



Racine County Finance Department

Racine County Courthouse
730 Wisconsin Avenue
Racine, WI 53403-1238
Phone (262) 636-3129
Fax (262) 636-3763

Kenneth J. Schmidt
Purchasing Coordinator

January 12, 2017

Dear Prospective Bidder:

You are invited to submit a bid to provide Racine County with One (1) New Current Model Year Tandem Axle Dump Truck with Snowplow, Patrol Wing, and Pre-Wet System completely mounted and operational. Sealed bids are due on or before 2:00 p.m. on Tuesday, January 31, 2017 at the above address. Late bids will not be accepted.

Responses must be in a sealed envelope or box and show the firm's name, address, and solicitation number on the cover. Your response must be manually signed and dated and include all requested information.

Any general questions regarding this Invitation For Bid may be directed to Kenneth Schmidt, Purchasing Coordinator at (262) 636-3700 between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday or via electronic mail at Ken.Schmidt@racinecounty.com.

Arrangements to view the trade-in unit and technical questions may be directed to Brett McDonald, Shop Operations Manager, at (262) 886-8446 between the hours of 8:00 a.m. and 3:30 p.m., Monday through Friday.

No other Racine County employees or representatives other than those specified above are authorized to provide information or interpret any portion of this solicitation. No contact from a vendor to any Racine County employee or elected official should be made during this process unless authorized by Racine County Finance Department.

Sincerely,

Kenneth J. Schmidt

Kenneth J. Schmidt
Purchasing Coordinator

Encl: Bid Package

INVITATION FOR BID

Bid # 17-PW-001

Tandem Axle Dump Truck

I. INSTRUCTIONS TO BIDDER

A. GENERAL

The purpose of the specification is to convey Racine County's requirements for the purchase of one (1) new current model year Single Axle Dump Truck with snow plow, patrol wing and pre-wet system completely mounted and operational.

The intent of these specifications is:

- to stipulate the MINIMUM acceptable requirements of good engineering design and performance,
- to establish the bidder's responsibility to furnish all necessary appurtenances and labor in supplying the vehicle being advertised for and,
- to assure complete conformance by the successful bidder with the requirements outlined.

Any item omitted which is clearly necessary for the satisfactory performance of the proposed equipment, even though not directly specified, shall be considered a part of the contract.

The term "Heavy Duty" as used to describe an item shall mean in excess of the usual quantity, quality, or capacity that is normally supplied with the standard production vehicle, or components.

B. BIDDER'S QUESTIONS

Bidders are reminded to carefully examine the bid and specifications upon receipt. If the Bidder does not fully understand the Invitation For Bid (IFB) or is in doubt as to the County's ideas or intentions concerning any portion of the IFB, contact Kenneth Schmidt, Purchasing Coordinator, for interpretation or correction of any printed material.

Phone: (262) 636-3700

Fax: (262) 636-3763

E-mail: purchasing@racinecounty.com

Technical questions may be directed to Brett McDonald, Shop Operations Manager at (262) 886-8446 between 8:00 a.m. and 3:30 p.m., Monday through Friday.

C. METHOD OF BID

Bidders shall submit bids on the forms provided. See Section III. CONTENTS OF BID for a list of documents to be included. Bids written in pencil or in a format other than the attached worksheets will be rejected. Erasures or corrections of mistakes on Bid Forms or Minimum Specifications will be initialed or signed by bidder. Failure to meet any requirements listed in this bid document may be cause for disqualification of the bid. Each bid shall include the pricing, delivery, and acknowledgement of addendum(s) if any.

A legally authorized representative of the bidder will sign the Certification of Vendor page (page 27) in blue ink. This form shall be the cover page for all submitted bids. At least one copy of the Certification of Vendor (page 27) shall have an original signature. Two (2) copies of all bids shall be submitted to the Racine County Finance Department.

Each copy shall include the Certification of Vendor (page 27), Bid Form (1) (page 28, 29), Bid Form (2) (page 30, 31), and Warranties (page 32) furnished with this bid package as well as the Minimum Specifications (page 6-26).

D. PROPRIETARY INFORMATION

Any information held to be proprietary by a bidder must be plainly marked as such and may not include pricing.

E. INCURRING COSTS

Racine County shall not be liable for any costs incurred by a vendor in replying to this IFB including any vendor meetings.

F. ADDRESSING OF BIDS

The bid shall be submitted in a sealed envelope. Sealed envelope shall be marked with bidder's return address and shall be addressed as follows:

To: PURCHASING COORDINATOR
RACINE COUNTY COURTHOUSE, RM. 400
730 WISCONSIN AVE
RACINE, WI 53403

On the front of the envelope, write:

"BID: SINGLE AXLE DUMP TRUCK, DUE JANUARY 31, 2017"

G. DUE DATE

Sealed bids will be accepted by the Racine County Finance Department until 2:00 P.M. local time, Tuesday, January 31, 2017. The bids will then be publicly opened and read aloud.

II. TERMS AND CONDITIONS

A. NEW EQUIPMENT

The vehicles or equipment offered are to be of the latest type and commercial model manufactured and is to be new and unused. Manufacturer's literature covering specifications and description of vehicles must accompany bid. The vehicles shall be furnished and delivered complete with operating accessories, modifications and equipment as specified herein.

B. SAFETY REQUIREMENTS

It shall be the successful bidder's responsibility that the vehicles are complete and conform to all applicable State of Wisconsin and Federal motor vehicle safety laws, regulations, and standards in effect on the date of vehicle delivery.

Any party installing equipment to complete the vehicles for delivery will be responsible to see that the completed vehicles meet all applicable federal motor vehicle safety standards and comply with the law in all respects.

C. DEMONSTRATION

Racine County reserves the right to request a demonstration of any bidder's proposed vehicles, prior to issuance of a purchase order.

D. TRADE INS

Racine County reserves the right to accept the trade-in allowances or to keep the proposed trade-in units for auction at a later date. The successful bidder agrees that any trade-in vehicle or equipment will not be surrendered until the new unit is in road-

operable condition and in service. Mobile radio equipment in the trade-in units will remain the property of Racine County and will be removed by Racine County.

E. VIEWING EQUIPMENT

Arrangements to view the trade-in units may be made by contacting Brett McDonald, Shop Operations Manager, at (262) 886-8446 between the hours of 8:00 a.m. and 3:30 p.m., Monday through Friday.

F. DELIVERY

Each bidder must state in his bid the time required for delivery. Extreme late delivery, determined by Racine County to be thirty (30) days after promised delivery date, shall be cause for contract cancellation.

Equipment is to be delivered to Racine County Public Works, 14200 Washington Avenue, Sturtevant, WI 53177. Contact Brett McDonald (262-636-8446) to arrange delivery.

G. TAXES TO BE EXCLUDED

All bids are tax exempt as Racine County is not subject to State and Federal Tax.

H. PRICING

All bid prices must include delivery, F.O.B. destination freight prepaid, unless otherwise specified in the bid invitation.

Prices must be net after deducting all trade and quantity discounts. Where cash discounts for prompt payment are offered, the discount period shall begin with the date of receipt of a correct invoice or receipt of final acceptance of goods, whichever is later. Vendors who wish to quote a discount for early payment may do so by noting the discount in the Payment Terms on the Invitation For Bid Form; for example – 2/15 net 30. Discounts will be considered when evaluating costs.

I. WARRANTY

Warranty shall start the day vehicles are placed in service at the Public Works Department. The manufacturer shall warrant each entire vehicle or equipment and any furnished devices, against parts failure or malfunction due to design, construction, installation, or errors in assembly of components, defective material, and workmanship.

J. TITLE / REGISTRATION

In order to comply with the State and Federal code for vehicles, the vendor, supplier, or manufacturer of applicable vehicles shall, upon delivery, furnish Racine County with the following documents, if applicable, completely filled out.

1. Certificate of Origin only to:
Racine County Public Works
14200 Washington Avenue
Sturtevant, WI 53177
2. Certification of odometer mileage
3. Tax exemption certificates

Racine County will take the responsibility for completing the registration and providing license plates for the units when required by State law.

K. PURCHASE ORDERS

No shipment shall be made under the contract until a Purchase Order has been received unless otherwise agreed to by the Purchasing Coordinator in writing.

L. DESCRIPTIVE LITERATURE

Bidder shall attach manufacturer's current literature and specifications covering the latest model of equipment that is bid and that specifically and clearly indicates coverage of all items shown in the bid specifications. If the manufacturer's literature does not clearly reflect these items, the bidder shall attach certification from the manufacturer verifying compliance with the bid specifications.

M. AFFIRMATIVE ACTION

Racine County is committed to fulfilling its role as an Affirmative Action/Equal Opportunity Employer. We request your vigorous support of our Affirmative Action efforts. Our relationship with your agency is based upon your willingness to accept and comply with Executive Order 11246, as amended, and other federal laws requiring equal employment opportunity without regard to race, religion, color, national origin, sex, disability or veteran status. By signing the Certification of Bidder page, you indicate your acceptance and compliance.

III. **AWARD CRITERION**

A. RESPONSIBLE BIDDER

Award will be made to the lowest responsive, responsible bidder conforming to the specifications, terms and conditions, or, to the most advantageous bid for Racine County on a quality versus price basis. Awards will not be made to any person, firm, or company in default of a contract with the County, or to any bidder having as its sales agent, representative, or any member of the firm, any individual previously in default or guilty of misrepresentation.

B. AWARD AUTHORITY

The Racine County Public Works Department will be the sole judge of the quality and suitability of the equipment, materials, and/or services offered in its determination of the successful bidder.

All bidders, by submission of their respective bids, agree to abide by the rules, regulations, and procedure of Racine County. Racine County reserves the right, at its sole discretion to utilize the services of an independent ancillary service with the most successful bidder. Intent to award will not be made and a contract will not be executed until Racine County, at its sole discretion, accepts the proposed bid.

C. OTHER CONSIDERATIONS

In making the award for furnishing this vehicle and equipment, factors other than price may be considered such as delivery date, parts, service, local and past experience with vehicle and equipment, adaptability to County's requirements, operating advantages, structural design of machine, etc.

D. DISQUALIFICATION

Bidder shall bid on all items listed in the IFB. Bids with substitutions of specified equipment and/or failure to provide pricing will result in a **noncompliance** bid and will be viewed as a "No Bid".

IV. CONTENTS OF BID

Each bid shall contain the following documents in this order:

1. Certification of Vendor page – page 27 – one original signature in blue ink required.
2. Bid Form (1) – page 28, 29.
3. Bid Form (2) – page 30, 31.
4. Minimum Specifications – pages 6 through 26.
5. Warranties – page 32.
6. Details of exceptions or alternates to the minimum specifications if required.
7. Manufacturer literature.

Failure to fully complete bid package could result in rejection of the bid.

V. MINIMUM SPECIFICATION

TANDEM AXLE TRUCK

GENERAL

This specification is to describe a **tandem axle truck, dump body with a sloped asphalt tail section, liquid prewet system, and a hydraulic system to control a front plow and right hand front mounted wing plow.** All attempts have been made to ensure the following specifications are as accurate as possible. Racine County is open to other options provided they meet the intent of this bid. Bidders will submit current literature for make and model bid.

List Model Bid: _____

1. TYPE

- a. Tandem Axle Truck-Current Model Year _____
- b. CA: approximately 120 to accommodate specified dump body _____
- c. GVWR: 58,000 lbs. minimum _____
- d. Wheel Base: approximately 186 inches _____
- e. Set back front axle model _____

2. AXLES, SUSPENSION AND EQUIPMENT

1. FRONT

- a. 20,000 lb. minimum rating tapered springs with front shocks
Add an air suspension airbag with self-leveling valve to right front spring to accommodate weight of wing PRIOR to chassis going to body builder _____
- b. Front Tires – 425/65 R22.5 L rating _____
- c. Front Rims: Two (2) 12.25 x 22.5 ISO steel disc wheels
powder coated light grey _____
- d. Seals- SKF Scotseal Plus XL or equal _____
- e. Front Brake Dust Shields _____
- f. Wheel cut: maximum allowed with specified wheel equipment _____ degrees.
- g. All wheels are to have steel hubs. Aluminum not acceptable. _____

2. REAR

- a. 46,000# air suspension with leveling valves _____
- b. Rear Chambers on forward side of drive axles _____
- c. Rear Tires- 11R 22.5 H rating _____

- d. Seals- SKF Scotseal Plus XL or equal _____
- e. Rear Brake Dust Shields _____
- f. Rear Rims: Eight (8) 8.25 x 22.5 ISO steel disc wheels
powder coated light grey _____
- g. All wheels are to have steel hubs. Aluminum not acceptable. _____

3. BRAKE SYSTEM

- a. Full Air Brakes-S-Cam Type _____
- b. Front: S-Cam 16 1/2" x 6" _____
- c. REAR-S-Cam 16 1/2" x 7" _____
- d. Low pressure warning system _____
- e. ABS Brake System _____
- f. Meritor automatic type slack adjusters _____
- g. Wabco SS-1200 Plus Air Dryer with heater _____
- h. Manual drain valves _____
- i. Air Compressor-19 CFM minimum _____
- j. Parking Brake-On both rear axles, spring set with dash
mounted control _____

4. CAB EQUIPMENT

a. EXTERIOR

- a. Aluminum construction cab _____
- b. Tilting fiberglass hood with butterfly inspection hatches _____
- c. Rear cab window _____
- d. Tinted and heated wiper blade area front windshield _____
- e. Dual air horns, with shields, and a single electric horn _____
- f. Heated West Coast Mirrors, RH & LH with stainless arms
and brackets _____
- g. Convex Mirrors - 8" mounted on lower arm of mirrors _____
- h. Clearance lights-standard configuration _____
- i. Front fender flares or extensions _____
- j. Electric windshield wiper motor with delay _____
- k. Two gallon windshield washer fluid tank _____
- l. Standard factory installed head lights, high and low beam _____
- m. Passenger side door lower door window with Fresnel lens _____
- n. LH and RH grab handles _____
- o. Nonremovable bug screen mounted behind grille _____
- p. Winter front installed on grill _____
- q. Cab and hood painted *Omaha Orange* _____

INTERIOR

- a. Shall be custom interior to include but not limited to:
Full trim panels on doors, back of cab insulation,
headliner insulation, and cloth seats _____
- b. Premium high back cloth driver's seat with air suspension _____
- c. Passenger seat will be a fixed base and match driver seat _____
- d. Arm rests for both right and left seats _____
- e. Retractable seat belts on both driver and passenger seats _____
- f. Assist handles installed on the inside of the right and left door _____
- g. Four-Way flashers _____

- h. Gauges to include:
 - (i) Air pressure gauge with light **and** buzzer _____
 - (ii) Voltmeter gauge _____
 - (iii) Engine coolant temp gauge with light **and** buzzer _____
 - (iv) Engine oil pressure gauge with light **and** buzzer _____
 - (v) Fuel level gauge _____
 - (vi) Electronic speedometer _____
 - (vii) Electronic tachometer with hour meter _____
 - (viii) Transmission oil temperature gauge _____
- i. Rubber floor covering _____
- j. Driver side and passenger side rubber floor mats _____
- k. Standard heater and defroster plumbing _____
- l. Padded sun visors-right and left _____
- m. Extreme climate thermal insulation _____
- n. Air Conditioning _____
- o. Tilt and telescoping steering column _____
- p. Steering Wheel-approximately 18" _____
- q. Radio-Factory installed AM/FM/WB _____
- r. Turn signals-signal stat, self-canceling _____
- s. Marker light switch with connections for plow lights. _____
- t. Overhead console with a 2-Way Radio wiring accommodation package Wiring must be at least **12ga** to accommodate a 40W radio _____

5. ELECTRICAL SYSTEM

- a. 12-Volt System _____
- b. Batteries: 12 volt, Group 31, 3375 CCA at zero degrees F _____
- c. **Fully enclosed** battery box that will prevent road salt and debris from corroding terminals and located as such to allow access _____
- d. If battery box is in an inaccessible area, i.e. under or in the cab where the box is not very easy to access to jump start the vehicle, a jump stud must be provided on passenger side of vehicle _____
- e. Complete LED, ICC lighting system w/ 2 halogen bulb headlights _____
- f. Shall have circuit breakers in lieu of fuses _____
- g. Shall have auxiliary harness for front headlights and turn signals for front plow lights _____

6. ENGINE

- a. Diesel-400 HP minimum @ 1625 RPM _____
- b. Torque-1650ft. lb. @ 975 RPM _____
- c. Specify make, model, CID, and HP @ rated RPM _____

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- d. Alternator-Delcotron, 160 AMP 28-SI, brushless _____
 - e. Air Compressor-19 CFM minimum _____
 - f. Air intake-inside/outside with in cab control _____
 - g. Air to air after cooling _____
 - h. Engine hoses and tubing-Silicone _____
 - i. Air operated on/off fan clutch _____

- j. Fuel/Water separator _____
- k. All daily under-hood checks on drivers' side of engine _____
- l. Oil filter is engine mounted-disposable _____
- m. Delco 12V 39MT+HD/OCP, or equivalent, starter with thermal protection & integrated magnetic switch _____
- n. Coolant protection to minus 34F (-34F) degrees _____
- o. Exhaust: Vertical Stack configuration designed as not to interfere with mounting of the dump box, hydraulic tank, and controls. All flex tubing must be stainless steel. _____
- p. 5yr., 100,000-mile warranty on the engine, injectors, turbo, after-treatment & water pump _____
- q. Engine to be supplied with a fuel primer pump _____
- r. Front mounted PTO pump provision _____

7. CHASSIS

- a. 1/2"x 3 1/2" x 11 7/8" single channel steel frame, 120,000KSI _____
- b. Front frame extension must be part of parent rail continuous of main frame (integral) _____
- c. 20" integral front frame extension or adequate for plow mount installation. Not less than 14 inches from grill. _____
- d. 14" extension beyond rear of rear tires to accommodate a 13' length box _____
- e. Tow hooks, front and rear _____
- f. Fuel Tank-Aluminum Left hand 60-gallon step tank with non-skid tread and stainless steel hold down straps _____
- g. Painted *Gloss Black* _____
- h. Electronic backup alarm 112db _____

8. DIFFERENTIAL

- a. Meritor Differential _____
- b. Differential to be geared for 65 mph with specified tires _____
- c. No spin rear axle _____
- d. Inter-axle differential and lock out with dash-mounted control _____
- e. Synthetic gear oil _____

9. TRANSMISSION

- a. Automatic Allison 4000 RDS _____
- b. Synthetic Transmission Oil "TranSynd TES-295" _____
- c. On dash Push Button Shifting _____
- d. Transmission Cooler _____
- e. Close ratio six (6) speed _____
- f. Prognostics Enabled _____
- g. 3-year warranty covering entire transmission including electronics _____
- h. Vehicle interface wiring with body builder connector mounted inside back of cab _____

10. MISCELLANEOUS

- a. One (1) each of the following **written** manuals must be furnished:
 - (i) Parts Manual which includes Engine, Transmission, and ABS brake system
 - (ii) Engine Repair Manual

- (iii) Shop Service Manual
- (iv) Electrical Service Manual with Schematics
- (v) Emission Service Manual
- (vi) Service Bulletin with Updates
- (vii) Operators Manual
- (viii) Line Sheet

All the above: _____

- b. Also, to be furnished is a complete set of service filters and belts for truck. _____
- c. Vendor shall provide onsite instruction for two (2) people for servicing of major components such as engine, ABS, emissions etc. _____
- d. Automatic grease system for chassis, plows, & dump box. _____

HYDRAULICS FOR SINGLE AXLE TRUCK
"HYDRAULICS SHALL BE FORCE AMERICA'S WITH **NO EXCEPTIONS**".

1. HYDRAULIC PUMP AND PTO: (CONSTANT MESH)

Pump Drive

- A The hydraulic pump shall be an axial pressure and flow compensated load sensing type. The pump shall be cast iron construction and rated to 4.00 cubic inches per revolution at maximum stroke. The pump shall have a minimum 2" suction line. The pump shall be rated for up to 3000 RPM and 3000 PSI and require only 300 PSI for standby pressure. The pump shall be **Force America FASD45L-KIT** or prior approved equal for front mounting.
- B The pump shall be driven by the engine crankshaft through a front power take-off. The front end of the truck engine crankshaft shall be equipped with a flange for attaching a universal joint. There shall be no obstructions between the crankshaft flange and the truck bumper. Drive shall be as short in length as possible to minimize overhang of pump and bumper. **PTO shaft shall not to pass through radiator.** Driveline angle to be kept to a minimum. The pump shall be capable of properly operating specified dump cylinder and equipment specified.
- C The pump shall have a one-inch ball valve mounted on the discharge side.
- D Pressure line to have a gauge port easily accessible for pressure test. There shall be a high-pressure filter plumbed between the hydraulic pump and the control valve assembly. The hydraulic filter shall be a 25-micron absolute and rated for 6000 psi. The filter shall be model HP17125VG30EPUG5S2AE7050P and be equipped with visual and electrical bypass indicators. The electrical indicator shall be wired to a warning light in the heads-up display.

2. SHUTDOWN SYSTEM

A single normally open, two position, two way, poppet style solenoid valve capable of stopping oil flow to the hydraulic system when actuated. The valve shall be mounted directly to the hydraulic pump discharge port. The valve assembly must also incorporate a high-pressure relief valve to protect the system from over pressurizing during system shut down. This solenoid valve shall be wired to a float type level indicator that is mounted from the top of the reservoir. The system shall be designed so that when the float contacts close, the solenoid valve stops pump flow and an enunciator in the cab that is on a control panel alerts the driver. The control panel will also incorporate an override switch wired to de-energize the shutdown system to facilitate diagnostics and equipment storage.

3. CONTROL CENTER

The Control Center shall be a **FORCE America Patrol Commander MPJC-6100-4-Ultra series with spreader control.**

Controls for all valve functions and electronic spreader control will be integrated into a single, self-contained control center. The control center shall be a padded armrest style that is ergonomically designed. Control center shall be modular in design for ease of installation and service, and wiring and connectors shall be keyed and color-coded throughout. All components must be durable for long life and trouble free operation.

The electronic controller shall be a fully proportional multi-stick controller to operate all

cylinder functions. Multi-stick PWM driver electronics shall include as standard the capability to control at least 9 proportional outputs simultaneously. The control is available in a 3-stick or 4-stick configuration. Controls for spreader must be located on armrest at the operator's fingertips. There shall also be four auxiliary rocker switches available with an additional fifth switch being the main power switch for the spreader control. The switches shall be located between the joysticks and spreader control interface and each shall be rated for 15 amps continuous current minimum. Console options shall be capable of supplying full rated power to switch outputs when all four auxiliary switches are at full 15 amp load.

For ease of operation the multi-stick control shall include the following features: LED-backlit nomenclature for all joystick functions and a momentary push-button at the top of the hoist stick to provide hoist-interlock. The "Hoist" decal shall be illuminated amber while disabled, and change to green backlighting when the driver engages the hoist interlock button. The green "Hoist" LEDs shall remain illuminated while the hoist is under operation and shall time-out after a period of hoist inactivity that is selectable from 0 to 15 seconds.

The plow, wing, scraper, or other joysticks shall have the option to include a momentary pushbutton for activation of remote spreader standby, remote spreader blast, or electric joystick interlock. The multi-stick communication hardware/software shall include 4 integral float options. The use of add-on float modules is unacceptable. For flexibility of use the integral float programming shall have the following standard features:

- (4) axis functional float on any or all of the outputs with selectable forward/back, right/left functionality
- 3-way or 4-way functionality
- Selectable (3) second float delay timer
- Optional float enable switch inputs
- When float output for a given joystick function is active, the LED-backlit nomenclature shall blink ON/OFF to provide visual feedback to the operator that the float function is engaged.

To ensure longevity of performance, all lighting to be solid-state LED technology. The use of incandescent lamps or EL backlighting is unacceptable.

All function joysticks shall be of contact-less Hall-effect design and offer up to a 5-Million cycle life. The use of potentiometers is not acceptable. To increase safety of operation, joystick communication hardware/software shall include the following standard features:

- Input power monitor circuitry with power quality diagnostics
- Redundant dual-reference joystick signals for each joystick axis
- Joystick input off-center checking on all axes and output shutdown on system power-up
- Joystick out-of-range fault condition checking and output shutdown.
- True outputs off with joystick centered
- LED-backlit nomenclature shall illuminate and flash RED when any error condition exists and an audible alarm shall sound
- LED-backlit nomenclature shall blink ON/OFF with increasing frequency as the corresponding function is increased in speed to give the operator visual feedback of each joystick output.

Multi-stick control shall communicate all joystick data over the spreader control CAN bus. For ease of service and diagnostics the multi-stick control shall have the following easily accessible through the spreader control calibration menus:

- Unique MIN/MAX adjustments for each joystick function (forward, back, left and right)
- On-screen output status indicators for each PWM output.
- Audible and visible output error status indicators with flashing error codes for each joystick function

The multi-stick control joystick outputs shall be communicated over the spreader control CAN bus to the Valve Module. Spreader control outputs and joystick control outputs shall be operated on the same Valve Module or multiple modules as necessary.

The electronic spreader control shall be designed for precise, closed-loop control of granular and prewet liquid applications and operate on a CAN Bus protocol. The Central Processing Unit (CPU) shall have keyed and color coded connections to prevent incorrect installation. The CPU shall be mounted in the cab with visual access to diagnostic LED's. Mounting of the CPU unit outside of the cab is unacceptable. The unit shall have USB connectivity for file and data transfer, Ethernet connection, a J1939 communication port for connection to the vehicle bus; a second CAN bus communication port for spreader-only data use, a J1708 connection for a road and air temperature sensor, and a RS-232 connection for AVL communication. The CPU shall have on-board diagnostics, which provide real-time status of CAN bus communication, processor activity, and power status. The CPU shall have a built-in audible alarm for diagnostic purposes. The CPU operating system shall NOT be Windows-based.

The spreader control interface shall have two, color-coded, continuous rotation encoders for granular and spinner control. These encoders shall have integrated push buttons for blast mode and stand-by. The controller shall have a third multifunction 4-way joystick that has an integrated rotary encoder and push button, that can be used for menu navigation, prewet liquid control, or an additional conveyor function. There shall be four, two-way soft keys included in the interface that are generically-labeled and user-configurable for different functions depending on the equipment needs. The controller shall also utilize iButton technology that is capable of using a Supervisor key to provide access to the calibration parameters without the access code. The entire operator interface shall be backlit and encased in flexible silicone material with wear-limiting coating applied to the base silicone material. The operator interface shall communicate on the spreader control system CAN bus.

The spreader control display shall be a remotely-mounted, 7" diagonal color TFT LCD, with a low-profile 16:9 widescreen format and minimum of 800X480 pixel resolution. LCD shall have variable LED backlighting. CCFL backlighting is unacceptable. The display shall include a scratch-resistant polycarbonate lens with anti-glare coating. A power status LED shall be immediately visible on the front of the display and shall report display diagnostics including loss of CAN communication. Display unit shall have a built-in audible alarm. To avoid driver distraction, the display shall have no integrated dials or pushbuttons and shall not be touch screen. LCD shall communicate on the spreader control system CAN bus.

The operator menus shall be color-coded to match the encoder knobs on the operator interface. The display shall be capable of displaying the following on-screen simultaneously: Granular material name, granular material set point and actual application rate including units of measure, prewet liquid name, prewet 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. The operator shall have the option of selecting five data items to be displayed

onscreen during operation. The display will also provide four warning light indicators for low oil level, body up, oil temp, and filter bypass. These warning lights are to be functional regardless of spreader operation or status.

The display must provide visual indication that the spreader control is connected to a compatible AVL device. The spreader control shall warn operator if communication with the AVL device fails at power-up.

A proportional PWM driver and input module (Valve Module) shall be remotely-mounted inside the hydraulic valve enclosure for control of both spreader control and joystick control outputs. The entire Valve Module shall be of rugged design for the mobile environment, and must meet IP68 requirements for dust and water ingress. The Valve Module shall include a minimum of eight proportional PWM outputs with potted valve output connections. All outputs shall be protected against short-circuits. Outputs shall be current-compensated and have adjustable PWM frequency. There shall be a minimum of five switch-to-ground type inputs for monitoring hydraulic system inputs such as oil level, body up, Hi and Low filter bypass, and oil temperature warnings. A minimum of two switch-to-ground type pulse train inputs shall be included in the Valve Module for connection of Force America supplied feedback sensors such as auger feedback and prewet liquid flowmeter feedback. A keyed and color-coded connection shall be provided for CAN bus connection to the CPU module inside the cab. A second CAN bus connection must be provided for daisy-chaining of multiple Valve Modules within the valve enclosure. Diagnostic LED's shall be included for every input and output on the Valve Module, as well as a power status LED and CAN bus activity LED's. The Valve Module shall be potted. The Valve Module shall include a stainless steel legend plate with engraved text for easy cleaning and identification of Valve Module connections.

The integrated spreader control and joystick control system shall be equipped with a qualified E-STOP device that immediately disconnects battery power from all outputs. All spreader control and joystick-operated outputs shall immediately cease to function and the system display shall inform the operator that the E-STOP device has been activated. The E-STOP device must remove power from all output devices, while maintaining power to the display and CPU for diagnostic purposes. Resetting of the E-STOP device shall not result in spreader control and joystick-operated outputs returning to an ON state without operator acknowledgement.

Unit to be supplied with PreCise® MRM Temperature Sensor to integrate and display on-screen _____

5. VALVE CONTROLS

- a. Dual axis on/off plow control _____
- b. Dual axis on/off wing control _____
- c. Proportional dump body with center safety lock _____
- d. The valve controls must be tested before delivery _____

6. HYDRAULIC RESERVOIR

The hydraulic reservoir and valve body must be located as not to interfere with the installation of an underbody plow blade or any other aspect of the chassis or installed equipment. Racine County would consider other options regarding location of said items. Please

provide photos and/or shop drawings of how the truck would be constructed along with specification literature of proposed items.

- a. The hydraulic reservoir will be of 30 gallons nominal capacity.
- b. The hydraulic reservoir will be constructed of 10-gauge stainless steel and be internally baffled.
- c. All mounting and hose fitting connections will be stainless steel.
- d. Reservoir shall be mounted in manner as to not transmit any truck torsion loads thru the tank.
- e. All valve fittings, hose ends, filter(s), filler breather, sending units and any electrical connections are to be protected from the elements.
- f. The tank shall come equipped with an electrical temperature/level-sending unit.
- g. A warning light and buzzer shall be mounted in the cab and wired to the electrical indicator.
- h. The reservoir supplier will provide all valve fittings (JIC connections) and plumb the return line from the valve to the filter.
- i. The use of bulkhead fittings is not permitted.
- j. Hose exit and entrance must allow for components to be mounted adjacent to the enclosure.
- k. A two inch (2") full flow brass ball valve shall be plumbed at the suction port of the tank.
- l. Hydraulic oil filter shall be mounted **IN NEXT TO** the reservoir. **(CIRCLE ONE)**
- m. Hydraulic filter shall be a 16-micron absolute and rated for no less than 60 GPM.
- n. Have a basket type breather cap.
- o. Magnetic drain plug.
- p. Two inch (2") NPT suction with 100-mesh screen type filter.
- q. Separate return port for control drain line.
- r. Sight-temperature gauge externally mounted.
- s. Hydraulic oil shall be equivalent to Service Pro AW 32 with blue dye added.

Acknowledge all of the above: _____

a. Hydraulic Valve Enclosure

- 1. The valve assembly shall be mounted in a weather-tight enclosure. _____
- 2. The valve enclosure shall be fabricated of 12-gauge stainless steel. _____
- 3. The valve cover shall be held to the enclosure by four heavy rubber latches (one on each side). _____
- 4. All plumbing shall be external, directly into the bottom of the valve manifold base (no hydraulic plumbing in the enclosure). _____
- 5. When cover is removed, the valve must be exposed on 3 sides for ease of service. _____
- 6. Valve enclosure location is to be approved by Racine County Public Works. _____

b. Force America Add-A-Fold control valve (no Exceptions)

The hydraulic valve shall be of modular manifold design. Valves requiring the removal of tie rods and disassembly of valve to service a work spool section will not be accepted. Each hydraulic function requires an individual manifold stacked together to form the manifold base. The manifold base shall consist of an inlet section with SAE#16 inlet porting, SAE#20 outlet porting, and SAE#4 load sense porting. There shall be a main system relief in the inlet section to protect the system from high pressure in case the pump compensators fail. The dump body manifold shall be stacked next to the inlet section, and capable of 40 GPM with SAE#12 porting. The hydraulic valve segment shall be individually mounted to the manifold base assembly and be serviceable without removing any hydraulic hoses or any other hydraulic valve segments. Each

hydraulic valve segment shall have individual pressure compensation to achieve independent simultaneous operations. All segments shall have heavy-duty continuous duty coils and connections shall be with Din connectors. All coils shall operate at 12VDC and require a maximum of 1400 mille-amps. Each segment shall be equipped with a manual override except for the auger, spinner, & pre-wet sections. The dump body segment shall be rated to 40 GPM, with all other segments rated to 20 GPM. If a double acting hoist is utilized, the dump body segment shall be equipped with a downside relief to protect the body down function. This relief shall be set to the hoist manufacturer's specifications. Valve segments shall be Add-A-Fold model. The valve is to be arranged as follows:

Hoist	4-way with 500 PSI down side work port relief valve
Plow lift	4-way
Plow angle	4-way
Right Wing toe	3-way with lock valve to prevent drift down
Right Wing Heel	4-way with 1500-psi (A) port relief valve
Auger	4-way
Spinner	2-way
Liquid/Prewet	2-way

Please note: The wing heel sections shall be equipped with hydraulic wing locks plumbed to the cylinders to prevent wing drift down.

Hydraulic valves, electrical components, and electrical connections shall be mounted in a weather-tight enclosure that will protect from both road and pressure washer spray.

8. CONTROL VALVE KICK-OUT

- a. The body hoist cylinder shall be connected to control valve and provided with kick-out to prevent over extending the cylinder.
- b. A 904S-C-16 cable pull off valve plumbed between the valve and cylinder.

7. HIGH PRESSURE HOSE/TUBING

- 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 are unacceptable. All pressure hoses to 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 away from exhaust manifolds pipes, bolts, sharp edges, and exhaust system to prevent wear, fatigue, or fire. Support brackets, grommets, and jackets shall be provided where appropriate to protect lines from damage by abrasion, cutting or impact.
- c. All hydraulic hoses shall be Gates Global M3K Mega3000 MegaTuff Hose with a minimum working pressure of 3000 lbs. psi and bursting pressure of 13,000 lbs.
- d. Each hydraulic hose shall be sheathed with protective hose sleeve prior to having hose ends crimped.
- e. ½" (minimum) stainless steel tubing will be routed from front to rear of chassis with minimal interference as possible with equipment and chassis components that require periodic servicing. All tubing to metal jacketed and separated (not wire-tied). Stainless

steel fittings to be used on all stainless steel tubing. Maximum distance between support jackets on all hydraulic tubing shall be 24 in. _____

f. A return line manifold to be used to minimize the length of return lines to hydraulic tank. _____

g. Pipe fittings are not acceptable in any high-pressure line. No street ells are to be used. Only hydraulic fittings may be used. Black pipe and Galvanized pipe will not be accepted. _____

h. Two plugged tees provided in the return line for connecting the spreader return line to the hydraulic system. _____

i. All lines to attachments shall be equipped with **Pioneer 4050-4 and 8010-4 (with dirt covers)** quick couplers for quick assembly and removal of attachments. _____

j. **All hydraulic quick couplers shall be mounted to the rear of the chassis.** _____



10. MANUALS PER UNIT

a. One (1) parts manual must be supplied for each accessory listed 1-9 above. _____

DUMPBODY FOR TANDEM AXLE TRUCK

1. GENERAL

- (i) This specification is to describe a 201 stainless steel **Cross-memberless** dump body with an underbody hoist system. The body, as bid, will be a current design. Bidders will submit current literature for make and model bid. All items are to be stainless steel unless otherwise noted.

2. DIMENSIONS

(All dimensions are approximate. Please contact chassis dealer prior to ordering to ensure correct dimensions)

- | | |
|---------------------------------------|----------------------|
| a. | Length: 14 ft. 0 in. |
| inside at floor. 15' 6" overall | _____ ft. _____ in. |
| b. | Width: 84 inches |
| inside. | _____ ft. _____ in. |
| c. Capacity: 13.5 - 17 cu. yd | _____ cu. yd. |
| d. | Straight sides: 44 |
| inches high | _____ in. |
| e. | Headsheet height: 60 |
| inches. | _____ in. |
| f. Tailgate height: 52" inches high | _____ in. |
| g. | Distance between cab |
| and box NOT to exceed 5 inches | _____ |

3. SIDES AND HEADSHEET

- | | |
|--|-------|
| a. One piece 7 gauge sides and front head sheet | _____ |
| b. 10 ga. seamless boxed top and rub rails sloped outward | _____ |
| c. One piece 7 gauge front and rear corner posts with 2 inch sideboard pockets | _____ |
| d. One welded on horizontal brace | _____ |
| e. All seams are to be fully welded both inside and out | _____ |
| f. Vibrator mount controlled from inside cab | _____ |
| g. Rear body design is to be asphalt body, sloped tailgate style | _____ |

4. FLOOR

- | | |
|---|-------|
| a. The floor shall be 1/4-inch AR400, 180,000 PSI seamless floor | _____ |
| b. Sides to be joined to floor by 5 inch radius, 10 gauge stainless steel | _____ |
| c. Long sills from minimum 8" single piece steel I-beams. No splicing. | _____ |

5. TAILGATE

- | | |
|---|-------|
| a. 2 panel gate, 7 gauge with full perimeter boxing | _____ |
| b. Single intermediate horizontal tailgate brace | _____ |
| c. Shall have double acting tailgate chains | _____ |
| d. Upper and lower pins shall be 1-1/4" stainless steel | _____ |
| e. Air operated tailgate latch | _____ |
| f. Latch hooks and latch plates made from stainless steel | _____ |
| g. Shall have grease zerks at all pivot pins | _____ |

6. HOIST AND FRAME

- a. Sub-frame shall be capped at all open points to reduce possibility of corrosion. _____
- b. Nitride piston rod _____
- c. Pin to pin single acting conventional hoist _____
- d. Minimum rating - 39 ton _____ Ton
- e. Shall have grease zerks at all pivot pins. _____
- f. Shall Include all OSHA approved equipment and labeling. _____

7. GENERAL

- a. Rear step plates above rear wheels inside **and** out of box to allow access into and out of box. _____



- b. Stainless steel walking rail along both sides of body _____
- c. One piece cab protector. Cab protector shall be sized accordingly to completely protect cab from damage and installed by fully welded protector to head sheet. Skip welds are unacceptable. _____
- d. Body-up warning light located in the cab _____
- e. Left and right dump grab handles _____
- f. Roll-Rite brand asphalt tarp electrically controlled from cab _____
- g. Mud flaps mounted on rear of chassis with removable brackets _____
- h. Must conform to all Federal and State regulations. _____
- i. Rust Proofing on the following:
 - Entire underside of dump body floor _____
 - Truck Chassis _____
- j. No rust proof holes in dump body or truck chassis. _____
- k. Two (2) OSHA approved body props _____
- l. All mounting fasteners attached to dump body and salter are to be stainless steel. _____
- m. Any material not stainless steel will be painted black and rustproofed. _____

8. DUMPBODY TAIL LIGHTS

- a. Tail lights shall be Star Warning Systems DLHTHU-8-R lights recessed in dump body posts using rubber grommets. _____
- b. Lights must not weaken rear posts. _____

- c. All lights must conform to all State and Federal Standards.
- d. Wiring harness must be a sealed construction to prevent corrosion of wiring

a. DUMPBODY WARNING LIGHTS

- a. Shall be Star Warning Systems DLXTHU-8-A amber strobes with weather-pack connectors and be recessed in dump body post and connected to a switch in the CommandAll control center. Lights will be connected to turn signal so when turn signal is on, flasher works as a turn signal.



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- b. Cab shield shall have one Star Warning Systems DLXTHU-8-A amber strobe installed at each corner. It will be connected to same switch as the rear warning lights.
- c. Strobe light shall be a Star Warning Systems 9018LED mounted solidly on top center of cab protector and wired to CommandAll control center.
- d. Shall have installed salter light North American Signal Model HRLEDFR amber LED.
- e. Shall have installed wing light North American Signal Model HRLEDFR amber LED.
- f. Contact Racine County prior to placement of lights.

10. PLOW LIGHTS

- a. Two plow lights shall be mounted on reinforced brackets on the front fenders so that their light beam clears the top of the plow moldboard in the raised position.
- b. The plow lights shall be JW. Speaker Model 9800 12V SAE, heated.
- c. Plow lights shall be connected to the headlight switch and have a selector switch between driving lights and plow lights.
- d. Plow lights shall be properly aligned for night time driving.

11. ELECTRICAL SYSTEM

- a. All wiring is to be double jacketed with ethylene-propylene rubber to keep out moisture and protect from damage.
- b. All electrical connections are to be made using Weather-pack connectors and protected from moisture entering the connection.
- c. All junction boxes are to be completely waterproof.
- d. Any wires that are subject to abrasion are to be covered with vinyl tubing for additional protection.
- e. All lights are to be grounded through wiring system not to mounting bolts.

12. MISCELLANEOUS

- a. A pre-build meeting shall be conducted at dump box vendor's facility prior to work commencing on truck to answer any questions or concerns between entities.

- b. A pre-delivery meeting shall be conducted at the dump box vendor's facility at the 85% completion point prior to truck being delivered to chassis vendor to ensure the truck has met Racine County's expectations and specifications. _____

SNOW PLOW AND PATROL WING WITH HITCH

1. PLOW HITCH

- a. Shall be Quick Coupling Push Hitch _____
- b. Hitch push channel shall be reinforced with a 5/8 x 4" steel plate across entire top of push pad contact area. _____

2. TRUCK HITCH

- a. Shall be Burke UBF (Universal Bumper to Frame) _____
- b. Plow hitch to be mounted as close to truck as possible. _____

3. SNOW PLOW

- a. **Moldboard face shall be** constructed of 10 gauge steel. _____
- b. Five (5) hinge points _____
- c. Shall have rubber deflector installed _____
- d. **7/8" x 5" carbide blade** installed _____
- e. **Left & right curb** runners installed _____
- f. **Moldboard Height** shall be 42" measured from the road surface to inside of arc. _____
- g. **Moldboard Length shall be** 12'. _____
- h. **The moldboard is to** be reinforced with no less than eight (8) one-piece vertical ribs, contour fit to the moldboard. _____
- i. All ribs are to extend from the lower cutting edge reinforcement to the top edge of the moldboard. _____
- j. **The center rib(s)** shall have a lifting eye or rod located in a position that allows for a balanced lifting of moldboard and push frame. _____
- k. The bottom of the moldboard shall be reinforced by a one-piece 5"x 3"x1/2" angle. This angle shall be reinforced by ten (10) 1/2-inch thick gussets. _____
- l. **This angle shall** be punched with fourteen (14) 11/16" holes in standard highway punch configuration. _____
- m. The plow shall be capable of level lift and being reversed to the right or left and maintaining a level height when fully angled. _____
- n. Reversing Frame Assembly
 - (i) The reverse frame assembly shall consist of a front push frame angle made of 1/2" iron. _____
 - (ii) Five sets of bushing weldments on front of push frame. _____
 - (iii) The reverse frame shall incorporate two-spring anchor weldments. _____
 - (iv) The reversing frame pivot shall be located directly in the center of the front push beam. _____
 - (v) The reverse frame shall pivot around 1-1/2 x 5-1/2 grade 8 bolts. _____
 - (vi) This bolt will be supported by a 2-5/8 O.D. x 9/16 wall bushing. This bushing shall be grease-able. _____
 - (vii) The plow shall be capable of reversing 35 degrees right or left. _____
 - (vii) **The plow shall be reversed** by means of two (2) double acting cylinders with nitrided rods. _____

4. PATROL WING RIGHT SIDE

- (i) 9' x 1/2" x 6" trip cutting edge. _____
- (ii) 7/8" x 5" **carbide blade** installed _____
- (iii) Curb bumper shoes on wing heel. _____
- (iv) Dual A-frame lift, (No Cable). _____
 - i. The A-frame assembly shall consist of a main frame made from 4"x8"x1/2" tube. _____
 - ii. The main frame shall also provide for the anchor of the reverse cylinder rod. This point shall be grease-able. _____
- (v) 4" x 10" Lift cylinder-nitrided _____
- (vi) 3 1/2" x 10" Toe cylinder _____
- (vii) 4" x 19" heel cylinder _____
- (viii) All cylinders are to have 2" nitrided rods. _____
- (viii) Shall be equipped with a decelerating cylinder. _____
- (ix) Shall have wing locks in hydraulics. _____
- (x) Hood should be able to be opened without touching A-frame
And without use of side shift or tilt mechanism. _____
- (xi) Shall have two (2) Whelen Wing WFLOW3AA warning lights installed on heel of wing. _____



Note: *All mounted framing and hardware for plow/wing(s) shall be painted black and rustproofed.*

**ONE (1) V-BOX MATERIAL SPREADER WITH A
HYDRAULIC LIQUID SPRAY SYSTEM**
“V-Box and all associated metal shall be stainless steel”

1. General

- a. Shall be designed to fit inside proposed dump body. _____
- b. Minimum **11.6** cubic yard capacity. _____
- c. Shall be equipped with the deluxe light assembly with Star Warning Systems DLHTHU-8-R lights and DLXTHU-8-A strobes installed. Lights should be wired same as Section 9.a _____
- d. _____



- e. Side Height 60 inches. _____

2. Body

- a. 12 gauge stainless steel sides _____
- b. 7 gauge floor _____
- c. 304 stainless or equal _____
- d. 5 side supports and properly sized bracing to fit in dump body _____
- e. Reinforced top screens hinged to longitudinal channel _____
- f. Grease manifold installed to lubricate front auger bearing _____
- g. Slip in mounting kit to safely secure the hopper to the dump box, shall be included using a combination of four (4) 1 1/4" diameter stainless steel rods of sufficient length installed:
 - i. Through upper tailgate pivot point and into sides of spreader _____
 - ii. Through a 5 1/2" (bottom) by 3 1/2" (top) by 3/4" (thick) trapezoidal shaped stainless steel bracket welded to the top of dump box as close as practical to the front edge of the spreader. _____



Front

Rear

- h. Tailgate latch kit will be used for additional support in securing the V-box spreader into the dump body. 2" thick wall square tubing of sufficient length to reach the tailgate latches will be installed along with 1" x 10" shafting.
-



3. Auger System

- a. Shall be 7" in diameter running longitudinally with the body, feeding material the full length of the hopper. The auger shall consist of a 4" pipe with a 2" cold roll end shaft and flitting continuously welded the full length. The auger trough shall be removable and manufactured of 7-gauge steel. The auger shall be driven by an 18 H.P. hydraulic motor directly coupled by a splined shaft coupling. The coupling shall be equipped with grease fitting so that the motor spline and coupling can be lubricated. The idler end of the auger shall be supported by a 4-bolt flange, heavy-duty dust sealed, self-aligning ball bearing. This bearing must be able to be lubricated from outside of the dump body. Both the auger drive and idler end plate shall be manufactured from 3/8" steel. An adjustable in height inverted vee shall be provided to keep the material load off the auger for easier auger start-up.
 - b. A protective grid shield shall be placed over the exposed auger outside the hopper.
 - c. A metal protective shield shall be installed around hydraulic motor.
-
-
-



4. Spinner

- a.) The entire spinner assembly will be capable of repositioning vertically without the use of special tools to allow the unloading from the conveyor without interference from the spinner assembly. This assembly shall be capable of being secured in a horizontal position without the use of tools.
-

- b.) 18" diameter diameter minimum tip-up type material chute. _____
- c.) Spreader pattern shall be capable of spreading material in an even pattern to both left and right of the truck. _____
- d.) Spinner height shall be approximately 20" above ground level when placed on a dump body with a floor height of approximately 54". _____
- e.) The spinner disc shall be driven by an independent low speed high-torque "orbital type" hydraulic motor. _____

5. Miscellaneous

- A Spreader shall have the hydraulic capacity required to operate with truck hydraulics. _____
- B Hoses required to couple to truck. _____
- C Natural Stainless Steel Finish _____
- D The inverted vee shall be adjustable in height and located approximately 8" - 10" above the V-box sides. The inverted vee manufactured of 10-gauge stainless steel and 3/16" x 1 1/2" x 1 1/2" angle iron. The entire assembly shall bolt to the inside supports welded above the outside side supports. _____
- E Wet spray system must be compatible operate with Force America's CommandAll 6100 hydraulics and control center. _____
- F The following manuals will be supplied upon delivery of truck:
 - 1. Parts manual _____
 - 2. Service manual _____
 - 3. Operators manual. _____

6. Pre Wet System

- A Shall be equipped with Varitech LDSVB-200-HCL or Swenson LLS-H Hydraulic Liquid Spray System, with two (2) 100-gallon min. polyethylene molded reservoirs. _____
- B Pre-Wet system shall come complete with a liquid spray pump, sprayer tanks, tank-mounting straps, discharge nozzle bar, closed loop flow meter, plumbing, and hardware. _____
- C Pre-Wet tanks shall be fully removable. _____
- D 1 1/2" Fill valve with cover at lower point on tank (see picture in Section 3.c above) _____
- E Fill line between tanks shall be 1 1/2" _____
- F Stainless steel hold-downs _____

1. WISCONSIN DOT GPS SYSTEM

A. Install PreCise IX-403 GPS system and all associated Force America (only) required items to meet the Wisconsin Department of Transportation's AVL-GPS Program into truck. Contact Bob Braovac from Force America @ 1-262-513-2304 for more information. Please provide itemized list below for Wisconsin Department of Transportation's approval.

Description	Quantity	Cost
AVL-GPS Equipment & Installation		\$
Plow Sensor		\$
Pavement Temperature Sensor		\$
Auger Sensor		\$
Gate Sensor (as needed)		\$
Flow Meter Sensor (as needed)		\$
Other:		\$
Labor		\$
TOTAL		\$

Wisconsin Department of Transportation

By: _____
 Title: _____
 Date: _____

Provide any optional items that your company feels would be beneficial to Racine County Public Works that is not listed in specifications. Provide documentation, pricing, etc. on items and the reasons why the recommended options would be of benefit to Racine County.

CERTIFICATION OF VENDOR

Bid #17-PW-001

TANDEM AXLE DUMP TRUCK

I fully understand the requirement of the County of Racine and certify on behalf of my Company that we can meet the requirements stated above.

SIGNATURE _____

TYPED/PRINTED NAME _____

TITLE: _____

COMPANY: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

TELEPHONE: _____ FAX: _____

E-MAIL: _____

DATE: _____

BID FORM (1)
TANDEM AXLE DUMP TRUCKS
 Bid # _____

TRUCK VENDOR: _____

PRICE: - One (1) New Current Model Year Tandem Axle Dump Truck with Snow Plow, Patrol Wing(s), Underbody Scraper, AVL-GPS System and Pre-Wet System. *** Quoted price includes delivery to and pickup from, any and all additional vendors and to Racine County Public Works when truck is completed. Racine County reserves the right to choose individual items between body equipment vendors, if necessary, to obtain pricing most advantageous for Racine County.**

- TRUCK BODY EQUIPMENT
- VENDORS(S):
- TRUCK CHASSIS
- DUMP BOX and HYDRAULIC SYSTEM INSTALLED
- SNOW PLOW and HITCH INSTALLED
- RIGHT SIDE PATROL WING INSTALLED
- V-BOX SALTER INSTALLED
- PRE-WET SYSTEM INSTALLED
- AVL-GPS SYSTEM INSTALLED
- LEFT SIDE PATROL WING INSTALLED (optional)
- TOTAL COST Single Truck
- Manufacturer Discount - Deduct
- TRADE IN ALLOWANCE:
- Racine County Vehicle #65 - 2000 Sterling Single Axle Dump w/Plow, Wing, Tailgate Spreader and Pre-Wet System
- Racine County Vehicle #12 - 1972 FWD Tandem Axle Dump Truck
- Racine County Vehicle #15 - 1972 FWD Tandem Axle Dump Truck
- **NET BID PRICE****
- Firm bid price complete as specified for truck**

Body Equipment Vendor:	
Make/Model	Price
	\$
	\$
	\$
	\$
	\$
	\$
	\$
	\$
	\$
	\$
	\$
	\$
	\$
	(\$)
	(\$)
	(\$)

DELIVERY TIME***

Truck Vendor delivery time from DATE OF PURCHASE ORDER: _____ (Approx. # of Days).

**Installation of additional items on chassis PRIOR to delivery to
Other vendors** _____ (Approx. # of Days)

Installation of Plow and Wing: _____ (Approx. # of Days)

**Installation of Hydraulics, Dump box, Prewet systems,
AVL-GPS, etc.:** _____ (Approx. # of Days)

Final preparation work by Truck Vendor: _____ (Approx. # of Days)

DELIVERY TIME

Truck Vendor delivery time from DATE OF PURCHASE ORDER: _____ (Approx. # of Days).

**Installation of additional items on chassis PRIOR to delivery to
Other vendors _____ (Approx. # of Days)**

Installation of Plow and Wing: _____ (Approx. # of Days)

**Installation of Hydraulics, Dump box, Prewet systems,
AVL-GPS, etc.: _____ (Approx. # of Days)**

Final preparation work by Truck Vendor: _____ (Approx. # of Days)

WARRANTIES

Bid #17-PW-001

TANDEM AXLE DUMP TRUCK

LIST ALL APPLICABLE WARRANTIES (attach copies as necessary)

1. Truck Chassis/Engine

Please detail:

Additional Warranties Available

	Months	Miles	Provider	Cost
Engine:	_____	_____	_____	_____
Transmission:	_____	_____	_____	_____
Turbo:	_____	_____	_____	_____
Injectors:	_____	_____	_____	_____
Frame:	_____	_____	_____	_____
Front Axle:	_____	_____	_____	_____
Rear Axle:	_____	_____	_____	_____
ABS Brake:	_____	_____	_____	_____
Chassis Electronics:	_____	_____	_____	_____
Chassis Wiring:	_____	_____	_____	_____

2. Hydraulic System (CommandAll)

Please detail:

3. Dump Body

Please detail:

4. Snow Plow, Wing, and Hitch

Please detail:

5. Pre-wet System

Please detail:

WARRANTY WORK

List location where warranty work shall be performed.

Is pick-up and delivery of item a no cost item for warranty work performed at dealer's facility?

Yes _____

No _____