BIDDER'S CERTIFICATION

I/We hereby certify that:

- A. A complete set of bid proposal papers, as intended, has been received, and that I/We will abide by the contents and/or information received and/or contained herein.
- B. I/We have not entered into any collusion or other unethical practices with any person, firm, or employee of the City which would in any way be construed as unethical business practice.
- C. I/We have adopted a written sexual harassment policy which is in accordance with the requirements of Federal, State and local laws, regulations and policies and further certify that I/We are also in compliance with all equal employment practice requirements contained in Public Act 87-1257 (effective July 1, 1993) and 775 ILCS 5/2-105 (A).
- D. I/We operate a drug free environment and drugs are not allowed in the workplace or satellite locations as well as City of Aurora sites in accordance with the Drug Free Workplace Act of January, 1992.
- E. The Bidder is not barred from bidding on the Project, or entering into this Bid as a result of a violation of either Section 33E-3 or 33E-4 of the Illinois Criminal Code, or any similar offense of "bid rigging" or "bid rotating" of any state or the United States.
- F. I/We will abide by all other Federal, State and local codes, rules, regulations, ordinances and statutes.

COMPANY NAME EJ EQUIPMENT, INC.
ADDRESS 920 W NATIONAL AVE
CITY/STATE/ZIP CODE ADDISON, IL 60101
NAME OF CORPORATE/COMPANY OFFICIAL ERIC LESAGE PLEASE TYPE OR PRINT CLEARLY
TITLE REGIONAL SALES MANAGER
AUTHORIZED OFFICIAL SIGNATURE
DATE 09/28/20 Subscribed and Sworn to
TELEPHONE (800) 522-2808 Before me this $\frac{29}{100}$ day
FAX No. (815) 468-8055 of September, 2020
Notary Public
OFFICIAL SEAL KERRY B LESAGE NOTARY PUBLIC - STATE OF ILLINOIS MY COMMISSION EXPIRES:07/18/21

STATE OF ILLINOIS)	
County of Kane)	SS.
	BID	DER'S TAX CERTIFICATION
statements made herein are	made o	OFFICER), being first duly sworn on oath, deposes and states that all on behalf of the BIDDER, that this despondent is authorized to make ned herein are true and correct.

y unit of local nistered by the res established in accordance

government in the Illinois Departmen	s State of Illinois at of Revenue un statute, its liabil	s as result of a d dess Bidder is co	dder is not barred from the control of the control of the tax, and tax, and the tax, and tax,	t of any tax admin with the procedur
DATED th	is 29	day of	September	, 2020.
		By	Signature of Bidder's E	executing Officer)
		_	ERIC LESA	GE
		(F	rint name of Bidder's	Executing Officer)
		_	REGIONAL SALES	MANAGER
			(Title)	
ATTEST/WITNES	SS:			
By KERRY LESAG	E			
Title PRESIDENT				
Notary Public (SEAL)	OFFICIAL SEAL			
	KERRY B LESAGE / Public - State of Il	LINOIS \$	•	

Section 3. Specifications for One (1) Combination Sewer Cleaner for the Water and Sewer Division

The specifications are for one truck mounted combination vacuum – jetting sewer cleaner for the Water and Sewer Division.

The bidder shall indicate if the vehicle that is being furnished complies or does not comply with each section of the specifications as written. The bidder shall explain the reason for each exception taken in each section. Any variations to the specifications must be fully stated in writing at time of bid on provided bid forms. Failure to properly complete the Specifications for Bid Form (Yes/No/Exception) may result in the disqualification of the bid proposal.

	• •		
Gene	ral Control of the Co	Yes	No
1.	The machine shall be capable of removing stones, grit, grease, sludge and other debris from sanitary sewer and/or storm drain lines by the flushing action of high-pressure water. The high-pressure sewer cleaner operates independent of the vacuum system.	X	
2.	The machine includes an air conveying vacuum system to provide for the simultaneous removal of the debris flushed to the manhole by the high-pressure water system or for the removal of debris from sewers, sumps, catch basins, digesters, wet wells, bar screens, etc.	X	
3.	The machine is capable of being operated by one man, with all operating controls for high-pressure water pump, hose reel and vacuum located at the front of the machine for safety.	<u>X</u>	
4.	The machine shall be either dual or single engine configuration supplying the required horsepower to operate both the vacuum and water systems at maximum performance levels with required 10% reserve. A minimum of 370 HP shall be supplied.	_X_	
<u>Debris Body</u>		Yes	No
1.	Debris storage body has a minimum usable liquid capacity of 12 cubic yards. The debris body shall be round for maximum strength and constructed of 3/16-inch ASTM A242 Corten A steel for enhanced corrosion resistance.	_X_	
2.	The debris body shall have a minimum yield point of 50,000 PSI and minimum tensile strength of 70,000PSI	<u>X</u>	
3.	The rear door shall be flat for maximum strength, full opening, hinged at the top with low profile and adjustable style hinges.	<u>X</u>	
4.	There shall be a 6" diameter liquid drain, "knife valve type" and screen weldment inside for removing excess liquids. Drain will have 10' of 6" lay flat hose.	<u>X</u>	
5.	The debris tank shall be supplied with a debris deflector curtain located inside the debris tank. The debris curtain shall deflect material from rear door, and aid in draining off excess liquids.	X	

6.	A rear door safety prop shall be provided. For ease of maintenance there shall be no hydraulic components located inside the debris body or rear door.	<u>X</u>	
7.	The debris body has five (5) externally mounted door locks that lock hydraulically. Hydraulic operated, heavy duty wedge style door locks shall be installed. The door locks shall be operated by two double acting hydraulic cylinders. The rear door shall also hydraulically open and close (raise and lower) by means of two double acting hydraulic cylinders. The unlocking-opening and the closing-locking operations shall be controlled by a single switch and sequence valve.	_X_	:
8.	Dual steel stainless steel screen weldments, 8" x 28" each providing up to 1200 square inches of added filtration for the vacuum system shall be provided inside the debris tank. These weldments shall be easily removable for cleaning and require no cutting or welding.	<u>X</u>	
9.	A double acting power up/power down hydraulic scissors lift mechanism will be provided to raise body to a minimum 60-degree angle. The scissors lift mechanism shall be designed to support a minimum of 24 inches of the debris tank width to provide stability and when dumping on uneven ground. The lift capacity of hydraulic scissors lift cylinder is 56,000 lbs.	_X_	
10	. A splash shield that be mounted around the lower 60% of door opening to direct liquid and debris away from the chassis. Shield shall be a bolt on assembly.	<u>X</u>	
11	Dump controls are located on curbside mid-ship of the unit, well forward of the dumping area for operator safety. A manual override system is provided.	<u>X</u>	<u> </u>
12	The debris body shall have a five-year warranty. A copy of manufacturer's warranty statement shall be enclosed with bid.	_X_	
13	. An integrated safety body prop shall be provided to safely hold the body in place for service.	_X_	-
14	. An internal polyethylene float device with external indicator is supplied to show when body is loaded to capacity.	<u>X</u>	
Autor	natic Vacuum Breaker	Yes	No
1.	The automatic vacuum breaker assembly shall be located inside the body.	<u>X</u>	
2.	The automatic vacuum breaker assembly shall be controlled by an electric over hydraulic circuit. The entire system shall be replaceable via a bolt on assembly. The assembly shall consist of a 12" inlet and two 8" ports that provide air flow to the vacuum system.	_X_	
3.	A full indication activates an automatic vacuum breaker shut down system that completely shuts down 100 percent of the airflow to the vacuum system to prevent overfilling and wastewater discharge into the atmosphere.	<u>X</u>	
4.	The vacuum breaker system is automatically activated (closed) when the parking brake system is released to eliminate carryover during transit.	_X_	

5.	The system is controlled/activated, at the front hose reel control station. This enables the operator to pick up large debris with boom and place debris on the road surface. This system can be used for safety in the event suction must be shut off in case of an emergency.	<u>X</u>	
Centr	ifugal Compressor (Fan Design)	Yes	No
1.	The centrifugal vacuum compressor shall be of 3-stage construction (i.e. 3-27" minimum diameter fans in tandem). The centrifugal compressor (fans) shall be constructed of Corten steel. The compressor's outer housing shall be spun from one piece of 3/16" steel for strength and provide proper airflow in operation. The vacuum system shall operate independent of the high-pressure water system.	_X_	
2.	The compressor is driven by the chassis engine via a closed loop hydrostatic system using a variable piston pump and motor. This system shall include a heat exchanger for extreme ambient conditions and to maintain the pump suction oil temp at 160 deg. F. max. The heat exchanger shall be protected by a 30-micron filter and cold weather bypass valve. Hydrostatic loop filtration shall be accomplished by a 10 Beta micron return filter and a 10-micron Absolute (no bypass) charge filter.	_X_	
3.	To maximize long term durability by reducing the load on one side of the compressor, the compressor shaft shall extend through the compressor and shall be additional stabilized by using two high speed bearings, one at each side of the shaft.	_X_	
4.	A means of starting, stopping and varying the vacuum suction from operator station at the front of the machine is provided.	_X_	
5.	A centrifugal separator located in the inlet chamber to the fans with cleanout box is provided. The separator removes particles from the air stream, thus enabling unit to vacuum wet or dry material. The separator is separate from the debris body.	_X_	
6.	The centrifugal compressor (fan) system shall be capable of producing 90% vacuum with no airflow. This performance allows material to be vacuumed under the water surface, i.e. lift stations, plugged manholes, etc. Unit must be capable of vacuuming under water 16.6' (200") without air induction. A manometer/vacuum test may be required to demonstrate the system performance.	_X_	
7.	The centrifugal compressor fans have a 5-year replacement non-prorated warranty.	<u>X</u>	
Vacu	um Pick Up Hose	Yes	No
1.	Shall be front loading, attached at the front of the machine in order to provide ease of positioning the machine over the manhole, as well as afford maximum safety for the operator.	<u>X</u>	
2.	The 8" vacuum intake will be mounted on a boom that will provide a minimum of 18' vertical lift utilizing dual hydraulic cylinder and 230 degree of boom rotation powered hydraulically for non-interrupted smooth movement. Boom to have a lift capacity of 500 lbs. at the front bumper.	<u>X</u>	
3.	The boom will be powered by an electric over hydraulic system: up/down by dual lift cylinders. The right/left movements shall be hydraulic via worm gear rotation.	_X_	

4.	The boom shall hydraulically telescope a minimum of 10 ft. forward from the operator's station. The height of the boom shall not change while the boom is being telescoped. A manual override system shall be provided for right/left, and up/down functions in case of system failure.	<u>X</u> _
5.	Control of the boom is by means of a joystick control at the operator's station, requiring no cables at operator's feet for boom operation. A manual override system shall be provided for right/left, and up/down functions in case of system failure.	<u>X</u> _
6.	A boom coverage chart shall be provided stating the square feet the boom covers.	<u>X</u>
7.	8-inch diameter pipe extensions with clamps will be provided and carried on the truck as follows: A. (1) - 6 ½' Catch Basin Nozzle B. (1) - 6' Aluminum Pipe Extension C. (1) - 5' Aluminum Pipe Extensions D. (1) - 3' Aluminum Pipe Extension E. (5) Quick clamps F. 5-Pipe Carousel Storage Rack G. (2) Additional J-Hook Pipe Storage Locations	_X
Water	r Supply	Yes No
1.	The water tanks shall have a minimum usable capacity of 1,300 U.S. gallons.	<u>X</u>
2.	The water tanks shall be constructed of non-corrosive, non-metallic, durable, cross-linked polyethylene to eliminate rust, corrosion, and stress cracking.	<u>X</u>
3.	The water tanks shall be mounted at and below the truck frame level to provide a low center of gravity for truck stability.	<u>X</u>
4.	A 2 $\frac{1}{2}$ " diameter x 25' long hydrant hose with hydrant wrench is supplied on the unit.	<u>X</u> _
5.	An anti-siphon fill device is installed on the unit.	<u>X</u>
6.	Inspection ports shall be provided to fill or to add chemicals to the water system.	<u>X</u>
7.	A sight gauge to indicate water level is located within sight of the operator station.	_X
8.	The water tanks are protected by a minimum of 11-gauge steel plating mounted below the water tanks for protection against road hazards when unit travels over the road, off the road or to landfills.	<u> </u>
9.	The water tanks shall carry a lifetime warranty.	X

Auxili	iary Engine - If supplied (Water Pump Drive Engine)	Yes	No
1.	The shrouded auxiliary engine used to derive the water pump shall be liquid cooled, heavy duty gas powered 8-Cylinder industrial engine with a displacement of 535 CID and a rated gross horsepower of 208HP.	<u>X</u>	
2.	Engine performance is driven by an ECU that integrates and coordinates all critical functions including governor, variably ignition timing, air-fuel control and engine protection.	<u>X</u>	
3.	All gauges, auxiliary engine tachometer, oil pressure, water temperature, hour meter, and shut down system shall be located on the driver side of the unit in a control panel. Engine protections for oil pressure, coolant temperature and overspeed shall be supplied.	<u>X</u>	
4.	The auxiliary engine start and stop controls will be at the front hose reel operator station for safety and convenience.	<u>X</u>	
5.	The shrouded auxiliary engine will have a hinged driver's side door for access to the engine. Oil checking shall be accomplished from ground level on driver's side of the unit.	<u>X</u>	
6.	The auxiliary engine will power all hydraulic functions allowing water system and jetting capability with the chassis engine turned off. This feature results in lower fuel consumption and quieter machine operation, increasing on street operator awareness and lowering cost of operations.	_X_	
7.	The auxiliary engine shall include CANBUS J1939 interface.	<u>X</u>	-
8.	The auxiliary engine shall include a remote engine oil drain for ease of service.	<u>X</u>	-
<u>High-</u>	Pressure Water Pump	Yes	No
1.	The high-pressure water pump shall be rated to deliver smooth continuous pressure and flow through the entire flow range of the pump. The high pressure shall have smooth continuous flow for both the high-pressure system and the handgun system.	<u>X</u>	
2.	A continuous duty flow of 80 GPM and 2,500 PSI shall be provided.	<u>X</u>	-
3.	The water pump shall have variable flow capability to allow 60 GPM and 2,500 PSI when conservation of water is needed. The variable flow system will also adjust flow and pressure for the hydro-excavation handgun system.	<u>X</u>	2
4.	High-pressure relief valves are provided for both the high-pressure system and handgun system.	<u>X</u>	
5.	The water pump operates independently of the vacuum system and is powered by the auxiliary engine via clutchless, direct dual powerband drive system.	_X_	

6.	The high-pressure water pump drive system carries a five-year replacement warranty. Warranty excludes the drive engine, i.e. auxiliary engine.	<u>X</u>	
7.	The water pump shall be capable of running dry.	_X_)
8.	Controls for starting and stopping the water pump and to vary the flow and pressure shall be at the front hose reel operator's station.	<u>X</u>	
9.	The high-pressure water pump is equipped with a cold weather drain valves. The valve allows the operator to completely drain the high-pressure pump.	<u>X</u>	
<u>Hose</u>	Reel Assembly	Yes	No
1.	The hose reel assembly is mounted on the front of the vehicle.	<u>X</u>	
2.	The hose reel shall have a minimum of 30" inside diameter with a capacity of 800' x 1" hose.	<u>X</u>	
3.	The hose reel is hydraulically powered in both directions by means of a double chain and sprocket drive. The controls for operating the motor have a speed control device to regulate the rotational speed of the reel in both directions. All hydraulic hoses are behind a steel housing to protect operator from hydraulic oil if a hose fails.	<u>X</u>	
4.	The hydraulic motor, chain, and sprockets have a protective cover or are mounted on the radiator side of the hose reel for operator safety.	<u>X</u>	
5.	The hose reel articulates 180 degrees to the driver's side allowing operator to work in any position through this arc. This allows greater flexibility in truck placement for manholes located in tough areas and provides greater safety to the operator.	_X_	
6.	Reel extends beyond the width of unit for greater flexibility for positioning reel over offset manholes, catch basins, etc.	<u>X</u>	
7.	A hydraulically controlled outrigger leg shall be supplied that will contact the ground at any one position. For ease of use, integrated electric and hydraulic systems only allow operator to articulate reel or move chassis when the outrigger leg is in its transport position.	_X_	
8.	A manual bypass system for the hose reel assembly is provided to manually pull the reel assembly away from its transported position. This feature allows operator to check fluids without starting engines.	_X_	
10). The hose reel will include a dual roller level wind guide	<u>X</u>	
<u>Sewe</u>	er Cleaning Hose	Yes	No
1.	$800' \times 1"$ continuous jet rodding hose will be supplied rated for 2,500 PSI working pressure and 6,250 PSI burst pressure.	<u>X</u>	
2.	A heavy-duty hose guide with 25' of nylon rope will be provided.	<u>X</u>	

3.	A leader hose, 20' x 1" shall be provided	_X_	
4.	Nozzles shall be hardened steel with replaceable ceramic orifices as follows: A. Standard Cleaning Nozzle, 30 degree B. Chisel Head Penetrator Nozzle C. Nozzle skid		
	D. Nozzle rack holding (6) nozzles	<u>X</u>	
Manh	ole Cleaning and Hydro-Excavation System (Handgun)	Yes	No
1.	The high-pressure pump and independent water tank assembly supplied shall be used for manhole cleaning and Hydro-excavation operations. A smooth continuous flow of up to 20 GPM and pressure of 2,500 PSI shall be provided with a pressure relief unloading valve and on/off control.	_X_	
2.	A pressure relief unloading valve set at 2,500 PSI shall be provided	<u>X</u>	
3.	One full functioning handgun with on/off trigger hand control, replaceable nozzle tip, 18-inch extension and adjustable spray pattern with quick couple connection shall be provided.	_ <u>X</u> _	
4.	One full functioning hydro-excavation lance with horizontal on/off trigger control, 72" x ½" aluminum schedule 80 extension with quick couple connection. A single jet nozzle with quick couple connection shall be provided.	<u>X</u>	<u>-</u>
5.	The handgun will attach to the system via a quick couple connection at the curbside of the unit with a 50' x $\frac{1}{2}$ " spring retractable reel.	<u>X</u>	
Hydra	aulic System and Lubrication	Yes	No
1.	The hydraulic system has a 55-gallon capacity.	<u>X</u>	
2.	The hydraulic system shall incorporate a main shut off valve in case of hydraulic failure.	_X_	
3.	The hydraulic system shall incorporate hydraulic pressure relief valves and pressure gauges for ease of trouble shooting and maintenance.	_X_	
4.	The unit is equipped on the passenger side, mid-section of the module, a permanent weatherproof white vinyl lubrication chart that points out lubrication points on the module and specifies what type of lubrication and hydraulic fluids are required. The chart also specifies the frequency of each lubrication point.	_X_	
5.	Remote plumbed grease fittings are provided for the vacuum compressor, debris body and rear door functions, boom functions, and water pump drive areas.	<u>X</u>	

Addit	ional Equipment and Accessories	Yes	No
1.	In addition to specific warranties specified, minimum twelve (12) month manufacturer's warranty shall be provided.	<u>X</u>	
2.	2) 24" x 18" x 18" Aluminum side mounted toolboxes, one each side	<u>X</u>	
3.	16" x 42" x 96" Aluminum storage box behind cab with adjustable shelf	<u>X</u>	
4.	(2) Roll out storage shelved for behind cab toolbox	<u>X</u>	
5.	(2) Long handled tool storage, PVC located in behind cab toolbox under shelf	<u>X</u>	
6.	Cone storage rack, located street side deck	_X_	
7.	Debris body power flush out system	<u>X</u>	
8.	Cold weather re-circulating system capable of operating through the entire flow range of the high-pressure jetting hose system in transport or stopped positions. Sewer hose reel and handgun reel shall have water re-circulating capability.	_X_	
9.	Bidder to state flow capacity of cold weather re-circulating (GPM):80	_X_	
10	Pre-tank water filter (in-line)	X	
11	. ¼ Turn ball valve(2-1/2") water tank drain plumbed to the curbside of vehicle allowing draining of water tanks as well as wash down of tools or other items.	_X_	
12	Air Purge winterization system utilizing on board chassis air system.	<u>X</u>	
13	Low water audible alarm sensor	<u>X</u>	
14	Front and rear mounted tow hooks	<u>X</u>	n
15	Vacuum compressor quiet package, replacing existing compressor exhaust diffuser, reduces discharge noise lower than other typical noise generated by other equipment on the chassis. It reduces compressor discharge noise by 5 dBA and stabilizes full vacuum air lift for increased performance. Constructed of 304 stainless steel.	_X_	,
16	The hydraulic pump provides power for all hydraulic functions (except vacuum compressor drive) and is direct mounted to the auxiliary engine gear drive adapter. It is not necessary to run the chassis engine to operate the machine hydraulics. Applicable to two engine configuration	_X_	
17	Chassis engine stop/start shall be provided to allow the operator to shut down the chassis motor during jet rodding operations for quieter on street operation and increased operator awareness. Applicable to two engine configuration.	<u>X</u>	

Ele	ctr	rical and Lighting	Yes	No
	1.	The entire module electrical system is vapor sealed to eliminate moisture damage to NEMA 4 standards	<u>X</u>	
	2.	All wiring is color-coded, labeled and run in sealed terminal enclosures.	<u>X</u>	
	3.	Precision Power Control System utilizing a 7" display screen and multi-function operator joystick for centralized control of machine operations. The color 7" display screen monitors the following primary and minimum operator functions: A. Work Mode B. Water Pressure C. Hose Footage D. Hose Reel Speed E. Vacuum Level F. Vacuum Breaker Status G. Emergency Stop Activation H. Primary Chassis and Auxiliary Engine Gauges: Tachometers, Fuel Levels and Hydraulic Oil Temperature and Alarm	_X_	
•	4.	Display shall be 7" full color, 800×480 resolution with sensor for automatic adjustment to variable ambient lighting. In the event of display damage, the machine can operate without the display.	_X_	
	5.	Operator joystick, switches and display shall be IP 68 rated.	<u>X</u>	
i	6.	Pressure compensating hydraulics allows proportional control of hydraulic functions for smooth control of boom and hose reel movements.	<u>X</u>	
·	7.	Multiplex system capable of troubleshooting, diagnostics and on-board monitoring of fuses, relays, joysticks and switches.	<u>X</u>	
ł	8.	Remote Control (Wireless): Boom, Vacuum Breaker, Throttle, Debris Body and Emergency Stop Operations.	<u>X</u>	
(9.	Clearance lights and reflectors are furnished in accordance with DOT requirements.	<u>X</u>	
<u>.</u>	10.	(2) Mirror mounted LED strobe light, with limb guard	<u>X</u>	
	11.	LED Arrow stick - Whelen TAM85 Traffic Advisor	<u>X</u>	
	12.	(2) LED Boom Mounted Flood Light - Whelen NP6BB	<u>X</u>	
	13.	(2) LED Work Area Flood Light, one each side - Whelen NP6BB	<u>X</u>	
	14.	(2) LED Rear Mounted Flood Light - Whelen NP6BB	<u>X</u>	
	15.	LED 4 Strobes - (2) Mid Body / (2) Rear Bumper	_X_	
	16.	Traffic Safety Camera with Color Monitor - Rear Camera Placement	<u>X</u>	

17	. Chassis Back Up Alarm	<u>X</u>	
<u>Paint</u>		Yes	No
1.	Unit paint surface is shot blasted, sanded and zinc primed prior to paint. Unit to be painted with PPG Polyurethane paint. Color Code: L6460EY School Bus Yellow	_X_	
2.	Unit shall have reflective white side striped, boom stripes and rear door chevrons	<u>X</u>	
3.	Chassis shall be painted to match body	X	
<u>Chass</u>	sis Specifications	Yes	No
1.	2021 MODEL YEAR CONVENTIONAL CHASSIS	<u>X</u>	
Engin	e Equipment	Yes	No
1.	CUMMINS L9 370 HP @ 2000 RPM, 2100 GOV RPM, 1250 LB/FT @ 1400 RPM	<u>X</u>	
2.	SIDE OF HOOD AIR INTAKE WITH DONALDSON HIGH CAPACITY AIR CLEANER WITH SAFETY ELEMENT, FIREWALL MOUNTED	X	
3.	12V 160 ALTERNATOR WITH REMOTE BATTERY VOLT SENSE	X	
4.	BATTERIES, (2) DTNA GENUINE, FLOODED STARTING, MIN 2000CCA, 370RC, THREADED STUD	_X_	
5.	STANDARD BATTERY JUMPERS	<u>X</u>	
6.	SINGLE BATTERY BOX FRAME MOUNTED LH SIDE BACK OF CAB	<u>X</u>	
7.	WIRE GROUND RETURN FOR BATTERY CABLES WITH ADDITIONAL FRAME GROUND RETURN	<u>X</u>	
8.	POSITIVE LOAD DISCONNECT WITH CAB MOUNTED CONTROL SWITCH MOUNTED OUTBOARD DRIVER SEAT	_X_	
9.	POSITIVE AND NEGATIVE POSTS FOR JUMPSTART LOCATED ON FRAME NEXT TO STARTER	_X_	
10	. CUMMINS 18.7 CFM AIR COMPRESSOR WITH INTERNAL SAFETY VALVE	_X_	
11	. ELECTRONIC ENGINE INTEGRAL WARNING AND DERATE PROTECTION SYSTEM	<u>X</u>	
12	. CUMMINS EXHAUST BRAKE INTEGRAL WITH VARIABLE GEOMETRY TURBO WITH ON/OFF DASH SWITCH	X	
13	. RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH B-PILLAR MOUNTED VERTICAL TAILPIPE	X	

14. ENGINE AFTERTREATMENT DEVICE, AUTOMATIC OVER THE ROAD REGENERATION AND DASH MOUNTED REGENERATION REQUEST SWITCH	<u>X</u>	
15. INTEGRATED STACK AND B-PILLAR PIPE WITH MINIMUM STACK PROTRUSION ABOVE CAB	<u>_X</u>	
16. RH CURVED VERTICAL TAILPIPE B-PILLAR MOUNTED ROUTED FROM STEP	_X	
17. 6 GALLON DIESEL EXHAUST FLUID TANK	<u>X</u>	
18. HORTON 2-SPEED DRIVEMASTER ADVANTAGE POLAREXTREME FAN DRIVE	<u>X</u>	_
19. CUMMINS SPIN ON FUEL FILTER	<u>X</u>	
20. COMBINATION FULL FLOW/BYPASS OIL FILTER	<u>X</u>	h
21. 1300 SQUARE INCH ALUMINUM RADIATOR	<u>X</u>	
22. ANTIFREEZE TO -34F, OAT (NITRITE AND SILICATE FREE) EXTENDED LIFE COOLANT	<u>X</u>	
23. GATES BLUE STRIPE COOLANT HOSES OR EQUIVALENT	_X_	_
24. CONSTANT TENSION HOSE CLAMPS FOR COOLANT HOSES	<u>X</u>	
25. RADIATOR DRAIN VALVE	<u>X</u>	
26. 1350 ADAPTER FLANGE FOR FRONT PTO PROVISION	<u>X</u>	
27. ELECTRIC GRID AIR INTAKE WARMER	<u>X</u>	
28. DELCO 12V 38MT HD STARTER WITH INTEGRATED MAGNETIC SWITCH	<u>X</u>	
<u>Transmission</u>	Yes	No
1. ALLISON 3000 RDS AUTOMATIC TRANSMISSION WITH PTO PROVISION	<u>X</u>	
2. PTO MOUNTING, LH SIDE OF MAIN TRANSMISSION	_X_	
3. MAGNETIC PLUGS, ENGINE DRAIN, TRANSMISSION DRAIN, AXLE(S) FILL AND DRAIN	<u>X</u>	
4. PUSH BUTTON ELECTRONIC SHIFT CONTROL, DASH MOUNTED	<u>X</u>	
5. WATER TO OIL TRANSMISSION COOLER, IN RADIATOR END TANK	_X_	
6. TRANSMISSION OIL CHECK AND FILL WITH ELECTRONIC OIL LEVEL CHECK	_X_	
Front Axle and Equipment	Yes	No
1. DETROIT DA-F-20.0-5 20,000 LBS FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE	<u>X</u>	y <u></u>

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Appendix A

	2.	MERITOR 16.5X6 Q+ CAST SPIDER CAM FRONT FABRICATED SHOES	BRAKES, DOUBLE A	NCHOR,	<u>X</u>	
	3.	NON-ASBESTOS FRONT BRAKE LINING			X	
	4.	CAST IRON OUTBOARD FRONT BRAKE DRUMS			<u>X</u>	
	5.	FRONT BRAKE DUST SHIELDS			X	
	6.	FRONT OIL SEALS			<u>X</u>	
	7.	VENTED FRONT HUB CAPS WITH WINDOW, CE	NTER AND SIDE PLU	GS - OIL	<u>X</u>	
	8.	STANDARD SPINDLE NUTS FOR ALL AXLES			<u>X</u>	
	9.	MERITOR AUTOMATIC FRONT SLACK ADJUSTE	RS		<u>X</u>	
	10.	. TRW THP-60 POWER STEERING WITH RCH45 A	AUXILIARY GEAR		<u>X</u>	
	11.	. OIL/AIR POWER STEERING COOLER MOUNTED CROSSMEMBER	ABOVE FRONT CLO	SING	<u>X</u>	
Fro	nt	Suspension			Yes	No
	1.	20,000 LBS FLAT LEAF FRONT SUSPENSION			<u>X</u>	
	2.	GRAPHITE BRONZE BUSHINGS WITH SEALS - F	RONT SUSPENSION		<u>X</u>	
	3.	FRONT SHOCK ABSORBERS			<u>X</u>	
Rea	ar/	Axle and Equipment			Yes	No
	1.	RT-46-160 46,000 LBS R-SERIES TANDEM REAL	R AXLE		<u>X</u>	
	2.	5.63 REAR AXLE RATIO			<u>X</u>	
	3.	MXL 176T MERITOR EXTENDED LUBE MAIN DE YOKES	RIVELINE WITH HAL	F ROUND	<u>X</u>	
	4.	MXL 17T MERITOR EXTENDED LUBE INTERAX YOKES	LE DRIVELINE WITH	HALF ROUND	_X_	
	5.	(1) INTERAXLE LOCK VALVE FOR TANDEM OR	TRIDEM DRIVE AXLE	ES	<u>X</u>	
	6.	MERITOR 16.5X7 Q+ CAST SPIDER CAM REAR E FABRICATED SHOES	BRAKES, DOUBLE AN	CHOR,	<u>X</u>	
	7.	NON-ASBESTOS REAR BRAKE LINING			<u>X</u>	
	8.	CAST IRON OUTBOARD REAR BRAKE DRUMS			<u>X</u>	
	9.	REAR BRAKE DUST SHIELDS Page 15		Appendix A	<u>X</u>	

	10	. REAR OIL SEALS	<u>X</u>	
	11	BENDIX EVERSURE LONGSTROKE 2-DRIVE AXLES SPRING PARKING CHAMBERS	<u>X</u>	
	12	. HALDEX AUTOMATIC REAR SLACK ADJUSTERS	<u>X</u>	
Re	ar :	Suspension	Yes	No
	1.	HENDRICKSON RT463 @46,000# REAR SUSPENSION	<u>X</u>	
	2.	54 INCH AXLE SPACING	<u>X</u>	
	3.	STEEL BEAMS AND BRONZE CENTER BUSHINGS WITH BAR PIN ADJUSTABLE END CONNECTIONS	<u>X</u>	
	4.	FORE/AFT CONTROL RODS	<u>X</u>	
<u>Br</u>	ake	<u>e System</u>	Yes	No
	1.	WABCO 4S/4M ABS	<u>X</u>	
	2.	REINFORCED NYLON, FABRIC BRAID AND WIRE BRAID CHASSIS AIR LINES	<u>X</u>	
	3.	FIBER BRAID PARKING BRAKE HOSE	<u>X</u>	/ <u></u>
	4.	BW AD-9 BRAKE LINE AIR DRYER WITH HEATER	<u>X</u>	
	5.	STEEL AIR BRAKE RESERVOIRS	X	
	6.	PULL CABLES ON ALL AIR RESERVOIR(S)	X	
<u>w</u>	hee	lbase & Frame	Yes	No
	1.	264 INCH WHEELBASE	<u>X</u>	
	2.	11/32X3-1/2X10-15/16 INCH STEEL FRAME, 120,000 PSI	<u>X</u>	
	3.	1/4 INCH C-CHANNEL INNER FRAME REINFORCEMENT	<u>X</u>	
	4.	12 INCH INTEGRAL FRONT FRAME EXTENSION	<u>X</u>	
	5.	CALCULATED BACK OF CAB TO REAR SUSP C/L (CA): 180.32 in	<u>X</u>	
Fu	ıel T	<u>Canks</u>	Yes	No
	1.	100 GALLON/378 LITER ALUMINUM FUEL TANK - LH	<u>X</u>	
	2.	DETROIT FUEL/WATER SEPARATOR WITH WATER IN FUEL SENSOR, HAND PRIMER AND 12 VOLT PREHEATER"	<u>X</u>	
	3.	EOUIFLO INBOARD FUEL SYSTEM	X	

	4.	AUXILIARY FUEL SUPPLY AND RETURN PORTS LOCATED ON LH FUEL TANK	<u>X</u>	
	5.	HIGH TEMPERATURE REINFORCED NYLON FUEL LINE	<u>X</u>	
	6.	FUEL COOLER	<u>X</u>	
Ti	res	and Wheels	Yes	No
	1.	CONTINENTAL HAC3 425/65R22.5 20 PLY RADIAL FRONT TIRES	_X_	
	2.	CONTINENTAL HDR2 11R22.5 14 PLY RADIAL REAR TIRES	<u>X</u>	
	3.	CONMET PRESET PLUS PREMIUM IRON FRONT HUBS	_X_	
	4.	CONMET PRESET PLUS PREMIUM IRON REAR HUBS	<u>X</u>	
	5.	ALCOA LVL ONE 82462 X 22.5 X 12.25 10-HUB PILOT 4.68 INSET 10-HAND ALUMINUM DISC FRONT WHEELS	<u>X</u>	
	6.	ALCOA LVL ONE 88367 X 22.5 X 8.25 10-HUB PILOT ALUMINUM DISC REAR WHEELS	<u>X</u>	
<u>Ca</u>	b E	<u>xterior</u>	Yes	No
	1.	114 INCH BBC FLAT ROOF ALUMINUM CONVENTIONAL CAB	<u>X</u>	
	2.	AIR CAB MOUNTING	<u>X</u>	
	3.	NONREMOVABLE BUGSCREEN MOUNTED BEHIND GRILLE	<u>X</u>	
	4.	FRONT FENDERS	_X_	
	5.	3-1/2 INCH FENDER EXTENSIONS	_X_	
	6.	LH AND RH GRAB HANDLES	_X_	
	7.	BRIGHT FINISH RADIATOR SHELL/HOOD BEZEL	<u>X</u>	
	8.	STATIONARY BLACK GRILLE WITH BRIGHT ACCENTS	<u>X</u>	
	9.	FIBERGLASS HOOD WITH ACCESS HATCHES	<u>X</u>	
	10.	SINGLE 14 INCH ROUND HADLEY AIR HORN UNDER LH DECK	<u>X</u>	
	11.	DUAL ELECTRIC HORNS	<u>X</u>	
	12.	DOOR LOCKS AND IGNITION SWITCH KEYED THE SAME	<u>X</u>	
	13.	KEY QUANTITY OF (4)	<u>X</u>	
	14.	. HALOGEN COMPOSITE HEADLAMPS WITH BRIGHT BEZELS	X	

	15	. LED AERODYNAMIC MARKER LIGHTS	X	
	16	. DAYTIME RUNNING LIGHTS - LOW BEAM ONLY	_X_	
	17	. LED STOP/TAIL/TURN LIGHTS GROMMET MOUNTED WITH SEPARATE LED BACKUP LIGHTS	<u>X</u>	
	18	. STANDARD FRONT TURN SIGNAL LAMPS	<u>X</u>	
	19	. DUAL WEST COAST BRIGHT FINISH HEATED MIRRORS WITH LH AND RH REMOTE	_X_	
	20	. LH AND RH 8 INCH BRIGHT FINISH CONVEX MIRRORS MOUNTED UNDER PRIMARY MIRRORS	<u>X</u>	
	21	. STANDARD SIDE/REAR REFLECTORS	_X_	
	22	. RH AFTERTREATMENT SYSTEM CAB ACCESS WITH POLISHED DIAMOND PLATE COVER	<u>X</u>	
	23	. REAR WINDOW, 63X14 INCH TINTED	_X	
	24	. TINTED DOOR GLASS LH AND RH WITH TINTED NON-OPERATING WING WINDOWS	<u>X</u>	
	25	. RH AND LH ELECTRIC POWERED WINDOWS, PASSENGER SWITCHES ON DOOR(S)	<u>X</u>	
	26	. TINTED WINDSHIELD	_X_	
	27	. 8 LITER WINDSHIELD WASHER RESERVOIR, CAB MOUNTED, WITHOUT FLUID LEVEL INDICATOR	<u>X</u>	<u>•</u>
<u>Ca</u>	ıb Iı	nterior_	Yes	No
	1.	OPAL GRAY VINYL INTERIOR	_X_	
	2.	BLACK MATS WITH SINGLE INSULATION	<u>X</u>	
	3.	FORWARD ROOF MOUNTED CONSOLE WITH UPPER STORAGE COMPARTMENTS WITHOUT NETTING	<u>X</u>	
	4.	IN DASH STORAGE BIN	_X_	
	5.	(2) CUP HOLDERS LH AND RH DASH	<u>X</u>	
	6.	SMART SWITCH EXPANSION MODULE	<u>X</u>	
	7.	HEATER, DEFROSTER AND AIR CONDITIONER	_X_	
	8.	MAIN HVAC CONTROLS WITH RECIRCULATION SWITCH	_X_	
	9.	VALEO HEAVY DUTY A/C REFRIGERANT COMPRESSOR	_X_	

10. SOLID-STATE CIRCUIT PROTECTION AND FUSES	_X_	
11. 12V NEGATIVE GROUND ELECTRICAL SYSTEM	<u>X</u>	
12. DOME LIGHT WITH 3-WAY SWITCH ACTIVATED BY LH AND RH DOORS	<u>X</u>	
13. LH AND RH ELECTRIC DOOR LOCKS	_X_	
14. (1) 12 VOLT POWER SUPPLY IN DASH	<u>X</u>	
15. BASIC HIGH BACK AIR SUSPENSION DRIVER SEAT WITH MECHANICAL LUMBAR AND INTEGRATED CUSHION EXTENSION	<u>X</u>	
16. BASIC HIGH BACK AIR SUSPENSION PASSENGER SEAT WITH MECHANICAL LUMBAR AND INTEGRATED CUSHION EXTENSION	_X_	
17. ADJUSTABLE TILT AND TELESCOPING STEERING COLUMN	<u>X</u>	
18. 4-SPOKE 18 INCH STEERING WHEEL	<u>X</u>	
19. DRIVER AND PASSENGER INTERIOR SUN VISORS	<u>X</u>	
20. ENGINE REMOTE INTERFACE WITH PARK BRAKE AND NEUTRAL INTERLOCKS	<u>X</u>	
21. LOW AIR PRESSURE INDICATOR LIGHT AND AUDIBLE ALARM	_X_	
22. DASH MOUNTED AIR RESTRICTION INDICATOR WITH GRADUATIONS	X	
23. PRECO/ECCO 1040 87 DECIBELS TO 112 DECIBELS AUTOMATIC SELF-ADJUSTING BACKUP ALARM	X	
24. ELECTRONIC CRUISE CONTROL WITH SWITCHES ON AUXILIARY GAUGE PANEL	<u>X</u>	
25. MANUAL REMOTE ENGINE STOP/START WITH PTO RE-ENGAGE	<u>X</u>	
26. DISPLAY WITH DIAGNOSTICS, 28 LED WARNING LAMPS AND DATA LINKED	<u>X</u>	
27. ENGINE AND TRIP HOUR METERS INTEGRAL WITHIN DRIVER DISPLAY	<u>X</u>	
28. AM/FM/WB WORLD TUNER RADIO WITH BLUETOOTH AND USB AND AUXILIARY INPUTS, J1939	<u>X</u>	1.
29. DIGITAL VOLTAGE DISPLAY INTEGRAL WITH DRIVER DISPLAY	_X_	
30. ONE VALVE PARKING BRAKE SYSTEM WITH DASH VALVE CONTROL AUTONEUTRAL AND WARNING INDICATOR	_X_	13 <u></u>
31. SELF CANCELING TURN SIGNAL SWITCH WITH DIMMER, WASHER/WIPER AND HAZARD IN HANDLE	X	

<u>Chass</u>	sis Warranty	Yes	No	
1.	1. (1) ONE YEAR CHASSIS WARRANTY			
2.	(2) TWO YEAR ENGINE WARRANTY	X		
3.	(3) THREE YEAR TRANMISSION WARRANTY	X		
4.	TOWING: 6 MONTHS/UNLIMITED MILES/KM EXTENDED TOWING COVERAGE	_X_		
<u>Train</u>	ing & Manuals	Yes	No	
1.	Operator training will be conducted by a factory-trained representative for a minimum of one day at the time of delivery. (2) Digital copies of the operating and maintenance manual for the sewer cleaner module shall be provided upon unit delivery.	<u>X</u>		
Mounting & Delivery Yes			No	
1.	The unit described will be mounted on a truck chassis acceptable to the body manufacturer at the factory of the body manufacturer.	_X_		
<u>Delive</u>	<u>-y</u>			
Bid	der must state delivery time in days at time of bid.			
	150-180 DAYS			
	of Specification			
	here the specifications are silent on any part of the description of the equipment, it the manufacturer's best quality item shall be provided.	shall be taken		
	Exception N/A			
<u>Delive</u>	ry Address			
	City of Aurora			

720 N. Broadway Avenue Aurora, IL 60505

Bidder shall fully ex sheets/lines may be	plain every variance, exception, and or deviation to the bid specifications. Additional eadded if required.	
N/A		
		
<u> </u>		
		

Exceptions and Deviations

Page 21

PURCHASE OF ONE (1) COMBINATION SEWER CLEANER

CONTACT INFORMATION

Vendor shall provide	e the following contact	et information	assigned to se	ervice the City of	Aurora account.

Ph: 800-522-2808

To place an order:

Name: ERIC LESAGE

Ph: 815-370-3549 Fax: 815-468-8055

E-mail: ERIC@EJEQUIPMENT.COM

Billing & Invoicing question:

Customer Service/General Information:

Name: JULIE BELAN

Ph: 815-907-3955 Fax: 815-468-8055

E-mail: JULIE@EJEQUIPMENT.COM

Questions:

Name: ERIC LESAGE

Ph: 815-370-3549 Fax: 815-468-8055

E-mail: ERIC@EJEQUIPMENT.COM

Bidder's Name: EJ EQUIPMENT, GINC.

Signature & Date: ERIC LESAGE 09/28/20

PURCHASE OF ONE (1) COMBINATION SEWER CLEANER

REFERENCES

(Please Type) Organization	CITY OF ST. CHARLES	
Address	2 E. MAIN STREET	
City, State, Zip	ST. CHARLES, IL 60174	
Phone Number	630-762-7071	
Contact Person	DAVE TODD	
Date of Project	MOST RECENT VAC-CON PURCHASE WAS INVOICED ON 09/09/2016	
	**** **** **** **** *** *** *** *** **	
Organization .	CITY OF ELMHURST	
Address	209 N. YORK STREET	
City, State, Zip	ELMHURST, IL 60126	
Phone Number	630-530-3316	
Contact Person	CHANEL CARON	
Date of Project	MOST RECENT VAC-CON PURCHASE WAS INVOICED ON 04/27/2016	

Organization	VILLAGE OF EVERGREEN PARK	
Address	9418 S. KEDZIE AVE	
City, State, Zip	EVERGREEN PARK, IL 60805	
Phone Number	708-229-3355	
Contact Person	CEL NERIS	
Date of Project	MOST RECENT VAC-CON PURCHASE WAS INVOICED ON 03/31/2017	
*****	************************	***
Bidder's Name	EJ EQUIPMENT, INC.	
Signature & Da	ERIC LESAGE 09/29/20	
	Page 1	Α

Appendix C

PURCHASE OF ONE (1) COMBINATION SEWER CLEANER

BID PROPOSAL FORM

	Bid Due Date & Time:	2:00 p.m. CST, Wednesday, September 23, 2020		
То:	City of Aurora Purchasing Division 44 E Downer Place Aurora, Illinois 60507			
The f	ollowing offer is hereby ma	de to the City of Aurora, Aurora, Illinois, hereafter called the Owner.		
Subm	nitted By:	EJ EQUIPMENT, INC.		
I.	and other Bid documents, compliance with all terms the bid solicitation docum	proposes and agrees, after having examined the specifications, quantities to irrevocably offer to furnish the materials, equipment and services in conditions, specifications and amendments (if applicable) contained in ents. The items in this Invitation to Bid, including, but not limited to, all ally incorporated herein as a material and necessary part of the Bid.		
	A. The Vendor shall also required within the Inv	include with their bid any necessary literature, samples, etc., as ritation to Bid, Instruction to Bidders and specifications.		
	B. For purposes of this o	ffer, the terms Offeror, Bidder, and Vendor are used interchangeably.		
II.	In submitting this Offer, the	ne Vendor acknowledges:		
	A. All bid documents hav following addenda:	e been examined: Instructions to Bidder, Specifications and the		
No. 1 , No. 2 , No. 3 , (Vendor to acknowledge addenda here.)				
Bidde	r's Name: EJ EQUIPMENT	, ING.		
Signat	ure & Date.	ERIC LESAGE 09/28/20		

PURCHASE OF ONE (1) COMBINATION SEWER CLEANER

BID PROPOSAL FORM

I/We propose to furnish material and labor as specified in the attached Specifications to Bid at the following delivered price:

Complete Requirements for One (1) truck mounted combination vacuum – jetting sewer cleaner for the Water and Sewer Division.

\$ 390,639.00

Complete delivery of unit must be received within 150-180 working days upon receipt of order.

All bid prices shall be shown as delivered Aurora Destination, Prepaid and Allowed. Do not add state, federal or local taxes. Municipalities are exempt. Exemption Certification Permit No. Illinois E9996-0842-07. No additional charges over base bid price will be accepted without written approval of the Purchasing Director.

The City of Aurora reserves the right at any time and for any reason to cancel this Invitation to Bid, to accept or reject any or all Bids or portion thereof, or accept an alternate bid. The City reserves the right to waive any immaterial defect in any bid, or technicality, informality or irregularity in the bids received, and to disregard all nonconforming or conditional bids or counter-proposals. Unless otherwise specified by the bidder or the City, the City reserves the right to hold the best bids for ninety (90) days from the opening date set forth above. The City may seek clarification from any bidder at any time and failure to respond promptly is cause for rejection. The City further reserves the right to award the bid to the lowest responsible Bidder whose offer best responds in quality, fitness and capacity to the requirements of the proposed work or usage and therefore is in the best interest of the City.

SUBMITTED BY

COMPANY EJ EQUIPMENT, INC.
ADDRESS 920 W NATIONAL AVE
CITY, STATE, ZIPADDISON, IL 60101
PREPARER'S NAME _ ERIC LESAGE
AUTHORIZED SIGNATURE REGIONAL SALES MANAGER
EMAIL ERIC@EJEQUIPMENT.COM
PHONE #(815) 370-3549 FAX # (815) 468-8055 DATE 09/28/20



City of Aurora, IL - Local Vendor Preference Application

The business identified below is requesting to be placed on the City of Aurora, Illinois Local Vendor Preference list, in accordance with ordinance O18-070, amended with ordinance O20-029 approved April 28, 2020.

) Date Submitted: N/A		
) Name of Business: N/A		
) Address of Local Office: N/A		
) City, State, Zip: N/A		
) Company's Web Address: N/A		
) Phone: N/A Fax: N/A		
) County your Local Business is Located In: N/A		
	Submitted By (Signature): N/A		
	Print Name and Title: N/A		
	Email Address: N/A		
	ec. 2-410Prequalification; local bidder.		
(a)	f an interested business would like to prequalify as a "local business", such a business shall complete and submit the requalification application along with supporting documentation, as listed below, and the applicable fee as set by the City Council, to the Finance Department: Evidence that the business has established and maintained a physical presence in the City of Aurora, by virtue of the ownership or lease of all or a portion of a building for a period of not less than twelve (12) consecutive months prior to the submission of the prequalification application; and Evidence demonstrating that the business is legally authorized to conduct business within the State of Illinois and the City of Aurora, and has a business registered to operate in the City if required; and Evidence that the business is not a debtor to the City of Aurora. For purposes of this subparagraph, a debtor is defined as having outstanding fees, water bills, sales tax or_restaurant/bar tax payments that are thirty (30) days or more past due, or has outstanding weed or nuisance abatements or liens, has failure to comply tickets or parking tickets that are not in dispute as to their validity and are not being challenged in court or other administrative processes.		
	Back up documentation for (a) a. and (a) b. must accompany this submittal or application will be rejected. Please note for (a) c. above the City of Aurora will verify internally that your company does not have any outstanding fees. Your company should make sure that to the best of its knowledge all bills are current.		
	Return completed application, with all required backup documentation to: City of Aurora, Attn: Purchasing Division, 44 E. Downer Place, Aurora, IL 60507 Or email to: PurchasingDL@Aurora-il.org		
	Do not write below this line: For City of Aurora use ONLY		
(a) a.			
(a) (a)			
(a)	•		
	Date:		
	Approved:		
	Jeuer Jenu. Initials:		

PURCHASE OF ONE (1) COMBINATION SEWER CLEANER

BID SUBMITTAL CHECKLIST

Each bid must be placed in an envelope, sealed, and clearly marked on the outside: "20-47 Purchase of One (1) Combination Sewer Cleaner." In order to be considered responsive, the bidder must submit all of the following items in their sealed envelope:

X	Bid Proposal Form (Appendix D)
<u>X</u>	Bid Specifications (Appendix A)
X	Bidder's Certification (Page 1)
<u>X</u>	Bidder's Tax Certification (Page 2)
X	Contact Information (Appendix B)
X	Reference List (Appendix C)
N/A	Local Preference Application (if applicable)

City of Aurora

Finance Department | Purchasing Division 44 E Downer Place | Aurora, Illinois & 60507

Phone: (630) 256-3550 | Fax: (630) 256-3559 | Web: www.aurora-il.org



DATE: S

September 17, 2020

TO:

Prospective Bidders

FROM:

Jolene Coulter, Director of Purchasing

RE:

CITY OF AURORA INVITATION TO BID 20-47 – Addendum #1

Purchase of One Combination Sewer Cleaner

This notice forms a part of the Invitation to Bid 20-47: Purchase of One (1) Combination Sewer Cleaner for the Water and Sewer Division. All other information pertaining to this Invitation to Bid shall remain the same.

Bidder must submit an original proposal response, marked as "original" and shall have provided all requested information, and submitted all appropriate forms, certificates, affidavits and addendum acknowledgements in each copy in order to be considered responsive.

Sealed Bid Proposals will be received at the Purchasing Division office, 44 East Downer Place, Aurora, Illinois 60507, until 2:00 pm, CST, Wednesday, September 23, 2020 to determine proposals for the anticipated above named purchase.

City Hall is open to the public on Monday, Wednesday and Friday, but is accepting deliveries Monday through Friday 8:00 am - 5:00 pm.

Bid proposals will be opened via a non-mandatory teleconferenced live stream at 2:00 pm. Zoom information for this opening will be posted 24-48 hours prior.

Please acknowledge this addendum on your bid proposal form. Failure to do so may subject Bidder to disqualification.

Response to questions/clarifications received by 12:00 pm, Tuesday, September 15, 2020:

1. Due Date: The above reverenced bid is currently due on September 23, 2020. Is the City of Aurora willing to extend the due date to allow adequate time to respond after answers to the below questions are received? Two weeks is preferred.

Do to the fact that the equipment being specified is standard, and bids are currently available through various cooperative bids, a time extension does not seem warranted.

- 2. Appendix A, Page 3, Debris Body, Item 1: This line item is exclusive to one specific manufacturer. The product we intend to bid has an Exten steel debris body. This premium grade steel is the sewer cleaner industry standard due to its corrosion and abrasion resistant properties. Is 1/4" Exten steel acceptable?
 - a. Requested Change: Debris storage body has a minimum usable liquid capacity of 12 cubic yards. The debris body shall be round for maximum strength and constructed of a minimum 3/16-inch Corten or Exten steel.

Remove the second sentence of paragraph no. 1. under Debris Body and replace with the following: "The debris body shall be round for maximum strength and shall be constructed of either 3/16" thick ASTM A242 Corten A steel or 3/16 inch Exten steel."

- 3. Appendix A, Page 3, Debris Body, Item 2: This line item is exclusive to one specific manufacturer. The product we intend to bid has an Exten steel debris body with a minimum yield point of 50,000 psi and a tensile strength of 65,000 psi. Corten Steel is designed as a weather proof exterior steel. Exten Steel is designed as a tank steel with high abrasion and corrosion resistance. In term of a tank design a 5,000 psi higher tensile strength does not offer any additional value. Is 65,000 psi tensile strength acceptable?
 - a. Requested Change: The debris body shall have a minimum yield point of 50,000 PSI and minimum tensile strength of 65,000PSI

Remove "70,000 PSI" from paragraph no. 2 under Debris Body and replace with "65,000 PSI".

- 4. Appendix A, Page 3, Debris Body, Item 7: This line item is exclusive to one specific manufacturer. The machine we intend to bid has a door locking mechanism that consists of 4 deadbolt style locks actuated by a single hydraulic cylinder for symmetrical and proportional control of the locks. This mechanism is designed with the safety of the operator and machine in mind. Will the City of Aurora accept this design?
 - a. Requested Change: The debris body shall have a minimum of four externally mounted positively engaging door locks that lock hydraulically. The unlocking-opening and the closing-locking operations shall be controlled by a single switch and sequence valve.

Remove "five (5)" from the first sentence of paragraph 7 under Debris Body and replace with "four (4)".

- 5. Appendix A, Page 4, Debris Body, Item 8: This line item is exclusive to one specific manufacturer. The machine we intend to bid utilizes two polyethylene screens measuring 16.25" x 16.5" each for a total of 2112 square inches of internal debris tank filtration. Polyethylene is used for its corrosion resistance and durability properties. Is this filtration acceptable?
 - a. Requested Change: Dual Screen float ball cages, providing a minimum of 1,200 square inches of added filtration for the vacuum system inside the debris tank. These screens shall be easily removable for cleaning and require no cutting or welding.

Dual 16.25"X16.5" screens do not equate to a total of 2112 square inches. However this requested substitution is acceptable. Remove the first sentence of paragraph no. 8 under Debris Body and replace with "Dual stainless or polyethylene screen attachments of a minimum size of 16.25"X16.5" of filtration for the vacuum system shall be provided inside the debris tank."

- 6. Appendix A, Page 4, Debris Body, Item 9: This line item is exclusive to one specific manufacturer. The machine we intend to bid uses a debris tank that raises to a 50-degree angle and achieves a 60" dump height via a double acting three stage lift cylinder. The debris body hinges are spaced 27" apart for superior support of the body. Does this configuration meet the intent of the bid spec?
 - a. Requested Change: The debris body shall dump via a minimum 50 degree dump angle. The lift mechanism shall be designed to support the debris tank width to provide stability and when dumping on uneven ground.

Remove the first two sentences of paragraph no. 9 of Debris Body and replace with the following: "The debris body shall have lift mechanism capable of raising the body to a minimum of 50 degrees. The lift mechanism shall support the debris tank to ensure stability while dumping on uneven ground."

- 7. Appendix A, Page 4, Debris Body, Item 14: The product we intend to bid has stainless steel ball floats for strength and corrosion resistance. Does this configuration meet the intent of the bid spec?
 - a. Requested Change: An internal float device with external indicator is supplied to show when body is loaded to capacity.

Delete "Polyethylene" from the first sentence of paragraph no. 14 under Debris Body and replace with "Polyethylene or stainless steel".

- 8. Appendix A, Page 4, Automatic Vacuum Breaker, Item 1: The product we intend to bid has a vacuum breaker located outside of the debris body for ease of access and longevity. Does this meet the intent of the spec?
 - a. Requested Change: There shall be an automatic vacuum breaker integral to the vacuum system.

Delete the first sentence of paragraph no. I under Automatic Vacuum Breaker and replace with the following: "There shall be an automatic vacuum breaker integral to the vacuum system."

- 9. Appendix A, Page 4, Automatic Vacuum Breaker, Item 2: This line item is exclusive to one specific manufacturer. The product we intend to bid has a vacuum breaker assembly consisting of a butterfly-style shutoff valve located in line with the 10" ducting to the centrifugal fan. This valve is controlled via an electric over pneumatic solenoid circuit. The intent of the design is to assure the operator can visually verify the position and operation of the vacuum breaker as needed for safety purposes. Will this configuration meet the intent of the bid spec?
 - a. Requested Change: We would like to see this line item removed as the importance is the presence of an automatic vacuum breaker as noted in item 1 of this section and not how the breaker is assembled. If specific designs are needed, we would like to have the design above listed as an approved equal.

Remove paragraph no. 2 under Automatic Vacuum Breaker in its entirety.

- 10. Appendix A, Page 5, Centrifugal Compressor (Fan Design), Item 1: This line item is exclusive to one specific manufacturer. The product we intend to bid utilizes a dual stage centrifugal compressor design with two 38" diameter riveted aluminum fans in tandem. The purpose of this design is to maintain strength, corrosion resistance, and flexibility under high speed and load. The compressor's outer housing consists of 1/4" spun steel to provide strength and proper airflow operation. This design has been demonstrated and tested by the city of Aurora and by design will produce at minimum the same, if not better performance than the stated design. Is this acceptable?
 - a. Requested Change: The centrifugal vacuum compressor shall be of multi-stage construction. The centrifugal compressor (fans) shall be constructed of welded steel or riveted aluminum. The compressor's outer housing shall be a minimum of 3/16" spun steel for strength and provide proper airflow in operation. The vacuum system shall operate independent of the high-pressure water

Remove paragraph no.1 under Centrifugal Compressor (Fan Design) and replace with the following: "The centrifugal vacuum compressor shall be of multi-stage construction. The centrifugal compressor (fans) shall be constructed of welded steel or riveted aluminum. The compressor's outer housing shall be a minimum of 3/16" spun steel for strength and provide proper airflow in operation. The vacuum system shall operate independent of the high-pressure water system."

- 11. Appendix A, Page 5, Centrifugal Compressor (Fan Design), Item 2: This line item is an exclusive design specific to a single manufacturer.
 - a. Requested Change: The Centrifugal Compressor shall be driven via a hydraulic system powered by the chassis engine. Adequate cooling and filtration for the compressor drive system shall be provided.

Remove paragraph no. 2 under Centrifugal Compressor (Fan Design) in its entirety.

- 12. Appendix A, Page 5, Centrifugal Compressor (Fan Design), Item 3: This line item is exclusive to one specific manufacturer. This item is design specific and would not apply to our design.
 - a. Requested Change: Eliminate this line as it is design specific.

Remove paragraph no. 3 under Centrifugal Compressor (Fan Design) in its entirety.

- 13. Appendix A, Page 5, Centrifugal Compressor (Fan Design), Item 6: This requirement is vague and not a real-world test. It is not clear as to what type of material shall be pulled from under the surface. There are also many other environmental factors that can affect a test like this. It is also not an effective test of real-world performance. Air induction will always be a more effective way of moving material from a flooded environment.
 - a. Requested Change: We would like to see this line removed as it is not an effective test.

Remove paragraph no. 6 under Centrifugal Compressor (Fan Design) in its entirety.

- 14. Appendix A, Page 5, Vacuum Pick Up Hose, Item 2: The product we intend to bid has a boom that is lifted via a single large hydraulic cylinder mounted to a structural boom turret pedestal. The boom is designed to operate within a 180 degree arc across the front half of the truck. By limiting reach to 180 degrees, needless wear and tear on expensive air conveyance hoses is eliminated. The 180 degree arc also allows for maximum coverage area when uses in conjunction with the 270 degree rotating hose reel when vacuuming and jetting in combination mode. Is 180 degree rotation acceptable?
 - a. Requested Change: The 8" vacuum intake will be mounted on a boom that will provide a minimum of 18' vertical lift utilizing dual hydraulic cylinder and a minimum 180 degree of boom rotation powered hydraulically for non-interrupted smooth movement. Boom to have a lift capacity of 500 lbs. at the front bumper.

Remove "230 degree" from the first sentence of paragraph no. 2 under Vacuum Pick Up Hose and replace with "a minimum of 180 degree".

- 15. Appendix A, Page 5, Vacuum Pick Up Hose, Item 3: The product we intend to bid has a boom with left/right movement controlled by dual hydraulic cylinders rather than a hydraulic worm gear. The dual hydraulic cylinder design offers smooth lateral movement with no maintenance or adjustment necessary. Is this acceptable?
 - a. Requested Change: The boom will be powered by an electric over hydraulic system: up/down by dual lift cylinders. The right/left movements shall be hydraulic via worm gear rotation or dual hydraulic cylinders.

Add "or dual hydraulic cylinders" to the end of the 2nd sentence in paragraph no. 3 under Vacuum Pick up Hose.

- 16. Appendix A, Page 6, Vacuum Pick Up Hose, Item 7, F: A 5 pipe carousel storage rack is specified. In order to maximize space utilization and prevent an unnecessarily longer truck, will fold down pipe storage racks in lieu of carousel style storage be deemed acceptable?
 - a. Requested Change: 5-Pipe Carousel Storage Rack or 6 -Pipe dual fold down racks.

Add "or 6 - Pipe dual fold down racks" to item F. of paragraph 7 under Vacuum Pick Up Hose.

- 17. Appendix A, Page 6, Water Supply, Item 2: The bid spec requests non-metallic water tanks. The product we intend to bid utilizes aluminum water tanks along with cathodic protection and internal screens to prevent sudden weight shifts. This design optimizes the center of gravity, weight distribution, overall weight, and dimensional requirements and are manufactured in-house to maintain quality. Will tanks with aluminum construction be acceptable?
 - a. Requested Change: The water tanks shall be constructed of corrosion resistant, durable, crosslinked polyethylene or aluminum to eliminate rust, corrosion, and stress cracking.

Delete "polyethylene" from paragraph no. 2 under Water Supply and replace with "polyethylene or aluminum".

- 18. Appendix A, Page 6, Water Supply, Item 8: The product we intend to bid utilizes metallic water tanks that are not susceptible to damage from impact and flex damage like polyethylene tanks are, thus 11 gauge steel guards simply are not necessary. Will metallic tank construction serve as an acceptable substitute for guarding against road hazards?
 - a. Requested Change: If plastic tanks are to be utilized the water tanks shall be protected by a minimum of 11-gauge steel plating mounted below the water tanks for protection against road hazards when unit travels over the road, off the road or to landfills. Not required for tanks made of aluminum.

Add the following to paragraph 8 under Water Supply "This item is not applicable for tanks constructed of aluminum."

- 19. Appendix A, Page 6, Water Supply, Item 9: Is a 10 year water tank warranty acceptable?
 - a. Requested Change: The water tanks shall carry a minimum 10 year warranty.

Yes, this is acceptable. Language in the bid spec will remain the same.

20. Appendix A, Page 7, Auxiliary Engine – If Supplied (Water Pump Drive Engine): This item is exclusive to one specific manufacturer. The product we intend to bid utilizes a single engine design. We highly recommend a single engine machine vs a machine with an auxiliary engine. Every sewer cleaner manufacturer with the exception of one only offers single engine machines. The offering of this antiquated design creates an unfair price advantage to the gas engine. The manufacturer that offers dual engine, also offers a diesel aux engine model and a single engine model. We recommend requiring a single engine model machine only and eliminating the option for a 2 engine design.

Reasons for Single Engine Technology in a combination sewer cleaner featuring a centrifugal fan system.

- Tier 4 engine emission requirements have significantly increased the cost of auxiliary engine driven units and limited the number of manufacturers that continue to offer this product to one.
- Single Engine technology makes better use of the efficiencies and power capability of the chassis engine and increases performance of the centrifugal fan system.
- Single engine technology reduces the maintenance and upkeep cost of the older dual engine designs.
- Single engine technology allows for better weight management of the machine and provides greater legal load capacities.
- Single engine technology in centrifugal fan sewer cleaners is proven over five years of production and have over 1,000 units in use. There are over 100 Single Engine Centrifugal Fan Sewer Cleaners in use in the Chicagoland area.
- The largest producer of Centrifugal Fan Sewer Cleaner uses this technology.
 - a. Requested Change: Eliminate the Dual Engine Option.

Either single or dual engine design is acceptable.

- 21. Appendix A, Page 7, High Pressure Water Pump, Item 5: The specification explains the drive system of a dual engine machine, but does not specify the water pump drive system of a single engine machine. The product we intent to bid is a single engine design with a single piston water pump that is powered by the central hydraulic system, independent of the vacuum system. Is this design acceptable?
 - a. Requested Change: Eliminate this line item.

Delete paragraph 5 under High Pressure Water Pump in its entirety.

- 22. Appendix A, Page 8, High Pressure Water Pump, Item 6: The specification for high pressure water pump warranty refers to the "water pump drive system". Does the "water pump drive system" refer to the water pump itself, or to the means that the water pump is energized and actuated? It could be interpreted that this requirement refers to one specific manufacturer that is the only company that builds a dual engine machine and uses a belt driven pump, thus this may only be a 5 year belt warranty, not the entire drive system as it is stated specifically that the auxiliary engine is excluded from this warranty requirement. Is the 5 year warranty only covering the belt on machines with dual engines, not the entire drive system. It is unfair to ask that one design is covering belt replacement for 5 years while all others would be warranting a hydraulic drive system.
 - a. Recommended Change: Eliminate this item or provide greater clarity.

This item is specific to the drive belt. This item is not applicable to equipment that do not include a belt driven water pump.

- 23. Appendix A, Page 8, Hose Reel Assembly, Item 3: The product we intend to bid has the hydraulic hoses located behind an aluminum shroud with steel framework to protect the operator from pinch points and hydraulic oil in the event of a hydraulic hose failure. Is this acceptable?
 - a. Requested Change: The hose reel is hydraulically powered in both directions by means of a double chain and sprocket drive. The controls for operating the motor have a speed control device to regulate the rotational speed of the reel in both directions. All hydraulic hoses are behind a steel or aluminum housing to protect operator from hydraulic oil if a hose fails.

Remove "steel" from the last sentence of paragraph no. 2 under Hose Reel Assembly and replace with "steel or aluminum".

- 24. Appendix A, Page 8, Hose Reel Assembly, Item 6: This spec item potentially places the operator in the road during operation of the machine. The unit we intend to bid by design will not extend the hose reel outside the width of the truck for safety of the operator. Will this be acceptable?
 - a. Recommended Change: Eliminate this spec item.

Remove paragraph 6 under Hose Reel Assembly in its entirety.

- 25. Appendix A, Page 8, Hose Reel Assembly, Item 7: This item is exclusive to one specific manufacturer. The product we intend to bid has a hose reel that is supported completely by the chassis frame and does not require the addition of an outrigger leg for support. This design has been in production for decades and is widely recognized as a superior design. Is a hose reel supported by the frame without the need for an outrigger leg acceptable?
 - a. Recommended Change: Eliminate this requirement as it is design specific.

Eliminate paragraph 7 under Hose Reel Assembly in its entirety.

26. Appendix A, Page 8, Hose Reel Assembly: Is item # 9 in this section intentionally omitted?

The absence of paragraph labeled no. 9 is a clerical error and has no bearing on the specifications.

27. Appendix A, Page 8, Hose Reel Assembly, Item 10: Is the dual roller level wind guide to be automatic, or manually operated?

Add the following to paragraph no. 10 under Hose Reel Assembly "The dual roller level wind guide shall be manually operated."

28. Appendix A: Is there supposed to be a page # 10?

The absence of a page no. 10 is a clerical error and has no bearing on the bid specifications.

- 29. Appendix A, Page 11, Additional Equipment and Accessories, Item 2: The product we intend to bid offers aluminum toolboxes in the following sizes: 24"x24"x24" on the driver side and 30"x18"x24" on the passenger side. Are these toolbox sizes acceptable?
 - a. Requested Change: Use tool box volume vs. specific dimensions.

Delete paragraph no. 2 under Additional Equipment and Accessories and replace with the following: "(2) aluminum side mounted tool boxes on each side with minimum dimensions of 24"x18"X18""

- 30. Appendix A, Page 11, Additional Equipment and Accessories, Item 3: The product we intend to bid has an aluminum behind cab storage box measuring 16" wide x 30" tall x 96" deep. Is this acceptable?
 - a. Requested Change: Use tool box volume vs. specific dimensions.

Delete paragraph 3 under Additional Equipment and Accessories and replace with the following "Aluminum storage box behind cab with minimum dimensions of 16"X30"X96"."

- 31. Appendix A, Page 11, Additional Equipment and Accessories, Item 6: We are able to locate a cone storage rack on the street side at either the front or rear of the truck. The "deck" location specified is unclear. Is our standard cone storage rack location at or below the frame height acceptable?
 - a. Requested Change: Cone storage rack, located street side

Remove "deck" from paragraph 6 under Additional Equipment and Accessories.

- 32. Appendix A, Page 11, Additional Equipment and Accessories, Item 15: The product we intend to bid does not require, nor offer a compressor quiet package option due to the efficient design and removal of turbulence in their air conveyance system and centrifugal compressor. We request that is be changed to only require a compressor quiet package for a machine with an auxiliary engine and omit this requirement for a single engine machine.
 - a. Requested Change: For Aux Engine Units Only a Vacuum compressor quiet package, replacing existing compressor exhaust diffuser, reduces discharge noise lower than other typical noise generated by other equipment on the chassis. It reduces compressor discharge noise by 5 dBA and stabilizes full vacuum air lift for increased performance. Constructed of 304 stainless steel.

Add "This requirement is specific to auxiliary engine configured machines and is not required for single engine machines."

- 33. Appendix A, Page 12, Electrical and Lighting, Item 3, E: The product we intend to bid displays fan speed. This is essentially the same thing as vacuum level. Is this acceptable?
 - a. Requested Change: Vacuum Level or Fan Speed

Add "or fan speed" to paragraph no. 3 under Electrical and Lighting

- 34. Appendix A, Page 12, Electrical and Lighting, Items 11-14: The specification calls for Whelen brand lights. Are Whelen brand required or are equivalent lights from other manufacturers such as Federal Signal also acceptable?
 - a. Requested Change: add or approved Equal to each line.

Equivalent lighting products supplied by Federal Signal are an approved equal.

- 35. Appendix A, Page 13, Paint, Item 3: Is this intended to state that the Cab must match the body with a standard black frame, or the cab and chassis, including frame yellow to match the body?
 - a. Requested Change: Specify if both Cab and Chassis are to be painted.

The frame shall be painted black. The cab and body shall be painted School Bus Yellow.

36. Appendix A, Page 14, Engine Equipment, Item 26: The product we intend to bid does not use a front mount PTO, thus no FEPTO provision is required. If our machine does not require this option, is it acceptable to omit this item.

Add the following to paragraph no. 26 under Engine Equipment: "if PTO is supplied"

37. Appendix A, Page 14, Front Axle and Equipment, Item 1: Is a Detroit brand front axle required, or is a Meritor front axle with a minimum 20,000 lb capacity acceptable?

Add the following to paragraph no. I under Front Axle and Equipment: "or equivalent equipment as manufactured by Meritor."

38. Appendix A, Page 16, Wheelbase & Frame, Item 1: Is a 261" wheelbase in lieu of a 264" acceptable?

Paragraph no. 1 under Wheelbase and Frame remove 264" and replace with minimum of 261"

39. Appendix A, Page 16, Wheelbase & Frame, Item 4: The product we intend to bid has a 24" OEM front frame extension. Is a 24" front frame extension acceptable?

Add "Minimum" to the beginning of paragraph 4 under Wheelbase and Frame.

40. Appendix A, Page 16, Wheelbase & Frame, Item 5: Is a 195" CA dimension acceptable?

Add "or 195" to the end of paragraph 5 under Wheelbase and Frame.

41. Appendix A, Page 17, Tires and Wheels, Item 1 &2: Are Continental brand tires required, or are tires with a similar tread pattern from another brand such as Goodyear or Michelin be accepted?

Add "or equivalent" to paragraphs no. 1 and no. 2 under Tires and Wheels.

42. The machine shall be of either dual or single engine configuration supplying the required horsepower to operate both the vacuum and water systems at maximum performance levels with required 10% reserve. A minimum of 370HP shall be supplied.

Statement:

370HP is not enough horsepower to operate all the systems specified at maximum performance levels. For example there are numerous items on the chassis and body that operate and the advertised horsepower from the engine manufacture isn't accurate to gauge actual requirements.

Note the following equipment requirements:

Vacuum System (2 or 3-Stage competitive types)	185 HP
Water System (80 GPM @ 2,500 PSI)	137 HP
Hydraulic System (boom, hose reel, etc)	20 HP
Drive System Mechanical inefficiencies	15 HP
Chassis components, parasitic losses	50 HP
(engine cooling fan, air compressor, electrical, etc)	
Recommended 10% Reserve Factor	41 HP
Total Horsepower Requirement Needed	448 HP

Allowing a single engine chassis with 370HP to be bid on the required performance parameters stated in this bid would not meet the performance requirements.

The 370HP requirement listed in the specifications is a minimum. Actual horse power required will be dependent on the design of the machine being proposed and could be higher than 370HP.

City of Aurora

Finance Department | Purchasing Division 44 E Downer Place | Aurora, Illinois & 60507

Phone: (630) 256-3550 | Fax: (630) 256-3559 | Web: www.aurora-il.org



DATE: September 18, 2020

TO: Prospective Bidders

FROM: Jolene Coulter, Director of Purchasing

RE: CITY OF AURORA INVITATION TO BID 20-47 – Addendum #2

Purchase of One Combination Sewer Cleaner

This notice forms a part of the Invitation to Bid 20-47: Purchase of One (1) Combination Sewer Cleaner for the Water and Sewer Division. All other information pertaining to this Invitation to Bid shall remain the same.

Bidder must submit an original proposal response, marked as "original" and shall have provided all requested information, and submitted all appropriate forms, certificates, affidavits and addendum acknowledgements in each copy in order to be considered responsive.

DUE DATE CHANGE: Sealed Bid Proposals will be received at the Purchasing Division office, 44 East Downer Place, Aurora, Illinois 60507, until 2:00 pm, CST, Wednesday, September 30, 2020 to determine proposals for the anticipated above named purchase.

City Hall is open to the public on Monday, Wednesday and Friday, but is accepting deliveries Monday through Friday 8:00 am - 5:00 pm.

Bid proposals will be opened via a non-mandatory teleconferenced live stream at 2:00 pm. Zoom information for this opening will be posted 24-48 hours prior.

Please acknowledge this addendum on your bid proposal form. Failure to do so may subject Bidder to disqualification.

City of Aurora

Finance Department | Purchasing Division 44 E Downer Place | Aurora, Illinois & 60507

Phone: (630) 256-3550 | Fax: (630) 256-3559 | Web: www.aurora-il.org



DATE: September 23, 2020

TO: Prospective Bidders

FROM: Jolene Coulter, Director of Purchasing

RE: CITY OF AURORA INVITATION TO BID 20-47 – Addendum #3

Purchase of One Combination Sewer Cleaner

This notice forms a part of the Invitation to Bid 20-47: Purchase of One (1) Combination Sewer Cleaner for the Water and Sewer Division. All other information pertaining to this Invitation to Bid shall remain the same.

Bidder must submit an original proposal response, marked as "original" and shall have provided all requested information, and submitted all appropriate forms, certificates, affidavits and addendum acknowledgements in each copy in order to be considered responsive.

DUE DATE CHANGE: Sealed Bid Proposals will be received at the Purchasing Division office, 44 East Downer Place, Aurora, Illinois 60507, until 2:00 pm, CST, Wednesday, September 30, 2020 to determine proposals for the anticipated above named purchase.

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Please acknowledge this addendum on your bid proposal form. Failure to do so may subject Bidder to disqualification.

Response to clarification question on Addendum #1:

I am writing to request clarification on the City of Aurora's response to item 19 located on page 5 of Addendum 1. The question and requested change submitted was "Is a 10 year water tank warranty acceptable? Requested change: The water tanks shall carry a minimum 10 year warranty." The answer reads as follows: "Yes, this is acceptable. Language in the bid spec will remain the same." I would like to clarify that this answer is intended to be interpreted that yes, a minimum 10 year water tank warranty is acceptable.

Yes, a minimum 10 year warranty is acceptable.



Vac-Con Advantages Dual Engine versus Single Engine

Vac-Con Dual Engine Machine with Auxiliary Engine Water Pump Drive

- ✓ More total horsepower between the two engines allows greater horsepower reserves. Less required engine load leads to longer engine life and reduced fuel consumption. 578HP total as quoted with Freightliner chassis versus single engine drive of 370HP.
- ✓ Infinite independent control of water and vacuum functions with dual engine, Vac-Con can even shut off the chassis and still operate water and hydraulic functions leading to greater fuel savings and reduced cost of operation.
- ✓ Superior winter operations with auxiliary engine water pump drive. The independent auxiliary engine allows constant and full flow winter re-circulation capability regardless of vehicle speed. We offer main hose reel and handgun reel re-circulation capability.
- ✓ Auxiliary engine is a Gasoline fueled Chevy V-8 offering <u>reliable</u> and <u>quiet operation</u> with considerably less fuel consumption. Our total fuel consumption rates will be considerably less than an equally equipped single engine design operating under higher constant loads. This offers increased return on investment due to lower cost of operation. See attached chart showing fuel cost saving capabilities.

Water Pump

- ✓ Triplex smooth flow water pump does not have the pulsation inherent with the single piston pumps. Sewer hose and handgun operations remain smooth across full pressure range.
- ✓ Offering 2,500 or 3,000 PSI maximum and variable operating pressure which offers increased efficiency with lower flow rates. 3,000 PSI offer additional scouring power or cutting ability with the lance in various applications. The lower 50-60GPM flow rate offers longer run times per tank resulting in more time on the job working.
- ✓ Ease of maintenance and lower cost to replace wear such as packings and valves. The pump can be serviced without having to remove it from the truck.

Water Tanks

✓ Non-metallic corrosion proof water tanks with <u>lifetime warranty</u>

Vacuum System

- Compared to the Vactor 2-Stage, the Vac-Con 3-Stage fans offers increased vacuum performance with increased negative pressure ratings. This leads to increased loading rates and efficiency. The only fan in the industry that will vacuum underwater!
- ✓ Hydrostatic <u>optional</u> fan system drive via OMSI transfer case allows full vacuum performance at lower 1250 RPM. This also offers more quiet and safe operations and reduced fuel consumption rates.

EJ Equipment Dealer Support

- ✓ EJ Equipment has been a Vac-Con dealer for over 20 Years. Our company growth now offers three sales, service, rental and parts locations in Illinois located in Addison, Manteno and Troy. Our 22 technicians allow us to quickly react to your needs.
- ✓ EJ Equipment specializes in the underground industry with maintenance, excavation and inspection product lines.
- ✓ Vac-Con is an employee owned company and a subsidiary of Holden Industries headquartered in Deerfield, IL. Other Holden companies are located in Waukegan and Gurnee, IL employing hundreds of Illinoisans.



FUEL CONSUMPSION SAVINGS

Vac-Con Dual Engine with Gas Driven Water System and competitive Single Engine Driven Combination Trucks Chassis Remote Start/Stop Feature in comparison to

Engine GPH Vac-Con Pony for Jetting GPH Fuel Savings GPH Fuel Savings Per Hour Operation Per Hour Operation Per Year Per	Single		Fuel Saving			Fuel Savings		
3 11 \$3 \$132 260 3 10 \$3 \$30 \$120 260 3 9 \$3 \$27 \$108 260 3 8 \$3 \$24 \$96 260 3 7 \$3 \$21 \$84 260	Engine GPH	Vac-Con Pony Motor GPH	for Jetting GPH	Gas Price	Fuel Savings Per Hour	Per 4 hr Operation	Work Days Per Year	Fuel Savings Per Year
3 10 \$3 \$120 260 3 9 \$3 \$27 \$108 260 3 8 \$3 \$24 \$96 260 3 7 \$3 \$21 \$84 260	14	က	11	\$3	\$33	\$132	260	\$34,320
3 9 \$3 \$27 \$108 260 3 8 \$3 \$24 \$96 260 3 7 \$3 \$21 \$84 260	13	က	10	\$3	\$30	\$120	260	\$31,200
3 8 \$3 \$24 \$96 260 3 7 \$3 \$21 \$84 260	12	3	6	\$3	\$27	\$108	260	\$28,080
3 7 \$3 \$21 \$84 260	11	3	8	\$3	\$24	96\$	260	\$24,960
	10	3	7	\$3	\$21	\$84	260	\$21,840

Did you know...

Vac-Con is a wholly owned subsidiary of Holden Industries, headquartered in Deerfield, Illinois.



Holden Industries is the parent organization of a group of diversified manufacturing companies located throughout the U.S.A., including:

Vac-Con: A worldwide supplier of truck-mounted vacuum and high-pressure water systems.

Manufacturing facility located in Green Cove Springs, FL with an export subsidiary located in Deerfield, IL.

Nosco: A leading provider of printed packaging solutions.

Setco

Locations in Waukegan, IL, Gurnee, IL, Carrollton, TX, and Bristol, PA.

: The largest independent manufacturer of precision spindles and slides in N. America. Locations in Cincinatti, OH, Novi, MI, Suwanee, GA, and Huntington Beach, CA

Vector: A manufacturer of high-powered trailer-mounted industrial vacuum systems.

Located in Milwaukee, WI.

Wildeck: Industry leader in manufacturing of industrial work platforms.

Locations in Waukesha, WI and Goodyear, AZ.





Warranty - Dual Engine PD

VAC-CON, as seller, warrants all equipment manufactured by it and bearing its name shall be free from defects in material and workmanship, under normal use and service as determined by us, for a period of (12) twelve months from the date of delivery to the first retail purchaser.

Should any equipment or part of such equipment sold hereunder prove to be defective in material or workmanship within said period, and be returned to Seller's factory no later than 15 days after the expiration date of the warranty, transportation charges prepaid by the Buyer, and upon examination be found to be defective, such part will be replaced at the factory by the Seller free of charge, but the Seller shall be under no further liability in respect to such warranty. It is expressly understood that the Seller's liability is limited to furnishing of such replacement parts within a reasonable length of time and that the Seller will not be liable for any damages, losses or expenses arising in connection with the use of or inability to use the unit(s), including but not limited to, injuries to persons or damage to property, loss of profits or anticipated profits, or loss of vehicle use. Buyer shall be responsible for the payment of duties or taxes on warranty parts, if applicable. The Seller shall be under no liability because of normal wear and tear of operation or maintenance contrary to the manufacturer's official Operator's Manual. The Buyer accepts any liability for damage or injury resulting from the removal or alteration of safety guards and safety precautions provided on the unit at the time of delivery. This warranty shall not apply and VAC-CON shall have no liability under it or otherwise if the unit shall have been injured by accident, careless handling or improper applications or if any repairs have been made to the unit by other than VAC-CON, its agents or employees.

Warranties covering major components not of VAC-CON manufacture (power plants, hydraulics, trucks, vacuum compressors, transmissions, electrical components, batteries, tires, etc.) are warranted by their respective manufacturers.

We give no warranty express or implied, as to description, quality, productiveness or any other matter and the Buyer hereby waives the right of refusal and return of the goods which is usually connected with non-warranty.

It is the sole responsibility of the purchaser to use this equipment in an appropriate application and a safe manner. VAC-CON assumes no responsibility or liability for its misuse.

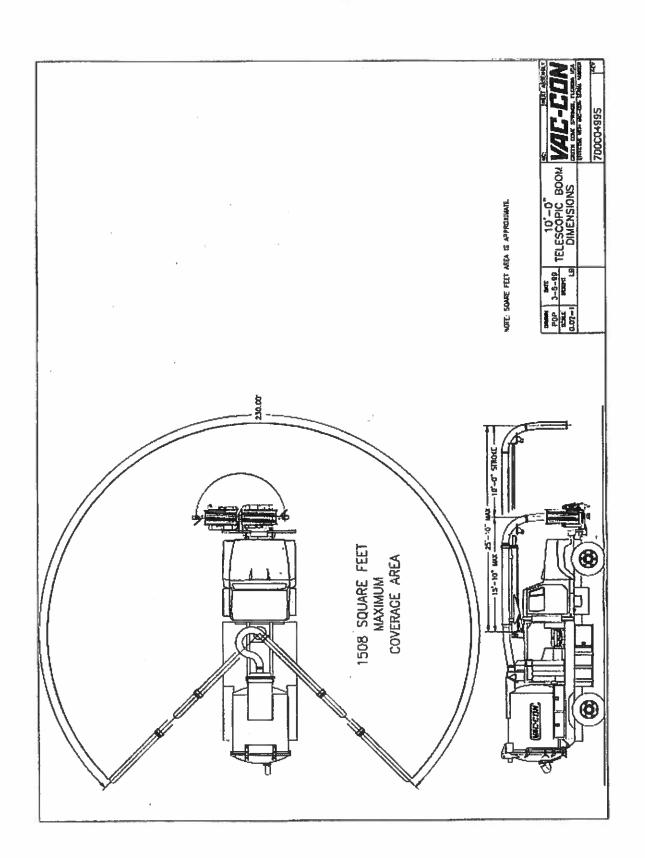
FIVE (5) YEAR WARRANTY:

VAC-CON warrants that the auxiliary engine water pump drive components (excluding engine and pump) and debris tank shall be free from defects in material and workmanship, under normal use and service as determined by the manufacturer, for a period of sixty (60) months (not pro-rated) from the date the unit is first placed into service.

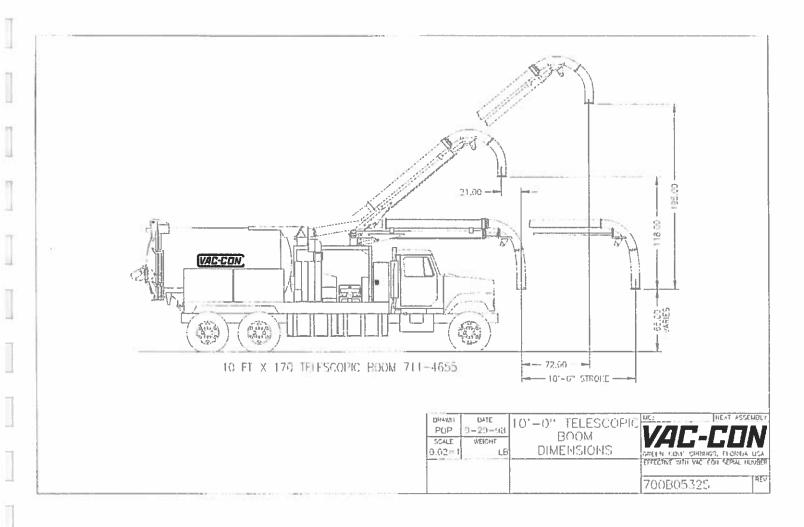
TEN (10) YEAR WARRANTY:

VAC-CON warrants that the fresh water tanks shall be free from defects in material and workmanship, under normal use and service as determined by the manufacturer, for a period of one hundred twenty (120) months (not pro-rated) from the date the unit is first placed into service.

This warranty is not transferable.



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NATIONAL COUNCIL

JOIN FORCES, SUCCEED TOGETHER,

hereby grants

Mational Women's Business Enterprise Certification

t 2

E.J. Equipment, Inc.

This certification affirms the business is woman-owned, operated and controlled and is valid through the date herein. who has successfully met WBENC's standards as a Women's Business Enterprise (WBE)

Certification Granted: May 27, 2020 Expiration Date: May 31, 2021

WBENC National Certification Number: WBÉ2001295

WBENC National WBE Certification was processed and validated by Women's Business Development Center - Midwest, a WBENC Regional Partner Organization.



Authorized by Emilia DiMenco, President & CEO Women's Business Development Center - Midwest

NAICS: 441228 UNSPSC: 25101600, 25191700, 78180100



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Build Sheet Vac-Con Dual Engine Model V312HE/1300LAP

Main Information

Model 312HE/1300

Blower 3-Stage Centrifugal, Hydrostatic Drive

Boom 10' Aluminum Telescoping Boom with Pendant Control Station Hose Reel Front Mounted, Articulating to Driver Side, 800' (1") Capacity

Jet Rodder Hose 800' x 1" Jet Rodder Hose

Water System 80 GPM/2500 PSI, Auxiliary Engine Drive, GM 8.8 GAS 208 HP with Aux Engine

Hydraulics

Debris Body Options

Qty Description

- 1 6" Knife Valve with Center Post and Handle
- 1 A Flat Style Rear Door Including Hydraulic Opener
- 1 Built in Body Prop
- 1 Rear Splash Shield Rear Flange Mounted
- 1 Screen assembly over drain port

Water System Options

Qty Description

- 1 1/4 turn ball valve water tank drain
- 1 Air Purge Winterization System
- 1 Debris Body "Power Flush" System, 8 jets
- Hydro-excavation Package includes: 50' x ½" spring retractable hose reel, 72" X ½" Lance with single spray nozzle, pressure unloading valve with main control valve and variable flow
- 1 Pre-Tank Water Filter (In-line)
- 1 Variable Flow Valve (Valve Only)
- 1 Winter Recirculating connection for high pressure circuit
- 1 Winter Recirculating System for Rodder Hose
- 1 1" x 20' Length Leader Hose
- 1 1" Nozzle rack

Misc Machine Options

Qty Description

- 1 Auxiliary Engine Remote Oil Drain
- 1 Centrifugal Compressor Quiet Silencer, Class 4, 304 Stainless Steel Construction
- 1 Cone Storage Rack

- 1 Front and Rear Mounted Tow Hooks
- 1 Remote Boom Grease Zerk Assembly (Ground Level includes water pump drive)
- 1 Remote Debris Tank Grease Assembly (Ground Level)
- 1 Headache Rack in lieu of Boom Tie Down

Lighting Options

Qty Description

- 1 LED Arrow stick Whelen TAM85 Traffic Advisor
- 1 LED Boom Mounted Flood Lights with Limb Guard Whelen Worklight
- 1 LED Midbody Flood Lights with guards Whelen (Driverside and Curbside)
- 1 LED Rear Mounted Flood Lights with Limb Guard Whelen Worklight
- 1 LED 4 Strobes (2) MID-SHIP / (2) rear bumper Whelen
- 2 Mirror Mounted LED Beacon/Strobe Light with Limb Guard Whelen LED Beacon with Branch Guard

Electrical Options

Qty Description

- 1 Back Up Alarm
- 1 Low Water Alarm with Light
- Omnibus Precision Power System Electronic Controller System Includes: 7" color monitor, electronic footage counter, and pressure compensated hydraulics.
- 1 Remote Control (Wireless): Boom, Vacuum Breaker, Throttle & Debris Body
- 1 Traffic Camera with Color Monitor Rear Camera Placement

Pipe & Storage Racks

Qty Description

- 2 Additional Pipe Rack
- 1 Lazy Susan Pipe Rack (Holds 5 Pipes)
- 1 20.5' x 8" Pipe Extensions with clamps: (1)-6.5' CB, (1)-6', (1)-5', (1)-3'

Tool/Storage Boxes

Qty Description

- 1 (2) 24x18x18 Aluminum Toolbox
- 1 (2) Roll out shelves for storage box behind cab
- 1 Long Handle Storage Placement Storage Box Under Shelf
- 1 Aluminum Storage Box Behind Cab, 96" x 42" x 16"

Paint

Qty Description

- 1 Paint Module: Single-Stage Polyurethane Elite School Bus Yellow (PPG code: 916352)
- Standard Striping Package

Truck Chassis Information

Make 2021 Freightliner

Model F114SD
Engine Make and Model Cummins L9
Engine HP and RPM 370HP
Transmission Make and Model 3000RDS

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A proposal for
City of Aurora
Customer Draft # 2

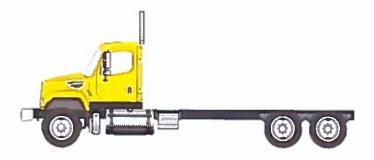
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Duane Schaefer

Sep 10, 2020

Freightliner 114SD



Components shown may not reflect all spec'd options and are not to scale

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SPECIFICATION PROPOSAL

Description

Price Level

SD PRL-23D (EFF:01/21/20)

Data Version

SPECPRO21 DATA RELEASE VER 033

Vehicle Configuration

114SD CONVENTIONAL CHASSIS 2022 MODEL YEAR SPECIFIED SET FORWARD AXLE - TRUCK STRAIGHT TRUCK PROVISION LH PRIMARY STEERING LOCATION

General Service

TRUCK CONFIGURATION

DOMICILED, USA 50 STATES (INCLUDING CALIFORNIA AND CARB OPT-IN STATES)

UTILITY/REPAIR/MAINTENANCE SERVICE

GOVERNMENT BUSINESS SEGMENT

LIQUID BULK COMMODITY

TERRAIN/DUTY: 100% (ALL) OF THE TIME, IN TRANSIT, IS SPENT ON PAVED ROADS

MAXIMUM 8% EXPECTED GRADE

SMOOTH CONCRETE OR ASPHALT PAVEMENT -MOST SEVERE IN-TRANSIT (BETWEEN SITES) ROAD SURFACE

FREIGHTLINER LEVEL II WARRANTY

EXPECTED FRONT AXLE(S) LOAD: 20000.0 lbs

EXPECTED REAR DRIVE AXLE(S) LOAD:

46000.0 lbs

EXPECTED GROSS VEHICLE WEIGHT CAPACITY: 66000.0 lbs

Truck Service

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Description

SEWER/INDUSTRIAL VACUUM BODY

VAC CON

Engine

CUM L9 370 HP @ 2000 RPM, 2100 GOV RPM, 1250 LB/FT @ 1400 RPM

Electronic Parameters

70 MPH ROAD SPEED LIMIT

CRUISE CONTROL SPEED LIMIT SAME AS ROAD

SPEED LIMIT

PTO MODE ENGINE RPM LIMIT - 1200 RPM

PTO MODE THROTTLE OVERRIDE - LIMIT TO

1400 RPM

PTO MODE BRAKE OVERRIDE - SERVICE

BRAKE APPLIED

PTO RPM WITH CRUISE SET SWITCH - 1200

RPM

PTO RPM WITH CRUISE RESUME SWITCH - 1200

RPM

PTO MODE CANCEL VEHICLE SPEED - 5 MPH

PTO GOVERNOR RAMP RATE - 200 RPM PER

SECOND

PTO MINIMUM RPM - 700

REGEN INHIBIT SPEED THRESHOLD - 5 MPH

Engine Equipment

2016-2019 ONBOARD DIAGNOSTICS/2010 EPA/CARB/FINAL GHG17 CONFIGURATION

2008 CARB EMISSION CERTIFICATION - CLEAN IDLE (INCLUDES 6X4 INCH LABEL ON LOWER FORWARD CORNER OF DRIVER DOOR)

STANDARD OIL PAN

OIL FILL AND DIPSTICK LOCATED FOR ENHANCED SERVICEABILITY

SIDE OF HOOD AIR INTAKE WITH DONALDSON HIGH CAPACITY AIR CLEANER WITH SAFETY ELEMENT, FIREWALL MOUNTED

DR 12V 160 AMP 28-SI QUADRAMOUNT PAD ALTERNATOR WITH REMOTE BATTERY VOLT SENSE

(2) DTNA GENUINE, FLOODED STARTING, MIN 2000CCA, 370RC, THREADED STUD BATTERIES

BATTERY BOX FRAME MOUNTED

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Description

STANDARD BATTERY JUMPERS

SINGLE BATTERY BOX FRAME MOUNTED LH SIDE BACK OF CAB

WIRE GROUND RETURN FOR BATTERY CABLES WITH ADDITIONAL FRAME GROUND RETURN

NON-POLISHED BATTERY BOX COVER

POSITIVE LOAD DISCONNECT WITH CAB MOUNTED CONTROL SWITCH MOUNTED OUTBOARD DRIVER SEAT

POSITIVE AND NEGATIVE POSTS FOR JUMPSTART LOCATED ON FRAME NEXT TO STARTER

CUMMINS TURBOCHARGED 18.7 CFM AIR COMPRESSOR WITH INTERNAL SAFETY VALVE

ELECTRONIC ENGINE INTEGRAL WARNING AND DERATE PROTECTION SYSTEM

CUMMINS ENGINE INTEGRAL BRAKE WITH VARIABLE GEOMETRY TURBO ON/OFF

RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH B-PILLAR MOUNTED VERTICAL TAILPIPE

ENGINE AFTERTREATMENT DEVICE, AUTOMATIC OVER THE ROAD REGENERATION AND DASH MOUNTED REGENERATION REQUEST SWITCH

INTEGRATED STACK AND B-PILLAR PIPE WITH MINIMUM STACK PROTRUSION ABOVE CAB

RH CURVED VERTICAL TAILPIPE B-PILLAR MOUNTED ROUTED FROM STEP

6 GALLON DIESEL EXHAUST FLUID TANK

100 PERCENT DIESEL EXHAUST FLUID FILL

STANDARD DIESEL EXHAUST FLUID PUMP MOUNTING

LH MEDIUM DUTY STANDARD DIESEL EXHAUST FLUID TANK LOCATION

STANDARD DIESEL EXHAUST FLUID TANK CAP

ALUMINUM AFTERTREATMENT
DEVICE/MUFFLER/TAILPIPE SHIELD(S)

HORTON 2-SPEED DRIVEMASTER ADVANTAGE POLAREXTREME FAN DRIVE

AUTOMATIC FAN CONTROL WITH DASH SWITCH AND INDICATOR LIGHT, NON ENGINE MOUNTED

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Description

CUMMINS SPIN ON FUEL FILTER

COMBINATION FULL FLOW/BYPASS OIL FILTER

1300 SQUARE INCH ALUMINUM RADIATOR

ANTIFREEZE TO -34F, OAT (NITRITE AND SILICATE FREE) EXTENDED LIFE COOLANT

GATES BLUE STRIPE COOLANT HOSES OR

EQUIVALENT

CONSTANT TENSION HOSE CLAMPS FOR

COOLANT HOSES

RADIATOR DRAIN VALVE

1350 ADAPTER FLANGE FOR FRONT PTO

PROVISION

ELECTRIC GRID AIR INTAKE WARMER

DELCO 12V 38MT HD STARTER WITH INTEGRATED MAGNETIC SWITCH

Transmission

ALLISON 3000 RDS AUTOMATIC TRANSMISSION WITH PTO PROVISION

Transmission Equipment

ALLISON VOCATIONAL PACKAGE 223 -AVAILABLE ON 3000/4000 PRODUCT FAMILIES WITH VOCATIONAL MODELS RDS, HS, MH AND TRV

ALLISON VOCATIONAL RATING FOR ON/OFF HIGHWAY APPLICATIONS AVAILABLE WITH ALL PRODUCT FAMILIES

PRIMARY MODE GEARS, LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 6, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY

SECONDARY MODE GEARS, LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 6, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY

S5 PERFORMANCE LIMITING PRIMARY SHIFT SCHEDULE, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY

S5 PERFORMANCE LIMITING SECONDARY SHIFT SCHEDULE, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY

2100 RPM PRIMARY MODE SHIFT SPEED 2100 RPM SECONDARY MODE SHIFT SPEED FUEL SENSE 2.0 DISABLED - PERFORMANCE -TABLE BASED

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Description

DRIVER SWITCH INPUT - DEFAULT - NO SWITCHES

DIRECTION CHANGE ENABLED WITH MULTIPLEXED SERVICE BRAKES - ALLISON 5TH GEN TRANSMISSIONS

VEHICLE INTERFACE WIRING CONNECTOR WITHOUT BLUNT CUTS, AT END OF FRAME

ELECTRONIC TRANSMISSION CUSTOMER ACCESS CONNECTOR FIREWALL MOUNTED

CUSTOMER INSTALLED CHELSEA 277 SERIES PTO

PTO MOUNTING, LH SIDE OF MAIN TRANSMISSION

MAGNETIC PLUGS, ENGINE DRAIN, TRANSMISSION DRAIN, AXLE(S) FILL AND DRAIN

PUSH BUTTON ELECTRONIC SHIFT CONTROL, DASH MOUNTED

TRANSMISSION PROGNOSTICS - ENABLED 2013

WATER TO OIL TRANSMISSION COOLER, IN RADIATOR END TANK

TRANSMISSION OIL CHECK AND FILL WITH ELECTRONIC OIL LEVEL CHECK

SYNTHETIC TRANSMISSION FLUID (TES-295 COMPLIANT)

Front Axle and Equipment

DETROIT DA-F-20.0-5 20,000# FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE

MERITOR 16.5X6 Q+ CAST SPIDER CAM FRONT BRAKES, DOUBLE ANCHOR, FABRICATED SHOES

NON-ASBESTOS FRONT BRAKE LINING

CAST IRON OUTBOARD FRONT BRAKE DRUMS

FRONT BRAKE DUST SHIELDS

FRONT OIL SEALS

VENTED FRONT HUB CAPS WITH WINDOW, CENTER AND SIDE PLUGS - OIL

STANDARD SPINDLE NUTS FOR ALL AXLES

MERITOR AUTOMATIC FRONT SLACK ADJUSTERS

STANDARD KING PIN BUSHINGS

TRW THP-60 POWER STEERING WITH RCH45 AUXILIARY GEAR

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Description

POWER STEERING PUMP

4 QUART POWER STEERING RESERVOIR
OIL/AIR POWER STEERING COOLER MOUNTED
ABOVE FRONT CLOSING CROSSMEMBER

MINERAL SAE 80/90 FRONT AXLE LUBE

Front Suspension

20,000# FLAT LEAF FRONT SUSPENSION

GRAPHITE BRONZE BUSHINGS WITH SEALS -

FRONT SUSPENSION

NO FRONT SUSPENSION OPTIONS

FRONT SHOCK ABSORBERS

Rear Axle and Equipment

RT-46-160 46,000# R-SERIES TANDEM REAR AXLE

5.63 REAR AXLE RATIO

IRON REAR AXLE CARRIER WITH STANDARD AXLE HOUSING

MXL 176T MERITOR EXTENDED LUBE MAIN DRIVELINE WITH HALF ROUND YOKES

MXL 17T MERITOR EXTENDED LUBE INTERAXLE DRIVELINE WITH HALF ROUND YOKES

(1) INTERAXLE LOCK VALVE FOR TANDEM OR TRIDEM DRIVE AXLES

BLINKING LAMP WITH EACH INTERAXLE LOCK SWITCH, INTERAXLE UNLOCK DEFAULT WITH IGNITION OFF

MERITOR 16.5X7 Q+ CAST SPIDER CAM REAR BRAKES, DOUBLE ANCHOR, FABRICATED SHOES

NON-ASBESTOS REAR BRAKE LINING STANDARD BRAKE CHAMBER LOCATION

CAST IRON OUTBOARD REAR BRAKE DRUMS

REAR BRAKE DUST SHIELDS

REAR OIL SEALS

BENDIX EVERSURE LONGSTROKE 2-DRIVE AXLES SPRING PARKING CHAMBERS

HALDEX AUTOMATIC REAR SLACK ADJUSTERS

MINERAL SAE 80/90 REAR AXLE LUBE STANDARD REAR AXLE BREATHER(S)

Rear Suspension

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Description

HENDRICKSON RT463 @46,000# REAR SUSPENSION

HENDRICKSON RT/RTE - 7,19" SADDLE

STANDARD AXLE SEATS IN AXLE CLAMP GROUP

54 INCH AXLE SPACING

STEEL BEAMS AND BRONZE CENTER BUSHINGS WITH BAR PIN ADJUSTABLE END CONNECTIONS

FORE/AFT CONTROL RODS

Brake System

WABCO 4S/4M ABS

REINFORCED NYLON, FABRIC BRAID AND WIRE

BRAID CHASSIS AIR LINES

FIBER BRAID PARKING BRAKE HOSE

STANDARD BRAKE SYSTEM VALVES

STANDARD AIR SYSTEM PRESSURE

PROTECTION SYSTEM

STANDARD U.S. FRONT BRAKE VALVE WITH

ABS VALVES IN RAILS WITH RH HEAT

SHIELDING

RELAY VALVE WITH 5-8 PSI CRACK PRESSURE,

NO REAR PROPORTIONING VALVE

BW AD-9 BRAKE LINE AIR DRYER WITH HEATER

AIR DRYER MOUNTED OUTBOARD ON RH RAIL

STEEL AIR BRAKE RESERVOIRS

PULL CABLES ON ALL AIR RESERVOIR(S)

Trailer Connections

UPGRADED CHASSIS MULTIPLEXING UNIT

Wheelbase & Frame

6700MM (264 INCH) WHEELBASE

11/32X3-1/2X10-15/16 INCH STEEL FRAME (8.73MMX277.8MM/0.344X10.94 INCH) 120KSI

1/4 INCH (6,35MM) C-CHANNEL INNER FRAME

REINFORCEMENT

2275MM (90 INCH) REAR FRAME OVERHANG

FRAME OVERHANG RANGE: 81 INCH TO 90

INCH

12 INCH INTEGRAL FRONT FRAME EXTENSION

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Description

CALC'D BACK OF CAB TO REAR SUSP C/L (CA): 180.32 in

CALCULATED EFFECTIVE BACK OF CAB TO REAR SUSPENSION C/L (CA): 177.32 in CALC'D FRAME LENGTH - OVERALL: 393.06 CALCULATED FRAME SPACE LH SIDE: 99.01 in CALCULATED FRAME SPACE RH SIDE: 226.18

in

CALC'D SPACE AVAILABLE FOR DECKPLATE: 180.54 in

SQUARE END OF FRAME

FRONT CLOSING CROSSMEMBER

STANDARD WEIGHT ENGINE CROSSMEMBER STANDARD MIDSHIP #1 CROSSMEMBER(S) STANDARD REARMOST CROSSMEMBER STANDARD SUSPENSION CROSSMEMBER

Chassis Equipment

OMIT FRONT BUMPER, CUSTOMER INSTALLED SPECIAL BUMPER, DOES NOT COMPLY WITH FMCSR 393.203

GRADE 8 THREADED HEX HEADED FRAME FASTENERS INSTALLED WITH BOLT HEADS ON OUTSIDE OF FRAME

DRILLING PREP FOR VAC-CON PER DRAWING #670-30226, REVISION C, 04/20/17

Fuel Tanks

100 GALLON/378 LITER ALUMINUM FUEL TANK - LH

25 INCH DIAMETER FUEL TANK(S)

PLAIN ALUMINUM/PAINTED STEEL FUEL/HYDRAULIC TANK(S) WITH PAINTED BANDS

FUEL TANK(S) FORWARD

PLAIN STEP FINISH

FUEL TANK CAP(S)

DETROIT FUEL/WATER SEPARATOR WITH WATER IN FUEL SENSOR, HAND PRIMER AND 12 VOLT PREHEATER

EQUIFLO INBOARD FUEL SYSTEM

AUXILIARY FUEL SUPPLY AND RETURN PORTS LOCATED ON LH FUEL TANK

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Description

HIGH TEMPERATURE REINFORCED NYLON

FUEL LINE

FUEL COOLER

Tires

CONTINENTAL HAC3 425/65R22.5 20 PLY

RADIAL FRONT TIRES

CONTINENTAL HDR2 11R22.5 14 PLY RADIAL

REAR TIRES

Hubs

CONMET PRESET PLUS PREMIUM IRON FRONT

HUBS

CONMET PRESET PLUS PREMIUM IRON REAR

HUBS

Wheels

ALCOA LVL ONE 82462X 22.5X12.25 10-HUB

PILOT 4.68 INSET 10-HAND ALUMINUM DISC

FRONT WHEELS

ALCOA LVL ONE 88267X 22.5X8.25 10-HUB

PILOT ALUMINUM DISC REAR WHEELS

Cab Exterior

114 INCH BBC FLAT ROOF ALUMINUM

CONVENTIONAL CAB

AIR CAB MOUNTING

NONREMOVABLE BUGSCREEN MOUNTED

BEHIND GRILLE

FRONT FENDERS

3-1/2 INCH FENDER EXTENSIONS

LH AND RH GRAB HANDLES

BRIGHT FINISH RADIATOR SHELL/HOOD BEZEL

STATIONARY BLACK GRILLE WITH BRIGHT

ACCENTS

CHROME HOOD MOUNTED AIR INTAKE GRILLE

FIBERGLASS HOOD WITH ACCESS HATCHES

SINGLE 14 INCH ROUND HADLEY AIR HORN

UNDER LH DECK

DUAL ELECTRIC HORNS

SINGLE HORN SHIELD

DOOR LOCKS AND IGNITION SWITCH KEYED

THE SAME

KEY QUANTITY OF 4

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Description

REAR LICENSE PLATE MOUNT END OF FRAME HALOGEN COMPOSITE HEADLAMPS WITH

BRIGHT BEZELS
LED AERODYNAMIC MARKER LIGHTS

DAYTIME RUNNING LIGHTS - LOW BEAM ONLY

GROTE #54332 LED STOP/TAIL/TURN LIGHTS GROMMET MOUNTED WITH SEPARATE GROTE #62401 LED BACKUP LIGHTS

STANDARD FRONT TURN SIGNAL LAMPS

DUAL WEST COAST BRIGHT FINISH HEATED MIRRORS WITH LH AND RH REMOTE

DOOR MOUNTED MIRRORS

102 INCH EQUIPMENT WIDTH

LH AND RH 8 INCH BRIGHT FINISH CONVEX MIRRORS MOUNTED UNDER PRIMARY MIRRORS

STANDARD SIDE/REAR REFLECTORS

RH AFTERTREATMENT SYSTEM CAB ACCESS WITH POLISHED DIAMOND PLATE COVER

63X14 INCH TINTED REAR WINDOW

TINTED DOOR GLASS LH AND RH WITH TINTED NON-OPERATING WING WINDOWS

RH AND LH ELECTRIC POWERED WINDOWS,

PASSENGER SWITCHES ON DOOR(S)

1-PIECE SOLAR GREEN GLASS WINDSHIELD 8 LITER (2 GAL) WINDSHIELD WASHER

RESERVOIR, CAB MOUNTED, WITHOUT FLUID LEVEL INDICATOR

Cab Interior

OPAL GRAY VINYL INTERIOR

MOLDED PLASTIC DOOR PANEL

MOLDED PLASTIC DOOR PANEL

BLACK MATS WITH SINGLE INSULATION

NO DASH MOUNTED ASH TRAYS AND LIGHTER

FORWARD ROOF MOUNTED CONSOLE WITH UPPER STORAGE COMPARTMENTS WITHOUT

NETTING

IN DASH STORAGE BIN

(2) CUP HOLDERS LH AND RH DASH

GRAY/CHARCOAL FLAT DASH

SMART SWITCH EXPANSION MODULE

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Description

HEATER, DEFROSTER AND AIR CONDITIONER

STANDARD HVAC DUCTING

MAIN HVAC CONTROLS WITH RECIRCULATION

SWITCH

STANDARD HEATER PLUMBING

VALEO HEAVY DUTY A/C REFRIGERANT

COMPRESSOR

BINARY CONTROL, R-134A

STANDARD INSULATION

SOLID-STATE CIRCUIT PROTECTION AND

FUSES

12V NEGATIVE GROUND ELECTRICAL SYSTEM

DOME LIGHT WITH 3-WAY SWITCH ACTIVATED

BY LH AND RH DOORS

LH AND RH ELECTRIC DOOR LOCKS

(1) 12 VOLT POWER SUPPLY IN DASH

BASIC HIGH BACK AIR SUSPENSION DRIVER SEAT WITH MECHANICAL LUMBAR AND

INTEGRATED CUSHION EXTENSION

BASIC HIGH BACK AIR SUSPENSION

PASSENGER SEAT WITH MECHANICAL LUMBAR

AND INTEGRATED CUSHION EXTENSION

LH AND RH INTEGRAL DOOR PANEL ARMRESTS

VINYL WITH VINYL INSERT DRIVER SEAT

VINYL WITH VINYL INSERT PASSENGER SEAT

BLACK SEAT BELTS

ADJUSTABLE TILT AND TELESCOPING

STEERING COLUMN

4-SPOKE 18 INCH (450MM) STEERING WHEEL

DRIVER AND PASSENGER INTERIOR SUN

VISORS

Instruments & Controls

GRAY DRIVER INSTRUMENT PANEL

GRAY CENTER INSTRUMENT PANEL

ENGINE REMOTE INTERFACE WITH PARK

BRAKE AND NEUTRAL INTERLOCKS

BLACK GAUGE BEZELS

LOW AIR PRESSURE INDICATOR LIGHT AND

AUDIBLE ALARM

2 INCH PRIMARY AND SECONDARY AIR

PRESSURE GAUGES

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Description

DASH MOUNTED AIR RESTRICTION INDICATOR WITH GRADUATIONS

PRECO/ECCO 1040 87 DECIBELS TO 112 DECIBELS AUTOMATIC SELF-ADJUSTING BACKUP ALARM

ELECTRONIC CRUISE CONTROL WITH SWITCHES ON AUXILIARY GAUGE PANEL (B DASH PANEL)

KEY OPERATED IGNITION SWITCH AND INTEGRAL START POSITION; 4 POSITION OFF/RUN/START/ACCESSORY

MANUAL REMOTE ENGINE STOP/START WITH PTO RE-ENGAGE

ICU3S, 132X48 DISPLAY WITH DIAGNOSTICS, 28 LED WARNING LAMPS AND DATA LINKED

HEAVY DUTY ONBOARD DIAGNOSTICS INTERFACE CONNECTOR LOCATED BELOW LH DASH

2 INCH ELECTRIC FUEL GAUGE

ENGINE REMOTE INTERFACE WITH INCREMENT/DECREMENT

ENGINE REMOTE INTERFACE CONNECTOR AT BACK OF CAB

PREWIRE PACKAGE FOR VAC-CON CONTROL MODULE AND CHASSIS INTERFACE

ELECTRICAL ENGINE COOLANT TEMPERATURE GAUGE

2 INCH TRANSMISSION OIL TEMPERATURE GAUGE

ENGINE AND TRIP HOUR METERS INTEGRAL WITHIN DRIVER DISPLAY

(1) DASH MOUNTED PTO SWITCH WITH INDICATOR LAMP - PARK BRAKE AND NEUTRAL INTERLOCK FOR CUSTOMER INSTALLED PTO

ELECTRIC ENGINE OIL PRESSURE GAUGE

AM/FM/WB WORLD TUNER RADIO WITH BLUETOOTH AND USB AND AUXILIARY INPUTS, J1939

DASH MOUNTED RADIO

(2) RADIO SPEAKERS IN CAB

AM/FM ANTENNA MOUNTED ON FORWARD LH ROOF

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Description

ELECTRONIC MPH SPEEDOMETER WITH SECONDARY KPH SCALE, WITHOUT ODOMETER

STANDARD VEHICLE SPEED SENSOR ELECTRONIC 3000 RPM TACHOMETER

NO VEHICLE PERFORMANCE MONITOR

IGNITION SWITCH CONTROLLED ENGINE STOP WITH CONTROL MOUNTED AT FIREWALL

DIGITAL VOLTAGE DISPLAY INTEGRAL WITH DRIVER DISPLAY

SINGLE ELECTRIC WINDSHIELD WIPER MOTOR WITH DELAY

MARKER LIGHT SWITCH INTEGRAL WITH HEADLIGHT SWITCH

ONE VALVE PARKING BRAKE SYSTEM WITH DASH VALVE CONTROL AUTONEUTRAL AND WARNING INDICATOR

SELF CANCELING TURN SIGNAL SWITCH WITH DIMMER, WASHER-WIPER AND HAZARD IN HANDLE

INTEGRAL ELECTRONIC TURN SIGNAL FLASHER WITH HAZARD LAMPS OVERRIDING STOP LAMPS

Design

PAINT: ONE SOLID COLOR

Color

CAB COLOR A: L6460EY SCHOOL BUS YELLOW ELITE EY

BLACK, HIGH SOLIDS POLYURETHANE CHASSIS PAINT

STANDARD E COAT/UNDERCOATING

Certification / Compliance

U.S. FMVSS CERTIFICATION, EXCEPT SALES CABS AND GLIDER KITS

Raw Performance Data

CALCULATED EFFECTIVE BACK OF CAB TO REAR SUSPENSION C/L (CA): 177.32 in CALC'D SPACE AVAILABLE FOR DECKPLATE: 180.54 in

Application Version 11.2.506 Data Version PRL-23D.033 20 Sept Vac Con L9 TA



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Extended Warranty

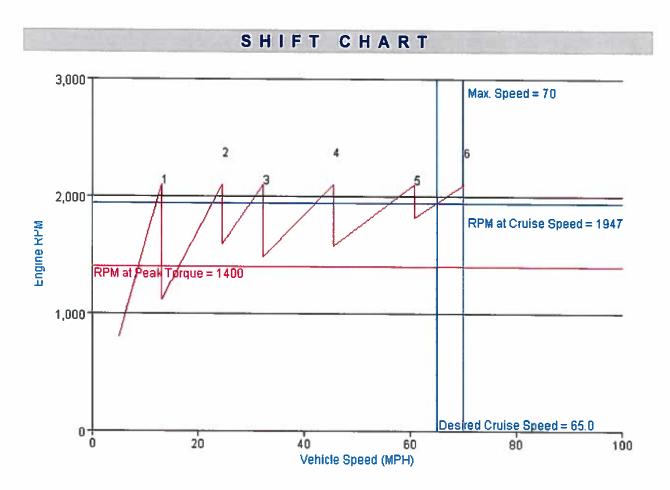
TOWING: 6 MONTHS/UNLIMITED MILES/KM EXTENDED TOWING COVERAGE \$550 CAP FEX APPLIES

(***) All cost increases for major components (Engines, Transmissions, Axles, Front and Rear Tires) and government mandated requirements, tariffs, and raw material surcharges will be passed through and added to factory invoices.

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VEHICLE SPECIFICATIONS SUMMARY - SHIFT CHART

Model	114SE
Cab Size (829)	
	65.0
Engine (101)	
	1400
Governed RPM	2100
Transmission (342)	ALLISON 3000 RDS AUTOMATIC TRANSMISSION WITH PTO PROVISION
	N/A
	N/A
	3.49
	1.86
	0.75
	N/A
	N/A
	NA
	N/A
	NA
	N/A
	N/A
	N/A
	NA
	RT-46-160 46,000# R-SERIES TANDEM REAR AXLE
	5.63 REAR AXLE RATIO
	491

Application Version 11.2.506 Data Version PRL-23D.033 20 Sept Vac Con L9 TA



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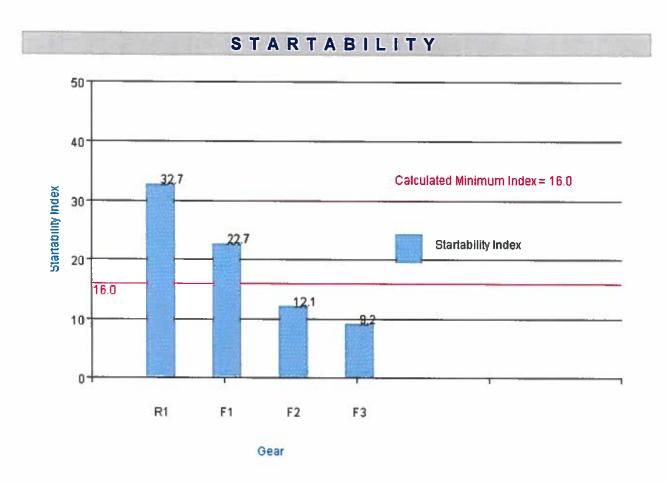
TABLE SUMMARY - SHIFT CHART

Transmission Gear	Transmission Gear Ratio	Rear Axie Ratio	Overall Gear Ratio	Percent Split	RPM After Shift	MPH at Peak Torque RPM	MPH at Governed
1	3.49	5.63	19.65	N/A	800	8.7	13.1
2	1.86	5.63	10.47	87.6	1119	16.3	24.5
3	1.41	5.63	7.94	31.9	1592	21.6	32.3
4	1.00	5.63	5.63	41.0	1489	30.4	45.6
5	0.75	5.63	4.22	33.3	1575	40.5	60.8
6	0.65	5.63	3.66	15.4	1820	46.7	70.1

Performance calculations are estimates only. If performance calculations are critical, please contact Customer Application Engineering.



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VEHICLE SPECIFICATIONS SUMMARY - STARTABILITY

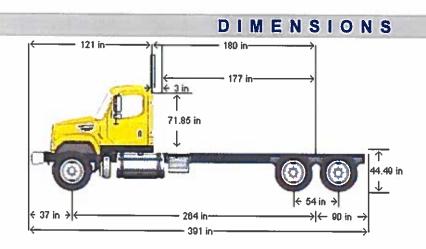
Model	
Cab Size (829)	
Expected Front Axle(s) Load (lbs)	20000.0
Expected Pusher Axle(s) Load (lbs)	
Expected Rear Axle(s) Load (lbs)	46000,0
Expected Tag Axle(s) Load (lbs)	
Expected GVW (lbs)	
Expected GCW (lbs)	
Engine (101)	
	ñ)
Transmission (342)	ALLISON 3000 RDS AUTOMATIC TRANSMISSION WITH PTO PROVISION
	3.49
Gear Ratio: Forward 2	
Gear Ratio: Forward 3	1.41
Gear Ratio: Reverse 1	
Gear Ratio: Reverse 2	N/A
Gear Ratio: Reverse 3	N/A
Auxiliary Transmission (352)	NO AUXILIARY TRANSMISSION
Low Gear Ratio	N/A
High Gear Ratio	N/A
Transfer Case (373)	NO TRANSFER CASE
Low Gear Ratio	N/A
	NA
	RT-46-160 46,000# R-SERIES TANDEM REAR AXLE
	1
	CONTINENTAL HDR2 11R22.5 14 PLY RADIAL REAR TIRES
Revolutions per Mile	491
	UTILITY/REPAIR/MAINTENANCE SERVICE
	8
Terrain (AA5)	. TERRAIN/DUTY: 100% (ALL) OF THE TIME, IN TRANSIT, IS SPENT ON PAVED ROADS
Startability Factor	0
	MAXIMUM 8% EXPECTED GRADE
	8
	RETE OR ASPHALT PAVEMENT - MOST SEVERE IN-TRANSIT (BETWEEN SITES) ROAD
	0
Suggested Torque Converter Stall Ratio	D

Performance calculations are estimates only. If performance calculations are critical, please contact Customer Application Engineering.

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VEHICLE SPECIFICATIONS SUMMARY - DIMENSIONS

Model	114SD
Wheelbase (545)	
Rear Frame Overhang (552)	
Fifth Wheel (578)	
Mounting Location (577)	
Maximum Forward Position (in)	0
Maximum Rearward Position (in)	
Amount of Slide Travel (in)	0
Slide Increment (in)	0
Desired Slide Position (in)	0.0
Cab Size (829)	ICH BBC FLAT ROOF ALUMINUM CONVENTIONAL CAB
Sleeper (682)	
Exhaust System (016)RH OUTBOARD UNDER STEP MOUNTED I WITH RH B-PILLAR MOUNTED VERTICAL TAILPIPE	HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY

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TABLE SUMMARY - DIMENSIONS

Dimensions	Inches
Bumper to Back of Cab (BBC)	
Bumper to Centerline of Front Axle (BA)	120.9
	37.4
Min. Cab to Body Clearance (CB)	3.0
Back of Cab to Centerline of Rear Axle(s) (CA)	180.3
Effective Back of Cab to Centerline of Rear Axle(s) (Effective CA)	177.3
Back of Cab Protrusions (Exhaust/Intake) (CP)	0.0
Back of Cab Protrusions (Side Extenders/Trim Tab) (CP)	0.0
Back of Cab Protrusions (CNG Tank)	0.0
Back of Cab Clearance (CL)	3.0
Back of Cab to End of Frame	269.9
Cab Height (CH)	71.9
Wheelbase (WB)	263.8
Frame Overhang (OH)	89.6
Overall Length (OAL)	390.8
Rear Axle Spacing	54.0
Unladen Frame Height at Centerline of Rear Axle	44.5

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GVWR

VEHICLE SPECIFICATIONS SUMMARY - GVWR

Model	114SD
	114 INCH BBC FLAT ROOF ALUMINUM CONVENTIONAL CAE
	20000.0
Expected Pusher Axle(s) Load (lbs)	0.0
Expected Rear Axle(s) Load (lbs)	46000.0
Expected Tag Axle(s) Load (lbs)	0.0
Expected GCW (lbs)	0.0
Front Axle (400)	DETROIT DA-F-20.0-5 20,000# FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE
Front Suspension (620)	20,000# FLAT LEAF FRONT SUSPENSION
Front Hubs (418)	CONMET PRESET PLUS PREMIUM IRON FRONT HUBS
WHEELS	82462X 22.5X12.25 10-HUB PILOT 4.68 INSET 10-HAND ALUMINUM DISC FRONT
Front Tires (093)	BF GOODRICH CROSS CONTROL S 425/65R22.5 20 PLY RADIAL FRONT TIRES
Front Brakes (402) MERITOR 16.5X6 (2+ CAST SPIDER CAM FRONT BRAKES, DOUBLE ANCHOR, FABRICATED SHOES
Steering Gear (536)	TRW THP-60 POWER STEERING WITH RCH45 AUXILIARY GEAR
Rear Axle (420)	RT-46-160 46,000# R-SERIES TANDEM REAR AXLE
Rear Suspension (622)	HENDRICKSON RT463 @46,000# REAR SUSPENSION
Rear Hubs (450)	CONMET PRESET PLUS PREMIUM IRON REAR HUBS
Rear Disc Wheels (505)Al	COA LVL ONE 88267X 22.5X8.25 10-HUB PILOT ALUMINUM DISC REAR WHEELS
Rear Tires (094)	
Rear Brakes (423)MERITOR 16.5X7	Q+ CAST SPIDER CAM REAR BRAKES, DOUBLE ANCHOR, FABRICATED SHOES
	NO PUSHER/TAG DISC WHEELS
	NO PUSHER/TAG TIRES
	NO PUSHER/TAG BRAKES

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TABLE SUMMARY - GVWR

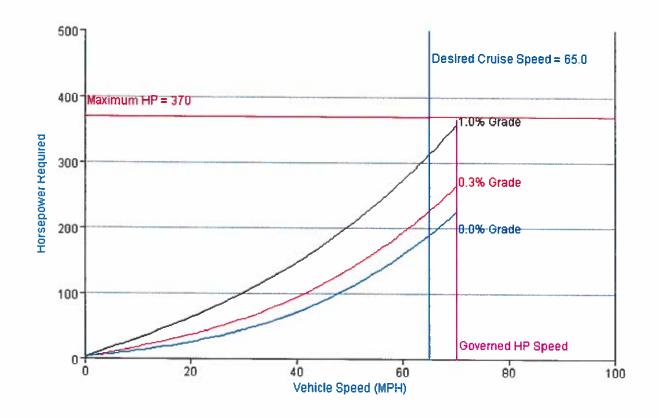
	Front	Rear 1	Rear 2
	Axle Component Weigh	it Ratings	
Axles	20000	23000	23000
Suspension	20000	23000	23000
Hubs	23000	26000	26000
Brakes	20000	23000	23000
Wheels	24600	29600	29600
Tires	22800	23360	23360
Power Steering	22000	N/A!	N/A
GAWR (per axle)	20000	23000	23000
GAWR (per axle system)	20000		46000
Expected Load (per axle system)	20000		46000
GVWR due to Frame	90000		
GVWR due to Transmission	80000		
	Vehicle GVWR Sun	nmary	
Calculated GVWR	66000		
Expected GVWR	66000		
	All weights displayed in	Dounds	

Performance calculations are estimates only. If performance calculations are critical, please contact Customer Application Engineering.



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SPEEDABILITY



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VEHICLE SPECIFICATIONS SUMMARY - SPEEDABILITY

Model	
Cab Size (829)	
Desired Cruise Speed (mph)	
Expected Front Axle(s) Load (lbs)	20000.0
Expected Pusher Axle(s) Load (lbs)	0.0
Expected Rear Axle(s) Load (lbs)	46000.0
Expected Tag Axle(s) Load (lbs)	0.0
Expected GVW (lbs)	
Expected GCW (lbs)	0.0
Engine (101)	
	2100
HP at Governed RPM	365
RPM at Max HP	
	370
HP at Governed RPM (High Torque)	
RPM at Max HP (High Torque)	
	370
	NO NO
Transmission (342)	ALLISON 3000 RDS AUTOMATIC TRANSMISSION WITH PTO PROVISION
	RT-46-160 46,000# R-SERIES TANDEM REAR AXLE
	1
Rear Axle Gear Ratio(s)	
	491
Trailer Width (in)	0.0
Trailer Height (ground to top) (ft)	
Body Width (in)	96.0
	NO AIR SHIELD OR BRACKETS
Road Surface (AB5). SMOOTH CONCRETE OF SURFACE	R ASPHALT PAVEMENT - MOST SEVERE IN-TRANSIT (BETWEEN SITES) ROAD
Auxiliary Transmission (352)	NO AUXILIARY TRANSMISSION
	N/A
	N/A
	N/A
	N/A

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TABLE SUMMARY - SPEEDABILITY

Top Gear Speedability	At Max Power Speed	At Desired Cruise Speed
Top Gear Vehicle Speed (mph)	63.4	65.0
Engine RPM	1900	1947
Gross Power Available (HP)	370	A\11
Power (HP) Required for:		
Level Road	180	190
0.3% Grade	216	227
1.0% Grade	300	313
•	Blue background represents value input by user.	31.

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TURNING RADIUS



Turning radius graphic and data provided strictly for comparisons between model configurations. Weather, road surfaces, and tire treads affect the results. It is strongly suggested that actual vehicles be measured before constructing any roads/driveways using this information. For specific figures regarding your configuration, please contact your CAE representative.

	Dimensions	Tolerance
Wall to Wall Diameter (ft)	104.6	+/- 3.0
Curb to Curb Diameter (ft)	101.3	+/- 3.0
Turning Radius (ft)	50.0	+/- 1.5

VEHICLE SPECIFICATIONS SUMMARY - TURNING RADIUS

Model	114SD
Cab Size (829)	
Wheelbase (545)	
Front Tires (093)	BF GOODRICH CROSS CONTROL S 425/65R22.5 20 PLY RADIAL FRONT TIRES
	16.5
Front Axle (400)	DETROIT DA-F-20.0-5 20,000# FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE
Kingpin Intersection (in)	71
	PER, CUSTOMER INSTALLED SPECIAL BUMPER, DOES NOT COMPLY WITH FMCSR
Width (in)	96
Bumper Miter to Front Axle (in)	
	LH PRIMARY STEERING LOCATION
Steering Gear (536)	TRW THP-60 POWER STEERING WITH RCH45 AUXILIARY GEAR
Dual Steering Gear	RCH45
Ram	NONE
	RT-46-160 46,000# R-SERIES TANDEM REAR AXLE
	54 INCH AXLE SPACING

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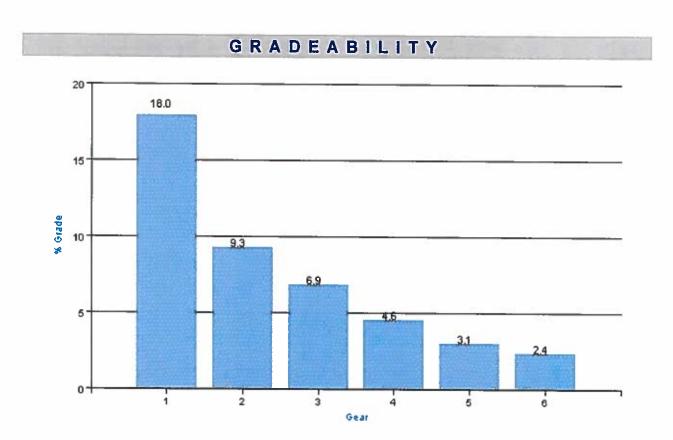
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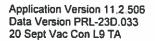
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Desired Gradeability at Peak Torque = 0.5





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VEHICLE SPECIFICATIONS SUMMARY - GRADEABILITY

Model	
	0.5
Desired Gradeability at Cruise Speed(%)	0.3
Expected Front Axle(s) Load (lbs)	20000.C
	0.0
	0.0
	CUM L9 370 HP @ 2000 RPM, 2100 GOV RPM, 1250 LB/FT @ 1400 RPM
	1250
RPM at Peak Torque (Multi-torque High)	
	NC
Transmission (342)	ALLISON 3000 RDS AUTOMATIC TRANSMISSION WITH PTO PROVISION
	RT-46-160 46,000# R-SERIES TANDEM REAR AXLE
	5.63 REAR AXLE RATIO
Revolutions per Mile	491
Trailer Width (in)	0.0
Body Height (ground to top) (ft)	
	NO AIR SHIELD OR BRACKETS
Road Surface (AB5). SMOOTH CONCRETE OF SURFACE	R ASPHALT PAVEMENT - MOST SEVERE IN-TRANSIT (BETWEEN SITES) ROAD
Auxiliary Transmission (352)	
High Gear Ratio	N/A
	N/A
	NO TRANSFER CASE
	NA
	N/A
Trailer Configuration (AA2)	NO TRAILER SPECIFIED

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TABLE SUMMARY - GRADEABILITY

Transmission Gear	Transmission Gear Ratio	Overall Gear Ratio	Vehicle Speed (MPH)	HP Available for Grade	Max Grade (*₄)
1	3.49	19.65	8.7	275.9	18.0
2	1.86	10.47	16.3	267.5	9.3
3	1.41	7.94	21.6	260.2	6.9
4	1.00	5.63	30.4	244.2	4.6
5	0.75	4.22	40.5	218.5	3.1
6	0.65	3.66	46.7	198.0	2.4
Desired Gradeability at Pe	ak Torque		0.5		
Rear Axle Ratio		5.63			
Gross HP Available at Peak Torque		333			
RPM at Peak Torque		1400			
	*Blue	background represen	its value input by user.		

Transmission Gear	Transmission Gear Ratio	Overall Gear Ratio	Vehicle Speed (MPH)	HP Available for Grade	Max Grade (%)
1	3.49	19.65	12.1	275.5	12.9
2	1.86	10.47	22.7	261.5	6.5
3	1.41	7.94	30.0	248.2	4.7
4	1.00	5.63	42.2	216.3	2.9
5	0.75	4.22	56.3	161.1	1.6
6	0.65	3.66	65.0	115.0	1.0
Desired Gradeability at Cru	ise Speed		0.3	100	
Desired Cruise Speed		65.0			
Rear Axle Ratio		5.63			
Gross HP Available at Cruise Speed		370			
RPM at Cruise Speed		1946			
	*Blue	background represent	s value input by user.		

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FRAME RBM

VEHICLE SPECIFICATIONS SUMMARY - FRAME RBM

Wheelbase (545)	
Frame Rails (546) 11/32X3-1/2X10-15/16 INCH S	TEEL FRAME (8.73MMX277.8MM/0.344X10.94 INCH) 120KSI(546)
Yield Strength (psi)	
Section Modulus (per rail) (cu in)	
RBM (per rail) (lbf-in)	
Inner Frame Reinforcement (547)1	/4 INCH (6.35MM) C-CHANNEL INNER FRAME REINFORCEMENT
	NO OUTER FRAME REINFORCEMENT

TABLE SUMMARY - FRAME RBM

Item	Description / Value
Wheelbase	6700MM (264 INCH) WHEELBASE
Frame	11/32X3-1/2X10-15/16 INCH STEEL FRAME (8.73MMX277.8MM/0.344X10.94 INCH) 120KSI
Inner Frame Reinforcement	1/4 INCH (6.35MM) C-CHANNEL INNER FRAME REINFORCEMENT
Outer Frame Reninforcement	NO OUTER FRAME REINFORCEMENT
Yield Strength (psi)	120000
Section Modulus - per rail (cu. in.)	26.80
Frame RBM - per rail (lbf-in)	3217200

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QUOTATION

114SD CONVENTIONAL CHASSIS

SET FORWARD AXLE - TRUCK
CUM L9 370 HP @ 2000 RPM, 2100 GOV RPM, 1250
LB/FT @ 1400 RPM
ALLISON 3000 RDS AUTOMATIC TRANSMISSION WITH
PTO PROVISION
RT-46-160 46,000# R-SERIES TANDEM REAR AXLE
HENDRICKSON RT463 @46,000# REAR SUSPENSION
DETROIT DA-F-20,0-5 20,000# FL1 71.0 KPI/3.74 DROP
SINGLE FRONT AXLE

114 INCH BBC FLAT ROOF ALUMINUM CONVENTIONAL CAB
6700MM (264 INCH) WHEELBASE
11/32X3-1/2X10-15/16 INCH STEEL FRAME
(8.73MMX277.8MM/0.344X10.94 INCH) 120KSI
2275MM (90 INCH) REAR FRAME OVERHANG
1/4 INCH (6.35MM) C-CHANNEL INNER FRAME
REINFORCEMENT

ADDITIONAL TERMS AND CONDITIONS

20,000# FLAT LEAF FRONT SUSPENSION

- 1. ^As used in this Sales Order the terms (a) "Dealer" shall mean the authorized Dealer to whom this Sales Order is addressed and who shall become a party hereto by its acceptance hereof, (b) "Purchaser" shall mean the party executing this Sales Order as such on the face hereof, and (c) "Manufacturer" shall mean the Corporation that manufactured the vehicle or chassis, it being understood by Purchaser and Dealer that Dealer is not the agent of Manufacturer, that Dealer and Purchaser are the sole parties to this Sales Order and that reference to Manufacturer herein is for the purpose of explaining generally certain contractual relationships existing between Dealer and Manufacturer with respect to new motor vehicles.
- 2. ^Manufacturer has reserved the right to change the price the Dealer charges for new motor vehicles without notice. In the event the price to Dealer of a new motor vehicle of the series and body type ordered hereunder is changed by Manufacturer prior to delivery of the new motor vehicle ordered hereunder to Purchaser, Dealer reserves the right to change the cash delivered price of such motor vehicle to Purchaser accordingly.
- 3. Notwithstanding any terms and conditions contained in Purchaser's Purchase Order, Purchaser agrees that Dealer's terms and conditions set forth in this Sales Order shall be the only terms and conditions regarding any purchase by Purchaser from Dealer. Purchaser expressly waives the provisions of Purchaser's terms and conditions and agrees to be bound exclusively by Dealer's terms and conditions as set forth herein. If Purchaser is an entity, the undersigned represents and warrants to Dealer that the undersigned has authority to bind Purchaser to the terms and conditions outlined herein, and the terms and conditions as outlined herein are enforceable against Purchaser in accordance with their terms.
- 4. ^All used motor vehicles which are to be traded in as part of the consideration for the motor vehicle ordered hereunder are subject to Dealer's Trade Terms and Conditions which are incorporated herein by reference. Although Dealer may provide Purchaser with an initial appraisal(s) of the value of and allowance for any used motor vehicle, such initial appraisal and allowance are not binding. Each used motor vehicle shall be reappraised at that time of actual delivery to Dealer for acquisition, and such reappraisal value shall determine the actual allowance made for such motor vehicle. If such reappraised value is lower than the original appraised value and allowance therefor shown on the front of this Sales Order, Purchaser may, if dissatisfied herewith, cancel this Sales Order, provided, however, that such right to cancel must be exercised prior to the delivery of the motor vehicle ordered hereunder to the Purchaser.
- 5. ^Purchaser agrees to deliver to Dealer satisfactory evidence of title to any used motor vehicle traded in as part of the consideration for the motor vehicle ordered hereunder at the time of delivery of such used motor vehicle to Dealer. Purchaser warrants any such used motor vehicle to be his or its property free and clear of all liens and encumbrances except as otherwise noted within.

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- 6. ^Dealer shall have the right, upon failure or refusal of Purchaser to accept delivery of the motor vehicle ordered hereunder or to comply with any of the other terms of this Sales Order, to retain any cash deposit made by Purchaser without the waiver of any other right or remedy available to Dealer.
- 7. ^Manufacturer has reserved the right to change the design of any new motor vehicle, chassis, accessories or parts thereof at any time without notice and without obligation to make the same or any similar change upon any motor vehicle, chassis, accessories or parts thereof previously purchased by or shipped to Dealer or being manufactured or sold in accordance with Dealer's orders. Correspondingly, in the event of any such change by Manufacturer, Dealer shall have no obligation to Purchaser to make the same or any similar change in any motor vehicle, chassis, accessories or parts thereof covered by this Sales Order either before or subsequent to delivery thereof to Purchaser.
- 8. ^Dealer shall not be liable for failure to deliver or delay in delivering the motor vehicle covered by this Sales Order where such failure or delay is due, in whole or in part, to any cause beyond the control or without the fault or negligence of Dealer.
- 9. ^The price for the motor vehicle specified on the face of this Sales Order includes reimbursement for Federal Excise taxes, but does not include sales taxes, use taxes or occupational taxes based on sales volume, (Federal, State or Local) unless expressly so stated. Purchaser assumes and agrees to pay, unless prohibited by law, any such sales, use or occupational taxes imposed on or applicable to the transaction covered by this Sales Order, regardless of which party may have primary tax liability therefor.
- 10. ^There are no warranties, whether expressed or implied, made by the Dealer herein, or the Manufacturer, on the vehicle or chassis described on the face hereof except in the case of a new vehicle or chassis for which the warranty shall be limited to such warranty as provided for in writing on the face of this Sales Order or in a separate writing furnished to and signed by Purchaser and Dealer. The printed new vehicle warranty delivered to Purchaser with such vehicle or chassis is made a part hereof as though fully set forth herein, and it is the only warranty applicable to such new vehicle or chassis and is expressly in lieu of all other warranties, whether expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose.
- 11. ^Any used motor vehicle sold to Purchaser by Dealer under this Sales Order is sold at the time of delivery by Dealer without any guarantee or warranty, whether expressed or implied, including without limitation, any implied warranty of merchantability or fitness for a particular purpose, as to its condition or the condition of any part thereof except as may be otherwise specifically provided in writing on the face of this Sales Order or in a separate writing furnished to and signed by Purchaser by Dealer.
- 12. ^The Purchaser, before or at the time of delivery of the motor vehicle covered by this Sales Order will execute such forms of agreement or documents as may be required by the terms and conditions of payment indicated on the front of this Sales Order.
- 13. In the event Purchaser desires to modify or otherwise change the equipment content of a vehicle specifically ordered for him from the Manufacturer, the change will be made only if the Manufacturer has sufficient time to accommodate the request. Moreover, any service charge or fee made by the Manufacturer as a result of such request will be borne by the purchaser.
- 14. The parties agree that they will comply with all Federal, State, and local laws and regulations, including those governing and/or restricting export of products or any technical data relating thereto outside of the United States. In carrying on Purchaser's business, each of Purchaser, its officers, directors, employees or agents (collectively and individually in this clause "Purchaser") must comply with its obligations under the law including without limitation, the following: (a) not violate any anti-bribery or anti-corruption law of any jurisdiction applicable to this Order, including those of the United States of America's Foreign Corrupt Practices Act ("FCPA"), and any similar anti-corruption or anti-bribery laws and regulations applicable to the Purchaser or related to this Order: (b) not pay, offer or promise to pay, or authorize the payment of, any monies or anything of value, directly or indirectly, to any government official or employee, any official or employee of a state-run or state-owned or controlled enterprise or entity, any official or employee of any political party, or any family member or relative of such persons or any political party for the purpose of influencing any act or decision of any such official, employee, candidate, political party, enterprise or entity, public

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organization, or government to obtain or retain business, or direct business to any person or entity, or for any other improper advantage or purpose; (c) warrants that as at the date of this Order, none of its owners, officers, directors, employees or agents or any immediate family member of such persons, is presently (or has been recently) an official or employee of any government, state-run or state-owned or controlled enterprise or entity, or political party, or a candidate for political or public office. Purchaser must provide written notification to Dealer within ten (10) days of any of the above persons becoming such official, employee or candidate; (d) comply with all applicable export and import laws and regulations, including associated embargo and sanction regulations; and (e) certifies that no vehicle or chassis subject to this Order, nor any direct products thereof, will be made available or re-exported, directly or indirectly, by Purchaser (or by any employee or contractor of Purchaser) to any prohibited person, entity or country (including to nationals of any prohibited country, wherever they may be located) unless such prior written authorization as may be required is obtained by Purchaser from the appropriate U.S. government agency(ies), including, as applicable, the U.S. Office of Export Licensing of the U.S. Department of Commerce, in accordance with the U.S. Export Administration Regulations (15 CFR, Parts 779 et seq. or any similar regulation) issued by the Department of Commerce of the United States in the administration of the Export Administration Act of 1979, as amended from time to time, or any subsequently issued similar rule, law or regulation. Purchaser will designate an officer to be responsible for compliance with all such legislation and upon the request of Dealer will certify compliance with such legislation. In the event Purchaser breaches its obligations under this paragraph, or Dealer learns of or has a reasonable suspicion that Purchaser has breached this paragraph, notwithstanding any other provision hereunder to the contrary, Dealer may immediately terminate this Order and Purchaser hereby waives any and all claims against Dealer for any loss, cost or expense, including, but not limited to, loss or profits, incidental or consequential damages, that Purchaser may incur by virtue of such termination.

- 15. Purchaser shall, from the execution of this Order and for a period of one (1) year after the completion of this Order maintain all records, together with such supporting or underlying documents and materials, related to the motor vehicle ordered hereunder, including but not limited to all records related to the use, the location(s) of such use, the repair and the sale, lease or other transfer of such motor vehicle or any interest therein, as well as Purchaser's compliance with the FCPA and any other applicable anti-corruption or anti-bribery laws or regulations. Purchaser shall at any time requested by Dealer whether during or after completion of this Order, with five (5) days' notice and at Purchaser's own expense make such records available for inspection and audit (including copies and extracts of records as required) by Dealer. Such records shall be made available to Dealer during normal business hours at a time and location that is convenient for Dealer.
- 16.^Documentary Fee. Documentary fee is not an official fee. A documentary fee is not required by law, but may be charged to buyers for handling documents and performing services related to closing of a sale. The base documentary fee beginning 1/1/20 was \$300. The maximum amount that may be charged for a documentary fee is the base documentary fee of \$300, which shall be subject to an annual rate adjustment equal to the percentage of change in the Bureau of Labor Statistics Consumer Price Index. This notice is required by law.
- 17. ^Purchaser shall pay on demand all of Dealer's cost and expenses, including its attorney's fees incurred in enforcing the terms of this Sales Order, including but not limited to defending any claims by Purchaser, collecting any payments due hereunder or repossessing the vehicle.
- 18. 'The remedies herein reserved shall be cumulative and in addition to any further remedies provided to Dealer whether at law or in equity. No delay or failure by the Dealer to exercise or enforce at any time, any right or provision in this Sales Order, will be considered a waiver thereof or of Dealer's right thereafter to exercise or enforce each and every right and provision of this Sales Order. To be valid, any waiver shall be in writing, but need not be supported by consideration. No single waiver shall constitute a continuing or subsequent waiver.
- 19. ^This Sales Order has been negotiated, executed and delivered in Illinois, and shall be construed and enforced in accordance with the laws of the State of Illinois, without reference to the choice of law or conflicts of law principles of any other state.
- 20. ^Purchaser hereby consents to the exclusive jurisdiction of any state or federal court located in DuPage County, Illinois regarding any disputes regarding this matter. Purchaser waives any trial by jury and waives any objection based on improper venue or forum non conveniens in any action or proceeding to which Purchaser and Dealer may

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be parties arising out of, or in connection with, or in any way pertaining to this Sales Order. It is agreed and understood by Purchaser that this waiver constitutes a waiver of trial by jury of all claims by Purchaser against the Dealer. This waiver is knowingly, willingly and voluntarily made by Purchaser and Purchaser hereby represents that no representations of fact or opinion have been made by any individual to induce this waiver of trial by jury or to, in any way, modify or nullify its effect. Purchaser further represents and warrants that it either has been represented in the signing of this Sales Order and the making of this Sales Order by the attorney of its choosing, or it has had time to seek independent counsel selected of Purchaser's own free will, and to discuss the terms and conditions of this Sales Order with such counsel.

- 21. In the event that any provision of this Sales Order shall be deemed to be invalid by reason of the operation of any law or by reason of the interpretation placed on this Sales Order by any court, this Sales Order shall be construed as not containing such provision to the extent of the invalidity and the invalidity of such provision shall not affect the validity of any and all provisions hereby which are otherwise lawful and valid, and such other provisions shall remain in full force and effect.
- 22. All notices and other communications required hereunder shall be in writing and delivered by personal delivery, overnight delivery service, or certified or registered mail, postage prepaid, return receipt requested. Any such notice shall be deemed to have been given on the date it is received during regular office hours at the address listed on the applicable order or at such other address as the affected party may have previously designated for notices.
- 23. To the full extent permitted by laws, Purchaser waives all rights against Dealer for any damage to its property or that of third parties, or for injury to any person, however caused. In no event shall Dealer's total liability exceed Dealer's anticipated net profit on the specified purchase price of the vehicles covered by this Sales Order.
- 24. ^This Sales Order constitutes the entire agreement between the parties hereto relating to the subject matter hereof and supersedes all prior oral and written and all contemporaneously oral negotiations, commitments and understandings of the parties, except as otherwise expressly set forth in this Sales Order. This Sales Order may not be changed or amended except by writing and executed by both Purchaser and Dealer.

IN WITNESS WHEREOF, the Purchaser has executed these terms and conditions as of the date herein written below.

APPROVAL: Please indicate your acceptance of this quo	tation by signing below:	
Customer: X	Title: X	Date:/

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