

February 16, 2007

INVITATION TO BID

Sealed bids will be received by the City of Auburn, until 2:00 p.m. local time, on Monday, February 26, 2007 in the Office of the City Manager, 144 Tichenor Avenue, Auburn, Alabama, and then publicly opened and read for furnishing the following:

20 CUBIC YARD REAR LOADING REFUSE COLLECTION BODY

Bid specifications are attached. The City is requiring bid prices on one (1) 20 Cubic Yard Rear Loading Refuse Collection Body. Please direct any questions to Ray Pratt (334) 501-3095. Bids must be submitted on the attached form within a sealed envelope addressed:

City Manager, City of Auburn
144 Tichenor Avenue, Suite 1
Auburn, Alabama 36830

Envelope must be plainly marked on the outside as follows:

BID: One (1) 20 Cubic Yard Rear Loading Refuse Collection
Body
OPENING: 2:00 p.m. CST
DATE: Monday, February 26, 2007

The City of Auburn reserves the right, as the best interest of the city may require, to award the purchase contract from any of the bids, to reject any or all bids, and to waive any informalities in bids received. Bid will be good for ninety (90) days after being opened by the City of Auburn, Alabama. The City reserves the right to revert to the State of Alabama Contract if the bid price is higher than the contracted amount through the State.

The successful bidder will note that the City pays by invoice on each Thursday of the month. Invoices must be received by accounts payable at least seven working days before the scheduled check write. If you have any questions concerning billing, contact our accounts payable office at (334) 501-7237.

CITY OF AUBURN

Karen S. Broome
Purchasing Office

CITY OF AUBURN
 AUBURN, ALABAMA
 MINIMUM BID SPECIFICATIONS
 20 CUBIC YARD REAR LOADING REFUSE COLLECTION BODY

It is the intent of these specifications to describe a 20 Cubic Yard Rear Loading Refuse Collection Body. These specifications describe and state minimum requirements of this item. Bids submitted on item not meeting these minimum requirements will be subject to rejection.

The following are intended as guidelines, all equivalent or comparable units will be considered.

All bidders must fill in all blanks: **YES** if meeting or exceeding specifications and **NO** if exceptions are taken. Any exceptions taken must be explained in written detail on bidder's letterhead and attached to the bid submitted. Bidder must attach a copy of factory warranty for 20 Cubic Yard Rear Loading Refuse Collection Body.

	<u>YES</u>	<u>NO</u>	<u>OFFERED</u>
A. CAPACITY			
1. The packer body shall have a capacity, excluding the receiving hopper, of not less than: 20 Yd ³	_____	_____	_____
2. The hopper shall have a volumetric capacity of 2.66 cubic yards.	_____	_____	_____
B. BODY DIMENSIONS			
1. The maximum outside body width shall be 95-3/4".	_____	_____	_____
2. The maximum overall length and height of the body and tailgate combined(above the chassis rail) shall not exceed the following:			
<u>LENGTH</u> <u>HEIGHT</u>			
231" 86"	_____	_____	_____
3. The maximum inside body width shall be 88-3/4".	_____	_____	_____
4. The maximum inside body height shall not exceed the following: 69"	_____	_____	_____
5. The ejector guide bottom edge shall be located 5-3/8" above longitudinal floor corners.	_____	_____	_____
6. The maximum body and tailgate weight (exclusive of special options) shall not exceed: 9,900	_____	_____	_____
C. BODY CONSTRUCTION			
1. The body interior shall have a smooth floor without a trough. The sides and roof interior shall also be smooth (No Exceptions).	_____	_____	_____

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	<u>YES</u>	<u>NO</u>	<u>OFFERED</u>
2. In order to prevent damage from corrosion and fire, no hydraulic cylinders, valve or other hydraulic components shall come in contact with refuse packed into the body.	_____	_____	_____
3. Body sides, roof and floor shall be reinforced so as to withstand continuous operation at maximum imposed loads without harmful deformation or excessive wear.	_____	_____	_____
4. Body roof shall be minimum 11 gauge 50,000 PSI minimum yield steel.	_____	_____	_____
5. Body roof reinforcements shall be 5" x 3" boxed shaped members, minimum 11 gauge 50,000 PSI minimum yield, fully welded to the roof sheet.	_____	_____	_____
6. Body sides – minimum 11 gauge high tensile steel sheet, 50,000 PSI minimum yield.	_____	_____	_____
7. Body side reinforcement shall be 5" x 3" boxed shaped formed channels, minimum 11 gauge 50,000 PSI yield. Reinforcement braces shall be full welded to the body side sheets. Unit must be supplied with vertical body side bracing.	_____	_____	_____
8. The body shall have a street side access door to allow entrance to body for service.	_____	_____	_____
9. Body Floor – Minimum 10 gauge 50,000 PSI minimum yield steel sheet.	_____	_____	_____
10. Floor longitudinals (long members) shall be minimum 8 gauge 50,000 PSI minimum yield formed channels.	_____	_____	_____
11. Floor cross members shall be 5" x 4" boxed shaped members, minimum 11 gauge 50,000 PSI yield steel. Cross members will be interlaced through the long members on approximately 26" centers to fully support the floor. Cross members shall be full width, single piece (No Exceptions).	_____	_____	_____

D. TAILGATE DIMENSIONS

1. Maximum overall width at the hopper opening shall be 85-1/2".	_____	_____	_____
2. Inside tailgate loading width shall be minimum of 80".	_____	_____	_____
3. Hopper opening height shall be minimum of 46".	_____	_____	_____
4. Loading sill height below top of chassis rail: 0"	_____	_____	_____

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	<u>YES</u>	<u>NO</u>	<u>OFFERED</u>
5. Overall height above the chassis frame (tailgate raised) shall not exceed: 156"	_____	_____	_____

E. TAILGATE CONSTRUCTION

1. Tailgate sides shall be single piece 10 gauge 50,000 PSI minimum yield steel.	_____	_____	_____
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2. Tailgate side reinforcement shall consist of a 2-1/2" x 3" structural steel tube formed and fully welded to the rear perimeter edge of the tailgate side sheets. An interlaced network of 2 1/2" x 5" and 2" x 5" formed 11 gauge hi-tensile channels plus a 2 1/4" x 8" x 1/4" hi-tensile channel shall be fully welded to the tailgate sides for superior structural support.	_____	_____	_____
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3. Hopper floor shall be minimum 3/16" 150,000 PSI minimum yield, 321 BHN abrasion resistant steel plate.	_____	_____	_____
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4. Hopper floor reinforcement shall consist of 3 hi-tensile crossmembers; a 10 gauge located at the hopper-to-body interface, a 12 gauge located at the base of the hopper lip, and a 7 gauge intermediate located at the mid-span of the hopper forward floor.	_____	_____	_____
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5. The hopper shall be equipped with a dual work light.	_____	_____	_____
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6. Two (2) grab handles (5/8" hot rolled steel bar) shall be located on each side of the tailgate for operator safety and comfort. One handle is to be mounted horizontally no less than 49" above the riding step. The other shall be mounted in the vertical plane, with the bottom edge no less than 44" above the steps. The latter shall also be attached to the rearward face of the perimeter of the tailgate reinforcement. (If unit is equipped with a container handling attachment, the latter will be omitted).	_____	_____	_____
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7. The rear steps shall be fabricated from 12 gauge, 3 diamond Grip Strut, slip resistant, self-cleaning material. Located on each side of the tailgate, they shall provide for a minimum of 396 square inches of footing area for a single rider. The steps must conform to ANSI standards.	_____	_____	_____
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- | | <u>YES</u> | <u>NO</u> | <u>OFFERED</u> |
|--|------------|-----------|----------------|
| <p>8. The tailgate shall be raised with two (2) single acting 3” bore x 31” stroke hydraulic cylinders. The cylinders shall incorporate an integral orifice, which will limit the descent speed of the tailgate in the event of hydraulic failure.</p> | _____ | _____ | _____ |
| <p>9. The tailgate shall be equipped with a one piece, removable rubber gasket. The gasket, which shall have a durometer rating of 35-45 and tensile strength of 1500-1800 PSI shall extend across the entire bottom width of the tailgate and provide for watertight seal vertically up the side for no less than 21”.</p> | _____ | _____ | _____ |
| <p>10. The rear hopper area shall be equipped with a tailgate-to-driver buzzer system installed on both the curbside and street side of the hopper.</p> | _____ | _____ | _____ |

F. PACKING MECHANISM

- | | | | |
|---|-------|-------|-------|
| <p>1. Packing cycle control shall be mechanical, lever operated on the right hand side of the tailgate. A two lever design, the operator shall have the capability to start, stop and reverse the direction of any function at any time throughout the packing cycle.</p> | _____ | _____ | _____ |
| <p>2. Packing mechanism control valve shall be centrally located within the upper confines of the hopper, under upper light cross members.</p> | _____ | _____ | _____ |
| <p>3. The packing cycle time shall be no greater than 22-26 seconds. Operator reload time shall be no greater than 12-15 seconds. Regenerative valve kit required.</p> | _____ | _____ | _____ |
| <p>4. Packing mechanism shall consist of three primary structures; the inner slide, outer slide and packing blade.</p> | _____ | _____ | _____ |
| <p>5. Inner Slide shall be mounted to the tailgate hinge structure with two (2), 1-1/2” diameter chrome plated, Stress proof steel pins. The same pins shall support the base ends of the slide cylinders. Four (4) bearing bars shall be bolted to the upper and lower surfaces of the guide tubes, which interface with the outer slide.</p> | _____ | _____ | _____ |

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	<u>YES</u>	<u>NO</u>	<u>OFFERED</u>
<p>6. Outer slide shall be pulled over the inner slide by two (2) double acting, 4-1/2” bore, 26-1/2” stroke cushioned hydraulic cylinders. Abrasion resistant steel wear bars shall make contact with bronze inner slide bearings to provide smooth linear movement.</p>	_____	_____	_____
<p>7. The packing blade shall be mounted to the outer slide with two (2), 2-1/4” diameter, case hardened C1045 cold drawn steel pins. The blade shall be constructed with 3/16”, 80,000 PSI yield strength steel. Two (2) double acting, 4” fore, 21-5/8” stroke, cushioned hydraulic cylinders shall exert a packing force of 63,800 pounds on the refuse. The resultant packing pressure should be a minimum of 27.5 PSI.</p>	_____	_____	_____
<p>8. Linear movement of the packing blade shall be accomplished with solid cast bronze alloy blade shoes. Rollers shall not be used. The 9” x 2” shoes shall ride in a track integral to the tailgate sides. Pivotal movement of the blade shall be around 2” case hardened C1045 cold drawn steel pins retained in the packing blade. The pins shall be located such that replacement can be accomplished from outside the body.</p>	_____	_____	_____
<p>9. All packing mechanism cylinders shall be within the confines of the tailgate shell to avoid hose damage from limbs and to protect the operator from contact.</p>	_____	_____	_____
<p>10. Each hopper full of material shall be compressed between the packing blade and ejector panel. The ejector shall be automatically advanced by a “Duo-Press” relief valve. No operator attention shall be required to advance the ejector panel.</p>	_____	_____	_____
<p>11. The packing mechanism shall be equipped with an “automatic crowd” pressure sensing device, which will enable the packing mechanism to find a path through the load which will neither stall the mechanism nor damage the structure thereby prolonging the hopper floor and mechanism life.</p>	_____	_____	_____

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YES NO OFFERED

G. DISCHARGE OF LOAD

1. The load shall be discharged by means of a positive ejection system. A double acting, telescopic hydraulic cylinder shall extend and retract the ejector panel the full length of the body. _____

2. The ejector cylinder shall have the following dimensional characteristics:

<u>STAGES</u>	<u>BORE</u>	<u>STROKE</u>			
4	6-12"	110.12"	_____	_____	_____

3. The ejector panel concaved face sheet shall be constructed from 11 gauge hi-tensile steel. Three (3) ASTM A500 structural steel tubes shall span horizontally, with one (1) trapezoidal crossmember at floor level. The vertical panel corner posts shall be 11 gauge hi-tensile steel fully flanged on the rear for a tight wall fit and full boxed with 11 gauge hi-tensile at the forward corner from top to bottom. A hi-tensile steel protective covering, built from 10 and 11 gauge material shall be provided to keep refuse from coming in contact with the ejector cylinder. _____

4. The ejector panel shall extend and retract without the assistance of clamp bars or associated hardware. _____

5. Smooth movement of the ejector panel in the body shall be achieved with two (2) pads on each side of the ejector panel. Each pad shall be installed on slide brackets integral to the fully boxed 4 x 12 base frame and mounted to the ejector panel with flat head socket cap screws meeting ANSI specification B 18.3 Class 3A. The pads shall be guided by a track, which shall be integral to the body sidewall and shall also minimize pivotal movement of the ejector panel as refuse is packed against it. _____

6. Plastic (non-metallic) ejector shoe material is not acceptable. _____

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H. CONTROLS			
1. The ejector panel and tailgate raise controls shall be mounted outside the body on the front left hand side of the body. Direct connection of the control handles to the valve spool shall exist to minimize moving parts and allow for ease of service.	_____	_____	_____
2. An electrical device shall be supplied to automatically raise the engine speed to the proper RPM during the packing cycle.	_____	_____	_____
3. An additional throttle advance switch shall be located at the front left hand side of the body within hands reach of the ejector and tailgate raise controls.	_____	_____	_____
4. Power take off controls shall be conveniently mounted in the cab, preferably to right side of the driver.	_____	_____	_____
I. HYDRAULIC SYSTEM			
1. A heavy duty, single speed power take-off shall be provided and shall be compatible with that of chassis transmission. The PTO shall be a hot shift with electronic overspeed protection.	_____	_____	_____
2. The PTO must run quietly. Gearing shall be selected for minimum engine RPM compatible with recommended pump RPM for correct operating pressure and rates of flow for the refuse body.	_____	_____	_____
3. To minimize hydraulic cylinder weight, a high-pressure hydraulic system shall be employed. The operating pressure of the system shall be 2400-2500 PSI. Low-pressure systems shall not be acceptable.	_____	_____	_____
4. A heavy-duty gear pump shall be provided with a rated capacity of 18-24 GPM @ 1000 RPM depending on PTO ratio. Pump shall be direct mount type.	_____	_____	_____
5. The hydraulic pump shall be designed to operate continuously with peak loading at frequent, short intervals.	_____	_____	_____
6. The hydraulic system shall incorporate adjustable relief valves to protect all components from excessive pressure and overloads.	_____	_____	_____
7. The hydraulic tubes will be securely clamped to prevent vibration, abrasion, and excessive noise.	_____	_____	_____

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8. All hydraulic hoses shall conform to S.A.E. standards for designed pressure. Bends shall not be less than recommended by S.A.E. standards. Flat spots in hoses will not be acceptable.	_____	_____	_____
9. The hydraulic oil reservoir shall have a minimum capacity of 24 gallons filled with hydraulic fluid.	_____	_____	_____
10. The tank shall be complete with a screened fill pipe and cap, filter breather, hydraulic sight/temperature gauge, and clean out cover.	_____	_____	_____
11. The hydraulic system shall be protected by a ten (10) micron spin-on return line filter.	_____	_____	_____
12. All multi-spool control valves shall be of a sectional design such that servicing would not require replacement of the entire valve assembly.	_____	_____	_____
J. HYDRAULIC CYLINDERS			
1. All non-telescopic cylinders must have a working pressure rating of no less than 2500 PSI.	_____	_____	_____
2. Packing and slide cylinders must be of the internal cushion design so that hydraulic shock and audible noise is minimized. This shall be accomplished by a design, which will decrease the speed of the cylinder for the last one-half (1/2") inch of cylinder stroke on both directions of travel.	_____	_____	_____
3. Rods of packing and slide cylinders must be induction hardened to a surface hardness of 55-65 Rockwell C scale.	_____	_____	_____
4. Rods of packing slide cylinders shall be chrome plated.	_____	_____	_____
5. All cylinder rod seals shall be able to be field tightened to compensate for normal wear of seals.	_____	_____	_____
6. All rod endpin lugs shall be inertia welded to the cylinder rods.	_____	_____	_____
K. ELECTRICAL			
1. All electrical wiring connectors to be automotive double-seal, with wiring in split convoluted loom.	_____	_____	_____

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		<u>YES</u>	<u>NO</u>	<u>OFFERED</u>
2.	All wiring connections to be soldered with rubber-molded covering or crimp type connectors with shrink-wrap. Unprotected wiring in any application is unacceptable.	_____	_____	_____
3.	All electrical limit switches shall be epoxy impregnated to minimize effects of excess moisture.	_____	_____	_____
L.	LIGHTING			
1.	Clearance lights, a back up, and five (5) brake lights shall be Lexan lens, shock mounted in a protective housing. The whole light unit shall be pop out and replaceable.	_____	_____	_____
2.	Four (4) LED multi-function rear lights, located on the four corners of the rear of the body, providing both strobe and rear turn functions. The light's turn function to override the strobe functions when the turn indicator is engaged.	_____	_____	_____
3.	All lights shall be provided in accordance with FMVSS #108, plus an above hopper center brake light. Directional/tail and brake lights are dispersed to position one (1) each on the upper and lower rear corners of the tailgate.	_____	_____	_____
M.	PAINTING			
1.	The entire body shall be properly cleaned of all dirt, grease, and weld slag before painting. Cleaning shall be in keeping with accepted industry practices.	_____	_____	_____
2.	A primer coat and acrylic urethane enamel topcoat is to be applied.	_____	_____	_____
3.	The color shall be: <u>Omaha Orange (Centari 31-AH)</u>	_____	_____	_____
N.	ADDITIONAL FEATURES			
1.	Unit shall be equipped with a 15,000lb. reeving cylinder with lip & latch kit.	_____	_____	_____

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YES NO OFFERED

2. Unit to be equipped with a single BARKER-Slim cart tipper with controls mounted on curbside of the tailgate. Hydraulic control of the cart tipper shall be accomplished via a hydraulic valve section integrated into the packer cycle main control valve of the parent body. This integration shall be separate from the packer control valve sections and shall in no way impair the operation of the packing control functions. The cart tipper hydraulics shall not utilize a diverter style tap-in design to obtain oil for the operation of the cart tippers. No Exceptions.

3. A strobe light shall be mounted on the front bulkhead of the body.

4. A 60-gallon washout tank shall be supplied.

O. GENERAL TERMS:

All equipment furnished under this contract shall be new, unused and the same as the manufacturers' current production model. Accessories not specifically mentioned herein, but necessary to furnish complete unit ready for use, shall also be included. Unit shall conform to the best practice known to the body trade in design, quality of material and workmanship. Assemblies, sub-assemblies and component parts shall be standard and interchangeable throughout the entire quantity of units as specified in this invitation to bid. The equipment furnished shall conform to ANSI Safety Standard Z245.1-1992, and shall be manufactured in the United States of America.

P. OTHER GENERAL SPECIFICATIONS

1. Standard equipment not mentioned is to be included.
2. Successful bidder must furnish a complete parts, maintenance, and operator's manual.
3. Successful bidder must be capable of performing own warranty work in his maintenance department.
4. The body shall be covered by a twelve (12) month warranty. (Include a copy of Warranty statement)
5. Hydraulic cylinders shall be covered by a sixty (60) month warranty. (Include a copy of Warranty statement)

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Q. DELIVERY

1. Complete unit to be delivered to the following address:
356 North Donahue Drive
Auburn, Alabama 36832
2. Bid price will F.O.B. Auburn and includes title application.
3. **The city must be sent a copy of the confirmation order within 24 hours after receipt of order.**

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TO: City of Auburn

We, the undersigned, propose to furnish the items listed below and guarantee that if we are awarded the bid, we will furnish these goods in accordance with the attached specifications. **THIS FORM MAY BE COPIED IF YOU WISH TO BID ALTERNATE MODEL EQUIPMENT.**

YOU MUST SPECIFY THE EXACT EQUIPMENT BEING BID
(Enclose brochures/description documents if needed)

MAKE BID: _____

MODEL BID: _____

TOTAL BID: _____

ESTIMATED DELIVERY DATE: _____

DELIVERY DATE IS IMPORTANT CONSIDERATION

Exceptions: _____

BID PRICE IS GUARANTEED FOR NINETY (90) DAYS AFTER BEING OPENED BY THE CITY OF AUBURN

Authorized Signature

Name of Firm

Printed Name of Signee

Address

Date

City, State, zip

Phone/Fax No.

NOTE THAT THERE IS THE POSSIBILITY THAT THIS EQUIPMENT WILL BE ON A LEASE PURCHASE PLAN THROUGH OUR OWN FINANCIAL SOURCE AND IT WILL BE IN THEIR NAME UNTIL SUCH TIME AS THE LEASE IS PAID OFF.