

TENDER No. TR-20

1. One (1) only 6 Ton Tandem Axle Truck

MAKE: _____

MODEL: _____

YEAR: _____

PRICE: \$ _____

2. One (1) only Combination Dump Body/Spreader with two (2) way tail gate

MAKE: _____

MODEL: _____

PRICE: \$ _____

3. One (1) only Snowplow, Harness and Cable All Hydraulic Wing

MAKE: _____

MODEL: _____

PRICE: \$ _____

4. Trade in one (1) Tandem Axle Truck

Credit for trade in 1991 International 2574 (2x4) Frink equipment \$ _____

TOTAL BID (Items 1, 2 and 3) \$ _____

Minus Trade In - \$ _____

GST \$ _____

PST \$ _____

A/C TAX \$ _____

TOTAL PRICE \$ _____

Total price tendered for deliver to: Township of Whitewater Region
Public Works Department
1798 Westmeath Road
Westmeath, ON
K0J 2L0

DATE: _____

FIRM NAME: _____

AUTHORIZED SIGNATURE

PRINTED NAME OF SIGNING OFFICER

GENERAL INFORMATION BIDDERS

These specifications describe a 6 ton diesel powered tandem axle truck equipped with a combination dumb body/spreader, snowplow and all hydraulic wings. The unit will be used for hauling sand and gravel in the summer and snowplowing, salting and sanding in the winter.

1. The Township of Whitewater Region will accept tenders until Friday, December 16th, 2005.
2. Township of Whitewater forms must be used.
3. Failure to complete the tender and specifications will render the tender unacceptable.
4. Appropriate manufacturer's literature must be submitted with tender.
5. Lowest of any tender not necessarily accepted.
6. The tender price shall be firm on delivery and any price escalation clause shall render the tender unacceptable.
7. Vehicles for which tenders are submitted shall conform to the latest laws, rules and regulations for the Province of Ontario and all relevant requirements of the Canadian Motor Vehicle Safety Standards at the date of vehicle and equipment manufacture.
8. Bids may not be considered if:
 - a) The product on which the price is submitted does not meet all the requirements of specification; or,
 - b) The bidder does not conform compliance with all items of the specification by marking "YES" in the confirmation column for all the required items and providing the required information where "SPECIFY" is noted on the confirmation.
9. A penalty of \$300.00 per day will be considered if the vehicle is not received by the Township of Whitewater Region on or before the required date. The decision as to the assessment of a penalty shall be that of the Township of Whitewater Region Council. The decisions shall be final. This shall be in addition to any other remedies to which the Township may avail itself.

SPECIFICATION AND CONFIRMATION
CAB AND CHASSIS – DIESEL TANDEM
27,216KG/60,000 LBS. G.W.V.

SPECIFICATION

CONFIRMATION

1. **MAKE AND MODEL:**

The following are the approved makes and models, which comply with this specification. Any changes must be approved by Township of Whitewater Region.

MAKE

Volvo WG
International
Western Star
Must be factory wired for Two way radio
Specify make and model of unit being tendered:

MODEL

WG 64-6
7600SBA (6x4)
5868SX

SPECIFY:
MAKE:
MODEL:
YEAR:

2. **CMVSA:**

Vehicles shall meet or surpass the mandatory Requirements of the *Canada Motor Vehicle Safety Act* and it's regulations in effect on the date Manufactured and the vehicle must bear the National Safety Mark.

YES:

3. **GROSS WEIGHT RATINGS:**

G.V.W.R. 27,216 kg (60,000 lbs.) Minimum

SPECIFY:

G.A.W.R. front – 9,072 kg (20,000 lbs.) Minimum

SPECIFY:

G.A.W.R. rear – 18,144 kg (40,000 lbs.) Minimum

SPECIFY:

The allowable G.V.W.R. as supplied shall be shown On a metal or Mylar tag.

YES:

4. **AXLES:**

Front axle shall be 9, 072 kg (20, 000 lbs.) Capacity

SPECIFY:

A set back front axle shall be supplied

SPECIFY:

Rear Tandem axles shall be 18, 144 kg (40, 000lbs.) Capacity minimum, dual drive with inter-axle

SPECIFY:
MODEL:

Differential and driver controlled inter-axle Different lockout	CAPACITY:
Rear tandem axles shall be single speed with 1321 mm (52") spread	YES
A three (3) wheel lockup system operated from the cab shall be supplied	YES
Following is a list of approved axles	
Eaton DS-402 4:11:1	SPECIFY:
Spicer J400S 4:10:1	MAKE:
Rockwell RT-40-145P 4:10:1	MODEL:
Road speed in top gear at governed RPM shall Be 100 KM/H (62 MPH) minimum	SPECIFY: TOP GEAR SPEED:
Power Steering shall be supplied	YES
5. <u>BRAKES:</u>	
Service brakes – full air brakes “S” Can drum type shall be supplied	YES
Front brakes size 406 mm x 152 mm (15" x 6") or 419 mm x 127 mm (16.5" x 5") drum type, Minimum shall be supplied	SPECIFY:
Rear brakes size 419 mm x 177 mm (16 ½" x 7") minimum shall be supplied	SPECIFY:
Dust shields front and rear shall be supplied	YES
Positive rear wheel spring loaded parking brake, air reservoir and instrument panel control switch shall be supplied.	YES
Means shall be provided to release the parking brakes from the cab with no pressure in the main air reservoir, but with air pressure remaining in either secondary reservoir	YES
A manual front wheel limiting valve or automatic Proportioning front wheel limiting valve shall be supplied	YES SPECIFY TYPE:
Low air pressure indicator shall be supplied.	YES
Automatic drain valve shall be supplied with heater to drain moisture from the main air tank mounted in a safe manner (BW-DV-2 valve or approved equivalent)	YES SPECIFY MAKE:

Air dryer – Bendix AD-9 with heater or equivalent shall be supplied	YES
Berg pull-cord drain valves shall be supplied	YES
Protection boots for both front and rear air chamber Push rods shall be supplied	YES
Asbestos-free brake lining shall be supplied	YES
Automatic slack adjusters shall be supplied	YES
All wheels will have travel indicators to check brake travel	YES
Must be Plumed with air and lighting to be used to pull a tag along	YES
Air compresses – 6.23 I/s (13.2 cfm) minimum Complete with all necessary tanks, gauges and safety Valves (Cummins or BW-550 or equivalent) shall be Supplied	YES

6. FRAME

Section modules shall be 29.8 in (3) minimum	SPECIFY:
Frame yield strength shall be 120,000 psi minimum	SPECIFY:
RBM shall be 3, 500, 000 lbs. in minimum	SPECIFY:
Specify Frame dimensions. (Depth x Width x Thickness)	SPECIFY:
The after frame (AF) dimensions shall be a Minimum of 63”	SPECIFY:
Specify dimensions of reinforcement if equipped	SPECIFY:
Mounting of snowplow cheek plates shall be possible	YES
Provision shall be supplied to prevent diamond shaping of the frame. The frame shall be bridged, or a cross member shall be supplied within ten inches of the rear of the cab in order to transfer snowplow wing push to each frame rail. This cross member shall be gusseted fore and aft .	YES

7. SUSPENSION

C.A. shall be 3353 mm (132”) approximately

SPECIFY:

Wheel base shall be 498 mm (196”) approximately
Front spring capacity at the ground 4,536 kg
(10,000 lbs.) each 20,000 lbs. total

SPECIFY:

SPECIFY:

Front shock absorbers shall be supplied
Front spring capacity at the ground 4, 536 kg
(10,000 lbs.) each 20,000 lbs. total

YES

SPECIFY:

Rear spring capacity at the ground 9072 kg
(20,000 lbs.) each. (Combined 40,000 lbs)

SPECIFY:

Rear suspension shall be Hendrickson TR400 or
Approved Equivalent

SPECIFY:

8. WHEELS AND TIRES

Two (2) front first line steel belted radial tubeless
type tires 425/65R 22.5 load range “L” shall be
supplied.

YES

SPECIFY SIZE:

LOAD RANGE:

Eight (8) rear first line steel belted radial tubeless
type tires 11.00 R 22.5 – load range “H” shall be
supplied.(Dual Wheels)

YES

SPECIFY SIZE:

LOAD RANGE:

Tread Design

YES

Front – Standard Highway tread

SPECIFY MAKE:

Acceptable tires: Goodyear Unisteel G291
Michelin YZA
Bridgestone Vsteel M711

Rear

YES

Acceptable tires: Goodyear Unisteel TD
Goodyear Unisteel GI 24
Micheline XM + S4
Bridgestone V-Steel M711

SPECIFY MAKE:

Two (2) disc wheel rims 571 mm x 312 mm (22.5 x
12.25) hub Piloted disc flange nut

YES

Eight (8) wheel rims 571 mm x 312 mm (22.5 x
8.25) hub shall be supplied. Piloted flange nut

YES

The rims must have a load capacity and pressure rating
Equal to or exceeding the ratings of the tires.

YES

SPECIFY PRESSURE:

RATING:

FRONT:

REAR:

Drop centre rims shall be supplied

YES

	Steel hubs shall be supplied	YES
9.	<u>ENGINE:</u>	
	The only approved engine is the CUMMINS ISM 350V diesel, water cooled, in-line, four stroke, six cylinder	YES
	Engine displacement – 10.8 litres (661 cubic inches) minimum	SPECIFY
	Engine gross power 350 h.p. within governed R.P.M. (SAR J 1349)	SPECIFY H.P.: RPM:
	Net torque shall be minimum 1960 N-m (1450 lbs. -ft)	SPECIFY NET TORQUE:
	The Cummins engine oil pan shall be protected from corrosion by a rust proof coating	YES
	Splash guards shall be supplied to protect engine compartment from road spray	YES
	NOTE: Required engine ratings must be set at the time of engine manufacture. Engines with locally altered ratings are not acceptable.	
10A.	<u>TRANSMISSION:</u>	
	Shall be thirteen (13) speeds forward single stick type and two (2) reversers	YES
	Approved transmission: Fuller RTL 149-13A	YES
	The bell housing shall be cast iron	YES
10B.	<u>CLUTCH:</u>	
	Heavy duty – 355 (15”) diameter Dual plate ceramic button type shall be supplied.	YES
11.	<u>ENGINE EQUIPMENT:</u>	
	Key on/ Key off engine control shall be supplied	YES
	Alternator – shall be 145-amp. capacity, minimum, with built in diode rectifiers, and shielded slip ring and brushed or be brushless	SPECIFY MAKE: MODEL: NORMAL

	CAPACITY:
The alternator capacity at idle shall be at least 25 amperes	
	IDLE CAPACITY:
Battery- Maintenance free batteries shall be provided	YES
The SAE rating shall be combined 12 Volt, 1850 C.C.A. minimum	SPECIFY: C.C.A.:
If the batteries are mounted behind the cab, they shall be on the right hand side and be easily accessible for service	YES
Governor – engine governor built-in type	YES
High temperature and low oil pressure engine protection alarm bell or buzz device shall be installed (Automatic engine shut down not acceptable)	YES
A heavy duty two stage dry type air cleaner, shall be supplied	YES SPECIFY TYPE:
Oil filter – full flow type with bypass filter shall be supplied	YES
A heavy duty fuel water separator with heater and sight glass shall be supplied, (Conmet CM-99-327D or approved equal), mounted outside left frame rail behind cab	YES
An automatic temperature controlled on/off fan clutches shall be supplied	YES
Anti-freeze to -40 degrees Celsius shall be supplied	YES
For snowplowing purposes, a minimum 88 mm (3 ½”) diameter opening through the radiator shall be provided centered with the crankshaft of the engine to allow adequate clearance of the PTO shaft. Crankshaft shall be provided with an adapter for PTO drive	YES
NOTE: Where a crankshaft is located low enough to allow the front mounted pump to operate with sufficient clearance below the radiator, the 88 mm (3 ½”) opening in the radiator is not required	
Exhaust: The muffler shall be vertical, if possible. If the muffler is horizontal, it shall have 500 mm/15” ground clearance and the exhaust pipe shall be vertical. The whole installation shall not interfere with the mounting of a snow plow wing tower	SPECIFY:

	Corrosion resistor (spin on water filter) for engine coolant shall be supplied	YES
	Engine hood shall be butterfly type with adequate side access panels to allow easy engine access	YES
12.	<u>CAB:</u>	
	Conventional cab shall be supplied	YES
	Engine hood shall be forward tilting with adequate hatches to provide easy engine access	SPECIFY
	Seats-separate air suspension driver and passenger seats shall be supplied	YES
	The drivers seat shall be a “National Premium Series” The passengers seat shall be fully padded, heavy duty cloth upholstery construction, foam rubber seat cushions, high back, adjustable fore and aft	YES
	Dual sun visors shall be supplied	YES
	Windshield wipers – dual, two speed electric, intermittent feature and electric washer pump shall be supplied	YES
	Air conditioning shall be supplied	YES
	Tachometer shall be supplied	YES
	Thermometer for outside temp. shall be supplied	YES
	An hour meter either an electronic type or with anti-vibration mount – Hobbs –3888 Dampener or equal mounted inside cab shall be supplied	YES
	Seat Belts – two three point with retractors shall be supplied	YES
	Rubber floor mat shall be supplied	YES
	Mirrors – two outside 177 mm x 406 mm (7” x 16”) West Coast type mirrors complete with built in heaters and clearance lights shall supplied	YES

	Rain gutters or drip moldings shall be supplied	YES
	Dual air horn with snow shields shall be supplied	YES
	Arm rests shall be supplied	YES
	Supplementary cab insulation to suppress engine noise shall be supplied	YES
	AM/FM Radio (Electronic with clock), shall be supplied	YES
	12 V power point shall be supplied	YES
	International Diamond Logic or equivalent wiring	YES
	Power operated passenger side window with a switch accessible by the driver and passenger	YES
	Lower and intermediate foot steps, both sides, shall be supplied.	YES
	A terminal panel shall be incorporated into the wiring system to access the following wiring circuits to add additional lighting for the body installation:	YES
	left, right turn	SPECIFY LOCATION:
	parking lights	
	back up lights	
	independent brake light	
	The terminal panel shall be located inside the cab preferably on the rear cab panel	SPECIFY
13.	<u>FUEL TANK</u>	
	A 363 litre (80 gallons) minimum step tank mounted on the left side shall be provided. Dual Tanks are not acceptable. Minimum clearance from ground shall be 305 mm (12")	YES SPECIFY: CAPACITY: TYPE:
	The fuel tank shall not extend beyond cab more than 15 cm (6") or interfere with the installation of box equipment	YES
	Fuel gauge shall be supplied	YES
14.	<u>LIGHTS</u>	
	Two fender mounted, 100 mm (4") diameter amber directional lights, facing front, shall be supplied	YES
	Rear red directional lights shall be supplied	YES

	Stop light shall be supplied	YES
	Five cab identification lights shall be supplied	YES
	Four-way flasher shall be supplied	YES
	Back-up lights shall be supplied	YES
	Halogen head lights shall be supplied	YES
	Large blue double flashing stroke (STAR headlight and lantern co of Canada). Model #200 AD with amber Lenz to interchange	YES
15.	<u>PAINT:</u>	
	The truck shall be painted yellow Dupont #B9044K or equivalent	YES
	* All attaching parts and welds shall be primed with Epoxy Primer before painting	SPESIFY
16.	<u>ATTACHMENTS:</u>	
	Operator's manual and line ticket shall be supplied	YES
	Service manual shall be supplied	YES
	Back up sound alarm shall be supplied	YES
	A flare kit shall be supplied Fire extinguishers shall be supplied	YES
17.	<u>WARRANTY</u>	
	The truck shall be covered by the standard manufacturer's warranty, a description of which shall be included with the tender documents	YES
	Where minimums are called for, the vehicle must meet, or exceed the capacity, size or performance specified	YES
	This specification lists only the major details of a unit, therefore, it is the supplier's responsibility to deliver a	YES

fully equipped vehicle with compatible components to provide dependable efficient service. Tendered units must comply with the following specifications in all aspects. Alternative components which meet the requirements of this specification but are not identified in the specification must be approved by the Public Works Supervisor prior to tender closing

NOTE:

It will be the responsibility of the supplier to obtain any M.T.O. standards referred to in the foregoing specifications

Vehicle shall be supplied with a valid preventative Maintenance/Compulsory Vehicle Inspection (PMCVI) sticker	YES
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18. DELIVERY OF THE COMPLETE UNIT SHALL BE ON OR BEFORE:

NOTE: A penalty of \$300.00 per day will be considered if the vehicle is not received by the Township of Whitewater Region before the above noted date. The decision as to the assessment of a penalty shall be that of the Township of Whitewater Region Council. The decision shall be final. This shall be in addition to any other remedies to which the Township may avail itself.

Date

Signature of Bidder

MINISTRY OF TRANSPORTATION
SPECIFICATION
FRAME

Frame shall be of a standard manufacturer's design, with reinforcement offered as 'Standard Option' for the listed models.

Following is a list of frames as required:

<u>MAKE</u>	<u>FRAME</u>	<u>FRAME INSERT</u>	<u>YIELD STRENGTH</u>	<u>SECTION MODULUS</u>
Volvo G.M	10.62 x 3.5x0.31	9.94 x 2.94 x 0.25	120,000	25.6
International	10.125 x 3.5 x 0.312	9.5 x 3.75 x 0.25	120,000	19.8
Western Trucks	9.94 x 3.38 x 0.25	10.50 x 3.63 x 0.25	120,000	23.2

19. MATERIAL DISCHARGE

The discharge of both salt and sand shall be proportional to the speed of the truck. The lb/mile shall be maintained within plus or minus 7% of each setting within speed ranges of 0 to 40 M.P.H.

YES

The salt discharge shall be 350lbs (4.7 cu.ft.) per mile, up to 800 lbs (10.8 cu.ft.) per mile. (weight of salt to be assumed at 2,000 lbs per cu. yd.)

SPECIFY SALT
DISCHARGE RANGE:
LBS./MILE:

The sand discharge shall be up to 2,500 lbs (22.5 cu.ft.) per mile (weight of sand to be assumed at 3,000 lbs per cu. yd.)

SPECIFY SAND
DISCHARGE RANGE:

20. GREASE FITTINGS:

	For easy maintenance, the side tilt hinge shall consist of 4 only heavy duty bolt on hinge blocks with individual grease fittings. These fittings should be able to be lubricated from the right hand side of the body via a remotes	YES
21.	<u>WELDING:</u>	
	All welds shall be continuous type and, shall not permit any moisture to be trapped in the joints	YES
22.	<u>PAINT:</u>	
	The body and frame shall be sand blasted and epoxy primed, before the paint is applied	YES
	*The body and frame shall be painted with anti-corrosive epoxy primer, minimum 3.5 mil dry film thickness meeting M.T.O. Spec 0914-9A (includes the inside of the body)	YES
	The body shall be painted a final coat of yellow and the frame a final coat of black.	YES
	The yellow paint shall be Dupont #B9044K or equivalent (Wheat Lands Yellow)	YES

FULL HYDRAULIC SNOW PLOW CONTROL BOX AND WING TOWER

SPECIFICATION CONFIRMATION

	The hydraulic snow plow control box shall comply with the provisions of M.T.O. ES-415 and shall be constructed and mounted so the box can be mounted 3” to 4” from the cab.	YES
	The control box base and mountings shall be of heavy construction to sustain a snow plowing operations under severe conditions.	YES
	The base of the control box shall be bolted to the cheek plates.	YES
	The control box shall contain _____ double acting valves to operate:	
	Plow Lift Wing Brace	
	Front Wing Tilt Harness	

Rear Wing

Optional Rev. Plow

One single acting valve to operate box hoist.	SPECIFY TOTAL: _____
Valves to be featherable air operated.	YES
Air lever controls.	YES
The controls from left to right, when viewed from the operator's seat, shall operate the following:	
1. Plow Lift	
2. Front end of wing	
3. Rear end of wing	
4. Wing braces	YES
A reservoir of adequate capacity shall be supplied but must not interfere with the operation of the box. Valves shall be installed on outlet lines at the reservoir.	YES
The control box shall be painted black.	YES
Bottom of wing tower shall be protected by shoe, and shall have a ground clearance of 14" minimum, truck empty.	YES
The spacing of the holes in the slides for connecting the wing braces shall be approximately 17".	YES
Approved size of ram controlling the front end of wing shall be 3" diameter X 30" stroke approximately with a cable and sheave assembly.	YES
Approved size of ram controlling the rear end of wing shall be 3" diameter X 30" stroke approximately and shall be double acting.	YES
Sealed beam wing light shall be provided.	YES
Wing tower shall be painted black.	YES
Removable Type Wing Tower	
The wing tower shall be of an open design. Viking VCL350SC or equivalent.	SPECIFY: MAKE: MODEL:
The wing tower shall be of a heavy construction and bolted to the right side of the truck chassis.	YES
Wing tower shall be of 10" channel construction with a 25 degree offset and its mountings shall be sufficient to sustain snow plowing operations under severe conditions.	YES

One pipe brace 2 3/4" diameter shall connect the bottom of the wing tower and the truck chassis near the forward mount of the right rear springs to reduce the shock of the truck frame.	YES
The rear wing tower shall be heavily braced and gusseted to the frame cheek plate.	YES
For maximum strength two channels shall be used to form a triangular support integral with the rear post.	YES
The first channel shall be 4" x 66 1/2", 13.8lb/ft sloping diagonal brace.	YES
The second channel shall be 4" x 40"; 13.8 lb/ft horizontal brace bolted to the chassis rails and welded to the brace box.	YES
Two triangular stiffeners shall be incorporated into the assembly.	YES
To provide additional support the oil reservoir and the other welded to the brace box.	YES
The oil reservoir shall be connected at the top to the rear post through two 4 x 4 x 3/8" angles.	YES
The bottom of the oil reservoir shall also incorporate two 4 x 3 x 3/8" angles one welded to the oil reservoir and the other welded to the brace box.	YES
Hydraulic hoses shall connect the rams of the tower with the valves in the control box. Hoses shall be two ply braided steel, SAE100R2 with swivels on both ends.	YES
All sheave pins shall be provided with oil impregnated bronze bearings and grease fitting.	YES
A safety chain shall be provided for securing wing when not in use	YES
Guide bars to contain the rear wing slide shall be welded 100% from the bottom up 2 feet.	YES
Double flashing strobe light (#200AD) with blue and amber lens, mounted on pedestal behind cab.	YES
Parts manual shall be supplied with each unit.	YES

SNOW PLOW EQUIPMENT 9' ONE WAY SNOW PLOW

VIKING 135 HSE 9 OR EQUIVALENT

This one way snow plow shall confirm with the provisions of M.T.O. standards ES-414, except that the dimensions of this specifications shall prevail when the two contradict.	YES
The plow shall operate effectively and without modifications with the M.T.O. snow-plow truck harness ES-401.	YES
The weight of the plow shall range from 2,100 to 2,300 lbs and shall be constructed to prevent the accumulation of water in any area.	YES
The plow shall have a hood extending 18" past the vertical centre line, in normal operating positions.	YES
All ribs shall be of one piece construction 100% welded both sides to the moldboard. The top edge of the moldboard shall be manufactured of 2 ½" X 2 ½" angle iron and welded securely to the ribs and moldboard with a continuous bead. All other welds must also be 100%.	YES
The thickness of the moldboard and hood shall be of 10 U.S.S. ga. (.1345)	YES
The moldboard shall be pivoted to allow tilting in different positions.	YES
The moldboard brace rod shall be adjustable for plow angles of 45 degree, 50 degree and 55 degree.	YES
Male end of adjusting brace assembly to be solid steel.	YES
Both male and female ends shall have 5/8" mounting pins.	YES
The female end shall be at the top to prevent the accumulation of water.	YES
Holes in drive bars for push frame shall be 1 ¼" diameter.	YES
The distance from the center line of the holes to the end of the drive bar shall be 1 ½".	YES
The height of the moldboard at the top of curve shall be as follows:	
Intake: 26 inches (65 cm.) min	SPECIFY:
Discharge: 4 inches (1.2 meters) min	SPECIFY:
The overall length shall be 14' – 4" minimum	SPECIFY:

The plow shall be fitted with two shoes as per M.T.O. ES-508.	YES
There shall be eight vertical ribs, 3 ½” high by 3/8” thick. Minimum weld between the moldboard and rib shall be 100% weld each side.	YES
The bottom rail on the moldboard shall be 5” x 3” x ½” angle below with a 3”x 2” x 3/8” gussets shall be welded between the two legs of the bottom angle, between each bolt hole, except for the two sets of end holes and between two holes in the middle of the moldboard. The moldboard shall be continuously welded to the bottom rails.	YES
The moldboard shall be designed for use with M.T.O. cutting edge ES-505 and with the M.T.O. standard nose piece ES-507. The cutting edge and nose piece shall be supplied.	YES
Moldboard shall have a total bearing area (pin dia. times web thickness times number of webs involved) or 4 ½” square inches minimum at the point where the drive links attach.	YES
Two separate lift chains shall be used and these shall pick up on the drive frame at points approximately 48” apart.	YES
These lift chains shall be 3/8” dia. minimum.	YES
The height of the shoes shall be adjustable as shown on M.T.O. ES-521. Height adjustable one way snow plow shoe holder.	YES
The shoes shall oscillate.	YES
The moldboard shall be formed in the shape of a smooth curve.	YES
The horizontal distance from the discharge end of the plow blade to the discharge end of the moldboard shall be 24” minimum.	YES
A sturdy eye ½” thickness shall be provided at the centre of gravity for handling of the moldboard.	YES
The design and quality shall meet M.T.O requirements.	YES
The complete snow plow unity shall be black as per M.T.O. ES-301	YES
A spare parts manual shall be supplied.	YES
A signed manufacturer’s warranty shall be supplied.	YES

TANDEM DRY MODE FRONT MOUNT HYDRAULIC PUMP

<u>Specification:</u>	<u>Confirmation:</u>
1. The hydraulic pump supplied shall be a Tyrone Model VDVTP 16150180AFJ Tandem Dry Mode with air shift.	SPECIFY: MODEL: MAKE:
2. The first stage shall produce 29.2 G.P.M at 2,000 R.P.M and 1,200 P.S.I.	YES
3. The second stage shall produce 29.2 G.P.M. at 2,000 R.P.M. and 1,200 P.S.I.	YES
4. Pump mounting plate and splined drive shaft shall be supplied.	YES
5. The pump shall be driven from the crankshaft.	YES
6. The pump shall have a manufacturer's R.P.M. rating equivalent or higher than that of the truck engine at governed speed.	YES
7. Hydraulic hoses to connect pump shall be supplied. Their size shall be adequate for quick operation of all hydraulic operations and shall be ply braided steel SAE100RS, with swivels on both ends.	YES
8. The drive shaft shall be supplied with spline long enough to allow telescopic retraction of the shaft in order to change fan belt without removing the pump.	YES
9. The hydraulic system must be set up so all other hydraulic functions do not "rob" the sander equipment.	YES
10. A parts manual shall be supplied with each unit.	YES

SNOW-PLOW TRUCK HARNESS
VIKING VCL500T OR HYDRAULIC TILT
(Hydraulic tilt with manual quick attach)

- | | | |
|-----|--|----------|
| 1. | The design and construction of the truck harness shall be in compliance with M.T.O. standard ES-401, or be of equivalent design approved by M.T.O. | YES |
| 2. | The harness shall be mounted at the front end of the frame and shall be bolted to the cheek plate. | YES |
| 3. | The lifting frame shall be bolted to the push plate and shall be braced to conform to M.T.O. standards. | YES |
| 4. | Lifting Ram Diameter – 4” D.A. minimum. | SPECIFY: |
| 5. | Lifting Ram Stroke – shall be 10” minimum. | SPECIFY: |
| 6. | The cylinder rod shall be fully chrome plated. | YES |
| 7. | Lift of grab link for nose chain shall be 18” minimum. | YES |
| 8. | Drive ears shall be 30 ½” centre to centre. | YES |
| 9. | Height to lower drive connection shall be 19” when mounted, truck empty. | YES |
| 10. | Cheek Plates to match truck frame shall be supplied and shall be compatible for plow. | YES |
| 11. | Three grab links shall be supplied. | YES |
| 12. | Two sealed beams Halogen type headlamps, with high and low beam shall be supplied. | YES |
| 13. | Spacing and height of headlamps shall be in compliance with ES-401. | YES |
| 14. | Two turn signals shall be installed in the location shown in ES-401 and the wires from the truck turn signal shall be connected to these lights. These wires shall be well protected in looms. | YES |
| 15. | The plow lights and signals shall be equipped with “Quick-Tack” ends. | YES |
| 16. | All hydraulic hoses and wiring shall be adequately supported to ensure wear and sag is completely eliminated. | YES |

FOUR SEASONS SPREADER/DUMP BODY REQUIREMENTS

MG QS-130-HD or equivalent

1) **DIMENSIONS**

Body Length overall		Specify _____
Body Length inside	13'	Specify _____
Width – outside	98''	Specify _____
Width – inside	86''	Specify _____
Height – front	52''	Specify _____
Height - Rear	58''	Specify _____.
Height of sides	40''	Specify _____
The body shall fit on 126'' C.A. maximum		Specify _____
The rear hinge will be welded to the frame		YES____NO____

2) **CAPACITY**

The hoist shall be capable of lifting the box and the normal contents of sand plus 20%.		YES
Hoist shall be operated by in cab feather air control.		YES
Hoist shall be a three stage front telescopic with a minimum of 125'' total stroke.		SPECIFY:
Hoist cylinder running surface shall be Nitride.		YES:
State side tilt angle.	38 degrees	SPECIFY:
State rear dump angle	50 degrees	SPECIFY:
State hoist capacity	30 Ton	SPECIFY:

Ladder:

Must be able to enter the box; via ladder from the ground on the left side front. (lower section must Fold or slide up so as to be out of the way during normal Operations. Two steps must be installed inside the box to Allow egress to the outer ladder .		YES
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	Conversion from sanding mode to dump mode shall be controlled from inside the cab by feather air control.	YES
	The side lift will be made possible by the use of two double acting 4"x 22" cylinders.	YES
	Side lift cylinders shall have Nitride piston rods.	YES
	For easy maintenance, the side tilt hinge shall consist of 4 only heavy duty bolt on hinge blocks with individual grease fittings with remotes so that they can be greased standing beside the box	YES
3)	<u>TAILGATE</u>	
	The tailgate shall be double acting air actuating via brake pot, and also swing to the right side manually and be able to be locked in the open position for dumping.	YES
	The tailgate shall be continuously welded.	YES
	The tailgate for tandem bodies shall be reinforced with vertical 100% welded box members.	YES
	There shall be a wiper at the front, so as not to allow spillage of salt or sand when the body is raised or lowered from spreading operation.	YES
4)	<u>SPREADER CHAINS AND BRACKETS</u>	
	3/8 spreader chains and required brackets shall be installed.	YES
5)	<u>SPLASH GUARDS</u>	
	Two pair of splash guards shall be supplied and installed	YES
6)	<u>LOAD COVER TIE DOWNS</u>	
	Provisions shall be made for the installation of a load covering tarpaulin. HD mesh fabric.	YES
	Air tarpaulin with air cylinder mounted between frame rails to be supplied and cab control.	YES

7) **LIGHTS AND WIRING**

Lights and wiring shall be completely sealed with corrosion and vapor proof lamps and junction box. YES

All lights and wiring shall be supplied. YES

Raised rear tail lights shall be supplied.
Lights are to be easily detachable and shall include tail lights, signal & brake lights, one each amber& blue flashing and one backup light YES

One amber and one blue rear flasher shall be supplied and installed. YES

8) **HYDRAULICS**

The body operation shall be powered by the existing hydraulics of the snow-plow truck harness YES

All fittings, valves, hoses and drive shaft shall be supplied and installed. All hoses shall be equipped and swivels on both ends. YES

The hydraulic reservoir shall be of sufficient capacity to supply necessary oil supply. Reservoir must NOT interfere with the box installation. YES

A sight gauge to allow easy checking of the hydraulic oil level in the reservoir shall be supplied. YES

9) **CONVEYOR**

The main conveyor shall be installed in the body at floor level running longitudinally along the driver's side the full length of the body and be self cleaning. YES

The outlet shall be located at the left front corner of the body. YES

For safety, the conveyor at the outlet point shall be fully enclosed at the sides and front. YES

There shall be a screened hinged top access cover with fastener. YES

The main conveyor shall be driven by a hydraulic motor through a 25:1 speed reducer with sufficient torque to discharge sand and salt through the control gate to the spinner. YES

The speed reducer shall have a bronze gear. YES

A conveyor shield shall be supplied to protect the conveyor chain when the spreader is not in operation.	YES
The conveyor shield shall be held rigid against the side of the body by means of a lock and hinge assembly when the spreader is in operation.	YES
The conveyor shall be approximately 17 1/2" wide.	SPECIFY WIDTH:
All conveyor flights shall be 100% welded.	YES
The tension of the conveyor chain shall be controlled by two grease activated rams. It shall be possible to adjust the tension of the chain without the use of wrenches and there shall be no threaded rod or lock type nuts in the MECHANISM.	YES
Access to conveyor adjustment mechanism shall be from the side of the body and there shall be no access hatches or openings to work through.	YES
10) <u>SPINNER</u>	
The spinner shall be driven by a hydraulic motor and the spinner assembly shall be mounted directly ahead of the left rear wheels, just behind the cab.	YES
The spinner height shall be adjustable from 20" to 28" below the mounting surface of the body.	YES
The spinner shall be capable of spreading evenly up to a 20' radius with a main operating range of 0 to 15' radius.	YES
Hoses to the spinner motor are to be complete with quick disconnect automatic sealing break-away couplers are so arranged that the male end may plug into the female end on the spinner motor and the hoist frame with hoses are disconnected.	YES
Hydraulic system to be complete with in-line filter installed between the oil tank and return line manifold.	YES
Poly Spinner and Chute to be supplied.	YES
Spinner light shall be installed.	YES
11) <u>SANDER CONTROLS</u>	
Standard two knob flow control	YES
The regulator to be pressure compensated so that the	YES

selected flow will not change as load or engine speed changes.

A by-pass lever to be provided to start or stop the spreader without changing settings. YES

12) **WELDING**

All welds shall be continuous type and shall not permit any moisture to be trapped in the joints. YES

13) **SAFETY BAR**

The body to be equipped with two safety bars to support the body in both raised positions. YES

14) **PAINT**

The body and frame shall be sandblasted before the paint is applied. The body and frame shall be painted with one coat of anti-corrosive epoxy primer 3.5 mil thickness and two coats of manufacturer's standard Dupont #B9044K or equivalent (includes inside body) to match cab. YES

15) **PINTLE HOOK** SPECIFY:

16) **PARTS BOOK**

Parts book to be supplied. YES

17) **WARRANTY** SPECIFY:

18) List five (3) Ontario Municipalities where this equipment has been in use for a full five (5) years.

	NAME	CONTACT	PHONE
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____

SPECIFICATION & CONFIRMATION
12' SNOW LEVELLING WING

- | | | |
|-----|---|---------------------|
| 1. | This snow leveling wing shall comply with the provisions of M.T.O. Standards ES-406, and shall be suitable for use with standard front wing post M.T.O. Standard ES-403, and open type hydraulic control box M.T.O. Standard ES-413 and ES-415. | MAKE:

MODEL: |
| 2. | The leading edge of the wing shall be approximately 25" from the bottom of the cutting edge to the top of the wing. | SPECIFY: |
| 3. | The trailing edge of the wing shall be approximately 36" from the bottom of the cutting edge to the top of the wing. | SPECIFY: |
| 4. | Overall length of the wing shall be 12' approximately. | SPECIFY: |
| 5. | The thickness of the moldboard shall be 10 U.S.S. Ga. (1345") minimum. | SPECIFY: |
| 6. | Two drive ribs for connecting the wing braces shall be provided, having a 100% weld on both sides. | YES |
| 7. | The drive ribs shall be located 8'6" and 10'0" from the leading edge of the wing, and be perpendicular to the rear tower. | YES |
| 8. | The plate for mounting the wing to the wing post shall be 1" thick. | SPECIFY: |
| 9. | There shall be sufficient material around the front mounting bolt hole to cover the mounting plate on the tripping device on the front wing tower. | YES |
| 10. | Adequate adjustable wing braces shall be supplied. | YES |
| 11. | The upper brace shall be extendible to allow for a tripping action and shall incorporate a tension spring to return the brace to the normal collapsed position (if 2 supplied) | YES |
| | The upper brace shall incorporate a removable locking pin to lock out the tripping action for high winging. | YES |
| 12. | The wing shall be fitted with the following:
One (1) High wear type snow-plow blade with incorporated wing shoes | YES |
| 13. | The top rail of the moldboard shall be manufactured of 4" x 1 5/8" steel channel 5.4lbs/ft and welded securely to the ribs and moldboard with a continuous bead. All other welds must be 100%. | YES |

- | | | |
|-----|--|-----|
| 14. | A sturdy eye shall be provided on top of the wing at the center of gravity for handling. | YES |
| 15. | Grab hook and eye shall be supplied for wing safety chain attachment. | YES |
| 16. | The complete wing unit shall be painted black. | YES |
| 17. | Operators, maintenance, and parts manuals, shall be supplied. | YES |
| 18. | Signed Manufacturer's Warranty shall be supplied. | YES |

**NOTE: It will be the responsibility of the supplier to obtain any M.T.O. Standards referred to in the foregoing specifications, and/or to contact the County of Renfrew for required information referred to in this document

Date Signed

Signature of Bidder

Truck To Be Traded

1. One (1) only 6 Ton Tandem Axle Truck

MAKE: International

MODEL: 2574

ENGINE: L-10 Series Cummins Rated @ 310 hp. With 2005 E-Test

YEAR: 1991

KILOMETERS; 298324 KM as per November 14, 2005

2. One (1) only Combination Dump Body/Spreader with two (2) way box and tail gate

MAKE: FRINK

MODEL: ?

3. One (1) only Snowplow, Harness and Cable All Hydraulic Wing

MAKE: FRINK

MODEL: Non tilting plow attachment with Quik attach one way and cable lift hydraulic wing