State of Illinois

Department of Transportation

Bureau of Business Services

**Specifications for** **a Self-Propelled, Vibrating Type Tandem Roller**

Operating Weight 5,300 Pounds

August 2018

This specification and questionnaire covers a self-propelled Vibrating Type Tandem Roller for use in Department of Transportation highway maintenance 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 equipment must submit with their bid written proof of the following:

* The manufacturer of the equipment proposed has been actively involved in the manufacture of the equipment called for in the Bid for a period of not less than 5 years.
* 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.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Proposed with this Bid:** | | | | | | | | | |
| Make: | |  | | | | | | |
| Model: | | |  | | | | | |
| Manufactured By: | | | | | |  | | | |
| Address: | | | |  | | | | | |
|  | | | |  | | | | | |
|  | | | |  | | | | | |
| Telephone: | | | |  | | | |
| Contact Name: | | | | |  | | | |
| Email: |  | | | | | |

**The unit shall include the following standard or optional accessories and equipment:**

**Vibration system:**

The unit shall be Tandem style dual drum roller with hydrostatic drive. The unit shall be capable of vibration type compaction. The vibration functions shall be manually or automatically switched separately allowing the operator to switch between front, rear, or run both drums. The vibration frequencies shall be displayed and adjustable from the operator’s station. This type of system is a key factor in the scope of work this unit will perform.

Complies:  Yes  No

Please describe system:

|  |  |  |  |
| --- | --- | --- | --- |
| Vibration: |  | | |
|  | | | |
|  | | | |
|  | | | |
|  | | | |
|  | | | |
| Vibration frequency, low/high vpm(Hz): | |  |
| Amplitude, high /low In.(mm): | |  |
| Centrifugal force, high/low lbs.(Kn): | |  |

**Weight and Dimensions:**

The unit shall have an operating weight of 5,300 to 5,600 lbs.

|  |  |  |
| --- | --- | --- |
| Operating weight: |  | lbs. |

Minimum overall width shall be approximately 43”.

|  |  |  |
| --- | --- | --- |
| Width: |  | Inches |

Minimum length shall be approximately 95”.

|  |  |  |
| --- | --- | --- |
| Length: |  | Inches |
| Wheelbase: |  | Inches |

**Drums:**

Front and rear drums shall be steel with machine finished, chamfered edges and include full width scrapers. The drum edges shall be lighted for night time operations.

Complies:  Yes  No

Front /Rear drums shall be a minimum of 27" in diameter and shall be 39" in width.

Complies:  Yes  No

|  |  |  |
| --- | --- | --- |
| Drum diameter |  | Inches |
| Front drum width |  | Inches |
| Rear drum width |  | Inches |

**Water Spray System:**

Water spray system with minimum tank capacity of 39 gallons.

|  |  |  |
| --- | --- | --- |
| Tank capacity: |  | Gallons |

The water system shall be non-corroding with operator controlled adjustment and shall include a filtration system that is field serviceable to reduce downtime of the machine. The unit shall be equipped with industry standard system to evenly disperse the sprayed water on the drums. The tank shall include a lockable filler cap and a drain plug.

Complies:  Yes  No

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

A water pump shall provide operator controlled pressurized water to fan spray nozzles.

Complies:  Yes  No

The nozzles shall be field serviceable by hand to help with cleaning or maintenance. Special tools shall not be needed to change the nozzles.

Complies:  Yes  No

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

Water flow control shall be provided and controlled from the operator’s control station. A water level gauge shall be provided.

Complies:  Yes  No

**Engine:**

The unit shall be provided with a current production liquid cooled diesel engine meeting the following:

1. Approximately 33 gross HP
2. Tier 4 emissions
3. Dry style air cleaner
4. Fuel filter water separator
5. 12-volt electrical system
6. Alternator/regulator
7. Maintenance free battery

Complies:  Yes  No

|  |  |
| --- | --- |
| If no, describe: |  |
|  | |

Component provided:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Make: |  | | | | | | |
| Model: |  | | | | | | | |
| Number of cylinders: | |  | | |
| Horsepower @ governed RPM: | | |  | | | | RPM |
| Rated H.P. (Gross) | |  | | H.P. | |

The unit shall have a minimum 10-gallon fuel tank capacity.

Complies:  Yes  No

**Drivetrain:**

The drivetrain shall be fully hydrostatic, with infinite variable control of both direction and speed.

Complies:  Yes  No

The drum drive motors shall be low speed high torque type with low and high speed capability. The drive system shall be able to transfer torque between front and rear drums when slippage occurs (traction control).

Complies:  Yes  No

The speed shall be infinitely variable with a travel speed of approximately 6 mph and approximate working speed of 3 to 4 mph.

Complies:  Yes  No

|  |  |  |
| --- | --- | --- |
| Travel Speed: |  | MPH |
| Working Speed: |  | MPH |

The unit shall be equipped with a hydraulic filtration system and test ports to simplify testing and diagnosis

Complies:  Yes  No

The unit shall be equipped with a parking brake and emergency stop switch located in the operator’s station.

Complies:  Yes  No

**Operator’s Station:**

The operator’s station shall have a safe, comfortable, and adjustable suspension type seat. The seat shall include a safety lap belt. The operator’s station shall allow the operator to face forward or to have full view of both drums.

Complies:  Yes  No

|  |  |
| --- | --- |
| Describe Seating arrangement: |  |
|  | |

The operator shall have unobstructed view of the drums and their edges.

Complies:  Yes  No

The propulsion lever, steering wheel, parking and secondary brake, and horn shall be within convenient reach of the operator position.

Complies:  Yes  No

The following gauges or indicators shall be provided in the operator’s station:

Hour meter

Voltmeter

Fuel level

Engine oil pressure

Engine coolant temperature

Engine air filter restriction

Hydraulic oil filter restriction

Water level

Fuel level

Complies:  Yes  No

|  |  |
| --- | --- |
| If no, describe: |  |
|  | |

A neutral start safety switch is mandatory.

Complies:  Yes  No

The operator’s platform area shall include a roll over protection system (ROPS) and sun canopy. The operator’s platform shall include safety railings, skid resistant surfaces and hand holds for entering and exiting the operator’s station.

Complies:  Yes  No

**Electrical:**

The unit shall be equipped with a main battery disconnect that will disable entire electrical system.

Complies:  Yes  No

Lighting: The unit shall be equipped with LED turn signals, flashers, and drum edge lighting. High intensity work/driving lights shall be included for night time paving operations. All lighting shall be controlled from the operator’s station.

Complies:  Yes  No

|  |  |
| --- | --- |
| If no, describe: |  |
|  | |

***Note:*** Incandescent lights may be used if LED’s are not available.

Back up alarm: The unit shall include a weatherproof back up alarm. Noise levels should not exceed OSHA standards in the operator’s station.

Complies:  Yes  No

**Steering:**

Control provided by an automotive style steering component.

Complies:  Yes  No

Steering shall be full hydrostatic power.

Complies:  Yes  No

|  |  |  |
| --- | --- | --- |
| Turning radius: |  | Feet/Inches |

The steering angle shall be +/- 30° and oscillation +/- 10°.

|  |  |  |
| --- | --- | --- |
| Steering angle: |  | º |
| Oscillation angle: |  | º |

Complies:  Yes  No

**Finish:**

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

Complies:  Yes  No

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

**Requirements Covering Items Detailed Above:**

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

Complies:  Yes  No

Two copies of the operator’s manual and service manual shall be included with the delivery of the machine.

Complies:  Yes  No

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

Standard tool kits shall be supplied.

Complies:  Yes  No  Not required

Manufacturer's standard warranty shall be provided. **Bidder shall attach a copy of warranty with bid*.*** Since the continuous operation of this equipment is of the utmost importance and sometimes of an emergency nature, it is necessary that the successful bidder be in a position to render prompt parts and service within the State of Illinois.

Complies:  Yes  No

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

Complies:  Yes  No

**Delivery:**

This machine is to be delivered in first-class operating condition with acceptance subject to Department of Transportation inspection and approval. The time and place of delivery will be decided by the District receiving the unit.

Complies:  Yes  No

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

|  |
| --- |
|  |
|  |
|  |

**Bid Package:**

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

1. Specification Questionnaire
2. Descriptive Literature