State of Illinois

Department of Transportation

Bureau of Business Services

**Specifications and Questionnaire for Crawler Loader W/Cab**

September 2018

This specification and questionnaire covers a track type loader with multi-purpose bucket design for use by the Department of Transportation for ditch work, slope maintenance, and placing rip-rap. To improve parts and service availability and increase tool life, the Department of Transportation is specifying units and accessories as outlined below.

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

* 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.
* 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: | | | |  | | |
| Vendor: | |  | | | | |
|  | |  | | | | |
|  | |  | | | | |
| Telephone: | |  | | | |
| Contact Name: | | |  | | |
| Email: |  | | | |

The makes and models of the machines listed below are solely for the purpose of providing bidders a minimum level of quality and size of machine requested. These makes and models have provided an acceptable level of service and performance to the State of Illinois Department of Transportation. All Machines quoted will be evaluated by compliance with the following specifications. Since the work performed and expected of these machines can be of an extreme emergency nature, the potential availability of parts and service will be equally important and considered in determining equality.

The makes and models are as follows:

Cat 953K

John Deere 655K

**Track Loader:**

The track loader shall be furnished as a heavy-duty, machine with all attachments called for in this specification to be controlled by the operator from the cab. The attachments shall be “Industry standard” capable of functioning with tractor specified.

Complies:  Yes  No

The loader bucket furnished must be heavy duty, multi-purpose, or “clam shell” style hinged bucket providing a minimum capacity of 2 cu. yds. The bucket shall have bolt on replaceable teeth and cutting-edge segments. The clam shell bucket and all functions shall be hydraulically powered and controlled by the operator with controls in the cab.

Complies:  Yes  No

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| --- | --- | --- | --- | --- |
| Bucket type: |  | | |  |
| Bucket capacity: | |  | Cu. Yd. | |

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

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Track on ground shall be 91" minimum.

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| --- | --- | --- |
| Track on ground: |  | Inches |

Complies:  Yes  No

The loader shall have a published rated ground pressure (with standard bucket) no greater than 11 lb./sq. in.

Complies:  Yes  No

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| Published ground pressure: |  | Lb./Sq. In. |

The loader shall have industry standard track width of 19” Minimum.

Complies:  Yes  No

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| Track shoe width: |  | Inches |

The loader shall have a solid mounted carriage and a minimum of 6 lower support rollers.

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| --- | --- |
| Number of rollers: |  |

Complies:  Yes  No

The machine shall include sealed lubricated track rollers and the track shall include a hydraulic adjustment feature shall be protected by an enclosure.

Complies:  Yes  No

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| Describe: |  |

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The tracks shall include closed, dual steel bar type grousers with approximately 37 shoes per side.

Complies:  Yes  No

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| Number of shoes per side: |  |

Ground clearance shall be approximately 16”.

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| --- | --- | --- |
| Ground clearance: |  | Inches |

Complies:  Yes  No

**Loader:**

The loader shall feature one lever or joy stick control for all bucket functions.

Complies:  Yes  No

The machine shall include both a return to dig feature and a bucket level indicator.

Complies:  Yes  No

The machine shall be equipped with an electrically controlled float device.

Complies:  Yes  No

The loader shall be furnished with a multi-purpose bucket, it shall have a breakout force of approximately 30,000 lb./ft.

Complies:  Yes  No

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| Breakout force: |  | Lb./Ft. |

The bucket shall have an extended pin height of no less than 142 inches, with a reach at full height dump of approximately 36”

Complies:  Yes  No

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| --- | --- | --- | --- |
| Extended pin height: | |  | Inches |
| Reach at dump: |  | | Inches |

**Engine:**

The unit shall be provided with a current production, liquid cooled, turbo-charged, air-to-air after-cooled diesel engine, and a net horsepower measured by SAE 1349 standards at a minimum of 150-h.p. The engine shall include emission controls equal to the standards for diesel engines in this application at the time of manufacture.

Complies:  Yes  No

Component provided:

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Make: |  | | | | | | | | | |
| Model: |  | | | | | | | | | |
| Number of cylinders: | |  | | | |
| Horsepower Gross: | | |  | | | | H.P. | | |
| Rated Net H.P. (SAE J1349 Standards): | | | | |  | | | H.P. | | | |
| Emission control level: | | | |  | | | | |  | | |

Diesel engine controls, features, instruments or LCD screen monitors for the following:

* Tachometer
* Fuel gauge.
* DEF gauge (if equipped).
* Engine-coolant temperature gauge or warning light.
* Engine oil pressure gauge or warning light.
* Hand or foot-controlled throttle
* Air filter restriction gauge or warning light.
* Back-up alarm
* Hydraulic oil temperature
* Hour meter
* Engine/hydraulic system shutdown
* Cold weather starting aid
* Coolant heater

Complies:  Yes  No

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| If no, describe: | |  | |
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Audible alarms or warning lights shall be included for the following:

* Engine coolant temperature
* Transmission charge temperature
* Engine oil pressure
* Hydraulic oil temperature
* Seat belt reminder
* Engine air filter restriction

Complies:  Yes  No

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| If no, describe: |  |
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**Operator’s Cab:**

The cab shall be manufacturer’s deluxe fully enclosed cab with sound suppression and lockable door(s). The cab shall be constructed to incorporate an OSHA approved and SAE rated ROPS/FOPS protection structure.

Complies: Yes  No

The cab shall be fully enclosed with lockable doors and removable front window.

Complies: Yes  No

Operator controlled wiper/washer system shall be provided for the front window.

Complies: Yes  No

The side windows shall open and may be removable.

Complies: Yes  No

The operator’s seat shall be fully adjustable suspension type either air or mechanical, and provide adjustment for leg room, height, reach, weight and lumbar support. Seatbelt with warning indicator shall be included.

Complies: Yes  No

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| Suspension type: |  |  |

The cab shall include manufacturer’s standard circulated Air conditioning/heater/defroster and controls.

Complies: Yes  No

The operator’s cab shall include vibration dampeners and Manufacturer’s standard sound suppression treatment.

Complies: Yes  No

The track loader shall be provided with a rear-view camera and display for the operator to see what is to the rear of the machine.

Complies:  Yes  No

The cab shall include a full protection package including:

* Front sweeps
* Rear A/C guard
* Rear cab window screen protector

Complies:  Yes  No

The operator’s station shall feature the following:

1. Locking security covers for the gauges and dash features
2. Horn
3. Radio AM/FM/AUX/USB/Bluetooth
4. Power point
5. Slope indicator
6. Seat belt
7. Operator controls adjustable front to rear
8. Parking brake control
9. Gauges or LCD display for engine data
10. Slow moving vehicle emblem
11. Backup alarm
12. Storage compartment
13. Cup holder

Complies:  Yes  No

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| Describe: |  |
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The machine shall be furnished with a grade control slope assist feature, when engaged shall provide the operator the ability of maintaining pre-established blade angles for the grade. The system shall store the input and return to the settings at the operator’s command.

Complies:  Yes  No

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| Describe: |  |
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***Note:*** This is not GPS or 2D or 3D controls.

The operator controls shall be in the form of joy-sticks for direction, steering, gear selection, and blade control. The control functions for travel and braking shall be controlled by pedals on the floor.

Complies:  Yes  No

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| Describe: |  |
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A variable throttle control shall allow the operator to utilize pre-set engine speeds or select auto-shift modes.

Complies:  Yes  No

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| Describe: |  |
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**Fuel:**

Minimum fuel capacity 73 gallons.

Complies:  Yes  No

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| --- | --- | --- |
| Fuel capacity: |  | Gallons |

Fuel tank or cap clearly labeled "Diesel Fuel Only" and be locking or securable.

Complies:  Yes  No

**Electrical System:**

The loader shall be equipped with a 24-volt electrical system. The battery, starter, and alternator shall be rated for the engine supplied and able to handle any additional electrical accessories. The system must include two (2) 20 amp, 12-volt circuit taps to accommodate IDOT communications and electronics.

Complies:  Yes  No

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| --- | --- | --- | --- | --- |
| Battery CCA: |  | | CCW | |
| Alternator amperage: | |  | | Amps. | |

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| If No, describe: |  |
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**Drive System:**

The transmission shall be variable tandem hydrostatic piston pumps with two (2) fully reversing hydrostatic motors. Travel speeds shall be controlled by an auto-shift feature for high/low utilizing an auto or power shift feature. These functions shall include both forward and reverse directions.

Complies:  Yes  No

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| If no, describe: |  |
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Variable speed hydrostatic forward or reverse. Steering, braking, forward and reverse movement controlled by the operation of two joy stick type controls.

Complies:  Yes  No

Top ground speed shall be a minimum of 5.8 mph per hour.

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| Top ground speed: |  | MPH |

Complies:  Yes  No

**Hydraulics:**

Dozer hydraulics shall include pump, hydraulic cooler, filtration, variable flow and maximum flow auxiliary hydraulics, with necessary valves and controls to run accessory attachments. The dozer hydraulics shall be rated to operate the optional accessories purchased with the unit.

Complies:  Yes  No

**Lighting:**

The unit shall be equipped with front and rear high intensity lighting for night time operations.

Complies:  Yes  No

The unit shall be equipped with an Amber LED warning strobe system.

Complies:  Yes  No

**Required Attachments:**

**Winch:**

A hydraulic powered winch shall be mounted on the rear of the machine and controlled by the operator from the cab.

Complies:  Yes  No

The winch shall have a fairlead and four (4) rollers, and a bare drum line pull rating of 69,000 pounds.

Complies:  Yes  No

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| Bare drum rating: |  | Pounds |

The winch shall be rated for .875-inch diameter wire rope and the winch shall include 250 feet of wire rope with slip hook at the end of the cable rated to the capacity of the winch.

Complies:  Yes  No

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| Wire rope diameter: | |  | Inch | |
| Wire rope length: |  | | | Feet |

**Finish**:

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

Complies:  Yes  No

**Warranty:**

Manufacturers’ standard warranty shall be provided. **Bidder shall attach copy of warranty with bid.** All warranty service will be performed at the manufacturer’s dealer representative location. If the nearest dealer is beyond a 50-mile radius of the delivery location, transportation for warranty service will be the responsibility of the seller for travel in both directions.

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| Describe warranty: |  |
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**Delivery:**

This machine is to be delivered in first-class operating condition with acceptance subject to Department of Transportation approval.

Complies: Yes  No

The unit shall be delivered oiled, greased, serviced and ready for operation.

Complies: Yes  No

**Manuals and Books:**

Three (3) copies of all operators’ manuals, parts lists, and warranty information shall be provided at time of delivery to each district receiving one or more units.

Complies: Yes  No

One (1) set of “Service or Shop” Manuals shall be provided to each delivery location.

Complies: Yes  No

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

Instruction must be performed by **qualified** factory or dealer personnel covering the operation, routine service, and maintenance of the machine upon delivery. The training shall be for all personnel in the assigned headquarters location of the machine. More than a single day may be required to satisfy this requirement.

Complies: Yes  No

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| Describe Training: |  |
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***Note:*** *This is not a sales call*. Training not meeting IDOT expectations will be cause to generate a “Complaint-to-Vendor” that would affect award recommendations for future quotations.

**Repair Parts and Service:**

Since continuous operation of this loader is of the utmost importance and many times of an emergency nature, it is necessary that the successful bidder be in a position to render prompt parts and service. Review of the bidder’s ability to provide prompt parts and service within the State of Illinois or a particular delivery location will be considered in determining award.

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| List locations where parts and service is readily available: |  |
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**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

The component parts of the unit shall be of proper size and design to safely withstand maximum stresses imposed by a capacity load, and the manufacturer's rated loads for all component parts shall **not** be exceeded when the unit is so loaded.

Complies: Yes  No

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| If No to any portion, please explain: |  |
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**Bid Package:**

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

1. Bid Document
2. Specification Questionnaire
3. Descriptive Literature

Complies:  Yes  No