



CITY of NOVI CITY COUNCIL

Agenda Item: 2
March 14, 2016

SUBJECT: Approval to purchase a 2017 International 7500 SBA 4X2 Single Axle V-Box Truck with wing plow from Tri-County International Trucks, Inc., the lowest responsive bidder, in the amount of \$197,671.

SUBMITTING DEPARTMENT: Department of Public Services – Field Operations Division



CITY MANAGER APPROVAL:



EXPENDITURE REQUIRED	\$197,671
AMOUNT BUDGETED	\$198,000 (101-442.20-984.000 – Heavy Equipment)
APPROPRIATION REQUIRED	N/A
LINE ITEM NUMBER	101-442.20-984.000 (Heavy Equipment)

BACKGROUND INFORMATION:

The Novi City Council appropriated funding this fiscal year for the purchase of one single axle dump truck with front plow, underbody scraper and wing blade. This truck is equipped with computer ground speed controls that mirror the four previously procured trucks to allow for conservative salt use, operator convenience, and simplified data tracking. Overall, working toward standardization the City's plow fleet.

This new equipment replaces a truck (#686) that is 22 years old and has no advanced technology to assist with winter maintenance operations. The specifications for this equipment enhances service to the community by allowing operators to pre-wet salt, which reduces activation time and the amount of salt that scatters off the road (estimated to be as much as 40% without pre-wetting). In addition, this truck is equipped with an anti-icing spray boom for pre-storm application of liquids, a stainless steel V-box to resist corrosion, a 7-foot wing plow (estimated to clear wide subdivisions streets up to 30% quicker than trucks not outfitted with this technology), and a computer system that automatically adjusts salt and liquid application rates based on ground speed and pavement and air temperatures. The new on-board computer system also integrates seamlessly with the PreCise Automatic Vehicle Location (AVL) system so that all truck operating activities can be reported/downloaded to a manager remotely.

On February 26, 2016 following a public bid solicitation period, two bids were received. Upon a thorough evaluation, the DPS team determined that Tri-County International Trucks, Inc. met all specifications by providing a responsive bid on the International 7500 Set Back Axle (SBA) 4X2 Single Axle V-Box Truck (with components from Truck & Trailer, Inc., Tri-County's upfitter).

The procurement of this dump truck results in a \$7,671 overage from the budgeted amount (\$190,000 budgeted from the \$197,671 expenditure). This overage is attributed to a truck size model increase in an effort to meet exhaust emission and specialized equipment weight requirements. The expenditure associated with this procurement will be broken into

two components: 1) The truck cab and chassis will arrive in 30-60 days and billed at \$95,735 by Tri-County International Trucks, Inc., 2) The remaining \$101,936 balance will be paid upon the final delivery after all specialized equipment has been installed by the upfitter. Completed truck delivery is anticipated in October 2016, prior to the 2016-2017 winter season.

The lowest bid price was submitted by Wolverine Freightliner - Westside, but was deemed not to meet the following specifications:

	<u>Specified Component</u>	<u>Wolverine's Bid Component</u>
Engine:	10 liter 1050 lbs/ft torque @ 1200 rpm	8.3 liter 1000 lbs/ft torque at 1400 rpm
Suspension:	Rear 31,000 lbs	Rear 30,000 lbs
Mirrors:	Breakaway Mirrors	Fixed Mirrors

For these reasons, Wolverine Freightliner – Westside's bid was rejected.

RECOMMENDED ACTION: Approval to purchase a 2017 International 7500 SBA 4X2 Single Axle V-Box Truck with wing plow from Tri-County International Trucks, Inc., the lowest responsive bidder, in the amount of \$197,671.

	1	2	Y	N
Mayor Gatt				
Mayor Pro Tem Staudt				
Council Member Burke				
Council Member Casey				

	1	2	Y	N
Council Member Markham				
Council Member Mutch				
Council Member Wrobel				

**CITY OF NOVI
SINGLE AXLE V-BOX DUMP TRUCK
2/26/16 2:00 P.M.**

Primary Truck Vendor:	Wolverine Truck Group	Tri-County International
Truck Equipment Supplier:	Truck & Trailer Specialties	Truck & Trailer Specialties
Single Axle V Box Truck, per specifications (Lump Sum)	\$ 193,458.00	\$ 197,671.00
Year/Make/Model	2017 Freightliner 108SD	2017 International 7500 SBA 4x2
Est. Chassis Delivery Time (days)		30-60 days
Est. Body Build (days)	210-240	210-240
Est. Customer Delivery (Total days)	210-240	210-240
Comments	All of the service manuals are online free at Access Freightliner, so you can deduct \$992.00. Enclosed option for rubber cutting edge on front plow: Add \$636.00	See bid cover letter for terms of chassis early payoff. Total unit payoff & potential accrued interest charges. See bid cover letter for discounts.





cityofnovi.org

CITY OF NOVI

SINGLE AXLE V BOX TRUCK
INTERNATIONAL 7400 4X2 S.B.A., OR EQUIVALENT

INSTRUCTIONS TO BIDDERS

4 COPY

This bid is issued by the Purchasing Office of the City of Novi.

IMPORTANT DATES

Bid Issue Date	February 4, 2016
Last Date for Questions	Wednesday, February 17, 2016 by 12:00 P.M. Please submit all questions via email to: Sue Morianti, Purchasing Manager smorianti@cityofnovi.org
Response Due Date	Thursday, February 25, 2016 by 2:00 P.M.

QUESTIONS

Please email all questions to the staff member listed above. Please write the name of the bid in the subject line. If you write anything else in the subject line, your email may be deleted as spam.

TYPE OF CONTRACT

If a contract is executed as a result of the bid, it stipulates a fixed price for products/ services.

BID SUBMITTALS

Provide **four (4)** copies of your bid, **one (1)** unbound signed and clearly marked as ORIGINAL, and **three (3)** copies of the original bid, clearly marked as COPY. Original bid may be clipped but should not be stapled or bound. Copies may be stapled and bound. The original and copies should be identical, excluding the obvious difference in labeling. No other distribution of the bids will be made by the Contractor. Bids must be signed by an official authorized to bind the Contractor to its provisions.

FAILURE TO SUBMIT PRICING ON THE BID FORM PROVIDED BY THE CITY OF NOVI MAY CAUSE THE BID TO BE CONSIDERED NON-RESPONSIVE AND INELIGIBLE FOR AWARD.

CHANGES TO THE BID/ADDENDUM

Should any prospective Bidder be in doubt as to the true meaning of any portion of the ITB, or should the Bidder find any patent ambiguity, inconsistency, or omission therein, the Bidder shall make a written request (via email) for official interpretation or correction. Such request shall be submitted to the staff member indicated above. The individual making the request shall be held responsible for its prompt delivery.

Such interpretation or correction, as well as any additional Bid provisions that the City may decide to include, will be made as an addendum, which will be posted on the

MITN website at www.mitn.info . Any addendum issued by the City shall become part of the ITB and subsequent contract and shall be taken into account by each bidder in preparing its bid. Only written addenda are binding. It is the Bidder's responsibility to be sure they have obtained all addenda. Receipt of all addenda must be acknowledged on bid form.

SUBMISSION OF BID

Bids must be submitted in a sealed envelope. Outside of mailing envelope must be labeled with name of contractor and name of bid. Failure to do so may result in a premature opening or failure to open such proposal.

To be considered, sealed bids must arrive at City Clerk's Office, on or before the specified time and date. There will be no exceptions to this requirement. Bid is considered received when in the possession of the City Clerk. Contractors mailing bids should allow ample time to ensure the timely delivery of their bid. Bids received after the closing date and time will not be accepted or considered. Faxed, emailed, or telephone bids are not acceptable. The City of Novi shall not be held responsible for lost or misdirected bids. The City reserves the right to postpone a bid opening for its own convenience.

Bids must be clearly prepared and legible and must be signed by an Authorized Representative of the submitting Company on the enclosed form. Bids must show unit and total prices if requested. In case of mistakes in price extension, unit pricing shall govern. ANY CHANGES MADE ON BID FORMS MUST BE INITIALED OR YOUR BID MAY BE CONSIDERED NON-RESPONSIVE.

A bid may be withdrawn by giving written notice to the Purchasing Manager before the stated due date/closing time. After the stated closing time, the bid may not be withdrawn or canceled for a period of One Hundred and Twenty (120) days from closing time.

Failure to include in the bid all information requested may be cause for rejection of the bid.

Bidders are expected to examine all specifications and instructions. Failure to do so will be at the bidder's risk.

No bid will be accepted from, or contract awarded to any person, firm, or corporation that is in arrears or is in default to the City Novi upon any debt or contract, or that is in default as surety or otherwise, or failed to perform faithfully any previous contract with the City.

CONSIDERATION OF BIDS

In cases where items are requested by a manufacturer's name, trade name, catalog number or reference, it is understood that the bidder/proposer intends to furnish the item so identified or an item of "equal" quality and value as determined by the City of Novi.

Reference to any of the above is intended to be descriptive, but not restrictive, and only indicates articles that will be satisfactory. Bids of "equal" quality and value will be

considered, provided that the bidder states in his/her bid what he/she proposed to furnish, including literature, or other descriptive matter which will clearly indicate the character of the item covered by such bid.

The Purchasing Manager hereby reserves the right to approve as an "equal", any item proposed which contains minor or major variations from specification requirements, but which may comply substantially therewith.

CONTRACT AWARD

The contract will be awarded to that responsible, responsive bidder whose bid, conforming to this solicitation, will be most advantageous to the City of Novi. Qualifications, experience, references, comparable projects, price, previous experience with vendor/contractor, delivery, and other factors will be considered in the evaluation process and award of contract. The City reserves the right to accept any or all alternative bids and award the contract to other than the lowest bidder, to waive any irregularities or informalities or both; to reject any or all bids; and in general to make the award of the contract in any manner deemed by the City, in its sole discretion, to be in the best interest of the City of Novi.

After contract award, a summary of total price information for all submissions will be posted on the MITN website at www.mitn.info.

The City may, from time to time, find it necessary to continue this contract on a month-to-month basis only, not to exceed a six (6) month period. Such month-to-month extended periods shall be by mutual agreement of both parties, with all provisions of the original contract or any extension thereof remaining in full force and effect.

RESPONSIVE BIDS

All pages and the information requested herein shall be furnished completely in compliance with instructions. The manner and format of submission is essential to permit prompt evaluation of all bids on a fair and uniform basis. Unit prices shall be submitted if space is provided on bid form. In cases of mistakes in extension, the unit price shall govern. Accordingly, the City reserves the right to declare as non-responsive, and reject an incomplete bid if material information requested is not furnished, or where indirect or incomplete answers or information is not provided. Any exceptions to the specifications must be noted on the bid form.

ECONOMY OF PREPARATION

Bids should be prepared simply and economically, providing a straightforward and concise description of the bidder's ability to meet the requirements of the bid. Emphasis should be on completeness and clarity of content. Included in the response must be a point by point response to the Requirements and other sections of the bid.

The City of Novi is not liable for any costs incurred by bidders prior to issuance of a contract.

GENERAL CONDITIONS

FREIGHT CHARGES

All bid pricing is to be quoted as F.O. B. destination.

TAX EXEMPT STATUS

It is understood that the City of Novi is a governmental unit, and as such, is exempt from the payment of all Michigan State Sales and Federal Excise taxes. Do not include such taxes in the bid prices. The City will furnish the successful bidder with tax exemption certificates when requested. The City's tax-exempt number is 38-6032551.

The following exception shall apply to installation projects: When sales tax is charged to the successful bidder for materials to be installed during the project, that cost shall be included in the "Complete for the sum of" bid price and not charged as a separate line item. The City is not tax exempt in this case and cannot issue an exemption certificate.

CONTRACT TERMINATION

The City may terminate and/or cancel this contract (or any part thereof) at any time during the term, any renewal, or any extension of this contract, upon thirty days (30) days written notice to the Contractor, for any reason, including convenience without incurring obligation or penalty of any kind. The effective date for termination or cancellation shall be clearly stated in the written notice.

TRANSFER OF CONTRACT/SUBCONTRACTING

The successful bidder will be prohibited from assigning, transferring, converting or otherwise disposing of the contract agreement to any other person, company or corporation without the expressed written consent of the City of Novi. Any subcontractor, so approved, shall be bound by the terms and conditions of the contract. The contractor shall be fully liable for all acts and omissions of its subcontractor(s) and shall indemnify the City of Novi for such acts or omissions.

NON-DISCRIMINATION

In the hiring of employees for the performance of work described in this ITB and subsequent contract, neither the contractor, subcontractor, nor any person acting in their behalf shall by reason of religion, race, color, national origin, age, sex, height, weight, handicap, ancestry, place of birth, sexual preference or marital status discriminate against any person qualified to perform the work required in the execution of the contract.

ACCEPTANCE OF BID CONTENT

Should a contract ensue, the contents of the bid of the successful Bidder may become contractual obligations. Failure of a contractor to accept these obligations may result in cancellation of the award.

DISCLOSURE

All documents, specifications, and correspondence submitted to the City of Novi become the property of the City of Novi and are subject to disclosure under the provisions of Public Act No. 442 of 1976 known as the "Freedom of Information Act". This Act also provides for the complete disclosure of contracts and attachments hereto.

This means that any informational material submitted as part of this ITB is available without redaction to any individual or organization upon request.

INDEPENDENT PRICE DETERMINATION

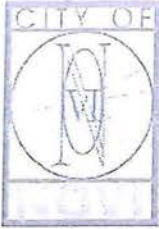
By submission of a proposal, the bidder certifies, and in case of a joint proposal, each party hereto certifies as to its own organization, that in connection with the proposal:

- (a) The prices in the proposal have been arrived at independently without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any other Competitor; and
- (b) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not submit a proposal for the purpose of restricting competition.

Each person signing the proposal certifies that:

- (c) He is the person in the bidder's organization responsible within that organization for the decision as to prices being offered in the proposal and that he has not participated or will not participate in any action contrary to (a) and (b) above; or
- (d) He is not the person in the bidder's organization responsible within that organization for the decision as to prices being offered in the proposal but that he has been authorized in writing to act as agent for the persons responsible for such decisions in verifying that such persons have not participated, and will not participate, in any action contrary to (a) and (b) above, and that as their agent, does hereby so certify; and that he has not participated, and will not participate in any action contrary to (a) and (b) above.

A proposal will not be considered for award if the sense of the statements required in the proposal has been altered so as to delete or modify the above.



**CITY OF NOVI
SPECIFICATIONS**

**SINGLE AXLE V BOX TRUCK
INTERNATIONAL 7400 4X2 S.B.A., OR EQUIVALENT**

1. COMPONENTRY

- a. The bidder shall supply with this bid a certified letter stating that ALL parts and all componentry, either manufactured or purchased by the bidder which are a part of the equipment bid upon, are new, and further, that no used and/or reconditioned parts or componentry are incorporated in this equipment.
- b. Components and/or accessories not mentioned herein, but necessary to furnish a complete unit, ready to use upon delivery, shall be included and confirm to the best practice known in design, quality of material, and be subject to these minimum specifications in full. These specifications shall be construed as minimum. Should the manufacturer's current published data or specifications exceed these, they shall be considered minimum and be furnished.
- c. **Exceptions Disclosure: Any exceptions, clarifications, deviations or substitutions shall be indicated on the Bid Form and referenced by page and paragraph number and adequately described in this section (Specifications). If no such descriptions are provided the City of Novi will hold the bidder responsible for materials, systems and brand name items as described in the specifications. Where no substitution is described in the specifications, no deviations will be allowed. Specifications section AND Bid Form must be submitted in order to be considered a complete bid.**

YES, MEETS ALL SPECIFICATIONS
 NO, DESCRIBE DEVIATIONS:

2. GROSS WEIGHT

- a. Minimum GVWR 44,000 lbs.

YES, MEETS ALL SPECIFICATIONS
 NO, DESCRIBE DEVIATIONS:

NOTE: GVWR IS 44,000 PER YOUR LOWESTS GIVEN IN YOUR SPEC

3. CHASSIS - INTERNATIONAL 7400 4x2 S.B.A.

- a. Shall be the latest production model, conventional cab, 7400 SBA 4x2 series, with a cab to axle dimension of 114 inches.

- b. The frame shall be pressed steel channel with a yield strength greater than or equal to 120,000 P.S.I. and a full C-channel reinforcement for a combined section modulus of 31.72 and a resisting bending moment of 3,806,400 inch pounds minimum. Front frame extension integral. No bolt on or weld on type.
- c. Two (2) front hooks or eyes shall be provided, one (1) mounted on each frame rail adjacent to front bumper.
- d. Front bumper shall be heavy-duty structural steel channel, 12" in depth, C-type, 25 lb./ft., flared back, approximately 1" from each end to within 1" of front fender so as to protect fenders, two (2) 3/8" I.D. pipes 6" long welded vertically to each end of front bumper.
- e. All bolted construction, including attachments, must use grade-8 bolts and/or huck bolts.
- f. Ample frame must be provided for mounting necessary equipment (i.e. dump body, hoist, front pump etc.). Frame cut after mounting of equipment shall be held to truck manufacturer's recommended standards.
- g. 1310 front flange engine PTO adapter plate shall be supplied.

YES, MEETS ALL SPECIFICATIONS
 NO, DESCRIBE DEVIATIONS:

EXCEEDS SPEC. JOINTS INST'L 7500 SBA 4x2 QUOTED

4. CAB

- a. Manufacturer's conventional cab of sufficient bumper to back of cab dimension so that the power plant (engine) is located ahead of the cowl and requires no special "in cab" housing.
- b. Driver seat – air suspension cloth hi-back – lumbar support integral headrest. Passenger seat – non-suspension high back cloth – fixed back w/ under seat storage
- c. Door-mounted dispatch compartment.
- d. Left hand arm rest, sun visors, grab handles and running boards, exterior mounted sun visor with L.E.D. marker lights.
- e. Steering column shall be tilting.
- f. Air horn. Single, frame mounted.
- g. OEM AM/FM radio with standard speakers and auxiliary input, with Bluetooth and microphone.
- h. Accommodation package for 2-way radio.
- i. Cab sound insulation package.
- j. Cigarette lighter for diagnostic equipment power.
- k. Left and right hand rectangular heated and remote power mirrors, 6" x 16", "Westcoast" Break-a-way – type, with auxiliary convex mirror bright finish heads, and brackets w/ L.E.D. clearance lights.
- l. Illuminated direct-reading gauges, including: Air Pressure Gauges, Tachometer, Speedometer, Odometer, Fuel Gauge, Water Temperature Gauge, Oil Pressure Gauge Direct Reading, Voltmeter, Hour meter, High-Temperature Water Warning Light, and Air Cleaner Restriction Gauge Mounted inside Cab.
- m. Engine Alarms: Air, audible, Oil and water, audible and visual.

- n. Standard Tilt hood (without hood hatches) and fixed grille.
- o. Electric intermittent windshield wipers with heated blades.
- p. Tinted glass throughout, with power windows left & right w/ driver control.
- q. Electronic throttle control, variable.
- r. Instrument Panel, Ergonomic style.
- s. Painted IHC Code #2303RED (Cab).
- t. Factory installed front fender flares.
- u. Fitted Floor Mats
- v. Cab air ride
- w. Non programmed door locks. *Due to Part of the Package*
- x. Muffler stack shall not to exceed cab height by more than 4 inches.

YES, MEETS ALL SPECIFICATIONS
 NO, DESCRIBE DEVIATIONS:

5. ENGINE

- a. International MaxxForce 10, Diesel, 310 HP, 1050 lb-ft Torque @ 1,200 RPM, 2200 RPM Governed Speed, #2 Bell Housing or larger.
- b. Fuel/water separator spin-on type, heated type.
- c. Air cleaner, dual element heavy-duty type with restriction gauge in dash and under hood intake with inside-outside valve or integral snow separation module.
- d. Automatic hi-temp low oil pressure engine shutdown. Block heater; plug at driver's side, with provision for an oil pan heater.
- e. Provide manufacturers temporary fuel tank.
- f. Horizontal muffler and vertical tailpipe must be mechanically fastened to frame rails behind cab for maximum stability, with safety shield. Furnish stainless steel exhaust pipes and clamps. Furnish 90 degree elbow pipe above muffler exhaust.
- g. Radiator shall have necessary frontal area to provide adequate cooling when used in conjunction with transmission and hydraulic coolers and shall have no cut-outs or holes for PTO shaft, On/Off cooling fan drive
- h. Silicone hose package, radiator and heater hoses.
- i. Aluminum 1588 square inch Radiator with 885 square inch charge air cooler.
- j. Engine control remote mounted (provision for body builder installation of PTO controls) and ground speed pickup wire.
- k. Engine must be a wet sleeve type w/ extended life coolant to -40° below zero.
- l. Extended engine & engine electronics including injectors. Service contract for 84 months, 100,000 miles.

YES, MEETS ALL SPECIFICATIONS
 NO, DESCRIBE DEVIATIONS:

NEWER N-10 IN LUED MAXF-10 ENGINE USED. MAXF HAS BEEN REPLACED BY "N" SERIES

6. FLUID LEVELS

- *-a. All hydraulic oil tanks, if provided, shall be full upon delivery.
- b. All engine fluids including reservoirs, if provided, shall be at manufacturer's suggested levels at delivery.
- c. All fluid reservoirs shall be properly labeled in a visible location.

YES, MEETS ALL SPECIFICATIONS
 NO, DESCRIBE DEVIATIONS:

* - SOFTBUILT COMPLIANCE ITEM

7. TRANSMISSION

- a. Allison Electronic 3500 RDS P; 6-speed automatic, with T-bar shifter.
- b. 5 year warranty (2 yrs. Std. plus 3 yrs. extended).
- c. Magnetic drain plug.
- d. Temperature gauge, direct reading.
- e. External Transmission Cooler, water to oil type.
- f. Synthetic Transmission oil,
- g. Trans oil level sensor.
- h. Locate transmission Electronic Control Module inside cab interior
- i. External transmission cooler, to follow Allison recommended specifications.

YES, MEETS ALL SPECIFICATIONS
 NO, DESCRIBE DEVIATIONS:

NOTE: "T-BAR" SHIFTER NOW KNOWN AS ALLISON "SOFT SHIFTER"

8. ELECTRICAL

- a. 12 volt light system throughout.
- b. Daytime running lights and fender mounted turn signals dual faced amber.
- c. Halogen headlights.
- d. Electric junction box in cab.
- e. Batteries – three 12-volt, maintenance free, 2100 CCA at 0 degrees F – combined with jump start – stud. Truck manufacturer's battery box shall be re-positioned per Fleet Managers instructions at the time of construction. Battery box must be vented by drilling (2) two (1/2") half inch diameter holes in front and rear side panels.
- f. Leece-Neville 135 amp Alternator w/ higher current output @ idle.
- g. Starter shall be heavy-duty type with thermal over crank protection.
- h. Lighting shall conform to federal Motor Vehicle Safety Standards #108.
- i. Electrical system shall be protected by circuit breakers, manual-reset SAE Type II.
- j. Install weather tight connectors on back-up alarm.
- k. Wiring for all rear lights shall be incorporated with the Betts lighting system w/ 8

- foot of rear stop tail light wire furnished by chassis manufacturer.
- l. Grommets must be used where wire passes through steel gussets and cross members.
- B - m. All Betts lighting wiring must conform to truck color code.
- n. 6-Pak Switch Rocker type Lighted – IHC supplied.
- B - o. The Betts lighting system shall be connected starting from inside the truck cab at terminal strip, to a sealed plastic junction box, and mounted at the left rear of the V-body. All connections will be sealed in the junction box with no other connection in the harness, other than at the light fixtures.
- B - p. Furnish electrical adapter to step down 7 conductor socket to 6 conductor sockets.
- B - q. Crossover wiring harness shall be installed on 2nd. Underbody cross member forward of rear most cross member.
- r. Auxiliary Harness front Head Lights and turn signals for front plow application.

YES, MEETS ALL SPECIFICATIONS

NO, DESCRIBE DEVIATIONS:

B = BODY BULB DEL ITEM(S)

9. FRONT AXLE, SPRING, AND STEERING

- a. Axle capacity not less than 18,000 lbs. set back
- b. Spring capacity not less than 9,000 lb., each at ground – multi-leaf.
- c. Power assist steering – dual.
- d. Double-acting shock absorbers.
- e. Oil lubricated wheel seals with sight gauge.
- f. Three stage taper leaf front suspension.

YES, MEETS ALL SPECIFICATIONS

NO, DESCRIBE DEVIATIONS:

10. REAR AXLE AND SUSPENSION

- a. Single speed axle Meritor RS-26-185, Gear ratio: 5.63
- b. Axle capacity not less than 26,000 lbs.
- c. Rear axle ratio to provide road speed of 65 mph at GVWR while providing compatibility with manufacturer's recommendations for engine, transmission and other drive-train components. Minimum gear ratio 5:63
- d. Suspension capacity not less than 31,000 lbs. A 4,500 lb helper spring on each side shall also be included.
- e. Magnetic drain plug.
- f. Driveline – To be equipped with Spicer Lifeline Series Driveline to match torque requirements.
- g. Driver controlled rear locking differential.

YES, MEETS ALL SPECIFICATIONS
 NO, DESCRIBE DEVIATIONS:

11. BRAKES

- a. Full air brakes, S-Cam, Auto slack adjusters and anti-lock A.B.S.
- b. Front brake shoes shall be 16-1/2" x 6" OR Disc Brakes
- c. Rear brake shoes shall be 16-1/2" x 7".
- d. Bendix BW750 Series 13.2 CFM.
- e. Heated DV2 Automatic Drain Valve.
- f. Air drier AD-9 or equal model.
- g. MGM Parking brake.
- h. Backing plate shields for brakes, front and rear.
- i. Brake Chambers installed in front of rear bulk head.

YES, MEETS ALL SPECIFICATIONS
 NO, DESCRIBE DEVIATIONS:

12. WHEELS AND TIRES

- a. Front – 385 65R22.5, Michelin "XZY-3" 18 ply front (Qty. 3)
- b. Rear – 12R22.5, Michelin "XZY-3" 16 ply rear (Qty 5)
- c. Hub piloted disc wheels, 10 stud – 22.5 x 8.25. (Qty 5) rear & front 12.25/DC (Qty 3).
- d. Wheel checks to be installed on all lugs (green).

YES, MEETS ALL SPECIFICATIONS
 NO, DESCRIBE DEVIATIONS:

SEE BID COVER LETTER FOR TIRE OPTIONS

13. MISCELLANEOUS EQUIPMENT

- a. Rear tow hooks mounted to frame, (1) pair.
- b. Chain box to be mounted on the driver's side of the front bumper.
- c. Two expanded metal front bumper steps driver and passenger side.
- d. Expanded metal traction strip placed across the top of the front bumper.
- e.
- f. Electronic 12-volt back-up alarm installed on drivers' side below left rear taillight/turn signal assembly below steel guard.
- g. O.E.M. Air Conditioning System with fresh air filter.

- h. Furnish and install ½" thick rubber mud flaps with anti-sail feature behind rear tires secured to fender understructure.
- i. Furnish and install Preco 1040 back-up alarm.
- j. Rear mount camera in fixed box (monitor salt load)
- k. Install license plate frame and light.
- l. Furnish safety items, triangle reflector kit and 5 lb fire extinguisher.
- m. Two service manuals covering truck and chassis, added auxiliary equipment, and all other components included in these specifications that may require testing, adjustment, part replacement, and periodic preventive maintenance. All of the aforementioned detail shall also be provided on a CD that is compatible with Windows 7. Additional circuit diagrams & electrical system trouble shooting manuals shall be delivered as paper only.
- n. Two parts manuals covering this equipment, all added auxiliary equipment and all other components included in these specifications that may require part replacement, and periodic preventive maintenance, CD-Rom and paper type. Also Master Diagnostic's software – ZTS4463-4 and IC3 Com interface cable ZTSE 4632.
- o. One set of all "Special Tools" for this equipment, all added auxiliary equipment and all other components included in these specifications that require periodic preventive maintenance.
- p. Vendor must specify warranty coverage and location (s) of repairs of this equipment, all added auxiliary equipment and all other components that are included in these specifications that may be different than that of the general warranty coverage and/or extended coverage.
- q. All equipment as specified, manuals, and special tools must be delivered to the Department of Public Services - Fleet Maintenance Section, 26300 Lee BeGole Dr. (F.K.A. Delwal Dr.), Novi, Michigan. No payment shall be made until terms of this sales agreement have been met and are verified by the City of Novi.

YES, MEETS ALL SPECIFICATIONS
 NO, DESCRIBE DEVIATIONS:
ALL MANUALS, DIAGRAMS, PARTS LIST AVAILABLE
ONLY ON-LINE FROM MANUFACT. SEE BID LETTER
FOR DETAIL CONCERNING THIS.

14. SPECIFICATIONS FOR V BODY

- a. Install 10 ft Chassis mounted stainless steel V box with a liquid capacity of not less than 360 gals.
- b. Furnish and install 2 inch female plastic cam lever couplers for filling liquid tanks. Maximize tank equalization.
- c. 84" outside hopper width.
- d. Dual 7" augers.
- b. 10 ga. 201 stainless steel hopper sides and ends.
- c. 7 ga. 201 stainless longills
- d. Vertical side braces; stainless steel
- e. Side braces spaced to accommodate liquid tanks.
- f. Rear discharge with dual 7" step flighted hard surfaced augers.

- g. Rear mounted auger motors with planetary gearboxes and integral speed sensor.
- h. Top screens with center H beam installed, stainless steel.
- i. Hydraulic shut-off screen latch kit.
- j. Chassis mounting kit.
- k. Stainless steel rear ladder.
- l. Cab shield installed on the front of the V body.
- m. Front bearing grease extensions to rear.
- n. Single lane stainless steel wet boom with Raven flow meter and Banjo boom valve.
- o. 11 gpm closed loop prewet system.
- p. Flip up spinner and anti-ice bar assembly for ease of unloading.
- q. Install Spray Mate Poly Fender kit including all necessary mounting brackets.
- r. 1.25" liquid fill tubes that run from tank to tank utilizing all tank ports.
- s. Stainless catwalk along drivers side liquid tanks that extend the length of the box
- t. The anti-ice liquid pump shall have the capacity to pump 50 gallons per minute.

YES, MEETS ALL SPECIFICATIONS

NO, DESCRIBE DEVIATIONS:

15. UNDER-TRUCK SCRAPER SPECIFICATIONS

- a. Hangerboard - minimum 1/2" formed plate with 1/2" steel reinforcements the entire length of hinge line, with a hardened, replaceable center pin bushing.
- b. Hinge Shaft - 2-1/2" O.D. x 96 linear inches minimum high carbon steel running the total length of the hangerboard (660 square inches of bearing surface area) with zerk fittings located along the hinge line for lubrication. The hinge system shall consist of two (2) 6" end hinges with greasable thrust bearing at each end of hinge shaft and one (1) 15" center hinge with six attaching bolts, all 3-1/4" O.D. x 2-9/16" I.D. The hangerboard cut-out for the center hinge bracket shall have beveled corner cuts and have a 3/8" x 1" reinforcing bar welded over the entire length of the bracket.
- c. Moldboard - 1" thick x 20" wide x 12' long, heat treated carbon steel reinforced in the center with 2-1/2" x 2-1/2" x 1/2" angle 52" long. The bottom shall be offset to accommodate beveled cutting edges.
- d. Actuation and shock assembly - moldboard to be actuated by two Root designed 3-1/2" I.D. x 10" stroke double acting cylinders with 2" nitrated piston rods and 3/8" ports & plumbing. Cylinders to be mounted horizontally on the scraper by 1" thick reinforced steel trunnion brackets. The cylinder shall be retained in the housing by means of a retaining ring consisting of 1/2" w x 1-1/2" long tubing secured to the shock housing with three 5/8" bolts. Trunnion bearings to be 2-3/4" O.D., 3/8" wall carbon steel bored to accept 2" trunnion pin.
- e. Circle - 1" thick solid steel, notchless, 1 pc. design. The center pivot hole shall have a 5" I.D. replaceable bushing for center pin. The center pin is to have a 6"

SEE BOYD BILKEL SUBMITTALS

min. O.D. top, 5" O.D. shoulder, 1-1/4" O.D. stub shaft, grease zerk and bolt through hangerboard with three (3) 3/4" Gr. 8 attaching bolts. Circle clamps shall be 20.5" with 1" top plate. The lower plate shall be welded to hangerboard. The top plate and a polyethylene shim shall bolt to the lower plate with 3-1" Gr. 8 bolts with locknuts.

- f. Power Reverse to be cab controlled with cushion valve relief, and shall be accomplished using two 4" bore by 14-1/2" stroke double acting cylinders with 1/2" ports working in tandem and providing positive hydraulic locking. The piston rods shall be nitrated CR steel 2" in diameter. The piston rod ends and the barrel ends of the cylinders shall be welded 2" thick greasable wear blocks. The hangerboard bosses shall be 3" O.D. tubing, solid welded top and bottom of the hangerboard. Both the anchor and live end pins shall be 2" in diameter and held in place by a 5/8" gr. 8 bolt with nut & washer.
- g. Installation to include modification or relocation of exhaust parts, battery boxes, air tanks & dryers, etc. to achieve maximum height and allow for proper operation.
- h. Hydraulic power is to be provided by a central hydraulic system (specified elsewhere) with proper pressure and flow requirements for proper and satisfactory operation.
- i. Under body scraper must be installed by an authorized dealer or distributor for the City of Novi, and to include modification or relocation of exhaust parts, battery boxes, air tanks and dryers, etc. to make for proper height of 20-1/2" to bottom of circle (the only exceptions to this are if drive line, transmission, transfer case, etc. are too low). Hydraulic power to scraper is to be 1,500 psi maximum pressure for up and reverse functions and 500 psi for down pressure and approximately 10 GPM flow to provide for satisfactory and safe operation.
- j. Step on drivers side, expanded metal on moldboard.
- k. Install carbide cutting edge.

___ YES, MEETS ALL SPECIFICATIONS

___ NO, DESCRIBE DEVIATIONS:

16. CENTRAL HYDRAULIC SYSTEM OR EQUIVALENT

- a. Force FASD45L piston pump - 6.0CID.
- b. Front pump mounting bracket.
- c. Pump flange.
- d. Low oil shut down block with override controls.
- e. Rom1221 low oil sender in tank.
- f. Spicer drive line.
- g. Valve s a Force Add-a-Fold with the following:
 - 4 way air controlled section for scraper with LS relief for down pressure.
 - 4 way electric/hydraulic controlled section for scraper swing.
 - 4 way electric/hydraulic controlled section for front plow.
 - 4 way electric/hydraulic controlled section for plow swing.

SEE BOYBOLDER SUBMITTALS

- 3 way EPC section for main conveyor.
 - 3 way EPC section for prewet and anti-ice system.
 - 4 way EPC section for spinner.
 - Power Beyond end cover.
- h. Force America Command All controller armrest compatible.
- i. Stainless steel valve enclosure.
- j. All necessary hoses and fittings will be Parker type
- k. Stainless steel piping will be used to extend the spreader, spinner, pre wet, and return oil circuits to the rear of the chassis.

___ YES, MEETS ALL SPECIFICATIONS

___ NO, DESCRIBE DEVIATIONS:

17. CONTROL CENTER:

The Control Center shall be a FORCE America CommandAll controller SPJC Ultra series with a 6100 model spreader control or equivalent. Command center shall be determined in the pre-build meeting.

- a. 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. A sealed, pre-wired harness for all valve controls must be provided. All components must be durable for long life and trouble free operation.
- b. The electronic controller shall be a single-handle design with a minimum of three miniature fully-proportional joysticks in the head of the handle to operate all cylinder functions. Multi-stick PWM driver electronics shall include as standard the capability to control at least 9 proportional outputs simultaneously.
- c. Use of a single, 3-axis joystick with pushbuttons in the handle to change joystick operation modes (from Plow to Wing, for instance) is unacceptable, as it presents a safety risk to the operator.
- d. The joystick handle assembly is available in a 1, 2, or 3-stick configuration, in addition to the primary Hoist control provided through actuation of the main joystick. 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 shall be capable of supplying full rated power to switch outputs when all four auxiliary switches are at full 15 amp load.

SEE BEST-BUILDER SUBMITTALS

- e. A mechanical interlock shall be provided on the primary joystick for Hoist-interlock which requires the operator to intentionally lift the joystick out of the mechanical interlock before moving the joystick forward/back to move the hoist cylinder. The primary joystick for operation of the Hoist function shall be a return-to-center style.
- f. The multi-stick control shall include LED-backlit nomenclature for all joystick functions, and an optional trigger that performs electrical interlock of the joysticks. The decals for each function shall be located near the corresponding miniature joysticks, and shall be illuminated amber while the joysticks are disabled, and change to green backlighting when the driver engages the electrical interlock. The green LEDs shall remain illuminated while the joysticks are under operation and shall time-out after a period of joystick inactivity that is selectable from 0 to 15 seconds.
- g. The primary joystick handle head shall include LED-backlit momentary pushbuttons for activation of remote standby, remote blast, and the truck body vibrator. 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 and 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.
- h. To ensure longevity of performance all lighting to be solid-state LED technology. The use of incandescent lamps or EL backlighting is unacceptable.
- i. All function joysticks shall be of contact-less Hall-effect design and offer up to a 1-Million cycle life. The use of potentiometers is unacceptable. Joystick MIN/MAX output duty cycle thresholds, deadbands and error thresholds for each joystick output shall be customizable in the field through a built-in easy to use software interface. Joystick calibration data shall be retained on-board and shall be easily transferrable between joystick system components.
- j. To ensure safe 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 output open/short circuit detection and operator notification
 - 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.
 - The joystick control system shall be equipped with a qualified ESTOP device that immediately disconnects battery power from all joystick outputs. All joystick-operated outputs shall immediately cease to function, an audible alarm shall sound, and the joystick system display shall inform the operator that the ESTOP device has been activated. The ESTOP device must remove power from the joystick outputs while maintaining power to the display and CPU for diagnostic purposes. The operator must manually reset the ESTOP device in order to return the joysticks to operational status.
- k. 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.
- l. 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.
- m. 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.

- n. 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.
- o. The display must provide visual indication that the spreader control is connected to a compatible AVL device, if equipped. The spreader control shall warn operator if communication with the AVL device fails at power-up.
- p. 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 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.
- q. The integrated spreader control and joystick control system shall be equipped with a qualified ESTOP 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 ESTOP device has been activated. The ESTOP device must remove power from all output devices, while maintaining power to the display and CPU for diagnostic purposes. Resetting of the ESTOP device shall not result in spreader control and

joystick-operated outputs returning to an ON state without operator acknowledgement.

- Truck diagnostic calibration shall be completed prior to delivery.
- Supply one USB for firmware and Storing calibration data.

YES, MEETS ALL SPECIFICATIONS

NO, DESCRIBE DEVIATIONS:

18. Install 34" Husting type front hitch:

- 12" structural C channel front bumper with tapered back ends.
- Double acting lift cylinder.
- Serrated bar steps at the front bumper.
- Installed roller pins, rollers mounted to hitch frame base.
- Tow hooks mounted at the front and at the rear of the chassis.

YES, MEETS ALL SPECIFICATIONS

NO, DESCRIBE DEVIATIONS:

19. Fuel/Hydraulic combination tank behind the cab:

- 120 gal fuel capacity/30 gal oil capacity; 7 ga. Steel construction.
- Ball valve shut offs on supply line and case drain.
- Suction strainer in supply line.
- Top mounted Zinga type filter.
- Low oil sensor with indicator light in the cab.
- Hydraulic system will be full of AW32 oil.
- Tanks will be painted black.
- Cross over hose kit.
- Valve enclosure to be incorporated into combination fuel and hydraulic tank construction behind cab.
- Add barr stock step/cat walk to driver's side near fuel tank.

YES, MEETS ALL SPECIFICATIONS

NO, DESCRIBE DEVIATIONS:

20. EMERGENCY LIGHTING.

- a. Sound Off LED amber flashers mounted in poly light boxes.
- b. Sound Off type LED stop/Turn and tail lights in poly light boxes.
- c. Sound off Led backup lights in poly light boxes.
- d. Star model 9016LED-A led mini light bar mounted on the cab shield with a stainless steel brush guard.
- e. 2 auxiliary LED flood lights mounted at rear, angled toward pavement.
- f. LED (5 LED) Flood lights mounted above scraper on left and right side;
- g. Flood light (6 LED) mounted on v-box to illuminate wing plow.
- f. LED (5 LED) marker lights on the combination body.
- g. Plow lights and aluminum plow light brackets mounted on hood.
- h. Install Whelan Micro Amber 6 LED Vertex part 3 01-0268715-10A self-powered, mounted in front plow light bracket facing forward.

___ YES, MEETS ALL SPECIFICATIONS

___ NO, DESCRIBE DEVIATIONS:

21. SNOW PLOW, Root model TPR-PR-10':

- a. Moldboard (tapered): 11' long on top, 47" height at rear, 30" height at nose, 8'2" width of cut at 35 degrees, five (5) 1/2" x 3" vertical ribs, 4" x 4" x 3/4" moldboard bottom angle, 3" x 3" x 3/8" top moldboard stiffener, moldboard thickness to be 10 gauge, 5/8" x 8" x 11' high carbon steel cutting edge with SHS punching. Adjustable caster assemblies with skid shoes to be mounted on the plow. A rubber snow shield to be mounted across the top of the plow.
- b. Plate semi-circle: 4" square x 1/2" wall tube front drive frame member welded to a 1/2" plate. The drive frame member shall be 87-1/2" long and have 6-1/2" inner ears and 2-3/4" outer hinge ears. The semi-circle shall consist of a 1/2" x 64" flame cut main plate welded to the front drive frame tube, with 3-1/2" x 3-1/2" x 1/2" stop angles to be gusseted with 1/2" x 3-1/2" bars.
- c. Hitch to be Root 34" quick detachable (Husting type). Truck half is to be welded to a 10" x 20# channel bumper, have top & bottom bracing with bumper & bracing all being bolted to frame - Not welded. The bumper ends are to be flared back just enough to assure clearance of plow when fully reversed.
- d. Designed for easy mount on all types of hitches.
- e. 4x4 x 3/4" bottom angle.
- f. Moldboards are backed with 1/2" one-piece rib for added strength.
- g. Rugged construction designed to last.
- h. Heavy duty structural pushframe.
- i. Continuously welded to eliminate corrosion pockets.
- j. 100% welded.
- k. 5/8" x 8" cutting edge.
- l. Skid shoes on adjustable gear.
- m. Rubber deflector.

SEE BODY BUILDER SUBMITTALS

- n. Plastic blade guides.
- o. 34" Husting hitch.
- p. Plow lift is to be 12-15" actuated by a 3" double acting lift cylinder.
- q. Power angling to be twin three (3) inch cylinders with a cushion relief valve.
- r. Hydraulic power is not included in this specification. A central hydraulic system should supply approx. flow of 6 GPM with a maximum pressure of 1500 psi.
- s. For best installation of above hitch, cab & chassis should be ordered with minimum 18-24" integral frame extension.
- t. Plow and truck hydraulic quick connection shall be stainless steel and manufactured by "Parker" (1/2" SM-502-8FP Male) (1/2" SM-501-8FP Female).
- u. Installation is to include being able to remove front pump, use front tow hooks, etc. Any modifications to hood or grill for clearance of hitch must meet approval of City personnel.

___ YES, MEETS ALL SPECIFICATIONS

___ NO, DESCRIBE DEVIATIONS:

22. Mid-mounted 7' Junior Wing; Monroe Model MJW-7' junior mid mount parallelogram type wing:

- a. 7 ft moldboard length, 27" intake height, 28" discharge height
- b. 4"x 4" x3/4" bottom angle
- c. 4" x 10" toe cylinder, 3" x 10" heel cylinder
- d. Moldboard will be 3/16" construction with 3/8", one piece ribs
- e. Heavy duty, spring cushioned push arm with shear pin adjustable to 45 degrees from truck.
- f. Front cross tube with mounting plate
- g. Safety chain shall be installed for transport at any adjusted angle.
- h. Wing Post shall be mounted just ahead of the front drive tire with the rear push arm mounted behind the rear drive tire.
- i. Wing Post shall be a parallelogram design and shall mount directly ahead of the drive tire
- j. Rear push arm is to be equipped with a 6" cushion spring
- k. Rear push arm support brace shall be constructed of 4" x 6" x 1/4" tubing and shall be supported by both frame rails
- l. Hydraulic circuit for the wing shall be equipped with a sequencing valve for proper operation of the wing
- m. The sequencing valve shall have built in load checks to prevent the wing from drifting down when not in use.
- n. Sequencing valve shall have built in, manually adjustable flow controls
- o. Wing is to be equipped with hydraulic disconnects for easy removal
- p. Wing will also be equipped with a cushioned rubber stop to prevent it from hitting the body when placed in the stored position at any adjusted angle.
- q. All welding on the moldboard shall be continuous
- r. Wing components and moldboard shall be shot blasted and powder coated
- s. Install LED Work light on frame of truck to illuminate wing

- t. Install 2 poly light boxes mounted on the end of the wing with a Sound Off LED flashing light
- u. A rubber cutting edge 5" x 10" x 83" shall be installed, with carbide curb guard.
- v. Installed 1/2" thick rubber snow deflector.
- w. An additional valve section shall be installed in the main control valve to actuate the wing.
- x. The valve section for the wing shall be electric proportional type valve section
- y. Controls for the wing will be wired into the Force Patrol Command All

YES, MEETS ALL SPECIFICATIONS
 NO, DESCRIBE DEVIATIONS:

23. Exceptions Disclosure. Must be supplied with your bid

YES, our bid meets or exceeds all specifications.

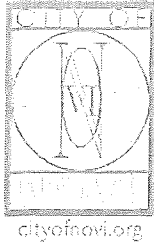
NO, our bid does not meet all specifications (please attach deviations to this specification.

24. Local Service Support

A. The successful bidder and truck equipment supplier must have factory trained service personnel and stocked repair parts at a factory authorized service center located no more than one hundred fifty (150) miles from the City of Novi Field Services Complex. This stipulation is required to ensure a quick turn-around of a truck that requires repair so that down time will be greatly shortened. This also will reduce the time spent by City of Novi personnel in delivery and pick up of truck in need of repair.

Name of truck equipment vendor: TRI-COUNTY INTERNATIONAL
 Address: 5701 WYOMING AVE -
 City, State: DEARBORN MI 48126

PRODUCT BROCHURE TO BE SUBMITTED WITH BID.



CITY OF NOVI
BID FORM

SINGLE AXLE V BOX TRUCK
INTERNATIONAL 7400 4X2 S.B.A.
OR EQUIVALENT

We the undersigned as bidder propose to furnish to the City of Novi, according to the specifications, conditions and instructions attached hereto and made a part thereof:

A. Truck, per specifications

CHASSIS ONLY: \$95,735.00

Lump Sum

* \$ 197,671.00


Year/Make/Model 2017 MI INTERNATIONAL 7500 SBA 4X2

Estimated Chassis Delivery Time 30-60 DAYS A.R.O. Days

Estimated Body Build SEE BIDDING SUBMITTAL Days

Estimated Customer Delivery (Total days) SEE BID COVER LETTER Days

Comments: SEE BID COVER LETTER FOR TERMS OF CHASSIS
EARLY PAYOFF, TOTAL UNIT PAYOFF AND POTENTIAL
ACCURED INTEREST CHARGES.

We acknowledge receipt of the following Addendums: 
(please indicate numbers)

NON-IRAN LINKED BUSINESS

By signing below, I certify and agree on behalf of myself and the company submitting this proposal the following: (1) that I am duly authorized to legally bind the company submitting this proposal; and (2) that the company submitting this proposal is not an "Iran linked business," as that term is defined in Section 2(e) of the Iran Economic Sanctions Act, being Michigan Public Act No. 517 of 2012; and (3) That I and the company submitting this proposal will immediately comply with any further certifications or information submissions requested by the City in this regard.

This bid submitted by:

Company (Legal Registration) TRI-COUNTY INTERNATIONAL TRUCKS, INC.

* SEE BID COVER LETTER FOR PRICING DETAILS, DISCOUNT 1/2

Address 5701 Wyoming Ave
City DEARBORN State MI Zip 48126
Telephone (313) 584-7090 x3213 Fax (313) 584-5681
Agent's name (please print) MARK J. CARACCILO
Agent's Title MUNICIPAL & SEVERE SOIL APPLICATION SPECIALIST
Agent's signature Mark J. Caracciolo
E-mail mcaracciolo@micotruck.com
Date 02/14/2016



Tri-County International Trucks, Inc.

5701 Wyoming Ave • Dearborn • Michigan • 48126
Phone 313.584.7090 • Fax 313.584.5681
www.tricotruck.com

3 COPY

February 15, 2016

Sue Morianti, Purchasing Manager
City of Novi
45175 West Ten Mile Road
Novi, MI. 48375-3024

Bid Letter: Single Axle V-Box Truck, International 7400 4x2 SBA or Equivalent

Dear Ms Morianti,

Thank you for the opportunity to bid on your requirement for a Single Axle V-Box Truck, International 7400 4x2 SBA or Equivalent due on February 25, 2016 at 2:00pm.

This Bid Cover Letter will serve to offer pertinent information to our submittal not fully explained elsewhere. Please read and understand it carefully- if you have any questions please do not hesitate to contact us for further clarification.

The chassis being offered is the current 2017 Model Year International 'WorkStar' 7500 SBA 4x2 chassis manufactured at the International assembly facility located in Springfield, Ohio. The 10-liter engine requirement as given in your bid specification is only available in the 7500 model truck; hence the upgrade to this model. All else is the same between the 7500 and the previously supplied 7400.

This chassis represents the very best efforts of International Truck and Engine Co. and Tri-County International Trucks/ C&S Motors, Inc. the authorized Navistar dealer for Southeast Lower Michigan.

Delivery Information: Build times are at 45-60 days after receipt of order at the Assembly Facility. A hard and fast delivery date of the chassis to the bodybuilder can be determined at the time the actual order for the trucks is put into the International order system. Subsequent to that the chosen bodybuilder's build and delivery schedule will prevail as given in their individual submittal(s).

Bid Compliance Information (Chassis): The chassis spec of our bid submittal is as given in the bid submittal document and listed below on specific items. If further clarification is needed or desired please contact us.

- Exception- Parts and Service Manuals: These are *only* available via the online "On Command" Navistar portal that is provided free of charge to municipal customers for a period of two-(2) years.
- Exceeds Spec- Navistar N-10 Engine in lieu of the previously available MxF-10 engine offering. The Navistar N-10 10-liter engine is provided with full Cummins supplied SCR technology that meets all current emissions requirements.

All other items meet or exceed given bid specifications; many are updated versions.

Body Vendor Submittals and Compliance Information: Compliance sheets, specifications and pricing have been included for all reputable body vendors who wished to submit such items as relevant to this bid package. The compliance of each body vendor's submittal with the Bloomfield Twp requirements shall be deemed solely the responsibility of the submitting body vendor and Bloomfield Twp. Tri-County International Trucks, Inc. makes no claim in this regard whatsoever and shall be held harmless from deficiencies found in the body and equipment specifications, subsequent installation on the truck chassis and any extended custom electrical programming issues that may arise. We **will** work in close concert with the chosen body vendor to assure (to the greatest extent possible) that the chassis will meet their specific integration requirements.

Warranty Information: Warranty Certificates have been provided for the truck chassis as required in the bid specifications. We urge you to review the enclosed certificates and attachments carefully and to ask any questions you may have. Note that this coverage is "full coverage and/or unlimited coverage but IS STILL subject to limitations and exclusions". This level of coverage is sometimes construed as "bumper to bumper" coverage. Bodybuilder/Equipment Warranty Information will be as supplied as part of the individual bodybuilder bid submittals. Transmission warranty coverage on the Allison 3500-RDS is at five-(5) total years; base warranty and ETC purchased coverage.

Payment Terms: Payment on the chassis portion of the unit is expected at the time the chassis is delivered to the bodybuilder. This avoids needless and unnecessary floorplan and insurance charges. ***If you desire to pay for the entire unit upon completion you will be billed a finance charge of \$14.95 (or \$445.60 per month) additionally on the chassis portion of the entire build.*** As the body companies have extended lead times on equipment procurement and installation this can amount to some serious money that could better be used elsewhere. Over 95% of our chassis customers opt to pay the chassis costs upfront. We will still continue to title the entire vehicle to you as the unit is final-delivered to you or we can title it immediately as an incomplete vehicle immediately.

Optional Discounts: See the attached "Optional Discounts" page for details.

The Navistar/ International Advantage- Buy American! When you purchase an International chassis you can be assured that you are purchasing a state of the art truck chassis product from an American company that is U.S. based and has been building trucks and truck engines since 1910.

Comments and/or questions should be directed to my attention at (313) 584-7090 x 3213 or via e-mail to mcaracciolo@tricotruck.com. Either way, your inquiry will receive my most prompt and courteous attention.

Respectfully,

Mark J. Caracciolo

Municipal and Severe Service Application Specialist,

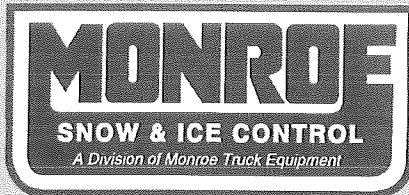
Tri-County International Trucks/ C&S Motors of Flint, Inc.

Optional Available Discounts

Bid for City of Novi "Single V-Box Truck; Int'l 7400 SBA 4x2 or Equivalent

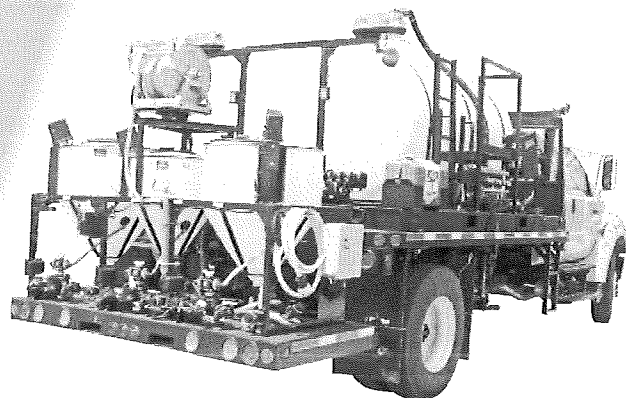
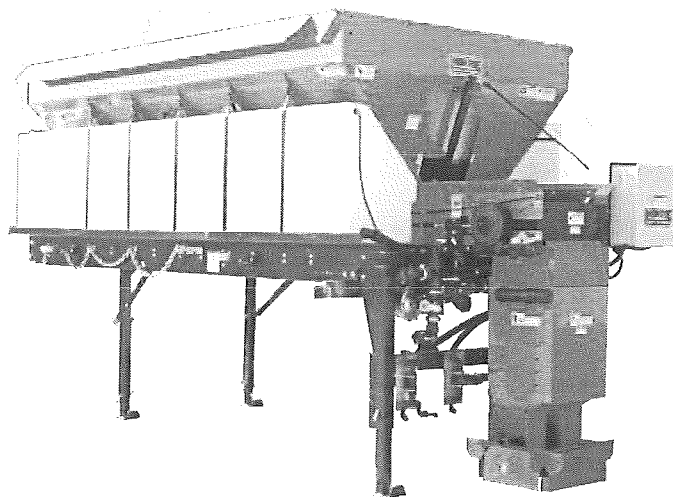
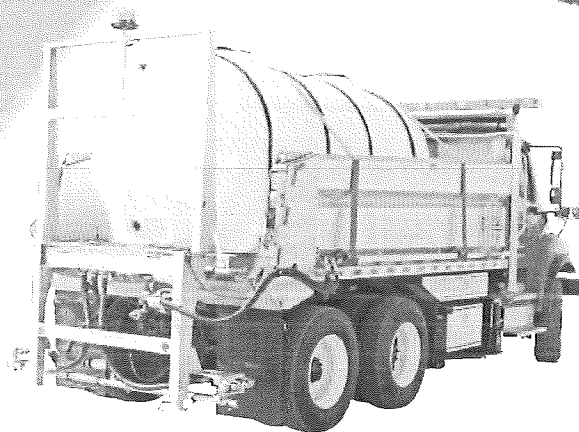
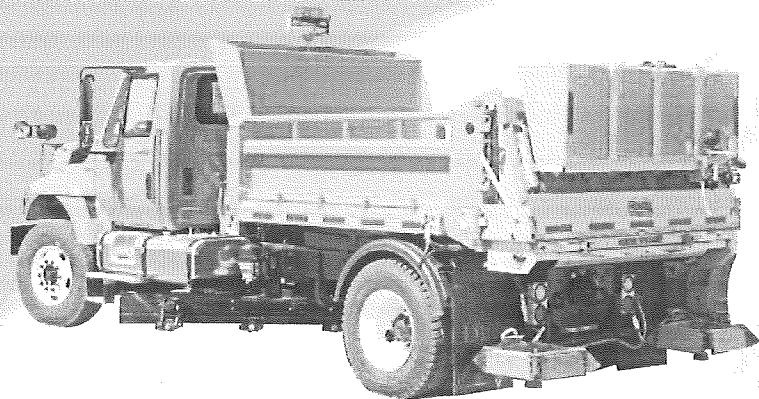
- Delete Spare Front Tire: Discount- **\$1,600.00**. We cannot supply these tires and rims via Navistar/ International; therefore we had to quote them locally via Belle Tire. You can purchase these much more cost effectively off the State of MI contract or via your own contract with your chosen local tire supplier.
- Michelin Tire Surcharge: Discount- **\$400.00**. Currently Navistar has imposed a Tire Surcharge on all trucks ordered with Michelin tires. You can avoid the surcharge by selecting an equivalent Goodyear or Continental tire of the same size, rating and tread design. We have had very good luck with these tires on almost everything we use them on.

Taken together here is an opportunity to save *\$2,000.00* off the purchase price of your new truck purchase. Let us know your thoughts on these available potential savings; we always try to get you the best deal we can while maintaining the best quality products and services to you, our valued customer.



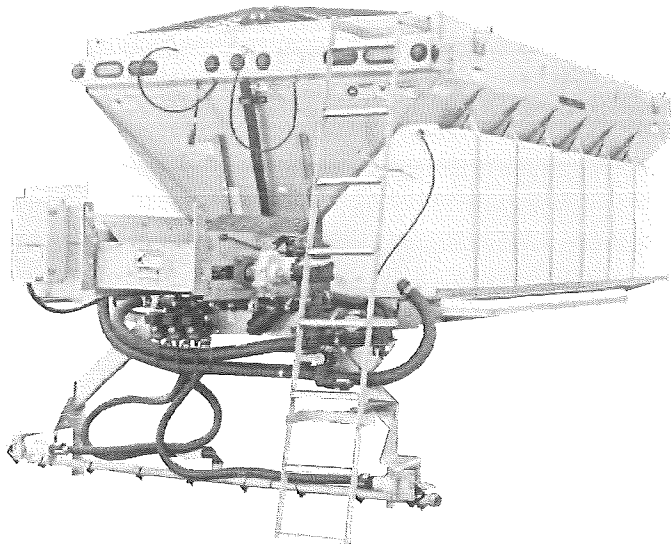
LIQUID SYSTEMS

Pre-wet
Anti-Ice
Dust Control
Flusher
Roadside Vegetation

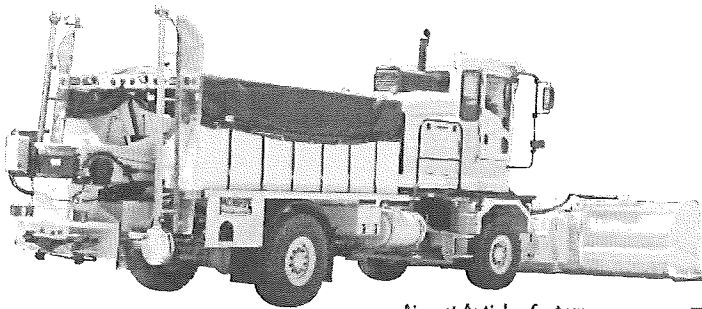
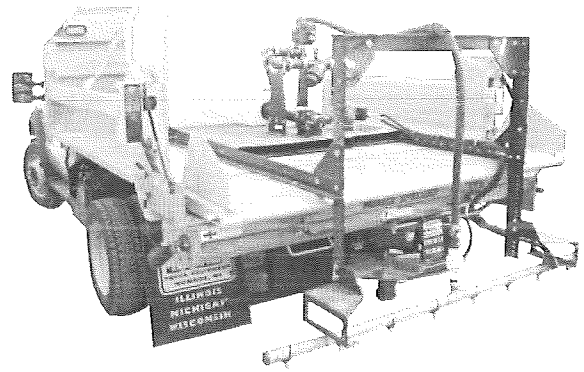


www.monroetruck.com

Other Product Offerings:
Wings • Hitches
Tailgate Spreaders
All Season Bodies • Scrapers
Snowplows



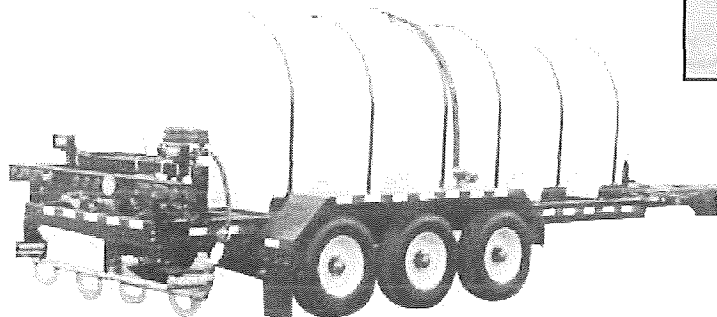
Flush & Dust Capable



Airport Anti-Ice System



Semi Trailer Anti-Ice

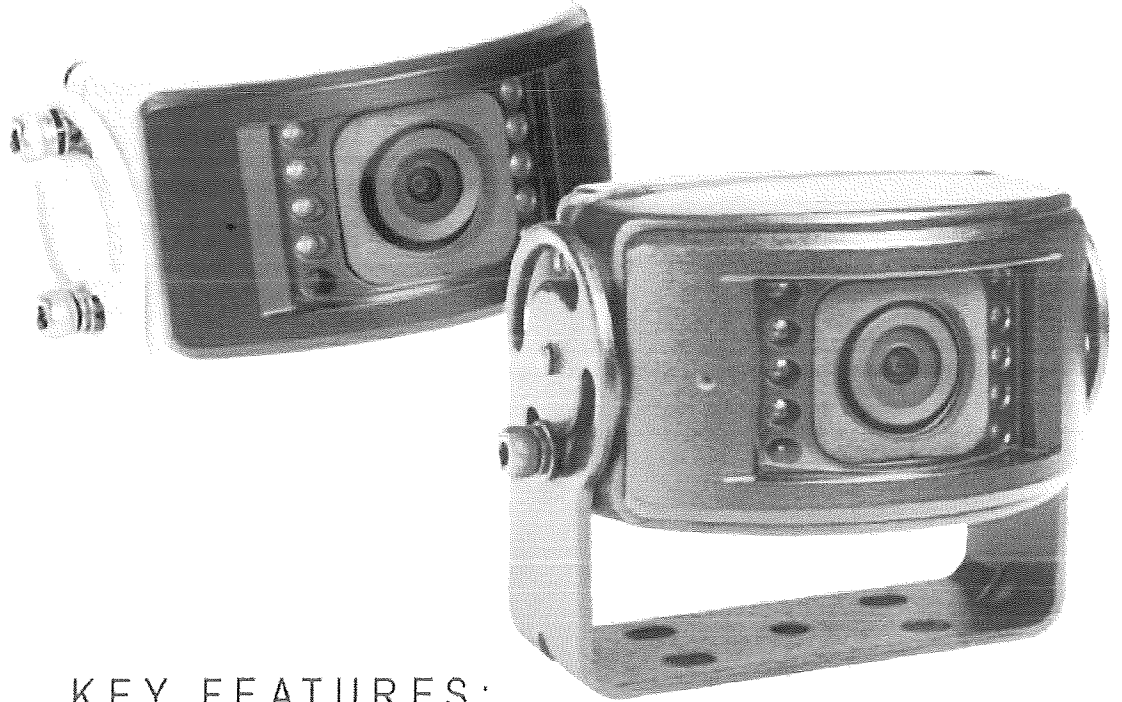


Trailer Anti-Ice



Voyager VCCS150/B

Wide View CCD Color Observation Camera



KEY FEATURES:

- High resolution Wide View CCD Color Observation Camera
- Waterproof (IPX7)
- 12 Volt DC
- Viewing Angle: 150°
- IR LED low light enhancement (0 Lux with IR LED on)
- Built-in microphone
- Normal/Mirror image switch
- Electronic Iris
- Dimensions: 2.7"W x 1.7"H x .5"D
- Available housing colors:
White - VCCS150

**OBSERVATION
SYSTEMS**

M. S. Foster & Associates

1866 N. Country Lane, Michigan City, IN 46360
Phone 219-879-9225 • Toll Free 888-452-4053
Fax 219-879-9313 • email: sales@msfoster.com
www.msfoster.com

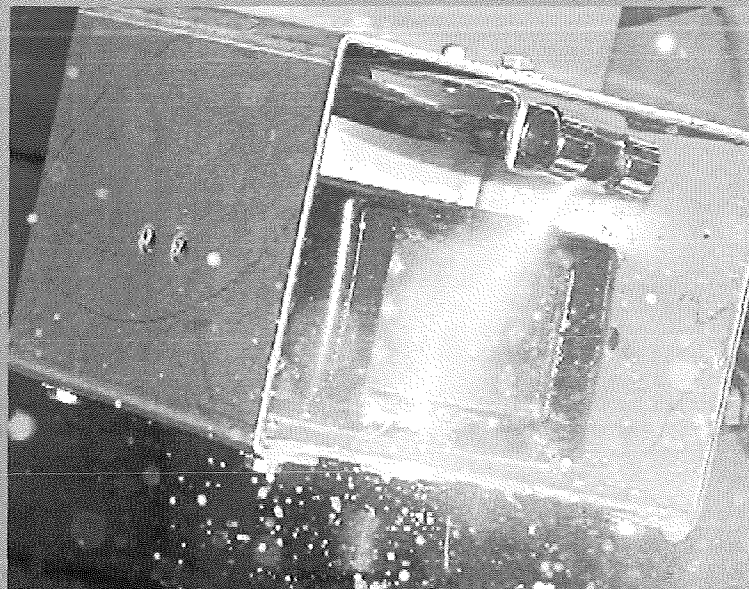
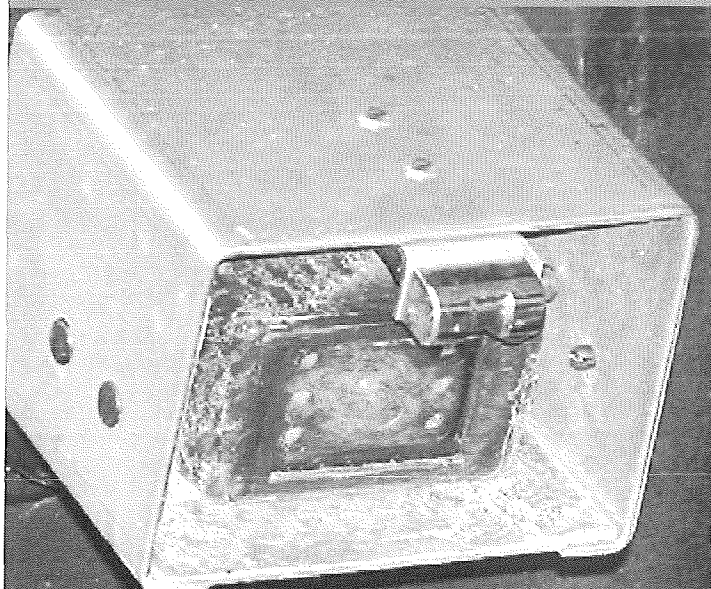
EXPAND your vision™

Camerawash

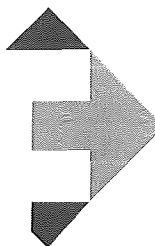
Keep your vision clear with a touch of a button

Camerawash eliminates dirt, ice, and snow from obstructing your view. It can be used on your rear vision camera, collision avoidance sensors, tail lights, mirrors, or headlights. With a push of a rocker switch, washer fluid mixes with high pressure air from your truck. After cleaning the surface, push the rocker switch in the down position and it blows the surface dry without any scratching. It is a non-abrasive, non-contact cleaning action. It is an easy install that will improve your vision tremendously. You can even get a timer for automatic cleaning! Custom kits are available to fit all your cleaning needs.

Optional Stainless Steel Box Shown.



Available with 'U' Pivot Mounting Bracket (p/n MSF 5000 CAM 'U') or Adjustable Ram Mounting Bracket (p/n MSF 5001 Camera).

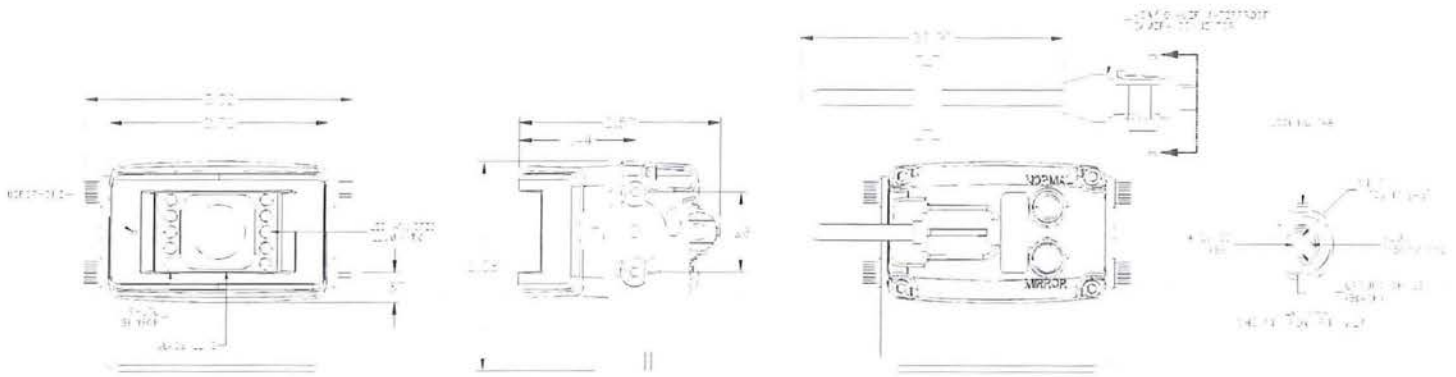


M. S. Foster & Associates

1866 N. Country Lane, Michigan City, IN 46360
Phone 219-879-9225 • Toll Free 888-452-4053
Fax 219-879-9313 • email: sales@msfoster.com
www.msfoster.com

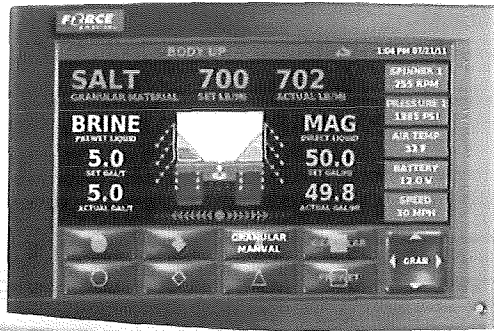
Voyager® VCCS150/B

CCD Color Wide View Observation Camera



General Specifications		
Power System	12VDC	
Operating Voltage Range	10V – 18VDC	
Power Consumption	200 mA (LED On)	
Operating Temperature Range	-20°C to +65°C	-4°F to 149°F
Storage Temperature Range	-30°C to +70°C	-22°F to 158°F
Operating Relative Humidity	100% RH	
Waterproof Rating	IPX7	
Overall Dimensions (without bracket)	2.7" x 1.7" x 57"	
Product Weight (unpacked)	8.8 oz	
Optical Specifications		
Video Output Signal Format	NTSC/PAL	
Video Signal Output Level	1Vp-p 75Ω	
Audio Output	200mV	
CMOS Specifications	Sensor	1/3" CCD
	Iris/Shutter Type	ELECTRONIC
	Shutter speed	1/60 ~ 1/100,00 Sec
	Resolution	330 TV Lines
	Sensitivity	0 Lux (with IR LED ON)
	Image Orientation	MIRROR
	View Angles	D
	H	120°
	V	90°

FORCE
America, Inc.



VISIONARY

SSC6100 CAN Bus Spreader Control System

Designed with Vision in Mind

FORCE America understands the importance of engineering with a vision for the future. That is why the 6100 Control System is considered the industry's premier integrated joystick and spreader control system. The 6100 features a vivid 7" color LCD and true CAN bus connectivity. It can be customized for use today and expanded to accompany new developments in snow and ice fighting techniques down the road. The 6100 Control System is truly designed for today with tomorrow in mind.

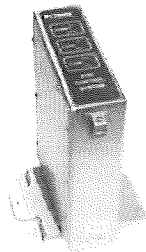
High Resolution 7" Color LCD Screen

Displays information-rich graphical representations providing operators a comprehensive view of their snow and ice operation.



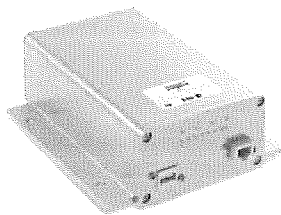
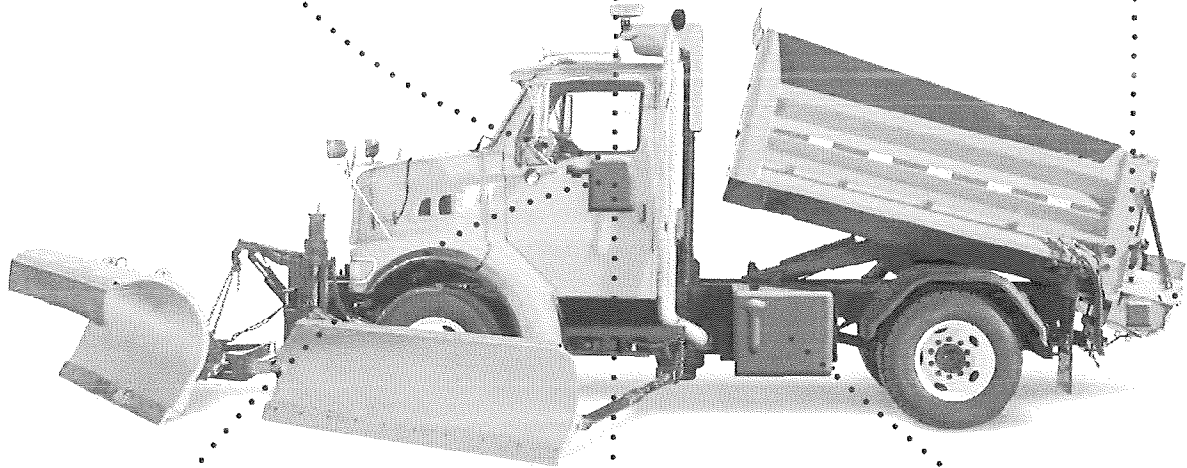
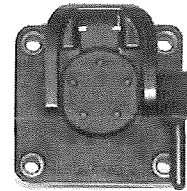
CAN Bus Central Processing Module

Slim design provides centralized connections to AVL devices, USB fobs and other in-cab peripherals with a path for future expansion.



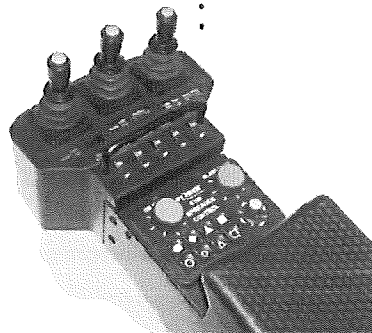
Connectivity

Offers ability to plug-and-play with a single connector system to 12 VDC spreader body and trailer systems.



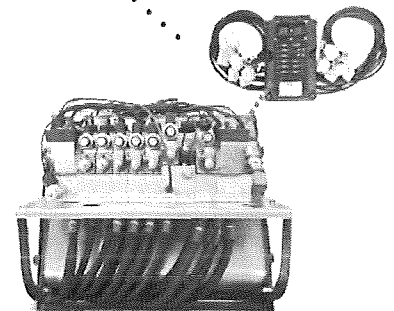
Visible Integration

Integrated AVL/GPS System collects and reports complete information on: Route, Vehicle, Location and Material Application (available separately).



Patrol Commander Ultra

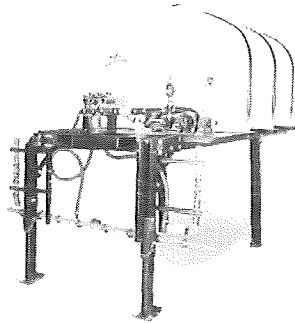
Offers intuitive user interface on the joystick armrest for ease of operator sight and reach.



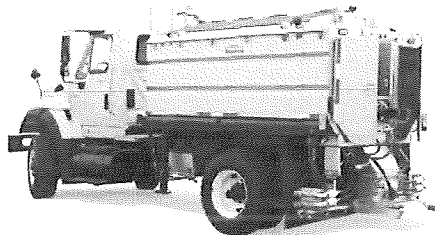
Quality Assurance

CAN Bus control system is designed for and tested against the harsh environment of winter road maintenance with multiple levels of fault protection.

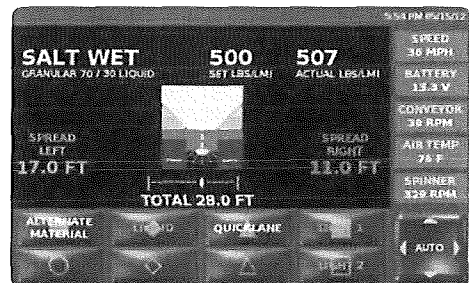
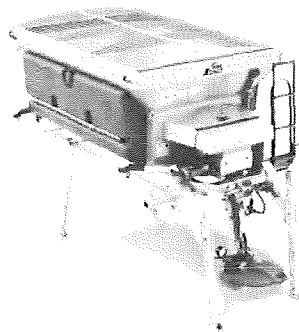
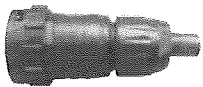
Its visionary design reduces the amount of wiring needed, offering an unmatched ease of use and flexibility. In addition, through the use of ISOBUS connectivity, the single connector system supplies CAN signals and 60A of 12VDC power to equipped spreader bodies and trailer systems. Best of all, the LCD's graphic-rich mode-specific screens allow for easy viewing of comprehensive information.



Multi-Lane Direct Liquid Application When connected to a 3-lane liquid anti-icing system, the display adapts to show live status of spray bar activity and liquid levels in the tank.



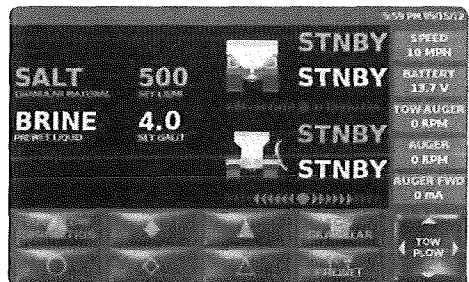
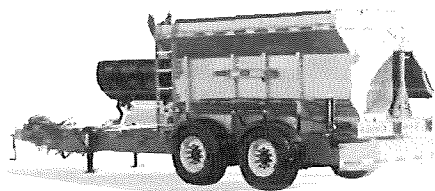
Slurry Application Connect to a granular spreader body with high-flow liquid capability to apply a slurry mixture that hits –and sticks– to the road.



Precision Spread Pattern Control

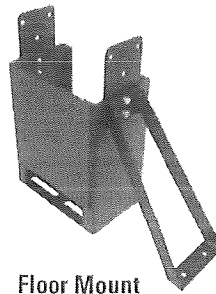
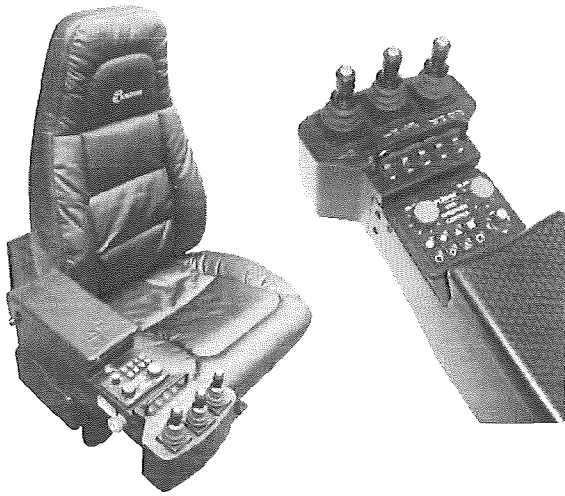
Individually controls the spinner RPM and direction as the system automatically maintains the chosen application rate per lane mile.

The Hi-Way 'Xzalt' is a registered trademark of Highway Equipment Company.

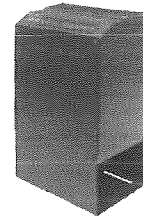


Tow Plow Simultaneously drive two closed loop granular and/or liquid spreaders – one on the truck, and one on the tow plow.

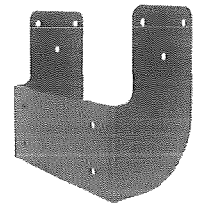
Available Options



Floor Mount



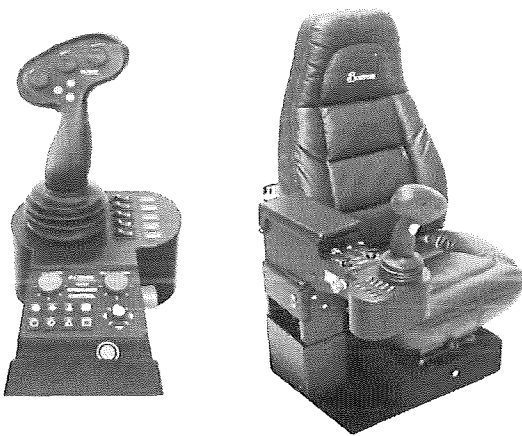
Chair Mount



Switch Panel Mount

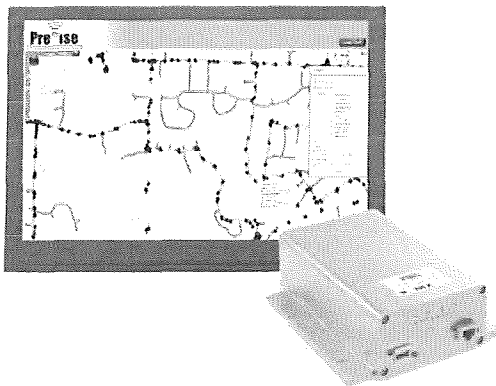
Patrol Commander™ Ultra 6100 Cab Mounting Option

One to Five Joystick Configurations. The popular SSC6100 Patrol Commander Ultra series controller is now available with one to five mini-joystick configurations to meet your specific needs.



Spartan SPJC® CommandAll® Controller

The fully proportional, single-stick control is an integrated spreader control with ergonomic design, allowing one-handed, finger-tip control of all hydraulic functions. Individual mini-joysticks on the handle offer superior control to push-button designs and simultaneous proportional control of today's most popular functions.



PreCise™ Mobile Resource Management

As a part of the FORCE America family, the PreCise MRM solution is integrated deeply with the SSC6100 control system. Accurate material usage reporting, controller error alerts, and vehicle accessory details are all available as a part of a total system approach. PreCise MRM goes beyond AVL/GPS to provide a complete fleet management solution.



1 - 888 - 99 - FORCE

501 East Cliff Road Burnsville, Minnesota 55337 www.forceamerica.com

Service Centers and Sales

© 2015 FORCE America, Inc.
Part Number: FAB00
1015-02

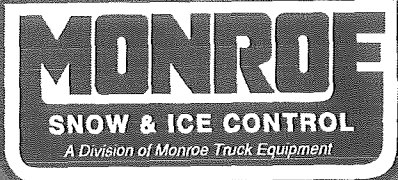
Bismarck, ND	800-624-7568	Dallas, TX	800-893-7225	Milwaukee, WI	800-722-5844
Charlotte, NC	800-788-8598	Denver, CO	888-833-7711	Minneapolis, MN	800-328-2732
Chicago, IL	800-433-5765	Fort Dodge, IA	800-362-2994	Philadelphia, PA	800-492-6821
Columbus, OH	888-449-0356	Kansas City, MO	800-383-4724	Salt Lake City, UT	877-230-0505

F E A T U R E S

The Spartan SPJC[®] CommandAll[®] Controller for medium and heavy duty plow trucks is a fully proportional single-stick control with an integrated spreader control. Ergonomic design allows one-handed, finger-tip control of all spreader and hydraulic functions. The individual mini-joysticks on the handle offer superior control to push-a-button designs, and simultaneous proportional control of today's most popular functions.

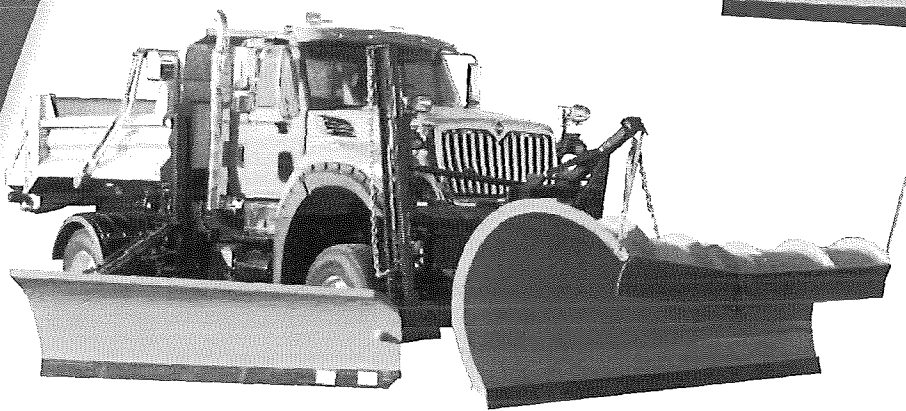
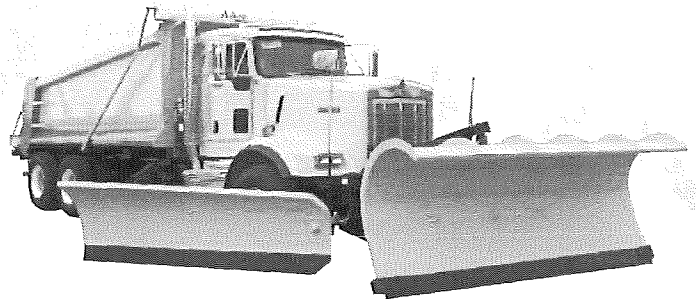
- Compatible with 5100ex and 6100 control system
- Fully proportional controls
 - Infinite speed control of up to seven operations simultaneously
- Durable single-axis hall-effect main joystick
- Available in one, two and three mini-joystick configurations
 - Flexibility to meet specific system needs
- LED backlit nomenclature
- Programmable single-acting or dual-acting floats
 - Float available on any joystick axis with optional three second delay
- Integrated dash-key disconnect
 - Completely disconnect system from battery when key switch is off
- Joystick power-on detections
 - Helps prevent unintended system operation
- On-board visual diagnostics
 - Intuitive feedback for operation and troubleshooting
- Industry-leading safety
 - Integrated ESTOP function shuts down joystick functions
 - Built-in deadman trigger prevents unintended operation





WING PLOW

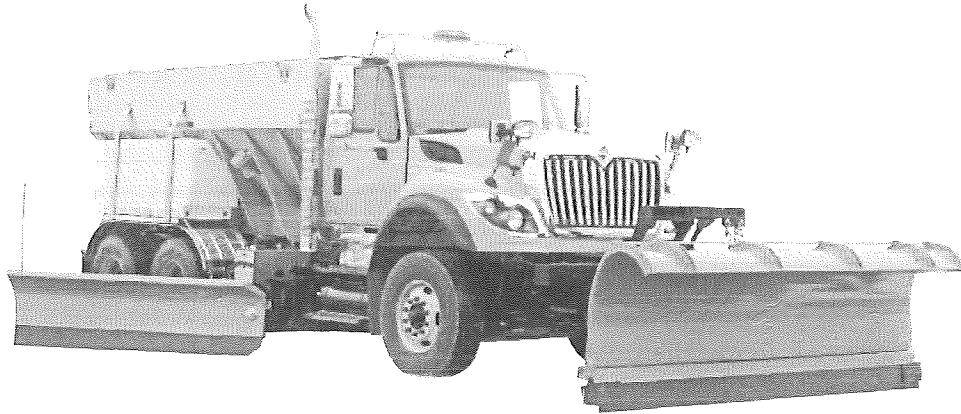
Junior Wing
Patrol Wing
Benching Wing



www.monroetruck.com

Other Product Offerings:
Snowplow • Hitches
Tailgate Spreaders
Liquid Systems • Scrapers
V-Box Spreaders

Junior Wing



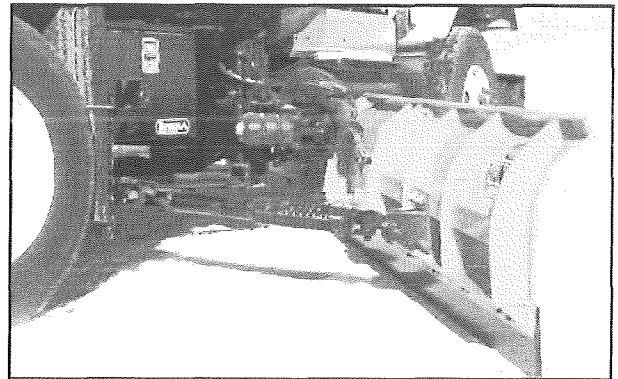
Model #	Weight	Moldboard Length
MJW-6	960	6'
MJW-7	995	7'
MJW-8	1030	8'
MJW-9	1065	9'

Standard Features:

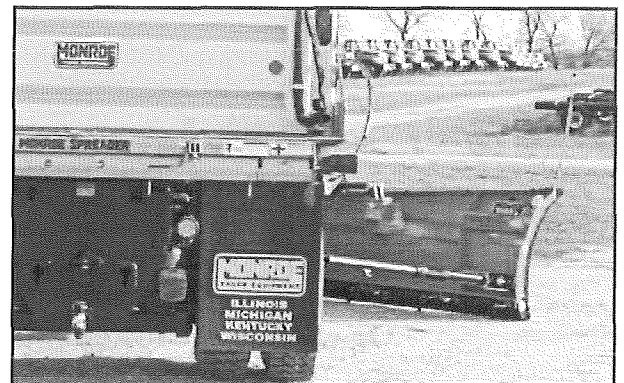
- 27" Intake Height and 28" Discharge Height on Moldboard
- Two Double-Acting Cylinders for Direct Lift of Toe and Heel
- Direct-Lift Front Wing Post
- Wing Requires Two 4-Way Valves with 2100 PSI Relief for Heel Raise to Operate (Not included)
- Wing Provided with Under Frame Cross Tube Mounting and Hardware
- Moldboard is Shot Blasted and Powder Coat Painted Orange
- Mounting Hardware is Powder Coat Painted Black
- 10 Gauge Moldboard
- $\frac{3}{8}$ " One Piece, Tapered, Flame Cut Ribs

Options:

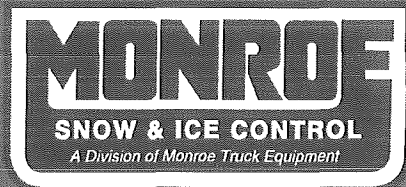
- Right, Left or Dual Mount
- Front, Mid or Rear Mount
- Cast Iron Moldboard Shoe to Extend Cutting Edge Wear
- Wrap Around Curb Guard to Prevent Moldboard Heel End Damage
- Carbide Cutting Edge for Longer Cutting Edge Life
- Two-Piece Torsion Spring Trip Cutting Edge
- Full Moldboard Trip
- Decel Heel Cylinder to Slow the Heel Lift Cylinder Function When Activating it to Stow the Wing, Thus Helping to Prevent Damage to the Chassis or Body
- Available with Heavy Duty Patrol Wing Moldboard
- Available with Monroe Para-Glide® Wing Post



Shown with Full Trip Option

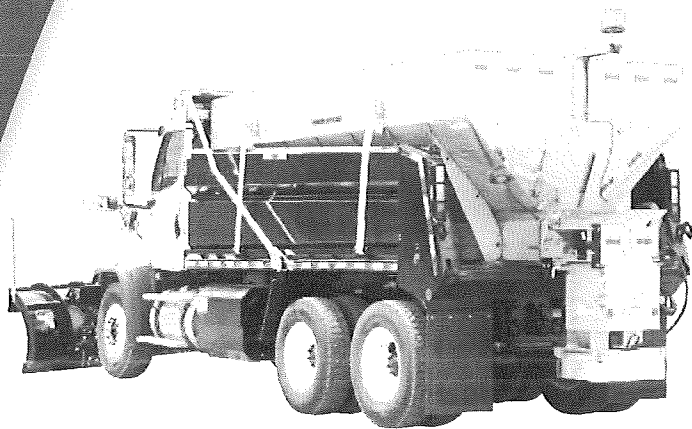
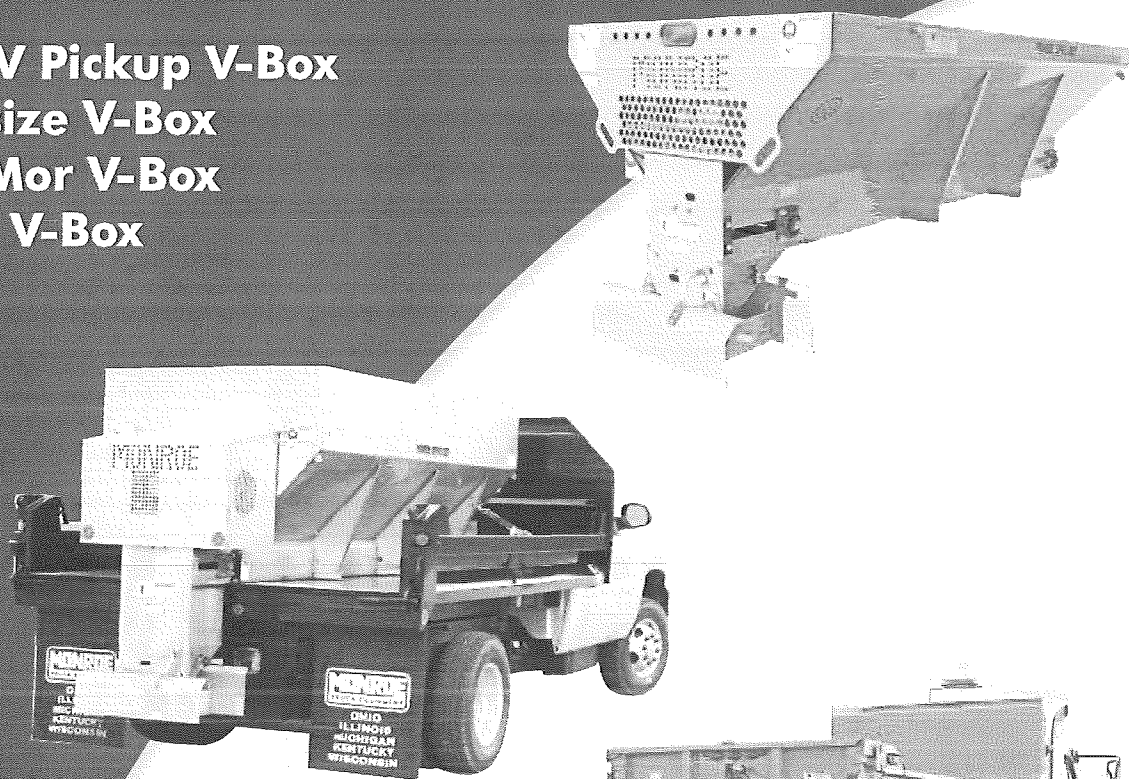


Shown with Trip Edge Option



V-BOX SPREADERS

MSPV Pickup V-Box
Midsize V-Box
DuzMor V-Box
MCV V-Box



www.monroetruck.com

Other Product Offerings:
Snowplow • Hitches
Tailgate Spreaders
Liquid Systems • Scrapers
Dump Spreader • Wings