SPECIFICATIONS FOR THE PURCHASE OF

One (1) 2019 model – KNUCKLE BOOM 18' 24 cubic yards

BIDDER SHALL COMPLETE BY CHECKING THE FOLLOWING.
IF NOT COMPLIANT, STATE SPECIFICALLY ITEM BEING OFFERED.

The following are the suggested minimum specifications for one or more (1) new 2019 model Knuckle Boom Loader(s). All bids must be equal in performance and quality pursuant to the bid specifications below, which are not intended to exclude any manufacturer's standard deviation. Any reference to manufacture's make or series of equipment stated in the following specifications is intended only to establish an acceptable standard and is not intended to limit the bidding. The Adams County Board of Supervisors is acting under the authority of Section 31-7-13, Miss. Code of 1972 Amended, and reserves the right to reject any and all bids.

	Y	N	OFFERED
ENGINE & EQUIPMENT:			
New & Unused 2019 Model	☐	☐	_____
Cab to axle 186; must be verified by body provider	☐	☐	_____
ENGINE & EQUIPMENT (Acceptable Engines: Detroit, Cummins, Paccar, Mack MP8)			
300 HP or greater; Wet sleeved Engines only	☐	☐	_____
860 lb./ft Torque or greater	☐	☐	_____
9 Liter engine displacement or greater	☐	☐	_____
Oil cooler	☐	☐	_____
Aluminum flywheel housing	☐	☐	_____
Air Compressor 18.7 CFM or greater	☐	☐	_____
Dry-type firewall mounted air cleaner with filter restriction indicator	☐	☐	_____
2-Speed fan hub	☐	☐	_____
1000 sq./in Cooling module or greater	☐	☐	_____
Radiator bug screen on back side of hood grill	☐	☐	_____
Single vertical SOC tailpipe, RH with DPF/SCR right side under cab	☐	☐	_____
Curved tailpipe	☐	☐	_____

Fleet guard filter/water separator	☐	☐	_____
Engine block heater (120-volt minimum)	☐	☐	_____
160 AMP Alternator	☐	☐	_____
Three (3) batteries – 2100-2190 CCA dual purpose	☐	☐	_____

	Y	N	OFFERED
12-Volt light system with circuit protection	☐	☐	_____
12-Volt Starter	☐	☐	_____
Battery disconnect switch	☐	☐	_____
Body builder harness to end of frame	☐	☐	_____
TRANSMISSION & EQUIPMENT:			
Allison 3500 RDS 6-speed automatic transmission	☐	☐	_____
Heat exchanger	☐	☐	_____
Oil level sensor	☐	☐	_____
Transmission PTO Rear Support Spring(s)	☐	☐	_____
3 Standard duty drivelines, 2 centerbearing	☐	☐	_____
Torque converter	☐	☐	_____
Park brake auto neutral	☐	☐	_____
FRONT AXLE & EQUIPMENT:			
12k or greater front axle, Dana Spicer or equal Meritor Brand	☐	☐	_____
14,600 lb. Air brake package	☐	☐	_____
16 ½" x 5" Cast drum brakes	☐	☐	_____
Aluminum 10-bolt hub pilot LMS hubs with hub caps	☐	☐	_____
Front oil seals	☐	☐	_____
Front slack adjusters	☐	☐	_____
12k or greater Taperleaf front springs	☐	☐	_____
Front shock absorbers	☐	☐	_____
Single gear power steering	☐	☐	_____
REAR AXLE & EQUIPMENT:			
21,000 lb. Rear axle, Dana Spicer or Meritor equivalent	☐	☐	_____
Rear axle ratio: 5.57 or performance ratio	☐	☐	_____
26,000 lb. Air brake package	☐	☐	_____
16 ½" x 7" Cast drum brakes	☐	☐	_____
Iron 10-bolt hub pilot hubs	☐	☐	_____
Rear slack adjusters	☐	☐	_____
Rear oil seals	☐	☐	_____

	Y	N	OFFERED
Single spring brake 3030	☐	☐	_____
Bendix 4S/4M Anti-lock brake system	☐	☐	_____
26,000 lb. Multileaf suspension, REYCO 79KB or equivalent	☐	☐	_____
TIRES & WHEELS:			
Front tires: Two (2) 11R22.5 16-Ply	☐	☐	_____
Rear tires: Four (4) 11R22.5 14-Ply	☐	☐	_____
Front wheels: Two (2) 22.5x8.25 Heavy duty, 5 hand-hole hub pilot mount, powder coat	☐	☐	_____
Rear wheels: Four (4) 22.5x8.25 5 hand-hole hub pilot mounted, powered coat	☐	☐	_____
FRAME & EQUIPMENT:			
10 5/8" x 3 ½" x 5/16" Steel frame	☐	☐	_____
1,776,000 RBM or greater	☐	☐	_____
120,000 PSI Yield steel	☐	☐	_____
Section modulus: 14.8 in^3	☐	☐	_____
Aerodynamic bumper, painted	☐	☐	_____
Two removable front tow hooks	☐	☐	_____
Battery box: steel parallel under w/aluminum cover w/step & alum. Step brackets; LH mount	☐	☐	_____
Non-polished DPF/SCR cover with cab access step assembly, RH under	☐	☐	_____
FUEL TANK(S) & EQUIPMENT:			
56 Gallon fuel tank or greater	☐	☐	_____
11 Gallon DEF tank;	☐	☐	_____
CAB & EQUIPMENT:			
Aluminum fully huck-bolted cab or Steel Cab with rust preventative procedures for durability purposes	☐	☐	_____
Aluminum bulkhead doors for Aluminum Cabs or Steel doors for durability purposes	☐	☐	_____
Single electric horn	☐	☐	_____
Heater with integral defroster and A/C	☐	☐	_____
Adjustable telescoping tilt steering column	☐	☐	_____
Dash mounted air filter restriction gauge	☐	☐	_____
Transmission oil temperature gauge	☐	☐	_____
Speedometer	☐	☐	_____

	Y	N	OFFERED
Tachometer	☐	☐	_____
Fuel gauge	☐	☐	_____
Engine coolant temperature gauge	☐	☐	_____
Engine oil pressure gauge	☐	☐	_____
Voltmeter	☐	☐	_____
Engine hour meter	☐	☐	_____
Primary and secondary air restriction gauges	☐	☐	_____
DEF fluid level gauge	☐	☐	_____
Air driver seat	☐	☐	_____
2 man bench seat	☐	☐	_____
AM/FM/WB/USB/BT Radio	☐	☐	_____
Cab access grab handles, LH & RH	☐	☐	_____
Daylight doors with RH peeper window	☐	☐	_____
Air horn; LH top of room mount	☐	☐	_____
Heated mirrors	☐	☐	_____
Electric LH and electric RH door window	☐	☐	_____
Stainless steel exterior sun visor	☐	☐	_____
Roof mounted marker lights	☐	☐	_____
Fender mounted turn signal lights	☐	☐	_____
Circuit breakers replacing all but 5-amp fuses	☐	☐	_____
Bendix AD-IS air dryer, heated; mounted LH rail back of cab	☐	☐	_____
Moisture drain valve with pull cable drain	☐	☐	_____
PAINT:	**Y**	**N**	**OFFERED**
Color: white	☐	☐	_____

<u>Additional Requirements</u>:

Guaranteed Buy Back Provision:

The guaranteed buy back provision at the end of (5) years will be a factor in determining the lowest and best bid. Lease Purchase quotes with buy back numbers are due within 24 hours of the bid.

Warranty:

5 -Year 100,000 miles Engine Warranty

5 -Year 100,000-mile aftertreatment Warranty

5- year extended Allison Transmission Warranty

5-Year 100,000-mile Base vehicle warranty to cover major components of the vehicle

Delivery Date may not exceed 45 days from receipt of purchase order for the completed unit. No exceptions, please submit delivery date in writing upon submitting specifications. FOB Adams County.

BID SPECIFICATIONS FOR:
KNUCKLE BOOM LOADER AND TRASH BODY

THE UNIT WILL BE USED IN COLLECTION AND LOADING OF BULK TRASH, LIMBS, LEAVES, BUILDING MATERIALS, AND WHITE GOODS, OR OTHER MATERIALS OF THAT NATURE. UNIT MUST BE MANUFACTURED in an ISO 9000:2000 certified facility. All bidders must fill in all information. If meeting or EXCEEDING SPECIFICATIONS PUT YES, AND IF EXCEPTIONS ARE TAKEN PUT NO. ANY EXCEPTIONS MUST BE EXPLAINED IN WRITING. ALL PROPOSALS INCLUDE DELIVERY, TRAINING OF OPERATORS AND SERVICE PERSONNEL.

LOADER SPECIFICATIONS	VENDOR'S RESPONSE, Y/N-EXCEPTIONS
1.0 BOOM: 1.1 Boom length to be 16ft. with 4ft. telescoping section to 20ft. 1.2 Minimum lift capacity to be 3,300 Lbs. @ 20ft. including grapple. 1.3 Boom Pedestal to be constructed of High Strength Steel, providing a 3:1 safety factor. 1.4 All hydraulic hoses located at the operator position (Boom Pedestal) must be enclosed in the pedestal base. Access provided by an easily removable steel cover. 1.5 Boom Pivot shall be mounted to the pedestal by means of a slewing ring\bearing that has a minimum capacity of 513,000 lbs. static load and 186,000 Ft-Lbs. moment. Slewing ring shall be 3 ½" thick and have an O.D. of 25 ¾". Boom pivot shall be constructed with a 9" O.D. safety retaining tube. The Boom Pivot Safety Retaining Tube shall be a minimum of 12" long and confine all	***PLEASE RESPOND YES/NO OR EXCEPTIONS***

hoses which pass through the Pedestal/Boom Pivot Assembly. 1.6 Boom rotation of 270 degrees minimum with mechanical stops for safety. Stops must be welded into machined recesses to ensure non-movement. Pedestal stop must have a minimum of three (3) square inches and have a nylon contact with pivot stops and a minimum width of five (5) inches. 1.7 Boom rotation shall be accomplished by a direct hydraulic swing drive through a slewing (bearing) ring& planetary gearbox capable of producing 250,000 inch-pounds torque. 1.8 Entire Boom Assembly shall be designed with a tensile strength to provide a safety factor of 3 to 1 at the rated load capacity. 1.9 Main Boom shall be constructed of (2) 4”x 8” High Strength Steel Tubing. 1.10 Tip Boom shall be constructed from a 5” x 7” High Strength Steel Tube. 1.11 Tip Boom shall have a 4’ telescopic extension tip section constructed from 4”x 6” High Strength Steel Tube. 1.12 Main Boom shall be equipped with mechanical stops to prohibit hydraulic cylinders from bottoming out. Extend boom stops must be easily accessible and removable for service. 1.13 Boom pedestal to be mounted directly to the chassis frame rails.	

Mounting must include inside frame rail supports at the mounting points. 1.14 The entire boom must be serviceable down to the component level, e.g., every hydraulic hose, fluid tubes, bracket, pin, etc. Having to replace subassemblies in order to repair a component will not be acceptable. 1.15 Telescopic tip extension shall be equipped with replaceable nylon bearings on all 3 sides with roller on bottom. Bearings must be easily accessible for replacement and have “auto-hose-slack” take-up. 1.16 All boom connections requiring pins shall be equipped with replaceable bushings and heat-treated pins. 1.17 All operating functions shall be hydraulically controlled from the operator station located both on the left and right hand side of the loader. 1.18 Two stage tandem pump allows for multiple function control of the loader. 1.19 Operator controls shall be controlled by means of hydraulic joysticks located on both sides of the loader (two per side, three functions per joy stick). 1.20 A safety feature shall be provided to allow only one side of controls to function at a time. Joy sticks shall function only from one side at a time.	

1.21 Joy sticks shall not require any lubrication thereby eliminating any frequent maintenance. 1.22 Outriggers controlled by individual levers located conveniently in the center of the operator's platform. 1.23 Body dumping is controlled by a single lever at the center of the operator's platform separate from any other control. Proper enclosures shall be provided to protect operator from hydraulic fluid and components. All controls shall be clearly identified as to function. 1.24 Main Boom and Tip Boom cylinders must incorporate integral holding valves. Externally mounted holding valves are not acceptable. **2.0 Trash Grapple\Bucket:** 2.1 Bucket shall have a 360 degree continuous rotating grapple with a replaceable hydraulic swivel. Swivel shall not be welded or be an integral part of the grapple. 2.2 Bucket is to be opened and closed by (2) hydraulic cylinders with a closing force\"bite" of 3,600 lbs. 2.3 Bucket is to be 4' long and capable of opening to 60 inches from lip to lip. 2.4 Bucket shall be fabricated with a Bolt- on replaceable H.S.H.C. steel cutting edge. 2.5 Bucket cylinders and hoses shall be enclosed by a removable steel cover.	

3.0 Hydraulics: 3.1 Reservoir shall be a minimum of 45 gallons. It shall have a dual level/oil temperature gauge on side of tank. An in-tank suction strainer is included. 3.2 Filter shall be a 10-micron, return line replaceable filter mounted on outside of reservoir. 3.3 Cut-off valves are to be provided for both pressure and suction. 3.4 Main boom, tip boom and outrigger hydraulic cylinders shall contain pilot operated check valves as an integral part of each cylinder to prevent boom movement in the event of hydraulic hose failure. Bolt on pilot operated check valves will not be permissible. 3.5 All hoses shall be rated at 4,000-psi working pressure. 3.6 Port tubing through the main boom shall be zinc plated steel tube. 3.7 Control valves shall have a 20 GPM rating. 3.8 Successful bidder must provide a computer printout at time of delivery showing particle testing of the hydraulic oil done just prior to the unit being shipped in order to illustrate cleanliness of Hydraulic System. **4.0 Power Source:** 4.1 Unit to be mounted on any chassis that meets the manufactures recommended specification with a heavy – duty clutch style (Hot Shift)	

PTO and a heavy – duty bi-rotational Tandem hydraulic pump. **5.0 Throttle Control:** 5.1 Unit to have an electric operated throttle control to maintain proper engine speed when loader is operated under load. Switch for throttle control to be mounted on operator's platform for operator's convenience. 5.2 Throttle speed-up shall operate only when the transmission in the neutral position.	
6.0 Outriggers: 6.1 Outriggers shall be extendable to a distance that will resist loads of 85% of the tipping moment under maximum rated load. 6.2 The outriggers are to be equipped with smooth pads to cause minimum damage to contacted surface. 6.3 Outriggers shall telescope horizontally in and out; and vertically up and down and operate independently by means of individual mechanical linkage controls. Controls must be located a distinctive distance from the main boom controls. 6.4 Outrigger cylinders for stabilizing loader shall be mounted inside telescoping legs. 6.5 Outriggers shall retract to within the maximum highway width and will extend to a maximum width to resist the design load moment. 6.6 Outrigger Cylinders shall contain holding valves on extend and retract	

functions to prevent outrigger leak down. **7.0 Trash Body:** 7.1 24 cubic yard capacity. 7.2 18 foot body length. 7.3 Body shall be mounted with a minimum space of 60 inches between the cab and the front of the body. 7.4 Body floor shall be made of ¼" sheet steel. Sides are formed to create the lower side bumper channel structure of the body. 7.5 Body walls to be constructed with 10 gauge sheet steel. Wall stiffeners to be a minimum of 11gauge formed channels placed on approximately 24-inch centers. 7.6 Body walls shall have a top rail made of 3"x 4"x ¼" rectangle tubing. 7.7 Wall stiffeners will be welded to top rail and stiffeners will be welded to the wall sheet. 7.8 Front body wall to be 42 inches high with side body walls transitioning from 42 inches high to 60 inches high 8ft. from the body front. 7.9 Body full length main structural channel sills to be 8 inch @ 11.5 lbs. per ft. Cross sills to be 4 inch @ 5.4 lbs. per ft structural channel. Cross sills to be placed on 12-inch centers. 7.10 Body shall have (2) equal width barn type rear doors 60 inches high to swing completely around to each side	

wall with provisions to positively latch open for dumping. 7.11 Each door shall be hinged with (2) 1 inch hinge pins. Hinges must be welded to body and door and must contain easily accessible grease fittings. Door latch will secure both doors at the top and bottom. 7.12 Rear doors shall be fabricated from 10-gauge steel with a circumferential frame of 4-inch structural channel. **8.0 Body Hoist:** 8.1 The hoist system shall be two 5" bore, two stage telescopic hydraulic cylinders rated @ 2,500 PSI working pressure mounted to provide a 45 degree dump angle. Left and right hoist cylinders must be mounted outboard of the chassis frame. 8.2 Body shall have two (2) body safety props installed one on each side of the chassis frame rails. **9.0 Lights and Reflectors:** 9.1 Shall conform to current state and federal standards. 9.2 Oval, amber LED strobes in rear corner posts of body with alternating flash pattern. 9.3 Reflective Safety Tape shall be on both sides and on the rear of body. **10.0 Paint:** 10.1 Body exterior shall receive (1) coat of high-grade primer and (2) coats of high-grade standard black enamel paint.	

10.2 Body interior shall receive (1) coat of high-grade primer. 10.3 Loader shall receive one (1) coat of High-grade primer and two (2) coats of high grade enamel paint (Manufacturer Standard Color(s). **11.0 Safety Rear Bumper:** 11.1 Body shall have a rear safety bumper. Bumper to meet U.S. Department of Transportation Federal Motor Carrier Safety Administration, part 571.233 for rear impact guards and part 571.224 for rear impact protection.	
12.0 Warranty: 12.1 Bidder must provide all warranties required below. Failure to provide such warranties may result in your bid being deemed non-responsive. 12.2 Entire unit to have a 1 year parts and labor warranty 12.3 3 year warranty on gear box, slewing ring. 12.4 3 year structural warranty. 12.5 All Warranty Work shall be done on Customer's site (On-site Warranty repair). Customer shall not be responsible for transportation of unit for warranty work.	
13.0 OTHER REQUIREMENTS **13.1 A 18" DEEP X 18" WIDE X 48" LOCKING HEAVY DUTY TRUCK BOX SHALL BE FRAME MOUNTED ON**	

THE RIGHT-SIDE OC CAB BEHIND OPERATOR PLATFORM. **13.2 TWO (2) SETS OF RAKE/SHOVEL LOOPS SHALL BE MOUNTED ON THE FRONT WALL OF THE BODY.**	

Company Name: _____

Company Address: _____

_____

Phone Number: _____

Email Address: _____

*****Please attach your company's bid and Buyback to this submission. Please enclose all of your bid paperwork in a sealed envelope with "KB20 LOADER" on the outside of the envelope. *****