

**City of Laurel, Mississippi  
Public Works Department  
Bid Specifications for  
25 Cu. Yd. Garbage Truck**

**INTENT:**

This specification describes a hydraulically actuated packer body and chassis of the rear loading type with the following minimum specifications necessary to perform the work assigned. The body shall be capable of compacting and transporting refuse to a landfill or transfer station and dispensing the load by means of hydraulically ejecting the load from the body.

**GENERAL TERMS:**

This equipment shall be manufactured in the United States of America. All equipment furnished under this contract shall be new, unused and the same as the manufacturer's 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. Bidders are to quote only their top-of-the-line commercial grade equipment. Bids on lesser industry models will be rejected. Bids with equipment not meeting these minimum capacities and requirements will be subject to rejection. The complete unit shall be delivered to the City of Laurel, MS Public Works Department no later than August 30.

It shall be the bidder's responsibility to carefully examine each item of the specification. Failure to offer a completed bid or failure to respond to each section of the technical specification (COMPLY: YES or NO) will cause the proposal to be rejected without review as "non-responsive". All variances, exceptions and/or deviations shall be fully described in the appropriate section.

**GUARANTEE:**

The body shall be covered by a twenty-four (24) month warranty.  
The transmission warranty shall be for three years or better. (Include a Copy of Warranty Statement)

**PARTS MANUAL:**

Bidder shall furnish a complete parts, maintenance, and operator's manual with each truck and garbage body sold.

**SERVICE AVAILABILITY:**

Successful bidder must have factory authorized full service capabilities within 50 miles of Laurel, MS.

**EVALUATION:**

Evaluation of the bids to determine the best and lowest shall include: the proximity of the bidder for warranty work; the delivery time; the value of the equipment above the minimum required; the lowest bid and all other factors relevant to this request.

**NOTICE:**

The City of Laurel reserves the right to reject any and all bids.

**City of Laurel**  
**Minimum Specifications for a 2020 New 25 Cubic Yard**  
**High Compaction Rear Loading Class 8 Garbage Truck**

All bidders must fill in all blanks: **YES**, if meeting or exceeding specification; **NO**, if exceptions are taken to a certain specification. Any exceptions taken must be explained in detailed writing on bidders own letterhead and attached to the bid submitted. Bidder must attach a copy of warranty on chassis, drive train, and components.

**CAPACITY**

The packer body shall have a capacity, excluding the receiving hopper of not less than 25 cubic yards. \_\_\_\_\_

The hopper shall have a capacity of three and ninety-four hundredths (3.94) cubic yards. \_\_\_\_\_

The structural integrity of the body shall allow high density loading of up to 1,000 pounds per cubic yard of normal refuse. \_\_\_\_\_

**BODY DIMENSIONS**

Maximum width, outside 96". \_\_\_\_\_

Maximum overall length of the body and tailgate combined shall not exceed the following: 270". \_\_\_\_\_

Body width, inside 89". \_\_\_\_\_

Body height, inside 79". \_\_\_\_\_

Body height, outside (above chassis) 96". \_\_\_\_\_

**BODY CONSTRUCTION**

The body interior shall have a smooth floor without a trough. The sides and roof shall also be smooth. (No Exception). \_\_\_\_\_

The body shall have a street side access door to allow entrance to body for service. \_\_\_\_\_

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. \_\_\_\_\_

Body sides & roof shall be of curved stress skin construction interfacing with the corner mainframe bolsters. Rear bolsters shall be 5" x 20" formed channel @ the major upper & lower connecting points of the mainframe. Front bolster shall be a 5" x 8" formed channel @ the major upper & lower connecting points. All sidewall and roof members shall be continuous welded. \_\_\_\_\_

Body roof shall be minimum 8 gauge, 80,000 PSI minimum yield hi-tensile steel sheet, fully welded to a full length 11 gauge 50,000 PSI yield roof crown rail to contain and dissipate forces equally through the body structure. \_\_\_\_\_

Body sides shall be minimum 8 gauge, 80,000 PSI minimum yield high tensile steel sheet, fully welded to roof crown rail and to a 4.7" x 18" floor skirt rail. \_\_\_\_\_

Rear mainframe body side bolsters shall be a minimum 3" x 20" and contoured shaped to sidewall with minimum 7 gauge 80,000 PSI minimum yield. Reinforcement bolsters shall be full welded to the curved body side sheets. \_\_\_\_\_

Body floor shall be flat full width and must not have inboard guide rails or a trough. Floor shall be a minimum 7 gauge, 80,000 PSI minimum yield steel sheet. \_\_\_\_\_

Floor longitudinals (long members) shall be a formed trapezoidal shape 9.6"x11' with a 3.3" base sill of 7 gauge, 80,000 PSI minimum yield formed steel channels and shall be continuous welded to the floor sheet. \_\_\_\_\_

Floor cross members shall be 3"x6"x7 gauge, 80,000 PSI minimum yield steel channels. Cross members shall be interfaced through the long members on approximately 18" centers to fully support the floor. Cross members shall be full width, single piece. (No Exceptions). \_\_\_\_\_

## **TAILGATE DIMENSIONS**

Maximum overall width at the hopper opening shall be 84 1/2". \_\_\_\_\_

Inside tailgate loading width shall be a minimum of 80". \_\_\_\_\_

Hopper opening height shall be a minimum of 55". \_\_\_\_\_

Loading sill height below chassis rail shall be 3.8" exclusive of any container handling mechanisms. \_\_\_\_\_

Minimum overall height above the chassis frame with the tailgate raised: 207 1/2". \_\_\_\_\_

## **TAILGATE CONSTRUCTION**

Tailgate sides shall be single piece 3/16" 150,000 PSI minimum yield 321 BHN abrasion resistant plate steel.

Tailgate side reinforcement shall consist of 6"x 1 7/8" 11 gauge, 50,000 PSI formed steel channels fully welded to the perimeter edge of the tailgate side sheets. An interlaced network of 6"x 1 7/8" gauge, 50,000 PSI and 6 5/8"x 1 7/8" 7 gauge, 80,000 PSI minimum yield formed steel channels shall also be fully welded to the tailgate side for superior support.

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Hopper floor shall be minimum 1/4" 150,000 PSI minimum yield 321 BHN abrasion resistant steel plate.

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Hopper floor lateral reinforcement shall consist of a 3/16" 80,000 PSI minimum yield formed "Z" channel cross member. Forward hopper reinforcements shall be provided by a lateral network of 3/16" 80,000 PSI and 3/8" 50,000 PSI minimum yield formed steel channel cross members.

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Hopper front compaction face shall be minimum 5/16" 150,000 PSI minimum yield 321 BHN abrasion resistant steel plate.

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Tailgate shall be equipped with heavy duty 1" diameter turnbuckles, one on each side of body, to secure the tailgate in the closed position against the body to prevent leakage.

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Two (2) grab handles (3/4" 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. Also, one grab handle across rear of tailgate. (If unit is equipped with a container handling attachment, the latter will be omitted.)

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The rear step shall be bolt-on design 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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The tailgate shall be raised with two (2) single acting 4" bore x 26" 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.

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The tailgate shall be equipped with 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".

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The hopper shall be formed from 3/16", 80,000 PSI high tensile steel.

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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. \_\_\_\_\_

## **PACKING MECHANISM**

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. \_\_\_\_\_

Packing mechanism control valve shall be centrally located within the upper confines Of the hopper, under upper light cross members. \_\_\_\_\_

The packing cycle time shall be no greater than 17-19 seconds. \_\_\_\_\_

Packing mechanism shall consist of two primary structures, the upper packing Panel and the packing blade. \_\_\_\_\_

## **UPPER PACKING PANEL**

The upper packing panel shall be mounted to the tailgate weldment with two (2) sets of upper and lower link arms. Each upper link arm shall be secured to the panel and tailgate with two (2) 2" diameter induction hardened C-1045 cold drawn steel pins. The lower link arms shall be connected to the tailgate with 2" diameter induction hardened C-1045 pins and to the panel with 2 5/16" heat treated, induction hardened 4340 cold rolled steel hinge pins. \_\_\_\_\_

The upper packing panel shall be constructed from 3/16" 150,000 PSI minimum yield, 321 BHN abrasion resistant steel plate in all areas of refuse contact. The packing blade hinge lugs shall be constructed from 3" thick 50,000 PSI minimum yield steel plate. \_\_\_\_\_

Primary compaction by the upper panel shall be accomplished with two (2) double acting 5" bore x 36" stroke hydraulic cylinders. Located outside of the hopper confines, the cylinders shall produce a minimum force of 73,600 pounds. \_\_\_\_\_

Forward hinged side doors on each side of the tailgate shall provide access to the outside cylinders. The doors shall be easily opened without hand tools. The side doors shall prevent operator contact with the packing mechanism components as well as protect the components from the outside elements. \_\_\_\_\_

## **PACKING BLADE**

The packing blade shall be mounted to and pivot on the upper panel hinge lugs with heat treated, induction hardened ASTM 4340 cold rolled 3" steel pins. \_\_\_\_\_

The packing blade shall be constructed with 3/16" 150,000 PSI minimum yield, 321 BHN, abrasion resistant steel plate and capable of resisting shearing and breaking forces of large objects during the compacting cycle. \_\_\_\_\_

Pre-compaction by the packing blade shall be accomplished with two (2) double acting, 5 ½” bore x 24” stroke cushioned hydraulic cylinders. Located inside the hopper confines, the packing blade cylinders shall produce a minimum force of 111,670 pounds (33.25 PSI).

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All packing mechanism links shall have replaceable hardened steel bushings for extended service life. Wear shoes or roller shall not be acceptable in high compaction packing systems.

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All cylinder and link pivot pins shall be kept in place with minimum Grade 5 retaining bolts, lock nuts, and lock collars.

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Each hopper full of material shall be compressed between the packing blade, upper panel and ejector panel. The ejector panel shall be automatically advanced by an ejector unload valve. No operator attention shall be required to advance the ejector panel as the body fills.

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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.

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## **DISCHARGE OF LOAD**

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. The ejector cylinder shall attach to the body and the ejector panel via cold-drawn, C1045, pins having a minimum diameter of 1 ½” and positioned diagonally to minimize possible damage from objectionable liquids.

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The ejector cylinder shall have the following dimensional characteristics:

### **STAGES**

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### **BORE**

6”

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### **STROKE**

134.1”

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The ejector panel face sheet shall be constructed from 11 gauge hi-tensile steel. Four (4) hi-tensile formed steel channels shall span horizontally, with one (1) trapezoidal cross member at floor level. The vertical panel corner posts shall be 0.375 hi-tensile steel. A 7 gauge hi-tensile steel protective covering shall be provided to keep refuse

from coming in contact with the ejector cylinder. \_\_\_\_\_

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

Smooth movement of the ejector panel in the body shall be achieved with two (2) cast alloy shoes on each side of the ejector panel. Shoe castings shall conform to specification 28C358-A0201 possessing a minimum contact surface of 18 square inches each shoe side and having a minimum hardness of 260 BHN. Each shoe shall pivot on a minimum 2" diameter, C1045, removable cold drawn stub pin held within the fully boxed 4"x12" base frame of the ejector panel. Four (4) shoes shall be provided for each ejector panel and shoes must be replaceable without removing the ejector panel as refuse is packed against it. \_\_\_\_\_

Ejector guide bottom edge shall be located .375" above longitudinal floor corners. The guide channel shall have interior dimensions of 3.5"x 4.2". The top flange of the guide channel shall be reinforced with a 45 degree plate, which shall also serve as a self-cleaning device. The track shall also minimize pivotal movement of the ejector panel as refuse is packed against it. Plastic (non-metallic) ejector shoe material is not acceptable. \_\_\_\_\_

The rod end of the ejector cylinder shall be pin mounted at the front of the body to the main lateral bolster of the body longitudinal members thus affording maximum resisting bending movement. \_\_\_\_\_

## **CONTROLS**

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. \_\_\_\_\_

An electrical device shall be supplied to automatically raise the engine speed to the proper RPM during the packing cycle. \_\_\_\_\_

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. \_\_\_\_\_

Power take off controls shall be conveniently mounted in the cab, preferably to right side of the driver. \_\_\_\_\_

## **HYDRAULIC SYSTEM**

Front bumper mounted, crankshaft driven gear pump, producing 42 GPM @ 1200 RPM, and rated at 3000 PSI. \_\_\_\_\_

Air actuated dry valve, controlled by in-cab switch, with electronic over speed protection shall be provided. Chassis must be equipped with Allison World Tech



RDS transmission. \_\_\_\_\_

The pump 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. \_\_\_\_\_

The hydraulic pump shall be designated to operate continuously with peak loading at frequent, short intervals. \_\_\_\_\_

The hydraulic system shall incorporate adjustable relief valves to protect all components from excessive pressure and overloads. \_\_\_\_\_

All hydraulic tubes will be securely clamped to prevent vibration, abrasion, and excessive noise. \_\_\_\_\_

All hydraulic tubes running the length of the body shall be routed over the roof on the street side bias of the body. \_\_\_\_\_

All hydraulic hoses shall conform to S.A.E. standard for designed pressure. Bends shall not be less than recommended by S.A.E. standards. Flat spots in hoses will not be acceptable. \_\_\_\_\_

All high-pressure hoses shall be sheathed with fabric protective covering. \_\_\_\_\_

The hydraulic oil reservoir shall be frame mounted underneath the body and shall have a gross capacity of 50 gallons filled with hydraulic fluid. \_\_\_\_\_

The tank shall be complete with a screened fill pipe and cap, filter breather, clean out cover, level & temperature sight gauge, and shut off valve. \_\_\_\_\_

The hydraulic system shall be protected by a five (5) micron return line filter along with a 100 mesh (140 micron) reusable oil strainer in the suction line. \_\_\_\_\_

The return line filter shall also include an in-cab filter by-pass monitor, which shall alert the operator or service personnel when the filter is in need of replacement. \_\_\_\_\_

All multi-spool control valves shall be of a section design such that servicing would not require replacement of the entire valve assembly. \_\_\_\_\_

## **HYDRAULIC CYLINDERS**

All cylinders must have a working pressure rating of no less than 2500 PSI. \_\_\_\_\_

Inside packing 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. \_\_\_\_\_

Rods of inside and outside packing cylinders must be induction hardened to a surface hardness of 55-65 Rockwell C scale. \_\_\_\_\_

Rods of all cylinders shall be chrome plated. \_\_\_\_\_

All packing cylinder end lugs shall be forged steel material. \_\_\_\_\_

## **ELECTRICAL**

All electrical wiring connectors to be automotive double-seal, with wiring in split convoluted loom. \_\_\_\_\_

All wiring connections to be soldered with rubber-molded covering or crimp type connectors with shrink-wrap. Unprotected wiring in any application is not acceptable. \_\_\_\_\_

All electrical limit switches shall be epoxy impregnated to minimize effects of excess moisture. \_\_\_\_\_

## **LIGHTING**

Clearance, back up, and directional lights shall be Lexan lens, shock mounted in a protective housing. The whole unit shall be pop out and replaceable. \_\_\_\_\_

All lights shall be provided in accordance with FMVSS#108, ANSI Z245. 1-1999 plus mid body turn signals on each side of the body and a center brake light on the rear. \_\_\_\_\_

## **PAINT**

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. \_\_\_\_\_

A primer coat and acrylic urethane enamel topcoat is to be applied. \_\_\_\_\_

The body is to be equipped with ICC regulation high visibility tape. The reflective tape is to be installed on lower body side perimeter and across rear hopper lip. \_\_\_\_\_

The body color shall be white as to match the cab. \_\_\_\_\_

## **ADDITIONAL FEATURES**

Tailgate shall be equipped with an amber strobe light. \_\_\_\_\_

A cable system with hook to load city dumpsters \_\_\_\_\_

The unit shall come equipped with a 15,000 pound reeving cylinder equipped with a lip and latch kit.

## **CHASSIS SPECIFICATIONS**

### **MODEL**

New and unused conventional chassis

156.9" CA

Wheelbase: to accommodate body builder

### **ENGINE**

370 HP diesel engine and 1250 LB/FT torque

Radiator: Minimum 1500 square inch

Engine brakes

Air cleaner: single element

Fan Clutch: Air On/Off type

Alternator: Minimum 12V 135 AMP

Batteries: (3) 12 volt

13 Gallon diesel exhaust fluid tank

Single horizontal RH muffler with cab mounted vertical tailpipe, under frame routing, outside rail.

Muffler/tailpipe guard

### **TRANSMISSION AND EQUIPMENT**

Allison 4000 RDS 6-speed automatic transmission with PTO provisions

Push button, electronic shift control

Under mounted pump off of PTO. No front mount pump will be acceptable.

## **FRONT AXLE AND SUSPENSION**

I-beam type front axle; 16,000 pound capacity or greater \_\_\_\_\_

Air cam 16.5"x 6"; 24 square inch long stroke brake chamber \_\_\_\_\_

Power steering, dual steering gears \_\_\_\_\_

18,000 pound leaf front suspension \_\_\_\_\_

Front shock absorbers \_\_\_\_\_

## **REAR AXLE AND SUSPENSION**

Minimum 40,000 pounds \_\_\_\_\_

Axle ratio: to be determined by body builder & truck manufacturer \_\_\_\_\_

Drive Lines: 1800 main drive line, 1700 interaxle drive line \_\_\_\_\_

Rear Suspension: 46,000 LB suspension (No Air) \_\_\_\_\_

## **BRAKE SYSTEM**

Rear Brakes: 16.5 X 7 \_\_\_\_\_

Long stroke 2 drive axles spring parking chambers \_\_\_\_\_

Air dryer with heater \_\_\_\_\_

Automatic slack adjusters \_\_\_\_\_

## **FRAME**

Frame rails: minimum 11/32 X3 1/2 X 10 15/16 inch 120 KSI \_\_\_\_\_

## **CHASSIS**

Full front bumper \_\_\_\_\_

Two (2) front tow hooks – frame mounted \_\_\_\_\_

### **FUEL TANKS AND EQUIPMENT**

Minimum 80 gallon fuel tank mounted left side under cab \_\_\_\_\_

### **FRONT TIRES, HUBS, AND WHEELS**

11R22.5 Steer \_\_\_\_\_

Front disc wheel; 22.5”X9.00” 10- hub pilot 5.25 insert shand steel \_\_\_\_\_

Hubs: Steel \_\_\_\_\_

### **REAR DRIVE TIRES, HUBS, WHEELS**

11R22.5, 14-ply \_\_\_\_\_

Rear dual disc wheels; 22.5X8.25” 10-hub pilot 2 hand HD steel \_\_\_\_\_

### **CAB EXTERIOR**

Air bag type rear cab suspension \_\_\_\_\_

Dual air horns \_\_\_\_\_

Dual heated mirrors \_\_\_\_\_

LH and RH 8” convex mirrors mounted below primary mirrors \_\_\_\_\_

### **CAB INTERIOR**

Adjustable tilt and telescoping steering column \_\_\_\_\_

Heater, defroster, and air conditioner \_\_\_\_\_

Driver seat: air suspension, high back with head rest \_\_\_\_\_

2-man fixed back with integral head rest \_\_\_\_\_

Interior Color: Beige or Gray \_\_\_\_\_

**SAFETY FEATURES**

Five (5) pound fire extinguisher mounted out board of driver seat \_\_\_\_\_

Triangular reflectors without flares \_\_\_\_\_

Rear Camera and backup alarm \_\_\_\_\_

**PAINT**

Cab Color: White \_\_\_\_\_

Base/Clear \_\_\_\_\_

**WARRANTY/SERVICE**

Towing- Included in Price. 3 year unlimited with no cap \_\_\_\_\_

3 year Full Engine Warranty Included in Price  
\$0 Deductible- Includes Emissions/aftertreatment  
EW4 or equivalent \_\_\_\_\_

Winning bidder must pickup and deliver the truck back when an issue arises,  
Not charging a pickup and delivery fee. This includes towing for a warrantable  
Repair. \_\_\_\_\_

3 year guaranteed buyback price required. Turned in with unpriced specs  
prior to bid \_\_\_\_\_

TC4 or equivalent chassis coverage \_\_\_\_\_

State delivery time \_\_\_\_\_

**OPTIONS**

Show extended warranty options \_\_\_\_\_

**ADDITIONAL INFORMATION REQUIRED**

Fuel mileage per gallon \_\_\_\_\_

Fuel emission amounts \_\_\_\_\_

