

DEKALB COUNTY HIGHWAY DEPARTMENT

AWD MOTOR GRADER

Sealed proposals for the purchase of One to Three (1-3) new and latest type and model manufactured AWD Motor Grader and Attachments will be received by the Highway Committee of the DeKalb County Board until 10:00AM, Tuesday, February 3rd, 2015 at the office of the DeKalb County Engineer, 1826 Barber Greene Road, DeKalb, Illinois, 60115 and at that time publicly opened and read.

The dealer may submit a bid for one or more models that are equal to or exceed the following specifications. A copy of the specifications or literature for each model should be included with each bid. Only bids from authorized dealers will be considered. Each bidder should state warranty coverage and estimated time of model availability. The dealer shall submit a total bid for furnishing an AWD Motor Grader and Attachments as per specifications.

The Board reserves the right to reject any and all bids and to waive any technicalities.

The bids shall not include taxes for which we are exempt.

Must provide a detailed order summary sheet with submitted bid.

Proposal submitted by:

Name _____

Address _____

Signature _____

One 1995 John Deere 772BH AWD Motor Grader with a 12 ft Viking Snow Benching Wing. It will be available for inspection at the DeKalb Highway Department Garage, call (815) 756-9513.

Total cost one new AWD Motor Grader w/attachments _____

Trade allowance on **DeKalb County Hwy. Dept.**
1995 John Deere 772BH Motor Grader w/Wing _____

Net cost one AWD Motor Grader w/attachments _____

One 1990 John Deere 772BH AWD Motor Grader with a 12 ft Henke Snow Benching Wing. It will be available for inspection at the Clinton Township Garage, call (815) 739-4703.

Total cost one new AWD Motor Grader w/attachments _____

Trade allowance on **Clinton Township**
1990 John Deere 772BH Motor Grader w/Wing _____

Net cost one AWD Motor Grader w/attachments _____

One 1995 John Deere 772BH AWD Motor Grader with a 14 ft Viking Snow Benching Wing. It will be available for inspection at the DeKalb Township Garage, call (815) 761-7817.

Total cost one new AWD Motor Grader w/attachments _____

Trade allowance on **DeKalb Township**
1995 John Deere 772BH Motor Grader w/Wing _____

Net cost one AWD Motor Grader w/attachments _____

General Specifications Required

A used or demonstrator model will not be considered. Machine modifications to meet the operational and capacity requirements of this specification shall be limited to the manufacturer’s published standard and optional equipment. All operating specifications are based on current SAE standards and shall be the basis for determining compliance with specified requirements. Equipment shall meet all OSHA and EPA requirements in effect on the date of bid opening and shall be finished with lead free paint.

Machine Wheel Base (distance from front axle to mid tandem) shall not be less than 241.0 in. YES___NO___

Machine shall be designed and built by the manufacturer. YES___NO___

Transmission shall be designed and built by the machine manufacturer. YES___NO___

Machine height to top of the cab shall not exceed 135 in. YES___NO___

Turning radius will be no greater than 284 in. YES___NO___

Base Machine Weight shall not be less than 38,320 lbs. Weight shall include: standard machine configuration, lubricants, coolants, full fuel tank and operator of 175 lbs. YES___NO___

Six Cylinder, turbocharged with air-to-air after cooler diesel engine and shall be designed and built by the manufacturer. YES___NO___

Hydraulic disconnect (soft start) and transmission valve solenoid guards shall be standard equipment. YES___NO___

Ground level fueling and filling for diesel and diesel exhaust fluid shall be standard equipment. YES___NO___

Standard grey glare-reducing paint shall be used on the front frame, engine enclosure and flat black exhaust stack to decrease glare from other equipment lights and reflection from the sun and snow. YES___NO___

The frame shall be ready for snow wing attachment. YES___NO___

Engine Required

Engine meets EPA Final Tier 4 and European Union Stage IV standards YES___NO___

The engine shall have dual safety air cleaner elements, radial seal, dry type 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 manufacturer YES___NO___

Engine displacement for standard engine shall be no less than 9.0 liters (548 cu. in.) YES___NO___

"Engine shall reach no less than SAE net horsepower in the gears 1-8:
1st 206hp, 2nd 208hp, 3rd 230hp, 4th 230hp, 5th 247hp, 6th 260hp, 7th 266hp, 8th 262hp;
6WD is active in gears 1-7 "

YES___NO___

Engine will have a minimum torque rise of 50% in all gears

YES___NO___

Unit shall be equipped with Engine Power Management System for variable horsepower for up to 236 SAE net and shall meet FT4 standards

YES___NO___

Ether starting aid shall be available and must automatically meter ether injection to prevent engine damage.

YES___NO___

Machine shall be equipped with electronic over-speed protection to prevent the engine and transmission from over speeding, as a standard feature.

YES___NO___

Electronic Throttle Control (cruise control) shall be available, and shall be controlled by a switch, located on the right-hand console for resuming and decreasing throttle set.

YES___NO___

Unit shall be equipped with engine stall prevention (ESP) as standard equipment

YES___NO___

Engine will offer on-the-fly exhaust filter cleaning

YES___NO___

Engine will offer automatic de-rating

YES___NO___

Engine shall be rubber isolation mounted to reduce noise and vibration

YES___NO___

Engine Intake with rotary ejector pre-cleaner

YES___NO___

Engine shall have a 110V plug in block heater

YES___NO___

Unit shall be equipped with severe duty fuel and water filtration system and fuel heater in filter base

YES___NO___

Cooling Required

Coolant levels should be easily checked by an overflow tank

YES___NO___

Engine coolant shall be effective for temperatures to -34 F

YES___NO___

The engine shall have an air-to-air after cooling for low engine speed lugging

YES___NO___

Unit shall have charged air cooler with restriction sensor and in-cab restriction warning light

YES___NO___

Engine fan shall automatically adjust fan speed via a variable displacement hydraulic fan pump to meet engine cooling requirements to minimize power demand from the engine, reduce vehicle noise levels, improve fuel economy, and improve vehicle performance.

YES___NO___

Engine power shall automatically compensate for power draw of the fan system to maintain a constant horsepower available to maintain vehicle performance independent of cooling system power draw. 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. YES ___ NO ___

Cooling system shall be isolated from the engine compartment YES ___ NO ___

Coolers provide access for quick cleanout of dust and debris 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 YES ___ NO ___

Power Train Required

Auto-shift Transmission for gears four through eight YES ___ NO ___

Machine shall have no drive shafts that cross over the articulation hitch. YES ___ NO ___

The transmission shall have eight forward and eight reverse speeds with built-in diagnostics YES ___ NO ___

Transmission shall have 5 working gears between 0-10.2 mph, for dirt applications. YES ___ NO ___

Machine shall be equipped with an electronic inching pedal for improved modulation and machine control. YES ___ NO ___

The transmission system shall have an independent oil reservoir, filtration and cooling system with 31 GPM hydraulic gear pump YES ___ NO ___

The shift pattern will be the industry standard U-shape YES ___ NO ___

The transmission shift handle shall have a neutral park brake locking position. It shall include a park start safety switch YES ___ NO ___

Transmission shall be event based shifting (EBS) or use load sensing electronic shift modulation with over speed protection YES ___ NO ___

Transmission shall have clutch overheating protection to prevent clutch failures due to excessive and overuse of the inching pedal. YES ___ NO ___

The transmission shall have rubber isolation mounting to reduce noise and vibration YES ___ NO ___

Transmission shall be equipped with built-in self-diagnostic capability. YES ___ NO ___

Transmission shall be a direct drive, power shift, countershaft type. YES ___ NO ___

A guard shall be available to protect the machine's transmission and valve body for cold weather protection YES ___ NO ___

Unit shall be equipped with cold weather control valve covers YES ___ NO ___

6WD: Automatic dual-path hydrostatic drive with separate left and right systems YES ___ NO ___

6WD: Operator-selectable 15-position rotary aggressiveness control YES ___ NO ___

6WD: Inching capability down to 0 mph and precision mode
(propelled by front wheels only) YES ___ NO ___

6WD: With working speeds up to a minimum of 20 MPH through 7th gear YES ___ NO ___

6WD: Effective Gears 1 - 7 forward and reverse YES ___ NO ___

Axles/Brakes/Tandems Required

The brakes shall be continuously pressurized, filtered, oil cooled YES ___ NO ___

The brakes shall be internal self-adjusting maintenance free,
wet multi-disk, inboard of tandem pivot YES ___ NO ___

The park brake shall have an independent oil reservoir, filtration
and cooling system. YES ___ NO ___

The unit shall have primary and secondary service brakes YES ___ NO ___

Service brakes shall be multi-disc, oil-cooled and completely sealed. YES ___ NO ___

Service brakes shall be hydraulically actuated, utilizing dual
independent brake circuits. YES ___ NO ___

Entire braking system shall meet all requirements of ISO 3450. YES ___ NO ___

Differential Lock/Unlock shall be electro-hydraulically controlled,
as a standard feature. 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). YES ___ NO ___

Differential Lock/Unlock shall be a multi-disc design. 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 YES___NO___

Parking brake shall be multi-disc, oil-cooled, spring-applied, hydraulically released, sealed, adjustment-free, and integrated into the transmission. YES___NO___

Parking brake shall be serviceable without removing the transmission. YES___NO___

The axles shall be planetary single reduction final drive 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 YES___NO___

Final drive shall be a planetary design. YES___NO___

Front axle shall be an arched design for maximum ground clearance while maintaining performance YES___NO___

Front axle oscillation shall be no less than 32 degrees total, per side 16 degrees up, 16 degrees down. YES___NO___

Front wheel steering angle shall be no less than 48.5 degrees left or right. 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. YES___NO___

Tandem chain pitch shall not be less than 2.0" YES___NO___

Distance between center of tandem wheels shall be no less than 60.8" YES___NO___

Maximum front wheel lean shall be no less than 20 degrees left or right. YES___NO___

Hydraulic System Required

Motor grader shall have an option of up to six auxiliary control valves and control levers integrated into the main control rack and valve stack, 14 possible control levers on main control rack. YES___NO___

Left and right blade lifts shall have hydraulic float control. YES___NO___

One hand blade lift kit shall be installed for RH and LH operation YES___NO___

A sight gauge will be provided for checking hydraulic reservoir fluid YES___NO___

Hydraulics system shall be a closed center, load sensing type, with a variable displacement, axial piston-type pump. YES___NO___

The maximum hydraulic system pressure shall be no less than 2,750 psi and the hydraulic system shall have a 56.0 gpm main hydraulic axial piston pump. YES___NO___

Implement valves shall be proportional priority pressure compensating for consistent response, when multi-functioning any combination of implement controls and independent of engine speed. YES___NO___

Hydraulic cold weather valve covers shall be included YES___NO___

Lock valves shall be integrated into the main implement valve to prevent cylinder drift. YES___NO___

Steering capabilities shall be ISO 5010 YES___NO___

Secondary steering is available besides steering wheel YES___NO___

Electrical Required

The electrical system shall be 24 volt with 200 amp alternator minimum. YES___NO___

Machine shall have 1400 CCA extra heavy-duty batteries with 440 minute reserve capacity YES___NO___

A 24V to 12V converter with 25-amp continuous, 30-amp peak capacity shall be equipped YES___NO___

LED turn signal, marker and brake lights shall be provided. YES___NO___

Unit shall be equipped with driving lights, two high and two low beam halogen headlights with front and rear turn signals, front and rear marker lights, brake lights and hazard warning lights. YES___NO___

Light grading package - includes (in addition to those listed above) 14 additional work lights all halogen (2 – bottom cab, 2 – mid-frame, 2 – reversing lights on rear grill), 4 – corner cab, 2 front cab and 2 – right side cab roof) 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 (glow plugs), hydraulic filter restriction YES___NO___

Machine shall have back-up lights and sounding alarm as standard when reverse gears are selected. 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. YES___NO___

Unit shall have digital readout displayed on a single LCD monitor for: engine rpm, odometer, transmission gear indicator, speedometer, hour meter YES___NO___

Starting system shall be a 24V direct electric type. YES___NO___

All light and wiper switches will be solid-state distribution YES___NO___

The in-cab switch module shall be sealed to keep out dirt, dust and airborne debris YES___NO___

The unit shall have an electric key fuel shut-off switch YES___NO___

Electrical system shall have a master disconnect switch with a padlock provision (in addition to ignition switch), accessible from the ground level. YES___NO___

Cab will be wired for beacon, radio and auxiliary circuit YES___NO___

The unit shall have a LH engine compartment light as standard equipment YES___NO___

Operator Station Required

Steering wheel and control console shall be tilt able YES___NO___

Steering wheel included as standard equipment YES___NO___

Left and right side cab doors are standard YES___NO___

Cab doors shall have a hold-open clasp with a ground-level release and in addition to, a release in the cab. YES___NO___

Machine shall provide dual exits allowing for emergency egress should one side become obstructed YES___NO___

Cab shall have cup holder, personal cooler holder/storage compartment for operator's manual, with a molded floor mat YES___NO___

Air vents shall be provided for all front and side tinted windows YES___NO___

Three rearview mirrors shall be provided, one interior and two breakaway exterior mounted. Exterior mirrors shall be heated YES___NO___

AM/FM/WB Radio/XM Satellite Radio and Bluetooth, two speakers, antenna and wiring shall be available. YES___NO___

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| A front window sun visor and a rear sun shade shall be included | YES___NO___ |
| The motor grader shall be equipped with low ROPS/FOPS air conditioned cab, isolation frame mounted for noise and vibration reduction | YES___NO___ |
| Side opening windows | YES___NO___ |
| The motor grader shall be equipped with low ROPS/FOPS enclosed air conditioned cab, isolation frame mounted for noise and vibration reduction | YES___NO___ |
| Unit shall have a heated, leather/fabric, high wide back, air-suspension seat with armrests. | YES___NO___ |
| A machine security system shall be available to electronically code keys selected by the user to limit usage by individuals or by time parameters. | YES___NO___ |
| Left and right side tandem case assemblies shall be covered with punched steel plate to provide an adequate platform for standing and walking. | 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. | YES___NO___ |
| The unit will come standard with front window defrost | YES___NO___ |
| The unit will come with a rear window electric defroster | YES___NO___ |
| Machine shall have laminated glass for the front upper window to protect the operator from shattered glass. | YES___NO___ |
| Optional decelerator pedal shall be installed | YES___NO___ |
| Upper front and rear windshield washers with intermittent wipers shall be standard | YES___NO___ |
| Rear Camera in monitor shall be included | YES___NO___ |
| Lower front window wiper and washer shall be included | YES___NO___ |
| Control levers to match existing levers in customers current grader if available | YES___NO___ |
| <u>Frames and Structures Required</u> | |
| The angle of articulation shall be no less than 22 degrees. | YES___NO___ |
| The articulation joint shall have mechanical locking device to prevent frame articulation while servicing or transporting machine. | YES___NO___ |
| Unit will be provided with seven-position pin-locking saddle | YES___NO___ |
| Unit shall be equipped with 5 tie-down locations for ease of transporting | YES___NO___ |

Circle and Mold Board Required

Circle shall be a fabricated rolled-ring, with machined wear surfaces on the top and bottom. YES ___ NO ___

Circle teeth contact surfaces shall be induction-hardened on the front 120 degrees of the circle. There will be no less than 6 replaceable wear inserts between the circle and drawbar providing at least 163 in² of wear surface area. YES ___ NO ___

The standard mounting hardware for cutting edges and end bits shall be 5/8" YES ___ NO ___

The draft frame pivot connection shall have a double Ball-in-Socket design with a minimum ball diameter of 6.0" and minimum stem diameter of 2.88" YES ___ NO ___

Unit shall be equipped with a dual input gearbox in place of single input gearbox YES ___ NO ___

The standard moldboard shall be at least 12 ' long, 27" high and no less than 1" thick with 5/8 in hardware YES ___ NO ___

Shall have 13' long, 27" high by 1" thick moldboard "available if desired" with 5/8" hardware at no extra cost YES ___ NO ___

The mold board will have quick change circle wear and side shift wear inserts, capable of being replaced in approximately 2 hours. YES ___ NO ___

Moldboard shall have a bank slope angle capability of at least 90 degrees to both sides. YES ___ NO ___

Slide rails shall be hardened, continuously welded, and have replaceable bronze-alloy wear inserts top and bottom. YES ___ NO ___

Moldboard slide rails shall be constructed of heat-treated, high carbon steel. YES ___ NO ___

Moldboard shall have a hydraulic tip control through a range of 42 degrees fore and 5 degrees aft. YES ___ NO ___

Throat clearance with standard moldboard shall be at least 4.8" YES ___ NO ___

The motor grader shall have five permanent and usable tie downs for transport YES ___ NO ___

Circle wear strips shall be replaceable drop-in inserts, made from nylon composite material. YES ___ NO ___

Circle and drawbar vertical adjustment points shall be accessible from the bottom of the drawbar, for ease of maintenance. YES ___ NO ___

Circle radial wear insert shall be replaced without removing the circle support castings for quick easy maintenance. YES ___ NO ___

Moldboard wear strips shall be adjusted with lock screws, providing shim-less adjustment capability both vertical & horizontal. YES ___ NO ___

Serviceability Required

Daily check points shall be accessible from the left side of the engine behind one service door and shall be done from ground level YES___NO___

Access to engine will be open from both sides with hinged engine side shields and full access service doors YES___NO___

Engine enclosure and daily service points shall be accessible from ground level, and grouped on the left side of the machine. YES___NO___

The dip stick for checking transmission fluid shall be at ground-level YES___NO___

Engine shall have environmentally friendly fuel drain valves YES___NO___

Optional quick service fluid ports for engine oil, transmission oil, hydraulic oil, axle oil and coolant with ground level quick connect access. YES___NO___

Fuel tank capacity shall not be less than 110 gallons. YES___NO___

Diesel exhaust fluid (DEF) tank capacity shall not be less than 6 gallons. YES___NO___

Engine primary and final fuel filters shall have 500-hour service replacement interval. YES___NO___

Engine shall have primary fuel filter with fuel water separator and electronic sensor; quick release dual stage filter and primer pump YES___NO___

Hydraulic, transmission, and differential filters shall be banked and easily assessable through the engine compartment doors. YES___NO___

Transmission, hydraulic, fuel and axle filter restriction indicator shall be displayed in the cab YES___NO___

The centralized lube bank shall be at the articulation joint to give access too difficult to reach zerks YES___NO___

Sampling ports shall be accessible from the tandem level and provide access to the engine, hydraulic, coolant, and fuel ports. YES___NO___

A two-way communication tool shall give service technicians easy access to stored diagnostic data and allow configuration of machine parameters. 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. YES___NO___

Diesel particulate filter (DPF) ash service interval as needed (can go up to 15,000 hours between diesel particulate filter ash removal) YES___NO___

Tires / Rims Required

17.5R25 G2/L2 Single Star Radial Tires w/ 3 piece rims Michelin Sno Plus Radials YES___NO___

Safety Required

Machine shall provide 3 points of contact on all areas of the machine, for mounting and dismounting. 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. YES___NO___

The unit shall have a fan finger guard YES___NO___

A toolbox shall be provided YES___NO___

Additional Equipment Required

High resolution rear view camera with dedicated display and wiring shall be factory installed YES___NO___

A front lift group shall be installed to pick up existing customers attachments YES___NO___

Shut off valves shall be installed at front lift group for attachment mount/dismount YES___NO___

A factory installed rear hitch will be installed YES___NO___

Unit will be equipped with a factory front scarifier with plumbing and hoses, and 9 pocket for shanks YES___NO___

Unit shall be equipped with front fenders YES___NO___

Unit shall be equipped with a tall front snow plow light bar YES___NO___

Unit shall be equipped with a fold down beacon bracket on RH side of Cab YES___NO___

Unit shall be equipped with a strobe light on beacon bracket YES___NO___

Unit shall be equipped with a 5.0 lb. (ABC) multi- purpose fire extinguisher YES___NO___

Unit shall have reversible overlay end bits on moldboard YES___NO___

A factory installed slope meter bracket for future use will be installed YES___NO___

48 Month or 1500 hr Comprehensive Warranty YES___NO___

Unit shall come with operator's manual, safety manual, parts manual, and complete set of filters. YES___NO___

Optional Equipment - snow equipment and tire options (add or deduct)

12' Henke Snow Wing with disconnect valves \$ _____

14' Henke Snow Wing with disconnect valves \$ _____

RH Moldboard Extension 2' \$ _____

Factory Installed Rear Fenders \$ _____

Matching spare tire and 3 Piece Rim Combo \$ _____

17.5R25 Michelin XTA Tires on 3 Piece Rim - deduct/addlt \$ _____

48 Month service requirement \$ _____

INSPECTION

Materials or equipment purchased are subject to inspection and approval at the county's and/or respective township's destination. The county and/or townships reserve the right to reject and refuse acceptance of items which are not in accordance with the instructions, specifications, drawings or date of seller's warranty (expressed or implied). Rejected materials or equipment shall be removed by, or at the expense of the seller promptly after rejection.

List any exceptions to specifications below:

DELIVERY DATE: 90 days OR ANTICIPATED DATE of DELIVERY: _____