

**COUNTY OF McHENRY
McHENRY COUNTY ADMINISTRATION BUILDING
PURCHASING DEPARTMENT – ROOM 200
2200 N. SEMINARY AVENUE
WOODSTOCK, IL 60098**

Sealed bids will be accepted in the above office until

July 13, 2016 at 2:00 P.M. (CST)

**For
BID #16-47**

***PROVIDE 2016 OR CURRENT MODEL SNOW
PLOW TRUCK COMPLETE & DELIVERED TO THE
DIVISION OF TRANSPORTATION DEPARTMENT***

CONTACT PERSON – DONALD A. GRAY, CPPB
DIRECTOR OF PURCHASING
Phone - (815) 334-4818
Fax - (815) 334-4680

MAILING ADDRESS: Purchasing Department 2200 N Seminary Ave #200 Woodstock IL 60098	DROP OFF IN PERSON: Purchasing Department 667 Ware Road #200 Woodstock IL 60098
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COMPANY	DATE
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CONTACT PERSON

ADDRESS	E-MAIL ADDRESS
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CITY, STATE AND ZIP

TELEPHONE NO	FAX NO.
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FEIN, or Social Security NUMBER

The attention of bidders is directed to the McHenry County Purchasing Ordinance, approved August 1, 2014. This Ordinance is incorporated by reference into this bid as if it were contained herein. If you have not received a copy of the above Ordinance and desire a copy, please contact the office of the Director of Purchasing.

SCOPE OF WORK

Provide 2016 or Current Model Snow Plow Truck Complete to the Division of Transportation for McHenry County as outlined within this document. All requirements are as per specifications enclosed herein.



SCHEDULE OF EVENTS

June 20, 2016-----	Bid Available
June 24, 2016-----	Vendors Questions Submitted via fax to 815-334-4680 by 4:00 P.M.(CST)
June 30, 2016-----	Vendors Questions Answered via fax and Posted on Website by 4:00 P.M.(CST)
July 13, 2016-----	Bid due in Purchasing at 2:00 P.M.(CST)

PAYMENT

Payment will be processed after receipt of delivery invoice and appropriate affidavit.

NON-DISCRIMINATION

Contractor shall comply with the Illinois Human Rights Act, 775 ILCS 5/1-101 et seq., as amended and any rules and regulations promulgated in accordance therewith, including, but not limited to the Equal Employment Opportunity Clause, Illinois Administrative Code, Title 44, Part 750 (Appendix A), 775 ILCS 5/1-102, which is incorporated herein by reference, and constituting of a written EEO Policy and a workforce profile that demonstrates its EEO practices. Furthermore, the Contractor shall comply the Public Works Employment Discrimination Act, 775 ILCS 10/0.01 et seq., as amended. The Contractor must have a written sexual harassment policy, which meets Illinois State Statutes, 775 ILCS, 15/3.

PREVAILING WAGE

The State of Illinois requires under Public Works Contracts that the general prevailing rate of wages in this locality be paid for each craft or type of worker hereunder. This requirement is in accordance with The Prevailing Wage Act, 820 ILCS 130/0.01 et seq., as amended. This shall include payment of the general prevailing rate for legal holiday and overtime work. It shall be mandatory upon the subcontractor under the Contractor. A copy of the prevailing wage rates is posted on the McHenry County website at www.co.mchenry.il.us under BIDS and RFP's. If wage rates change during the course of the project, the new rates will be available in the County of McHenry Purchasing Office. Contractors may access the Illinois Department of Labor website for updates at www.state.il.us/agency/idol.

It shall also be mandatory upon the Contractor to whom the Contract is awarded to insert into each subcontract and into the project Specifications for each subcontract a written stipulation to the effect that not less than the prevailing rate of wages shall be paid to all laborers, workers, and mechanics performing work under the Contract. It shall also be mandatory upon each subcontractor to cause to be inserted into each lower tiered subcontract and into the project Specifications for each lower tiered subcontract a stipulation to the effect that not less than the prevailing rate of wages shall be paid to all laborers, workers, and mechanics performing work under the Contract. A Contractor or subcontractor who fails to comply is in violation of the Act.

CERTIFIED PAYROLL REQUIREMENTS (Public Act 94-0515)

Effective August 10, 2005 contractors and subcontractors on public works projects must submit certified payroll records on a monthly basis to the public body in charge of the construction project, along with a statement affirming that such records are true and accurate, that the wages paid to each worker are not less than the required prevailing rate and that the contractor is aware that filing records he or she knows to be false is a Class B misdemeanor.

The certified payroll records must include for every worker employed on the public works project the name, address, telephone number, social security number, job classification, hourly wages paid in each pay period, number of hours worked each day, and starting and ending time of work each day. These certified payroll records are considered public records and public bodies must make these records available to the public under the Freedom of Information Act, with the exception of the employee's address, telephone number and social security number. Any contractor who fails to submit a certified payroll or knowingly files a false certified payroll is guilty of a Class B misdemeanor.

INCREASED PENALTIES FOR PREVAILING WAGE VIOLATIONS (Public Act 94-0488)

Effective January 1, 2006, penalties for violations of the Prevailing Wage Act will increase from 20% to 50% of the underpaid amounts for second or subsequent violations. An additional penalty of 5% of the underpayment penalty must be paid to workers for each month the wages remain unpaid (up from the current 2% penalty).

For violations that occur after January 1, 2006, the debarment period --during which contractors are ineligible for public works contracts -increases from 2 years to 4 years if two notices of violation are issued/serious violations occur within a 5-year period. In addition, a new monetary penalty of \$5,000 may be assessed against contractors who retaliate against employees who report violations or file complaints under the Prevailing Wage Act.

OSHA REQUIREMENTS

The Occupational Safety and Health Act of 1970 (OSHA) "guarantees workers the right to a safe and healthful workplace". Under Section 5(a) (1) of the OSHA Act, the employer must "furnish to each of his employees' employment and a place of employment which are free from recognized hazards that are causing or likely to cause death or serious physical harm to his employees."

There are times when the County must hire entities and individuals (contractors) to perform services. To this end, contractors hired by the County of McHenry must perform their duties in a manner that is compliant with all state and federal health and safety laws and industry guidelines. It is the responsibility of the contractor to ensure that their personnel and subcontractors comply with all state and federal health and safety laws and regulations and industry guidelines, including, but not limited to those set forth by: OSHA and related regulations, the Safety Inspection and Education Act, the Health and Safety Act, the National Institute of Occupational Safety and Health, the National Fire Protection Association, the Centers for Disease Control, American Industrial Hygiene Association, the American Council of Governmental Industrial Hygienists, the Environmental Protection Agency, and the Department of Transportation.

SUBSTANCE ABUSE PREVENTION ON PUBLIC WORKS PROJECTS ACT

The successful bidder must be in compliance with State of Illinois HB-1855 (Public Act 095-0635), which amends the Prevailing Wage Act. Before an employer commences work on a public works project, the employer shall have in place a written program, which meets or exceeds the program requirements in this Act, to be filed with the public body engaged in the construction of the public works and made available to the general public, for the prevention of substance abuse among its employees. The testing must be performed by a laboratory that is certified for Federal Workplace Drug Testing Programs by the Substance Abuse and Mental Health Service Administration of the U.S. Department of Health and Human Services.

PROCUREMENT OF GREEN PRODUCTS AND TECHNOLOGIES

As approved by the McHenry County Board in April 2008, it is in the interest of public health, safety and welfare and the conservation of energy and natural resources to use and promote environmentally responsible products. The County should strive to influence private purchases through the example of using government specifications and standards that are green or environmentally friendly when making its purchases.

Whenever available and cost-justified, the County should purchase those materials including the purchase of recycled products containing post-consumer materials rather than residual materials resulting from the processing or manufacturing from another product. To the extent practicable, all products standards shall emphasize functional or performance criteria, which do not discriminate against the use of, recycled materials.

McHenry County should cooperate to the greatest extent feasible with other governments and organizations to develop a comprehensive, consistent, and effective procurement effort intended to stimulate the market for recycled products, reusable products, products designed to be recycled, and other environmentally responsible products.

McHenry County shall continue to participate in and shall encourage other public jurisdictions to participate with the County in the purchase of products containing recycled content. Participation in such cooperative systems shall be aimed at obtaining maximum practical recycled content in County purchases, to obtain best available price for products with recycled content, to facilitate or encourage lower prices industry-wide and to encourage development of industries and markets dealing with recycled content products.

PROCUREMENT OF PRODUCTS THAT ARE ENERGY STAR QUALIFIED

McHenry County shall select, where life cycle and cost-effective, ENERGY STAR and other energy efficient products, when acquiring energy-using products. This information will be required by the bidder in their bid submittal.

SECURITY

The contractor represents and warrants to the County of McHenry that neither it nor any of its principals, shareholders, members, partners or affiliates, as applicable, is a person or entity named as a Specially Designated National and Blocked Person (as defined in Presidential Executive Order 13224) and that it is not acting, directly or indirectly, for or on behalf of a Specially Designated National and Blocked Person. The Contractor further represents and warrants to the County of McHenry that the Contractor and its principals, shareholders, members, partners, or affiliates, as applicable, are not directly or indirectly, engaged in, and are not facilitating, the transactions contemplated by this Agreement on behalf of any person or entity named as Specially Designated National and Blocked Person. The Contractor hereby agrees to defend, indemnify and hold harmless the County of McHenry, the Corporate Authorities, and all County of McHenry elected or appointed officials, officers, employees, agents, representatives, engineers and attorneys, from and against any and all claims, damages, losses, risks, liabilities, and expenses (including reasonable attorneys' fees and costs) arising from or related to any breach of the foregoing representation and warranties.

PURCHASE EXTENSION

This contract shall be offered for purchases to be made by other counties and governmental units within the State of Illinois as authorized by the Government Joint Purchasing Act. All purchases and payments made under this authority shall be made directly by the governmental unit to the Vendor. The County of McHenry shall not be responsible in any way for such purchase orders or payments. All terms and conditions of this contract shall apply to all orders placed by another governmental unit.

ADDENDUM

Should the Vendor require any additional information about this Bid, please fax to Purchasing (815-334-4680) any questions by the deadline as outlined in the schedule of events. ANY AND ALL changes to these specifications are valid only if they are included by Written Addendum to All

Bidders. NO interpretation of the meaning of the plans, specifications, or other contract documents will be made orally. If required, all addenda will be faxed to bidder if a Notice of Intent to Bid has been completed and faxed to the Purchasing Office. In addition, all addenda are posted on the County of McHenry's website. Failure of the bidder to receive any such addendum or interpretation shall not relieve the bidder from obligation under this Bid as submitted. All addenda so issued shall become part of the bid documents. Failure to request an interpretation constitutes a waiver to later claim that ambiguities or misunderstandings caused by a bidder to improperly submit a bid.

Response to these questions will be made by means of an addendum. Only the Director of Purchasing has the authority to issue an addendum.

Addenda are written instruments issued by the County prior to the date for receipt of proposals, which modify or interpret the Bid by addition, deletions, clarifications or corrections.

Prior to the receipt of bids, addenda will be faxed or delivered to all who are known to have received a Notice to Bid. Each vendor shall ascertain prior to submitting a bid that all addenda issued have been received and, by submission of a bid, such act shall be taken to mean that such vendor has received all addenda and that the vendor is familiar with the terms thereof and understands fully the contents of the addenda.

TAXES

The County of McHenry is exempt from paying Illinois Use Tax, Illinois Retailers Occupation Tax, and Federal Excise Tax. The bidder's attention is directed to the McHenry County Purchasing Ordinance {S3-10, (9), (10), and (11)}.

INSURANCE

(1) GENERAL

The successful bidder shall maintain for the duration of the contract and any extensions thereof, at bidder's expense, insurance that includes "Occurrence" basis wording and is issued by a company or companies qualified to do business in the State of Illinois that are acceptable to the County, which generally requires that the company(ies) be assigned a Best's Rating of A or higher with a Best's financial size category of Class XIV or higher, in the following types and amounts:

(a) Commercial General Liability in a broad form, to include, but not limited to, coverage for the following where exposure exists: Bodily Injury and Property Damage, Premises/Operations, Independent contractors, Products/Completed Operations, Personal Injury and Contractual Liability; limits of liability not less than:

\$500,000 per occurrence and \$1,000,000 in the aggregate;

(b) Business Auto Liability to include, but not be limited to, coverage for the following where exposure exists: Owned Vehicles, Hired and Non-Owned Vehicles and Employee Non-Ownership; limits of liability not less than:

\$300,000 per occurrence, combined single limit for:
Bodily Injury Liability and Property Damage Liability;

(c) Workers' Compensation Insurance to cover all employees and meet statutory limits in compliance with applicable state and federal laws. The coverage must also include Employer's Liability with minimum limits of \$100,000 for each incident.

(2) EVIDENCE OF INSURANCE

The successful bidder agrees that with respect to the above required insurance that:

- (a) The County of McHenry shall be provided with Certificates of Insurance evidencing the above required insurance, prior to commencement of the contract and thereafter with certificates evidencing renewals or replacements of said policies of insurance at least fifteen (15) days prior to the expiration or cancellation of any such policies;
- (b) The contractual liability arising out of the contract shall be acknowledged on the Certificate of Insurance by the insurance company;
- (c) The County of McHenry shall be provided with thirty (30) days prior notice, in writing, of Notice of Cancellation or material change and said notification requirement shall be stated on the Certificate of Insurance;
- (d) Subcontractors, if any, comply with the same insurance requirements. In addition to being named as an additional insured on the Certificate of Insurance, each liability policy shall contain an endorsement naming the County of McHenry as an additional insured. A copy of the endorsement shall be provided to McHenry County along with the Certificate of Insurance; and,
- (e) have McHenry County named as an additional insured and the address for certificate holder must read exactly as:

County of McHenry, **a body politic**
2200 N. Seminary Avenue
Woodstock, IL 60098

- (f) Insurance Notices and Certificates of Insurance shall be provided to:

McHenry County, Purchasing Department
2200 N. Seminary Avenue, Room 200
Woodstock, Illinois 60098

HOLD HARMLESS CLAUSE

The successful bidder will agree to indemnify, save harmless and defend the County of McHenry, its agents, servants, and employees, and each of them against and hold it and them harmless from any and all lawsuits, claims, demands, liabilities, losses and expenses, including court costs and attorney's fees, for or on account of any injury to any person, or any death at any time resulting from such injury, or any damage to property, which may arise or which may be alleged to have arisen out of or in connection with the work covered by this contract upon award. The foregoing indemnity shall apply except if such injury, death or damage is caused directly by the willful and wanton conduct of the County of McHenry, its agents, servants, or employees or any other person indemnified hereunder.

BID RESPONSE

It is highly recommended that the vendor completely read the bid prior to filling out to become acquainted with terms and conditions of the bid document and merchandise requirements. No relief will be allowed from the bid conditions unless you take written exception to that condition on your bid.

BIDS MUST BE SUBMITTED IN DUPLICATE FORM, (One Original, and One Copy). BIDS ARE DUE BACK BY 2:00 P.M. (CST) ON JULY 13, 2016.

SEALED BID ENVELOPES ARE TO BE CLEARLY MARKED WITH THE BID/RFP TITLE, TIME & DATE OF OPENING.

Bidders are urged to respond to this bid request in every case to insure being maintained on current bid lists. Explanations of the reasons for not bidding will assist in maintaining the bidder on the correct bid list(s).

SUBMITTAL

Submit one (1) bid, multiple bids will not be accepted.

GENERAL CONDITIONS

This bid shall be firm for at least 120 days after the latest time specified for submission for bids and thereafter until written notice is received from the bidder.

AWARD OF ORDER

The County will award a purchase order to the lowest responsive, responsible bidder meeting the County's requirements as listed in this document. The County will be the sole judge of acceptability of any products offered.

WORKMANSHIP

Items shall be manufactured according to the highest traditions of the industry and shall meet all commercial standards of quality. The County shall be the sole judge of acceptable products. Unacceptable products will be rejected and suitable price adjustments made.

MISCELLANEOUS

It is the bidder's task to be familiar with the referenced items and to offer only products of equal or greater quality. Any questions on specifications should be directed to the Purchasing Department.

EXCEPTIONS

The bid speaks for itself. Bidders taking exception to any terms, conditions or specifications of this bid must clearly state in writing such exception(s) either on or with their bid. The County will be the sole judge of the acceptability of any exception noted, and is not bound to consider any bid submitted with exceptions.

ALTERNATES

Trade names are used solely for the purpose of setting minimum standards of quality and performance and are not to be construed as exclusionary. Bidders are encouraged to contact the Purchasing Department prior to the bid opening for the purpose of clarifying specifications.

FULL PRICING AND CONTINGENCIES

The County shall hold the successful bidder to bid pricing. Additional charges for contingencies discovered by the vendor at any time after the date of opening of this bid will not be considered for payment by the County.

RECOURSE FOR UNSATISFACTORY MATERIALS

Payment shall be contingent upon the County's inspection of and satisfaction with completed work. Any defective work or materials, non-conformance to bid specifications, damaged materials, or unsatisfactory installation shall be corrected to the County's satisfaction by the successful bidder at no additional charge.

TERMINATION

Failure to comply with the terms and conditions as herein stated shall be cause for cancellation of the contract. The County will give written notice of unsatisfactory performance and the contractor will be allowed thirty (30) days to take corrective action and accomplish satisfactory control. If at the end of the thirty days, the County deems the contractor's performance still unsatisfactory, the contract shall be canceled. The exercise of its right of cancellations shall not limit the County's right to seek any other remedies allowed by law.

The successful bidder will agree that the resulting contract is made subject to available budgetary appropriations and shall not create any obligation on behalf of the County in excess of such appropriations. In the event that no funds or insufficient funds are appropriated and budgeted, this

Contract shall terminate without penalty or expense to the County thirty (30) days after written notification of termination from the County.

The successful bidder will agree that pursuant to requirements imposed under Illinois law, the County shall have 120 days after each election of county board members to terminate this Agreement, without cause and without penalty.

CHOICE OF LAW AND VENUE

The bidder agrees that this bid has been executed and delivered in Illinois and that their relationship and any and all disputes, controversies or claims arising under this bid or any resulting contract shall be governed by the laws of the State of Illinois, without regard to conflicts of laws principles. The bidder further agrees that the exclusive venue for all such disputes shall be the Circuit Court of the 22nd Judicial Circuit of McHenry County, Illinois, and the bidder hereby consent to the personal jurisdiction thereof.

COMPLIANCE WITH LAWS

The bidder hereto covenants and agrees to comply with all applicable federal, state, and local laws, codes, ordinances, rules and regulations. Failure to comply with the terms of this provision shall constitute a breach of contract and permit the County to terminate this (Request for Sealed Proposal/Bid) in accordance with the termination provisions stated herein.

REJECTION OF BIDS, WAIVER OF IRREGULARITIES

McHenry County reserves the right to reject any or all bids, to waive irregularities, and to accept that bid which is considered to be in the best interest of the County. Any such decision shall be considered final.

PROTEST PROCEDURES

Any Bidder who believes contractual terms or specifications are unnecessarily restrictive or limit competition may submit a protest, in writing, to the Director of Purchasing. To be considered, the protest must be received by McHenry County five (5) days prior to the stated bid opening. Any adversely affected or aggrieved Bidder shall have ten (10) days from the date of the bid opening to file a written protest regarding the intent to award the bid. Protests submitted after that date will not be accepted. Protests must specify the grounds upon which the protest is based (refer to appropriate statute, rule, code, or ordinance which defines the protest process).

BIDDER'S ATTACHMENT TO THE BID

Any attachment to this bid, as required by the bid conditions, or made at the bidder's option, must reference on their face the bid title, opening date, and time.

DELIVERY

Delivery will be considered in making the award and the bidders shall state, in the spaces provided, expected delivery after receipt of Purchase Order. Failure to meet said delivery promises without prior consent of the Director of Purchasing will be considered a breach of faith.

FREIGHT

Freight is all inclusive unless otherwise stated.

FUEL SURCHARGE

The County of McHenry does NOT accept any fuel surcharges.

SPECIFICATIONS

2016 or Current Model Plow Truck Delivered, Including Title & License Plates

**One (1) Tandem Axle with Combination Dump-Spreader Unit.
12 Ft. Plow, 10 Ft. Patrol Wing**

******Vehicle Titles******

All Titles MUST be made out to:

**COUNTY OF MCHENRY
2200 N SEMINARY AVE
WOODSTOCK IL 60098**

**Any titles made out incorrectly are the responsibility of the vendor
to have a corrected one issued at the vendor's cost.**

It is the intent of these specifications to describe (1) New 2016 (or current model year) Tandem Axle Truck equipped with Combination Dump Spreader Unit, Plow, Wing, Deicing Spray System, Tarp System and a hydraulic pump/ controls, spreader controls, snow plow controls, and snow plow/frame and hitch. As described herein.

All equipment shall be new, latest model and shall be mounted by the successful vendor with delivery of truck, installed equipment to McHenry County at no additional charge. Equipment must be standard model and not represent a modification or changed components. It is unacceptable to add or change components or materials to a unit of lesser design capability to meet specifications. The unit shall meet or exceed all industry standards where applicable.

Deviations will be considered as exceptions and will be taken into consideration as to final acceptability of the equipment. The right to refuse any or all bids is reserved.

Equipment bid must be a standard model of manufacture with a minimum of two (2) years of history of field use.

Parts and service facilities must be readily available on an emergency basis.

Successful bidder must demonstrate experience and ability to install specified equipment.

A Manufacturer Specification Proposal for the truck shall be included in Bid Packet

TANDEM AXLE- COMBINATION DUMP SPREADER BODY

Cab and Chassis:

- 1) Diesel Engine:
 - a) Six (6) Cylinder, 350 HP - 1000 FT LBS @ 1200 RPM Torque Minimum(Cummins engine only)
 - b) Turbo Charged
 - c) Extended Oil Dipstick/Filler Tube (if available)
 - d) Road Speed: Top 62 mph Minimum

- e) Air Breather: Under Hood (Left Side)
 - f) Inside Air Cleaner Valve for Winter/Summer Changeover
 - g) Factory Installation Engine Block Heater
 - h) Engine emissions shall use selective catalytic reduction technology (SCR)
- 2) Transmission:
- a) Allison World Automatic Transmission 3000RDS Engine Driven, Hot Shift PTO Left Side or approved equivalent
 - b) Transmission Selector shall be Lever Type (If Available)– 6-Speed
 - c) Vehicle Road Speed Signal inside of Cab Compartment
 - d) Heavy Duty Transmission Cooler Mounted in conjunction with radiator coolant cooled
 - e) Prognostics enable (Service Indicator displays in shift selector)
 - f) Transmission control module mounted inside of cab
 - g) Right Side Mounted Check and Fill Tube (If available)
 - h) Factory filled with Allison TransSynd synthetic fluid or approved equivalent by Allison
- 3) Radiator:
- a) Cross Flow 1000 Square Inches Area (Minimum) with Radiator Bug Guard
 - b) Charge air cooler 600 Square Inch (Minimum)
- 4) Front Axle:
- a) Set back with dual Power Steering Gears
 - b) 20,000 lbs. minimum with Power Steering (axle rating not tire rating)
 - c) 10,000 lbs. both sides with 2,250 lbs. auxiliary rubber helper springs
 - d) Front shock absorbers
- 5) Rear Axle:
- a) 40,000 lb. minimum
 - b) Gear ratio 6.43 (or approved ratio change per manufacturer recommendation)
 - c) Power divider lock air operated cab control with indicator light
 - d) Hendrickson suspension base chassis dimension to conform to a 15 ft. body – Haulmax # HMX400 with double rear shock absorbers
 - e) Factory filled with synthetic lube
- 6) Base Chassis Dimension to Conform to a 16 Foot Body:
- a) 205” Wheelbase
 - b) 138” Cab to Axle
 - c) 65” Axle to Frame
- 7) Frame:
- a) Heat Treated Alloy Steel, High Tensile (120,000 PSI Yield) single Frame
 - b) RBM of 2,500,000 ; Section Modules 21.60 Minimum
 - c) Front frame to be extended for snow plow(can be bracketed for snowplow)
 - d) Frame rails shall have a corrosion resistant primer coating applied on them
- 8) Brakes:
- a) Full air Brakes (ABS 4 Channel)
 - b) Aluminum Tanks

- c) Electric Air Dryer (Type Bendix AD-IP with Heater) Mounted Left Side
 - d) Automatic Slack Adjusters (Front and Rear)
 - e) Low Air Pressure Warning Buzzer
 - f) Compressor: 13 Cubic Ft. Minimum
 - g) Front: 16.5" x 6"
 - h) Rear: 16.5" x 7" (with Severe Brake Package)
 - i) Emergency: Automatic Spring Type on rear axles
 - j) Front and Rear Dust Shields
 - k) Trailer, Air Brake Package and Wiring with 7 way receptacle (ABS)
- 9) Tires:
- a) Front: 385/65R 22.5 Tubeless Radial Highway Tread (Michelin XZY3 Wide Base)
 - b) Rear: (Dual) 11R22.5 16-Ply Tubeless (Michelin XDS M/S)
- 10) Wheels:
- a) Front Wheel Seals: Oil Lubricated Bearings
 - b) Front and Rear (Dual) Disc Type, 22.5" Powder Coated White Steel with 10 Studs
 - c) Nylon wheel/hub guards
- 11) 12 Volt Standard Electrical System:
- a) 160 Amp Alternator (Minimum)
 - b) Battery Box Mounted on left Side frame Rail, behind Cab - fully enclosed
 - c) Three (3) Maintenance Free Batteries to Match Alternator
 - d) Master Battery Shut-off Switch – to be mounted inside of cab on left side of driver's seat
 - e) Mid Body Builder Circuit Switches Shall have 12 monetary switches in the instrument panel, 2 power modules (with 6 channels – 20 amps per channel – 80 amp max output) with control power module mounted inside cab behind driver's seat (If Available) or an auxiliary 12 switch pack mounted by the body builder for controlling lighting and body controls. Placement of switch pack to be determined by DOT (Refer to section 14-I for configuration)
 - f) Self-Canceling Turn Signal Switch with Integral Hazard, windshield wiper controls (with two speeds, wash, mist, and intermitted features) and integral headlight dimmer switch
 - g) Electronic Cruise Control With Idle Up Capability
 - h) Electric Wipers (Cowl Mounted). Heavy Duty Motor, Linkage and Snow Cowl Tray Lid (between hood and windshield) with Winter Blades
 - i) Factory Installed Auxiliary Power Outlet
 - j) Electrical Circuit Breakers SAE Blade Type Fuses or Circuit Breakers
 - k) Wiring chassis: Color Coded and Continuously Numbered
 - l) 12 Volt Electric Horn
 - m) Factory Installed Power and Ground Studs Mounted in dash and radio wiring package in Overhead Console
- 12) Cab and Cab Equipment:
- a) Conventional Air Ride Cab
 - b) Grab Handle on Left Side
 - c) Vertical Chrome Exhaust Stack, 18 Inches Above Cab Including, Guard, Upper Turn-out, Mounted Right Side Muffler Location: Right Side, Under Cab (current model year emissions system compliant)

- d) Hood, Front End Tilting with Butterfly or transverse style service opening
- e) Front Fender Extensions, Fender Mounted Front Mud Flaps
- f) Fiberglass Exterior Visor – Paint shall match cab color
- g) West Coast Type or Lang Mekra (Heated) Rear View Mirrors, RH Power Mirror – with auxiliary 7” convex mirrors LH/RH sides mounted under primary mirrors and 4” x 9” Down view Mirror mounted above RH Door
- h) Dual Air Horns, Pedestal Mounted with Weather Cans
- i) Tinted Windshield and Windows
- j) Heated Front Windshield (If Available)
- k) Premium Interior with Insulation – Maximum noise and thermal insulation package
- l) Over Head Console and Dual Sun Visors
- m) One (1) National High Back Air Driver Seat with Cloth Covering, lumbar supports and arm rest installed or supplied Standard Passenger Seat
- n) 18” Tilt and Telescoping Steering Wheel
- o) Factory installed air-conditioning
- p) Fresh Air Heater and Defroster with Fresh Air/Cab Air Switch (If Available)
- q) All Standard Factory Installed Instruments Including: Tachometer, Hour Meter And Transmission Temperature Gauge
- r) AM/FM CD Stereo with Weather Band with 4 factory installed speakers
- s) Power Windows Operable from the Driver’s Side
- t) Rubber Floor Covering (Black)
- u) Mobile First-Aid Kit – that meets ANSI Z308.1-1998
- v) Flare Kit
- w) Suspended Brake and Accelerator Pedals
- x) Fuel Tank: Aluminum, 23 inch Diameter, 100 Gallon Minimum with Upper left Hand Step and Full Bottom Step, Mounted Driver’s Side
- y) Thermostatically Controlled Fuel Heater Mounted in Tank - Arctic Fox type Water/Antifreeze Driven
- z) Dash Mounted Cup Holder

13) Lighting:

- a) Halogen Sealed Beam Headlights / Auto on with wipers
- b) Standard Front Turn Signals Lights
- c) Rear LED Stop / Tail / Turn And Back Up Lights to be mounted outside of frame, so not to be blocked by spinner assembly (shall also have auxiliary outfitter plug for body light installation)
- d) Interior Dome Light and Door mounted Courtesy Lights
- e) Factory installed plow light control switch
- f) Plow lights shall have high/low beam halogen headlamps with integrated park/turn lamps in the same housing and be hood mounted with stainless steel brackets (Hella # 996174061 and 996174051 or approved equivalent)
- g) Two HID work lights (J. W. Speaker # 9710-12V) shall be mounted between the headlights on stainless steel brackets mounted between headlight brackets
- h) One person auto light check test mode (If available)
- i) All lighting shall be subject to DOT regulations

14) Miscellaneous:

- a) Two Sets of Spare Keys per Truck
- b) Fire Extinguisher - 5# ABC

- c) Two (2) Spare Rear Tire/wheel Assemblies 11R22.5 16 Ply Tubeless (Michelin XDE M/S)
 - d) Filter Pack – One (1) complete set for each truck
 - e) Paint: DuPont Color N2007HN Orange / NAV0341 or approved color
- 15) Service and Parts: The vendor shall provide access to a windows based parts and service website covering engine, transmission and all chassis and electrical system manuals or CD ROMS (1 copy each) for the Engine , Transmission, Chassis and Electrical system
 - 16) One (1) set Engine, Chassis and Electrical System OEM diagnostic software with vehicle interface, cables and adapters (software shall be able to be updated by the internet) or update of current County owned diagnostic software.
 - 17) Warranty shall be an extended to 60 months on engine, emissions, Engine after treatment and engine electronics including Injectors and 60 months on Pre-Packaged component systems that includes cooling, electrical, heating and/ conditioning systems and towing. All other applications of vehicle shall be of the manufactures standard limited warranty
 - 18) Unit shall be licensed with proper municipal plate and IL safety sticker

Combination Dump Spreader Body:

The combination body shall be 16' in length, have a center conveyor for rear discharge and a hoist and tailgate for the ability of using it as a dump body.

- 1) Body Dimension:
 - a) 16' long with minimum dimensions of top width of 96" outside with a height of 43" for sides and 50" on tailgate
- 2) Body :

The body shall be manufactured of 3/16" (7 gauge) 201 stainless steel and be continuously welded 100% through out. The top edge shall be a boxed top rail of 3/16' formed 201 stainless steel channel, the sides shall be brake formed from 3/16" (7 gauge) 304 stainless steel with a shape and slope that allows material to flow freely to center conveyor. The long sills shall be fabricated from 1/4" stainless steel 14' deep. The long sills shall be joined with sections of 3/16" (7 Gauge) formed 201 stainless steel channels welded every 2' the length of the spreader body at the base of the long sills, where the long sills are then boxed in with 1/4" 201 stainless steel. A 3/16" (7 gauge) formed 201 stainless steel angle shall be welded at the top of the long sills for the full length of the conveyor. The front shall be sloped to accommodate a hoist cylinder with a partial doghouse and conform to the contour of the body and shall be 100% welded inside and out. The rear of the body shall be supported by two pieces of 3/16" 201 stainless steel plates contoured to the shape of the body and welded 100% on both sides. Additional reinforcement will be provided by a 3/16 (7 gauge formed box section placed at the rear of the body and tied to two rear posts formed from 3/16" 201 stainless steel. Together they shall provide support at the rear of the body.
- 3) Floor:
 - a) The conveyor floor shall be 1/4" 201 stainless steel replaceable (bolt in) assembly fastened at each cross member by at least 2 bolts.

- 4) Conveyor:
 - a) The conveyor chain shall be a belt over pintle type with a minimum 21,000 lbs. tensile strength per strand with a minimum width of 30 1/2" to outside edges and have crossbars with a minimum of 1-1/2" x 3/8" spaced at 4-1/2 centers. The chain shall also have front and rear wipers, 3/16" 201 stainless steel replaceable side shields, poly belt return shield and a chain oiler with an electric solenoid to control oil flow activated by the spreader control. Chain adjustment shall be made at front of unit by spring loaded take up bearings with a minimum of 3" of travel. Belting shall be high temperature type.
- 5) Conveyor Drives:
 - a) The system shall be driven by a direct drive speed sensor hydraulic motor (matched to the body capacity) on a 6:1 gearbox. The drive and idler shafts shall be 2" in diameter mounted in a 4 bolt grease able (from a central point in front of unit) flange bearing. The shafts will be keyed for replaceable 8 tooth drop forged sprockets.
- 6) Cab – Shield
 - a) To be 3/16" 201 stainless steel with the pan extending 24" forward from the bulkhead with formed bottom lip welded solid to top lip of bulkhead, 100% welded. Shield shall be mounted short on the right side as to give clearance to exhaust stack gusseted as required. Cab shield to be installed to be high enough to accommodate a Whelen 9000 model light bar on cab of chassis.
- 7) Fenders:
 - a) Fenders are to be 3/16" 201 stainless steel mounted on the combination body frame. Fenders are to be gusseted and reinforced.
- 8) Mud Flaps:
 - a) 1/2" thick x 24" wide mounted on fenders front and rear with bottom of flap 10" above ground. "No Sail Type"
- 9) Hoist:
 - a) The hoist cylinder shall be a double acting, telescopic with nitrate plating and be trunion mounted. The cylinder shall be matched to body for stroke length and weight capacity according to manufactures specs.
- 10) Safety Props:
 - a) A minimum of two (2) body props/safety bars shall be installed on the box.
- 11) Tail/feed gate:
 - a) The tailgate shall be manufactured from 3/16" (7 gauge) stainless steel with a boxed perimeter of 10 ga. 201 stainless steel formed channels and have two 10 ga. 201 stainless steel horizontal channel braces the full width to the boxed perimeter. Bottom latches and hardware shall be stainless steel controlled by an electric solenoid operated tailgate cylinder. The tailgate shall also have a feed-gate integrated into it with a gate opening of 21" wide X 8-1/2" high. The gate shall extend into the interior of the body to prevent material from escaping from a partially opened gate over the conveyor. A screw type jack and a metering rule for adjustment and setting shall be mounted on the gate.

12) Spinner assembly:

The spinner assembly shall be a bottom mount hydraulic motor style. The spinner assembly shall incorporate a diverter chute to transfer material on to the spinner disk for means of controlling the spread pattern. The spinner assembly shall be made of 10 ga. 201 stainless steel with adjustable deflectors (for directing material from the spinner disc). The spinner shall have a minimum of 20" diameter polyurethane spinner disc with six replaceable fins mounted on the top of a high torque/low speed hydraulic motor directly connected by a cast hub.

13) Pre-wet / Boom less spray system:

- a) The side tanks shall have a minimum capacity of 540 gal. (Two 270 gal. tanks) and mounted into the open area along both sides of the body. The side tanks shall be made of polyethylene, marked on the ends for gal. Capacity levels, be properly baffled to prevent sloshing or surging of liquids. The in bed tank shall have a minimum of 430 gal. manufactured from 1/4" 304 stainless steel with 10 ga. 304 stainless steel internal baffles and fit the inside contour and doghouse of the body. Both sets of tanks shall have a minimum 1-1/2" NPTF on the inlet and outlet ports.
- b) The side and in the bed tanks shall be removable for summer time use. The side tanks shall have frame supports that are bolted to the fenders and the body for ease of removing them. The in the bed tank shall be of a removable bolt in design. All lines to the tanks shall be equipped with cam lever couplers (Banjo Type) and have caps and plugs to seal the lines.
- c) The tanks shall be sufficiently supported on the bottom to prevent premature failure of tanks and brackets. All supports and bracing attaching the tanks shall be stainless steel.
- d) Shall be equipped with an Oberdorfer model # N90001 rated at 23 GPM hydraulic motor driven bronze gear pump with internal liquid bypass.
- e) The liquid flow shall be controlled through a 12volt DC pulse width modulated hydraulic valve section. (to be included with truck hydraulic system)
- f) Shall be equipped with a 60 GPM flow meter installed downstream of the pump.(Ravens model # RFM15 or approved equivalent)
- g) Both pump and flow meter shall be housed in a NEMA fiberglass enclosure that is hinged and latched for ease of access for service of unit.
- h) The prewet / boomless spray system shall be equipped with 1-1/2" 20 mesh strainer and a electric 3-way ball valve to control the flow to the pre wet side or the boomless spray side of the system.
- i) Prewet system shall be equipped complete with 3 spray nozzles installed on spinner assembly, 1/2" hoses, check valve and fittings.
- j) Boomless spray system shall be complete with 2 Tee Jet #QCTFVS60 nozzles with a poly quick coupler. These shall be mounted on the spinner assembly with the 2 nozzles mounted at 45 deg. angles to the left and right sides. The nozzles shall be supplied by a 1-1/4" line with a cam lock coupler at the rear of the truck for removing the spinner. The boomless spray system shall be hooked up in conjunction with the pre wet system to spray simultaneously only when in the boomless system. This shall be accomplished by having the pre wet tee in between the pump and the electric ball valve that controls the flow to the boomless spray nozzles. (a diagram will be furnished if requested)
- k) Tanks shall have one 2" quick-fill mounted at truck frame height in the right rear corner of the body.
- l) A single fill point shall fill all tanks using a 2" hose as a manifold with 1-1/2" lines from that connected to the tanks with a regulator valve to control to flow to the tanks.

- m) The fill hook up shall be equipped with a 2" cam lever male coupler (Banjo Type) with shutoff valve and cap.

14) Lighting and Wiring:

All Clearance and Tail lights on Dump Body shall be LED and meet or exceed State of Illinois Specifications. (Whelen ILDOT08J 2008 state spec 72")

- a) Two (2) 4-1/8" H x 6-1/2"W Red rear facing LED combo lights installed on cab-shield in 30 degree sloping bracket so lights are visible from rear with raised body and Two (2) of the same lights mounted on pintle hitch plate
- b) Two (2) Rectangular red LED combo lights, two (2) Rectangular LED backup lights. Light assembly to be recessed in rear corner posts of dump body.
- c) Whelen State of Illinois Justice LED light bar with scene lights and a switched day/night mode on riser brackets on cab roof - 72 inch in length with Two (2) amber and One (1) clear LED Strobes mounted outboard of rear corner posts and One (1) amber and One (1) clear mounted on top of cab shield working in conjunction together.
- d) Two (2) Whelen Wing Plow LED module strobes, mounted on the rear of wing, top right location, angled to be visible to traffic behind plow. Strobe shall be wired using a mercury switch as well as a switch in the display console
- e) Two (2) wing lights mounted right side one on Whelen light bar bracket and the other mounted lower behind cab (final configuration to be determined by customer)
- f) Spreader spinner light on left rear corner
- g) Junction box in rear of frame with all wiring soldered and shrink-wrapped
- h) All wiring for body lights to be installed in 1/2" stainless steel pipe welded to underside of floor and on bulkhead and underside of cab shield
- i) A Twelve (12) function graphical interface in the display console will control the Pump, Plow lights, HID lights, Spinner light, Front Strobes, Rear Strobes, Wing Strobe, Vibrator, Wing Lights and Air Tailgate. Configuration to be determined by customer. A diagram will be supplied upon request
- j) Body-up indicator light in console for dump body

15) Required Miscellaneous Items:

- a) Access to combination body shall be – A folding 8 rung nonskid type ladder made of 201 stainless steel installed on the left rear corner of the tailgate and 2 inside steps. (configuration to be determined by customer)
- b) Electronic back-up alarm
- c) Dump Box Vibrator (Cougar DC – 3200 or equal) with timer solenoid (No exceptions) mounted on a reinforced plate continuous welded to body (final location will be approved by customer)
- d) Steel under body toolbox (Black in color) with frame mount brackets (with final location to be approved by customer)
- e) Rear pintle hook, 49,000 # gross trailer, and 9,800 # gross tongue weight with safety chain loops and fold away glad-hands mounted on 1" plate steel. Pintle hook shall be mounted such that tailgate spreader will not hit hitch when dump box is in the full upright position. Pintle Hitch shall be positioned 26 inches above ground level to the center of the hook
- f) Two (2) hooks or Banjo eyes mounted on tailgate to hold spreader chains on dump body
- g) Combination body shall have a central grease bank so all bearings and grease points can be lubed from one location.

- h) Two (2) tow hooks shall be mounted to the rear sides of truck frame. (final location will be approved by customer)
- i) All added on Electric components (relays - Circuit breakers - switches – solenoids) shall be mounted a nonmetallic NEMA enclosure next to battery box

Hydraulics:

Hydraulic Pump:

- 1) PTO Mount Hydraulic Pump TXV92 or approved equivalent:
 - a) The hydraulic pump shall be a variable displacement load-sense designed for continuous operation that mounts direct on the PTO with DIN 5462 mount 8 spline shaft. Shall have a minimum 5.61 cubic inch displacement and be capable of producing a nominal 23 GPM flow at 1,000 Pump RPM with a minimum 2,500 PSI operating pressure. A 1” high pressure ball valve shall be installed at the discharge port of pump.
- 2) Pump Drive:
 - a) Shall be outfitted with a hot shift transmission PTO (Muncie CS20 or approved equal) operating at crankshaft speed with a enclosed PTO shaft extension with the hydraulic pump direct mounted to PTO must have grease able fitting for pump shaft. (shall have a separate electric control switch not wired through MC840) The PTO shall be equipped with an enclosed PTO shaft extension to move hydraulic pump mounting behind transmission.
- 3) Reservoir / Valve Enclosure:
 - a) The hydraulic reservoir will be of 35 gallons nominal capacity
 - b) The hydraulic reservoir will be constructed of 201 stainless steel and be internally baffled
 - c) Mounting bracket is to be designed and supplied by the reservoir supplier
 - d) Mounting system should allow for a 1” frame clearance for frame obstructions
 - e) Shall be mounted in a manner as to not transmit any truck torsional loads thru the tank
 - f) The enclosure lid will be removable within seconds by one person without the use of tools
 - g) All valve fittings, hose ends, filter, filler breather, sending units and any electrical connections are to be protected by enclosure cover
 - h) The reservoir supplier will provide all valve fittings (JIC connections) and plumb the return line from the valve to the filter
 - i) The cover will protect from both road and pressure washer spray
 - j) The use of bulkhead fittings is not permitted
 - k) The directional control valve must be easily accessible from all (6) sides
 - l) A 2” full flow brass ball valve shall be plumbed at the suction port of the tank
 - m) Magnetic drain plug
 - n) Removable/serviceable inlet strainer
 - o) Visual and electrical level/temperature indicators. A designated warning light mounted in the cab console and wired to the electrical indicator
 - p) Basket type filler and breather cap
 - q) There shall be a float type level sensor for low oil mounted through the top of the reservoir. It will be a normally open circuit when the oil drops to critical levels this circuit will close and send to a relay disengaging the PTO and pump. It shall also

have an indicator light to alert the operator of shut down and a momentary override switch to facilitate diagnostics and equipment storage.

4) Filter:

- a) Hydraulic oil filter shall be mounted in the reservoir. Hydraulic filter shall be a 10-micron absolute and rated for no less than 80 GPM. Filter shall be and include a visual and electrical bypass indicator. A designated warning light shall be mounted in the cab console and wired to the electrical indicator.

5) Valve Controls:

In Cab hydraulic Control System: Patrol Commander Ultra Series or approved equivalent

- a) Electric proportional controls for all hydraulic functions to be a solid state multiplex system. System will integrate hydraulic, spreader and switching function on a single platform. System will consist of the following components a 7 inch color LCD TFT display which will operate as operator information interface, single or multi proportional Joystick(s) with X, Y and option for Z axes and proportional valve drive module for power distribution located outside the cab of the vehicle. All system communication will be on a controller area network which uses the SAE J1939 communication protocol for communication. All system programming will be completed through a USB interface.
- b) The control console shall be mounted on the right side of driver seat replacing the factory arm rest incorporating a single (I GRIP) or multi joysticks. The mounting shall be adjustable up/down/fore/aft.
- c) The single Joystick (iGrip) shall incorporate six (6) additional control switches and three (3) contact-less operator interlocks. Interlocks will change between programmable functions. The actual equipment movement will be created by the movement of the handle.
- d) Thumb switch cluster shall control the application rate, spinner speed and use detent to control spreader on/off and blast functions from the control handle. Spreader on/off will include all granular, pre-wet and anti-ice functions.
- e) Contact-less operator interlocks shall be programmable from a graphical user interface and set-up for the application as follows. Interlock 1 shall be programmed as a contact point to operate the plow functions this will control plow up/down/right/left. Interlock 2 shall be programmed as a contact point to operate the wing functions this will control wing toe raise/lower, heel raise/lower and extendable push arm in/out. Interlock 3 shall be programmed as a contact point to operate the hoist and jib functions for the hook loader if equipped.
- f) The control console if equipped with three mini joysticks shall have power-on detection. The first stick shall control the plow, the second shall control the hoist and have a interlock to avoid inadvertent hoist operation and the third shall control the wing.
- g) All connectors inside the hydraulic valve/electronic control junction box will be supplied integral with the control system. The connectors will be weather tight threaded into a potted weather tight panel. All connections will be labeled with appropriate descriptions for each connection to the solenoids for the hydraulic actuating cylinders.
- h) All hydraulic function must be proportional. ON\OFF system function will not be acceptable.

- 6) Hydraulic Valve:
 - a) Shall be mobile modular manifold design load sensing with manifold for spreader function Auger, Spinner and pre wet Option
 - b) Shall be mounted in a weather tight enclosure
 - c) Shall be capable of nominal 35 GPM with published flow curves to 40GPM
 - d) Valves must be pressure and flow compensated
 - e) Control valves shall be pulse – width modulated, proportionally controlled with heavy – duty continuous duty coils having a Din connection and manual overrides
 - f) Shall be capable of changing a valve section from single to double acting by replacing shuttle cartridge
 - g) Inlet and outlet ports to be 20# - 16# o-ring, all working ports shall be 12# - 10# o-ring
 - h) Valve shall prevent any up or down movement of a raised bed when valve is returned to the neutral position

- 7) Hydraulic Valve Configuration :
 - a) Bed Hoist Electric proportional double acting cylinder spool for hoist, with a work port relief for downside protection on port “A” set at hoist manufacturer’s recommendation. 0 to 30 GPM.
 - b) Front Plow Lift Electric proportional double acting cylinder spool for front plow lift. Valve section shall have priority flow design
 - c) Front Plow Angle Electric proportional double acting cylinder spool for front plow left/right. 0 to 30 GPM
 - d) Wing Toe Electric proportional double acting power up, power down requires a Down (500psi) relief to prevent damage to the wing mounting/ truck frame
 - e) Wing Heel Electric proportional double acting power up, power down with an upside (1800 psi) and down (500) port relief to prevent damage to the wing mounting/truck frame and cylinder.
 - f) Extendable Wing Push Arm Electric proportional double acting power in , power out requires a extension relief (2000psi) with wing lock to prevent damage if trying to retract wing arm cylinder while in the stored position
 - g) Auger: Single acting motor spool for feeder, proportional 12VDC spring to center with manual override, and 0-15 GPM flow range
 - h) Spinner: Single acting motor spool for spinner, proportional 12 VDC, and 0-5 GPM flow range. Outlet cap with pressure reducing valve and solenoid drain
 - i) Pre wet: Pulse width modulated 5 GPM section controlled in conjunction with Auger speed
 - j) Blade Saver Valve: Integrated into the plow up hydraulic circuit shall be a valve that monitors the down force of the plows cutting edge. The system shall be calibrated based on a percentage related to pressure needed to raise the plow from the road surface. The valve shall include a pressure gauge and the driver shall be able to operate the on-off function from inside the cab.

- 8) Hydraulic Lines and Plumbing:
 - a) All hydraulic lines and plumbing shall be of sufficient capacity so as not to create heat or turbulence within hydraulic system. Suction line between reservoir and pump shall be a minimum of 2 in. I.D. with a minimum SAE 100-R4 rating and shall be secured on both ends via heavy duty banding straps, radiator hose clamps unacceptable. All pressure hoses, including signal sense to pump shall have swivel

fittings on both ends and have a minimum SAE 100-R2 rating. Return lines and case drain shall have minimum SAE 100-R1 rating.

- b) Hydraulic lines shall be routed to minimize interference with equipment and chassis components requiring periodic servicing. Support brackets, grommets, and tie wraps shall be provided where appropriate to protect lines from damage by abrasion, cutting or impact.
- c) Hoses shall not be routed near exhaust manifolds pipes, bolts, sharp edges, and exhaust system to prevent wear, fatigue, or fire. **Pipe fittings** shall not be used in any high-pressure line. Maximum distance between support clamps on all hydraulic lines shall be 24 in. All quick couplers are to be Parker Brass 60 Series.

SSC 6100: Electronic, closed loop, ground speed spreader control or approved equivalent

- 1) The electronic spreader control shall be designed to operate on a CAN Bus protocol. The spreader system is designed for precise closed loop ground speed control of both granular with pre-wet and liquid anti-ice applications and will allow the user to easily switch between closed loop, ground base or manual spreading applications. The controller will provide accurate simultaneous spreading of granular material, pre-wetting and anti-icing liquids used in snow and ice operations from 0 to maximum normal spreading speeds. The controller will be equipped to apply anti-icing liquids to three (3) separate lanes. Setting will be able to be programmed per user and easily changeable by the driver identification.
- 2) All calibration will be stored in the systems non-volatile memory and password protected.
- 3) The controller display shall be 7" diagonal color TFT LCD with touch-screen. Display will have selectable options for displaying user optional information. Display will automatically adjust for day and night conditions and will also have a user interface to adjust backlighting.
- 4) Shall have the ability to control the application rate based on road temperature. This will be set in a minimum of 10 temp/rate ranges chosen by McHenry Co. DOT.
- 5) Pre-wet/de-ice system shall be activated by the operator, as needed based on conditions. The gallons per ton ratio or gallons per mile can be adjustable or fixed for the operator via a calibration value that has been selected by McHenry Co. DOT.
- 6) A thumb switch cluster on the single joystick control handle (if equipped) shall control the application rate, spinner speed and use detent to control spreader on/off and blast functions from the control handle. Spreader on/off will include all granular, pre-wet and anti-ice functions.
- 7) Shall have the capability of both automatic and manual operation. There will be limit to the range of application rates for granular, pre-wet and anti-ice. There will be a minimum of ten (10) material calibrations. The spinner will be capable of open and closed loop operation. The controller will include a blast button that will apply a pre-determined application rate for a specific amount of time. There will be blast rates for ten (10) separate granular and the anti-ice liquid materials. The blast button will also increase the spinner speed if needed.
- 8) The controller shall have the ability for a winter/summer mode. In winter mode all hydraulic functions shall operate except raising and lowering of dump body, in summer mode all hydraulic functions shall operate except for the spinner, anti-ice and pre-wet.

- 9) The controller must have the ability to display temperature, air and road surface.
- 10) The controller shall have a start/stop operation that will stop the granular and liquid material being applied when the vehicle stops and when the vehicle begins movement the material will begin instantaneously. The controller shall connect to the vehicle speedometer without the use of interfacing adapters.
- 11) The controller shall be capable of controlling pulse width modulated (PWM) hydraulic valves that are currently being specify by McHenry Co. DOT. The console will self calibrate the valves. In case of a sensor failure the console will revert back to the open loop mode.
- 12) The control must have a calibration locking code or supervisor pass key type protection of system calibrations.
- 13) The control must have the ability to display on-screen simultaneously: granular material name, granular material set point and actual application rate including units of measure, pre-wet liquid name, pre-wet liquid set point and actual application rate including units of measure, spread width, road temperature, air temperature, material usage total, liquid usage total, vehicle speed and current date and time feature that will allow the use of different simulated speeds, which will allow operation in the automatic mode without movement of the vehicle. The controllers will self calibrate the granular material. A USB port will be provided to allow for up loading calibration number and down loading recent and annual volume totals for granular and liquid materials, distances, truck number and application rates to be printed. All of the totals will be stored and referenced to GPS location, temperature, I-Grip positions and operator incident markings. The system will also be 80211.G compatible for up loading and down loading information. The system will be network ready and backward compatible with present system.
- 14) All external cable connections to be IP 68 rated. Cable lengths shall be adjusted to fit department chassis. All possible connection points shall have LED light continuity indicators for trouble shooting.
- 15) The spreader and spray bodies that will be mounted on these chassis are to be equipped with ground speed and closed loop feedback. Vendor is responsible for these sensors and for connection to chassis speedometer sensor making system operational.
- 16) Spread control system must be upgradeable and configurable for future expansion.
- 17) Vendor will supply 24 hour support and any current upgrades available to the current county equipment.
- 18) A SSI Surface Patrol (Model # 999J) temperature unit shall be mounted on the truck frame (Driver side) and incorporated into the control console.
- 19) The control console shall be separate from the other hydraulic controls. Controller shall be dash mounted with final location to be approved by McHenry Co. DOT.
- 20) Unit must be pre programmed prior to delivery.

Automated Data Collection System (PreCise or approved Equivalent)

- 1) Enhanced GPS
 - a. Satellite based GPS receiver.
 - b. Wi-Fi receiver 802.b/g short-range transceiver
 - c. GSM/GPRS cellular radio.
 - d. Module – separate from hydraulic controller should replacement of either be necessary.
 - e. 0).

- 2) Module Features
 - a. Gathers Information on vehicle position (latitude/longitude) – engine hours – speed – odometer – heading – time
 - b. Logs engine hours
 - c. Monitors six (6) discrete inputs and tracks when and where they change.
 - d. Interfaces to select electronic controllers to provide data transfer capabilities
 - e. Wirelessly downs data using the most cost effective means – 802.11b/g access point when in range and GSM/GPRS network at other times
 - f. Rugged design to withstand extreme operating conditions
 - g. 12v/24v operation
 - h. All components pre-configured
 - i. Capable of connecting a laptop directly to module
- 3) Module – In Vehicle Unit
 - a. Steel case.
 - b. Power cable harness
 - c. Magnet mount antennas for Wi-Fi- Cell Phone - GPS
 - d. Harness for connecting to vehicle OBD port
 - e.
- 4) Automated Data Collection System
 - a. Web-based mapping.
 - b. GSM/GPRS communication
 - c. Import data into other database applications
 - d. Secure online database
 - e. Data transfer without laptop or PDA
 - f. GPS information gathering
 - g. Idle and windshield time reporting
 - h. IFTA reporting
 - i. Geofence and zone reporting
 - j. Event logging and reporting
 - k. Material usage reporting
 - l. Report command software
 - m. Vehicle maintenance data reporting Access information via the web

Snowplow Straight Moldboards

- 1) Mold Board: Straight
 - a) Snowplow shall be a 12' reversible straight integral shield style moldboard style. Plow shall be 12' long with a minimum height of 48" at each end. The moldboard is to be fabricated of 10 gauge A569 steel with a minimum of (6) ½" ribs from the bottom to the top continuously welded and rolled to match the contour of the moldboard with a 3" top plate continuously welded at the top. The back side of the moldboard shall be reinforced at the bottom with an angle boxed and reinforced with bar stock. There shall be welded to the bottom angle a minimum of four (4) lower hinge ears. A 3/8" x 18" x 12' rubber deflector shall be attached to the top edge of the moldboard with a 1/8" x 2" flat steel strip. Also (2) 36" flexible markers mounted on each corner.
- 2) Plow Cutting Edge and Shush Blade :
 - a) The cutting edge shall be a carbide insert integrated in rubber that is sandwiched between two steel blades (Kuper Tuca SX wave) in 4' sections. Punching shall

conform to A.A.S.H.T.O. standards. A right and left carbide curb shoe shall also be installed.

- b) The plow shall have a rubber slush blade rearward of the of the plow's cutting edge. The slush blade shall act as a squeegee and remove any residual snow or slush left behind by the front cutting edge. The left and right slide link assemblies shall bolt to the plow's push frame shoe brackets. The outer slide link mount shall be a 4" OD square tube reinforced with 1/2" bar welded to a 9-1/2" x 8" x 5" mounting plate. The mounting plate shall have twelve .813" slotted holes to allow mount to be adjustable. Tube shall have two 1/2" ears, one each side for installation of a clevis mounted cylinder. The outer slide mount shall be universal for either left or right hand mount. The inner tube shall be 3-1/2" OD. At the base of the inner tube there shall be a tubular pivot weldment retained within the inner tube with a 1" bolt. The pivot weldment shall allow misalignment between the slide link assemblies and the squeegee retainer. The squeegee retainer shall be of 1/4" HR material break formed into an abbreviated 4" channel. The channel will have a 1-1/4" front edge and a 3" back edge both bent to 70 degrees. The back edge will retain the rubber blade and have 1-1/4" reinforcement lip bent at 90 degrees. Eight 1/4" flame cut reinforcement that follow the contour of the channel, shall be welded evenly to the outside. There shall be four 3/4" ears welded to top of the channel for mounting the lower portion of the pivot weldment with a 1" bolt. There shall be two ears welded to the top of the channel for the cylinder clevis mounts. The squeegee retainer shall have 1-1/16" mounting holes with standard highway pattern a 1" x 6" rubber squeegee blade shall be retained with 5/8" plated carriage bolts. The air cylinders to raise and lower the squeegee blade shall be 3-1/2" ID x 6" stroke with stainless steel rod. Air control console mounted in the cab shall control the up and down movement of the blade and have an adjustable pressure regulator.

3) Reversible Table and A-Frame:

- a) The front push beam shall be fabricated of 4" x 3/8" wall square tubing and the semi-circle is to be fabricated from a minimum of 3-1/2" x 3-1/2" x 1/2" hot rolled angle. Two positive stops are to be welded to semicircle and set to allow moldboard to swing 35 degrees in either direction. The front push beam shall have a minimum of eight (8) ears to form a pivot to affix the moldboard onto the push frame with 1 1/4" pins of 1045 stress proof steel and two jack support channels with holes for various shoe mounting heights. The front push beam and the rear sector shall be welded together with plate gussets at the corners. The cylinder hook up points shall be of 1/2" plate with cylinders located on the underside of the semi-circle. The angle of the cylinders in relation to the moldboard shall be designed to almost eliminate side stress to cylinder rods.
- b) The principle members of the A-frame shall be C4" x 13.8# ship and car channel with a 1" x 5" oscillating plate. Pivot bolt is to be of 1 1/4" grade 8 and shall be secured with a slotted nut. All cylinder hookup points shall allow no more than 1/4" of pin exposure at the critical shear points.
- c) The cylinder shall be 3" effective diameter bore with a minimum 10" stroke. Rod shall be 2" in diameter and nitrate plated. Cylinders will have maximum operating pressure of 2800 psi. with a bursting pressure of 7,000 psi. Quick couplers shall be Parker Brass 60 series.

- 4) Plowing Tripping Mechanism:
 - a) Plow shall be held in the plowing position by two (2) compression trip springs made from AISI 5160H steel with a tensile strength of 112,000 – 140,000 PSI, rated at 195# per inch of compression. The trip assemblies shall be made consisting of three (3) pieces: ½” x 3-1/2” a36 steel mechanical slide with a 5-5/16” OD x 23-1/4 free height x 21/32 bar diameter spring that encircles slides. The assemblies shall be attached to the moldboard with a plate that has three (3) adjustment holes for changing the cutting edge attack angle. The adjustment plate will be reinforced with a 3” x 3” x 3/8” angle that is continuously welded between two (2) upright ribs and the moldboard.
 - b) The snow plow shall incorporate a level lifting device capable of maintaining the snow plow cutting edge parallel to the road surface at any time during operation. The plow can be lifted to any desired height and reversed at that height, and the cutting edge will remain parallel to the road surface
- 5) Quick Attached Loop:
 - a) Loop shall be constructed of 2” C1018 steel cold formed into a loop which will accept a 2 ½” pin. This loop shall protrude thru and will be welded to a 4” x 13# channel which shall be gusseted and welded to the back of the A frame.
- 6) Parking Stand/Jack:
 - a) The snow plow shall be equipped with a top wind tube mount jack assembly. The jack assembly shall be removable and have mounting tubes on both sides of the A-frame weldment./ quick attached loop channel
- 7) Paint (Plow):
 - a) The plow shall be thoroughly sanded and primed to finish painting. The moldboard will be a powder coated Omaha Orange and the frame shall be powder coated black. All painting shall be done in conjunction with good commercial practices.

Plow Frame:

- 1) Snow Plow Front Frame side Plate Hitch with Quick Tilt Feature to be Mounted on all Trucks by Bidder:
 - a) Hitch shall be of the front mounted type designed to transfer plowing forces directly to the truck frame side rails. All units shall be built to fit county trucks and shall be compatible with specified plow and existing county plows.
- 2) Tilt Section:
 - a) The lift arm assembly shall be designed to tilt down and fold flat against the hitch weldment for summer storage.
 - b) When the lift arm assembly is folded in the storage mode it shall have the ability by removing one cylinder pin and reinserting it the lock position to hold the lift arm assembly and lift cylinder tightly against the hitch weldment.
- 3) Auto Level Lifting Devise:
 - a) The hitch shall incorporate a reinforced, telescoping lift arm, which shall be adjustable to 10 positions allowing the operator to choose a position best suited to his needs. With the lift arm extended to a point directly above the pivot point of the table and A-frame assembly, the plows cutting edge will automatically remain parallel to

the road surface. As the lift arm is shortened from this point, the plows cutting edge will be closer to the road on the discharging end than it is on the leading end. The outer tube shall be 4" square with a 3/16" wall thickness and shall be 25" long. The inner tube shall be 3 1/2" square solid metal, telescoping and shall be 32" long.

- 4) Lift Cylinder:
 - a) The cylinder shall be of a 4" bore x 10" stroke double acting displacement type with a working pressure of 1500 psi, and a 3" diameter rod.
- 5) Quick Attach Coupler:
 - a) A Quick Attach Coupler shall be built into the plow frame (not an add-on conversion kit) with a Quick Attach Loop on the plow.
- 6) Side Plate Mounting:
 - a) The hitch mounting shall incorporate full on piece side plates made of 1/2" thick A-36 steel plate. These side plates shall be mounted on the outsides of the truck frame rails and shall utilize the optimum space available for the particular type of truck. Side plates shall be spaced out from the frame to assure clearance of the steering mechanisms, spring hangers and brake lines. Spacers if needed shall be of heavy wall D.O.M. tubing with at least 1/4" wall thickness. Both side plates shall be braced from the lower rear center portion of the push frame to the inside lower center portion of the side plates with 1/2" x 2" steel flat. A cross brace shall also to be used between side plates to form a solid triangle with the above mentioned bracing. Side plates shall extend to the center line of the front axle, and shall use the full depth available for the particular type of truck to be used. Side plates shall be mounted on the frame using no less than eight 5/8" grade 8 bolts with lock nuts where possible. Two Heavy Duty Tow Hooks shall be mounted on the lower front corner of each side plate.
- 7) Cushion Valve:
 - a) Plow reversing cylinders shall be protected with a Gresen DXV50-1800 cushion valve mounted on the hitch.
- 8) Painting (Frame, Hitch, etc.):
 - a) Snow plow frames and front hitches and all components attached thereto shall be thoroughly sanded and primed prior to finish painting. The frame and hitch components shall be powder coated. (Gloss Black) All painting shall be done in conjunction with good commercial practices

Heavy Duty Mid. Mount Patrol Wing:

- 1) The height of the moldboard shall be no less than 26", both inboard and outboard measurements, includes a 5/8" x 6" carbon steel cutting edge with a 5/8" x 6" cover blade with a curb guard, the length of the cutting edge shall be 10 ft. The punching shall conform to A.A.S.H.O. standards.
- 2) Moldboard shall be smooth rolled design. The moldboard and moldboard reinforcement shall be constructed of not less than 10 gauge thick high strength carbon steel A569 or equal. (Mild steel is not acceptable.) The top edge of the moldboard will be a formed channel 2-1/2" x 1"

- 3) The bottom angle shall be a minimum of 4"x4"x1/2" A36 steel with 1" thick trip hinge blocks welded to the angle. The trip section shall be 4"x4"x3/4" angle with 1/2"x1-3/3" gussets, approximately every 6". These angles shall pivot on a length of 1-1/4" cold roll 1040 steel with four torsion springs. The moldboard will have an open back design with a minimum of 5 vertical ribs. The ribs shall be continuously welded to the moldboard and to the bottom angle. The moldboard shall have two extra horizontal support angles.
- 4) The wing ram length shall permit lowering of the outer wing tip approximately 8" below ground line and raise to approximately 12" above for limited benching. The toe and heel of the wing shall each be activated with one double acting cylinder.
- 5) The wing post and rear push arm frame shall be designed on a chassis so that it is not necessary to require additional cab to body spacing and without any modifications to the exhaust system. The wing post shall be mounted to the chassis frame using two 1/2" thick steel side plates bolted to each side of the chassis frame using grade 8 bolts and a 4" x 6" steel tube that shall be a minimum 58.5" long and span through both side plates.
- 6) Rear Push arm. The wing shall be equipped with a telescoping power slide rear push arm. The arm shall have a 4" ID x 28" double acting cylinder with a 3" nitride rod and an internal accumulator to adjust the inner and outer portions of the push arm. The outer tube to be 4" x .438" square tube with the inner tube being 3"x1/4" wall square tube. The tubes shall be reinforced with 3/16" bar and plate stock.
- 7) Rear mount shall be manufactured from 1/2" steel base plate and 5/8" steel attaching plates incorporating attachment points for the push arm and the rear mounted heel lift cylinder and a safety chain to secure the wing in the folded position. The main structure of the rear push arm frame assembly shall be 4" x 6" steel tube fastened to the truck frame using two 1/2" steel plates bolted to each side of the chassis frame
- 8) The front post shall be of a style to allow the toe of the wing to float freely over rough roads and road shoulders without the use of cables or bridge bars, thus reducing potential damage to the wing and cab/chassis when in the plowing position.
- 9) The post front structure shall be of a trailing link style or of a slide mechanism style approved by the McHenry County Division of Transportation.
- 10) Wing lift cylinder for the toe shall be matched to the manufacturer's specs with a nitrided rod. The cylinder shall have adjustable chevron packing. (There will be no cables used on the wing.)
- 11) The heel lift cylinder shall be matched to the manufacturer's specs. The cylinder shall be nitride, double acting and decelerate to prevent rapid acceleration of wing heel while rising. The cylinder shall be attached to moldboard through a built-in slide assembly linkage to allow the wing to follow the contour of the plowing surface.
- 12) Painting (patrol wing) shall be thoroughly cleaned and primed prior to finish painting. The paint will be a high quality, high solid, lead free enamel, (DuPont Color N2007HN / Omaha Orange or equivalent with "Powder Coating"). In view of environmental safety, environmental sensitivity and a corrosion resistant finished product, the paint process for all steel components shall be powder coat paint, incorporating the encasement type

process. The material used shall be environmentally friendly and shall consist of 95% recycle residue that emits “0” VOC’s into the environment.

13) NOTE: All linkage pins shall have grease zerks machined integral in the pin. Cutting edge shall be in two 5” sections for independent tripping of each section.

14) Right Side Mounting – Rubber Cushion Ride kit installed on right spring matched to truck. (Timbren Brand or equivalent)

15) All mountings shall be of the heaviest design practical. It is the desire of this specification to reduce the added weight to the vehicle without sacrificing needed strength.

16) One (1) set of Service Manuals and Parts Manuals or CD ROM’s required with wing mount.

Tarp System: Tandem Axle (Combo Body)

1) Pull Tarp System, Semi Automatic:

A semi automatic pull tarp system shall be provided on the combo dump bodies. The tarp system shall have the 7” mini flaps, load climber and roller cover. Mounting hardware shall be stainless steel.

THIS PAGE IS MANDATORY

BID ON

Quantity One (1) 2016 or Current Model Year Snow Plow Truck Complete Delivered to 16111 Nelson Rd, Woodstock, Illinois 60098 full delivered price. Including Title and License Plates.

\$ _____

(Written dollar amount)

Number of days for delivery after receipt of purchase order _____

******Vehicle Titles******

All Titles MUST be made out to:

COUNTY OF MCHENRY
2200 N SEMINARY AVE
WOODSTOCK IL 60098

Any titles made out incorrectly are the responsibility of the vendor to have a corrected one issued at the vendor's cost.

THIS PAGE IS MANDATORY

REFERENCES

List three (3) references that you have done similar work, service or supplied similar products to within the last twelve (12) months (Only correct contact names and phone numbers will be acceptable).

Entity:

Address:

City, State, Zip Code:

Telephone Number:

Contact Person:

Entity:

Address:

City, State, Zip Code:

Telephone Number:

Contact Person:

Entity:

Address:

City, State, Zip Code:

Telephone Number:

Contact Person:

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**RUBBER STAMPED, FAXED, COPIED, OR TYPED SIGNATURE
WILL DISQUALIFY YOUR BID MUST BE AN ORIGINAL
SIGNATURE**

CERTIFICATIONS

Vendor certifies that it has not been barred from contracting with a unit of State or local government as a result of a violation of Section 33E-3 or 33E-4 of the Criminal Code of 1961, as amended. _____ Yes _____ No

Vendor certifies that it is aware that all contracts for the Construction of Public Works are subject to the Illinois Prevailing Wage Act (820 ILCS 130/1-12) _____ Yes
No

Under penalties of perjury, I certify that _____ is my correct Federal Taxpayer Identification Number. I am doing business as a (please check one):

- | | |
|---|--|
| <input type="checkbox"/> Individual | <input type="checkbox"/> Real Estate Agent |
| <input type="checkbox"/> Sole Proprietorship | <input type="checkbox"/> Government Entity |
| <input type="checkbox"/> *Partnership | <input type="checkbox"/> Tax Exempt Organization |
| <input type="checkbox"/> **Corporation | (IRC 501(a) only) |
| <input type="checkbox"/> Not-for-Profit Corporation | <input type="checkbox"/> Trust or Estate |
| <input type="checkbox"/> Medical and Health Care
Services Provider Corporation | |

*State full names, titles and addresses of all responsible principles and/or partners below;

Name: _____ Title: _____

Address: _____

Name: _____ Title: _____

Address: _____

Name: _____ Title: _____

Address: _____

Name: _____ Title: _____

Address: _____

Name: _____ Title: _____

Address: _____

If needed please submit any additional sheets.

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**RUBBER STAMPED, FAXED, COPIED, OR TYPED SIGNATURE
WILL DISQUALIFY YOUR BID MUST BE AN ORIGINAL
SIGNATURE**

PROPOSER'S CERTIFICATION

I have carefully examined the Bid, Scope of Work, Specifications, and any other documents accompanying or made a part of this Bid.

I hereby propose to furnish the goods or services specified in the Bid. I agree that my proposal will remain firm for a period of up to 120 days in order to allow the County adequate time to evaluate the qualifications submitted.

I verify that all information contained in this proposal is truthful to the best of my knowledge and belief. I further certify that I am duly authorized to submit this Bid on behalf of the firm as its act and deed, and that the firm is ready, willing, and able to perform if awarded the contract.

I further certify, under oath, that this proposal is made without prior understanding, agreement, connection, discussion, or collusion with any other person, firm or corporation submitting a proposal for the same product or service. No officer, employee or agent of the County of McHenry or any other proposer is interested in said proposal and that the undersigned executed this Proposer's Certification with full knowledge and understanding of the matters therein contained and was duly authorized to do so.

**State of Incorporation _____

(Individual - Partnership - Company - Corporation)

(Business Address)

(City, State and Zip Code)

(By Printed Name and Signature)

(Title)

(Witness Signature)

(Title)

(Telephone No)

(Fax No.)

(Date)

(Email)

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