

Due 10:00 a.m., Monday, May 22, 2023, to:

Emmet County Road Commission - 2265 E. Hathaway Road - Harbor Springs, Michigan

Proposal for one (1):

**One (1) 10' Stainless-Steel MSV Chassis Mount spreader (201/304 Stainless-Steel)
One (1) Hydraulic System, & Underbody Scraper & 7'Junior Wing.
One (1) Rear mounted Cross auger conveyor.
One (1) Pre-wet system
Installed and complete.**

We agree to furnish the Emmet County Road Commission the following:

Make _____ Model _____,
Make _____ Model _____,
Make _____ Model _____,
Make _____ Model _____,
Make _____ Model _____,
Make _____ Model _____,

Which will meet the minimum requirements on the attached specification sheet unless otherwise noted. Exceptions to any of the specifications attached should be clearly noted/highlighted by the bidder and submitted with this proposal. F.O.B Conway Garage, 2265 E. Hathaway Rd, Harbor Springs, MI 49740.

Total price (tax exempt) for one \$ _____

Terms _____

Delivery in _____ days after award of bid

Business name: _____

Business address: _____

Business phone: _____

Mobile phone: _____

E-mail address: _____

Print name & title: _____

Signature: _____

Date: _____

EMMET COUNTY ROAD COMMISSION

MINIMUM SPECIFICATIONS FOR:

One (1) 10' Stainless-Steel MSV Chassis Mount spreader (201/304 Stainless-Steel)

One (1) Hydraulic System, & Underbody Scraper & 7' Junior Wing.

One (1) Rear mounted Cross auger conveyor.

One (1) Pre-wet system

Installed and complete.

GENERAL

The following specifications describe the minimum requirements for a 10' Stainless-Steel MSV Chassis Mount spreader, underbody scraper, 7' Junior wing, rear cross auger conveyor and prewet system installed and complete. Exceptions to any specifications listed shall be noted and highlighted by the bidder. Bids not submitted on these forms will not be considered. The Board reserves the right to waive irregularities in the bid procedure, to accept or reject any and or all bids, and to award the bid in the best interest of the Emmet County Road Commission.

MSV Chassis Mount Spreader

comply yes ___ no ___

*****Chassis Mount Spreader-for Truck bid of 2023B*****

Sander constructed of stainless-steel (201/304) with a 2" double crimp formed top for greater strength. Approx. dimensions are 120" long x 84" outside width x 55" tall with 45-degree sloped sides. Cross sills are 3" X 3/16" formed stainless-steel channel.

Chain shields are 10 ga. thick stainless-steel, bolted in with stainless-steel bolts & nuts: removable style. Side supports are 10-gauge stainless-steel and extend the full angled side height of the hopper, placed approx. 2' on center; continuously welded. The rear end plate is 10-gauge stainless-steel, reinforced inside and supported for maximum strength.

Longsills manufactured of 7-gauge stainless-steel and continue beyond the spreader to support the Auger Spreader (MS969) assembly. Both ends shall be slotted to accommodate easy drive and idler shaft removal.

Conveyor Trough is 24" wide, two 6:1 gear boxes with hardened high strength steel alloy gears, supported by ball bearings mounting on a 2" shaft driven by (2) low speed hi-torque motors. Include torque link brackets to reduce gear box stress. One motor (1) to include 100 pulse speed sensor, the drive shaft is supported by (2) keyed 8-tooth cast- gray sprockets that drive the chain. The 2" idler shaft and keyed sprockets are adjustable through the self-aligning 4-bolt flange bearings with two heavy-duty spring-loaded adjuster rods. Design allows 4 inches of adjustment. Grease-able and adjustable from the rear.

Stainless-steel hydraulic tubing to accommodate main chain, cross auger, spinner; shall be mounted to the hopper body minimum 16" off the catwalks and clamps and stainless-steel hardware, 6 tubes drivers' side (1) 1-1/4" tube and three (3) 3/4" tubes and 2 tubes (2) 1/2".

Conveyor chain is heat treated with 2.25 pitched self-cleaning Pintle type, 7/16" pins with a 21,000 # per strand tensile strength. **High temp belt over chain.** The system includes front and rear wipers.

Conveyor floor is 3/16 stainless-steel removable bolt in style using stainless-steel hardware.

Intermediate floor supports are stainless-steel angle iron braces on 12" centers.

The feed-gate is 12" X 18", 7-gauge stainless-steel and adjustable with self-locking screw-type jack, giving ruler accurate metering. Jack is grease-able, non-rusting poly U-joint and has a stainless-steel crank handle. Manual full opening rear tailgate.

Top screens are 12" elevated carbon steel with heavy duty angle iron frame. 1/2"x2" bars on 4" centers. Four-inch channel end supports, 6" 9lb main beam, unit bolts on to the top flange of the sander body with stainless-steel hardware. To include center lift loop. Painted all black.

Catwalks, min. 3/16" thick, smooth 201/304 stainless-steel both sides. Shall include support kit, reinforced to hold additional weight of pre-wet tanks. Approx 1100lbs each side.

Cab-Shield; has 20" coverage, constructed of 3/16" 201/304 stainless-steel, 100% continuous welded inside and out to the front of the body.

Chassis Mounting kit to include 3/4x3/4 angle pinch clamps with front spring loaded to prevent frame damage.

MTG KIT, MV/MSV, CHASSIS,8'-11'33.625/35.25 FRAME, W/SPRG, 201/304

201/304 stainless-steel sander, all welding is continuous, all hardware is stainless-steel. Stainless-steel is unpainted.

Shovel holder made of 201/304 stainless-steel and to be mounted left front face of "v" spreader, driver's side.

Ladder shall be bolt on 201/304 stainless-steel hinge down style with 6 rungs. With inside box step.

Location of shovel holder and ladder to be determined at installation.

Hydraulic & Fuel Tanks:

comply yes ___ no ___

Note: Truck emission system will dictate tank design

Tanks shall be designed to be installed in conjunction with a vertically mounted DPF/SCR exhaust system. The fuel/hydraulic tank shall be min. 7ga. 201/304 stainless-steel construction. Fuel/hydraulic tank shall be 110-gallon fuel & 40-gallon hydraulic.

Solid state fuel sending unit and guarded hydraulic oil sight/ temperature gauge, fuel tank will have a water sump and petcock type drain, and ball type shut off valves on supply & return. The fuel tank vent shall conform to engine manufactures specifications. Tanks shall integrate into a single, integrally constructed unit. The mounting of the tank shall include four (4) rubber bushing type mounting points. Supports for the tank shall be constructed of 4" 7.25 structural channel. The mounting brackets shall extend from the right frame rail and shall cantilever to the outside of the left frame rail. A serrated step shall be installed on the left side.

Hydraulic oil, low-level sensor* with in-cab light & alarm integrated with an electric solenoid shut-off valve at main hydraulic pump outlet, with dash mounted over-ride switches for low-level alarm & pump shut-off. *Low oil sensor will be a solid-state non- float type sensor, mounted in top of oil tank. Hydraulic return filter to be in-tank style. The proper fuel gauge sending unit shall be installed.

Hydraulic System:

comply yes ___ no ___

8.9 cubic-inch load sensing hydraulic-pump (model series 45-E147), front-mounted and driven by engine crankshaft to operate the following: Underbody scraper (up, down & reverse), Plow (up & down), Two (2) double function wings, MSV rear discharge conveyor chain, cross auger & spinner assembly, and pre-wet system functions shall be electronic proportional controlled using Rexroth Bosch CS160 joystick controller. All capable of simultaneous operation.

Direct mount 12-volt automatic low oil shut-down system, with in cab manual override.

Rexroth M4-12, 8-Bank valve, EPC. With mid inlet feature, **NO Exceptions.**

Valves shall be mounted outside of cab in a stainless-steel weather-tight enclosure.

Cross auger to be ground speed triggered to start and stop with main conveyor.

Hydraulic hoses and lines to be enclosed in nylon covers at all chafing points.

All ridged hydraulic lines shall be of stainless-steel construction. Routing pressure hoses shall be on the left side of engine to stay away from turbo heat. Use all stainless-steel hangers and leave room for service of engine.

System to be approved by Emmet County Road Commission prior to installation.

Material Spreader, Sander, Front mount broom & Pre-Wet Controls

comply yes ___ no ___

Rexroth Bosch CS-160/660 System consisting of six basic components.

- (1.) Joy-Stick Control Console
- (2.) Switch module
- (3.) Ground Speed Sensor
- (4.) Feed-back devices
- (5.) Actuator devices
- (6.) Wiring harness to interconnect all components including, Road Watch wiring & sensor

Controls shall be mounted to an armrest pedestal, designed to also house tarp switch, air-gate control, low oil light and momentary override switch.

* Hands on training to be supplied and conducted @ E.C.R.C. Garage*

Toolbox:

comply yes ___ no ___

One (1) 18"x18"x18" stainless-steel, mounted on drivers' side in steel saddle, with stainless-steel hardware and neoprene isolation strips for corrosion resistance.

Tarp System:

comply yes ___ no ___

Roll Right 6416 Electric Tarp system (to include spool & housing, tarp tension bows, and 20' asphalt tarp). Shall be installed, complete and tested.

Air Foil:

comply yes ___ no ___

An Air Foil shall be installed. Welded to the rear upper- most portion of the tailgates on the MSV spreader. Foil shall be constructed entirely of 201/304 stainless-steel.

Lighting:

comply yes ___ no ___

Auxiliary plow lights and turn signals shall be Buyers LED heated model 131200 hood mounted, custom built aluminum brackets, as approved by Emmet County Road Commission, with approved reinforcements on underside of hood for extra rigidity.

One (1) roof mounted remotely controlled articulating halogen Spotlight with protective dome.

Five (5) LED work lights for Underbody blade and sander discharge areas, locations to be determined at time of installation.

Quad flash LED Strobe lights with 4 strobe heads (1 A/G cab mounted, 3 spreaders mounted), with Amber LED indicator light mounted outside cab near driver's door for OEM supplied Master Electrical Disconnect Switch.

As approved by Emmet County Road Commission

Underbody Scraper:

comply yes ___ no ___

Monroe 12" HD4500 to be installed.

Moldboard shall be 1" thick x 20" high x 12" long made of heat-treated high-carbon steel.

Circle shall be 1" thick solid steel (no notches)

Circle clamp shall be heavy-duty with poly shim.

Two (2) Actuating Cylinders with Socatri shafts enclosed in shock spring housing and trunnion mounted. Dual power-reverse cylinders with Socatri shafts & crossover relief. Shall include a manifold bracket for a Grease line Kit, (1) each installed on each side of Hanger Board.

Wing Plow:

comply yes ___ no ___

One (1) Wing plow

Shall be a Monroe Snow & Ice, Model MJW-7, 7' Junior Wing with Para-Glide design Ottawa wing bracket.

One (1) installed and complete on the right rearward frame aft of the underbody scraper. An adjustable hydraulic sequencing valve shall be provided to allow bi-directional sequencing for the up & down functions of the wing assembly. Lock valves shall be installed to prevent drift when in stored position.

An adjustable metering valve will be installed to control articulation speeds. (3) three LED Strobe lights and a LED light shall be installed on top edge of wing nearest to the discharge end in Stainless Steel light boxes with cab mounted switch.

Wing assembly will be removed seasonally; to expedite removal, quick disconnect provisions shall be provided for both hydraulic and electrical connections.

As approved by Emmet County Road Commission

Cross Auger Conveyor:

comply yes ___ no ___

Shall be a Monroe MS-969-DD-DD-SL-201SS with the following requirements, a 9" X 96" Auger w/ a 4" pitch and 3/8" flighting and driven by a 28ci Direct Drive Hydraulic Motor. Dual spinner assembly shall be 201/304 stainless-steel and mounted independent of the bottom cleanout door (driver's and passenger side). Self-leveling feature, 18" poly spinner discs.

Stainless-steel quick disconnects will be incorporated on hydraulic and pre-wet hoses to facilitate removal of Tailgate assembly.

*****Designed to fit Chassis Mount MSV Spreader*****

Note: Tailgate Spreader & Spinner assembly shall be constructed of 201/304 Stainless Steel, as well as mounting brackets, reinforcements, and fasteners.

Plow Hitch:

comply yes ___ no ___

Hustings style heavy duty 34" wide Quick Hitch with 3" double acting cylinder

And lift arm. Plunger pins shall be a Monroe p/n# 05022221 with grease zerks, and secondary locking tabs, with reinforcements.

Plow hitch shall be bolted to 12" min. heavy duty structural channel front bumper flared back with boxed ends.

Tow Hooks:

comply yes ___ no ___

Four (4) Heavy-Duty Drop Forged Frame mounted on front and rear frame or Wing support structures (as approved by County) with a minimum rating of 44,600 lbs. each.

Pre-Wet System:

comply yes ___ no ___

Supply and install hydraulic truck mounted liquid dispensing system. Shall be operated by Bosch CS160/660 control system.

Dual 75-Gallon UV stabilized polypropylene tanks.

Bulk-fill and Flusher kit with 3-way valve.

Cross over hose kit-connects both tanks together to equalize.

Shall be all stainless-steel brackets and hardware for mounting to MSV chassis mount spreader.

7 GPM bronze pump with stainless-steel shaft, driven by hydraulic motor, include flow meter, stainless-steel suction strainer, (2) brass spray nozzles- .129 orifice, 5 psi check valve (located as high as possible), poly disconnect coupler for ease of seasonal removing.

Install all in a NEMA enclosure using 201/304 stainless-steel mounting brackets and hardware.

Remote Camera System

comply yes ___ no ___

A Voyager Model VCCS150B Remote Camera System with M.S. Foster & Associates, Inc. Model MSF8470038000 Washer System shall be installed to monitor the right-side wing and rear of the material spreader. Both Remote Camera Heads shall be installed in a protective stainless-steel enclosure. The exact location and mounting option will be approved by E.C.R.C.

Wiring:

comply yes ___ no ___

All wiring from rear of cab to rear of MSV spreader to be run on PVC pipes, then into an 18 pin Betts junction box mounted on left rear corner of MSV spreader. From the junction box to rear lighting back-up alarm, etc. Electronic back-up alarm.

Switch Panel:

comply yes ___ no ___

In-power vehicle control module switch panel model VCMS-SS142 – to control vehicle 12-volt auxiliary devices total of 10 switches. The switches will be wired to accommodate the following applications: plow lights, rear strobe, front strobe, dolly lock, truck tailgate, V-bottom tailgate, V-bottom safety, and scraper lights. Use factory switches where provided.

Pintle Hitch:

comply yes ___ no ___

Shall be a Buyers BP760 pintle hitch, having a 12,000 lb. toung weight capacity, 60,000 gross trailer weight capacity, mounted to a 3/4" full steel plate with reinforcements and bolted in using grade 8 hardware, with (2) two 3/4" 26,500 lb. rated D-rings for safety chains. Shall include 7-pin round pin & 4-pin trailer plug connector. As per ECRC Specifications.

Option #1:

comply yes ___ no ___

One-Way Ridged Snowplow: Monroe 12' MPFA38-64-12RGD, 316, HH34 3" Off Set, Part #00176288
One-way, ridged mounted, no trip snowplow:
34" female plow side Husting's Hitch.
Reinforced moldboard manufactured from 10-gauge steel.
Boomerang style shoe rockers.
Manually pinned shoe adjustments.
Single ear standard cast plow shoes.
3/8" thick x 18" deep rubber snow deflector with 9 3/8" x 2" bar stock support on 18" centers attached to 2 1/2"x 2 1/2" x 3/8" angle iron with a 3/16" x 2" backer support.
Cutting edge to be 5/8" x 8" standard punch.
Plow to be blasted powder coated.
Snowplow to be finished in orange powder coat on the front side of the moldboard, and flat black powder coat on the push frame side of the moldboard.
Anti-plow hang-up roller kit, part #00043300.

Option # 2:

comply yes ___ no ___

Heavy duty top grate system for MSV spreader. 3/4"x 2" bar stock on edge, 1-piece (Grizzly style) top grate kit. System to be approved by Emmet County Road Commission

NOTE

I have read and understand the instructions in the bid specifications, and I certify that the above specifications will be met with the following exceptions*

* Differences in bid specifications must be Noted & Highlighted on page marked

EXCEPTIONS AND CLARIFICATIONS TO BID SPECIFICATIONS

Fuel & Hydraulic Tanks

Hydraulic System

Underbody Scraper

Wing Plow

Sander & Pre-Wet System & Controls

Lighting

Option's 1 & 2

Submitted by: _____
Signature and Title

Business Name