



# **CITY OF MANCHESTER**

## **Public Works Department**

1210 Oakdale Street

Manchester, Tennessee 37355

Telephone (931) 728-6903

**3-STAR COMMUNITY**



*Award Recipient for Economic Preparedness*

To whom it may concern,

The City of Manchester Public Works Department is going out for bids on a Heavy Duty Trash/Brush Loader, Bulk Trash/Junk Body, Mounted on a New Truck and Chassis. All equipment furnished shall be new, unused and of the manufacturer's current production design. Bidder must accurately complete the specification sheets and include it as a portion of the bid response. Failure to submit form indicating any deviations from the specifications shall be grounds for rejection of bids. However any deviations may be considered.

## INVITATION TO BID

### SPECIFICATIONS ON A HEAVY DUTY TRASH/BRUSH LOADER, BULK TRASH/JUNK BODY, MOUNTED ON A NEW TRUCK & CHASSIS

**SCOPE:** The intent of these specifications is to describe a heavy duty trash/brush loader & bulk trash body mounted on a new truck & chassis for use in the City's refuse collection system.

**GENERAL:** All equipment furnished shall be new, unused and of the manufacturer's current production design. Bidder must accurately complete this specification sheet and include it as a portion of the bid response. Failure to submit form indicating any deviations from the specifications shall be grounds for rejection of bid. Any deviations or exception from the stipulated specifications shall be listed on a separate sheet labeled "Exceptions to Bid Conditions and Specifications" and attached to the bid.

	YES	NO
<b>I. TRUCK SPECIFICATIONS</b>		
New Conventional Cab- chassis, Freightliner M2-106 or equal, 252" WB, 186" Useable CA, Cab & Wheels – WHITE, Chassis BLACK. 33,000# GVWR. 97 DB Back-Up Alarm.	___	___
<b>A. ENGINE:</b>		
1. Cummins ISC Diesel, In-line 6 cylinder, Total Electronic. 270 HP @2,000 RPM; 800 lb-ft Torque@ 1,300 RPM. 2010 CARB Compliant.	___	___
2. Single-stage, Dry-type Air Cleaner.	___	___
3. Variable-speed Electronic Governor.	___	___
4. 12 Volt Starter.	___	___
5. Heated Fuel/Water Separator with Receptacle Mounted under LH Door.	___	___
6. 1000 watt, 115 volt Engine Block Heater	___	___
7. Engine Mounted Oil Cooler.	___	___
8. RH Horizontal Muffler with RH under step aftertreatment system. Allows Auto-Regeneration In Motion, and On-Demand Regeneration in PTO mode.	___	___
9. 1,100 in <sup>2</sup> aluminum radiator with Lower Radiator Guard.	___	___
10. Cummins Engine Brake and Cruise Control.	___	___
11. Gates Blue Stripe Radiator and Coolant Hoses.	___	___
<b>B. TRANSMISSION:</b>		
1. Allison 3500 RDS-P, 6-Speed Electronic Automatic, Dash Mounted Push Button Controls.	___	___
2. Synthetic oil, only	___	___
3. Water to Oil Transmission Fluid Cooler	___	___
<b>C. FRONT AXLE:</b>		
1. 12,000# Capacity Set Back Front Axle.	___	___
2. 12,000# Capacity Front Suspension.	___	___
3. ScotSeal Plus XL Wheel Seals.	___	___
4. Shock Absorbers, Double-Acting, Telescopic.	___	___
5. Power Steering	___	___

D. REAR AXLE:

- 1. 21,000# Single-speed Rear Axle with Driver Controlled Traction Differential, 5.57 Rear Axle Ratio. \_\_\_ \_\_\_
- 2. 21,000# Multi-leaf Rear Suspension with Helper and Radius Rod \_\_\_ \_\_\_
- 3. ScotSeal Plus XL Wheel Seals. \_\_\_ \_\_\_

E. FRAME:

- 1. Heavy-duty Frame Rails – heat treated alloy steel (120,000 PSI Yield); 10.9375" X 3.5" X 11/32" with 1/4" steel "C" channel reinforcement; 26.8 SM, minimum; 3,217,200 RBM , minimum. \_\_\_ \_\_\_
- 2. Frame Mounted Front Tow Hooks. \_\_\_ \_\_\_
- 3. Three-piece steel Heavy-duty Front Bumper. \_\_\_ \_\_\_

F. BRAKES:

- 1. Full Air Brakes, Cam-type with ABS and Automatic Slack Adjusters. \_\_\_ \_\_\_
  - a. 16.5" X 5" Q+ Front Brakes \_\_\_ \_\_\_
  - b. 16.5" X 7" Q+ Rear Brakes. \_\_\_ \_\_\_
- 2. Spring Set Parking Brake. \_\_\_ \_\_\_
- 3. Brake Dust Shields. \_\_\_ \_\_\_
- 4. Heated Air Dryer. \_\_\_ \_\_\_
- 5. 18.7 CFM Air Compressor. \_\_\_ \_\_\_
- 6. System drain valve \_\_\_ \_\_\_

G. FUEL TANK: LH mounted 50 Gallon Aluminum with Step. 6 Gallon DEF Tank. \_\_\_ \_\_\_

H. ELECTRICAL:

- 1. 12V Electrical System with Circuit Protectors. \_\_\_ \_\_\_
- 2. 160 Amp Alternator. \_\_\_ \_\_\_
- 3. Two (2) H.D. Batteries, Maintenance Free, 1850 Total CCA, minimum. \_\_\_ \_\_\_
- 4. Battery Disconnect Feature. \_\_\_ \_\_\_
- 5. Backup Alarm. \_\_\_ \_\_\_
- 6. Minimum 1000 Watt / 115 volt Engine Block Heater with Recessed Plug. \_\_\_ \_\_\_
- 7. LED for Flashing, Stop, Turn & Tail lights \_\_\_ \_\_\_
- 8. Clearance/Marker Lights – Amber LED lights, flush mounted \_\_\_ \_\_\_

I. WHEEL & TIRES:

- 1. 22.5 X 8.25 10 Hole Hub piloted disc wheels. \_\_\_ \_\_\_
- 2. 11R22.5-14PR Front Tires Michelin XZE2 \_\_\_ \_\_\_
- 3. 11R22.5-16PR Rear Tires Michelin XDE Mud/Snow. \_\_\_ \_\_\_

J. CAB EQUIPMENT:

- 1. Tilting Fiberglass Hood & Fenders. \_\_\_ \_\_\_
- 2. Tinted Glass All Around. \_\_\_ \_\_\_
- 3. Molded-In Color West Coast Mirrors with 8"Convex Mirrors and RH Down View Mirror. \_\_\_ \_\_\_
- 4. Variable Speed Windshield Wipers & Washers. \_\_\_ \_\_\_
- 5. Dual 24" Aluminum Air Horns. \_\_\_ \_\_\_
- 6. Cigar Lighter. \_\_\_ \_\_\_
- 7. Daytime Running Lights. \_\_\_ \_\_\_
- 8. Tilt and Telescopic Steering. \_\_\_ \_\_\_

- 9. LH & RH Sun Visors. \_\_\_ \_\_\_
  - 10. Deluxe Hi-Back Air Suspension Driver's Seat & Stationary 2-Man Passenger Seat with Under seat Storage Compartment. \_\_\_ \_\_\_
  - 11. Instrumentation:
    - a. Air Cleaner Restrictor Indicator. \_\_\_ \_\_\_
    - b. Gauges & Warning Lights for Low Oil Pressure, High Engine Temperature and Low Coolant Level, & Low Air Pressure. \_\_\_ \_\_\_
    - c. Hour Meter in cab, Oil Pressure Gauge, Air Pressure Gauge, Coolant Temperature Gauge, Fuel Gauge, Electronic Speedometer, Electric Tachometer, Transmission Oil Fluid Gauge , Air Cleaner Restrictor Indicator and Voltmeter. \_\_\_ \_\_\_
  - 12. Integral Air Conditioning with Heater and Defroster. \_\_\_ \_\_\_
  - 13. AM-FM-Weather band Stereo Radio. \_\_\_ \_\_\_
  - 14. 5# ABC Fire Extinguisher, Mounted. \_\_\_ \_\_\_
  - 15. Safety Reflective Warning Triangle Kit, Cab-Mounted. \_\_\_ \_\_\_
  - 16. 1st Aid Kit, Cab-Mounted. \_\_\_ \_\_\_
- 
- 17. Cab entry assist handles shall be located on both sides of the truck cab, interior and exterior. \_\_\_ \_\_\_

K. WARRANTY: Bidder Shall State Warranty. Offered Warranty Must Include Towing Warranty (maximum \$ 450 per incident) to nearest warranty repair facility.

---

L. OPTIONS:

- 1. Bidder shall list the costs of extended warranty. Extended Warranty Coverage for Five (5) Years, 150,000 miles, and 10,000 hours (whichever comes first) for the Engine & Engine Electronics (includes electronic fuel injectors), Transmission and Driveline. \$ \_\_\_\_\_
- 
-

**SPECIFICATIONS FOR A HEAVY DUTY TRASH LOADER**

It is the intent of these specifications to describe a truck mounted, hydraulic operated knuckle boom trash loader to be used in collection and loading of bulk trash, limbs, leaves, building materials of like nature. These specifications are describing and stating the minimum requirements of a truck mounted trash loader to perform this function.

- A. Pedestal: To be A-Frame design constructed of formed high strength steel channels ensuring a 3:1 safety ratio. Top of the pedestal to be constructed of 1 1/4" steel plate. Bottom of the pedestal to be constructed of 1" steel plate. Pedestal must be mounted directly to the frame rails. Access to the hydraulic hoses shall be effected through an easily removable steel cover. \_\_\_ \_\_\_
  
- B. Boom Pivot: Pivot to be mounted to the pedestal by a slewing ring / bearing having a minimum capacity of 513,000 pounds static load and 186,000 ft. lbs. moment. Slewing ring to be 3 1/2" thick and have an OD of 25 3/4". Boom pivot has a 9" OD safety retaining tube 12" long. Must have minimum of 270° swing with mechanical stops for safety. Pivot shall utilize a direct hydraulic swing drive. \_\_\_ \_\_\_
  
- C. Main Boom. To have two (2) heavy duty 4" x 8" x 3/8" thick wall tube or equal. Main boom to be of twin design. Main boom to have a manual stop for tip boom to prevent tip boom from bottoming out. Must have internal check valves. \_\_\_ \_\_\_
  
- D. Tip Boom. To have heavy duty 5" x 7" x 1/4" thick wall tube or equal. Tip boom to have a 4' telescopic extension tip section constructed of 4" X 6" X 1/4" thick wall tube or equal. Extension must have replaceable nylon bearings on all three (3) sides with a roller on the bottom. Must have internal check valves. \_\_\_ \_\_\_
  
- E. Boom Length. Boom length shall be 16' with a telescoping section extending length to 20'. \_\_\_ \_\_\_
  
- F. Lifting Capacity. At twenty (20') feet, loader must lift 3,300 pounds "payload". \_\_\_ \_\_\_

---

- G. Loader Stabilizers. Loader must be equipped with hydraulic operated stabilizers. Stabilizers to be positioned for maximum stability when lifting a 3,300 pound load at 20'. Stabilizers to be equipped with **street pads** (rubber lined). Stabilizer shall telescope horizontally in and out; vertically up and down, and operate independently by individual controls. To protect the hydraulics, cylinders must be mounted inside the telescoping legs. Stabilizers will be extendable to a distance that will resist loads equal to 85% of the tipping moment under maximum rated load. Cylinders shall have internal holding valves for the up and down movement to prevent stabilizers leaking. \_\_\_ \_\_\_
  
- H. Bushings and Pins. All boom connections points must be equipped with replaceable bushings and heat treated pins. \_\_\_ \_\_\_

- I. Oil Tank and Filter. Hydraulic system must be equipped with a 45 gallon oil tank, with sight, and temperature gauge; and a 50 gallon per minute oil filter, with replaceable 10 micron filter element, and an in-tank suction strainer. \_\_\_ \_\_\_
  
- J. Power Source. Unit to be mounted with clutch type (Hot Shift) PTO with a overspend protection and a heavy-duty bi-rotational tandem hydraulic pump. PTO will not engage unless truck is in neutral and parking brake is set. \_\_\_ \_\_\_
  
- K. Valves and Cylinders. All valves and cylinders to be of high quality to assure long lasting service life and smooth operation. Main valve must be equipped with main relief valve. Main boom, tip boom and stabilizer cylinders shall have internal pilot operated check valves. Internal check valves protect the valves and the operator. \_\_\_ \_\_\_
  
- L. Throttle Control. Unit to have a throttle control with an electric switch to maintain proper RPM under a load. Switch for throttle control to be mounted on operator's platform for operator's convenience. Unit will not throttle unless PTO is on, truck is in neutral and parking brake is set. \_\_\_ \_\_\_
  
- M. Trash Grapple. To have 360° continuous rotating bucket by means of a replaceable hydraulic swivel with no mechanical stops. To be replaceable, swivel must not be welded or be an integral part of the grapple. Trash grapple shall be opened and closed by two (2) hydraulic cylinders and have a minimum closing pressure of 3,000 pounds. Grapple is to be 4' long and open to 60 inches, lip to lip with bolt-on replaceable high strength, high carbon steel cutting edges. Bucket cylinders and hoses shall be enclosed in removable steel cover. \_\_\_ \_\_\_
  
- N. Operator's Platform. There will be a stand up type operator's platform on each side of the truck. Controls shall be dual hydraulic joystick controls with electric thumb switches mounted on both sides. Proper space between cab and pedestal shall be allowed for walk-through operation. Body dump controls to be a different color from the boom controls. \_\_\_ \_\_\_
  
- O. Paint. Unit shall get one (1) coat of high grade primer and two coats of high grade enamel. Color shall be Safety RED. \_\_\_ \_\_\_
  
- P. Entire unit shall have a one (1) year parts and labor warranty, a three (3) year gear box slewing ring warranty, and a three (3) year structural warranty. \_\_\_ \_\_\_

HEAVY DUTY BULK TRASH BODY

It is the intent of these specifications to describe a heavy duty trash body to be used in collection and loading of bulk trash, limbs, brush, leaves, building materials, etc., or any other materials. Material, workmanship, design and capacities are being specified for a piece of equipment that will be required to do a certain job.

- A. Minimum 24 cubic yard capacity. \_\_\_ \_\_\_
- B. Minimum 18 foot body length. \_\_\_ \_\_\_
- C. Body to be mounted with 60" minimum between the body and the back of the cab. \_\_\_ \_\_\_
- D. Body to be constructed with 8" @ 11.5 lbs. per ft. full length structural channel main sill and 4" @ 5.4 lbs. per ft. structural channel cross sills. Cross sills to be placed on 12" centers. Body floor to be built with 3/16" steel, floor to be formed over and under the end of cross sills. Body overall width not to exceed 8'. \_\_\_ \_\_\_

---

- E. Body sides to be constructed with 10 gauge sheet metal. Wall stiffeners to be 11 gauge formed channel placed on 24" centers. Body sides to have 11 gauge formed channel at top of sides. Side stakes to be interconnected and welded to top rail. Front body wall to be 42" high and slope to 60" tall 8' from the body front. Side to be continuous welded to floor. \_\_\_ \_\_\_
- F. Body headboard to be constructed of 10 gauge sheet metal with 11 gauge formed stakes and 11 gauge formed top rail. \_\_\_ \_\_\_
- G. Body shall have two (2) equal width barn type rear doors, 60" high to swing completely around to each side wall with provisions to positively latch open for dumping. Each door shall be hinged with two (2) 1" pins. Hinges must be welded to the body and the door must contain easily accessible grease fittings. Door latch will secure both doors at the top and bottom. \_\_\_ \_\_\_
- H. Body hoist to be two (2) two-stage telescoping hydraulic cylinders with a 5" ID bore. Cylinders shall be outside frame, trunion mounted. Hoist shall provide a 45° dumping angle and a minimum lifting capacity 30,000 pounds. \_\_\_ \_\_\_
- J. Lighting - Body shall be equipped with lights to meet all state and federal safety standards. All wiring shall be protected with metal tubing. All lighting shall be LED and mounted in rubber cushions. All signal, brake, etc. lighting on the truck chassis shall be LED. Also, body shall be equipped with four (4) recessed corner lights, three (3) recessed ID lights, and all lights and reflectors to comply with FMVSS-108. The rear body shall be equipped with two (2) LED (6" oval) flashing lights connected to the turn signals, mounted in the rear post. \_\_\_ \_\_\_

---

- K. Unit shall be properly cleaned and get one (1) coat of high grade primer and two (2) coats of high grade enamel. Color shall be Black. \_\_\_ \_\_\_
- L. Body shall rear safety bumper with conspicuity tape applied. Body side rub rails shall have conspicuity tape applied. Body shall have body safety props installed on each side of the body. \_\_\_ \_\_\_
- M. Body and hoist shall have a one year parts and labor warranty and a 3-year structural warranty. \_\_\_ \_\_\_