



CITY OF MT. VERNON
INVITATION TO BID

SEALED BIDS
FOR
SIDE ARM MOWER

Bids will be accepted by the City Clerk's office at City Hall, 1100 Main St. Mt. Vernon, IL. 62864. July 3rd, 2024, until 1:00 p.m. July 25th, 2024. Bids will be opened at this time. Bid forms/specifications may be obtained from the City Clerk's office. All bids must be sealed and labeled: **PW SIDE ARM MOWER**

Bids will be awarded at the August 5th, 2024, Council Meeting. For further information contact Mike Shannon, Fleet Services Director at 618-242-6855.

The City Council reserves the right to reject any and/or all bids and to accept which is most advantageous to the City of Mt. Vernon.



SPECIFICATIONS

Each bid shall be accompanied by a set of "Specifications" consisting of a detailed description of the equipment.

PURCHASER'S OBLIGATIONS

The purchaser reserves the right to accept or reject any or all bids on such a basis as the purchaser deems to be in its best interest. All bidders shall be advised that the purchaser is not bound in any manner to automatically accept the lowest bid.

ACQUAINTANCE WITH SPECIFICATIONS

It is the responsibility of the bidder to review all the bidding requirements. The failure of a bidder to be acquainted with this information shall not relieve them of any obligations of the bid requirements.

BID FORMS / SPECIFICATIONS

All bid forms shall be submitted on the attached bid form. The bid form and / or these specifications shall be filled out by checking either the "YES" or "NO" column for each section / paragraph. Failure to use this form and / or these specifications shall be cause for immediate rejection of any bid.

EXCEPTION TO SPECIFICATIONS

The following specifications shall be strictly adhered to. Exceptions shall be allowed if they are equal to or superior to that specified (as judged by the purchaser), and provided they are listed and fully explained on a separate page entitled "EXCEPTIONS TO SPECIFICATIONS". Each check in the "NO" column shall be listed and fully explained. If a section contains an empty column, where the bidder neglected to check the proper "YES" or "NO" column, it is assumed the bidder is not conforming to the requirements of this bid. If no explanation is given in the "EXCEPTIONS TO SPECIFICATIONS" document the bid is subject to immediate rejection.

DELIVERY AND SETUP

Delivery and setup to the City of Mount Vernon will be included in the bid price.
Delivery date must be submitted on bid sheet.



SPECIAL NOTE

Due to recent issues with surcharges and upcharges, bidders should anticipate fluctuations in prices. The awarded bid shall be strictly adhered to, all pricing shall be final. Any extra charges or price fluctuations shall be the responsibility of the bidder and not of the purchaser. Any charges incurred after the award of the bid will only be paid by the purchaser if modifications or additions are made by the purchaser after the bid has been awarded.

BID SUMMERIZATION:

- (1) MFWD tractor with an articulated two-section boom mower. The mower head shall have a 60 inch cut.



SIDEARM BOOM MOWER SPECIFICATIONS

YES NO

BOOM SPECIFICATIONS

<p>It is the purpose of the following specifications to describe a self-propelled, hydraulically driven, boom type mower, which shall mow forward and right of the right rear tire, and extend by means of an articulated, two-section boom. The unit shall be of the manufacturer's current production model, meeting or exceeding the terms of these specifications. Unit(s) shall be the manufacturer's most heavy-duty model available. The manufacturer shall furnish parts and operation manuals for the unit(s) bid. The manufacturer shall also guarantee equipment against defects in workmanship and materials for a period of (1) year.</p>		
<p>Inner boom structural tube shall not have less than the following sectional properties: Torsional 74.9" 4 Bending (Horizontal) 60.1" 4 Bending (Vertical) 23.8" 4. Inner boom shall be constructed of 8"x6"x1/4" steel tube, and reinforced with not less than 3/8", T1 steel.</p>		
<p>Outer boom structural tube shall not have less than the following sectional properties: Torsional 25.0" 4 Bending (Horizontal) 22.1" 4 Bending (Vertical) 11.7" 4. The outer boom shall be constructed of 6"x4"x1/4" steel tube and reinforced with not less than 3/8", T1 steel.</p>		
<p>Boom swivel bracket shall be triple anchored with 1" thick T-1 steel. All (3) anchors shall have 360 degree grease groove, hardened spring steel replaceable split bushings. All (3) anchors shall each be equipped with a grease zerk.</p>		
<p>Boom shall have replaceable steel bracketed acetal lined bearing with grease pockets at all pivot points.</p>		
<p>Boom shall have hydraulically operated maneuvering cylinder for horizontal movement of cutting head (Optional swivel actuator with 90 degree movement forward and rearward and break away feature available.)</p>		
<p>Boom shall be capable of moving cutting head 26 degree forward and 97 degree rearward with limited relief protection (not applicable with swivel actuator option.)</p>		
<p>Boom swivel point shall be mounted high enough that boom arm shall be capable of passing over road side guard rail without interruption.</p>		
<p>Boom movement shall be controlled by the use of hydraulic cylinders.</p>		
<p>All boom pinned pivot points shall be grease-able.</p>		

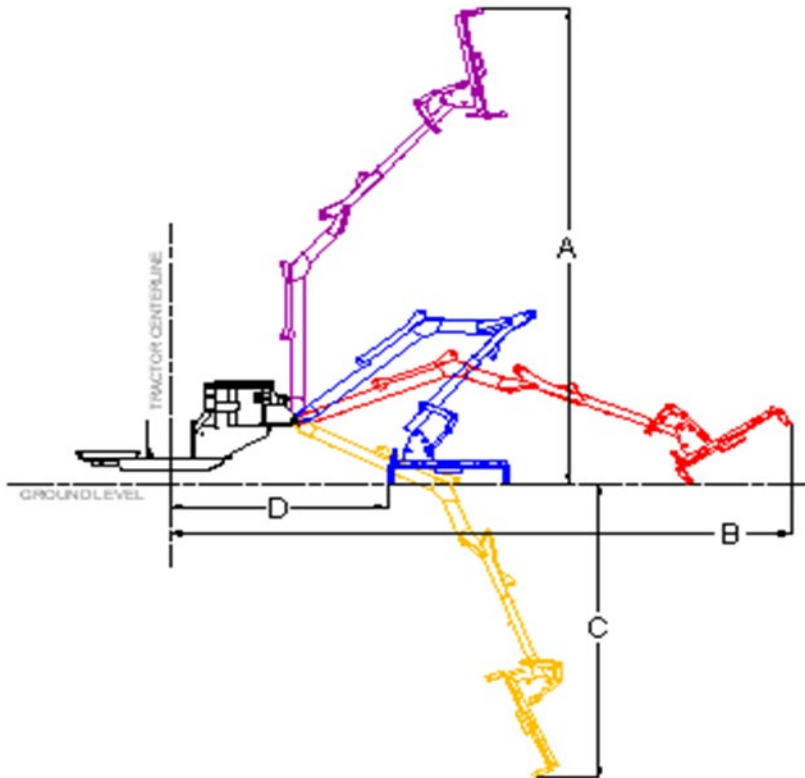


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SIDEARM BOOM MOWER SPECIFICATIONS

YES NO

<p>Boom shall be capable of resting in cradle mounted on right rear side of tractor for road travel.</p>		
<p>Boom shall be capable of being un-pinned and extended to the front of the tractor for transportation by truck. (Note: Tractor and boom arm shall be secured properly for transportation) (not applicable with swivel actuator option.)</p>		
<p>Boom dimensions are measured from ground level and the tractor's centerline, and is based on a 60" boom head. Boom reach-out (B) is 22' 3", boom reach-in (D) is 7' 4", boom height (A) is 19' 8", boom Depth (C) is 11'. Boom reach, height, and depth may vary depending upon tractor and/or tire configuration.</p>		





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SIDEARM BOOM MOWER SPECIFICATIONS

YES NO

HYDRAULIC CYLINDERS

Horizontal positioning cylinder shall be double acting, with an auto-cushioning end-stroke device (not applicable with swivel actuator option.)		
Inner lift cylinder shall be single acting, industrial type, welded, equipped with nitrogen accumulator, and auto-cushioning device.		
All cylinders are heavy duty industrial type, nitro steel rod welded.		
Hydraulic lift cylinders shall be mounted on the top side of boom arms.		
All hydraulic cylinder pinned pivot points shall be grease-able.		

HYDRAULIC SYSTEM

Lift control valves shall be (4) tapered spools of the metering type, equipped with (8) pilot pressure reliefs (Note: Optional (4) spool, non-proportional, single function, electronic joystick and manual override at operators position, or Optional (5) tapered spools, metering type, or electronic joystick with a 4/5-bank electro-hydraulic proportional, load sensing, and manual override at operators position.)		
Hydraulic oil reservoir shall have a minimum capacity of 65 gallons.		
Hydraulic oil reservoir shall be filled to a maximum of 52 gallons.		
Hydraulic oil reservoir shall have a minimum of one fill sight glass.		
Hydraulic oil reservoir system shall be used as the power source for rotary cutting head.		
Hydraulic oil reservoir shall have a filter with 10 micron element, 75 gpm rated.		
Hydraulic oil reservoir shall have a restriction gauge visible to the operator.		
Hydraulic oil suction shall be an unrestricted 1.5" ID (specifically excluded shall be the suction filter and screens.)		
Hydraulic oil pressure and return system hoses shall be 1" ID high pressure unrestricted. Hoses shall have a burst pressure 4x working pressure.		



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SIDEARM BOOM MOWER SPECIFICATIONS

YES NO

	YES	NO
Hydraulic oil pressure, return, and lift system steel hydraulic lines shall be mounted at the rear of the boom arms.		
Wire braid reinforced hydraulic lines shall be used at all flexible positions on the boom arm (hydraulic hoses/tubing shall not be allowed inside boom arms.)		
Pump drive shaft attached to tractor crankshaft shall have a rating of not less than 180 hp.		
Pump drive shaft powers hydraulic pump for power to hydraulic motor.		
Hydraulic pump and motor shall be gear type with cast steel housing and steel gears (specifically excluded shall be aluminum pumps, motors, and aluminum gears.)		
Hydraulic pump shall have a rating of 98 hp (input.)		
Hydraulic oil to the power center head shall not pass through a restriction causing valve while operating the cutting head.		
Main hydraulic control valve shall be non-restrictive, electric solenoid type, with starter lockout switch (Optional hydraulic brake available.)		
Hydraulic valve shall not cause restriction to generate drift while in the off position.		
Tractor's hydraulic system shall supply oil for the mower's lift system.		
Hydraulic quick coupler boom head kit - quick connectors on arm and boom head		

MAINFRAME SPECIFICATIONS

Mainframe of boom mower shall be solidly mounted, bolted, as well as mid and rear braced to tractor main mid-body to absorb side torque and impact of severe applications.		
The mainframe base plate shall be capable of having a swing cylinder attachment point with spherical bearing, and shall be constructed of not less than 1" thick, 100,000 psi steel (not applicable with swivel actuator option.)		
Crankshaft adapter and spacer shall be bolted securely to the front of the crankshaft pulley with capscrews and lockwashers for the pump drive shaft and spline coupling to be mounted.		



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SIDEARM BOOM MOWER SPECIFICATIONS

YES NO

Hydraulic pump mounting bracket shall be bolted securely to the front of the tractor with spacers, and shall be able to allow the hydraulic gear pump to be mounted and properly connected with spline coupling.		
Control box containing solenoid switches shall be for controlling hydraulic flow from the hydraulic pump to the hydraulic motor. It shall be mounted in a dry and well-protected area with wiring routed, and a 30 amp breaker in the cab area.		
Joystick control (optional) shall be securely mounted so as to not interfere with other operator controls.		
All wiring installed shall be properly routed and protected with plastic wire cover and rubber boots for protection.		
Additional hydraulic valving shall be installed on the exterior of the right rear cab area so valving shall be accessible of the operator.		
A Polycarbonate lexan window shall be installed to provide safety protection for the operator. It can be installed in place of, or over the glass, or attached to a frame on the right side of the cab windows.		
Weights shall be attached properly to tractor wheel (specifically excluded shall be frame mounted weight.)		
All proper safety stickers shall be attached to the boom mower.		

REAR CRADLE TRAVEL REST

The rear cradle (travel rest) shall be tractor mounted, specifically excluding 3-point hitch cradle mounts.		
The rear cradle (travel rest) will be constructed of 5"x5" tubing of 3/8" wall thickness.		

TRACTOR SPECIFICATIONS

Rated engine power - (81 kW) 110 hp Rated Power		
Rated PTO power (hp SAE) - (62 kW) 84 hp		



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SIDEARM BOOM MOWER SPECIFICATIONS

YES NO

	YES	NO
Rear hitch category (SAE designation) - 2/3N		
Emission level - Final Tier 4		
Hydraulic system type - Pressure compensated (PC)		
Hydraulic pump rated output - 21 gpm		
Maximum lift capacity behind lift points - 8267lb		
Rear axle differential lock - Electrohydraulic with oil-cooled clutch		
Rear axle type - flange type rear axle - 79-mm (3.1-in.) shaft (2.556-m/8.4-ft length)		
Final drive type - Three planetary gear reduction		
Brakes, type and control - Primary brake (footbrake): Oil-cooled self-equalizing, self-adjusting, hydraulically actuated. Secondary brake: Hydraulically actuated, integrated into primary brake (lever on left-hand side of operator seat). Park lock: Mechanical transmission park lock. Mechanical front-wheel drive (MFWD) braking: Automatic MFWD engagement (MFWD engaged for braking at speeds less than 5 km/h [3.1 mph])		
Front axle type - MFWD axle (hydro-pneumatic, permanently active, triple link, self-leveling suspension with 100-mm [3.9-in.] suspension range) Triple-Link Suspension MFWD with brakes		
Steering type - Dynamic load sensing, hydrostatic, flow metering		
Fuel tank capacity - 46.2 U.S. gal.		
Enclosed cab with heat and air conditioning		



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EXCEPTIONS TO SPECIFICATIONS PAGE



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Bid Sheet

Company Name: _____

Submitted By: _____

Date of Bid: _____

Bid Price: _____

Delivery Date: _____