

FORM N: DETAILED SPECIFICATIONS 21011

INDUSTRIAL SIDEWALK MACHINE

1.0 INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

- 1.1 All items in these specifications should be answered indicating compliance or non-compliance.
- 1.2 **Bidders shall state “yes” for compliance or state “deviation”**, or give a reply where requested to do so. Deviations and/or equivalents shall be clearly stated and fully detailed. Deviations and/or equivalents will be considered subject to evaluation. In every instance where a brand name or design specifications is used, the City will also consider deviations and/or equivalents.
- 1.3 Lengthy explanations of deviations may be included in a separate document and must reference the appropriate Detailed Specification.
- 1.4 Each Bidder is required to fill in every blank. Failure to do so may be used as a basis for rejection of bid.
- 1.5 It will be the responsibility of the Bidder to inform the City of any errors or omissions in these Detailed Specifications, for under this Contract, the Contractor shall be held responsible to ensure that the manufacturer will be responsible for the design, performance, reliability and satisfactory operational function of the unit.

2.0 DESCRIPTION OF EQUIPMENT

- 2.1 These specifications describe **INDUSTRIAL SIDEWALK MACHINE** and other equipment and features as specified herein. Intended use and application: the **INDUSTRIAL SIDEWALK MACHINE** will be operated 24 hours, 7 days a week by the City of Winnipeg for seasonal snow clearing, spring cleanup and mowing and must be capable of towing a 2.5 yd³ capacity Colpron 2250 sander spreader weighing an estimated 8000 lbs. when loaded.
- 2.2 The **INDUSTRIAL SIDEWALK MACHINE** shall be a new 2021 model year or newer.
- 2.3 The **INDUSTRIAL SIDEWALK MACHINE** and all other items/components shall be the manufacturer's latest model. The equipment shall be furnished complete and ready for operation. Any parts or accessories not specifically mentioned, but which are required to complete and place the equipment and associated attachments in successful operation shall be furnished as though specifically mentioned in these specifications. The equipment and associated attachments, and all parts thereof, shall conform in strength and quality of material and workmanship, to the best standards and engineering practice of the industry.
- 2.4 The **INDUSTRIAL SIDEWALK MACHINE** shall be the manufacturer's latest model, as may be modified by these specifications. The **INDUSTRIAL SIDEWALK MACHINE**, including all auxiliary equipment, shall be furnished complete and ready for use. All parts not specifically mentioned but which are required for the complete unit shall conform in strength, quality of material and workmanship, to the best standards and engineering practice in the industry.
- 2.5 The ratings specified herein merely state the minimum values acceptable to the City, not implying that those values are sufficient for the design of the particular equipment being bid.

3.0 OTHER SPECIFICATIONS AND STANDARDS

- 3.1 All applicable SAE Standards form an integral part of the vehicle specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 3.2 **INDUSTRIAL SIDEWALK MACHINE** shall comply with the applicable regulations:

Transport Canada, National Safety Mark, NSM: <http://www.tc.gc.ca/eng/acts-regulations/acts-road.htm>

Manitoba Safety and Health Regulation, Parts 12, 16, 22: <https://web2.gov.mb.ca/laws/statutes/ccsm/w210e.php>

Canadian Motor Vehicle Safety Standards C.M.V.S.S. http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._1038/section-sched3.html

Manitoba Highway Traffic Act regulations and requirements including, but not limited to, a Manitoba Government Inspection with Safety Sticker. <http://web2.gov.mb.ca/laws/regqs/index.php?act=h60>

Canadian Standards Association, CSA: <http://www.csagroup.org/>
Under Writers of Canada, U/L: <http://www.ulc.ca/>
Society of Automotive Engineers, SAE: <http://www.sae.org/>
City of Winnipeg Lighting Visibility Standard: <http://winnipeg.ca/matmgt/pdfs/PublicWorksEquipLightingVisibility.pdf>
Manitoba Building Code: <https://web2.gov.mb.ca/laws/reg/current/pdf-reg.php?reg=31/2011>

- 3.3 All welding and welding designs of the load supporting elements shall conform to the requirements of the Canadian Standards Association Standard (CSA) W47.1-03 and W59-03.
- 3.4 The completed unit shall include a Manitoba Government Inspection with Safety Sticker on the driver's side window.

4.0 REFERENCES

- 4.1 Provide five (5) references where this equipment is used in a working environment where climatic conditions are similar to the City of Winnipeg.

5.0 MAKE & MODEL

- 5.1 Eligible models are: **Trackless MT7 or MacLean MV4, or EQUIVALENT IN ACCORDANCE WITH B6. SUBSTITUTES.**
- 5.2 State year, make and model being bid: _____

6.0 PERFORMANCE RELIABILITY

- 6.1 The responsibility for the design of the Industrial Sidewalk Machine, its performance and reliability shall rest upon the Contractor.
- 6.2 The term "repeated failures" as used herein is defined to mean that the same component, subassembly, or assembly develops repeated defects, breakdowns and/or malfunctions rendering the vehicle inoperative, or requiring repeated shop correction, service and/or replacement during the warranty period applicable for said component, subassembly, of assembly. Minor items or ordinary service adjustments are not included, or considered under the scope of "repeated failures", as well as other factors, such as operational damage due to accidents, misuse or lack of proper maintenance, service and lubrication attention by not following the manufacturer's preventative maintenance schedule.
- 6.3 Where the Industrial Sidewalk Machine develops "repeated failures" in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance.
- 6.4 The equipment shall be capable of consistent top performance in City of Winnipeg Environment. Note: The City of Winnipeg has four seasons with ambient temperatures ranging from approximately 90°F (32°C) to -40°F (-40°C).

7.0 FUEL

- 7.1 Where applicable, all equipment must be fully fueled upon delivery (no exceptions).

8.0 QUALIFICATIONS OF MANUFACTURER & CONTRACTOR

- 8.1 The manufacturer of the **INDUSTRIAL SIDEWALK MACHINE** shall have five (5) years continuous experience manufacturing the equipment.

8.2 The manufacturer shall have in effect a documented quality control program ensuring that the quality of materials and workmanship, including welding, conforms to the best standards and engineering practice of the industry.

8.3 The Contractor shall have five (5) years continuous experience servicing, repairing and maintaining **INDUSTRIAL SIDEWALK MACHINE** of the type being offered.

9.0 SPECIFICATIONS:

9.1	Type	A four-wheel drive articulating and oscillating, rubber tired, diesel powered multi-purpose heavy duty industrial tractor, designed for year-round work and utilizing existing City of Winnipeg owned attachments (PTO driven snowblowers sweepers, mowers and hydraulic angle plows).	_____
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DIMENSIONS

9.2	Length	Overall length including rear bumper approx. 149 to 155".	_____
9.3	Height	Height of top of cab including air conditioning and lighting approx. 83 to 88".	_____
9.4	Track width	Track width (wheel to wheel) with radial tires approx. 50.0".	_____
9.5	Overall width	Overall width including fenders approx. 50.5".	_____
9.6	Turning radius	Inside turning radius approx. 90.0", state.	_____

OPERATING WEIGHT

9.7	Weight	Approx. 6,500-6,900 lbs.	_____
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ENGINE

9.8	Engine specification	Diesel, Emissions Tier IV Final, must meet current Emission Standards.	_____
9.9	Horse Power	Approx. 74 HP Net.	_____
9.10	Torque	Torque approx. 224 lb-ft.	_____
9.11	Engine block heater	Required.	_____
9.12	Cold weather starting aid	Glow plugs or air intake warmer, state type.	_____
9.13	Reversible fan with fan guarding	To reduce dirt and debris from radiator fins.	_____

9.14 Radiator guard For the rear radiator and oil cooler. (Steel tubing etc.). _____

9.15 Fuel tank Single fuel tank capacity approx. 92-100L. _____

POWERTRAIN

9.16 Hydrostatic transmission Variable hydrostatic drive control by electronic foot pedal programmed to control hydrostatic independently or both engine rpm and hydrostatic simultaneously. _____

9.17 4 wheel drive With high/low range and neutral _____
Or
High/mid/low range and neutral with shift-on-the-fly between ranges. _____

9.18 Travel Speed Low range: 0 to 12 km/h (0 to 8 mph) _____
Mid-range: 0 to 16 km/h (0 to 10 mph) _____
High range: 0 to 30 km/h (0 to 19 mph) _____

9.19 Cruise control Hydrostatic lock/cruise control _____

9.20 Ride control Automatically senses ground speed and overhung load of attachment to calculate shock load and cancel out tractor bounce. _____

OPTIONS

9.21 10:1 deep reduction planetary transmission Four (4) speed ranges, capable of 0-10 feet/minute operating speed for use with a cold planer. **State** optional price. \$_____

AXLES

9.22 Front and rear axles Full float Dana axles with new heavy duty alloy spindles and limited slip differentials. _____

9.23 Capacity Approx. 7000-12000 lbs. _____

9.24 Differential lock Sidewalk machine shall have electrically or electrically over hydraulically activated axle differential locker for front axle. _____

9.25 Wheel studs Each axle shall have 6-8 wheel studs, with wheel nut indicators. _____

PTO

- 9.26 PTO PTO drive system to be mechanical by way of a clutch. Electric over hydraulic actuation with indicator light. _____
- 9.27 Safety PTO clutch shall include a switch to prevent engagement of the PTO clutch at engine RPM's above idle or equivalent. _____
- 9.28 Front PTO Approx., 1-3/8 inch diameter, 6 spline 540 PTO rpm @ 2160 engine rpm. _____

IMPLEMENT HITCHES

- 9.29 Hitches Sidewalk machine shall be supplied with a front quick hitch system. Implement height shall be controlled by two double acting hydraulic cylinders that are operated from the operator joystick. Spring load lift latches hold the implement frame in place _____
- Or
- Attachment positioning functions controlled by a mechanical 4 spool valve. Four (4) valves incorporate float settings with attachment positioning control valve that allows simultaneous operation of all 4 functions. _____
- 9.30 Attachments Sidewalk machine shall be capable of attaching and operating existing attachments already owned by the City of Winnipeg. _____
- 9.31 Lift Sidewalk Machine shall be equipped with an externally mounted control switch for operation of the main lift cylinders to allow an operator to easily and safely attach/detach attachments from outside the cab or equivalent. For safety reasons this shall also be connected to a safety switch in the operators seat to disable this control if there is another operator in the cab. Hydraulics shall operate at reduced pressure and speed for predictable and safe operation. _____
- Or
- With (4) spool valve to allow finite proportional control of attachment positioning functions by way of a dash mounted dial. With adjustable circuit between 2- 12 GPM. _____

BRAKING SYSTEMS

- | | | | |
|------|----------------|---|--|
| 9.32 | Braking | <ul style="list-style-type: none"> • Hydrostatic dynamic braking _____ • Mechanically or hydraulically actuated emergency/parking brakes. _____ | |
| 9.33 | Service brakes | Hydraulic service brakes (drum and shoes) on all 4 wheels. _____
Or _____
Internal wet style disc brakes on all 4 wheels. _____ | |

WHEELS AND TIRES

- | | | | |
|------|--|--|----------|
| 9.34 | Winter Tires and rims to be installed on the unit. | Commercial grade winter rated snow/ice radial, LT 245/75R x 16, 10-ply radials mounted on heavy duty steel rims. State make and model. _____ | |
| 9.35 | Optional Turf Tires and rims for use on park fields. | State optional price. Commercial grade turf tires, 32 x 13.50 x 15 4 ply tires mounted on heavy duty steel rims. State make and model. _____ | \$ _____ |

HYDRAULIC SYSTEM

- | | | | |
|------|---|--|--|
| 9.36 | Hydraulic gear pump for tractor drive, steering and attachments | Approx. 20-24 gpm. _____ | |
| 9.37 | Couplers | Six front hydraulic couplers (3 pairs) to be supplied for various City of Winnipeg currently owned attachments. _____ | |
| 9.38 | Auxiliary hydraulic gear pump | To supply 2 front couplers (1 pair) with a high volume of fluid dedicated to power attachments requiring approx. 14-18 gpm. _____ | |
| 9.39 | Rear coupler | With 1 pair of guarded high flow hydraulic couplers to power various attachments. Hydraulic circuit equipped with an "auto off" control for when the tractor is stopped or reversed. _____ | |
| 9.40 | Coding | Hydraulic couplers shall be colour coded. _____ | |
| 9.41 | Hoses | Hydraulic hoses to have NPT, SAE straight thread or SAE split flange fittings (metric not acceptable). Main hydraulic lines from pump to drive motor fabricated high strength metal tubing and secured to side frame rail. _____ | |

9.42 Tank Hydraulic tank equipped with a main shutoff valve and level sight guage. _____

ELECTRICAL

9.43 Voltage 12 volt, negative ground system _____

9.44 Batteries Approx. 950 CCA battery with remote boost terminals. With battery disconnect switch in cab. Switch to be lockable in the off position. _____

9.45 Alternator Approx. 200 Amps. _____

9.46 Breaker Main breaker switch protection. _____

9.47 Instrumentation (gauges) Tachometer and non-resettable hour meter, coolant temperature, engine oil pressure, hydraulic oil pressure, voltmeter, fuel gauge, speedometer with odometer. _____

9.48 Independent 12 volt circuit For 2 way radio or other accessories _____

9.49 Towing provisions 7 prong trailer plug with brake controller and trailer hitch with 2-5/16" ball for towing capacity of approx. 8000 lbs. _____

State towing capacity. _____

9.50 Wiring harness Wiring harnesses shall be professionally manufactured with terminals that are machine crimped to ISO standards. All wiring connections to be soldered, crimped, and heat shrunk. _____

9.51 Wire locations Both ends of all harness wires shall have letter location codes and wire numbers printed permanently on the wire insulation. Codes and numbers shall be shown on all parts manual exploded views and wiring schematic drawings and charts. _____

9.52 Wires All single wires not part of a harness shall have a part number permanently printed on the insulation. All wiring connections to be soldered, crimped, and heat shrunk. _____

9.53 Fuses To be mini blade type and shall be contained within an IP76 water tight enclosure. _____

9.54 Connectors _____
Shall be standard Packard weatherproof. Bulkhead connectors shall be twist lock type. All wiring connections to be soldered, crimped, and heat shrunk.

LIGHTING

9.55 Lights _____
There shall be 4 LED headlights and 1 LED backup light, 1 rear work light. All 6 lights are to be of the same make for parts consistency, adjustable by the operator if needed, and protected by a suitable cage to prevent damage from branches and other obstacles. (All lighting shall be sufficiently guarded for application and City of Winnipeg operating environment). All wiring connections to be soldered, crimped, and heat shrunk.

9.56 Signals _____
There shall be signal lights, 4 way flashers, and an interior dome light and shock proof rubber mounted tail lights. Rear mount stop tail lights shall be mounted in a location not to impede visibility when utilizing a tow behind sander spreader.

9.57 Safety lighting _____
There shall be amber and blue LED roof-mounted strobe type flashers at all four corners of the tractor for 360 degree visibility (4 blue and 4 amber = 8 lights in total). The strobe lights shall be incorporated into the roof-top cage to prevent damage from branches and other obstacles. These amber and blue light circuits are to be individually switched for independent or simultaneous operation when chosen.

9.58 Type _____
All lighting accept headlights are to be LED.

9.59 Brake light operation _____
Brake lights are to illuminate when machine is put into gear and turn off when hydrostatic pedal is depressed.

Brake lights to illuminate when mechanically or hydraulically actuated emergency/parking brakes are applied.

CAB

9.60	Cab panels	All panels and roof shall be steel. Steel sides to be 10 gauge or heavier. Steel or flexible rubber fenders.	_____
		Or	
		Hoods, cab roof and side panels: TPO (Thermoplastic Polyolefin) composite material with flexible rubber fenders. Metal access door.	_____
9.61	Roof guard protection	If roof is not steel	_____
9.62	Cab structure	ROPS (Roll Over Protection) system Certified ROPS cab structure with certification label.	_____
9.63	HVAC system	Heating/air conditioning with cab pressurization.	_____
9.64	Front window	With intermittent wiper and washer	_____
9.65	Rear window	With intermittent wiper and washer	_____
9.66	Dual inside mirrors	Required.	_____
9.67	Exterior mirrors	Two exterior, vibration free side view mirrors with easily fold back (break-away) to prevent damage from branches, fences and other obstacles.	_____
9.68	Seat	High back fabric-covered seat with adjustable armrests and lumbar support. Seat shall be air ride suspension with 3 point seat belt including shoulder harness (shall be retractable type).	_____
9.69	Seat belt warning light	Located on instrument panel.	_____
9.70	Radio	AM/FM/Bluetooth stereo, dual speakers and external aerial. Hands free communication.	_____
9.71	Steering	Tilt steering column with self-cancelling turn signals. Horn button mounted in the center of the steering wheel.	_____

9.72	Attachment controls	Joystick control with 8 backlit membrane switches. 4 float position switches with additional LED indicator lights. Switches colour coded to circuits. FNR (forward/neutral/reverse) switch. Or Mechanical 4 spool valve. All (4) valves incorporate float settings. Attachment positioning control valve allows simultaneous operation of all 4 functions.	_____
9.73	Glass	DOT approved tinted, tempered safety glass for all windows.	_____
9.74	Side windows	Slider type.	_____
9.75	Sound deadening material	Sound deadening material on both the cab walls and floor. Floor matting shall have heavy-duty vinyl wear surface.	_____
9.76	Pocket	Operator's manual pocket inside cab, within easy reach of the operator.	_____
<u>PAINT/FINISHED</u>			
9.77	Paint	All steel components prepped in 4 stage phosphate wash, 2 part epoxy primer with rust inhibitor, 2 part polyurethane automotive top coat. Or Thermoplastic polyolefin (TPO): Hood and cab roof.	_____
9.78	Corrosion resistance	The following parts shall be zinc plated: <ul style="list-style-type: none">• Lift latches, levers, linkages and secondary locks• Battery hold down straps and bolts• Hood support rod• Fender side mounting brackets• Door striker plates• Miscellaneous small mounting brackets	_____
9.79	Insulating material	Insulating material to prevent galvanic corrosion shall be provided at all possible areas of contact between dissimilar metals. The insulation material used shall be nonporous.	_____
9.80	Colour	Yellow or red exterior with black trim, grey/black interior.	_____

WARNING DECALS

- 9.81 The following decals are required on the tractor
- 9.82 Pinch pint decals _____
- 9.83 Danger: rotating shaft decal _____
- 9.84 Function/operation decal _____
- 9.85 Diesel fuel only: on fuel reservoir (0.75" high letters). _____
- 9.86 Diesel exhaust fluid only: on fluid reservoir (0.75" high letters). _____
- 9.87 Hydraulic oil only: on oil reservoir (0.75" high letters). _____
- 9.88 Decals for adjustment procedures _____
- 9.89 Grease chart decal: approx. 11" x 12" under top hood. Decal shall include illustrations for showing grease points. _____
- 9.90 ROPS Certification: metal tag. _____
- 9.91 Serial number/model/model year: metal tag. _____

SAFETY

- 9.92 Neutral safety start To prevent the engine from starting unless shifted into neutral. _____
- 9.93 Fire extinguisher 2.5 lbs. High volume ABC type, and flare kit, **state** location. _____
- 9.94 Seat safety switch Shall automatically shut down the engine if the operator leaves the seat without placing the shifter into neutral. The seat safety switch shall automatically shut down the PTO circuit if the operator leaves the seat without turning off the PTO button. The seat safety switch shall automatically shut off hydraulic flow to the rear couplers for the sidewalk sander if the operator leaves the seat. _____
- 9.95 Reflective striping (conspicuity tape) On both sides of cab and rear side hoods, as well as on the rear hood below the taillights. _____
- 9.96 Cab Entry Easy access for operator entry/exit. There shall be a step no higher than 14" above the ground. The step shall be approximately 11" wide and shall be behind the front wheel. _____

9.97	PTO Access	Access to the PTO shaft shear bolt shall be from inside the cab. This is also where the PTO shaft is connected when attaching an implement.	_____
9.98	Utilization (mowing operations)	In the event that the City of Winnipeg utilizes the tractor to perform mowing operations, the hydraulic circuits that power the mower wings shall turn off automatically when wings are raised to a pre-determined angle. When lowered, they shall be re-started. This feature shall be designed into the tractor for future additional attachment purchases.	_____
9.99	Back-up alarm	Approx. 105 dB., state.	_____
9.100	Back-up camera	Required.	_____
9.101	Slow moving sign	Slow-moving vehicle warning triangle.	_____

GREASING SYSTEM

9.102	Greasing system:	NLGI-0 heavy-duty automatic lubrication system -System layout shall perform under the operating principles of a Parallel injection system (Progressive systems not acceptable). System shall be connected to all grease points, outfitted with automatic low level shut-off, with an in cab monitor showing system status such as low level, low pressure and/ or fault code display.	_____
9.103	Pump reservoir	a), a 3-4 kg reservoir (due to space confinements) and parameters preprogrammed required, accommodating a 500 hour service interval. Pump to be mounted vertical, and have the correct filler adapter fitting for City of Winnipeg maintenance staff to refill reservoir. Pump and pump mounting bracket to be mounted to the machine, secured and free of any movement. Pump to be guarded to avoid impact with trees and debris. Pump to be mounted with rubber or neoprene isolators to prevent galvanic corrosion. b) For safety reasons, access to refill the pump reservoir shall be via remote fill line of min. 3/8in. hose to accommodate a refill procedure at ground level.	_____ _____
9.104	Power input	System power connection 12-24-Volt to ignition source with an accessible fuse protection and for greasing system to shut down completely when the engine is turned off (LED lights supplied by a battery source power not acceptable).	_____

9.105 Grease lines

a) Main grease lines: Extreme Low temperature (example: Eaton Areo Quip Match Mate Global Ice SAE 100R16) steel braided rubber hose with compatibility to accommodate max working pressure of 6000psi. Each hose on all connected points outfitted with #4 JIC crimped ends between pump and manifold(s). **State** grease line burst pressure:_____

b) Secondary grease lines: 3/16 in. nylon heavy wall secondary grease line or equivalent, and must be installed and protected from extreme environments such as heat sources and components producing vibration. _____

c) In extreme environment areas such as the lower machine articulator pin, and front plow attachments, heavy wall pipe must be fitted. _____

9.106 Thread sealant

Applied to main and secondary grease lines of each fitting. _____

9.107 Greasing points

a) **State**, quantity of greasing points. _____

b) **State**, quantity of grease points that cannot be connected to the automatic lubrication system but will be connected with remote grease lines. Where remote lines are utilized, decals must be applied stating manual greasing is required with recommended grease application intervals. _____

9.108 Injector manifolds

All manifolds to be fitted with nylon lock nut hardware and securely mounted in an area away from debris impact. Special guards should be fitted for injector manifolds and hoses in areas of consistent debris impact, i.e., snow and ice over the plow blade, road spray, etc. _____

9.109 Environmental impact, over-greasing, System Layout

The system layout and grease injector delivery shall not over-grease any component to the extent where OEM warranties are voided. In addition, environmental impact features shall be incorporated in the automatic lubrication system, i.e., no grease pumped while parked or leaving excessive grease on roadways. Any modification to mount the system that requires drilling, cross drilling, enlargement of existing fitting sizes by drilling and tapping or welding must be preapproved by the contractor administrator prior to installation. Such activities can and will void warranty thereby holding the auto greasing system company liable for any costs and damages involved with the equipment. _____

OPERATOR STATION ERGONOMICS

Entry/ Exit

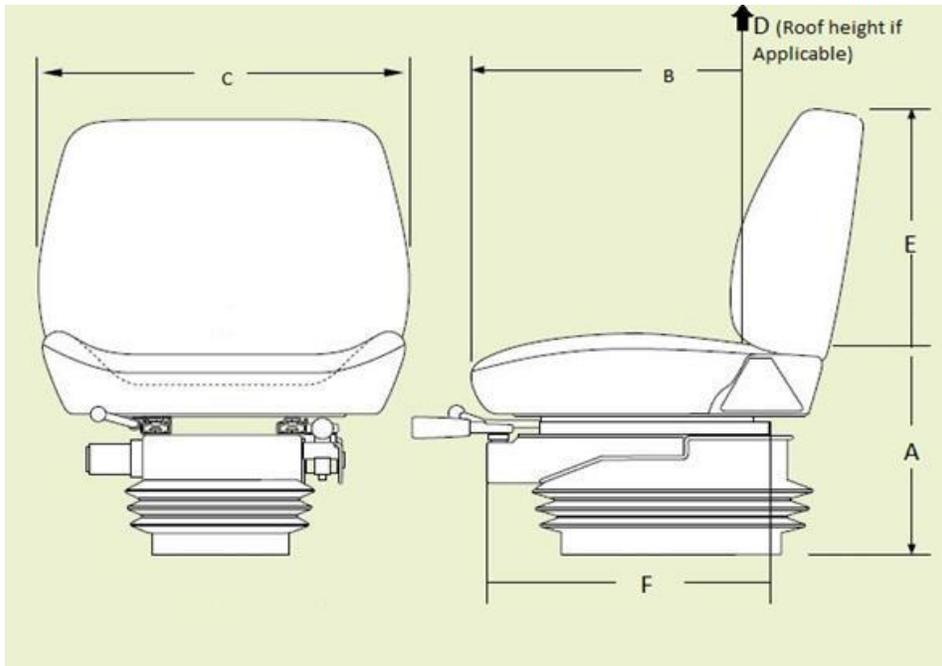
9.110 First step entry height **State**, height of first step in inches. _____

9.111 First handhold entry height **State**, first handhold entry height in inches. _____

9.112 Access to equipment **State**, door opening height in inches. _____

- 9.113 Access to equipment **State**, door opening width in inches. _____
- 9.114 Designed to prevent slipping Anti-slip steps/handholds **(Y or N)?** _____

Seat (use below diagram to answer questions)



- 9.115 Sitting height range from floor (where feet rest) (A) **State**, seat height range in inches. _____
- 9.116 Seat length/depth (B) **State**, seat length/depth in inches. _____
- 9.117 Seat width (C) **State**, seat width in inches. _____
- 9.118 Cab height from seat to roof (if applicable) (D) **State**, cab height range in inches. _____
- 9.119 Back rest height (E) **State**, back rest height in inches. _____
- 9.120 Seat travel range (F) **State**, seat travel in inches. _____
- 9.121 Lumbar support Is lumbar support provided **(Y or N)?** _____
- 9.122 Head rest Is head rest provided **(Y or N)?** _____
- 9.123 Seat is made of breathable material **State**, type of seat material. _____

Operation

- 9.124 Reaching distance to usual work **State**, reaching distance in inches. _____
- 9.125 Maximum reaching distance **State**, maximum reach distance in inches. _____
- 9.126 Adjustable pedals (accelerator/brake/clutch) Are pedals adjustable **(Y or N)?** _____
- 9.127 Adjustable steering wheel Is steering wheel adjustable **(Y or N)?** _____

9.128 Adjustable shoulder belt Is belt adjustable and anchored (**Y or N**)? _____

10.0 **GUARANTEE BUYBACK OPTION**

10.1 If available, the Bidder should provide a guaranteed buyback amount per unit for all five (5) units. The Bidder should provide all terms and conditions to honor the guaranteed buyback price with their bid.

10.2 Guaranteed Buyback (based on 2700 hours for 4 years). \$ _____

10.3 Guaranteed Buyback (based on 4000 hours for 6 years). \$ _____

10.4 Guaranteed Buyback (based on 4600 hours for 7 years) . \$ _____

10.5 Guaranteed Buyback (based on 5300 hours for 8 years). \$ _____

11.0 **FULL MAINTENANCE PACKAGE (OPTION)**

11.1 Bidder to provide prices for full maintenance package option per unit:

11.2 Full maintenance package (based on 670 hours per year for 3 years). \$ _____

11.3 Full maintenance package (based on 670 hours per year for 4 years). \$ _____

11.4 Full maintenance package (based on 670 hours per year for 5 years). \$ _____

11.5 Full maintenance package (based on 670 hours per year for 6 years). \$ _____

11.6 **City Responsibility:** Under the Full Maintenance Package proposal the City shall be responsible for the following items for equipment under this Contract: _____

- Licensing and insurance coverage for the equipment;
- Repair of damage to the equipment where damage has proven to have been caused by negligence on the part of the City;
- Repair or replacement of tires damaged due to road hazards;
- Fuel and other normal operating and maintenance supplies including daily and weekly maintenance such as greasing, cleaning, drainage of water.
- Consumables including fuel, brooms, broom adjustments;
- Conveyor belt;
- Windshield wipers;
- Daily greasing.

11.7 **Contractor Responsibility:** Under the Full Maintenance Package proposal the Contractor shall be responsible for the following items for equipment under this Contract: _____

- All scheduled maintenance including (but not limited to) oil and filter changes, and regular service adjustments as recommended by the equipment and chassis manufacturers;
- All preventative and predictive maintenance;
- All repairs due to mechanical failure or malfunction;
- Towing costs (if unit is immobile);
- All parts and labour costs;
- Tires due to normal wear.

12.0 **WARRANTY**

12.1 All warranty information shall be detailed and include all exclusions. The Contractor shall provide all published warranty information upon delivery of the equipment. Bidder shall state all warranty information. _____

12.2 Basic vehicle **State.** _____

12.3 Batteries **State.** _____

12.4 Drivetrain **State.** _____

12.5 Cab structure/corrosion **State.** _____

12.6 Frame/cross-members **State.** _____

12.7 Cab paint **State.** _____

12.8 Engine **State.** _____

12.9 Transmission **State.** _____

12.10 Axles, front and rear **State.** _____

13.0 **DELIVERY**

13.1 Delivery Point: The complete unit(s) shall be serviced, ready for operation and delivered F.O.B. with the freight prepaid, including invoice and N.I.V.S. (if applicable) to the WFMA 185 Tecumseh Street, Winnipeg MB. The Contractor be notified by the Contractor Administrator the delivery address prior to issuance of the purchase order. _____

13.2 Delivery Time: **Six to Eight (6-8) Calendar Weeks** from the date of award. Equipment shall be delivered between 8:00 am and 2:00 pm on Business Days. _____

13.3 Delivery Contact: The Contractor shall contact the Contract Administrator prior to delivery of the equipment. _____

13.4 P.D.I: A pre-delivery inspection shall be performed by the Contractor on the equipment. Proof upon inspection including completed check list _____

14.0 **MANUALS**

- 14.1 Manuals supplied under this Contract. The manuals shall cover the complete equipment including all components thereof, CD or USB flash drive is preferred where available. _____
- 14.2 The following manuals shall be supplied with the units when delivered:
- a) Operator's manual – Two (2) per unit (one operator manual (hard copy) shall be sent to the Equipment Operator Training Branch _____
 - b) Parts and service manuals – one (1) complete sets including preventative maintenance schedules. CDs or USB flash drive are preferred. _____
- 15.0 **FIRST SERVICE PREVENTATIVE MAINTENANCE KIT**
- 15.1 In order to assure minimum downtime of the equipment in future service, the Contractor shall provide one (1) complete replacement set of new OEM filters for each unit purchased. The set of required filters shall include (if applicable to the equipment type) air, fuel, oil, transmission, cab and hydraulic, or otherwise all known necessary common replacement filters required for the first preventative maintenance servicing and first transmission service. _____
- 15.2 The Contractor shall provide a list of factory recommended lubricants to be used with the equipment, as well as a complete cross reference guide for all warranty approved lubricants and filters that can be used during preventative maintenance servicing. _____
- 16.0 **PARTS/LABOUR PRICING**
- 16.1 Bidder to provide City of Winnipeg Parts Discount % Pricing from retail parts pricing. **State percentage discount-** _____
- 16.2 Bidder to provide City of Winnipeg Labor Discount % Pricing from Retail shop labor rate. **State percentage discount-** _____

FORM N: DETAILED SPECIFICATIONS 21013

ANGLE PLOW FRONT MOUNT

1.0 INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

- 1.1 All items in these specifications should be answered indicating compliance or non-compliance.
- 1.2 **Bidders shall state “yes” for compliance or state “deviation”**, or give a reply where requested to do so. Deviations and/or equivalents shall be clearly stated and fully detailed. Deviations and/or equivalents will be considered subject to evaluation. In every instance where a brand name or design specifications is used, the City will also consider deviations and/or equivalents.
- 1.3 Lengthy explanations of deviations may be included in a separate document and must reference the appropriate Detailed Specification.
- 1.4 Each Bidder is required to fill in every blank. Failure to do so may be used as a basis for rejection of bid.
- 1.5 It will be the responsibility of the Bidder to inform the City of any errors or omissions in these Detailed Specifications, for under this Contract, the Contractor shall be held responsible to ensure that the manufacturer will be responsible for the design, performance, reliability and satisfactory operational function of the unit.

2.0 DESCRIPTION OF EQUIPMENT

- 2.1 These specifications describe **ANGLE PLOW** and other equipment and features as specified herein.
- 2.2 The **ANGLE PLOW** shall be a new 2021 model year or newer.
- 2.3 The **ANGLE PLOW** and all other items/components shall be the manufacturer's latest model. The equipment shall be furnished complete and ready for operation. Any parts or accessories not specifically mentioned, but which are required to complete and place the equipment and associated attachments in successful operation shall be furnished as though specifically mentioned in these specifications. The equipment and associated attachments, and all parts thereof, shall conform in strength and quality of material and workmanship, to the best standards and engineering practice of the industry.
- 2.4 The **ANGLE PLOW** shall be the manufacturer's latest model, as may be modified by these specifications. The **ANGLE PLOW**, including all auxiliary equipment, shall be furnished complete and ready for use. All parts not specifically mentioned but which are required for the complete unit shall conform in strength, quality of material and workmanship, to the best standards and engineering practice in the industry.
- 2.5 The ratings specified herein merely state the minimum values acceptable to the City, not implying that those values are sufficient for the design of the particular equipment being bid.

3.0 OTHER SPECIFICATIONS AND STANDARDS

- 3.1 All applicable SAE Standards form an integral part of the vehicle specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 3.2 **ANGLE PLOW** shall comply with the applicable regulations:

Transport Canada, National Safety Mark, NSM: <http://www.tc.gc.ca/eng/acts-regulations/acts-road.htm>

Manitoba Safety and Health Regulation, Parts 12, 16, 22: <https://web2.gov.mb.ca/laws/statutes/ccsm/w210e.php>

Canadian Motor Vehicle Safety Standards C.M.V.S.S. http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._1038/section-sched3.html

Manitoba Highway Traffic Act regulations and requirements including, but not limited to, a Manitoba Government Inspection with Safety Sticker. <http://web2.gov.mb.ca/laws/regs/index.php?act=h60>

Canadian Standards Association, CSA: <http://www.csagroup.org/>

Under Writers of Canada, U/L: <http://www.ulc.ca/>

Society of Automotive Engineers, SAE: <http://www.sae.org/>

City of Winnipeg Lighting Visibility Standard: <http://winnipeg.ca/matmgt/pdfs/PublicWorksEquipLightingVisibility.pdf>

Manitoba Building Code: https://web2.gov.mb.ca/laws/regs/current/_pdf-regs.php?reg=31/2011

- 3.3 All welding and welding designs of the load supporting elements shall conform to the requirements of the Canadian Standards Association Standard (CSA) W47.1-03 and W59-03.
- 3.4 The completed unit shall include a Manitoba Government Inspection with Safety Sticker on the driver's side window.

4.0 REFERENCES

- 4.1 Provide five (5) references where this equipment is used in a working environment where climatic conditions are similar to the City of Winnipeg.

5.0 MAKE & MODEL

- 5.1 State year, make and model being bid: _____

6.0 PERFORMANCE RELIABILITY

- 6.1 The responsibility for the design of the **ANGLE PLOW**, its performance and reliability shall rest upon the Contractor.
- 6.2 The term "repeated failures" as used herein is defined to mean that the same component, subassembly, or assembly develops repeated defects, breakdowns and/or malfunctions rendering the vehicle inoperative, or requiring repeated shop correction, service and/or replacement during the warranty period applicable for said component, subassembly, of assembly. Minor items or ordinary service adjustments are not included, or considered under the scope of "repeated failures", as well as other factors, such as operational damage due to accidents, misuse or lack of proper maintenance, service and lubrication attention by not following the manufacturer's preventative maintenance schedule.
- 6.3 Where the Industrial Sidewalk Machine develops "repeated failures" in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance.
- 6.4 The equipment shall be capable of consistent top performance in City of Winnipeg Environment. Note: The City of Winnipeg has four seasons with ambient temperatures ranging from approximately 90°F (32°C) to -40°F (-40°C).

7.0 FUEL

- 7.1 Where applicable, all equipment must be fully fueled upon delivery (no exceptions).

8.0 QUALIFICATIONS OF MANUFACTURER & CONTRACTOR

- 8.1 The manufacturer of the **ANGLE PLOW** shall have five (5) years continuous experience manufacturing the equipment.
- 8.2 The manufacturer shall have in effect a documented quality control program ensuring that the quality of materials and workmanship, including welding, conforms to the best standards and engineering practice of the industry.
- 8.3 The Contractor shall have five (5) years continuous experience servicing, repairing and maintaining **ANGLE PLOW** of the type being offered.

9.0 SPECIFICATIONS:

- 9.1 Angle Plows to be front mount and compatible with the City's existing **Trackless MT7 Sidewalk Tractors**. Angle plows shall be complete with all hardware (including any electrical harnesses, mounting brackets, attaching kits etc.) necessary for hook-up and proper operation for the intended application. _____

- 9.2 Plow width Approx. 60 inches, **state**. _____
- 9.3 Blade height Approx. 30 inches, **state**. _____
- 9.4 Overall length Approx. 48 inches, **state**. _____
- 9.5 Overall weight Approx. 350lbs, **state**. _____
- 9.6 Cutting edge Hardened steel, reversible ½ " x 6", **state**. _____
- 9.7 Skid shoes Two (2) adjustable. _____
- 9.8 Blade angle change Approx. 30° left and right of centre. _____
- 9.9 Hydraulic cylinders Two (2) single acting cylinders with cushion valve to protect plow if an object is struck. _____
- 9.10 Down pressure (blade) Plow capable of operating under hydraulic down pressure. _____
- 9.11 Trip system Full blade trip, returns to upright position when blade assembly raised. Blade tips forward to ride over obstructions. _____
- 9.12 Hydraulic hoses and quick couplers Couplers to be colour coded _____
- 9.13 Grease Fittings All pivot and rotational points _____

- 10.0 **WARRANTY**
- 10.1 All warranty information shall be detailed and include all exclusions. _____

The Contractor shall provide all published warranty information upon delivery of the equipment.

Contractor shall state all warranty information.
- 10.2 Defect of workmanship, construction and materials **State**. _____
- 10.3 Hydraulic cylinders **State**. _____

- 11.0 **DELIVERY**
- 11.1 Delivery Point: The complete unit shall be serviced, ready for operation and delivered F.O.B. with the freight prepaid, including invoice and N.I.V.S. (if applicable) to the WFMA 185 Tecumseh Street, Winnipeg MB. The Contractor shall be notified by the Contractor Administrator the delivery address prior to issuance of the purchase order _____

11.2 Delivery Time: **State earliest delivery time** from the date of award. Equipment shall be delivered between 8:00 am and 2:00 pm on Business Days. _____

11.3 Delivery Contact: The Contractor shall contact the Contract Administrator prior to delivery of the equipment. _____

11.4 P.D.I: A pre-delivery inspection shall be performed by the Contractor on the equipment. Proof upon inspection including completed check list _____

12.0 **MANUALS**

12.1 Manuals supplied under this Contract. The manuals shall cover the complete equipment including all components thereof, CD or USB flash drive is preferred where available. _____

12.2 The following manuals shall be supplied with the units when delivered:

a) Operator's manual – Three (3) per unit (one operator manual (hard copy) shall be sent to the Equipment Operator Training Branch _____

b) Parts and service manuals – one (1) complete sets including preventative maintenance schedules. CDs or USB flash drive are preferred. _____

13.0 **PARTS/LABOUR PRICING**

13.1 Bidder to provide City of Winnipeg Parts Discount % Pricing from retail parts pricing. **State percentage discount-** _____

13.2 Bidder to provide City of Winnipeg Labor Discount % Pricing from Retail shop labor rate. **State percentage discount-** _____

FORM N: DETAILED SPECIFICATIONS 21014

RIBBON SNOW BLOWER FRONT MOUNT

1.0 INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

- 1.1 All items in these specifications should be answered indicating compliance or non-compliance.
- 1.2 **Bidders shall state “yes” for compliance or state “deviation”**, or give a reply where requested to do so. Deviations and/or equivalents shall be clearly stated and fully detailed. Deviations and/or equivalents will be considered subject to evaluation. In every instance where a brand name or design specifications is used, the City will also consider deviations and/or equivalents.
- 1.3 Lengthy explanations of deviations may be included in a separate document and must reference the appropriate Detailed Specification.
- 1.4 Each Bidder is required to fill in every blank. Failure to do so may be used as a basis for rejection of bid.
- 1.5 It will be the responsibility of the Bidder to inform the City of any errors or omissions in these Detailed Specifications, for under this Contract, the Contractor shall be held responsible to ensure that the manufacturer will be responsible for the design, performance, reliability and satisfactory operational function of the unit.

2.0 DESCRIPTION OF EQUIPMENT

- 2.1 These specifications describe **RIBBON SNOW BLOWER** and other equipment and features as specified herein.
- 2.2 The **RIBBON SNOW BLOWER** shall be a new 2021 model year or newer.
- 2.3 The **RIBBON SNOW BLOWER** and all other items/components shall be the manufacturer's latest model. The equipment shall be furnished complete and ready for operation. Any parts or accessories not specifically mentioned, but which are required to complete and place the equipment and associated attachments in successful operation shall be furnished as though specifically mentioned in these specifications. The equipment and associated attachments, and all parts thereof, shall conform in strength and quality of material and workmanship, to the best standards and engineering practice of the industry.
- 2.4 The **RIBBON SNOW BLOWER** shall be the manufacturer's latest model, as may be modified by these specifications. The **RIBBON SNOW BLOWER**, including all auxiliary equipment, shall be furnished complete and ready for use. All parts not specifically mentioned but which are required for the complete unit shall conform in strength, quality of material and workmanship, to the best standards and engineering practice in the industry.
- 2.5 The ratings specified herein merely state the minimum values acceptable to the City, not implying that those values are sufficient for the design of the particular equipment being bid.

3.0 OTHER SPECIFICATIONS AND STANDARDS

- 3.1 All applicable SAE Standards form an integral part of the vehicle specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 3.2 **RIBBON SNOW BLOWER** shall comply with the applicable regulations:

Transport Canada, National Safety Mark, NSM: <http://www.tc.gc.ca/eng/acts-regulations/acts-road.htm>

Manitoba Safety and Health Regulation, Parts 12, 16, 22: <https://web2.gov.mb.ca/laws/statutes/ccsm/w210e.php>

Canadian Motor Vehicle Safety Standards C.M.V.S.S. http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._1038/section-sched3.html

Manitoba Highway Traffic Act regulations and requirements including, but not limited to, a Manitoba Government Inspection with Safety Sticker. <http://web2.gov.mb.ca/laws/regs/index.php?act=h60>

Canadian Standards Association, CSA: <http://www.csagroup.org/>

Under Writers of Canada, U/L: <http://www.ulc.ca/>

Society of Automotive Engineers, SAE: <http://www.sae.org/>

City of Winnipeg Lighting Visibility Standard: <http://winnipeg.ca/matmgt/pdfs/PublicWorksEquipLightingVisibility.pdf>

Manitoba Building Code: <https://web2.gov.mb.ca/laws/regs/current/pdf-regs.php?reg=31/2011>

- 3.3 All welding and welding designs of the load supporting elements shall conform to the requirements of the Canadian Standards Association Standard (CSA) W47.1-03 and W59-03.
- 3.4 The completed unit shall include a Manitoba Government Inspection with Safety Sticker on the driver's side window.

4.0 REFERENCES

- 4.1 Provide five (5) references where this equipment is used in a working environment where climatic conditions are similar to the City of Winnipeg.

5.0 MAKE & MODEL

- 5.1 State year, make and model being bid: _____

6.0 PERFORMANCE RELIABILITY

- 6.1 The responsibility for the design of the **RIBBON SNOW BLOWER**, its performance and reliability shall rest upon the Contractor.
- 6.2 The term "repeated failures" as used herein is defined to mean that the same component, subassembly, or assembly develops repeated defects, breakdowns and/or malfunctions rendering the vehicle inoperative, or requiring repeated shop correction, service and/or replacement during the warranty period applicable for said component, subassembly, of assembly. Minor items or ordinary service adjustments are not included, or considered under the scope of "repeated failures", as well as other factors, such as operational damage due to accidents, misuse or lack of proper maintenance, service and lubrication attention by not following the manufacturer's preventative maintenance schedule.
- 6.3 Where the Industrial Sidewalk Machine develops "repeated failures" in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance.
- 6.4 The equipment shall be capable of consistent top performance in City of Winnipeg Environment. Note: The City of Winnipeg has four seasons with ambient temperatures ranging from approximately 90°F (32°C) to -40°F (-40°C).

7.0 FUEL

- 7.1 Where applicable, all equipment must be fully fueled upon delivery (no exceptions).

8.0 QUALIFICATIONS OF MANUFACTURER & CONTRACTOR

- 8.1 The manufacturer of the **RIBBON SNOW BLOWER** shall have five (5) years continuous experience manufacturing the equipment.
- 8.2 The manufacturer shall have in effect a documented quality control program ensuring that the quality of materials and workmanship, including welding, conforms to the best standards and engineering practice of the industry.
- 8.3 The Contractor shall have five (5) years continuous experience servicing, repairing and maintaining **RIBBON SNOW BLOWER** of the type being offered.

9.0 SPECIFICATIONS:

- 9.1 Ribbon Snow Blower to be front mount and compatible with the City's existing **Trackless MT7 Sidewalk Tractors**. The Ribbon Snow Blower shall be complete with all hardware (including any electrical harnesses, mounting brackets, attaching kits etc.) necessary for hook-up and proper operation for the intended application. _____

- 9.2 Ribbon style snow blower With end plates 3/8" steel. _____
- 9.3 Blower width Approx. 60 inches, **state**. _____
- 9.4 Housing height Approx. 38 inches, **state**. _____
- 9.5 Auger Approx. 28 inch diameter ribbon with ice picks. _____
- 9.6 Impeller Five (5) scoop blades approx. 7.5" x 24" diameter with 2 piece replaceable housing liner. _____
- 9.7 Cutting edge Hardened steel, reversible 1/2 " x 6", **state** _____
- 9.8 Overall length Approx. 56 inches, **state**. _____
- 9.9 Overall height Approx. 90 inches, **state**. _____
- 9.10 Overall weight Approx. 1650 lbs., **state**. _____
- 9.11 Gear box (auger and impeller): PTO to gear box with 2" diameter impeller output shaft. Chain drive auger. _____
- 9.12 Shear bolts Main PTO and on augers. _____
- 9.13 Adjustable cutting height Adjustable shoe brackets. _____
- 9.14 Skid shoes Hardened steel 1.5" thick, free pivoting. _____
- 9.15 Controls Raising/lowering, chute rotation hydraulically controlled, and chute deflector controlled hydraulically from single joystick inside tractor cab. _____
- 9.16 Discharge chute (hydraulically controlled) Side walk chute with throat clearance of approx. 87". _____
- 9.17 Discharge chute rotation (hydraulically controlled) Rotates on ball bearing system, rotation approx. 270°. _____
- 9.18 Hydraulic hoses and quick couplers Couplers to be colour coded. _____
- 9.19 Grease Fittings All pivot and rotational points _____

- 10.0 **WARRANTY**
- 10.1 All warranty information shall be detailed and include all exclusions. The Contractor shall provide all published warranty information upon delivery of the equipment. Bidder shall state all warranty information. _____

10.2 Defect of workmanship, construction and materials **State:** _____

10.3 Hydraulic cylinders **State:** _____

11.0 **DELIVERY**

11.1 Delivery Point: The complete unit shall be serviced, ready for operation and delivered F.O.B. with the freight prepaid, including invoice and N.I.V.S. (if applicable) to the WFMA 185 Tecumseh Street, Winnipeg MB. The Contractor shall be notified by the Contractor Administrator the delivery address prior to issuance of the purchase order _____

11.2 Delivery Time: **State earliest delivery time** from the date of award. Equipment shall be delivered between 8:00 am and 2:00 pm on Business Days. _____

11.3 Delivery Contact: The Contractor shall contact the Contract Administrator prior to delivery of the equipment. _____

11.4 P.D.I: A pre-delivery inspection shall be performed by the Contractor on the equipment. Proof upon inspection including completed check list _____

12.0 **MANUALS**

12.1 Manuals supplied under this Contract. The manuals shall cover the complete equipment including all components thereof, CD or USB flash drive is preferred where available. _____

12.2 The following manuals shall be supplied with the units when delivered:

a) Operator's manual – Three (3) per unit (one operator manual (hard copy) shall be sent to the Equipment Operator Training Branch _____

b) Parts and service manuals – one (1) complete sets including preventative maintenance schedules. CDs or USB flash drive are preferred. _____

13.0 **PARTS/LABOUR PRICING**

13.1 Bidder to provide City of Winnipeg Parts Discount % Pricing from retail parts pricing. **State percentage discount-** %_____

13.2 Bidder to provide City of Winnipeg Labor Discount % Pricing from Retail shop labor rate. **State percentage discount-** %_____