

TOWNSHIP OF TUDOR AND CASHEL

REQUEST FOR QUOTATION

TRACTOR/GRADER/SWEEPER/BOOM MOWER

SEALED QUOTATIONS plainly marked "Request for Quotation 21-01 Tractor/Grader/Sweeper/Boom Mower" will be received at the Township by the undersigned at the address below until 9:00 a.m. local time on January 12, 2021 for the supply of one Tractor with specified attachments.

Township Specifications and Quotation Forms may be obtained from the Municipal Office or Township website and **must** be used.

The Township of Tudor and Cashel reserves the right to reject any and all quotations and to not proceed with the project. The lowest or any quotation will not necessarily be accepted.

Request for hard and soft copies of manuals parts manuals would be greatly appreciated.

In the event only one bid is received the Corporation of the Township of Tudor and Cashel reserves the right to either accept or refuse it. Bidder agrees to save the Municipality harmless of any compensation if the tender is cancelled. Bids received after the closing time and date will be returned unopened.

Quotations must be submitted in sealed envelopes clearly marked "**Request for Quotation 21-01 Tractor/Grader/Sweeper/Boom Mower**" to the attention of:

NANCY CARROL
Clerk-Treasurer
TOWNSHIP OF TUDOR AND CASHEL
371 Weslemkoon Lake Road
GILMOUR, ON
K0L 1W0
613-474-2583

Township of Tudor and Cashel
Request for Quotation 21-01
Tractor/Grader/Sweeper/ Boom Mower

Instructions

- 1) The Township will verify compliance with the specifications as submitted by the bidder prior to acceptance of the bid. Failure to provide this information will render the bid proposal NON-RESPONSIVE. Minor deviations or differences due to manufacturing changes or processes may be acceptable, at the Township's sole discretion. Any differences must be relatively minor in scope and may not relate to capability or performance.
- 2) The bidder shall submit the following additional information to assist in the evaluation of the equipment offered:
 - Latest and Current Specifications
 - Advertising Literature
 - Photographs of Proposed Unit
 - Any other relevant information that would be helpful in the evaluation process
- 3) Unrealistic Bids – The Township of Tudor and Cashel reserves the right to reject any bid that is unbalanced, unrealistic, or where the disproportionate component costs of equipment, or purchase price are deemed to be unrealistic or not truly reflective of current market conditions.
- 4) Compliance – The bidder shall itemize any and all variations from, or exceptions to the conditions and specifications of the tender. Such lists shall clearly identify the variation or exception by page number and paragraph. If no variation or exception is listed the township will assume none exists.
- 5) Exceptions – The fact that a manufacturer chooses not to produce equipment or material to meet these specifications will not be considered sufficient cause to reject the bid. Bidders shall offer the equipment that comes closest to meeting or exceeding, these specifications. Where deviations from the specifications contained herein are necessary, the bidder shall note such deviation. Bidder shall state why, in their opinion, the equipment they offer will render equivalent reliability, coverage and performance. Failure to detail any and all such deviations will be sufficient cause for rejection of the entire proposal.
- 6) Bid Evaluation – Units offered will be subject to analysis by the Township of Tudor and Cashel Roads Dept. staff for quality of construction, performance and at the townships option, an onsite demonstration to accurately and fairly evaluate units bid that township personnel may not be familiar with. Compliance with specifications and conditions will also be used to evaluate bids. The capability of the vendors to support the unit bid will also be taken into consideration while evaluating bids submitted. The decision of the township of Tudor and Cashel shall be final.
- 7) All equipment supplied under these specifications with the exception of the tractor unit shall be new, unused, manufactures latest model, in current

production and shall incorporate any and all modifications and/or product updates supplies and/or recommended by the vehicle manufacturer.

- 8) For information regarding bid specifications, please contact Glenn Hagerman at the following number: 613-474-2798.

**Township of Tudor and Cashel
Quotation 20-01
Tractor/Grader/Sweeper/Boom Mower**

Summary

Tractor

Year: _____

Make: _____

Model: _____

Price of Tractor	Air Conditioning And Tire Tax	Price of Grader	Price of Sweeper	Price of Boom Mower	HST	Total FOB Roads Garage
\$	\$	\$	\$	\$	\$	\$

Delivery shall be made in a timely fashion, please indicate the expected delivery date:

I/We hereby agree to abide by the terms and conditions in this tender and adhere to the specifications herein.

Sales Person

Dealer/Company

**Township of Tudor and Cashel
Quotation 21-01
Tractor/Grader/Sweeper/Boom Mower**

Tractor

Description	Specify
Specify Make	
Specify Model	
Specify Year	
Specify Warranty	
Specify Hours	

Technical specifications – Supply & Delivery of Tractor For Attachments

No.	Criteria	Yes	No	Specify
1. Supply and deliver one 4 wheel drive Tractor for mid mount boom mower, sweeper and grader				
1.1	New or Used. Used must be 2018 or newer with less than 1000 hours. Tractor must be compatible in operating weight and chassis configuration with required boom mower specifications and other required attachments			
1.2	Engine will be 120 to 140 HP approx. and will be certified for current emission standards			
1.3	540/1000 Rear PTO			
1.4	Three point hitch with Category II cross drawbar mounted to lower three point link arms			
1.5	Tractor will be able to maintain a 30 KMH road speed			
1.6	Will have a cab with current ROPS certification and training seat			
1.7	Will have heater and air conditioning			

1.8	Will have turn signals and 4-way warning lights			
1.9	Two (2) exterior rear view mirrors			
1.10	One (1) interior rear view mirror			
1.11	Cup holder			
1.12	Air ride seat turns 30 degrees right			
1.13	Am FM radio with blue tooth			
1.14	Auxiliary 12v charging ports			
1.15	Unit will have one amber revolving beacon			
1.16	Slow moving vehicle placard mounted on rear of machine in a visible location			
1.17	Unit will have the selective control valves configured to operate front three point hitch including front and rear mount hydraulic attachments			
1.18	Provisions will be made to accommodate a rear mounted PTO pump for the boom mower			
1.19	Tractor rims and tires will be able to accept ballast weight on left rear tire			
1.20	Front and Rear Directional Industrial Tires compatible in size for required mid mount boom mower.			
1.21	Rear tire(s) will be calcium filled if required by boom mower supplier			
1.22	Right side of machine will have all glass panels replaced with polycarbonate to absorb impact of debris from mowing operations			
1.23	Zuidberg front three point hitch with minimum 7700 lbs lift capacity and 2 front hydraulic services			

Technical specifications – Hydraulic Angle Sweeper

No.	Criteria	Yes	No	Specify
2. Front mount Angle Sweeper				
2.1	Angle Sweeper to install on front mount on tractor			
2.2	Mount tractor front three point hitch			
2.3	Ø32" Diameter Brush, 8' width, polypropylene and steel brush			50/50 combination
2.4	Brush activated by single drive directly on the roll center			
2.5	¾ " Hydraulic motor hoses			
2.6	Floating system of the brush to follow the ground variation (swing arm)			
2.7	Adjusting the brush pressure to the ground by 2 springs			
2.8	The hood covering 180 degrees of the brush			
2.9	Brush supported by 2 ball bearings 1 ¾ "			
2.10	Height indicator to be in a good sweeping position			
2.11	4 Anchor and lifting holes			
2.12	2 adjustable caster wheels (18.5 ") on the front of the brush			
2.13	Angulation 30 degrees both side			
2.14	Traveling spring kit to absorb bumps			
2.15	Rubber dust deflector			

No.	Criteria	Yes	No	Specify
2.16	Brush rotation 150-160 RPM @ 12 GPM			
2.17	All parts are sandblasted individually. One coat of epoxy primer and one polyurethane top coat			
2.18	One-year warranty on parts and labor			
2.19	2020 or 2021 year of manufacture			
2.20	Delivery (5-6 weeks when we receive the PO)			

Technical specifications – Laneway Grader

No.	Criteria	Yes	No	Specify
3. Laneway Grader				
3.1	Length – 16'			
3.2	Working width – 8'			
3.3	Weight – 980 kgs			
3.4	Tongue weight – 500 kgs			
3.5	Hydraulic lift on front and rear of grader. Hand crank for setting pitch angle			
3.6	Tires – ST225/75 R15 high speed trailer tire			
3.7	Spindles – 5000 lbs x 2			
3.8	Grader blades: Rear – 5/8" x 6" x 96" Standard C1090 grader blade Front and middle – 5/8" x 6" x 72" Standard C1090 grader blade X 2			

No.	Criteria	Yes	No	Specify
3.9	Light kit - Wesbar with rear facing red and amber flashing. Standard 7 pin tractor connector.			
3.10	Weight kit – Adds 550 kgs to rear of Grader.			
3.11	Hydraulic Pitch adjust - Hydraulics in place of hand crank. Comes with gauges.			

Technical specifications – Modular Frame T4F Boom 30S

No.	Criteria	Yes	No	Specify
	<p>4. It is the purpose of the following specifications to describe a hydraulic driven boom mower. Mowing is forward and right of the right rear tire and extended by means of an articulated two section boom with hydraulic break away. This unit shall be constructed to interchange with any of the following: 50" Rotary Cutting Head, 60" Rotary Cutting Head, 63" Flail cutting head, 50" Flail Cutting Head, 48" Saw Blade, 50" WetCut Sprayer, Boom Snow Blower, 22" Rotary Ditcher, 60" Side Rotary Mower or 75" Side Flail Mower.</p> <p>The unit will be the manufacture's current production model with a minimum of (1) one year previous production, meeting or exceeding the terms of these specifications.</p> <p>Unit's shall be manufacturer's heaviest duty model available. The vendor shall guarantee that a stock of component parts be available at a location convenient to the user. For any offer to be considered, all items must be of a standard production model, not modified for bid purposes. It is a requirement of this bid that vendors submit the pertinent information requested in each section marked "(VENDOR REQUIREMENT)". <u>In the event the requested material and responses are not supplied, by the bidder, the bid submitted will be considered non-responsive and will automatically be rejected.</u></p>			
Tiger Boom Mower 24 Foot Reach				
	SAFETY AND TESTING			

4.1	<p>Shall meet the following industry standards: SAE: J232(Rotary), J1001(Flail), J284, J990, J1065. ANSI/ASAE- 201.4, S203.13, S205.2, S279.12, S350, EP363.1, S483, S493. ASTM: A370. (VENDOR REQUIREMENT)Submit compliance report signed by a registered Professional Engineer(PE).</p>			
4.2	<p>Unit shall be equipped with a 7 second brake valve on the cutting assembly.</p>			
4.3	<p>Electric Solenoid control transport lock to be integrated into the mower control box. Mower control box will have a large red on/off button to stop and start boom mower system</p>			
	<p>MAIN FRAME</p>			
	<p>Main Frame shall be constructed to be supported on the front tractor bolster, center of tractor and rear axel housings, to absorb side torque and impact of severe applications.</p>			

<p>4.5</p>	<p>Main Frame shall be constructed of fabricated 80,000 PSI steel, bolted directly to each side of tractor frame. An underbelly frame member, running under engine, shall be welded, box frame constructed, and connect the mainframe to each side of tractor (specifically excluding frames over hood designs). A bolt on mast assembly shall have an integral swing cylinder as a welded assembly with the mast assembly.</p>			
<p>4.6</p>	<p>Main Frame shall have a bolt on mast assembly to allow easy change from Boom Mowers to Side Mower attachments. Weldment shall bolt face to face with tower and shall have a mounting surface with not less than 10, 3/4" grade 5 bolts. Mounting surface shall be constructed of 80,000 lbs. steel 1/2" thick. (VENDOR REQUIREMENT) Vendor shall submit diagram of mast mounting.</p>			
	<p>BOOM SWIVEL BRACKET</p>			

<p>4.7</p>	<p>Swivel shall be box construction with a 100,000 PSI yield steel swivel cylinder tang with a vertical bearing boss, with steel backed, porous bronze inner structure, and acetal resin overlay bearings. Bearings shall have grease pockets built in and support a 2 1/2" vertical pin. Pin shall be constructed of 4140 cold drawn steel, prehardened(heat treated), to a minimum yield of 105,000 PSI, pin shall be zinc plated. (VENDOR REQUIREMENT) Submit manufacturer of bearing, model and size.</p>			
<p>4.8</p>	<p>Swivel shall connect to inner boom cylinder with a greaseless spherical bearing. (VENDOR REQUIREMENT) Submit type of bearing and size.</p>			
<p>4.9</p>	<p>Swivel shall be supported by a greaseless thrust washer to eliminate galling between swivel bracket and boom mounting bracket. (VENDOR REQUIREMENT) Submit ID and OD dimensions and thickness.</p>			
<p>4.10</p>	<p>Hydraulic Hoses shall be routed thru hose clamp/guides with hose guards to prevent chaffing.</p>			
<p>4.11</p>	<p>Boom swivel base will be a minimum of 44" off the ground level. Vendor to state swivel base measurement to ground level.</p>			

4.12	Base shall have integral boom swivel attachment fork and constructed of 3/4" and 1" thick 100,000 PSI steel. (VENDOR REQUIREMENT) Submit material and thickness of fork.			
4.13	Horizontal swing cylinder shall have an internal cushion device to limit flow when boom is operated to the forward boom position.			
4.14	PRIMARY BOOM			
4.15	Primary boom shall have a minimum of 70,000 PSI 8" x 6" structural tube and reinforcement with 50,000 PSI steel.			

<p>4.16</p>	<p>Primary boom shall have a one piece reinforced cylinder attaching rib, with the end welds strategically welded around end of rib to boom upper surface. Inner reinforcement shall be a 1/4" x 5 " anchor plate, saddle mounted to the top of boom. Anchor plate shall be structurally welded to main tube and have 2, 1" diameter core welds in the top center of plate. Outer reinforcement shall be 1/4" box sectioned, 100,000 PSI steel with 2, 1" x 6" core weldments on each side, and 1, 1 x 1 1/4" oblong core welds. Inner end of Primary boom shall have a 1 1/2" diameter 105,000 PSI yield, hardened, nitride surface pin, with a high-strength, steel backed, porous bronze inner structure, acetal resin overlay bearing installed. (VENDOR REQUIREMENT) Submit a complete description of boom, materials, and boom reinforcements.</p>			
<p>4.17</p>	<p>Pressure and return lines will be preformed steel tubes, or hoses, with hoses at pivot points and mounted to back of boom. (Specifically excluding hoses and tubing inside or front of booms)</p>			
<p>4.18</p>	<p>Top mounted double acting lift cylinder shall have a nitrogen accumulator.</p>			
<p>4.19</p>	<p>Cylinder end attach points shall have replaceable bearings. Primary boom lift cylinder shall not be less than 5" in diameter.</p>			

	SECONDARY BOOM			
4.20	Secondary boom shall have a minimum of 50,000 PSI yield 6" x 4" tube and reinforced at all stress points.			
4.21	Pressure and return lines are preformed steel tubes and hoses mounted to rear of boom.			
4.22	Cylinders shall be welded, double acting and mounted to top of boom. Hydraulic cylinder mounted between primary and secondary boom shall have a spherical bearing rod end.			
4.23	Outer end of secondary boom shall have an integrally designed mounting boss, box sectioned into the boom. (Specifically excluding external boom end reinforcements)			
	HYDRAULICS			
4.24	Pump shall be direct drive from the tractor front crankshaft adapter. (rubber mounted engine design shall have a double u-joint pump drive shaft) (VENDOR REQUIREMENT) Submit type of shaft attachment supplied.			

4.25	<p>Reservoir shall be internally treated against corrosion with industry approved chemical agent at time of manufacture. Reservoir shall have a in tank filter rated at 75 GPM, 10 micron, 200 beta, element with bypass, restriction gauge, minimum (1) one PSI pressure at suction outlet and have ball valve at suction line. Tank pressurized to 3 PSI. (VENDOR REQUIREMENT) Submit material used to treat reservoir. Type, design and micron size of filter element.</p>			
4.26	<p>Reservoir shall be mounted in tractors left hand rear wheel well. Reservoir shall have sufficient clearance for proper cooling and shall be a minimum 37 gallons of oil in an operating condition. Reservoir shall have a minimum of not less than 5" clearance (oil cold) from top of reservoir for expansion. Hydraulic fluid level and temperature gauge to be built-in reservoir.</p>			
4.27	<p>Hydraulic pressure connections shall meet SAE O-ring and JIC standards.</p>			
4.28	<p>Pump shall be front mount, cast steel housing, steel gears, rated at 3250 PSI, 45 GPM and 96 HP input. (specifically excluding piston type pumps and cast aluminum housing pumps)</p>			
4.29	<p>Suction hose shall be unrestricted. (Specifically excluding suction filters and screens)</p>			

4.30	Hydraulic oil shall meet a cleanliness standard of ISO 46 rating, and the ISO Code 16/14/11 or better. (VENDOR REQUIREMENT) Submit report of oil sample.			
4.31	Hydraulic hoses and tubes shall be cleaned with pneumatic, triple projectile cleaning, and shall maintain a JDS-G169, class 5.6. ISO cleanliness rating. (VENDOR REQUIREMENT) Submit method of cleaning and standard met.			
4.32	Motor shall have cast steel housing with steel gears.			
4.33	Mower control valve shall be an electrically controlled, pilot operated. Logic elements shall be used to control pressures and ramp up and down speed to prevent excessive pressure spikes to system. Valve shall stop mower from turning in the off position and will not cause a restriction to generate drift while in the off position.			
4.34	Mower control valve shall stop cutter assembly in maximum of 7 seconds from full RPM. (VENDOR REQUIREMENT) State time to stop from full RPM.			
	JOY-STICK CONTROL LIFT VALVE			
4.35	Joy-Stick Valve Option: Shall be an electro-hydraulic, load sensing valve. Valve shall have interchangeable spools and shall have a manual over-ride for each section, and 12 volt electrical actuation.			

<p>4.36</p>	<p>Valve(Joy-Stick) shall have load-independent flow control, oil flow to individual function is independent of the load pressure of the function. Valve shall have built in pressure relief in pump side module(PVP), with system capabilities of pressures of not less than 4,350 psi continuous, and 4,640 psi intermittent. PVP shall have a pressure gauge connection for service and have an open center option for fixed displacement pumps.</p>			
<p>4.37</p>	<p>Valve (Joy-Stick) body shall have interchangeable spools, integrated pressure compensator, check valves, and different spool variants. Valves shall be configured with manual over-ride levers on one end and an electronic actuation module on the other.</p>			

4.38	<p>Electrohydraulic(Joy-Stick) actuation module shall integrate directly with proportional valve body. Module shall have integrated electronics, sensors, and actuators, and shall have a feedback transducer measuring spool movement in relation to input signal, module shall control the direction, velocity, and position of main valve spool. Module shall have automatic active fault monitoring, and directional indication and LED light indication. Module shall have low hysteresis and shall have attachment for a sealed Deutsch connector. (REQUIRED)Vendor shall provide module hysteresis value, brand of connector, and IP rating of connector.</p>			
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<p>4.39</p>	<p>Joy-Stick controller shall be an ergonomic right hand control, with two proportional functions on X-Y mode, and a top grip to house two proportional rollers. Controller handle shall have a leather-like grained surface to allow hand to breathe during operation. Controller rollers shall have a spring centered potentiometer with a working range of + or - 42°. Controller shall be adjustable with dead band adjustment, independent voltage limiting potentiometers for each function, and integrated direction switches for each proportional module. Controller shall have integral cable plug in, and an RF shielded cable shall be supplied by the manufacturer. (VENDOR REQUIREMENT) Vendor shall state the manufacturer, model, and type of electronic module, joy-stick, and valve.</p>			
	<p>COUNTERWEIGHT</p>			

4.40	<p>Counter weight, with tractors having 30" minimum rear tires shall have a total ballasted weight (wheel weight and Calcium Chloride solution) of 2,087 lbs. Wheel weight shall be cast steel, mounted flush to outside of wheel, and shall weigh not less than 1,300 lbs. for 18' and 22' boom reaches. Counter weight, with tractors having 34" minimum rear tires shall have a total ballasted weight (wheel weight and Calcium Chloride solution) shall be a minimum of 2,781 lbs. Wheel weight shall be cast steel, mounted flush to outside of wheel, and shall weigh not less than 1,700 lbs.(specifically excluding flame cut steel and or frame mounted weights) (VENDOR REQUIREMENT) Vendor to state total ballast weight and describe and list wheel weight.</p>			
	OPERATOR PROTECTION			
4.41	<p>Shall have 3/8" right side, hard surfaced, polycarbonate protection for operator. Installed into the original cab manufactured door and or side window. (VENDOR REQUIREMENT) State thickness, manufacturer, and type of hard surface to polycarbonate.</p>			
	STOW SYSTEM			

<p>4.42</p>	<p>A double axle mounted boom stow system shall be attached directly to tractor with a frame member extending to the right-hand and left hand rear axle housing and further extend forward to mower main frame. 3 point hitch system shall function normally.</p>			
<p>4.43</p>	<p>Stow system shall consist of an axle brace extending from the mower mainframe running and below and attached to the right and left rear axle housing. The axle brace shall attach directly to the upright posts behind each axle.</p>			
<p>4.44</p>	<p>The axle brace shall be of the square tube design. Axle brace shall be provided of not less than A500 material 4" x 4" square tube with a minimum 1/4" wall. The tube shall attach to the mower mainframe and extend below and attach to the right rear axle. A similar brace shall be provided to the left side.</p>			
<p>4.45</p>	<p>The upper stow assembly shall be constructed of 1/4" x 4" x 4" square tubing saddle mounted to axle brace extending above and behind the right rear axle.</p>			
<p>4.46</p>	<p>The adjustable stow plate shall be attached to upper stow assembly and shall be adjustable up or down and side to side in 3" increments.</p>			

Technical specifications – Heavy Duty 50” Rotary Head

No.	Criteria	Yes	No	Specify
5.Tiger RT 50D				
	CUTTING HEAD			
5.1	Shall be constructed of 110,000 PSI yield Domex® steel 1/8" deck and 1/4" thick side walls and (4) four trapezoidal formed 50,000 PSI Domex steel reinforcements. Top to be continuously welded for strength and eliminate debris from collecting under reinforcements. (VENDOR REQUIREMENT) Vendor shall indicate manufacturers material, PSI, and type of welding.			
5.2	Shall have full length replaceable abrasion resistant skid shoes.			
5.3	Rubber safety shield shall be bolted to back side of deck.			

5.4	Safety shield shall be operated hydraulically from operators position and shall extend below the cutting plane. Safety door shall be constructed of 100,000 PSI Domex Steel and meets all ANSI / SAE tests for rotary mowers. (VENDOR REQUIREMENT) Vendor shall indicate door protection type and maximum hydraulic pressure required to maintain door placement.			
5.5	Head shall weigh no less than 815 lbs.			
5.6	Head shall rotate 180° around outer boom and cutter head shall have 50" of actual cut.			
5.7	Cutter head pivot assembly shall be fully welded and integrated into the cutter head design. (specifically excluding cutter heads that bolt to pivot assembly)			
	SPINDLE			
5.8	Spindle shall be (1) one piece forged and heat treated with integral 7 1/4" O.D. drive hub. (specifically excluding multi-piece shafts and direct drive spindle assembly's) (VENDOR REQUIREMENT) Vendor to provide line drawing of spindle indicating overall length, diameter of cutting assembly attachment, and material used, including material yield strength.			

<p>5.9</p>	<p>Spindle shall be attached to hydraulic motor by a flexible coupler and dust cover. (Specifically excluding direct drive motor/spindle assembly's) (VENDOR REQUIREMENT). Hydraulic hoses shall be connected by high pressure flat face couplers for safe connecting and disconnecting. Vendor shall describe spindle motor attachment.</p>			
<p>5.10</p>	<p>Spindle assembly shall have minimum torsional shear capacity of 4,174 ft-lb torque, 231,000 PSI yield rotational strength and distribute load over 169 sq. inch area. (VENDOR REQUIREMENT) Vendor shall provide size of attachment, number, grade, and size of bolts used to attach.</p>			
<p>5.11</p>	<p>Spindle shall have stationary wire wrap protection. Wire wraps shall be a minimum of 4 3/8" x 4 3/4", 3/8" thick. The wraps will also act as reinforcements for spindle housing. Wraps shall be not less than 1/16" from the drive spindle. The top of spindle housing shall have 2" x 3 1/2", 3/8" thick welded reinforcements. (VENDOR REQUIREMENT) Vendor shall describe wire wraps.</p>			

5.12	<p>Spindle shall be mounted in sealed, double tapered roller bearing, grease reservoir with a O-ring plug and port to drain old grease. Assembly shall be filled with synthetic grease. (Specifically excluding barrel and spherical bearings) (VENDOR REQUIREMENT) Vendor to indicate manufacture and type of bearing.</p>			
5.13	<p>Spindle shall rotate 19,000 FPM blade tip speed at rated(2,300) tractor RPM. (VENDOR REQUIREMENT) Vendor shall indicate speed.</p>			
5.14	<p>Spindle drive area shall be enclosed and fully protected from outside debris entering into the drive coupler.</p>			
	<p>KNIFE CARRIER</p>			
5.15	<p>Shall be one piece, laser cut dual spin formed, recessed center disc, with a diameter of 31". Dynamically balanced (per ISO quality G2.5 spec), 50,000 PSI yield steel dish, 5/8" x 28 5/8" diameter with a 40° formed outer edge extending out 3 5/8" and attached to spindle with (6) six 5/8" x 1 3/4", grade 8 bolts. US Patents - US D562,3575. (VENDOR REQUIREMENT) Vendor to Indicate type, size, and material of disc.</p>			
5.16	<p>Knife carrier shall have no structural welds.</p>			

5.17	Knife carrier shall accommodate (2) (3) (4) or (6) 5/8" x 5 x 18 3/4", 360° swinging, single edge, flat (no bends), 5/8" brush knives. (Optional) Grass knives shall be available.			
5.18	Knives shall be attached by a 1 1/8" x 3 1/4" shouldered and keyed bolt, backed by T-1 spacer and hex lock nut.			
5.19	Cutter knives shall be shot peened with a chamfered bolt hole.			
	BOOM DIMENSIONS (Specify Dimensions)			
5.2	Reach Out With 50" Head Will Be 24 feet			

**Township of Tudor and Cashel
Quotation 21-01
Tractor/Grader/Sweeper/Boom Mower**

Exceptions to Specifications

The fact that a manufacturer chooses not to produce equipment or material to meet these specifications will not be considered sufficient cause to adjudge these specifications as restrictive. Bidders shall offer the equipment, which comes closest to, or exceeds, meeting these specifications. Where deviations from the specifications contained herein are necessary, the bidder shall note such deviations. Bidders shall state why, in their opinion, the equipment or materials they offer will render equivalent reliability, coverage and performance. Failure to detail any and all such deviations will compromise sufficient grounds for rejection of the entire proposal.

Unrealistic Bids

The Township of Tudor and Cashel reserves the right to reject any bid that is unbalanced, unrealistic or where the disproportionate component costs of equipment or purchase price.

Warranty Explanation and Documentation Page

Each bidder shall explain, in detail, in the space below, the warranty coverage offered and attach sample documents for the Township of Tudor and Cashel inspection. Additional pages may be added as necessary.

Warranty to FOB: Roads Garage, Gilmour.