5.3 Cable
  - 3.2.10.5.4 Mounting hardware
  - 3.2.10.6.5 Provide in cab warning light "cab body up"

3.2.10 Miscellaneous:
- 3.2.10.1 Mud flaps – anti-sail:
  - 3.2.10.1.1 Heavy duty fiber
  - 3.2.10.1.2 Reinforced with metal mounting inserts
  - 3.2.10.1.3 Hole punched center of mud flap –to fold and connect mud flap to bed
  - 3.2.10.1.4 Body to have "J" hooks to secure mud flaps
- 3.2.10.2 Shovel/Broom racks:
  - 3.2.10.2.1 Two racks for long-handled shovel and push broom
  - 3.2.10.2.2 Angle racks so that items will be secure while dumping

3.2.11 Paint:
- 3.2.11.1 One coat primer
- 3.2.11.2 Bottom of bed black acrylic enamel
- 3.2.11.3 Exterior white Jones Blair Acrylithane HS2 Urethane enamel to match cab and chassis paint color

3.2.12 TARP:
- 3.2.12.1 Electric full width/length tarp with in cab controls, motor shall not overspeed or continue operations when nested or extended.

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3.0 BODY: (Continued):

3.2.13 Hydraulic Tailgate Spreader:

3.2.13.1 The type unit specified is based on a Warren model AC620SS hydraulically operated removable sand spreader stainless steel construction NO EXCEPTIONS.

3.2.13.2 Current production model machine only.

3.2.13.3 The operating weight shall be a minimum of 675 pounds.

3.2.13.4 Units will be stainless steel no exception

4.0 SAFETY ITEMS:

4.1 Each unit will have one (1) set (two each) wheel chocks

4.2 Units will be rubber in material

4.3 Width will be minimum eight inches (8")

4.4 Height will be minimum 4 inches (4")

4.5 Length will be minimum 4 inches (4")

4.6 Rope length will be a minimum 4 feet (4')

4.7 Units will be reflective

4.8 Electrical units to meet all DOT requirements in reflectors, lights and warning labels

4.8.1 Supplier shall provide state inspection and weight certification for each vehicle

4.8.2 Supplier will complete the document and post in an appropriate location

4.8.3 State Inspection and Weight Certificate

4.8.4 Reflective chevrons in alternative red and white shall be provided in a "V" pattern over all practical surfaces of the dump body tailgate

5.0 WARRANTY:

5.1 Cab & chassis - Minimum, five (5) years/100,000 miles warranty on parts and labor

5.2 Body- will be one year (12 months) from acceptance of unit

5.3 Hydraulic pump, valve and cylinders– 36 months for material and workmanship

5.4 All other items – 36 months for material and workmanship

6.0 LITERATURE:

6.1 Two (2) sets of Parts Manuals (electronic versions acceptable)

6.2 Two (2) sets of Service Manuals (electronic versions acceptable)

7.0 DELIVERY/INSPECTION:

7.1 The Truck unit(s) with all specified equipment shall be delivered One Hundred Fifty (150) calendar days after receipt of City of Houston Purchase Order FOB Destination, full freight allowed (FFA) to the location(s) as stated on each individual purchase order

7.2 Unit(s) shall have full tanks of fuel at time of delivery.

7.3 Unit(s) shall be accompanied with a copy of the original invoice, warranty policy(ies) and/or certification, as may be required.

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1.0 GENERAL:

1.1 These specifications are intended to describe a Truck 66,000 GVWR Cab and Chassis to be mounted with a 20 cubic yard dump body for Public Works & Engineering Department's Street & Drainage Division

1.2 Prime Contractor/Supplier:

1.2.1 These specifications require the bidder to be a prime contractor/supplier and to bid on the cab & chassis mounted with the jet/vacuum body.

1.3 Equivalent Equipment:

1.3.1 Bidders proposing to provide equipment they believe to be equal to the specified model must provide sufficient operating and technical specifications for the City to evaluate the proposed equipment.

1.4 Equivalent Equipment Documentation:

1.4.1 A bidder proposing to provide equivalent to the specified model must be able to demonstrate upon request that it has manufactured a vehicle similar to the unit bid, and that the vehicle has been proven and tested in service satisfactorily. The bidder will provide records of warranty service repairs upon request. The City of Houston shall be the sole judge whether the vehicle in service similar to the unit bid has been proven and tested satisfactorily.

2.0 CAB & CHASSIS:

2.1 Front Axle and Equipment:

2.1.1 20,000 lb. axle, Cognis EMGUARD® FE 75W-90 synthetic Lube
2.1.2 20,000 lb. suspension
2.1.3 Power Steering TRW THP60 Dual.
2.1.4 Cab to Axle shall be no greater than 133 inches

2.2 Rear Axle and Equipment:

2.2.1 46,000 lb. axle, single-speed, tandem – Locking rear differential
2.2.2 46,000 lb. suspension, Hendrickson HMX460 with shocks
2.2.3 Oil wheel seals.
2.2.4 Differential ratio, 4.78, will be geared for truck to run approximately 67 MPH.
2.2.5 6S6M ABS Brakes.

2.3 Brakes and Equipment Air:

2.3.1 Air disc front brakes and Air cam rear, heavy duty, rear drum brakes 16.5" x 8.6"
2.3.2 Air pressure gauge, dash-mounted w/light/buzzer for low air pressure.
2.3.3 Front and rear dust shields.
2.3.4 Air Compressor, 18.7 CFM.
2.3.5 Bendix AD-IS EP heated air dryer or equal.
2.3.6 Wide tract, Heavy wall, rear axle with lube pump

2.4 Cab and Equipment:

2.4.1 OEM severe service with tilting hood and fenders.
2.4.2 Hi-back air suspension, driver and passenger seats.
2.4.3 Warning light and buzzer for low oil pressure and high temperature.
2.4.4 Heater
2.4.5 Assist handles
2.4.6 Dual sun visors
2.4.7 Tinted glass, all
2.4.8 Gauges - to include the following; water temp (eng.)., voltmeter, oil temp (trans.) oil pressure (eng), air pressure, and fuel.
2.4.9 Speedometer/Odometer with trip odometer

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2.0 CAB & CHASSIS: (Continued)

2.4 CAB AND EQUIPMENT (Continued):

2.4.10 Tachometer
2.4.11 Engine hour meter, which will actuate only with engine running, dash mounted.
2.4.12 Dual electric horns
2.4.13 Mirrors, dual SS each side heated and motorized with switch on dash.
2.4.13.1 (2) Convex 8 inch Heated SS mirrors, offset under mirror bracket.
2.4.13.2 Mirrors not mount on doors.
2.4.14 Arm rest on both doors
2.4.15 Factory air conditioning
2.4.16 Two (2) Hadley Air Horns, RECT 26" air horns with shields or City approved equal
2.4.17 Engine fan switch – full on or automatic selections
2.4.18 AM/FM/WB radio with (2) speakers
2.4.19 Tilt wheel, telescoping column
2.4.20 Power Lift window, and door locks, driver and passenger door, driver controlled
2.4.21 Painted outside sunvisor
2.4.22 Convex mirror over passenger door
2.4.23 D.P.F. Three way switch on dash with in dash indicator light
2.4.24 CabMate cab air suspension

2.5 Electrical:
2.5.1 160 amp alternator
2.5.2 Batteries, AGM 12 V Batteries Minimum 2400 CCA Total
2.5.3 Battery Box, left hand under cab, with non-slip step
2.5.4 Rubber pad under batteries
2.5.5 Plug in, reset able circuit breakers
2.5.6 L.E.D. marker and tail lights

2.6 Engine and Equipment:
2.6.1 Diesel 350 gross horsepower, 6 cylinders, minimum 1,000 ft. lbs. Torque
2.6.2 2010 Emission Compliant
2.6.3 Air cleaner, dry type with restriction indicator, dash mounted
2.6.4 Spin-on fuel/water separator/filter
2.6.5 Fan clutch
2.6.6 Deep Core radiator, 864 sq. in. frontal area, minimum
2.6.7 Cooling system shall be protected with permanent coolant, rated for service to -40F

2.7 Exhaust System:
2.7.1 Single vertical exhaust and pipe with rain cap or curved
2.7.2 Diesel particulate filter right hand under cab
2.7.3 Select Catalytic Reduction device provided under right hand door as well with a minimum 18 gallon Diesel Exhaust Fluid tank provided

2.8 Frame and Equipment:
2.8.1 Minimum frame rating 3,468,000 RBM to meet GVW
2.8.2 Minimum 90 gallon capacity fuel tank(s)
2.8.3 Frame-mounted towing hook(s) on front
2.8.4 Truck(s) will be delivered with full tanks of fuel

2.9 Tires and Wheels:
2.9.1 Front - 315/80R22.5 20 ply steel belted radial tubeless on alum. disc type wheels (Alcoa 893630 hub piloted 22.5 x 9.00) M8460Tire tread.
2.9.2 Rear – 11R22.5 16 Ply steel belted radial type tubeless for on/off road use with disc type wheels (Alcoa 885677 LVL1 hub piloted 22.5 x 8.25) M843 Tire tread.
2.9.3 Polished wheels front and full rear.

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2.0 CAB & CHASSIS: (Continued)

2.10 Transmission and Equipment:
- 2.10.1 Transmission automatic 6 speed, Allison 3500RDS-P, and must be compatible with horsepower and torque of engine proposed. Must be able to be used both on and off road.
- 2.10.2 TranSynd automatic Transmission Fluid only.

2.11 Miscellaneous:
- 2.11.1 Unless specified in the detailed vehicle specifications, the cab-to-axle dimension and/or wheel base shall be as required to properly mount the body on the chassis, with no more than four (4) inches between the Cab and Chassis unless a greater distance is required for proper operation.
- 2.11.2 Triangle reflector kit, 5lb 3A:40bc fire extinguisher, and back up alarm, 107dB.
- 2.11.3 Line setting ticket for each unit will be available at the time of inspection.
- 2.11.4 Color: White OEM standard.
- 2.11.5 Trailer towing package including air glad hand(s), six, and seven-way electrical connections at rear of frame for trailer application(s).
- 2.11.6 Lincoln Auto lubrication System, NO EXCEPTIONS.

3.0 BODY:

3.1 General:
- 3.1.1 These specifications are intended to describe a dump body, 20 cubic yard capacity, mounted to a 66,000-lb GVWR cab & chassis.
- 3.1.2 Major components shall be made with AR400 steel, minimum 155,000 PSI yield and 180,000 PSI tensile.
- 3.1.3 Minor components shall be made with ASTM A607 grade class 2 steel, minimum 45,000 PSI yield and 55,000 PSI tensile.
- 3.1.4 Manufacturer's reference is Warren Model WAR700 NO EXCPETIONS.

3.2 Capacity/Dimensions:
- 3.2.1 20 cubic yard water level
- 3.2.2 20 cubic yard with side boards
- 3.2.3 Length 16 feet
- 3.2.4 Width 87 inches
- 3.2.5 Side height 46 inches
- 3.2.6 Front 60 inches
- 3.2.7 Tailgate height 60 inches

3.3 Materials:
- 3.3.1 Floor 3/16" AR400 Brinnell hardness of 400
- 3.3.2 Sides 3/16" AR400 Brinnell hardness of 400.
- 3.3.3 Front 3/16" AR400 Brinnell hardness of 400
- 3.3.4 Tailgate 3/16" AR400 Brinnell hardness of 400
- 3.3.5 Corner Post 10 gauge Hi-tensile 50,000 PSI
- 3.3.6 Cab Shield 10 gauge Hi-tensile 45,000 PSI Brinnell hardness of 150

3.4 Construction – Full length welds, no stitch welding
- 3.4.1 Under structure cross member design
  - 3.4.1.1 Long members to be 10"x4"x1/4" wall tubing.
- 3.4.2 Floor:
  - 3.4.2.1 One piece design.

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3.0 BODY: (Continued)

3.4 Construction (Continued):

3.4.3 Sides:
- 3.4.3.1 Side sheet constructed of AR400 steel with 24" side to floor radius
- 3.4.3.2 Each side to have 35-degree full-length horizontal rub rail
- 3.4.3.3 Curbside to have 2-rung ladder

3.4.4 Top rail:
- 3.4.4.1 4" x 4" x 1/8" structural tubing rotated 45-degress for dirt shedding

3.4.5 Front:
- 3.4.5.1 Front head panel to be constructed of a one-piece sheet of steel with no weld seams

3.5 Tailgate:
- 3.5.1 Three panel design
- 3.5.2 Panel constructed of one-piece sheet
- 3.5.3 All horizontal bracing, including top rail to be dirt shedding
- 3.5.4 Upper tailgate hinge pins; 1-1/2" diameter with steel snap-lock device (no cotter pin)
- 3.5.5 Lower tailgate hinge 1-1/2" diameter incorporated into lower vertical tailgate brace.
- 3.5.6 Lower latch assembly, ¾" pin, 5/8" catch bar plate and reinforced with ¼" backing plate.
- 3.5.7 Two (2) coil-proof spreader chains (loose).
- 3.5.8 Tail gate shall be air operated

3.6 Corner post:
- 3.6.1 Full depth enclosed with cut-out to house lights

3.7 Cab-shield:
- 3.7.1 One piece - 30" in length
- 3.7.2 Mount two Whelen strobe lights – amber, located on front face of cab shield, with Switch in cab, fuse protector/indicator light - all wiring enclosed

3.8 Hoist:
- 3.8.1 Class 110
- 3.8.2 Front mount
- 3.8.3 Warren VTLW 74135 hoist, NO EXCEPTIONS.
- 3.8.4 Lift capacity 36.4 tons
- 3.8.5 Dump angle 50 degrees minimum

3.9 Rear Hinge:
- 3.9.1 Platform design with pins, block and hinge bearings
- 3.9.2 Rear pins not to rotate
- 3.9.3 Block to have grease zerks, fed by Lincoln Auto Lube system.
- 3.9.4 Unit to have two body props

3.10 Lights:
- 3.10.1 Electrical units to meet all DOT requirements in reflectors, lights and warning labels
- 3.10.2 Provide and install Whelen 5G "Smart L.E.D." lightheads:
  - 3.10.2.1 One each side in the rear body stanchion facing left side and right side,
  - 3.10.2.2 One each side in the rear body stanchion facing rearward
  - 3.10.2.3 Two (2) forward facing in the leading edge of the cab shield

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3.0 BODY: (Continued)

3.11 Towing:
- 3.11.1 Units to be equipped with mounting plate
- 3.11.2 Plate to be mounted to truck frame and sufficiently reinforced to provide mounting for the following:
  - 3.11.2.1 Holland Pintle Hitch PH200.
  - 3.11.2.2 Two folding "D" rings Buyer model B48 3 x 3 inch ID and 1 inch OD
  - 3.11.2.3 One six way, and one 7 way pin receptacles with weather-tight door hinge
  - 3.11.2.4 Air and Electrical connections.

3.12 Hydraulic:
- 3.12.1 Hydraulic system to use direct mount pump with relief setting of 2,000 PSI
- 3.12.2 Hydraulic tank maximum capacity to operate system
- 3.12.3 Provide filter system on return line

3.13 PTO/Controls:
- 3.13.1 Allison automatic transmission
- 3.13.2 Air brakes
- 3.13.3 Chelsea power-shift with electric-over-air-control and EOS-100 over-speed switch
- 3.13.4 "Power tower" operating controls

3.14 Control console to include:
- 3.14. 1 One lever
- 3.14.2 Console
- 3.14.3 Cable
- 3.14.4 Mounting hardware
- 3.14.5 Provide in cab warning light "cab body up"

3.15 Miscellaneous:
- 3.15.1 Mud flaps – anti-sail:
- 3.15.2 Heavy duty fiber
- 3.15.3 Reinforced with metal mounting inserts
- 3.15.4 Hole punched center of mud flap –to fold and connect mud flap to bed
- 3.15.5 Body to have "J" hooks to secure mud flaps

3.16 Shovel/Broom Racks:
- 3.16.1 Two racks for long-handled shovel and push broom
- 3.16.2 Angle racks so that items will be secure while dumping

3.17 State Inspection and Weight Certificate:
- 3.17.1 Supplier shall provide state inspection and weight certification for each vehicle
- 3.17.2 Supplier will complete the document and post in an appropriate location

3.18 Paint:
- 3.18.1 One coat primer
- 3.18.2 Bottom of bed black acrylic enamel
- 3.18.3 Exterior white Jones Blair Acrylithane HS2 Urethane enamel to match cab and chassis paint color
- 3.18.4 Reflective chevrons in alternative red and white shall be provided in a "V" pattern over all practical surfaces of the dump body tailgate.

3.19 TARP:
- 3.19.1 Electric full width/length tarp with in cab controls, motor shall not overspeed or continue operations when nested or extended.

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4.0 SAFETY ITEMS:

4.1 Each unit will have one (1) set (two each) wheel chocks
- 4.1.1 Units will be rubber in material
- 4.1.2 Width will be minimum eight inches (8")
- 4.1.3 Height will be minimum 4 inches (4")
- 4.1.4 Length will be minimum 4 inches (4")
- 4.1.5 Rope length will be a minimum 4 feet (4')
- 4.1.6 Units will be reflective

5.0 WARRANTY:

5.1 Cab & Chassis: Minimum, five (5) years/100,000 miles warranty on parts and labor
5.2 Body- will be one year (12 months) from acceptance of unit
5.3 Hydraulic pump, valve and cylinders– 36 months for material and workmanship
5.4 All other items – 36 months for material and workmanship
5.5 Wheel Chock w
arranty will be one year (12 months) from acceptance of unit

6.0 LITERATURE:

6.1 Two (2) sets of Parts Manuals (electronic versions acceptable)
6.2 Two (2) sets of Service Manuals (electronic versions acceptable)

7.0 DELIVERY/INSPECTION:

7.1 The Truck unit(s) with all specified equipment shall be delivered One Hundred Fifty (150) calendar days after receipt of City of Houston Purchase Order FOB Destination, full freight allowed (FFA) to the location(s) as stated on each individual purchase order
7.2 Unit(s) shall have full tanks of fuel at time of delivery.
7.3 Unit(s) shall be accompanied with a copy of the original invoice, warranty policy(ies) and/or certification, as may be required.

SECTION C

GENERAL TERMS AND CONDITIONS

1.0 COMPETITIVE BIDDING:

It is the intent of the City of Houston to solicit the lowest and best responsible bid or price under competitive conditions. All materials and/or equipment shall be new unless stated otherwise. Prospective bidders are advised that the specifications within this bid invitation are not to be considered restricted to any referenced manufacturer.

2.0 AWARD:

2.1 The City reserves the right to consider and make awards of bids on articles of similar nature that will in all respects serve the purpose for which the purchase is being made. The City reserves the right to be the sole judge as to whether such articles will serve the purpose.

2.2 Unless otherwise specified, the City reserves the right to accept or reject in whole or in part any bid submitted or to waive any informalities that are in the best interests of the City.

3.0 CONDITIONS PART OF BID:

3.1 In the event of any conflict, the terms and provisions incorporated in the bid specifications shall control over the terms and provisions of the General Terms & Conditions for any or all purposes. Otherwise, all the terms and provisions appearing within the General Terms & Conditions shall be given full effect and shall be construed in harmony to the maximum extent by the parties hereto.

3.2 The failure of the City to insist, in any one or more instances, upon performance of any of the terms, covenants or conditions of this Contract (Purchase Order), General Terms & Conditions or Specifications shall not be construed as a waiver or relinquishment of the future performance of such term, covenant or condition by the City, but the obligation of the Contractor/Supplier with respect to such future performance shall continue in full force and effect.

4.0 SHIPPING TERMS:

Prices shall be prepaid F.O.B. destination to the delivery locations, Houston, TX, as indicated on individual City of Houston purchase orders. Contractor/Supplier shall retain title and control of all goods until they are delivered and the contract of coverage (Purchase Order) has been completed. All risk of transportation and all related charges shall be the responsibility of the Contractor/Supplier. All claims for visible or concealed damage shall be filed by the Contractor/Supplier. The City will notify the Contractor/Supplier promptly of any damaged goods and shall assist the Contractor/Supplier in arranging for inspection.

5.0 SILENCE OF SPECIFICATIONS:

The apparent silence of these specifications as to any detail or the apparent omission from them of a detailed description concerning any point shall be regarded as meaning that only the best commercial practice shall prevail and only materials and workmanship of first quality are acceptable. All interpretations of these specifications shall be made upon the basis of this statement.

6.0 SPECIFIED EQUIPMENT, OR EQUIVALENT:

6.1 Wherever in the specifications any materials or processes are indicated or specified by patent of proprietary name and/or by name of manufacturer, such specifications shall be deemed to be used for the purpose of facilitating descriptions of the performance, materials and/or processes desired and shall be deemed to be followed by the words, "or equivalent", if not so stated in the specifications herein.

6.2 The burden of proof shall rest with the bidder, in the course of a technical evaluation, to prove that the proposed item(s) are equivalent to the performance, materials, processes, or articles specified. **DETERMINATION AS TO WHETHER THE ITEM(S) BID IS(ARE) EQUIVALENT TO THOSE SPECIFIED SHALL REST SOLELY WITH THE CITY PURCHASING AGENT AND THE RECEIVING DEPARTMENT.**

7.0 BRAND NAMES:

Any manufacturer's names, trade names, brand names, or catalog numbers used in the specifications are for the purpose of describing and establishing the general quality level, design and performance desired. Such references are not intended to limit or restrict bidding by other Contractor/Suppliers, but are intended to approximate the quality design or performance that is desired. Any bid that proposes like quality, design or performance, will be considered. Equivalent products will be considered, provided a complete description and product literature is provided. Unless a specific substitution is made, the assumption will be that the item bid is exactly as specified on the Invitation to Bid.

8.0 PATENTS:

THE CONTRACTOR/SUPPLIER AGREES TO INDEMNIFY AND SAVE HARMLESS THE CITY, ITS AGENTS EMPLOYEES, OFFICERS, AND LEGAL REPRESENTATIVES (COLLECTIVELY THE "CITY") FROM ALL SUITS AND ACTIONS OF EVERY NATURE AND DESCRIPTION BROUGHT AGAINST THEM OR ANY OF THEM, FOR OR ON ACCOUNT OF THE USE OF PATENTED APPLIANCES, PRODUCTS OR PROCESSES, AND IT SHALL PAY ALL ROYALTIES AND CHARGES WHICH ARE LEGAL AND EQUITABLE. EVIDENCE OF SUCH PAYMENT OR SATISFACTION SHALL BE SUBMITTED, UPON REQUEST OF THE CITY PURCHASING AGENT, AS A NECESSARY REQUIREMENT IN CONNECTION WITH THE FINAL ESTIMATE FOR PAYMENT IN WHICH SUCH PATENTED APPLIANCE, PRODUCTS OR PROCESSES ARE USED.

9.0 RELEASE:

CONTRACTOR/SUPPLIER AGREES TO AND SHALL RELEASE THE CITY, ITS AGENTS, EMPLOYEES, OFFICERS, AND LEGAL REPRESENTATIVES (COLLECTIVELY THE "CITY") FROM ALL LIABILITY FOR INJURY, DEATH, DAMAGE, OR LOSS TO PERSONS OR PROPERTY SUSTAINED IN CONNECTION WITH OR INCIDENTAL TO PERFORMANCE UNDER THIS AGREEMENT, EVEN IF THE INJURY, DEATH, DAMAGE, OR LOSS IS CAUSED BY THE CITY'S SOLE OR CONCURRENT NEGLIGENCE AND/OR THE CITY'S STRICT PRODUCTS LIABILITY OR STRICT STATUTORY LIABILITY.

10.0 INDEMNIFICATION:

10.1 CONTRACTOR/SUPPLIER AGREES TO AND SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY, ITS AGENTS, EMPLOYEES, OFFICERS, AND LEGAL REPRESENTATIVES (COLLECTIVELY THE "CITY") HARMLESS FOR ALL CLAIMS, CAUSES OF ACTION, LIABILITIES, FINES, AND EXPENSES (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, COURT COSTS, AND ALL OTHER DEFENSE COSTS AND INTEREST) FOR INJURY, DEATH, DAMAGE, OR LOSS TO PERSONS OR PROPERTY SUSTAINED IN CONNECTION WITH OR INCIDENTAL TO PERFORMANCE UNDER THIS AGREEMENT INCLUDING, WITHOUT LIMITATION, THOSE CAUSED BY:

(1) CONTRACTOR/SUPPLIER'S AND/OR ITS AGENTS', EMPLOYEES', OFFICERS', DIRECTORS', CONTRACTORS', OR SUBCONTRACTORS' (COLLECTIVELY IN NUMBERED PARAGRAPHS 1-3, "CONTRACTOR/SUPPLIER") ACTUAL OR ALLEGED NEGLIGENCE OR INTENTIONAL ACTS OR OMISSIONS;

(2) THE CITY'S AND CONTRACTOR/SUPPLIER'S ACTUAL OR ALLEGED CONCURRENT NEGLIGENCE, WHETHER CONTRACTOR/SUPPLIER IS IMMUNE FROM LIABILITY OR NOT; AND

(3) THE CITY'S AND CONTRACTOR/SUPPLIER'S ACTUAL OR ALLEGED STRICT PRODUCTS LIABILITY OR STRICT STATUTORY LIABILITY, WHETHER CONTRACTOR/SUPPLIER IS IMMUNE FROM LIABILITY OR NOT.

10.2 CONTRACTOR/SUPPLIER SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY HARMLESS DURING THE TERM OF THIS AGREEMENT AND FOR FOUR YEARS AFTER THE AGREEMENT TERMINATES. CONTRACTOR/SUPPLIER'S INDEMNIFICATION IS LIMITED TO $500,000 PER OCCURRENCE. CONTRACTOR/SUPPLIER SHALL NOT INDEMNIFY THE CITY FOR THE CITY'S SOLE NEGLIGENCE.

10.0 INDEMNIFICATION: (Continued)

10.3 INDEMNIFICATION PROCEDURES:

(1) Notice of Claims. If the City or Contractor/Supplier receives notice of any claim or circumstances which could give rise to an indemnified loss, the receiving party shall give written notice to the other party within 10 days. The notice must include the following:

(a) a description of the indemnification event in reasonable detail,
(b) the basis on which indemnification may be due, and
(c) the anticipated amount of the indemnified loss.

This notice does not estop or prevent the City from later asserting a different basis for indemnification or a different amount of indemnified loss than that indicated in the initial notice. If the City does not provide this notice within the 10 day period, it does not waive any right to indemnification except to the extent that Contractor/Supplier is prejudiced, suffers loss, or incurs expense because of the delay.

(2) Defense of Claims

(a) Assumption of Defense. Contractor/Supplier may assume the defense of the claim at its own expense with counsel chosen by it that is reasonably satisfactory to the City. Contractor/Supplier shall then control the defense and any negotiations to settle the claim. Within 10 days after receiving written notice of the indemnification request, Contractor/Supplier must advise the City as to whether or not it will defend the claim. If Contractor/Supplier does not assume the defense, the City shall assume and control the defense, and all defense expenses constitute an indemnification loss.

(b) Continued Participation. If Contractor/Supplier elects to defend the claim, the City may retain separate counsel to participate in (but not control) the defense and to participate in (but not control) any settlement negotiations. Contractor/Supplier may settle the claim without the consent or agreement of the City, unless it (i) would result in injunctive relief or other equitable remedies or otherwise require the City to comply with restrictions or limitations that adversely affect the City, (ii) would require the City to pay amounts that Contractor does not fund in full, (iii) would not result in the City's full and complete release from all liability to the plaintiffs or claimants who are parties to or otherwise bound by the settlement.

11.0 INSURANCE: (See Exhibit No. 2, Sample of Certificate of Insurance)

11.1 Prior to award and/or starting work, Contractor/Supplier must present a Certificate of Insurance evidencing the insurance coverage specified herein. This is a mandatory requirement. Only unaltered, original insurance certificates are acceptable. Photocopies are unacceptable.

***Exception: Proof of insurance coverage is not required by Contractor/Supplier if the specified equipment will be dropped-shipped by manufacturer, or delivered by a common carrier, and this contract agreement (Purchase Order) does not require Contractor/Supplier to perform a labor or service component at a City facility. Prior to award, Contractor/Supplier must present a written statement attesting to this exception.**

11.2 The Contractor/Supplier shall have insurance coverage as follows:

- **Commercial General Liability** shall be $500,000 per occurrence; $1,000,000 aggregate, per 12-month policy period.

11.0 INSURANCE: (Continued)

- **Automobile Liability Insurance for autos furnished or used in the course of performance of this Contract (Purchase Order), including Owned, Non-Owned, and Hired auto coverage.** (Any Auto coverage may be substituted for Owned, Non-Owned and Hired Auto coverage.) If no autos are owned by Contractor/Supplier, coverage may be limited to Non-Owned and Hired Autos. If Owned Auto coverage cannot be purchased by Contractor/Supplier, Scheduled Auto coverage may be substituted for Owned Auto coverage. EACH AUTO USED IN PERFORMANCE OF THIS CONTRACT (PURCHASE ORDER) MUST BE COVERED IN THE LIMITS SPECIFIED: $1,000,000 - Combined Single Limit per occurrence; $1,000,000 aggregate, per 12-month policy period.

- **Worker's Compensation including Broad Form All States endorsement shall be in statutory amount and**

- **Employer's Liability:** Bodily Injury/Accident $100,000; Bodily Injury / Disease $100,000 (per employee); Bodily Injury / Disease $100,000 (policy limit).

11.3 The issuer of any policy (1) shall have a Certificate of Authority to transact insurance business in the State of Texas, or (2) shall be an eligible non-admitted insurer in the State of Texas, and shall have a Best's rating of B+ or better and a Best's Financial Size Category of Class VI or better, according to the most current edition of Best's Key Rating Guide.

11.4 All insurance policies required by this Contract (Purchase Order) shall require that 1) the City of Houston is named as an additional insured on the General Liability, Auto Liability and any Umbrella policies; 2) waiver of subrogation is provided for the City of Houston on General Liability, Auto Liability, any Umbrella polices, and Worker's Compensation; and 3) thirty (30) days advance written notice shall be provided **by the Contractor/Supplier** to the City before any policy required by this Contract (Purchase Order) is cancelled or non-renewed. Within such thirty (30) day period, Contractor/Supplier covenants that it will provide other suitable policies in lieu of those about to be cancelled or non-renewed to maintain in effect the coverage required under the provisions hereof. Failure or refusal of the Contractor/Supplier to obtain and keep in force the above-required insurance coverage shall authorize the City, at its option, to terminate this Contract (Purchase Order) at once.

11.5 **REQUIREMENTS FOR CERTIFICATE OF INSURANCE:**

11.5.1 Name and Address of Producer writing coverage.
11.5.2 Name of each insurance company providing coverage (as listed or on company's Certificate of Authority on file with the Texas Department of Insurance, or in Best's Key Rating Guide).
11.5.3 Name and address of Insured (as shown on policy).
11.5.4 Letter in the column must reference the insurer of the policy being described.
11.5.5 Must be a policy number; no binders will be accepted.
11.5.6 Date policy became effective.
11.5.7 Expiration date of policy must be at least 30 days from date of delivery of certificate.
11.5.8 Name and file number of project (Bid Name and Bid Number).
11.5.9 Name of project manager (Buyer).
11.5.10 Signature or facsimile signature of authorized representative of Producer (blue ink preferred).

FORWARD CERTIFICATE TO BUYER AT: **City of Houston/Administration & Regulatory Affairs Department**

Strategic Purchasing Division
P.O. Box 1562
Houston, Texas 77251-1562

12.0 DRUG DETECTION AND DETERRENCE PROCEDURE: (See Online Forms)

12.1 It is the policy of the City to achieve a drug-free workforce and to provide a workplace that is free from the use of illegal drugs and alcohol. It is also the policy of the City that the manufacture, distribution, dispensation, possession, sale or use of illegal drugs or alcohol by Contractor/Suppliers while on City premises is prohibited. By executing this Contract (Purchase Order), Contractor/Supplier represents and certifies that it meets and shall comply with all the requirements and procedures set forth in the Mayor's Policy on Drug Detection and Deterrence, City Council Motion No. 92-1971 ("Mayor's Policy") and the Mayor's Drug Detection and Deterrence Procedures for Contractors, Executive Order No. 1-31 ("Executive Order"), both of which are on file in the Office of the City Secretary.

12.2 Contractor/Supplier shall provide, prior to execution of this Contract (Purchase Order) by the City, 1) a copy of its drug-free workplace policy, 2) the Drug Policy Compliance Agreement substantially in the format set forth in Attachment "A", 3) a written designation of all safety impact positions, or if applicable, Certification of No Safety Impact Positions substantially in the format set forth in Attachment "C", and 4) if a written designation of safety impact positions is filed, a declaration substantially in the format set forth in Attachment "B" shall be filed.

12.3 SAFETY IMPACT POSITION means a Contractor/Supplier's employment position involving job duties that if performed with inattentiveness, errors in judgment, or diminished coordination, dexterity, or composure may result in mistakes that could present a real and/or imminent threat to the personal health or safety of the employee, co-workers, and/or the public.

13.0 MINORITY AND WOMEN BUSINESS ENTERPRISES: (See Online Forms)

These provisions apply to goal oriented Contracts (Purchase Orders). A goal oriented Contract (Purchase Order) means any Contract (Purchase Order) awarded for the supply of goods or non-professional services of approximately $100,000.00 for which competitive bids are required by law and which the City Purchasing Agent has determined to have City of Houston Certified MWBE subcontracting potential.

Contractor/Supplier agrees to comply with the City's Minority and Women Business Enterprise programs as set out in Chapter 15, Article V of the City of Houston Code of Ordinances insofar as such programs apply to this Contract (Purchase Order). Contractor/Supplier further agrees that it will make good faith efforts to award subcontracts or supply agreements in at least **11%** of the value of this Contract (Purchase Order) to Minority and Women-owned Business Enterprises certified by the City's Office of Business Opportunity. Additionally, the Contractor/Supplier acknowledges that it has reviewed the requirements for good faith efforts that are on file with the City's Office of Business Opportunity, is familiar with such requirements, and will comply with them.

Contractor/Supplier shall require written subcontracts with all MWBE subcontractors and suppliers, which must contain the terms set out in the documents attached herein. If Contractor/Supplier is an individual person (as distinguished from a corporation, partnership, or other legal entity), and the amount of the subcontract is $50,000 or less, then the subcontract must also be signed by the attorneys of the respective parties.

Refer to the "City of Houston Goal-Oriented Minority and Women Business Enterprises Contract Provisions" attachment, which is incorporated in the specifications herein by this reference for all purposes, for more detailed information on this requirement.

14.0 REJECTIONS:

14.1 Articles not in accordance with samples and specifications must be removed by the Contractor/Supplier and at his expense. All disputes concerning quality of supplies delivered under this offer will be determined by the City Purchasing Agent or designated representative.

14.2 All articles enumerated in the offer shall be subject to inspection on delivery by an officer designated for the purpose and if found inferior to the quality called for, or not equal in value to the Department's samples, or deficient in weight, measurements, workmanship or otherwise, this fact shall be certified to the City Purchasing Agent who shall have the right to reject the whole or any part of the same.

15.0 TAXES:

The City is exempt from the Federal Excise and Transportation Tax, and the limited Sales and Use Tax. Unless the Bid Form or Specifications specifically indicate otherwise, the bid price must be net exclusive of above-mentioned taxes. A Contractor/Supplier desiring refunds of, or exemptions from, taxes paid on merchandise accepted by the City, must submit the proper forms, and the City Purchasing Agent, if satisfied as to the facts, may approve or issue the necessary certificates.

16.0 INVOICING:

16.1 In order to expedite payments all invoices must be submitted in triplicate, itemized as to quantity, part and/or model number, description in the same order and form as in the City of Houston Purchase Order. Variations will only delay payment. In addition, invoices must show the name of the Department, Division or Section to which the merchandise was delivered, and the City of Houston Purchase Order Number.

16.2 All delivery tickets must have a description of the item delivered.

16.3 Mail invoices and a copy of the signed City of Houston Equipment/Receiver Report to the Accounts Payable Section of the Department and to the address, as noted on individual purchase orders.

16.4 Delivery tickets and packing slips will contain the same information as the invoice.

16.5 The City of Houston Equipment/Receiver Report must be signed by the receiving employee with their City Employee Number and must be signed by Contractor/Supplier Representative.

17.0 PAYMENT:

Payment is due thirty (30) days after the City has approved the invoice or after the City has accepted the equipment and all required documents, whichever occurs later. Invoices received that do not agree with the provisions set forth herein shall be returned for correction and will result in payment being delayed.

18.0 PAYMENT OF SUBCONTRACTORS:

Contractor/Supplier shall make timely payments to all persons and entities supplying labor, materials or equipment for the performance of this Contract (Purchase Order). Contractor/Supplier agrees to protect, defend, and indemnify the City from any claims or liability arising out of Contractor's/Supplier's failure to make such payments. (Disputes relating to payment of M/WBE subcontractors shall be submitted to arbitration in the same manner as any other disputes under the M/WBE subcontract. Failure of the Contractor/Supplier to comply with the decisions of the arbitrator may be deemed, at the sole discretion of the City, a material breach leading to termination of this Contract (Purchase Order)).

19.0 INSPECTIONS AND AUDITS:

19.1 The City reserves all rights to review all payments made to Contractors/Suppliers by auditing at a later date. Subject to such audit, any overpayments may be recovered from a Contractor/Supplier.

19.2 City representatives may have the right to perform, or have performed, (1) audits of Supplier's books and records, and (2) inspections of all places where work is undertaken in connection with this Agreement. Supplier shall keep its books and records available for this purpose for at least three years after this Agreement terminates. This provision does not affect the applicable statute of limitations.

19.3 City representatives have the right to examine the books of all subcontractors and/or suppliers supplying goods and/or services under the (Purchase Order) insofar as those books and records relate to performance under the contract (Purchase Order).

20.0 CONTRACTOR DEBT:

If Contractor/Supplier, at any time during the term of this agreement, incurs a debt, as the word is defined in Section 15-122 of the Houston City Code of Ordinances, it shall immediately notify the City Controller in writing. If the City Controller becomes aware that Contractor/Supplier has incurred a debt, the City Controller shall immediately notify Contractor/Supplier in writing. If Contractor/Supplier does not pay the debt within 30 days of either such notification, the City Controller may deduct funds in an amount equal to the debt from any payments owed to Contractor/Supplier under this agreement, and Contractor/Supplier waives any recourse therefor.

21.0 SUCCESSORS & ASSIGNS:

Contractor/Supplier may not assign this (Purchase Order) or dispose of substantially all of its assets without the written consent of the City Purchasing Agent. Contractor/Suppliers failure to obtain such consent shall be an event of default, authorizing the Purchasing Agent to terminate this contract (Purchase Order) according to its terms.

22.0 CHANGE ORDERS:

22.1 At any time during the Agreement Term, the City Purchasing Agent, or designated representative, may issue a change order to increase or decrease the scope of services, or change plans and specifications, as may be necessary to accomplish the general purposes of this Agreement. Contractor/Supplier shall furnish the services or deliverables in the change order in accordance with the requirements of this Agreement plus any special provisions, specifications, or special instructions issued to execute the additional work.

22.2 Contractor/Supplier shall not make any changes to the specifications contained herein without written authorization from the City Purchasing Agent or designated representative.

22.2.1 The City may refuse to accept all or part of the work performed or equipment/supplies delivered if changes are made to the specifications without the written authorization of the City Purchasing Agent or designated representative. The City shall not be responsible for costs incurred by the Contractor/Supplier on unauthorized change orders.

22.2.2 A letter with supporting documentation of the requested change(s) shall be submitted to the City Purchasing Agent, and the City Purchasing Agent must approve any requested changes by written authorization PRIOR TO ANY CHANGES BEING PERFORMED. Documentation acceptable to the City Purchasing Agent as evidence of Contractor/Supplier's change(s) shall reference the City's bid specification by section(s) and page number(s). The face of the envelope containing this letter shall clearly state "CHANGE ORDER REQUEST". The letter shall reference the CITY BID INVITATION NUMBER, EQUIPMENT DESCRIPTION and CITY PURCHASE ORDER NUMBER(S). Failure to provide clear and concise evidence as stated above and in the format requested will result in denial until Contractor/Supplier complies with these provisions. Documentation shall be mailed to:

City Purchasing Agent
City of Houston, Administration & Regulatory Affairs Department
Strategic Purchasing Division
P. O. Box 1562
Houston, TX 77251-1562

22.3 The City Purchasing Agent, or designated representative, may issue change orders, subject to the following limitations:

22.3.1 City Council expressly authorizes the City Purchasing Agent or Director to approve a Change Order of $50,000 or less. A change order of more than $50,000 over the approved contract (Purchase Order) amount must be approved by the City Council.

22.3.2 The total of all Change Orders issued under this section may not increase the Original Agreement amount by more than 25%.

22.3.3 For any items described in a Change Order that the Contractor/Supplier is otherwise required to provide under the Original Agreement, the City is not obligated to pay additional money to Contractor/Supplier.

23.0 TERMINATION OF AGREEMENT:

23.1 By the City for Convenience:

23.1.1 The City Purchasing Agent may terminate this Contract (Purchase Order) at any time upon 30 calendar days notice in writing to the Contractor/Supplier. Upon receipt of such notice, Contractor/Supplier shall, unless the notice directs otherwise, discontinue all services in connection with the performance of the Contract (Purchase Order) and shall proceed to cancel promptly all existing orders and contracts insofar as such orders and contracts are chargeable to this Contract (Purchase Order). As soon as practicable after the receipt of notice of termination, the Contractor/Supplier shall submit a statement to the appropriate department(s) showing in detail the services performed or items delivered under this Contract (Purchase Order) to date of termination. The City agrees to compensate the Contractor/Supplier for that portion of the prescribed charges for which the services were actually performed or items delivered under this Contract (Purchase Order) and not previously paid.

23.2 By the City for Default by Contractor/Supplier:

23.2.1 In the event that the materials and/or services furnished by the Contractor/Supplier do not conform to the standard set forth herein, or if the deliveries and servicing of this Contract (Purchase Order) do not conform to the requirements detailed herein, the City through a written notice from the Purchasing Agent to the Contractor/Supplier describing such default may as its options:

(1) Terminate the Contract (Purchase Order) for default and the City shall have no further obligation under the Contract (Purchase Order).

(2) Allow the Contractor/Supplier to cure default within 30 calendar days from receipt of notice unless the City Purchasing Agent specifies a longer period of time in the notice. The City, at its sole option, may extend the proposed date of termination to a later date. If prior to the proposed date of termination, Contractor/Supplier cures such default to the City's satisfaction, then the proposed termination shall be ineffective. If Contractor/Supplier fails to cure such default prior to the proposed date of termination, then the City may terminate its performance under this Contract (Purchase Order) as of such date and have no further obligation under the Contract (Purchase Order).

23.2.2 In the event of failure to deliver any or all of the items or to perform required services, the City may cover its loss by reasonably procuring from another source the items not delivered or the services not performed. Contractor/Supplier shall be responsible for, and shall pay to the City immediately upon demand, the difference in price between that offered by the Contractor/Supplier and that which the City was forced to pay for covering Contractor/Supplier's failure to deliver or perform services.

23.3 By the Contractor/Supplier for Default by City:

23.3.1 Default by the City shall occur if the City fails to perform or observe the terms and conditions of this Contract (Purchase Order) required to be performed or observed by the City, and the Contractor/Supplier gives notice in writing to the City of the act or omission claimed by the Contractor/Supplier to constitute default on the part of the City.

23.3.2 Upon receipt of such notice in writing from the Contractor/Supplier; however, the City shall have 30 calendar days to cure such default. The Contractor/Supplier, at its sole option, may extend the proposed date of termination to a later date.

23.3.3 If City cures such default prior to the proposed date of termination, the proposed termination shall be ineffective. If the City fails to cure such default prior to the proposed date of termination, then the Contractor/Supplier may terminate its performance under this Contract (Purchase Order) as of such date.

24.0 INTERLOCAL AGREEMENTS:

24.1 Under the same terms and conditionals, this Contract may be expanded to other government entities through interlocal agreements between the City of Houston and the respective government entity that encompass all or part of the products/services provided under this contract. Separate contracts may be drawn to reflect the needs of each participating entity.

EXHIBIT NO. 2

SAMPLE ACCORD CERTIFICATE OF INSURANCE

(MM/DD/YY) Issue Date

PRODUCER:
ONLY ISSUERS OF POLICIES. THE ISSUER MUST HAVE A RATING OF THIS
B+ OR BETTER AND FINANCIAL SIZE OF CLASS VI OR BETTER ACCORDING TO THE CURRENT YEAR'S BEST RATING, OR HAVE A CERTIFICATE OF AUTHORITY TO CONDUCT INSURANCE BUSINESS IN THE STATE OF TEXAS

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER.

CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY A

COMPANY B

COMPANY C

COMPANY D

COMPANY E

INSURED:

SAMPLE FORM

COVERAGES:
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR.	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)		LIMITS
	General Liability				General Aggregate	$1,000,00 0
A.	(X) Commercial General Liability				Products-Comp/Op Agg.	$1, 000,000
	Claims Made (X) Occur.				Personal & Adv. Injury	$1,000,000
	Owners & Contractors Prot.				Each Occurrence	$ 500,000
					Fire Damage (Any one fire)	$ 50,000
					Med. Expense (Any one person)	$ 5,000
	Automobile Liability	Auto Liability Insurance for autos furnished or used			Combined Single Limit	$1,000,000
A.	(X) Any Auto All Owned Autos Scheduled Autos (X) Hired Autos (X) Non-Owned Autos Garage Liability	in the course of performance of this Contract. Including Owned, Non-owned, and Hired Auto coverage. (Any Auto coverage may be substituted for Owned, Non-owned and Hired Auto coverage.) If no autos are owned by Contractor, coverage may be limited to Non-owned and Hired Autos. If Owned Auto coverage cannot be purchased by Contractor, Scheduled Auto coverage may be substituted for Owned Auto coverage. EACH AUTO USED IN PERFORMANCE OF THIS CONTRACT MUST BE COVERED IN THE LIMITS SPECIFIED.			Bodily Injury (Per person) Bodily Injury (Per Accident) Property Damage	$ $ $
	Excess Liability Umbrella Form Other than Umbrella Form				Each Occurrence Aggregate	$ $
	Worker's Compensation And				(X) **Statutory Limits** Each Accident	$ 100,000
	Employee Liability		Statutory Limits 100,000		Disease - Policy Limit	$

100,000 Disease - Each Employee $

Other

DESCRIPTION OF OPERATION/LOCATIONS/VEHICLES/SPECIAL ITEMS

City of Houston is named as additional insured on Auto, General Liability and Umbrella policies. Waiver of Subrogation is provided on Auto, General Liability, Worker's Compensation and Umbrella policies. The terms of the policies described by this certificate as to advance notification of cancellation and non-renewal are in compliance with the Contract terms between the City and the Insured for the project/service covered by this certificate and such advance notification will be provided.

CERTIFICATE HOLDER:
CITY OF HOUSTON/ADMIN. & REGULATORY AFFAIRS DEPT.
~~EXPIRATION~~
STRATEGIC PURCHASING DIVISION
~~NOTICE~~
P.O. BOX 1562
~~IMPOSE~~
HOUSTON, TX 77251

CANCELLATION: (MODIFIED AS INDICATED ABOVE)
~~SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED, BEFORE THE DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUY FAILURE TO DO SO SHALL NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, IT'S AGENTS OR REPRESENTATIVES.~~

AUTHORIZED REPRESENTATIVE: