

INVITATION TO BID



**CITY OF RINGGOLD
PURCHASING
P.O. BOX 579
150 TENNESSEE STREET
RINGGOLD, GA 30736**

ITB #19-018

FOR: Side Arm Tractor and Brush Cutter

OPENING DATE: Thursday, September 26, 2019

TIME: 2:30 P.M. EST

**PLACE: Ringgold City Hall
150 Tennessee Street
Ringgold, GA 30736**

General

It is the intent of this specification to describe an industrial self propelled mower tractor. The unit shall be the manufacturers current production model meeting or exceeding the terms of this specification.

For any offer to be considered all items must be of a standard production model and not modified for bid purposes.

SPECIFICATIONS REQUIRED	COMPLY YES / NO	EXCEPTIONS, DEVIATIONS, and ANSWERS
<u>ENGINE:</u>		
New Holland FPT Diesel Engine		
In-line 4-Cylinder Diesel Engine, Turbocharged and Intercooled		
4.5 L (274 Cu. In.) Displacement		
110 Engine Horsepower @ Rated Speed		
90 SAE PTO Horsepower @ Rated Speed		
A-Pillar Exhaust with Integral Muffler		
ECObLue™ HI-eSCR Tier4B emissions system		
56.8 gallon (215 liter) fuel capacity		
7.9 gallon (30 liter) DEF tank capacity		
<u>TRANSMISSION:</u>		
8 Forward / 8 Reverse Hydraulic Power Shuttle		
Multi Plate Wet Clutch		
Mechanically Actuated Park Brake		
Speed Range up to 25 mph (40 kph)		
Neutral Safety Start System		
<u>STEERING, BRAKES, DIFFERENTIAL:</u>		
Hydrostatic Power Steering		
Hydraulic Wet Brakes		
Rear Axle Differential Lock		
<u>HYDRAULICS:</u>		
Dual Pump, Open Center Hydraulic system with 13 gpm (49 lpm) Implement Pump and 9 gpm (34 lpm) Steering Pump @ Rated Speed		
2 SCV's with Flow Controls and Adjustable Dents; Mechanical; ISO Breakaway Couplers		
<u>REAR PTO:</u>		
540 / 1000 PTO Speeds, 1-3/8 In.		
Independent Rear PTO and PTO Master Shield		
Wet Clutch		
Neutral Start Safety System		
<u>ROCKSHAFT, HITCH AND DRAWBAR:</u>		
Mechanical Hitch		
Draft Sensing Top Link		
Category II, 3-Point Hitch Telescoping stabilizers and flexible Link Ends		
Drawbar; Swinging		
<u>INSTRUMENTATION:</u>		
Tachometer		

Speedometer		
Hour Meter		
Fuel Gauge		
Engine Oil Pressure Warning light		
Coolant Temperature		
PTO Engagement		
Fuel System Water Separator Warning Light		
Directional Indicators		
Hazard Switch		
Park Brake Indicator		
MFWD Indicator		
CAB OPERATOR STATION:		
Air Conditioning and Heater (10 repositional vents)		
2 Doors		
Front Fixed Windshield Wiper and Washer		
Rear Window Wiper and Washer		
Suspension Seat		
Adjustable Tilt Steering Column		
Left Hand Foot Steps		
Operational Controls, RH Console		
Floor Mat		
Foot Throttle Control		
Power Outlet		
Overhead Courtesy Light		
Cup Holder		
RH & LH Fixed External Mirrors		
Sun Visor		
ELECTRICAL:		
Key Shutoff		
12-Volt Electrical System		
12-Volt Battery, 950 Cold Cranking Amps		
120 Amp Alternator		
7 Terminal ASAE Outlet Socket		
LIGHTS:		
Two Front Halogen Headlights		
Two Front Roof Lights		
Two Rear Roof Lights		
Flashing Hazard Lights		
Two Rear Fender Tail Lights with Brake Lights		
FRONT AXLE WHEELS AND TIRES:		
MFWD		

Steel Wheels		
MFWD Engagement, Mechanical		
14.9-24 6PR R1		
<u>REAR AXLE WHEELS AND TIRES:</u>		
Flange Axle		
8 Position Steel Wheels		
18.4-34 In. 8PR R1 Bias		
<u>MISCELLANEOUS:</u>		
The awarded vendor shall be a full service authorized dealer for the tractor and the mower		
Operator's Manual (English) and Holder		
SMV Emblem and mounting hardware		
Horn		
<u>WARRANTY</u>		
A 2 year bumper to bumper full warranty shall be standard		
The awarded vendor must be located within 15 miles of the Public Works garage to ensure prompt response time to repairs		
The following components shall have full parts and labor warranty for 5 years: fuel system, emission system, air induction system, and all electrical components related to these systems		
The awarded vendor shall have field service technicians with 24/7 support. The technicians must be factory trained for the tractor and mower being bid		

General (Conventional Frame T4F Boom 3OS)

It is the purpose of the following specifications to describe a hydraulic driven boom mower. Mowing is forward and right of the right rear tire and extended by means of an articulated two section boom with hydraulic break away. This unit shall be constructed to interchange with any of the following: 50" Rotary Cutting Head, 60" Rotary Cutting Head, 63" Flail cutting head, 50" Flail Cutting Head, 48" Saw Blade, 50" WetCut Sprayer, Boom Snow Blower, 22" Rotary Ditcher, 60" Side Rotary Mower or 75" Side Flail Mower. The unit will be the manufacture's current production model with a minimum of (1) one year previous production, meeting or exceeding the terms of these specifications. Unit's shall be manufacturer's heaviest duty model available. The vendor shall guarantee that a stock of component parts be available at a location convenient to the user. For any offer to be considered, all items must be of a standard production model, not modified for bid purposes. It is a requirement of this bid that vendors submit the pertinent information requested in each section marked "(VENDOR REQUIREMENT)". **In the event the requested material and responses are not supplied, by the bidder, the bid submitted will be considered non-responsive and will automatically be rejected.**

Boom Mower

Line Number	SPECIFICATIONS REQUIRED	COMPLY YES / NO	EXCEPTIONS, DEVIATIONS, and ANSWERS
	<u>SAFETY AND TESTING</u>		
	Shall meet the following industry standards: SAE: J232(Rotary), J1001(Flail), J284, J990, J1065. ANSI/ASAE-201.4, S203.13, S205.2, S279.12, S350, EP363.1, S483, S493. ASTM: A370. (VENDOR REQUIREMENT) Submit compliance report signed by a registered Professional Engineer(PE).		
	Unit shall be equipped with a 7 second brake valve on the cutting assembly.		
	Electric Solenoid control transport lock to be integrated into the mower control box.		

	<u>MAIN FRAME</u>		
	Main Frame shall be constructed to be supported on the front tractor bolster, center of tractor and rear axel housings, to absorb side torque and impact of severe applications.		
	Main Frame shall be constructed of fabricated 80,000 PSI steel, bolted directly to each side of tractor frame. An underbelly frame member, running under engine, shall be welded, box frame constructed, and connect the mainframe to each side of tractor(specifically excluding frames over hood designs). A welded mast assembly shall have an integral swing cylinder as a welded assembly with the main frame.		

	<u>BOOM SWIVEL BRACKET</u>		
	Swivel shall be box construction with a 100,000 PSI yield steel swivel cylinder tang with a vertical bearing boss, with steel backed, porous bronze inner structure, and acetal resin overlay bearings. Bearings shall have grease pockets built in and support a 2 1/2" vertical pin. Pin shall be constructed of 4140 cold drawn steel, prehardened(heat treated), to a minimum yield of 105,000 PSI, pin shall be zinc plated. (VENDOR REQUIREMENT) Submit manufacturer of bearing, model and size.		
	Swivel shall connect to inner boom cylinder with a greaseless spherical bearing. (VENDOR REQUIREMENT) Submit type of bearing and size.		

	Swivel shall be supported by a greaseless thrust washer to eliminate galling between swivel bracket and boom mounting bracket. (VENDOR REQUIREMENT) Submit ID and OD dimensions and thickness.		
	Hydraulic Hoses shall be routed thru hose clamp/guides with hose guards to prevent chaffing.		
	Base shall have integral boom swivel attachment fork and constructed of 3/4" and 1" thick 100,000 PSI steel. (VENDOR REQUIREMENT) Submit material and thickness of fork.		
	Horizontal swing cylinder shall have an internal cushion device to limit flow when boom is operated to the forward boom position.		

	PRIMARY BOOM		
	Primary boom shall have a minimum of 70,000 PSI 8" x 6" structural tube and reinforcement with 50,000 PSI steel.		
	Primary boom shall have a one piece reinforced cylinder attaching rib, with the end welds strategically welded around end of rib to boom upper surface. Inner reinforcement shall be a 1/4" x 5" anchor plate, saddle mounted to the top of boom. Anchor plate shall be structurally welded to main tube and have 2, 1" diameter core welds in the top center of plate. Outer reinforcement shall be 1/4" box sectioned, 100,000 PSI steel with 2, 1" x 6" core weldments on each side, and 1, 1 x 1 1/4" oblong core welds. Inner end of Primary boom shall have a 1 1/2" diameter 105,000 PSI yield, hardened, nitride surface pin, with a high-strength, steel backed, porous bronze inner structure, acetal resin overlay bearing installed. (VENDOR REQUIREMENT) Submit a complete description of boom, materials, and boom reinforcements.		
	Pressure and return lines will be preformed steel tubes, or hoses, with hoses at pivot points and mounted to back of boom. (Specifically excluding hoses and tubing inside or front of booms)		
	Top mounted double acting lift cylinder shall have a nitrogen accumulator.		
	Cylinder end attach points shall have replaceable bearings. Primary boom lift cylinder shall not be less than 5" in diameter.		

<u>SECONDARY BOOM</u>			
	Secondary boom shall have a minimum of 50,000 PSI 6" x 4" tube and reinforced at all stress points.		
	Pressure and return lines are preformed steel tubes and hoses mounted to rear of boom.		
	Cylinders shall be welded, double acting and mounted to top of boom. Hydraulic cylinder mounted between primary and secondary boom shall have a spherical bearing rod end.		
	Outer end of secondary boom shall have an integrally designed mounting boss, box sectioned into the boom. (Specifically excluding external boom end reinforcements)		

<u>HYDRAULICS</u>			
	Pump shall be direct drive from the tractor front crankshaft adapter. (rubber mounted engine design shall have a double u-joint pump drive shaft) (VENDOR REQUIREMENT) Submit type of shaft attachment supplied.		
	Reservoir shall be internally treated against corrosion with industry approved chemical agent at time of manufacture. Reservoir shall have a in tank filter rated at 75 GPM, 10 micron, 200 beta, element with bypass, restriction gauge, minimum (1) one PSI pressure at suction outlet and have ball valve at suction line. Tank pressurized to 3 PSI. (VENDOR REQUIREMENT) Submit material used to treat reservoir. Type, design and micron size of filter element.		
	Reservoir shall be mounted in tractors left hand rear wheel well. Reservoir shall have sufficient clearance for proper cooling and shall be a minimum 37 gallons of oil in an operating condition. Reservoir shall have a minimum of not less than 5" clearance (oil cold) from top of reservoir for expansion. Hydraulic fluid level and temperature gauge to be built-in reservoir.		
	Hydraulic pressure connections shall meet SAE O-ring and JIC standards.		
	Pump shall be front mount, cast steel housing, steel gears, rated at 3250 PSI, 45 GPM and 96 HP input. (specifically excluding piston type pumps and cast aluminum housing pumps)		
	Suction hose shall be unrestricted. (Specifically excluding suction filters and screens)		

	Hydraulic oil shall meet a cleanliness standard of ISO 46 rating, and the ISO Code 16/14/11 or better. (VENDOR REQUIREMENT) Submit report of oil sample.		
	Hydraulic hoses and tubes shall be cleaned with pneumatic, triple projectile cleaning, and shall maintain a JDS-G169, class 5.6. ISO cleanliness rating. (VENDOR REQUIREMENT) Submit method of cleaning and standard met.		
	Motor shall have cast steel housing with steel gears.		
	Mower control valve shall be an electrically controlled, pilot operated. Logic elements shall be used to control pressures and ramp up and down speed to prevent excessive pressure spikes to system. Valve shall stop mower from turning in the off position and will not cause a restriction to generate drift while in the off position.		
	Mower control valve shall stop cutter assembly in maximum of 7 seconds from full RPM. (VENDOR REQUIREMENT) State time to stop from full RPM.		

JOY-STICK CONTROL LIFT VALVE

	Joy-Stick Valve Option: Shall be an electro-hydraulic, load sensing valve. Valve shall have interchangeable spools and shall have a manual over-ride for each section, and 12 volt electrical actuation.		
	Valve(Joy-Stick) shall have load-independent flow control, oil flow to individual function is independent of the load pressure of the function. Valve shall have built in pressure relief in pump side module(PVP), with system capabilities of pressures of not less than 4,350 psi continuous, and 4,640 psi intermittent. PVP shall have a pressure gauge connection for service and have an open center option for fixed displacement pumps.		
	Valve (Joy-Stick) body shall have interchangeable spools, integrated pressure compensator, check valves, and different spool variants. Valves shall be configured with manual over-ride levers on one end and an electronic actuation module on the other.		

	<p>Electrohydraulic(Joy-Stick) actuation module shall integrate directly with proportional valve body. Module shall have integrated electronics, sensors, and actuators, and shall have a feedback transducer measuring spool movement in relation to input signal, module shall control the direction, velocity, and position of main valve spool. Module shall have automatic active fault monitoring, and directional indication and LED light indication. Module shall have low hysteresis and shall have attachment for a sealed Deutsch connector. (REQUIRED)Vendor shall provide module hysteresis value, brand of connector, and IP rating of connector.</p>		
	<p>Joy-Stick controller shall be an ergonomic right hand control, with two proportional functions on X-Y mode, and a top grip to house two proportional rollers. Controller handle shall have a leather-like grained surface to allow hand to breathe during operation. Controller rollers shall have a spring centered potentiometer with a working range of + or - 42°. Controller shall be adjustable with dead band adjustment, independent voltage limiting potentiometers for each function, and integrated direction switches for each proportional module. Controller shall have integral cable plug in, and an RF shielded cable shall be supplied by the manufacturer. (VENDOR REQUIREMENT)Vendor shall state the manufacturer, model, and type of electronic module, joy-stick, and valve.</p>		

	COUNTERWEIGHT		
	<p>Counter weight, with tractors having 30" minimum rear tires shall have a total ballasted weight (wheel weight and Calcium Chloride solution) of 2,087 lbs. Wheel weight shall be cast steel, mounted flush to outside of wheel, and shall weigh not less than 1,300 lbs. for 18' and 22' boom reaches. Counter weight, with tractors having 34" minimum rear tires shall have a total ballasted weight (wheel weight and Calcium Chloride solution) shall be a minimum of 2,781 lbs. Wheel weight shall be cast steel, mounted flush to outside of wheel, and shall weigh not less than 1,700 lbs.(specifically excluding flame cut steel and or frame mounted weights) (VENDOR REQUIREMENT) Vendor to state total ballast weight and describe and list wheel weight.</p>		

	<u>OPERATOR PROTECTION</u>		
	Shall have 3/8" right side, hard surfaced, polycarbonate protection for operator. Installed into the original cab manufactured door and or side window. (VENDOR REQUIREMENT) State thickness, manufacturer, and type of hard surface to polycarbonate.		

	<u>STOW SYSTEM</u>		
	A double axle mounted boom stow system shall be attached directly to tractor with a frame member extending to the right-hand and left hand rear axle housing and further extend forward to mower main frame. 3 point hitch system shall function normally.		
	Stow system shall consist of an axle brace extending from the mower mainframe running and below and attached to the right and left rear axle housing. The axle brace shall attach directly to the upright posts behind each axle.		
	The axle brace shall be of the square tube design. Axle brace shall be provided of not less than A500 material 4" x 4" square tube with a minimum 1/4" wall. The tube shall attach to the mower mainframe and extend below and attach to the right rear axle. A similar brace shall be provided to the left side.		
	The upper stow assembly shall be constructed of 1/4" x 4" x 4" square tubing saddle mounted to axle brace extending above and behind the right rear axle.		
	The adjustable stow plate shall be attached to upper stow assembly and shall be adjustable up or down and side to side in 3" increments.		

Heavy Duty 50" Rotary Head

RT 50MD

	<u>CUTTING HEAD</u>		
	Shall be constructed of 110,000 PSI yield Domex® steel 1/8" deck and 1/4" thick side walls and (4) four trapezoidal formed 50,000 PSI Domex steel reinforcements. Top to be continuously welded for strength and eliminate debris from collecting under reinforcements. (VENDOR REQUIREMENT) Vendor shall indicate manufacturers material, PSI, and type of welding.		

	Shall have full length replaceable abrasion resistant skid shoes.		
	Rubber safety shield shall be bolted to back side of deck.		
	Safety shield shall be operated mechanically and shall extend below the cutting plane. Safety door shall be constructed of 100,000 PSI Domex Steel and meets all ANSI / SAE tests for rotary mowers.		
	Head shall weigh no less than 805 lbs.		
	Head shall rotate 180° around outer boom and cutter head shall have 50" of actual cut.		
	Cutter head pivot assembly shall be fully welded and integrated into the cutter head design. (specifically excluding cutter heads that bolt to pivot assembly)		

	<u>SPINDLE</u>		
	Spindle shall be (1) one piece forged and heat treated with integral 7 1/4" O.D. drive hub. (specifically excluding multi-piece shafts and direct drive spindle assembly's) (VENDOR REQUIREMENT) Vendor to provide line drawing of spindle indicating overall length, diameter of cutting assembly attachment, and material used, including material yield strength.		
	Spindle shall be attached to hydraulic motor by a flexible coupler and dust cover. (Specifically excluding direct drive motor/spindle assembly's) (VENDOR REQUIREMENT) Vendor shall describe spindle motor attachment.		
	Spindle assembly shall have minimum torsional shear capacity of 4,174 ft-lb torque, 231,000 PSI yield rotational strength and distribute load over 169 sq. inch area. (VENDOR REQUIREMENT) Vendor shall provide size of attachment, number, grade, and size of bolts used to attach.		
	Spindle shall have stationary wire wrap protection. Wire wraps shall be a minimum of 4 3/8" x 4 3/4", 3/8" thick. The wraps will also act as reinforcements for spindle housing. Wraps shall be not less than 1/16" from the drive spindle. The top of spindle housing shall have 2" x 3 1/2", 3/8" thick welded reinforcements. (VENDOR REQUIREMENT) Vendor shall describe wire wraps.		

	Spindle shall be mounted in sealed, double tapered roller bearing, grease reservoir with a O-ring plug and port to drain old grease. Assembly shall be filled with synthetic grease. (Specifically excluding barrel and spherical bearings) (VENDOR REQUIREMENT) Vendor to indicate manufacture and type of bearing.		
	Spindle shall rotate 19,000 FPM blade tip speed at rated(2,300) tractor RPM. (VENDOR REQUIREMENT) Vendor shall indicate speed.		
	Spindle drive area shall be enclosed and fully protected from outside debris entering into the drive coupler.		

	<u>KNIFE CARRIER</u>		
	Shall be one piece, laser cut dual spin formed, recessed center disc, with a diameter of 31". Dynamically balanced (per ISO quality G2.5 spec), 50,000 PSI yield steel dish, 5/8" x 28 5/8" diameter with a 40° formed outer edge extending out 3 5/8" and attached to spindle with (6) six 5/8" x 1 3/4", grade 8 bolts. US Patents - US D562,3575. (VENDOR REQUIREMENT) Vendor to Indicate type, size, and material of disc.		
	Knife carrier shall have no structural welds.		
	Knife carrier shall accommodate (2) (3) (4) or (6) 5/8" x 5 x 18 3/4", 360° swinging, single edge, flat (no bends), 5/8" brush knives. (Optional) Grass knives shall be available.		
	Knives shall be attached by a 1 1/8" x 3 1/4" shouldered and keyed bolt, backed by T-1 spacer and hex lock nut.		
	Cutter knives shall be shot peened with a chamfered bolt hole.		

	<u>BOOM DIMENSIONS (Specify Dimensions)</u>		
	Reach Out 22.0 feet		
	Reach Down 11.1 feet		
	Reach Up 20.9 feet		
	Reach In 6.5 feet		
	<u>WARRANTY</u> 2 Years or suggested warranty above 2 years Manuals & Parts book included on all items		

BID SPECIFICATIONS

Bidders shall be prepared to give a complete demonstration of the merits of the machines offered as directed by the purchaser. The machines so demonstrated shall be complete as offered by the bidder for this bid.

Awards will be made to the best responsible bidder as determined by the City of Ringgold. The quality of the articles to be supplied, their conformity with the specifications, their suitability to requirements and delivery terms shall be taken into consideration.

If there are any of these standards in which proposed machine does not meet, please provide the description of lacking standard with the machines design standard.

The proposal for this machine should include:

NEW AND UNUSED: 4WD Cab Tractor with 16 'Mid-Mount Boom/60" Rotary Brush Cutter

DELIVERY

- Please indicate earliest delivery date on bid form. This may be a factor in the award of the bid. Successful bidder shall at the time of delivery have appropriate personnel to explain the proper operation and maintenance of unit.

EXCEPTIONS & DEVIATIONS

- Proposer shall fully describe variance exception and/or deviation. Fully explain any item in non-compliance with specification. Additional sheets may be used if required.

PROPOSAL

We have examined the specifications and agree to furnish the City of Ringgold with the equipment/services accordingly. Any deviations from the specifications will be marked exception on the bid sheet.

We propose to furnish City of Ringgold with said equipment/service for:

Equipment manufacture and model proposed:

TOTAL BID COST FORMAT

Purchase Price: \$ _____

Delivery Date : _____

COMPLY TO ALL SPECS: _____ YES _____ NO

ANY EXCEPTIONS ARE TO BE NOTED: _____

Bids shall be submitted in a sealed opaque envelope and shall be marked on the outside with the name of the submitting company, the words “SEALED BID – Side Arm Tractor”. Any deviation from the requirements set forth for the labeling of the bid envelopes shall result in said bid being returned to the bidder unopened and any such bid shall not be considered.

Sealed bids shall be addressed to the attention of Mike Cagle and mailed to the City of Ringgold, P.O. Box 579, Ringgold, GA 30736 or hand delivered to Ringgold City Hall at 150 Tennessee Street, Ringgold, Georgia. All bids shall be received on or before the above designated date and time. Any bid received after this date and time shall not be accepted. Bids shall be typed or submitted in ink. Bids will be opened and read publicly. Bids are legal and binding upon the bidder when submitted.

It is understood that this contract, if accepted by the City of Ringgold, is entered into solely for the convenience of the City and in no way precludes the City from obtaining like goods from other suppliers upon prior approval of the City Manager. Such approval shall be made at the sole discretion of the City of Ringgold and shall be conclusive.

The City of Ringgold reserves the right to accept or reject any or all bids for any reason, to waive technicalities, and to make an award deemed in its best interest. The City of Ringgold shall have the right to delete a unit item from the bid if necessary or proper in the sole determination of the City of Ringgold.

We certify that our bid meets the minimum requirements as specified in bid documents, this ____ day of _____.

AUTHORIZED SIGNATURE

TITLE

PRINTED NAME OF SIGNATURE

COMPANY

ADDRESS

CITY/STATE/ZIP CODE

TELEPHONE NUMBER

FAX NUMBER

EMAIL ADDRESS: _____

Contractor Affidavit under O.C.G.A. §13-10-91(b)(1)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. §13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of the City of Ringgold, Georgia has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. §13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.C.A. §13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Contractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, ____, 201__ in _____ (city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE ____ DAY OF _____, 201__.

NOTARY PUBLIC