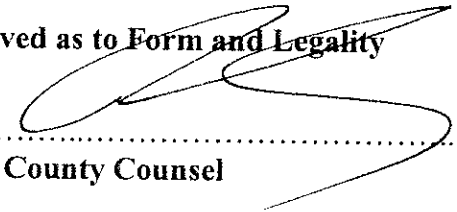


CONTRACT AWARD	
CK09MERCER2019-05 ONE (1) NEW 2019 FOUR WHEEL DRIVE ARTICULATED WHEEL LOADER OR EQUIVALENT WITH OPTIONAL RPM217 TIER 4 LOADER- MOUNTED SNOW BLOWER FOR THE MERCER COUNTY HIGHWAY DIVISION AND THE MERCER COUNTY COOPERATIVE CONTRACT PURCHASING SYSTEM FOR USE BY AIRPORT	
BID OPENING DATE : MARCH 07, 2019	
CONTRACT TERM: MARCH 18, 2019 THROUGH MARCH 19, 2020	RES. NO. 2019-224
NAME OF RESPONDENT	GROFF TRACTOR MID ATLANTIC, LLC
ADDRESS	551 N HARDING HIGHWAY
CITY, STATE, ZIP	VINELAND, NJ 08360
CONTACT	KAREN FORTE
TELEPHONE	856 697 1414
FAX	856 697 4842
UNIT COST FOR ONE (1) NEW 2019 FOUR WHEEL DRIVE ARTICULATED WHEEL LOADER OR EQUIVALENT	\$ 195,000.00
MANUFACTURER	CASE
MODEL	721G
YEAR	2019
DELIVERY DATE	90 DAYS AFTER RECEIPT OF ORDER
OPTIONAL ITEMS	
RPM217 TIER 4 LOADER-MOUNTED SNOW BLOWER	\$ 119,017.00
ADD ALTERNATE OPTIONS	
BATTERY HEATER	\$ 115.00
OIL HEATER FOR HYDRAULIC SYSTEM	\$ 260.00
HIGH HYDRAULIC TEMPERATURE PROTECTION	\$ 223.00
WORK LIGHTS ON THE BLOWER	\$ 600.00
WORK LIGHTS ON THE CHUTE	\$ 340.00
LOW LEVEL COOLANT SENSOR	\$ 370.00
LED LIGHTS	\$ 950.00
ARTIC OIL (HYDRAULIC, ENGINE, OIL BATH, GEARBOX, CHAINS AND REDUCER) CONSTANT OPERATION UNDER -25C/-13F	\$ 975.00
FEMALE QUICK ATTACH JRB COMPLETE SYSTEM	INCLUDED IN PRICING
EXCEPTIONS	NONE
FATAL FLAW	NO

Approved as to Form and Legality

Date



 County Counsel

April 25, 2019

AWARD OF BID RECEIVED MARCH 7, 2019 TO GROFF TRACTOR MID ATLANTIC FOR ONE (1) NEW 2019 FOUR WHEEL DRIVE ARTICULATED WHEEL LOADER WITH OPTIONAL RPM217 TIER 4 LOADER-MOUNTED SNOW BLOWER FOR THE MERCER COUNTY HIGHWAY DIVISION AND THE MERCER COUNTY COOPERATIVE CONTRACT PURCHASING SYSTEM. PERIOD: MARCH 18, 2019 THROUGH MARCH 19, 2020. TOTAL AMOUNT NOT TO EXCEED \$314,610.00 (CK09MERCER2019-05)

WHEREAS, the Mercer County Purchasing Department has advertised for bids for one (1) new 2019 Four Wheel Drive Articulated Wheel Loader or equivalent with optional Rpm217 Tier 4 Loader- Mounted Snow Blower for use by the Mercer County Department of Transportation and Infrastructure Highway Division and the Mercer County Cooperative Contract Purchasing System a period of one (1) year, as authorized by Resolution No. 2018-89, adopted February 8, 2018; and,

WHEREAS, one (1) sealed bid was received on March 07, 2019 in connection with the aforementioned procurement; and,

WHEREAS, the bidder hereinafter designated is the lowest qualified bidder; and,

.....
 Clerk to the Board

RECORD OF VOTE													
FREEHOLDER	Aye	Nay	N.V.	Abs.	Res.	Sec.	FREEHOLDER	Aye	Nay	N.V.	Abs.	Res.	Sec.
Cannon	X				✓		Melker	X					
Colavita	X						Walter	X					✓
Frisby	X						Cimino				X		
Koontz	X												
X—Indicates Vote Abs.—Absent N.V.—Not Voting Res.—Resolution Moved Sec.—Resolution Seconded													

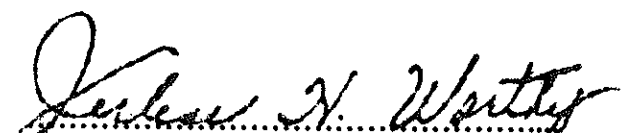
-2-

WHEREAS, the bid received from Groff Tractor Mid Atlantic, LLC, 551 N. Harding Highway, Vineland, NJ 08360 shall be awarded for one (1) new 2019 Four Wheel Drive Articulated Wheel Loader or equivalent with optional Rpm217 Tier 4 Loader- Mounted Snow Blower, for the period of March 18, 2019 through March 19, 2020 in the amount not to exceed \$314,610.00; and,

WHEREAS, the Chief Financial Officer of Mercer County has certified in writing the availability of funds for the purposes set forth in this Resolution, said certification is on file with the Clerk to the Board, now, therefore,

BE IT RESOLVED, that the County Executive and Clerk to the Board be and are hereby authorized to execute said contracts when presented in a form approved by County Counsel; and,

BE IT FURTHER RESOLVED, that the Clerk to the Board shall forward a copy of this Resolution to the Mercer County Department of Transportation and Infrastructure, Highway Division, and the Mercer County Purchasing Department for further distribution.


Clerk to the Board

**BID SPECIFICATIONS
ONE NEW 2019 FOUR WHEEL DRIVE ARTICULATED WHEEL LOADER OR EQUIVALENT
WITH OPTIONAL
RPM217 TIER 4 LOADER-MOUNTED SNOW BLOWER
FOR USE BY HIGHWAY**

CONTACT PERSON: MOTOR POOL -JODI HAWRYLUK (609) 530-7525

INTENT

The County of Mercer requests bids for One (1) New 2019 Four Wheel Drive Articulated Wheel Loader with Optional RPM217 Tier 4 Loader- Mounted Snow Blower Technical Specifications or Equivalent. The County requests the bid price to be held for one year. Bids shall be for new, current year production equipment. Demonstrator, used or lessor model equipment will not be accepted. All references to brand name shall be interpreted as brand name or equivalent. All questions shall be directed to the Purchasing Department, 609 989 6710.

EXCEPTIONS

If bidding an equivalent manufacturer, provide the manufacturer's published literature and list all exceptions with descriptions of each exception.

A certificate of origin will be provided with the equipment upon delivery. Any questions regarding the bid must be directed to purchasing.

Upon delivery, vendors must provide set-up, operating training by an authorized manufacturer's representative and two sets of training manuals. All equipment shall include standard safety features.

As this is a cooperative bid, the awarded vendor(s) may provide the equipment herein bid upon to local governmental contracting units located within the County of Mercer without substitution or deviation from specifications, size, features, quality, price or availability as herein set forth. It is understood that orders will be placed directly by the contracting units, subject to the terms of the contract to be awarded by the County of Mercer, and that no additional service or delivery charges will be allowed. References to brand names shall be interpreted as brand or equivalent.

All equipment shall be delivered F.O.B destination with delivery charge included, within 90 days from receipt of purchase order. All equipment shall be delivered as stated above with to the **Mercer County Highway Division at 300 Scotch Road, West Trenton, NJ 08628.**

WARRANTY

The awarded vendor shall provide the warranty as stated in the specifications.

AWARDED CONTRACTOR SHALL PROVIDE OPERATING TRAINING BY AN AUTHORIZED MANUFACTURER'S REPRESENTATIVE UPON DELIVERY OF EQUIPMENT. VENDORS MUST SPECIFY THE MANUFACTURER'S CUT-OFF DATE.

VENDOR WILL HOLD PRICING FIRM FOR ONE YEAR

YES NO

**BID SPECIFICATIONS
ONE NEW 2019 FOUR WHEEL DRIVE ARTICULATED WHEEL LOADER
WITH OPTIONAL
RPM217 TIER 4 LOADER-MOUNTED SNOW BLOWER
FOR USE BY HIGHWAY**

All machines offered shall be new, 2019 current year production. The vendor will only bid one model. The machine shall include all standard equipment as listed in the manufacturer brochures; specification sheets, and price lists, plus items specified herein. The manufacturers published literature takes precedent over any other literature that is not supplied by the manufacturer. Preference will be given to products made or manufactured in the USA. The base model machine being bid must have been in production for at least 5 years and the authorized dealer bidding the unit shall have been in business serving the municipal market for a minimum of 5 years. The agency may request a list of users to assure the reliability and performance of both the machine and the dealer. Any modifications to meet this specification other than factory authorized will not be accepted. The agency shall award the bid to the lowest responsible bidder that meets the performance and compliance criteria. The machine shall be used for general construction and municipal work.

ENGINE:

- The loader shall have an electronically controlled 6-cylinder, variable-horsepower diesel engine. The engine shall be 4-stroke, turbocharged, with air-to-air after cooler. The engine shall be 6.7 liter, T4 Final certified and incorporate 4 selectable power ranges to maximize machine efficiency. The following peak net power ratings shall apply.
 - Maximum power range: 179 horsepower. 674 lb. ft. torque
 - Standard power range: 163 horsepower. 594 lb. ft. torque
 - Economy power range: 138 horsepower. 567 lb. ft. torque
- Auto power mode
- The engine must provide automatic idle control to further improve fuel economy
- The engine must be Tier 4 Final Certified (SCR), and incorporate a minimum 15-gallon DEF tank and DOC. DPF systems will not be considered equal

The engine shall also have:

- Non-sleeve design for added strength and durability, wet sleeves not considered equal
- An internal oil cooler
- An integral water pump
- A dual stage dry-type element air filter with restriction indicator
- A 24-volt electrical system
- (2) Two 950 CCA batteries
- A 120 amp. alternator
- A single serpentine belt with self adjusting belt tensioner
- Common rail electronic fuel injector
- 500-hour service interval
- Mid-mount cooling module with integrated hydraulic tank and independently mounted coolers for maximum cooling efficiency and low ownership cost
- Coolers include radiator, transmission, air-to-air, fuel, and hydraulic oil
- Minimum cubic inch displacement 411 (6.7L)
- Hydraulic driven fan, reversible either manually or automatically
- Engine oil pump to be deep-sump plate supplying under-piston nozzles
- Pump operating angles to be rated minimum 45 degrees fore/aft, side/side
- Engines rated speed under full load to be 2000 rpm
- Grid heater, HD batteries, fuel warmer, low temp. hydraulic oil for cold weather.

- Four level auto shutdown system built into engine controller

Comply: Yes_____ No_____

Exceptions: _____

TRANSMISSION:

- The loader shall have a torque converter with proportional shifting, electronic control module, torque sensing auto-shift, manual shifting, and full modulation.

The transmission shall also have:

- 4 speeds forward, 3 speeds reverse
- Travel speeds:

Forward	Reverse
○ 1st 4.7mph	5.0mph
○ 2nd 7.9mph	8.4mph
○ 3rd 15.2mph	15.9mph
○ 4th 23.5mph	N/A
- Countershaft design with helical cut gears
- Electric forward/reverse shifting with programmable, computer controlled proportional shifting with programmable gear selection for ease of operation. Allows operator to choose automatic or manual mode to match job conditions.
- Selectable clutch cutout on left brake pedal
- Torque converter stall ratio 2.81:1
- Transmission kick-down button located on loader control lever
- Auto-shift transmission, fully programmable
- Downshift capability 2nd to 1st with kick-down switch
- Down shift capability from 4th to 1st in auto-shift mode
- Programmable to shift no higher than 2nd or 3rd gear in auto-shift mode
- Programmable to start out in 1st or 2nd gear in auto-shift mode
- Limp-Home mode
- Lube for life drive shaft
- On-board diagnostics with fault code storage and retrieval
- Selectable F/R shifting button on loader control lever

Comply: Yes_____ No_____

Exceptions: _____

AXLES:

- The loader shall have a fixed front and oscillating rear axle.

The axles shall also have:

- Limited slip differentials front and rear with 45% power transfer
- Outboard planetaries providing final axle ratio of 20.2/20.4:1
- Total rear axle oscillation of 24 degrees
- Locking differentials or axles shall not be considered equal

- Full-time 4-wheel drive with no operator intervention

Comply: Yes_____ No_____

Exceptions: _____

BRAKES:

- The loader shall have fully hydraulic, sealed multiple wet disc brakes located within the outboard planetaries to provide ease of service when necessary.

The brakes shall also have:

- A separate system for front and rear.
- Brakes shall be oil-cooled, hydraulically actuated maintenance free with accumulator to all four wheels
- Brakes operated by a single brake pedal
- A disc parking brake located on the transmission output shaft
- The parking brake is spring applied/hydraulically released
- The parking brake is switch operated
- The parking brake is applied when electrical power is lost
- Minimum brake surface area to be 600 square inches per hub
- Inboard brakes are not considered equal

Comply: Yes_____ No_____

Exceptions: _____

STEERING:

- 40 degrees of articulation either side of center
- Center-pivot articulation
- Hydraulic steering with on-demand, flow-amplified system
- Cushioned steering cylinders mounted on top half of frame out of harms way

Comply: Yes_____ No_____

Exceptions: _____

OPERATOR STATION:

- A fully enclosed, all weather ROPS cab with factory rear view camera system
- Pressurized with replaceable filter cartridges, max sound level in cab of 68 db(a)
- Year round climate control, Heater, Defroster, and Air Conditioning
- Floor mounted accelerator and brake pedal
- Rubber floor-mat
- Transmission shift lever on left side of steering column
- All glass surfaces to be free of rubber moldings, glass to be floor to ceiling

- Anti-glare strip on windshield and sun visor, tinted glass
- Side windows that open fully and secure to the rear of cab
- Side windows that may also be secured in partially open position
- Entry door on left side of cab that opens and secures 180 degrees to the rear
- Front and rear wipers and washers
- Intermittent front wiper
- Interior dome light
- 2 interior mirrors and 2 exterior, heated rear-view mirrors
- Fully adjustable cloth, heated air-suspension seat with retractable seat belt
- Servo-assist loader control levers with downshift button
- Loader controls lock-out switch
- Parking brake alarm, sounds if transmission engaged while brake is on
- LCD display screen located on right ROPS pillar
- An on/off device to control activation of:
 - Return-to-dig
 - Height control
 - Float control
 - Return-to travel
 - Ride control
- Front and rear fenders
- Lighting:
 - 2 front headlights
 - 2 front LED floodlights
 - 2 front LED worklights
 - 2 rear LED tail and stop lights
 - 2 rear LED floodlights
- Amber rotating beacon plus 4-corner LED strobes
- Horn
- Tilt steering column, under seat drawer, coat hook, 12v accessory port
- Back-up alarm, plus rear view camera
- SMV emblem plus lighted license plate bracket
- Ride control which de-activates when traveling below 3 MPH, and re-activates when traveling above 3 MPH, or can be controlled manually
- Operator Information Center monitoring all critical machine functions
- On-board diagnostics with code storage and retrieval
- Accessory power package – 24V to 12V power converter for two-way radio
- AM/FM/Bluetooth radio with auxiliary input
- Instrumentation: Displays/gauges
 - Tachometer
 - Speedometer
 - Engine coolant temperature
 - Engine oil pressure
 - Transmission oil temperature
 - Hydraulic oil temperature
 - Voltmeter
 - Fuel level
 - Hourmeter
 - Direction selected F/N/R
 - Transmission mode, auto shift/manual shift
 - Gear selected
 - Gear position
 - Turn signal indicator

- o Indicator lights for:
 - Beacon
 - Work Lights
 - Controls lock-out
 - Low coolant
 - Brake pressure
 - Master indicator
 - Parking brake
 - Air conditioning
 - Hydraulic oil filter
 - Transmission filter
 - Air filter
- o Contoured RH console with easy read-reach/reach sealed switch layout
- o Built-in cooler box for cold drinks and lunch
- o Lockable storage compartment, cup holder, misc. storage tray

Comply: Yes_____ No_____

Exceptions:_____

DIMENSIONS:

- Maximum wheelbase 128"
- Maximum overall length 322"
- Maximum height to top of cab 133"
- Minimum articulation 40degrees
- Maximum width over tires 101"
- Minimum ground clearance 15"
- Minimum angle of departure 29 degrees
- Maximum outside turning radius 226"
- Minimum centerline tread width 80"

Comply: Yes_____ No_____

Exceptions:_____

HYDRAULICS:

- Closed center, pressure/flow compensated, load sensing hydraulic system
- Tandem, variable displacement pumps
- Minimum pump capacity 54 gpm @ 2000 rpm
- O-ring face seal hydraulic fittings
- All lines to be steel or high-pressure wire braided hose
- Full flow filtration to 10 micron
- (3) three spool loader valve with 1 lever and roller switch control
- Full flow replaceable cartridges on return line
- 100 mesh screen on pressurized oil inlet
- Full flow oil cooler on return side

- Pilot control for lift, tilt, and auxiliary hydraulic circuits
- Electromagnetic detents in float, raise, and roll-back circuits
- Maximum main relief pressure 3625 psi
- Maximum cycle time with rated load 8.8 seconds
- Hydraulic diagnostic quick couplers
- Cushioned steering cylinders

Comply: Yes_____ No_____

Exceptions:_____

MULTIPLE WORK MODES:

- Max Power Mode – Extreme conditions
 - Peak horsepower
 - Maximum hydraulic power
 - Maximum hydraulic flow
 - Maximum tractive effort
 - Maximum productivity
- Standard Power – Normal conditions
 - Rated horsepower
 - Improved fuel economy over Max mode
 - Maximum hydraulic power
 - Maximum hydraulic flow
- Economy Power Mode – Lift and carry
 - Lower horsepower
 - Maximum hydraulic power
 - Maximum hydraulic flow
 - Maximum fuel economy
- Automatic Power Mode
 - Automatically matches power curve to the application
 - Improved fuel economy over Max and Standard modes
 - Maximum hydraulic power
 - Maximum hydraulic flow
 - Maximum productivity per gallon of fuel

Comply: Yes_____ No_____

Exceptions:_____

EXTENDED REACH LOADER AND LOADER LINKAGE:

- The loader arms shall be heavy duty design
- Loader arms to be in-line design
- Z-Bar design with single bucket cylinder
- Dual lift cylinders
- Flame-cut design for loader arms, bucket link, and Z-bar for strength and durability
- Bucket level indicator

- Return-to-dig, return-to-travel, and automatic height control
- Sealed tear-drop type loader pins
- Heavy-duty elliptical cross-member to absorb shock loads evenly
- Double acting cylinders with hardened, chrome-plated rods
- Lift cylinders: 4.8" bore, 3.0" rod
- Dump cylinder: 5.8" bore, 3.0" rod
- A hydraulic quick coupler, switch operated from within the cab shall be provided
- The coupler shall be a JRB 416 Series, to match with the county's current fleet
- The loader shall be delivered with a 2.75 yd. Multi-purpose bucket for use with the coupler described above. The bucket shall be complete with reversible bolt-on-edges and hook.
- The coupler must be compatible with all other loader attachments owned by the County, no exceptions.

Comply: Yes_____ No_____

Exceptions:_____

PERFORMANCE CRITERIA:

- For purpose of comparison, criteria is based on a machine with a 3.5-yd pin-on bucket
- Minimum hinge-pin height, fully raised 172"
- Minimum dump-angle, fully raised 50 degrees
- Minimum dump-height, fully raised, 45 degree dump 129"
- Minimum dump-reach, fully raised, 45 degree dump 46"
- Minimum ISO operating load 9,800 lb.
- Maximum ISO material-density 2,800 lb/yd.
- Minimum ISO straight tipping load 22,700 lb.
- Minimum ISO full-turn tipping load 19,600 lb.
- Minimum lift-capacity to full height 14,790 lb.
- Minimum lift-capacity at ground level 24,600 lb.
- Minimum dump cylinder breakout force 30,390 lb.
- Minimum operating weight 33,000 lb.

Comply: Yes_____ No_____

Exceptions:_____

SERVICEABILITY:

- All daily maintenance to be achieved from ground level
- All filters to be vertically mounted
- Lubed for life U-Joints
- Double tapered bearings at articulation joint with 1,000 hr. grease interval
- 65 gallon fuel tank plus 15.5 gallon DEF tank
- Total hydraulic system minimum 47 gallons
- Minimum cooling system 7.5 gallons
- Minimum engine oil with filter 16 quarts

- Minimum total axle capacity 37 qt. front, 24 qt. rear
- Maximum transmission service with filter 9.0 gallons
- Sight gauge for hydraulic and transmission levels
- Pre-cleaner for air filter.
- One-piece electric tilt rear engine hood for open access to service points.
- Grouped remote drain points for engine oil, coolant, hydraulic oil
- Articulation and loader lift arm locking bars
- On-board diagnostics with fault code storage and retrieval
- Ganged lube points, all accessible from ground level
- Electrical system disconnect switch with remote jumper terminals
- Side frame covers and bottom guards required
- Cab mounted ABC fire extinguisher

Comply: Yes_____ No_____

Exceptions:_____

TIRES AND WHEELS:

- 20.5 x 25R, L-3 radial tires
- 3-piece heavy duty steel rims
- 1 matching spare to be supplied

Comply: Yes_____ No_____

Exceptions:_____

WARRANTY AND MAINTENANCE REQUIREMENTS:

- 3-year, 3000-hour (whichever occurs first) premier full machine warranty
- 3-year, 3000-hour preventative maintenance contract, custom designed to follow the exact schedule recommended by the machine manufacturer. All scheduled service shall be performed on owners site without additional charges for travel or mileage. 3-year telematics subscription shall be included.
- Machine orientation session upon delivery of the machine
- Machine shall be delivered with one comprehensive operator's manual in printed form, securely attached within the operator's compartment. A parts manual and service manual shall be provided in USB format.

Comply: Yes_____ No_____

Exceptions:_____

Miscellaneous

- Delivery to Mercer County, 300 Scotch Road, West Trenton, NJ 08628
- To be titled to the County of Mercer with registration and tags included, title will state "County of Mercer"

- 55 gallon drum of DEF (Diesel Emission Fluid)

Comply: Yes_____ No_____

Exceptions:_____

OPTIONAL EQUIPMENT TO BE PRICED SEPARATELY

RPM217 TIER 4 LOADER-MOUNTED SNOW BLOWER

GENERAL

- This equipment is capable of handling all types of snow, including wet, heavy snow to hard packed frozen snow. The unit is capable of arduous duty for prolonged periods of time, without deformation and/or failure of components, in ambient temperatures down to minus forty degrees (- 40°C) (- 40°F).
- Two stage type snow blower.
- Two (2) 432 mm (17 in.) augers.
- Impeller housing and telescopic truck loading chutes.
- Plastic bushings and rubber absorbers are used on mobile components of the snow blower such as the chute, the engine cowling, battery tray, in order to avoid any metal-to-metal contact and eliminate vibration problems and premature wear of these parts by friction.

Comply: Yes_____ No_____

Exceptions:_____

CAPACITY

- Up to 1800 tons per hour, depending on snow conditions.
- Capable of casting from the telescopic chute or side chute (impeller housing).
- Side chute: capable casting distance up to 46 m (150 ft).
- Telescopic chute: capable casting distance up to 12,2 m (40 ft).

Comply: Yes_____ No_____

Exceptions:_____

DIMENSIONS

- The overall width is 2795 mm (110 in.), width can be increased to 2946 mm (116 in.) with optional steering vanes (see item 6.3 in the steering vanes section).
- Overall height with standard telescopic chute retracted is 3277 mm (129 in.)
- Overall height with chute fully extended is 3937 mm (155 in.)
- Working height is 1270 mm (50 in.)
- Overall length is 1984 mm (78 1/8 in.) without steering vanes & female coupler.

- Overall length is 2223 mm (87 ½in.) with the optional steering vanes (2946 mm – 116 po cutting width) and without female coupler.
- The unit weight with fuel tank full, DEF, fixed steering vanes but no attachment is approximately 3674 kg (8100 lb).

Comply: Yes_____ No_____

Exceptions:_____

FRAME

- Fully welded construction
- The triangular frame design composed of two (2) oversize beams on each side, maintains the structure integrity during hard work and makes it more resistant to impacts.

Comply: Yes_____ No_____

Exceptions:_____

SCRAPER BLADES AND SKATES

- Two (2) outside and four (4) inside steel skates, for a total of 3781 cm² (586 in²) of wear surface.
- Two (2) reversible scraper blades made of 100CHT steel, 25.4 mm x 101 mm (1 in. x 4 in.)
- Carbide skates and scraper blades.

Comply: Yes_____ No_____

Exceptions:_____

STANDARD TELESCOPIC LOADING CHUTE

- The loading chute is 305 mm (12 in.) in diameter and consists of two (2) vertical sections, one (1) directional section and two (2) flexible sections.
- 762 mm (30 in.) hydraulic extension allows the loading chute to cast at any adjustable height from 3175 to 3937 mm (125 to 155 in.)
- The chute is located to the left of the impeller and has the ability to cast snow on either side of the unit.
- A rigid rotation system utilizes two (2) different materials, steel and UHMW thermoplastic, to prevent friction and wear.
- Flexible and directional sections are fabricated from 3.5 mm (.1345 in.) thick QT400 steel.
- Flexible section rotates with the use of one (1) hydraulic cylinder controlling the projection distance from 1 to 12 m (3 to 40 ft)*. *Up to 46 m (150 ft) from side casting through the impeller housing.
- Hydraulic rotation is 300°.
- Rotating with hydraulic motor and 60-1 chain.

Comply: Yes_____ No_____

Exceptions:_____

IMPELLER AND IMPELLER CASING

- The impeller's nominal diameter is 841 mm (33 1/8 in.) and consists of five (5) bolted on and concaved impeller blades that are fabricated of 9.5 mm (3/8 in.) 44W steel.
- Unrestricted impeller casing intake:
 - The intake diameter is 840 mm (33 1/16 in.)
 - Impeller casing internal diameter is 854 mm (33 5/8 in.)
- The impeller casing is made of 9.5 mm (3/8 in.) 44W steel.
- The rotation of the impeller casing is hydraulically operated by a worm gear system which rotates to a total of 135°, enabling to cast to the right and to the left side without any manual adjustments.
- Impeller housing depth is 262 mm (10 5/16 in.)

Comply: Yes_____ No_____

Exceptions:_____

AUGERS

- Two (2) interchangeable full flight augers of 432 mm (17 in.) diameter. Augers are welded in one (1) piece.
- The augers are fabricated from 6 mm (1/4 in.) CHT100 steel, with a continuous weld on a 114 mm (4 1/2 in.) OD tube x 13 mm (1/2 in.) wall.
- A rubber deflector is bolted onto the blower frame, over the top auger.

Option: bolted ice breakers

Comply: Yes_____ No_____

Exceptions:_____

ENGINE

- Caterpillar® Tier 4 Final Diesel engine, 129.4 kW (174 hp) @ 2200 rpm, turbocharged and after cooled. Engine is approved and audited by Caterpillar on the application.
- Number of cylinders : 4.
- Alternator: 100 Amps.
- Radiator is located on the right side. This reduces the number of mechanical gears, gearboxes, and related maintenance. It will also increase torque and horsepower while reducing fuel consumption.
- Two (2) stage dry type air filters with clogging indicator (easy assembly).
- Engine block heater of 600 W.

- Maximum engine torque: 750 Nm (553 lb-ft) @ 1400 rpm.

Comply: Yes____ No____

Exceptions:_____

FUEL

- 175 litres (46 gallons) steel fuel tank with mechanical gauge allowing for an eight (8) hour use (depending on snow conditions).
- Primary, water separator, Diesel filter with replaceable element
- Secondary Diesel filter with replaceable element
- Injection system with electronic control

Comply: Yes____ No____

Exceptions:_____

ELECTRICAL SYSTEM

- 12-volt starter
- Two (2) batteries type 31 - 2250 CCA, maintenance free.
- Low oil pressure, high coolant temperature, high intake air temperature, and high fuel pressure shutdown system.
- Option: Low coolant level shutdown system.
- All electrical components are in a weatherproof box.
- All welds are covered by shrink tube. Terminals are welded. Circuit protection with breakers.
- All wire cables type GXL are marked every 152 mm (6 in.)
- 5 m (17 ft) weatherproof quick disconnect cable joins the control panel in the loader cab to the snow blower unit.
- Seven (7) wire cable between loader and snow blower.
- Relays and circuit breakers are identified with stickers.

Comply: Yes____ No____

Exceptions:_____

HYDRAULIC SYSTEM

- Six (6) US GPM (23 litres/min.) hydraulic pump, directly mounted on engine auxiliary drive.
- Mono-block type electro hydraulic valves.
- Hydraulic hoses are SAE 100R2 type.
- Ten (10) microns oil filters on return line.
- 9 litres (2.4 gallons) hydraulic oil tank.

Comply: Yes_____ No_____

Exceptions:_____

ENGINE COWLING

- Steel & aluminium fabrication.
- Opening up with two (2) gas cylinders allowing easy access to the radiator.
- Height from the ground is 1788 mm (70 3/8 in.).

Comply: Yes_____ No_____

Exceptions:_____

CLUTCH

- Hydraulic Twin Disc clutch system model SP111.
- A hydraulic cylinder with cab control actuates the clutch. The hydraulic movement is controlled by an electronic circuit to ensure that the operator is not able to engage the clutch inappropriately. During operation, if the cylinder is not in the proper position, the system disengages the clutch and advises the operator through visual and audible warning alarms as well as a textual alarm.
- An angular position sensor is installed directly on the clutch disc. This angular sensor prevents the clutch engagement when the engine rpm is not at idle.
- The system also prevents engine start-up when the clutch is engaged.
- The clutch system is equipped with a lever, allowing emergency manual engagement in the event of a clutch engagement failure.

Comply: Yes_____ No_____

Exceptions:_____

POWERTRAIN

- The powertrain system is composed with a minimum of components for a maximum of reliability:
 - One bevel type gearbox
 - A chain drive system with oil baths
 - Two (2) drive shafts series 1550 & 1480 providing power to the augers and impeller.
- All components are lubricated by means of oil baths.
- All oil baths have level gauges.
- Primary drive chain is a 50-3 endless chain.
- Secondary drive chain (for the augers) is a 80-1 chain.
- Chain tension adjustment with two (2) eccentrics.
- Two (2) sets of shear bolts protecting the impeller and augers.
 - Two (2) sets of shear bolts protecting the impeller and augers.

- The second set of shear bolts is located on the driveshaft, between the impeller gearbox and the chain case.
- Shear bolts located in easily accessible locations through swing doors.

Comply: Yes_____ No_____

Exceptions:_____

CONTROL SYSTEM

STANDARD

- Heavy duty control and display system PLUS +1 from SAUER DANFOSS using a multiplexing communication system.
- High resolution greyscale LCD screen, 2 in. x 4½ in.
- Four (4) button CANBUS joystick and ignition key switch.
- Two-page display of the following information: engine revolution (rpm), engine oil pressure (psi), engine coolant temperature (°F), system voltage (V), engine load factor, fuel level, engine hour meter, engine alarm lights, clutch engagement light, optional work lights state, optional chute lights state and detailed textual description of errors.
- Maintenance log and record display.
- English display

OPTIONS

- One (1) 256 LCD color screen 3 ⅛ in x 5 ¾ in.
- Miniature joystick for loaders with limited cabin space.
- Wireless remote control system. 12 volt system comprised of (2) two wireless transceiver modules which replace all cables between the snow blower and the loader cabin. The screen is installed in the cabin besides the joystick allowing the operator to monitor every operation such as: engine start-up, emergency shut off, hydraulic functions, engine commands and information from INSIDE the cabin away from weather and work hazards. A safety switch is included to switch off the system when unit is not in use.
- Function on the screen to deactivate the impeller casing rotation in order to avoid accidental side casting (from the impeller casing chute) in residential areas.

CONTROL FUNCTIONS

- Screen function for clutch engagement and disengagement.
- Joystick functions for chute deflector and rotation.
- Joystick functions for variable engine throttle control.
- Joystick function for impeller casing rotation.
- Joystick function for chute extension.
- Joystick function for steering vanes.
- Joystick sensibility configurable on the LCD screen
- Clutch angles programming protected by passwords.
- Stored engine code readings accessible directly on the LCD display.
- Joystick manual on LCD screen.
- An emergency stop on the blower and an emergency stop in the cabin.

LIGHTS AND INDICATORS

- Hour meter

- Voltmeter and oil pressure gauge
- Engine coolant temperature gauge
- Fuel level gauge
- Stop and diagnostic engine lights
- Warning light and audible alarm for clutch malfunction.
- Visual and audible alarm for air intake overheating, cooling liquid temperature, low oil pressure, engine stoppage, low system charge, and clutch errors.
- Working and chute light indicator. Lights are offered in option.
- Visual alarm for low fuel level, check engine, activated heating elements and maintenance due.

Comply: Yes_____ No_____

Exceptions:_____

PAINT

- All metal surfaces are properly prepared for painting to ensure removal of any/all surface rust, welding slag, soot, dirt, grease or wax.
- Two (2) component epoxy primer of 2-3 mil thickness.
- Two (2) component polyurethane paint (manufacturer's standard yellow) of 3-4 mil thickness.

Comply: Yes_____ No_____

Exceptions:_____

MANUALS

- One (1) parts catalogue and one (1) operation and maintenance manual are supplied with the snow blower (on CD). The electrical diagram is included in the parts catalogue.

Comply: Yes_____ No_____

Exceptions:_____

TRAINING

- Training, on-site, for a period of at least 6 hours. The snow blower unit training for the operators will include mechanical general maintenance, as well as methods of operation.

Comply: Yes_____ No_____

Exceptions:_____

WARRANTY AND AFTER-SALES SERVICE

- The snow blower is covered by a one (1) year or 1500-hour warranty, including parts and labor. To this end, we can provide documentation outlining the warranty's terms and conditions.
- 24 hour service at all times and inventory stock levels to be maintained for all parts essential to the normal operation of the snow blower.

Comply: Yes_____ No_____

Exceptions:_____

ADD ALTERNATE OPTIONS

- Battery Heater \$_____
- Oil heater for hydraulic system
\$_____
- High hydraulic temperature protection
\$_____
- Work lights on the blower
\$_____
- Work lights on the chute
\$_____
- Low level coolant sensor
\$_____
- LED Lights
\$_____
- Artic oil (hydraulic, engine, oil bath, gearbox, chains and reducer).
Constant operation under -25°C/-13°F.
\$_____
- Female quick attach complete system (RPM supplies the quick attach)
\$_____
- Maintenance harness
\$_____
- Wireless remote emergency engine shutdown system
\$_____
- Complete wireless system
\$_____