State of Illinois

Department of Transportation

Bureau of Business Services

**Specifications & Questionnaire for an Agricultural Tractor W/Cab & Driving Front Axle**

**(94 PTO Horsepower)**

February 2019

This specification and questionnaire covers an agricultural tractor equipped with cab and driving front axle for use in Department of Transportation roadside maintenance and rights-of-way mowing operations. The Department of Transportation is specifying acceptable units by required features and accessories as outlined below.

Each bidder shall submit with their bid **two sets** of descriptive literature and specifications describing all the**equipment** and **options** proposed. This information shall be clearly marked to indicate the make, model, and accessories proposed to be furnished.

Bidders quoting on other-than-specified equipment must submit with their bid written proof of the following:

1. The manufacturer of the equipment proposed has been actively involved in the manufacture of the equipment called for in the questionnaire for a period of not less than 5 years.
2. Parts and service for the equipment proposed are readily available within the State of Illinois.

It is the responsibility of each bidder to complete and return this questionnaire with the bid.

**Unless otherwise specified, the proposed equipment shall be complete in all parts and ready for immediate use upon delivery.**

**Bidders are advised to carefully read these specifications as changes have been made since the last solicitation issue.**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Proposed With This Bid:** | | | | | | | |
| Make: |  | | | | | |
| Model: | |  | | | | |
| Manufactured by: | | | | | |  |
| Bidder: | | |  | | | |
|  | | | |
| Contact name: | | | | |  | |
| Telephone: | | | |  | | |
| Email: |  | | | | | |

**Note: If the equipment proposed exceeds the minimums called for in the specification please do not mark NO. Mark Yes and explain with a short comment on how it exceeds.**

**Tractor:**

The tractor shall be described as an agricultural tractor with all season cab and front wheel assist including the features and options as described below.

The tractor shall be powered by a 4-cylinder, turbo-charged, with air-to-air after cooling, diesel engine. The engine shall have a published rating of approximately 94 PTO horsepower at rated RPM. The gross horsepower rating of the engine shall be approximately 120 horsepower at rated RPM. The engine shall comply with all Tier 4 emission standards.

Complies: Yes  No

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| --- | --- | --- |
| Number of cylinders: |  | |
| Rated PTO Horsepower: | |  | |
| Gross Horsepower: |  | | |

Wet sleeved diesel engine: Yes  No

Component:

|  |  |
| --- | --- |
| Make: |  |
| Model: |  |

Diesel engine controls and instrumentation as follows:

* Key operated ignition w/water and weather-proof starter switch including neutral safety switch
* Throttle
* Tachometer
* Fuel gauge
* DEF gauge
* Hour meter – electric direct reading
* Engine coolant temperature gauge or warning light
* Air filter restriction gauge or warning light

Complies: Yes  No

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| --- | --- |
| If No Describe: |  |
|  | |

Coolant shall be “long-life” type anti-freeze requiring minimal maintenance.

Complies: Yes  No

An electric engine block heater shall be included.

Complies: Yes  No

The fuel tank capacity shall be approximately 50 gallons to provide for extended periods of operation.

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| --- | --- |
| Fuel tank capacity: |  |

The transmission shall provide the power to the front and rear wheels and be electronic/hydrostatic featuring 24 speeds forward and 24 speeds reverse AutoQuad Plus style transmission or IDOT approved equal. This transmission shall include a “De-Clutch Function” to provide the operator to shift electro-hydraulically on the fly. The transmission shall also feature a left hand, clutch-less reverser.

Complies: Yes  No

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| Describe: |  |
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Front wheel assist shall be manually engaged by the operator, including an engage on-the-go feature.

Complies: Yes  No

Operator controlled differential lock. This shall be foot controlled in the cab and can be engaged on-the go.

Complies: Yes  No

The brakes shall be multi-plate wet disc style.

Complies: Yes  No

The tractor shall have hydrostatic power assist steering.

Complies: Yes  No

The tractor shall be capable of prolonged operation at very low speeds.

Complies: Yes  No

A substantial front grille guard shall be provided along with a bracket for the later addition of “suitcase” style weights. Weights will be added later by others.

Complies: Yes  No

**Hydraulics:**

The hydraulic system of the tractor shall be the manufacturer’s standard including a minimum of three (3) section control valve for the operation of wing type mowers and rear mounted remote cylinder control. A minimum of two (2) valve sections must include float, detent position.

Complies: Yes  No

The three section control valve shall be located right side of the operator’s station within easy reach of the operator.

Complies: Yes  No

All tractors shall include two (2) mechanical mid-mount, mid-stack SCV’s to accommodate a front loader. The joy stick, switches cables etc. shall only be furnished if the optional loader is requested.

Complies: Yes  No

The tractor shall have sufficient flow and pressure to operate the tractor and loader whether the loader is called for or not.

Complies: Yes  No

**PTO & 3-Point Hitch**

The tractor shall include live, independent rear PTO rated at 540/1000 RPM with reversible shaft. The PTO shall be independent with electrohydraulic wet disc operator activated control while the tractor is in motion.

Complies: Yes  No

The 3-point hitch for this tractor shall be a category II with an approximate lift capacity of 7,400 pounds at 24” behind the lift hitch balls.

Complies: Yes  No

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| --- | --- |
| Describe: |  |
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Rigid anti-sway braces or control block shims designed to reduce hitch sway shall be furnished.

Complies: Yes  No

A swinging drawbar shall also be provided.

Complies: Yes  No

**Operator’s Cab:**

The tractor shall be equipped with a permanent weatherproof, 4-Post style cab. It shall be ROPS compliant with OSHA, SAE, and CSA standards for roll-over protection. The cab must be operator accessible from both sides.

Complies: Yes  No

The cab shall include the following operator options:

* AM/FM radio with clock and weatherband functional
* Air Conditioned w/ manufacturers standard controls
* Heater/defroster w/ manufacturers standard controls
* Air suspension seat with arm rests and adjustable back support
* Steering wheel shall include telescoping and tilt
* Grab handles
* Flat floor
* Dual exterior rear view mirrors
* Sun visor
* Horn
* Operator’s manual storage
* Dual, adjustable roof mounted work lights, front and rear
* Amber strobe or high visibility light shall be mounted on a fabricated bracket on the left rear corner of the cab roof. Mounting and bracket subject to IDOT approval.
* Operating rear window – approximate 70-degree opening
* Front and rear window wipers and washers with intermittent control
* Vandal protection package if available.

Complies: Yes  No

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| --- | --- |
| If No Describe: |  |
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The cab shall have two (2) doors and provide 360 degree visibility.

Complies: Yes  No

The tractor shall be furnished with front and rear fenders with extensions to minimize splashing.

Complies: Yes  No

The cab shall include a factory or aftermarket wide angle convex mirror approximately 16”x6” for rear wide angle vision.

Complies: Yes  No

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Component:   |  |  | | --- | --- | | Make: |  | | Model: |  | | |  | |
| If No Describe: |  | |
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A lockable toolbox shall be provided and secured to the tractor frame or other approved location. Factory or aftermarket is acceptable.

Complies: Yes  No

A slow moving vehicle emblem shall be mounted in a visible location at the rear of the tractor.

Complies: Yes  No

The tractor shall include vandal-proof security provisions for the cab, batteries, engine coolant, oil, hydraulic fluid and fuel supply if available.

Complies: Yes  No  Not available

**Tires:**

This tractor is to be used to perform mowing functions on the uneven terrain of State rights-of-way. The Department is concerned with maintaining a low, wide profile to provide stability for operation on slopes. The type and style of tread as well as front and rear wheel diameters will be discussed and agreed to with the prospective awarded bidder. Only manufacturer’s standard configurations and sizes to provide the desired profile will be chosen.

Front tires shall be as recommended by the manufacturer.

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| --- | --- | --- | --- | --- |
| Tire size: |  | | | |
| Tread Description: | | |  |
| Wheel size: | |  | |

Rear tires shall be as recommended by the manufacturer.

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| --- | --- | --- | --- |
| Tire size: |  | | |
| Tread Description: | | |  |
| Wheel size: | |  | |

**Tractor Testing:**

The tractor model configured as proposed with this bid must be tested, and a permit issued by the University of Nebraska at Lincoln Tractor Test Laboratory. Complete test results and permit number must accompany the bid proposal. If the model proposed is new and untested, a statement of expected compliance will be accepted from the manufacturer pending the performance of the test.

Complies: Yes  No

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| --- | --- |
| Permit No.: |  |

**Attachments:**

**Note:** **Attachments shall only be furnished if called for in BID.**

**Front Loader:**

The tractor shall be furnished with a front loader equipped with a heavy-duty bucket.

Complies: Yes  No

The loader shall include quick-attach features where possible to ease removal and reinstallation without the use of tools.

Complies: Yes  No

The loader bucket shall be 85” wide and punched for a bolt on cutting edge.

Complies: Yes  No

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| --- | --- | --- | --- | --- |
| Bucket width: |  | | |  |
| Struck capacity: | |  | |  |
| Heaped capacity: | | |  |  |

The bucket shall have a lift capacity at 59” at the pivot pin of 5,900 pounds.

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| --- | --- | --- | --- |
| Bucket lift capacity: |  | | Pounds |
| Bucket breakout force: | |  | Pounds |

The loader shall include a guard to protect the tractor from damage by material falling from the bucket and damaging the tractor.

Complies: Yes  No

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| Describe guard: |  |
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**Finish:**

All exterior surfaces normally painted or powder coated shall be manufacturer’s standard color.

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| --- | --- |
| Describe finish: |  |

**General:**

The vendor shall furnish the unit in first class operating condition with all lubrication completed and the unit ready for operation.

Complies: Yes  No

Two (2) copies of all operators’ manuals, parts lists, and warranty information shall be provided at time of delivery.

Complies: Yes  No

***Note:*** The manuals, parts lists, and service or shop manuals listed above may be furnished on DVD in lieu of paper.

One session of instruction and training by qualified factory and dealer personnel covering operation and maintenance of the unit shall be provided at each delivery location.

Complies: Yes  No

**Requirements Covering Items Detailed Above:**

All equipment cataloged as standard shall be furnished and in place and shall be included in the purchase price of the unit. Any parts, tools, and/or accessories not specifically called for but required for proper operation shall be provided.

Complies:  Yes  No  Not required

**Warranties, Coverage and Duration:**

Full coverage warranty on all components for a minimum 12 months shall be provided. Attach a copy of your warranty with the bid.

Complies: Yes  No

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| --- | --- |
| Describe warranty: |  |

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| --- | --- |
| List locations where service is readily available: |  |
|  | |

The vendor or manufacturer of the unit which is seriously considered for award shall, at the request of the state of Illinois, demonstrate this or similar equipment at a location chosen by the state and in the presence of authorized state personnel to prove out any features in question.

Complies: Yes  No

Does the unit proposed meet the above specifications? If **No** to any portion, explain:

Complies: Yes  No

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| --- | --- |
| If No explain: |  |
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**Bid Package:**

Bidders will need to send two copies of each of the following with their bid response.

1. Specification Questionnaire
2. Descriptive Literature