



Ogle County Highway Department

Jeremy A. Ciesiel, P.E., County Engineer
 1989 South IL Route 2
 Oregon, IL 61061

SPECIFICATIONS FOR THE PURCHASE OF ONE (1) MOTOR GRADER

General Specifications

The six wheel drive motor grader bid shall be a currently advertised and produced articulated model with all the latest changes and features offered as standard whether called for in these specifications or not, except where specifications below call for a substitute feature or item in lieu of a manufacturer's standard. The following requirements, or substantially similar equivalents, shall be met:

- A. All Motor Graders shall meet OSHA requirements and specifications on the date of the bid opening and on the date of delivery.
- B. Delivery shall be F.O.B. Ogle County Highway Department in Oregon, IL.
- C. The license and title transfers shall be completed by the successful bidder.
- D. Upon delivery, the successful bidder shall include operator's manual, parts book, service manual (paper or electronic in PDF format).

PLEASE INDICATE IN THE FOLLOWING TABLE IF THE MACHINE OFFERED MEETS THE FOLLOWING MINIMUM DESIRED CONFIGURATIONS. ANY "NO" SELECTIONS MUST BE CLARIFIED ON A SEPARATE SHEET IF THE BIDDER DESIRES SUPPORT FOR AN ALTERNATE OR SUBSTANTIALLY SIMILAR SPECIFICATION.

KEY MINIMUM SPECIFICATIONS FOR MOTOR GRADER

Item	Compliance		Overall Machine
OM1	yes ___	no ___	Made and assembled in the U.S.A.
OM2	yes ___	no ___	Steering wheel included as standard equipment
OM3	yes ___	no ___	Machine designed and built by the manufacturer.
OM4	yes ___	no ___	Transmission designed and built by the machine manufacturer.
OM5	yes ___	no ___	Base Machine Weight shall not be less than 44,500 lbs. Weight shall include: standard machine configuration, front lift group, rear attachment, lubricants, coolants, and full fuel tank

Item	Compliance		Engine
E1	yes ___	no ___	Engine meets EPA Final Tier 4 emissions
E2	yes ___	no ___	The engine shall have dual safety air cleaner elements, dry type, inner and outer
E3	yes ___	no ___	Engine shall have a wet-sleeve cylinder liner design for improved cylinder cooling over dry sleeve and cast-in-bore design and for improved cylinder and piston ring durability.

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E4	yes ___	no ___	Engine shall be a turbo-charged, direct injection, four stroke, 6-cylinder diesel engine with 4 valves per cylinder designed and built by the manufacturer.
E5	yes ___	no ___	Engine displacement for standard engine shall be no less than 9.0 liters (540 cu. in.)
E6	yes ___	no ___	Engine shall reach no less than the following SAE net horsepower in the gears 1-8: 1st 210hp, 2nd 225hp, 3rd 240hp, 4th 250hp, 5th 255hp, 6th 265hp, 7th 275hp, 8th 265hp.
E7	yes ___	no ___	Ether starting aid must automatically meter ether injection to prevent engine damage.
E8	yes ___	no ___	Electronic Throttle Control (cruise control) shall be available, and shall be controlled by a switch, for resuming and decreasing throttle set.
E9	yes ___	no ___	Unit shall be equipped with severe duty Fuel and Water separators with factory heated fuel filter base
E10	yes ___	no ___	Engine will offer on-the-fly exhaust filter cleaning
E11	yes ___	no ___	Engine will offer automatic de-rating
E12	yes ___	no ___	Engine block heater shall be standard
E13	yes ___	no ___	An engine pre-cleaner is standard

Item	Compliance		Cooling
C1	yes ___	no ___	The engine shall have an air-to-air after cooling for low engine speed lugging
C2	yes ___	no ___	Engine fan shall automatically adjust fan speed via a variable displacement hydraulic fan pump to meet engine cooling requirements
C3	yes ___	no ___	Engine fan shall be able to automatically reverse and allow the operator to choose the time interval for the reversal to occur through the vehicle monitor.
C4	yes ___	no ___	Cooling system shall be isolated from the engine compartment
C5	yes ___	no ___	Pivoting coolers provide access for quick cleanout of dust and debris
C6	yes ___	no ___	A rear access fan door shall be provided to provide quick air cleanout of dust and debris for the engine radiator, charge air cooler, transmission cooler, axle cooler, hydraulic oil cooler and fuel cooler
C7	yes ___	no ___	Access to engine will be open from both sides with hinged engine side shields and full access service doors shall be lockable without the use of external locks.

	Compliance		Power Train
PT1	yes ___	no ___	Auto-shift Transmission
PT2	yes ___	no ___	Machine shall have no drive shafts that cross over the articulation joint.
PT3	yes ___	no ___	The transmission shall have eight forward and eight reverse speeds with built-in diagnostics
PT4	yes ___	no ___	Machine shall be equipped with an electronic inching pedal for improved modulation and machine control.
PT5	yes ___	no ___	Transmission shall include a park start safety switch
PT6	yes ___	no ___	Transmission shall be event based shifting (EBS) or use load sensing electronic shift modulation with over speed protection
PT7	yes ___	no ___	Transmission shall have clutch overheating protection to prevent clutch failures due to excessive and overuse of the inching pedal.

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PT8	yes ___	no ___	Transmission shall be equipped with built-in self-diagnostic capability.
PT9	yes ___	no ___	Transmission shall be a direct drive, power shift, countershaft type.
PT10	yes ___	no ___	6WD: Automatic dual-path hydrostatic drive with separate left and right systems
PT11	yes ___	no ___	6WD: Operator-selectable 15-position rotary aggressiveness control
PT12	yes ___	no ___	6WD: Inching capability down to 0 mph
PT13	yes ___	no ___	6WD: Precision mode that pulls the grader with front wheel drive only and allows for seemelss shifting to 6wd on-the-fly without stopping the machine.
PT14	yes ___	no ___	6WD: Effective Gears 1 - 7 forward and reverse

Item	Compliance		Axles/Brakes/Tandems
A1	yes ___	no ___	The brakes shall be internal self-adjusting maintenance free, wet multi-disk, inboard of tandem pivot
A2	yes ___	no ___	Parking brake shall be multi-disc, oil-cooled, spring-applied, hydraulically released, sealed, adjustment-free, and integrated into the transmission.
A3	yes ___	no ___	The brakes shall be continuously pressurized, filtered, and cooled
A4	yes ___	no ___	The unit shall have primary and secondary service brakes
A5	yes ___	no ___	Service brakes shall be multi-disc, oil-cooled and completely sealed.
A6	yes ___	no ___	Entire braking system shall meet all requirements of ISO 3450.
A7	yes ___	no ___	Differential Lock/Unlock shall be electro-hydraulically controlled installed from factory
A8	yes ___	no ___	Differential Lock/Unlock shall be capable of being engaged or disengaged at any time during vehicle operation without incurring damage to the differential and differential lock system. Engagement shall not be restricted or determined by vehicle speed, vehicle shifts, or tandem tractive conditions (tandems slipping).
A9	yes ___	no ___	Unit shall be equipped with system capable of automatically engaging and disengaging differential lock to optimize tractive capability, while at the same time providing the operator with the ability to manually engage differential lock during any vehicle operation
A10	yes ___	no ___	Parking brake shall be serviceable without removing the transmission.
A11	yes ___	no ___	Engaged parking brake shall neutralize the transmission.
A12	yes ___	no ___	The axles shall be planetary single reduction final drive
A13	yes ___	no ___	The rear axle shall have clutch style hydraulic differential lock that can be engaged on the go to achieve maximum traction instantly when required
A14	yes ___	no ___	Tandems shall be capable of oscillating 15 degrees front tandem up and 15 degrees front tandem down, with full machine articulation and having no interference between tandem wheel and machine structure.
A15	yes ___	no ___	Maximum front wheel lean shall be no less than 20 degrees left or right.

Item	Compliance		Hydraulic System
HS1	yes ___	no ___	Motor grader shall have auxiliary control valves and control levers integrated into the main control rack and valve stack, to run all functions required in this bid
HS2	yes ___	no ___	Left and right blade lifts shall have hydraulic float control.
HS3	yes ___	no ___	Hydraulics system shall be a closed center, pressure compensated, load sensing type, with a variable displacement, axial piston-type pump.

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HS4	yes ___	no ___	The maximum hydraulic system pressure shall be no less than 2,700 psi and the hydraulic system shall have a 56.0 gpm main hydraulic axial piston pump.
HS5	yes ___	no ___	Grader will be equipped with cold weather Control Valve Covers
HS6	yes ___	no ___	Steering capabilities shall be ISO 5010

Item	Compliance		Electrical System
ES1	yes ___	no ___	The electrical system shall be 24 volt with 200 amp alternator minimum
ES2	yes ___	no ___	Machine shall have 1400 CCA extra heavy-duty batteries with 440 minute reserve capacity
ES3	yes ___	no ___	The cab shall have a 10 amp continuous / 15 amp peak capacity (24V to 12 V) converter
ES4	yes ___	no ___	A 24V to 12V converter with 25-amp continuous, 30-amp peak capacity shall be available.
ES5	yes ___	no ___	LED turn signal, marker and brake lights shall be provided.
ES6	yes ___	no ___	Premium LED (high intensity) light grading package. Includes (in addition to those listed above) 14 additional work lights all LED (2 – bottom cab, 2 – mid-frame, 2 – reversing lights on rear grill), 4 – corner cab, 2 front cab and 2 – right side cab roof)
ES7	yes ___	no ___	Unit shall have indicator or warning for: high beams, seat belt, turn signals, cruise control, low alternator voltage, engine air filter restriction, engine oil pressure, engine coolant temperature, wait to start, hydraulic filter restriction
ES8	yes ___	no ___	Machine shall have back-up lights and sounding alarm as standard when reverse gears are selected.
ES9	yes ___	no ___	Unit shall be equipped with a single LCD monitor displaying gauges for: DPF cleanliness level, engine coolant temperature, transmission oil temperature, hydraulic oil temperature, rear steer articulation angle and fuel level with low level visual warning. The LCD monitor should also be capable of displaying vehicle performance data, diagnostic information, and diagnostic trouble codes.
ES10	yes ___	no ___	Cab will be wired for beacon, radio and auxiliary circuit
ES11	yes ___	no ___	The unit shall have a LH engine compartment light as standard equipment

Item	Compliance		Operator Station (G)
OS1	yes ___	no ___	Left and right side cab doors are standard
OS2	yes ___	no ___	Machine shall provide dual exits allowing for emergency egress should one side become obstructed
OS3	yes ___	no ___	Three rearview mirrors shall be provided, one interior and two breakaway heated exterior mounted mirrors
OS4	yes ___	no ___	AM/FM/WB Radio/XM Satellite Radio and Bluetooth, two speakers, antenna and wiring shall be available.
OS5	yes ___	no ___	A front window sun visor and a rear sun shade shall be available.
OS6	yes ___	no ___	The motor grader shall be equipped with low ROPS/FOPS enclosed air conditioned cab, isolation frame mounted for noise and vibration reduction
OS7	yes ___	no ___	Lower front and Side opening windows
OS8	yes ___	no ___	Seat shall be a cloth-covered air suspension seat with, 3-inch seat belts

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OS9	yes___	no___	Left and right side tandem case assemblies shall be covered with adequate platform for standing and walking.
OS10	yes___	no___	The front glass shall be continuous and unobstructed glass from roofline to floor for visibility of the blade, heel and toe, back of the cutting edge and front tires. If choosing lower opening windows, the configuration changes slightly.
OS11	yes___	no___	Lower front intermittent wipers
OS12	yes___	no___	The unit will come standard with front window defrost
OS13	yes___	no___	The unit will come with a rear window electric defroster
OS14	yes___	no___	Decelerator pedal shall be available
OS15	yes___	no___	The upper front and rear windshield washers with intermittent wipers shall be standard

Item	Compliance		General Specifications
GS1	yes___	no___	Hydraulic disconnect (soft start) and transmission valve solenoid guards shall be standard equipment
GS2	yes___	no___	Ground level fueling and filling for diesel and diesel exhaust fluid shall be standard equipment
GS3	yes___	no___	Unit shall be equipped with full front fenders
GS4	yes___	no___	The frame shall be ready for snow wing attachment

Item	Compliance		Frames and Structures
FS1	yes___	no___	The angle of articulation shall be no less than 22 degrees.
FS2	yes___	no___	The articulation joint shall have mechanical locking device to prevent frame articulation while servicing or transporting machine.
FS3	yes___	no___	Unit will be provided with seven-position pin-locking saddle

Item	Compliance		Circle and Mold Board
MB1	yes___	no___	Circle teeth contact surfaces shall be induction-hardened on the front 120 degrees of the circle.
MB2	yes___	no___	There will be no less than 6 replaceable wear inserts between the circle and drawbar
MB3	yes___	no___	The unit shall have a circle drive slip clutch to protect the drive pinion from shock loads
MB4	yes___	no___	The standard moldboard shall be at least 12 ft long, 24 in high and no less than 7/8 in thick with 5/8 in hardware
MB5	yes___	no___	The mold board will have quick change circle wear and side shift wear inserts
MB6	yes___	no___	Moldboard shall have a bank slope angle capability of at least 90 degrees to both sides.
MB7	yes___	no___	Slide rails shall be hardened, continuously welded, and have replaceable bronze-alloy wear inserts top and bottom.
MB8	yes___	no___	Moldboard shall have reversible Overlay end bits
MB9	yes___	no___	Moldboard slide rails shall be constructed of a heat-treated, high carbon steel.
MB10	yes___	no___	Circle radial wear insert shall be replaced without removing the circle support castings for quick easy maintenance.

Ogle County - 2019 Motor Grader with Trade

Item	Compliance		Serviceability
S1	yes ___	no ___	Daily check points shall be accessible from the left side of the engine behind one service door and shall be done from ground level
S2	yes ___	no ___	Access to engine will be open from both sides with hinged engine side shields and full access service doors
S3	yes ___	no ___	Engine enclosure and daily service points shall be accessible from ground level, and grouped on the left side of the machine.
S4	yes ___	no ___	Engine shall have environmentally friendly fuel drain valves
S5	yes ___	no ___	Fuel tank capacity shall not be less than 100 Gallons.
S6	yes ___	no ___	Engine shall have primary fuel filter with fuel water separator and electronic sensor; quick release dual stage filter and primer pump
S7	yes ___	no ___	Hydraulic, transmission, and differential filters shall be banked and easily assessable through the engine compartment doors.
S8	yes ___	no ___	Hydraulic oil filter shall have a service interval of no less than 2000 hours
S9	yes ___	no ___	Hydraulic oil change service interval shall be no less than 4000 hours
S10	yes ___	no ___	Transmission oil change service interval shall be no less than 2000 hours
S11	yes ___	no ___	Transmission oil filter service replacement interval shall be 2000 hours
S12	yes ___	no ___	Tandem oil shall have a service interval of no less than 4000 hours
S13	yes ___	no ___	Transmission, hydraulic, fuel and axle filter restriction indicator shall be displayed in the cab
S14	yes ___	no ___	The centralized lube bank shall be at the articulation joint to give access to difficult to reach zerks
S15	yes ___	no ___	Sampling ports shall be accessible from the tandem level and provide access to the engine, hydraulic, coolant, and fuel ports.
S16	yes ___	no ___	A two-way communication tool shall give service technicians easy access to stored diagnostic data and allow configuration of machine parameters.
S17	yes ___	no ___	Unit shall be equipped with OEM provided wireless communication system capable of monitoring and communicating machine location, fuel burn, as well as multiple other vehicle performance data. In addition, the system shall be capable of updating system control software wirelessly.
S18	yes ___	no ___	OEM wireless communication system will be available with machine purchase a minimum of 5 years
S19	yes ___	no ___	Diesel particulate filter (DPF) ash service interval as needed (can go up to 15,000 hours between diesel particulate filter ash removal)

Item	Compliance		Tires / Rims
T1	yes ___	no ___	14R24 G2/L2 Single Star Radial Snow Tires with 3 Piece Rims. Bridgestone Snow Wedge or Michelin Sno Plus Radials

Item	Compliance		Safety Equipment
SE1	yes ___	no ___	Machine shall provide 3 points of contact on all areas of the machine, for mounting and dismounting.
SE2	yes ___	no ___	Standard grey glare-reducing paint shall be used on the front frame and engine enclosure to decrease glare from other equipment lights and reflection from the sun and snow.
SE3	yes ___	no ___	The unit shall have a factory installed rear view camera

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SE4	yes <input type="checkbox"/>	no <input type="checkbox"/>	High resolution rearview camera with dedicated display shall be available.
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Item	Compliance		Optional Equipment
OE1	yes <input type="checkbox"/>	no <input type="checkbox"/>	Unit shall be equipped with a Tall Front Snow Plow Light Bar
OE2	yes <input type="checkbox"/>	no <input type="checkbox"/>	Unit shall be installed with a RH and LH fold down beacon brackets
OE3	yes <input type="checkbox"/>	no <input type="checkbox"/>	Unit shall be installed with a RH and LH Beacons mounted on Beacon Brackets
OE4	yes <input type="checkbox"/>	no <input type="checkbox"/>	5.0lbs multipurpose fire (ABC) Dry Chemical Fire Extinguisher shall be mounted in Cab
OE5	yes <input type="checkbox"/>	no <input type="checkbox"/>	SMV Sign shall be installed on unit
OE6	yes <input type="checkbox"/>	no <input type="checkbox"/>	Factory Front Scarifier to match existing customers attachments for interchangeable compatibility
OE7	yes <input type="checkbox"/>	no <input type="checkbox"/>	A front scarifier shall have a minimum of 9 shank pockets
OE8	yes <input type="checkbox"/>	no <input type="checkbox"/>	Set of Pioneer Couplers and Shut Off Valves in front for attachment disconnect
OE9	yes <input type="checkbox"/>	no <input type="checkbox"/>	Front fenders will move with the front wheels and will be easily removable
OE10	yes <input type="checkbox"/>	no <input type="checkbox"/>	A rear hitch shall be factory installed
OE11	yes <input type="checkbox"/>	no <input type="checkbox"/>	Optional One Hand Blade lift on RH side of antler rake
OE12	yes <input type="checkbox"/>	no <input type="checkbox"/>	Factory Installed Slope Meter

Item	Compliance		Optional SNOW REMOVAL Equipment required
SR1	yes <input type="checkbox"/>	no <input type="checkbox"/>	12' Henke Snow Wing with Elevated Rear Frame Model AHW12 or equivalent with Pioneer couplers and shot off Valves for future removal. Cutting Edge is 3/4" x 8" Installed
SR2	yes <input type="checkbox"/>	no <input type="checkbox"/>	12' Henke Alaska Expressway Reversible Snow Plow. RH Discharge. Center Height 40" and discharge end height 58". 1"x6" Runners, Rod Markers, and 12' Rubber Shield. Must mate up to front scarifier socket (Coupler Adapter Assembly). Installed.

ADDENDUM TO SPECIFICATION PAGES

LIST BELOW EXPLANATIONS FOR ANY “NO” ANSWERS IN THE SPECIFICATION LISTING. PLEASE REFERENCE THE ITEM NUMBER WITH THE EXPLANATION OF WHAT IS BEING OFFERED THAT DIFFERS FROM THE SPECIFICATION LISTED. INFORMATION PROVIDED WILL BE USED TO DETERMINE IF THE ALTERNATE IS SUITABLE.

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Warranty

Machine bid must include a 12-month, full standard manufacturer's warranty in the base price. In addition, an extended full machine warranty, including parts and labor required for repairs, is requested that covers a period of five (5) years or three thousand (3,000) hours of operation (whichever comes first) from the date of delivery. A separate cost for the extended warranty shall be listed on the quote sheet.

Trade-in

A 1993 John Deere Model 770BH with snowplow and snowplow wing. Trade-in may be inspected at the Ogle County Highway Department by appointment only.

Bid Due Date

All bids must be sealed and received by the Ogle County Highway Department office by 2:00 PM on Friday, January 4, 2019. At that time, the bids will be opened and read before the public. Please label the envelope "Motor Grader Bid" or similar.

Ogle County Highway Department
1989 South IL Route 2
Oregon, IL 61061
Ph. (815) 732-2851

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A decision on award will be made by Ogle County within 60 days of the bid and awarded bidder will be notified in writing.

THE OGLE COUNTY ROAD AND BRIDGE COMMITTEE RESERVES THE RIGHT TO ACCEPT OR REJECT ANY OR ALL BIDS.

Equipment Sale Price _____

Extended Warranty Price (5 Yr/3000 hr) _____

Trade-in Value (1993 John Deere 770BH) _____

Net Sale Price (Bid Price incl. Warranty) _____

Estimated Delivery Date: _____

Company Name/Address

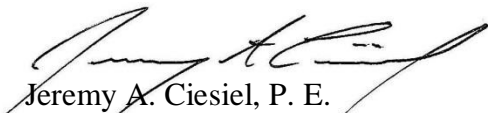
Year, Make & Model of Bid Machine

Printed Name of Authorized Agent

Phone Number

Signature of Authorized Agent

Date


Jeremy A. Ciesiel, P. E.
Ogle County Engineer