OCONTO COUNTY HIGHWAY DEPARTMENT
OCONTO, WI 54153

BID SPECIFICATIONS FOR ONE (1) NEW CURRENT PRODUCTION MODEL TRIAXLE DUMP BODIES & HYDRAULICS

Minimum specifications for one (1) new current production model triaxle dump bodies and hydraulics.

Only bids on bid forms furnished by Oconto County Highway Department will be accepted for award purposes. All bids must be sealed and shall be so indicated on the face of the envelope.

Oconto County Highway Department will receive bids for the furnishing and delivery of the above listed equipment. Bids shall be submitted on forms provided by and addressed to the Oconto County Highway Department, PO Box 138, 202 VanDyke Street, Oconto, WI 54153. Bids will be received up to 10:30 A.M. on February 16, 2017 at the Highway Office in Oconto. Bid opening is scheduled for 10:30 A.M. on February 16, 2017.

These specifications are a part of the bid and must remain attached to the bid. Manufacturer's full and detailed cuts and specifications for the equipment proposed must be attached. All supplies or equipment sold to Oconto County shall be sold at the risk of the contractor or seller until accepted by Oconto County. Terms of agreement: No payment will be made until after inspection and acceptance by Oconto County or its agent.

Oconto County reserves and has the right to reject any or all bids submitted or to accept any part or combination thereof, to waive any technicalities, and to accept bid deemed most advantageous to Oconto County.

All bids shall be firm bids.

All transportation expenses for delivery, mounting, warranty, etc. are the responsibility of the bidder.

Delivery date will be considered in award of bid.

An authorized representative of Oconto County will publicly open all bids – by order of the Oconto County Highway Committee.

Patrick J. Scanlan,
Highway Commissioner

OCONTO COUNTY HIGHWAY DEPARTMENT

FOR BID AND MINIMUM SPECIFICATIONS FOR ONE (1) NEW - 17'6" CROSSMEMBERLESS TRI AXLE DUMP BODIES AND HYDRAULICS.

A. DUMP BODIES & HOIST

The dump body shall be a heavy-duty contractor body for use on a tri-axle chassis. The hoist shall be a single cylinder front mount telescopic type hoist design. The complete body, hoist, and cylinder package must be supplied by a single U.S. manufacturer and be a proven standard production model. Literature must be supplied for all equipment being submitted for approval. To be painted highway orange.

B. BODY DIMENSIONS

1. Body Length Total / 17 Feet – 6 Inches _____
2. Body Width / 84 Inches _____
3. Side Height / 62" F – 52" R _____
4. Front Head Height / 62 inches _____
5. Tailgate Height / 52 inches _____
6. Body to Carry 5 Year Warranty _____

C. MATERIAL

1. All steels used in the construction of body shall have minimum yield strengths of 45,000 p.s.i. or greater for maximum strength and durability. _____
2. Sides / 7 ga 201 Stainless Steel _____
3. Box to be of Brace less Design _____
4. Tailgate /201 Stainless Steel _____
5. Front Head / 201 Stainless Steel _____
6. Floor / ¼" AR400 _____
7. Long members / 8" I Beam (Not to be enclosed) _____
8. Rear Corner Post / 7 ga stainless steel _____
9. Design / Less Front Corner Post _____

D. SIDES

1. Side panels to be constructed of one 7 ga sheet (or greater) stainless steel with no welded seams. _____
2. Top rail to be a fully enclosed dirt shedding stainless steel _____
3. Rear corner post shall be of a single sheet of stainless steel formed with no visible welds and shall extend several inches above the top-rail and extend several inches below the bottom of the rub-rail large enough to house needed lighting. _____
4. Bottom opening must be protected against contaminates entering from beneath. _____
5. Full length walk right (Flat stock) both sides ¼" x 2"- Stainless _____
6. Complete side assembly shall be assembled 100% with solid

full-length welds for added strength. Stitch welding not acceptable.
Horizontal side structure must be 100% welded including the hidden inside surface at side panel match: _____
Lower side rail to be stainless steel formed with no visible welds _____
(Failure to comply will result in rejection of body)
(Lower side rail not to be enclosed-see Truck 155)

E. TAILGATE

1. Tailgate panel to be constructed of a one-piece sheet of 7 ga stainless steel with no weld seams for added strength _____
2. All horizontal tailgate bracing, included top rail, to be Formed with large radius bends to form a completely dirt shedding tailgate for added safety _____
3. Tailgate sloped 18" with reverse taper for proper Placement in paver operations _____
4. Upper tailgate hardware (pin, hinge and hinge bearings) shall be of dissimilar metals to reduce wear _____
5. Upper tailgate hinge to be flame cut and fabricated of no less than 1 ¼" steel _____
6. Upper tailgate pins shall be a minimum 1 ½" diameter CRS steel machined with a 7/16" by 20 degree taper to insure easy use _____
7. For added safety – the upper tailgate pins shall be Designed with a minimum 1 7/8" head and a steel safety span-pin locking device. Cotter pin not acceptable. No spin pin design _____
8. Lower tailgate pins shall be a minimum of 1 ¼" CRS steel incorporated into the tailgates lower vertical brace for added strength _____
9. A minimum 3/8" diameter proof coil spreader chain shall be supplied – 60 proof or better _____
10. The lower tailgate pin latch assemblies shall be a minimum of ¾" flame cut plate and independently fully adjustable on both sides _____
11. No less than a ¾" flame cut plate lower pin cradle shall be supplied _____
12. Air trip tailgate with 3 ½' cylinder air-to-air (rear mount closed position to be latched _____
13. Complete tailgate assembly shall be assembled 100% with Solid full-length welds for added strength. Stitch welding NOT acceptable _____

F. FRONT HEAD

1. Front head panel constructed of one-piece sheet of 7 ga or equivalent stainless steel with NO weld seams _____

2. Top rail to be a fabricated three-bend design with a

minimum 3" wide top flange, 2" deep side flange and a
7/8" bottom return flange – to be dirt shedding and boxed _____
3. A 10 ga.stainless steel ½ cab shield shall be supplied _____
4. Complete front head assembly shall be assembled 100%
with solid full-length welds for added strength. Stitch welding
NOT acceptable _____
5 Front head sheet shall be sloped to allow for no dog house
at floor level _____

G. FLOOR

1. Floor to be a maximum 2-piece design with a center seam
weld extending from the front head to the tailgate _____
2. Floor shall have an inside width of 84" from side to side _____
3. Floor to side attachment shall be a minimum 12"
45 degree knee brace to maximize floor to side support _____
4. Floor material to attach 12" up side panel _____

H. FLOOR UNDER-STRUCTURE

1. Under-structure shall be a fabricated cross-member less design _____
2. Long-members to be minimum two 8" I Beams _____

I. HOIST

1. Conventional cylinder trunion mounted largest stage
on bottom / mailhot cylinder _____
2. Hoist must carry 5 – year manufacturers warranty _____
3. Hoist to have stop electrical function to limit lift with
mercury switch with relay in the force console _____
4. Hoist shall be a maximum 6" nominal diameter three
stage with a minimum 140" total stroke _____
5. Cylinders piston rod must be nitrated to prevent
weathering and increase life of cylinders packing _____
6. Hoist must supply a minimum 50-degree dump angle _____
7. Hoist to have a minimum NTEA Class 120 rating with a
lifting capacity of no less than 38.1 ton _____
8. Hoist shall be sub-frameless for weight savings _____

J. REAR HINGE

1. Rear hinge shall be a platform design with hardware (pin,
block and hinge bearings) made of dissimilar metals to reduce wear _____
2. Rear hinge bearings shall be no less than 1 ¼" in width to
reduce wear _____
3. To provide maximum welding surface area and strength. The
Rear hinge top plate is to be 4" wide by 8 ½" long and 3/8" thick _____
4. Rear hinge pins shall be a minimum 2 ½" diameter and designed
not to rotate to reduce wear with clamp tip pin holders _____
5. Rear hinge blocks will be supplies with grease zerks for
direct lubrication. Non greaseable hinges or composite bushings

not acceptable _____

K. MISCELLANEOUS

1. Tailgate spreader chain kit – High test 60 or greater _____
2. Two (2) sets of Stop/Tail/Turn lights in rear corner post post. Not LED – per owner spec's _____
3. One (1) set Oval Star strobes in rear corner post high position. Must consist of controller RP310Q and bulb 3920A _____
4. Two (2) star ADH 250 strobes mounted on cab protector in rubber mounted to county specs _____
5. Sander light with switch in Command All _____
6. Strobe and top light switch in Command All _____
7. All accessory wiring connections to be weather pack style _____
8. In cab body up warning light _____
9. Approved body props – on both sides of body (See unit 173) _____
10. Body and hoist to come complete with manufacturer's safety decals and operating instructions _____
11. Body warranted to be free from defects in material and workmanship under normal use and service for a period of 5 years _____
12. To be installed by a full-time established distributor who provides service and inventories parts for the body and hoist being bid _____
13. Aero 550 electric Tarp with aluminum arms and asphalt tarp _____
14. Cougar 3200 Vibrator _____
15. All bolts & nuts must be Grade 8 Flange _____
16. Steps front and rear drivers side and also inside box drivers side _____
17. No hoses to be attached to existing plumbing or wiring _____
18. Rear post top must be enclosed / so as not to allow salt to fall onto rear post wiring / hinge mount to be tapered as to not trap dirt. _____
19. Rear bottom posts to be enclosed. See Oconto Tk #155. _____

L. HYDRAULICS

1. One (1) units plumbed for plow, right and left wing, sander/ salt spreader and left spinner.

HYDRAULIC PUMP:

The hydraulic pump shall be an axial piston pressure and flow compensated load-sensing type. The pump shall have a displacement of 5.61 cubic inches per revolution at maximum stroke which will deliver 23.7 gpm @ 1000 shaft rpm. The pump shall have a minimum 2" inch suction line and ½" control drain line plumbed directly back to the reservoir. The pump shall be rated for 5800 PSI maximum and 4800 PSI continuous. The pump shall have a Din 5462 4-bolt mounting flange and heavy duty DIN 14 8 x 32 x 35 Spline. Lighter shaft not acceptable. The pump shall be Force America TXV92. A constant mesh PTO that is mounted to the HD series transmission shall drive the pump. PTO must have proper output to allow for direct mounting of pump, and pump must be

supported at the rear. Muncie PTO to be p/n CS24-A100____-H3VK and Muncie adapter p/n 49TA5412A or equivalent gear ratio to be set per engine / transmission, RPM's to meet gallons per minute to operate all snow removal equipment. Installed on new world 4000 series transmission.

RESERVOIR:

Hydraulic reservoir shall be "Slim Line" 30 gallon capacity 10 gauge and equipped with the following:
OPTION Stainless Steel: $_____
Basket type filler breather cap
Magnetic drain plug
Two inch NPT suction with 100 mesh screen type filter
Separate return port for control drain line
Sight temperature gauge externally mounted
Low oil / high pressure sensor / temp sensor
Low oil sensor to shut off PTO / Hydraulic pump with relay enforce console
Access hole for return filter clean out
To be mounted in sloped area behind cab on frame rail drivers side.

FILTER:

The hydraulic oil filter shall be in-tank. The hydraulic filter shall be 10 micron in-tank type and rated for no less than 100 GPM. The filter shall be Zinga model TFS-1200-25-1-0 w/ 10 micron element and filter condition indicator gage.

CONTROL CENTER MPJC-5100eX:

Controls for all valve functions and electronic spreader control remote interface 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 shall be 3-stick configuration. Controls for spreader must be located on armrest at the operator's fingertips. There shall also be auxiliary rocker switches available for use to power vibrator, airtrip, beacon, rear rotary beacon/quad flashers, left wing light, right wing light, sander light, tarp, pump override and main power switch for the spreader control. The switches shall be located on the right side of control tower 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 auxiliary switches are at full 15 amp load.

The “Hoist” joystick shall be single axis and have a push button safety interlock that shall time-out after a period of hoist inactivity that is selectable from 0 to 15 seconds. The plow and wing joysticks shall be dual axis.

All function joysticks shall be of contact-less Hall-effect design and offer up to a 5-Million cycle life. 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, and true outputs off with joystick centered.

The electronic spreader control shall include proportional controls for Auger, Spinner, and Prewet spreader functions and shall be integrated into a small, rugged, plastic injection molded control box. The controller shall also be capable of reversing auger and cross conveyor. The auger and prewet functions shall be operable in manual mode and open loop mode. Spread rates for granular, spinner and prewet shall have the ability to be adjustable inside of calibration. Materials shall be capable of being named. A security code shall be selectable in calibration to lock out undesired changes to the calibration settings. An optional supervisor USB key shall be available for quick access to the calibration menu. The controller shall be modular in design for ease of installation and service allowing it to be mountable anywhere in the cab. A RAM mount shall be supplied to allow for easy installation and swivel capabilities. Wiring connectors shall be keyed with wiring labeled throughout. All components must be durable for long life and trouble free operation. Spinner and spreader control dials shall be on the right side of the controller to allow for a clear view of the display while being adjusted. The enclosure shall provide a built in, protective surrounding around the spinner and spreader control knobs to prevent unintentional use and damage to the knobs.

The controller shall include off the shelf integration with PreCise brand GPS/AVL systems for advanced material logging and maintenance reporting. The controller shall also provide onboard current event and season totals for granular and prewet materials. An integrated USB port shall be used for data retrieval, firmware upgrades and for the loading and saving of calibration settings.

The controller shall include a 3.5” high brightness, color touch screen LCD with adjustable backlighting. The touchscreen shall be used for calibration only and shall not be needed during normal spreading operation. The touchscreen shall allow for easy navigation of calibration menus and data viewing menus. The screen shall display warnings for oil level, oil temp, filter bypass, low granular material, low liquid material, granular and prewet feedback errors, and granular and feedback range errors. Optional audible warnings shall coincide with each visual warning and shall be individually adjustable. There shall also be a dedicated red LED on the face of the controller for an additional body up indicator. This LED shall not rely on software of the controller to operate.

The controller shall pass J1113/4, J1113/13, and J1113/21 SAE testing standards. It shall also pass CISPR 25 IEC testing standards. It shall be capable of 9-30VDC and shall have reverse polarity and overcurrent protection. Each output must offer suppression diodes integrated into the controller.

The Control Center shall be a FORCE America Patrol Commander MPJC Ultra series with a 5100eX model spreader control, integrated into the armrest.

HYDRAULIC VALVES:

The hydraulic valves shall be of modular manifold design. Each hydraulic function requires an individual manifold stacked together to form the manifold base. The hydraulic control valves shall be pulse-width modulated, proportionally controlled. Each 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. All segments shall have heavy duty continuous duty coils and connections shall be with Hirshman connectors. All coils shall operate at 12 VDC and require a maximum of 1400 milli-amps. Each segment shall be equipped with a rack and pinion manual override except for the auger and spinner sections. Valve sections must have adjustable stroke limiter flow controls for each function. Valve segments shall be FORCE America "Add-A-Fold" and be arranged as follows:

Front Valve:

- Plow Lift, double acting / 1 truck
- Plow Angle, double acting / 1 truck
- Right Wing Toe, double acting zero - leak / 1 truck
- Left Wing Toe, double acting zero – leak / 1 truck
- Right Wing Heel, double acting cylinder / 1 truck
- Left Wing Heel, double acting cylinder / 1 truck
- All Valve Segments to be 20 GPM / 1 truck

Rear Valve:

- Hoist, single acting, w/ cable pull off valve – 40 gpm & #10 hoses / 1 truck
- Auger, reversible pressure compensated 20 gpm / 1 truck
- One Spinner, pressure compensated 5 gpm / 1 truck

HYDRAULIC VALVE ENCLOSURES:

The valve assemblies shall be mounted in a weather-tight enclosure. The valve enclosures shall be fabricated of 12 gauge stainless steel. The cover shall be held to the enclosure by four heavy rubber latches (one on each side). All plumbing shall be external, directly into the bottom of the valve manifold base (no hydraulic plumbing in the enclosures). When cover is removed, the valve must be exposed on 4 sides for easy service. Front enclosures must fit between frame rails and must not interfere with hood opening. Rear enclosure to be mounted behind cab and dump body.

OCONTO COUNTY HIGHWAY DEPARTMENT
1 – TRI AXLE DUMP BODIES & HYDRAULICS

Bid Opening: 10:30 a.m. on February 16, 2017 at the Oconto Highway Office, located on 202 VanDyke Street – Oconto, WI

Total price must reflect the cost to connect and make functional all plow equipment as mounted.

Price for ONE (1) dump bodies and hydraulics.
$_____

Completion Date for Delivery to Oconto County Highway Department:

_____

Company Name: _____

Address: _____

_____

Company Representative: _____
(Please Print)

Signature: _____

Date: _____