



MEMORANDUM

TO: Interested Bidders

FROM: Mitchell Worthington, Finance Director

DATE: November 7, 2023

SUBJECT: Bid #2024-10
Knuckleboom Loader
Quantity: One (1)

The City of Perry is soliciting bids from qualified vendors for the purchase of one (1) Knuckleboom Loader according to the attached specifications.

I ask that you strictly comply with these specifications and return the same to the City of Perry, clearly marked "BID NUMBER 2024-10", on or before 3:00 PM on November 28, 2023. Bids can be mailed or delivered to the Department of Finance - Purchasing, ATTN: Bid #2024-10, CITY OF PERRY GA, 1211 Washington Street, P O Box 2030, Perry, GA 31069. No faxes or emails accepted. No other city office will accept bids unless specified on the bid.

The City of Perry reserves the right to accept any and all parts of this bid. We also reserve the right to reject all bids and to waive informalities.

Please include any delivery charges in your bid.

If you have any questions, please contact Ansley Fitzner at 478-988-2731, ansley.fitzner@perry-ga.gov.

Attachments

CITY OF PERRY
BID #2024-10
KNUCKLEBOOM LOADER WITH TRASH BODY
DUE DATE: November 28, 2023 3:00 PM

It is the intent of these specifications to describe a heavy duty truck mounted, hydraulically operated knuckleboom loader with dump body to be used in the collection and loading of bulk trash, limbs, leaves, brush, building materials, white goods and other materials of similar nature. The truck and loader shall conform to applicable Georgia and federal regulations binding this type of equipment. All proposals should include delivery and training of operators and service personnel.

	Comply	Does Not Comply	Comments
TRUCK SPECIFICATIONS - 33,000 GVWR SINGLE AXLE (Not to Exceed)			
CAB - Two door standard air ride cab; solar tinted glass; factory air conditioner including integral heater/defroster; intermittent windshield wipers with washers; gray interior color; vinyl seating with single air bucket driver seat (30%); dual occupant front passenger seat (70%); dual sun visors; driver and passenger outside fold back rearview mirrors including convex mirrors; AM/FM radio; dual electric horns and single trumpet air horn; steel front bumper; exterior color white			
WHEELBASE - minimum length needed to accommodate specifications while ensuring safe operation of knuckleboom loader			
FRAME - Single channel heat treated alloy steel main frame rated at minimum 120,000 psi with frame reinforcement for entire length of frame rated at minimum 120,000 psi with total (main frame + reinforcement) minimum 3,000,000 RBM; two front tow hooks			
FRONT AXLE - 12,000 LB front axle with wheel seals for oil lubricated wheel bearings and power steering			
FRONT SUSPENSION - Minimum 12,000 lb parabolic tapered leaf springs including shock absorbers			

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REAR AXLE - 21,000 lb single speed rear axle with wheel seals for oil lubricated wheel bearings. Rear axle ratio shall provide maximum grade ability in 1" gear and a highway speed of 65 MPH. Locking differential to be included.			
REAR SUSPENSION - Minimum 21,000 lb multi leaf rear suspension and minimum 3,000 lb auxiliary springs and rear stabilizer bar			
BRAKES - Full air brake system with anti-lock feature; minimum 13.2 CFM capacity air compressor; dual air pressure gauges; low air pressure warning light/alarm; front/rear automatic slack adjusters; air activated spring-loaded parking brake; three drain valves and two air tanks; air dryer with automatic air moisture ejector and heater; front and rear dual shields			
ENGINE - Diesel engine with minimum 260 HP @ 2200 RPM; 800 LB/LT torque @ 1440 RPM and 2400 RPM governed speed; heavy duty dual element air cleaner; air restriction indicator; fuel filter and water separator with electric type heater and sigh glass. Engine must meet 2010 EPA emissions standard. Five year engine warranty must be included, includes injectors (Cummins preferred). Engine block heater required.			
EXHAUST - horizontal exhaust system toward the rear of truck chassis			
TRANSMISSION - 6-speed Allison 3500 RDS-P automatic transmission with overdrive including wide ratio; transmission oil cooler in radiator; audible backup alarm activated when transmission is shifted into reverse. PTO electronic activation switch. Five year transmission warranty must be included.			

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ELECTRICAL - with 130 amp alternator; 2000 CCA minimum dual battery system; sealed connectors for 2 ground circuits with combined left/stop; combined bright/stop; stop lamps; backup lamps; two additional pass through wires to cab; body builder wiring to end of frame; battery disconnect switch			
FRONT/REAR WHEELS AND TIRES - 22.5" x 8.25" painted steel disc 10 hole hub-piloted wheels with 11R22.5 16-ply radial tubeless tires. HWY tread front tires and traction tread rear tires.			
FUEL TANK - minimum 50 gallon			
INSTRUMENTATION - Full set of gauges for water temperature; engine oil pressure; amp meter or volt meter; fuel level; tachometer; speedometer and audio/visual warning system			
MISCELLANEOUS			
Two sets of keys			
Mud-flaps (No dealer advertising)			
One set of operator's manual			
One set of service manuals which should include disassembly/assembly and troubleshooting information of the cab, chassis, transmission, differential and engine			
KNUCKLEBOOM LOADER SPECIFICATIONS			
PEDESTAL, BOOM AND CONTROLS			
A. Boom length to be 16 ft with 4 ft telescoping section to 20 ft			
B. Minimum lift capacity to be 3,000 lbs at 20 ft including grapple			

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C. Boom pedestal to be constructed of high strength steel providing a 3:1 safety factor			
D. 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			
E. 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 1/2" thick and have an O.D. of 25 3/4". 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 hoses which pass through the pedestal. boom pivot assembly			
F. Boom rotation of 270 degrees minimum with mechanical stops for safety. Stops must be welded to ensure no 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			
G. Boom rotation shall be accomplished by a direct hydraulic swing drive through a slewing (bearing) ring and planetary gearbox capable of producing 250,000 inch pound torque minimum			
H. Entire boom assembly shall be designed with a tensile strength to provide a safety factor of 3:1 at the rated load capacity			
I. Main boom shall be constructed of two 4"x8" high strength steel tubing			
J. Tip boom shall be constructed from a 5"x7" high strength steel tubing			
K. Tip boom shall have a four foot telescopic extension tip section constructed from 4"x6" high strength steel tube			
L. 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			

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M. Boom pedestal to be mounted directly to the chassis frame rails. Mounting must include inside frame rail supports at the mounting points.			
N. The entire boom must be serviceable down to the component level, E.G., energy hydraulic hose, fluid tubes, bracket, pin, etc. having to replace subassemblies in acceptable			
O. Telescopic tip extension shall be equipped with replaceable nylon bearings on all three (3) sides with roller on bottom. Bearings must be easily accessible for replacement and have "auto-hose-slack" take-up			
P. All boom connections requiring pins shall be equipped with replaceable bushings and heat-treated pins.			
Q. All operations functions shall be hydraulically controlled from the operator station located both on the left and right hand side of the loader			
R. Two stage tandem pump allows for multiple function control of the loader			
S. Boom functions controlled by means of hydraulic joysticks located on both sides of the loader (two per side, three functions per joystick). No air accepted.			
T. A safety feature shall be provided to allow only one side of the controls to function at a time. Joysticks shall function only from one side at a time.			
U. Joysticks shall not require any lubrication thereby eliminating any frequent maintenance.			
V. Outriggers controlled by individual levers located conveniently in the center of the operator's platform. 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.			

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TRASH GRAPPLE/BUCKET			
A. Bucket shall have a 360 degree continuous rotating grapple with a replaceable hydraulic swivel. Shall not be welded or be an integral part of the grapple.			
B. Bucket is to be opened and closed by two hydraulic cylinders with a closing force/"bite" of 3,600 lbs			
C. Bucket is to be four ft long and capable of opening to 60 inches from lip to lip.			
D. Bucket shall be fabricated with a bolt on replaceable H.S.H.C. steel cutting edge			
E. Bucket cylinders and hoses shall be enclosed by a removable steel cover			
HYDRAULICS			
A. Reservoir shall be a minimum of 45 gallons. It shall have a dual level/oil temperature gauge on side of tank. An intank suction strainer included			
B. Filter shall be a 10 micron, return line replaceable filter mounted one outside of reservoir			
C. Cut-off valves are to be provided for both pressure and suction. Valves will not be permissible			
D. All hoses shall be rated at 4,000 psi working pressure			
E. Port tubing through the main boom shall be stainless steel tube			
F. Control valves shall have a 20 GPM rating			
G. Successful bidder must provide a computer printout at time of delivery showing particle testing of the hydraulic oil completed prior to the unit being shipped in order to illustrate cleanliness of hydraulic system			

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POWER SOURCE			
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.			
TROTTLE CONTROL			
A. 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			
B. Throttle speedup shall operate only when the transmission in the neutral position			
OUTRIGGERS			
A. Outriggers shall be extendable to a distance that will resist loads of 85% of the tipping moment under maximum rated load.			
B. The outriggers are to be equipped with smooth pads to cause minimum damage to contacted surface.			
C. Outriggers shall telescope horizontally in and out, vertically up and down and operate independently by means of individual controls.			
D. Outriggers cylinders for stabilizing shall be mounted inside telescoping legs.			
E. Outriggers shall retract to within the maximum highway width and will extend to a maximum width to resist the design loam moment.			
F. Outrigger cylinders shall contain holding valves on extend and retract functions to prevent outrigger leak down			

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LIGHTS AND REFLECTORS			
Shall conform to current state and federal standards. Include cab mounted strobe light			
WARRANTY			
The entire unit to have a one year parts and labor, two year gear box and slewing ring, and a three year structural warranty.			
TRASH BODY SPECIFICATIONS			
A. 30 cubic yard capacity; chain operated ground control manual tarper			
B. 20 ft body length			
C. Body shall be mounted with a minimum space of 60" between the cab and the front of the body			
E. Body floor shall be made of 1/4 sheet steel, A 3/16" formed channel shall create a bumper on both sides of the floor			
F. Body walls to be constructed with ten gauge sheet steel. Wall stiffeners to be a minimum of eleven gauge formed channels placed on approximately 24" centers			
G. Body walls shall have a top rail made of 3" x 4" x 1/4" rectangle tubing			
H. Wall stiffeners will be welded to top rail and stiffeners will be welded to the wall sheet.			
I. Front body wall to be 42" high with side body walls transitioning from 42" high to 60" high 8 ft from the body front.			
J. Body full length main structural channel sills to be 8" at 11.50 lbs per foot; cross sills to be 4" at 5.4 lbs per foot; structural channel cross sills to be placed on 12" centers			

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K. Body shall have two equal with 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 one 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			
L. Rear doors shall be fabricated from ten gauge steel with a circumferential frame of 4" structural channel.			
BODY HOIST			
A. The hoist system shall be two 5" bore, two stage telescopic hydraulic cylinders rated at 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.			
B. Minimum hoist rated capacity of 15 tons			
LIGHTS AND REFLECTORS			
A. All lighting to be DOT standards and shall conform to current state and federal standards			
B. Reflective safety tape shall be on both sides and on rear of body. Led strobe to be included in corner posts and single strobe under body.			
PAINT			
A. Body exterior shall receive one coat of high grade primer and two coats of high grade standard, Color black			
B. Body interior shall receive one coat of high grade primer.			

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SAFETY REAR BUMPER			
Body shall have a rear safety bumper			
BODY SAFETY PROP			
Two body safety props shall be installed (one on each side of the chassis frame rails)			
WARRANTY			
Entire unit to have one year parts and labor and three year structural warranty.			
DEALER ADVERTISING - The dealer shall not attach any dealer identification, advertising or similar material to the vehicle, knuckleboom loader or trash body.			
DELIVERY TIME			

Bid Price _____

Bid Valid for _____ days

Authorized Signature Printed Name

Date

Company Name

Address

Phone Number

Email Address

Fax Number