

FORM N: DETAILED SPECIFICATIONS 22016

TELESCOPIC, MATERIAL HANDLING AERIAL DEVICE

(Traffic Signals)

1. INTENT

- 1.1 It is the intent of these specifications to describe a rear corner mounted, telescopic, material handling aerial device vehicle complete with a hydraulically operated, three stage, telescopic boom having hydraulically operated second and third stages, a fibreglass service body and other equipment as described herein. The aerial device and equipment shall be installed on a crew cab and chassis to be supplied by the Contractor.
- 1.2 The aerial device shall be the manufacturer's latest model, as may be modified by these specifications. The aerial device, 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.
- 1.3 It will be the responsibility of the Bidder to inform the City of any errors or omissions in these 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.
- 1.4 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.

2. OTHER SPECIFICATIONS AND STANDARDS

- 2.1 All applicable SAE Standards form an integral part of the vehicle specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 2.2 The complete vehicle shall comply with the applicable regulations:
- Manitoba Highway Traffic Act <https://web2.gov.mb.ca/laws/statutes/ccsm/h060e.php>
 - Canadian Motor Vehicle Safety Standards, CMVSS Transport Canada <https://tc.canada.ca/en/road-transportation/safety-standards-vehicles-tires-child-car-seats/safety-standards-vehicles>
 - National Safety Mark, NSM https://tc.canada.ca/en/road-transportation/safety-standards-vehicles-tires-child-car-seats/safety-standards-vehicles#_National_Safety_Mark
 - Manitoba/Winnipeg Safety and Health Act, Parts 12, 22 <https://www.gov.mb.ca/labour/safety/wshl.html>
 - Canadian Standards Association, CSA https://www.csagroup.org/store/?gclid=EAlaIqObChMIqK3GzYiC9wIVBQx9Ch2EmQOjEAYASAAEglcp_D_BwE
 - Under Writers of Canada, U/L [https://canada.ul.com/#:~:text=Underwriters%20Laboratories%20of%20Canada%20\(ULC\)%20is%20an%20independent%20product%20safety,the%20Standards%20Council%20of%20Canada](https://canada.ul.com/#:~:text=Underwriters%20Laboratories%20of%20Canada%20(ULC)%20is%20an%20independent%20product%20safety,the%20Standards%20Council%20of%20Canada)
 - Society of Automotive Engineers, SAE <https://www.sae.org/>
- 2.3 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.

2.4 The completed unit shall include a Manitoba Government Inspection with Safety Sticker on the driver's side window.

2.5 The completed vehicle shall be complete with a National Safety Mark, NSM.

2.5.1 **State NSM Number:** _____

3. QUALIFICATIONS OF MANUFACTURER

3.1 The manufacturer of the aerial device shall have a minimum of five (5) years continuous experience manufacturing and installing aerial devices of the type being offered. The manufacturer shall have in effect a complete and documented quality control program ensuring the compliance with all applicable standards.

3.2 The manufacturer of the aerial device shall be ISO 9002 Certified.

4. QUALIFICATIONS OF THE BIDDER

4.1 The Bidder shall be a manufacturer or authorized distributor/supplier of aerial device equipment.

4.2 For the purposes of Warranty repairs, the Bidder shall have an authorized service facility located within 15 km of the boundaries of the City of Winnipeg. The facility, or major portion thereof, shall be dedicated to the installation, service, and maintenance of aerial device vehicles and derrick equipment being offered.

4.3 Further to B12, Bidders shall include a description of the facility within including, but not limited to, number of qualified staff, years of service experience on aerial and digger derrick equipment, and general service capabilities within three (3) days of the request of the Contract Administrator.

4.4 The Contractor shall furnish a letter, stamped by a registered professional engineer, indicating that the completed aerial device vehicle complies with CAN/CSA Standard C225:20.

5. INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

5.1 All items in these specifications must be answered indicating compliance or non-compliance. **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.

5.2 Each Bidder is required to fill in every blank. **Failure to do so may be used as a basis for rejection of bid.**

6. PERFORMANCE

6.1 The aerial device vehicle shall be capable of operating safely and efficiently in any working position and in confined areas while performing traffic signal construction and maintenance functions, during summer and winter conditions normal to the City of Winnipeg.

7. CREW CAB AND CHASSIS

7.1 **STATE YEAR, MAKE AND MODEL BEING BID:** _____

GVWR

7.2 Total 37,000 lbs. _____

7.3	Front	14,000 lbs.	
7.4	Rear	23,000 lbs.	

Chassis Dimensions

7.5	Cab-to-axle	102 in. approx., suitable for aerial device and service body, state CA	
7.6	Wheelbase	215 in. approx., suitable for aerial device and service body, state WB	

Engine

7.7	Type	Diesel engine, Tier IV, state make, model and displacement	
7.8	Horsepower	325 hp approx., state	
7.9	Torque	750 lbf-ft approx., state	
7.10	Towing capacity	Capable of towing a 10,000 lbs. trailer	
7.11	Engine shut down	Low oil pressure / high water temperature	
7.12	Air intake warmer	Required	
7.13	Fuel shut-off	Electric solenoid type	
7.14	Air cleaner	Dry type	
7.15	Air intake restriction ind.	Dash mounted restriction indicator	
7.16	Oil drain plug	Magnetic type	
7.17	Oil filter	Full flow, spin-on or cartridge type	
7.18	Fuel filter	Spin-on or cartridge type	
7.19	Fuel/water separator	Heated, drainable, mounted under hood, located to be protected from road spray	
7.20	Block heater	Immersion type, 750 Watt with plastic, covered recessed male plug, located under driver's side door	
7.21	Coolant	Extended life coolant, antifreeze to -35°F (-37°C)	
7.21	Coolant hoses	Silicone type, Gates Blue Stripe or Premium type2 hoses	
7.23	Fan Drive	Thermostatically controlled, automatic type	
7.24	Air compressor	Water cooled, pressure lubricated, 13 cfm	

Electrical System

7.25	Alternator	325 Amp, brushless Leece Neville, state make and model being bid	
7.26	Starter	Delco Remy 38MT HD or equivalent, state	
7.27	Batteries	Three (3), 12-volt, group 31, 2250 CCA combined capacity	
7.28	Battery Box	Under cab c/w enclosure, readily accessible	
7.29	Battery disconnect	In-cab mounted, lockable, state location	
7.30	Remote boost terminal	Remote battery boost terminal(s), protected from road spray, covered, state location	
7.31	Cab marker lights	LED	
7.32	Trailer plug wiring	Routed to end of frame plus extra 3 ft. of wiring, c/w 7-Pole socket. The trailer wiring circuit shall include	

		a separate, dedicated circuit from main truck lighting	_____
7.33	Back-up alarm	Required, 97 dBA, located on inside-rear of frame rails	_____
7.34	Accessory switches	Seven (7) required, dash mounted for "PTO", "Warning Lights", "Deck Light", "Work Light Left", "Work Light Right", "Bin Lights", and additional switch labelled "Aux". Warning Lights switch to be wired hot, all remaining switches wired through ignition and Acc. circuit, complete and wired for body installation, all labelled and backlit	_____
7.35	Dash warning lights	Two (2), factory installed red lenses for "Boom Stow" and "Outrigger" warning lights with audible alarm, labelled. Audible alarm activated when parking brake is released.	_____
7.36	Radio circuit	Independent 20 Amp, 2-way radio circuit with 3 ft. of extra cabling wrapped loose under dash or cab floor	_____
	Exhaust System		
7.37	Configuration	Single horizontal muffler with driver's side vertical tailpipe. Tailpipe to be same height as catwalk c/w turnback tailpipe exhaust tip	_____
	Transmission		
7.38	Model	Allison 3500 RDS Series, state model	_____
7.39	Shift selector	Rotary shift control	_____
7.40	Cooling	Water to oil transmission cooler	_____
7.41	PTO provision	Required with maximum clearance from exhaust	_____
7.42	Oil level dipstick	Bayonet type with high and low level markings	_____
7.43	Trans. drain plug	Magnetic type	_____
	Front Axle		
7.44	Capacity	14,000 lbs. capacity	_____
	Rear Axle		
7.45	Capacity	23,000 lbs. capacity	_____
7.46	Ratio	For 110 km/hr top speed, state ratio	_____
7.47	Differential lock	Required for rear drive axle w/dash mtd. switch	_____
	Front Suspension		
7.48	Type	Taper leaf spring suspension, 14,000 lbs. capacity	_____
	Rear Suspension		
7.49	Type	Air ride suspension, 23,000 lbs. capacity, state make, model and type of suspension being bid	_____
7.50	Susp. control valve	Manual dump valve for air suspension c/w dash mounted switch	_____
7.51	Automatic dump	Air bag shall automatically dump when PTO is engaged	_____
	Rims, Wheels, Hubs		
7.52	Front	22.5 x 12.25 steel disk, 10-bolt, hub piloted	_____
7.53	Rear	22.5 x 8.25 steel disk, 10-bolt, hub piloted	_____

7.54	Hubs	State type, front and rear	_____
7.55	Hub seals	Oil lubricated front and rear	_____
7.56	Wheel nut indicators	Required on every second wheel nut, front and rear	_____
	Tires, front		
7.57	Size	385/65 R22.5	_____
7.58	Make & model	Michelin XZE, Goodyear G662 RSA or equivalent 18-ply tires, state tires	_____
	Tires, rear		
7.59	Size	11R 22.5	_____
7.60	Make & model	Michelin XDE M/S, Goodyear G182 or equivalent 14-ply tires, state tires	_____
	Frame		
7.61	Type	Single or double rail, to match GVWR, 1,500,000 in.-lbs. RBM, outside frame clear	_____
7.62	Application	Suitable for use with an aerial device and service body	_____
7.63	Chassis fasteners	Grade-8 threaded hex headed frame fasteners or huck-spin fasteners	_____
	Steering		
7.64	Type	Power	_____
	Brakes		
7.65	Type	Air, ABS	_____
7.66	Slack adjusters	Front and rear, clearance sensing, automatic type, greasable slack adjuster pins	_____
7.67	Parking brake	Dash mounted air operated parking brake knob	_____
7.68	Brake chambers	Front and rear, vented type	_____
7.69	Dust shields	Front and rear	_____
7.70	Air tanks	Aluminum tanks	_____
7.71	Tank straps	Aluminum or stainless-steel straps, $\frac{1}{16}$ in. rubber or neoprene isolators to prevent galvanic corrosion	_____
7.72	Moisture ejector	Bendix DV-2, heated, required in wet tank	_____
7.73	Drain valves	Manual, chain or cable operated, required on each air tank	_____
7.74	Air drier	Heated, Wabco System Saver 1200	_____
	Fuel Tank		
7.75	Type	Aluminum, 189 L capacity approx., fully fuelled upon delivery	_____
7.76	Tank straps	Steel mounting straps with $\frac{1}{16}$ in. rubber or neoprene isolators	_____
7.77	Fuel separator	Heated, drainable, c/w primer pump	_____
7.78	DEF tank	Diesel exhaust fluid tank, 22-30 L approx., state size and location	_____
	Cab		
7.79	Type	4-door crew cab, aluminum or steel w/corrosion inhibitor	_____

7.80	Hood	Fibreglass tilt	_____
7.81	Cab mounts	Rubber ride cab mounts	_____
7.82	Cab interior/trim	Extreme climate insulation including cloth or vinyl headliner on roof, door panels and rear interior of cab. Overhead storage in front, door panels to include storage pockets, front and rear	_____
7.83	Step lighting	All four (4) doors	_____
7.84	Cab silencer package	Required for minimal decibel level	_____
7.85	Hood/Firewall/Engine	Insulated hood liner, engine cover and firewall	_____
7.86	Floor covering	Rubber mat with under-padding	_____
7.87	Floor mats	Two (2), rubber, fastened to floor	_____
7.88	Seats	All four (4) seats to be high back, air suspension w/foldable armrests, seat belts, heavy-duty vinyl upholstery	_____
7.89	Seat covers	Heavy duty cloth seat covers on all four (4) seats, state make and model being bid	_____
7.90	Sun visors	Dual flip-up type	_____
7.91	Steering wheel	Tilt type	_____
7.92	12-Volt power outlet	Required	_____
7.93	Radio	Factory installed AM/FM with Bluetooth [®] capability, USB port	_____
7.94	Starter switch	Key operated c/w three (3) sets of keys	_____
7.95	Door locks	Power for all four (4) doors and service body bins	_____
7.96	Key FOBS	Two (2), suitable for use with service body bin locks	_____
7.97	Interior light	Dome light with driver and passenger door switches	_____
7.98	Heater / Defroster	High output, capable of keeping all windows clear at an outside temperature of -35°F (-37°C)	_____
7.99	Air conditioning	Required	_____
7.100	Power windows	Required, actuation switches on all four doors	_____
7.101	Brake & accel. pedals	Hanging type brake and accelerator pedals	_____
7.102	Horns	Dual electric with air horn	_____
7.103	Exterior mirrors	Dual West Coast, stainless steel or polycarbonate, 7" x 14½" approx.	_____
7.104	Convex mirrors	6 in. aux., stainless steel, mtd. below West Coast mirrors, or integral type with polycarbonate mirrors, one (1) per side	_____
7.105	Downview mirror	Located over passenger door, 5" x 4" approx.	_____
7.106	Windows & windshield	Tinted	_____
7.107	Windshield wipers	Electric, intermittent	_____
7.108	Windshield washers	Electric	_____
7.109	Grab handles	Required for all four (4) doors	_____
7.110	Entrance steps	Dual each side, open grate / grip type	_____

7.111 Winter front Heavy-duty vinyl w/twist lock or snap type fasteners _____

Instrumentation

7.112 Oil pressure Gauge _____

7.113 Coolant temperature Gauge _____

7.114 Transmission oil temp. Gauge _____

7.115 LOP/HWT Warning light and buzzer _____

7.116 Voltmeter Gauge _____

7.117 Air reservoir pressure Gauge with Low Air Pressure warning light and buzzer _____

7.118 Engine hourmeter Required, non-resettable type _____

7.119 PTO hourmeter Required, non-resettable type _____

Tow Hooks

7.120 Location Front mounted _____

Front Bumper

7.121 Type Heavy duty, custom made steel bumper, integral with superstructure, full width c/w license plate provision _____

Colour and Finish

7.122 Exterior White _____

7.123 Interior Dark grey or black _____

7.124 Frame & suspension Primed and finished with black Imron 5000 paint or equivalent _____

7.125 Wheels Powder coated white _____

Accessories

7.126 Flare kit Three (3) triangular reflectors, CVSA approved _____

7.127 Fire extinguisher 5 lb. ABC type, required in cab with mounting bracket _____

7.128 First aid kit Required, Provincial 1 approved kit, supplied loose _____

Manuals

7.129 Operator's manual Required, one (1) per vehicle _____

7.130 Parts/Repair/Service Required, including preventative maintenance schedules for life of unit, USB or online manuals preferred _____

Warranty

7.131 Chassis warranty The Contractor shall provide all detailed published Warranty information (including all exclusions) at the time of delivery of the equipment. **State** the following:

7.132 Basic vehicle **State** _____

7.133 Batteries **State** _____

7.134 Drivetrain **State** _____

7.135 Cab structure/corrosion **State** _____

7.136 Frame & crossmembers **State** _____

7.137 Cab paint **State** _____

7.138 Engine **State** _____

7.139	Towing coverage	State	_____
7.140	Transmission	State	_____
7.141	Axles, front & rear	State	_____
7.142	Exhaust system	State	_____

AERIAL DERRIK AND SERVICE BODY SPECIFICATIONS

8. AERIAL DEVICE

- 8.1 Type – 47 ft. Hydraulic Derrick, rear corner mount, three (3) stage, hydraulic aerial device with two (2) pin-on personnel platforms with a nominal raised platform height of 40 ft. _____
- 8.1.1 **State** make and model being bid. _____
- 8.2 Overall travel height not to exceed 147 in. at any point. **State** height. _____
- 8.3 Boom – three (3) stage telescopic with full capacity, hydraulically extendable, fiberglass, third stage. _____
- 8.4 State length of each boom stage:
 - a) Second stage (intermediate). _____
 - b) Third stage (upper). _____
- 8.5 Horizontal reach from centreline of rotation – 37 ft. **State** reach. _____
- 8.6 Fiberglass boom – rated to 46 KvAC, dielectrically tested to 100 KvAC. A factory test document shall be supplied prior to the delivery of the derrick stating that the boom has been dielectrically tested to 100 KvAC. _____
- 8.6.1 The completed unit, shall be tested by the Contractor, at their expense. _____
- 8.7 Boom elevation shall have a range of -20° to +80° from horizontal. _____
- 8.8 Bare boom capacity, booms retracted – 18,000 lbs. _____
- 8.9 Bare boom capacity, 2nd & 3rd stages extended – 10,500 lbs. _____
- 8.10 Rotation – continuous with shear-ball type rotation bearing and spring applied, hydraulically released rotation brake. _____
- 8.11 Boom stow protection system required to prevent excessive down force being applied to the boom rest. _____
- 8.11.1 Boom side-load protection system required. _____
- 8.11.2 Boom overload protection system – required to prevent excessive loading of boom when using winch up, 2nd & 3rd stages extended, and boom lower functions. _____

9. AERIAL DEVICE EQUIPMENT

- 9.1 Hydraulic winch – mounted at end of 2nd stage boom tip. **State** make and model being bid. _____

- 9.1.1 Winch lifting capacity, bare, drum – 15,000 lbs. State capacity. _____
- 9.1.2 Winch brake – oil cooled. _____
- 9.1.3 Winch rope – synthetic type 2 in 1 stable braid, 7/8" diameter X 65' long, 28,000 lbs. breaking capacity. _____
- 9.1.4 Shackle – 5/8 in. diameter, 6,500 lbs. working load limit with 5:1 safety factor. _____
- 9.1.5 Lifting hook with safety latch – 5,600 lbs. working load limit, with 5:1 safety factor. _____
- 9.2 Personnel buckets – two (2) only, side-hung, pin-on, fibreglass platforms, each with one (1) hinged door. The buckets shall have toe space on three (3) sides. _____
- 9.2.1 Further to 8.6, **state** expected dielectric results with “hinged door” style buckets. _____
- 9.2.2 Nominal, platform dimensions – 24" x 24" x 42". _____
- 9.2.3 Platform capacity – 350 lbs. each. _____
- 9.2.4 Platform levelling system – gravity type with disc style brake. _____
- 9.2.5 Platform dump system – bucket to manually or hydraulically tilt 100°. _____
- 9.3 Safety lanyard attachments – two (2) anchor points required. _____
- 9.4 Hand tool attachment – provision consisting of hook(s) on the top outside of the buckets suitable for attaching a removeable tool pouch _____
- 10. OUTRIGGERS AND SUBFRAME**
- 10.1 Outrigger stabilizer supports – two (2) sets required with a capacity to support all rated loads. _____
- 10.2 Base set – welded to aerial device pedestal and to sub-frame. **State** type of outriggers being supplied. _____
- 10.3 Auxiliary set – mounted behind chassis cab on top of chassis frame, welded to sub-frame. _____
- 10.4 Outrigger hydraulic cylinders shall be equipped with pilot operated check valves, fully protected from damage. _____
- 10.5 Outrigger shoes – rigid type, 12" x 12" approx. **State**. _____
- 10.6 All outrigger supports shall be designed to form an integral part of the sub-frame. _____
- 10.7 Sub-frame – plated type, full length, fastened to top of chassis frame. _____
- 10.7.1 Within forty-eight (48) hours of the request of the Contract Administrator, the Contractor shall supply their method and mounting plans of attaching the sub-frame to the chassis. _____
- 10.8 Outrigger pads – four (4) required, 1 in. thick polymer type (wooden style outrigger pads not acceptable), **state** material and dimensions. _____

10.9 Stability requirements – to meet CSA Standard CAN/CSA-C225:20. The use of ballast is not acceptable.

11. CONTROLS

11.1 Controls – separate levers for each function. Control levers shall be protected to prevent accidental actuation of any boom or winch functions.

11.1.1 Controls shall permit the multiple simultaneous boom movements, and shall be fully featherable and meterable.

11.2 Platform controls – complete controls for all functions shall be transferable from end of 2nd to end of 3rd stage booms or to the end of the personnel jib when it is installed.

11.2.1 Must be accomplished by means of an easy and simple re-pinning method.

11.3 Automatic engine throttle control activated when platform controls are utilized.

11.4 Emergency stop button – red palm button, designed to instantaneously stop all motion (engine shutdown not acceptable).

11.5 Emergency operating system – 12-Volt auxiliary power pack, must provide hydraulic power to all aerial device functions including elevation and rotation, accessible from both lower and upper controls.

11.6 Master control group – fixed controls located on the rear of the pedestal with controls for all boom functions, winch and emergency stop button. Control height to be approx. 48 in. from operator platform.

11.6.1 Lower controls shall be capable of overriding the platform controls.

11.6.2 Master control group area shall include the following:

- a) Winch circuit pressure gauge.
 - b) Aerial pressure gauge.
 - c) Hydraulic overload protection gauge
 - d) Engine start/stop switch.
 - e) Lower/upper control selector switch.
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11.7 Throttle control – foot operated, electronic type, full width of step.

11.8 Wireless controls – wireless remote controls located on the rear of the pedestal with controls for all boom functions, winch and emergency stop button.

11.9 Operator platform – fold-down type with grip strut surface, incorporated into rear lower step surface, located at rear of unit on right side, designed to provide a comfortable standing position.

11.10 Outrigger control levers – located at rear of unit, fully protected from damage and accidental actuation. Each control set to operate the

- outriggers on its respective side only. _____
- 11.10.1 Outrigger functions to be isolated from all other functions by a selector valve located with the right outrigger controls. _____
- 11.10.2 Outrigger down interlock – required on each outrigger, to prevent derrick operation if any outrigger is not in the down position. _____
- 11.11 Outrigger override switch – toggle switch with flip-up protective cover and red indicator light when activated, located near the master control group. _____
- 11.12 All controls must be clearly identified with permanent, engraved type labels or OEM adhesive stickers. _____
- 12. HYDRAULICS**
- 12.1 PTO – Constant mesh, Muncie Powerclutch or Chelsea equivalent. **State** make and model. _____
- 12.1.1 Electric shift with in-cab controls, operable from a normal driving position. _____
- 12.2 Pump – to meet aerial device requirements. **State** make and model. _____
- 12.3 Hydraulic oil reservoir – bulkhead type, steel construction, baffled as required, complete with breather type filler cap with filter, filler strainer, sight gauge (or dipstick) and drain plug. _____
- 12.3.1 Hydraulic tank shall be located between front outriggers and service body, mounted as low as practicable for full visibility through rear of cab window. _____
- 12.3.2 Drain plug valve – ball-type shut-off valve required on drain plug. _____
- 12.3.3 Suction strainer – 100-micron with magnetic suction separator, in-tank mounted, flow capacity of 2-times pump capacity. _____
- 12.4 Shut-off valve – ball-type, located between reservoir and pump, secured in open position with bracket and bolt. _____
- 12.5 Return line filter – 10-micron, spin-on type, serviceable without oil loss. _____
- 12.6 Relief valve(s) – provided to adequately protect the system and provide hydraulic, overload protection to all functions of the aerial device. _____
- 12.7 Hydraulic oil – Esso, J-13, with certified rating of 25 kV. _____
- 12.7.1 Hydraulic oil label – a permanent style, engraved label shall be affixed to the hydraulic tank stating “Hydraulic Oil” and stating the make and grade of oil as per 12.7. _____
- 12.8 Steel hydraulic tubing – plated type, required where practical except where flexibility is required. _____
- 12.8.1 Hydraulic tubing shall be guarded as required. _____
- 12.9 Hydraulic hoses – burst rated at 4 times working pressure, protected at all wear and scuff locations. _____
- 12.10 Hydraulic cylinders, aerial device – double acting type, equipped with integral holding valves. _____

12.11 Hydraulic tool outlets – required at tailshelf, set to operate at 8 GPM @ 2000 psi, suitable for use with open centre tools. _____

12.12.1 Tailshelf circuit – separate from all other functions, connected to hose reel (see 12.12.2). Control handle shall be spring centred with a detent in one (1) direction. _____

12.12.2 Hose reel – spring rewind, under deck mounted at the rear of unit on the left (street) side, complete with two (2) 45 ft. lengths of hose with quick couplers installed. _____

12.13 All hydraulic tool outlets shall be fitted with Bruning dripless quick couplers. Bruning outlet covers required for all fittings. _____

13. JIB – MATERIAL HANDLING

13.1 Material handling jib – fibreglass, 4 ft. long, with manual articulation, utilizing multiple pinning positions. _____

13.2 Jib bracket – shall have three (3) pinning positions providing 24° of manual articulation. The bracket shall accommodate two (2) jibs. _____

14. FIBREGLASS SERVICE BODY

14.1 Compartment layout, general – two (2) front vertical compartments and one horizontal compartment over wheel well, each side of body. _____

14.1.1 State make and model of service body being bid. _____

14.2 For the purpose of this specification:
L – Length, along or parallel to chassis frame rails.
H – Height or vertical.
D – Depth on horizontal plane across chassis.

14.3 General dimensions:

14.3.1 Body height – 48 in. approx. _____

14.3.2 Body length – 110 in. approx. _____

14.4 Compartment layout, right (curb) side:

14.4.1 Front vertical compartment (C1) – 27"L x 48"H x 18"D approx. with three (3) height adjustable shelves with four (4) dividers per shelf. _____

14.4.2 Front vertical compartment (C2) – 27"L x 48"H x 18"D approx., with three (3) height adjustable shelves with four (4) dividers per shelf. _____

14.4.3 Horizontal compartment (C3) – 56"L x 24"H X 18"D approx., bottom hinged with four (4) half-width, small parts trays, mounted side-by-side in two (2) rows. Trays shall be 2 in. high with seven (7) removable dividers per tray. All trays to be slide-out type. Compartment door to include two (2) cables to allow the door to open at 90°. _____

14.5 Compartment layout left (street) side:

- 14.5.1 Front vertical compartment (S1) – 27"L x 48"H x 18"D approx. with three (3) height adjustable shelves with four (4) dividers per shelf, located below one (1) full length through shelf. _____
- 14.5.2 Front vertical compartment (S2) – 27"L x 48"H x 18"D approx. with three (3) height adjustable shelves with four (4) dividers per shelf, located below one (1) full length through shelf. _____
- 14.5.3 Horizontal compartment (S3) – 56"L x 24"H X 18"D approx., bottom hinged with four (4) half-width, small parts trays, mounted side-by-side in two (2) rows. Trays shall be 2 in. high with seven (7) removable dividers per tray. All trays to be slide-out type. Compartment door to include two (2) cables to allow the door to open at 90°. _____
- 14.6 Compartment door handles – Tri-Mark or Eberhard stainless steel paddle type, with locks that are keyed alike. _____
- 14.7 Door hinges and latches – stainless steel with adjustable striker plates. _____
- 14.8 Locks – auto locking system with key FOBS control. _____
- 14.9 Shelving – fibreglass with a 2 in. front face lip. Dividers shall be fibreglass. All edges shall be finished. Adjustable shelving shall be adjustable in 2-3 in. increments. _____
- 14.10 Shelf and compartment lining – bottom of all service body compartments and shelving shall be lined with interlocking matting, Dri-deck or equal. _____
- 14.11 All hooks shall be located approximately 2 in. from the top of the compartment. _____
- 14.12 All compartment door openings shall be sealed using automotive, bulb type, rubber gaskets. _____
- 14.13 Vertical doors shall have rigid type door springs or gas props capable of securely holding the doors open at approx. 145°. Horizontal doors do not require door springs or check chains. _____
- 14.14 Rubber bumpers – installed on the body below the horizontal compartments, to prevent contact between the compartment door and the body. Two (2) bumpers per door. _____
- 14.15 Wheel well area shall incorporate a fibreglass or rubber fender flare. _____
- 14.16 Wheel chock openings – two (2) per side, required in fender skirt panels. _____
- 14.17 Drip moulding – installed along the full length of the body above the door openings. _____
- 14.18 All body seams shall be caulked with an automotive grade elastomeric sealant. _____
- 14.19 Kick plate – 1/8 in. aluminium smooth or checker-plate, required below deck floor level. _____
- 15. **MAIN DECK ASSEMBLY**
- 15.1 Deck – 3/16 in. steel plate, full width, full length, between fibreglass

- side packs. _____
- 15.2 Deck sides – 1/8 in. aluminum checker-plate, designed to provide additional support to the fibreglass side packs. Deck sides to extend up the full height of fibreglass body sides. _____
- 15.3 Tire/deck clearance – minimum 3 in. clearance with air bag suspension fully lowered. _____
- 15.4 D-rings – four (4), heavy duty D-rings evenly spaced between side packs, vertically mounted at rear of deck, exact location to be discussed at time of installation. _____
- 16. BOOM SUPPORT & CAB GUARD**
- 16.1 Boom support – “A” frame type, padded, anchored directly to the subframe and located immediately behind the cab. _____
- 16.2 Cab guard – full width, extending from rear of cab to front bumper, (approx. 95"W x 14'L) frame constructed of 2" x 2" x 1/4" wall HSS tubing. Walking surface to be 3/4 in. G9 standard, expanded metal, reinforced as required. _____
- 16.2.1 Rubber mats – heavy duty, installed on cab guard to protect platforms from damage during transport. _____
- 16.2.2 Front of cab-guard supported by two (2) supports bolted to front bumper. _____
- 17. REAR BUMPER & HITCH**
- 17.1 Rear bumper – heavy duty step bumper, approx. 12 in. depth with grip-strut step surface, full width, approx. 19 in. step height. _____
- 17.1.1 Bumper shall incorporate a fold-down operator platform on the right side (see Section 11.7). _____
- 17.1.2 Rear bumper insert – quick removable (without the use of tools), grip-strut surface, designed to fill area recessed for pintle hitch clearance (when hitch not in use). _____
- 17.1.3 Lower step – mounted below rear step bumper, grip strut surface, approx. 24 in. width, 9 in. below surface of rear step bumper. _____
- 17.2 Mid-height step – 1-piece, mounted between bumper and deck above pintle hitch, approximately 7" x 40", with grip-strut surface and tapered ends. _____
- 17.3 Hitch plate – 1/2 in. thick solid steel, (laminated plates unacceptable) installed to chassis frame. _____
- 17.4 Pintle hitch – Premier 130 or approved equal, mounted to hitch plate at a 30 in. height from ground level. _____
- 17.4.1 “A” frame hitch reinforcement – min. 3" x 3" x 1/4" angle iron, welded to back of hitch plate and bolted to chassis frame web. _____
- 17.4.2 Pintle hitch and “A” frame secured with Grade-8 bolts, washers on both sides and lock-nuts. _____

17.4.3 Lunette eyes – two (2) Buyers Products B56730 or equal, mounted 12 in. either side of hitch.

18. ELECTRICAL & LIGHTING

18.1 All vehicle lighting shall conform to C.M.V.S.S. (latest revision) and Manitoba Highway Traffic Act requirements.

18.2 Supplier installed lighting shall be LED Truck-Lite (except where otherwise noted) and shall include the following components:

18.2.1 Combination stop/turn/tail lights – P/N 44302R, one (1) per side with P/N 40700 mounting grommets, flush or recess mounted in rear kick plate.

18.2.2 Turn signal flash rate – 70-90 flashes per minute.

18.2.3 Back-up lights – P/N 44206C, one (1) per side with 40700 mounting grommets.

18.2.4 3-light cluster – three (3) P/N 10250R with P/N 10700 mounting grommets.

18.2.5 Clearance lights – P/N 10250R and 10250Y with P/N 10700 mounting grommets.

18.2.6 Licence plate lamp – P/N 36140, c/w P/N 36710 license plate bracket.

18.2.7 Lighting harnesses – Truck-Lite 50 Series Harness system, properly routed and secured, protected from damage.

18.2.8 All harnesses shall be internally grounded, no exceptions.

18.3 Junction box – P/N 50400, complete with necessary compression fittings, required for all vehicle lighting harness connections, located inside rear of truck frame, protected from road debris including all harness connections.

18.4 All plug in connectors shall be coated with Truck-Lite NYK Compound prior to assembly.

18.5 Trailer plug – 7-pole, wired through chassis manufacturer's OEM trailer wiring circuit and installed in rear trailer hitch plate, wired to code.

18.6 Trailer brake controller – electric, in-cab mounted, accessible to driver. **State** make and model being bid.

18.7 Mini light bars – two (2), Whelen R2LPPA, front-corner mounted to the cab-guard, one (1) per side.

18.7.1 Branch guards – heavy duty branch guards constructed by $\frac{3}{8}$ in. roundbar, one (1) per mini light bar.

18.7.2 Oval LED warning lights – twelve (12) Whelen 5GA00FAR lights, mounted in steel metal boxes locations as follows:

i) Two (2) – front facing, low mounted on cab shield support, one (1) per side.

ii) Two (2) – front corners of cab guard, side facing, one (1) on each side, directly below support rail.

- iii) Two (2) – rear corners of cab guard, side facing, one (1) on each side, directly below support rail. _____
 - iv) Two (2) – rear facing on back of cab shield, one (1) on each corner. _____
 - v) Two (2) – side facing, mid-mounted above service body side packs on racks/trays, one (1) per side. _____
 - vi) Two (2) – rear facing in back of body, one (1) on each side. _____
- 18.7.3 Mini light bars and oval LED warning lights shall be wired “hot” (i.e., able to use without the key on), wired through a single, chassis manufacturer’s OEM dash mounted switch, labelled “Warning Lights” with a permanent type label. _____
- 18.8 Traffic Advisor, front – LED amber signal stick, SWS 57148, 8-segment stick with 40 ft. cable and in-cab controller, front mounted to front of cab guard c/w metal brush guard. _____
- 18.8.1 Traffic Advisor, rear – 2-section LED split type arrow sticks, mounted at each end of the rear cross sills, SWS 57518 with 77501 in-cab controller, 77263 50 ft. cable and 77270 10 ft. cable between the two sticks. _____
- 18.8.2 Controllers – two (2) required, one for front traffic advisor and one for rear traffic advisor, wired “hot”. _____
- 18.9 Side work lights – two (2) Truck-Lite 81360, one (1) per side of service body, wired separately through chassis manufacturers OEM dash mounted switches, labelled “Work Light Left” and “Work Light Right”. _____
- 18.10 Deck light – Truck-Lite 81360, mounted to the boom rest, complete with in-cab, OEM dash mounted switch with indicator light, labelled, wired through the ignition. _____
- 18.11 Compartment lights – LED continuous “rope” style lighting or strip lighting in all service body compartments, properly secured to prevent damage, wired through chassis manufacturers OEM dash mounted switch labelled “Bin Lights”. _____
- 18.12 Power take-off engagement switch – truck manufacturer’s OEM dash mounted switch c/w warning light, labelled. _____
- 18.13 Boom stow warning light – required, chassis manufacturer’s OEM dash mounted indicator light, normally on when the boom is not in fully stored position. A micro switch or proximity switch is required to trigger the light. _____
- 18.14 Outrigger warning light – required, chassis manufacturer’s OEM dash mounted indicator light, normally on when any outrigger is not in fully stored position. Micro switches or proximity switches are required to activate lights and must be enclosed to prevent damage. _____
- 18.15 Hourmeter – dash mounted, energized by engagement of PTO. PTO hourmeter to be labelled with a permanent type, engraved style label. _____
- 18.16 All switches and warning lights shall be identified with permanent engraved type labels or chassis manufacturer’s OEM labels. No labels allowed on upper surface of dash. _____

- 18.17 Inverter – CSA approved, 110 Volt, 3000 Watt, mounted between rear seats, properly protected from damage, wired through ignition through chassis manufacturer’s OEM dash mounted switch, labeled. **State** make and model of inverter being bid. _____
- 18.17.1 All exposed inverter terminals shall be coated with a dielectric grease and completely covered with shrink wrap tubing or rubber fittings. _____
- 18.17.2 Duplex receptacle – one (1) required on inside of S3 service body compartment. _____
- 18.17.3 Roll-up electrical cable – one (1) heavy duty, 3-outlet, 40 ft. cable, located located on passenger side near rear of service body. _____
- 18.18 Back-up camera – required with 7 in. screen on inside of cab. **State** make and model being bid. _____
- 18.19 All wiring installed by body manufacturer/installer (including accessories, trailer plug, etc.) shall be colour coded, loomed, properly secured and protected from damage. _____
- 18.20 All electrical connectors shall be crimped & soldered, then sealed with heat shrink tubing. _____
- 18.21 All joining of wires shall be soldered and sealed using heat shrink tubing (crimp-on electrical connectors for joining wires are not acceptable). _____
- 18.22 Any holes required to run wires through body, cab, steel sections, etc. shall be drilled (not punched), grommets and sealed. _____
- 19. INSTALLATION**
- 19.1 Aerial device shall be installed in accordance with CAN/CSA C225:20 and in accordance with aerial device, manufacturer’s guidelines. _____
- 19.2 Mounting of the fibreglass body and deck shall be in accordance with the chassis manufacturer’s guidelines for body mounting including, but not limited to, guidelines for tire and suspension clearance. _____
- 19.3 The fibreglass body shall be mounted to the steel deck using stainless steel carriage bolts and fender washers. Bearing plates shall be used in high stress areas. _____
- 19.4 Main body compartment supports – cross sill outriggers directly attached to the sub-frame. _____
- 19.5 Bidders shall supply within forty-eight (48) hours of the request of the Contract Administrator, a diagram and description showing the manufacturer’s recommended body and deck to chassis mount. _____
- 19.6 Welding to truck chassis frame is not permitted (except hitch plate). _____
- 19.7 Mounting brackets shall be bolted to chassis frame using Grade-8 fasteners. _____
- 19.8 Any holes required in chassis frame web must be drilled and reamed to fit bolts. _____
- 19.9 All non-continuous body seams (joints) shall be caulked with an automotive

grade elastomeric sealant. _____

19.10 Departure angle of completed unit – 18° minimum. **State** angle. _____

19.11 Overall height decal – engraved type, installed in chassis cab. _____

20.0 **GREASING SYSTEM**

20.1 Greasing system – system layout shall be designed to function under the operating principles of a parallel injection system, progressive systems will not be accepted. Greasing system to be incorporated into the cab & chassis where applicable, Parallel NLGI-0 or equivalent, automatic lubrication system, connected to all grease points. System outfitted with automatic low level shut-off, an in-cab monitor showing system status such as low level, low pressure and/or fault code display. _____

20.2 Pump reservoir – 6 kg or larger pump reservoir, readily accessible for refill, parameters preprogrammed to accommodate 500-hour service intervals. Pump must have correct fill adapter fitting for the City of Winnipeg maintenance staff to refill reservoir. Parker #H2-63 refill adapter fitting. _____

20.3 Power input – system power connection 12-Volt to ignition source with an accessible fuse protection. Greasing system to shut-down when engine is turned off. LED indicator lights connected to the truck batteries are not acceptable. _____

20.4 Air connection – compressed air connection for the automatic lubrication system pump must be connected to a secondary air tank supply of the chassis compressed air system. Red ¼ in. DOT approved airline must be applied and fitted with an air system protection check valve into the system secondary tank. _____

20.5 Grease lines, main – extreme low temperature type (e.g. Eaton Aeroquip SAE 100R16 Matchmate Global Ice) steel braided rubber hose with compatibility to accommodate working pressure of 6000 psi. System mainline must be outfitted with #04 JIC crimped ends. _____

20.5.1 Grease lines, secondary – 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. _____

20.6 Prefill – all components connected to the automatic greasing system must be prefilled with OEM approved grease prior to installation of the greasing system. _____

20.7 Thread sealant – applied to main and secondary grease lines of each fitting. _____

20.8 Colour coded lines – all secondary grease lines must use colour coded line from the injector to the connected component. _____

20.9 Greasing points – **state** quantity of greasing points. _____

20.9.1 Grease points that cannot be connected to the automatic lubrication system must 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. _____

20.10 Injector manifolds – all manifolds must 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, ice, road spray, etc.

20.11 Environmental impact, over-greasing – 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.

20.12 Any modification to install the greasing system that requires drilling, cross-drilling, enlargement of existing zerk fitting sizes by drilling and tapping or welding, must be pre-approved by the Contract Administrator prior to installation. Such activities can and will void warranty, thereby holding the Contractor liable for any costs and damages involved with the equipment and components connected to the greasing system.

21. **MISCELLANEOUS**

21.1 Mudflaps – no name, fabric reinforced, black rubber, mudflaps installed fore and aft of rear tires, Buyers Products steel bar anti-sail brackets, or equal, required.

21.2 Outrigger pad storage compartments – steel construction, for two (2) pads each side with nominal pad dimensions of 24" x 24" x 3".

21.3 Compartments shall have a raised front lip and shall be located beneath service body ahead of rear axle.

21.4 Wheel chocks – four (4), high density rubber construction with steel or rope handles.

21.5 Bucket access steps from deck to top of fibreglass service body to cab guard required on each side to permit safe and efficient access to and from each personnel platform. Step frame shall be made of heavy duty tubular aluminum. Steps shall be 4 in. heavy-duty gripstrut, reinforced as required.

21.6 Grab handles – supplied as required to provide safe access on and off deck and cab guard.

21.7 Bucket covers – two (2) required.

21.8 Traffic cone holders – two (2) mounted on top of outriggers where exposed, one (1) per side.

21.9 Tie-down provisions – two (2) Buyers Products B-801 required, located at the rear of the main deck.

21.10 Storage tray, right side – located above side pack, steel construction 110"L x 18"W with 3 in. high sides and Dri-deck on the entire tray.

21.10.1 Grip-strut walkway – 110"L x 18"W located 14 in. above tray, supported by four (4) vertical uprights on each side. Centre two (2) uprights to include one (1) swivel hook each. A steel pan shall be installed below the walkway.

21.10.2 Ladder rack – provision for an 8 ft. A-frame ladder located below gripstrut walkway.

21.10.3 Cargo netting – fixed cargo netting, located on the outside of the gripstrut walkway, full length. _____

21.10.4 Steel mesh – provided at front of walkway. _____

21.11 Ladder rack, driver's side – located above the side pack, steel construction, suitable for independent storage of two (2) ladders with each storage provision measuring 110" x 20" (ID) with 3 in. high sides. A grip-strut walkway, 132" x 20", shall be located 13 in. above side pack, supported by six (6) vertical uprights on each side. Centre four (4) uprights to include one (1) swivel hook each. _____

21.12 Hydraulic impact wrench – Stanley Model IW16, 1 in. square drive c/w 18 in. whip hoses and Bruning quick couplers. _____

21.12.1 Storage box – steel or aluminum construction, sized to accommodate a hydraulic impact wrench, approx. 20"W x 13³/₄"D x 10"H. The box shall have a vertically hinged front door, with an opening for hydraulic hoses, lockable by padlock. The box shall be deck mounted at the left rear corner. _____

21.13 Banding strap holder – 2½ in. ID aluminum tube, 30 in. high, closed bottom, fastened to rear of service body, passenger side below roll-up electrical cable. _____

21.14 Cable hooks – five (5) required, swivel type, ¾ in. diameter steel hooks, 10"H x 6"D approx. mounted to service body on deck side, three (3) on driver's side, two (2) on passenger side. _____

21.15 Pipe storage brackets – three (3) brackets required, located on driver's side below cable hooks, each positioned to angle the pipe downward towards the front. 1½" x ½" flatbar construction, approx. 4"D x 10"H. _____

21.16 Receiving brackets – two (2) required, 2" x 2" (ID) steel tubing, approx. 2 in. height, welded to side of rear deck, driver's side, used to safely store davit arm support brackets. _____

21.16.1 Lower receiving brackets – two (2) required under rear step bumper mounted approx. 30 in. from driver's side edge, 2" x 2" (ID) steel tubing, approx. 12 in. length c/w retainer pin with check chain. _____

21.17 File box – Weatherguard Model R8861 or equal, installed between the front seats of the chassis. _____

21.18 Isolators – all interfaces between aluminium and steel are to be separated by 1/16 in. thick rubber or neoprene sheet and shall be bolted through with stainless steel bolts and non-conductive bushings. _____

22. COLOUR AND FINISH

22.1 Aerial device steel boom sections – powder coated, applied to components prior to assembly so that all surfaces are coated. _____

22.1.1 **State** details of finish on steel boom sections. _____

22.1.2 Insulated third (upper) fibreglass boom shall be coated with white, colour impregnated gel-coat. _____

- 22.2 Service body – colour impregnated Gel-coat to match chassis cab colour. _____
- 22.3 Cab-guard, bumper, boom rest, outriggers, storage racks, trays, etc., shall be sandblasted, properly cleaned, free of oil, dirt, rust etc., primed and finished with the Endura paint process including Endura EP32 Intermix Epoxy Primer and 2-4 mils of Endura EX-2C Topcoat, black. _____
- 22.4 Deck surface and deck area sides – properly cleaned and coated with a black non-skid coating, **state** coating process being bid. _____
- 22.5 Floor, underside – under body shall be undercoated with cold tar epoxy. _____
- 22.6 Kick plates, shall be aluminum checkerplate. _____

23. OPTIONS

Note: Options shall be price separately as indicated on Form B: Prices.

- 23.1 **Option 1:** Digger head – hydraulically driven, 2-speed Eskridge Hydrasync Model 7551-62t37 or equal. Head shall operate at 2400 psi with a flow of 40 gpm and have output as follows:
 - a) Low speed – 15,000 lbf-ft torque @ 14 rpm. _____
 - b) High speed – 5,700 lbf-ft torque @ 30 rpm. _____
- 23.1.1 **State** make and model being bid. _____
- 23.1.2 Digger head shall be transferable from 1st to 2nd boom stage. _____
- 23.1.3 Auger storage system – hydraulic with self latching storage bracket and hydraulic auger release. _____
- 23.1.4 Auger stow protection – required. _____
- 23.1.5 Auger storage rope – 1 in. diameter stranded nylon. _____
- 23.1.6 Auger – 8 in. diameter auger, c/w standard teeth. To fit 2½ in. kelly bar. _____

Note: Further to 9.2 of these specifications, only one bucket is required for units equipped with Option 1: Digger head.

24. TECHNICAL DOCUMENTS AND MANUALS

- 24.1 Bidders shall include the following, within forty-eight (48) hours of the request of the Contract Administrator:
 - 24.1.1 Two (2) sets of three (3) view drawings showing complete unit including chassis, aerial device, service body, cab-guard, etc. _____
 - 24.1.2 Estimated front and rear axle weights of the complete unit (chassis, aerial device, body, etc. including full fuel and hydraulic tanks). _____
 - 24.1.3 Service facility description (see 4.3). _____
 - 24.1.4 Subframe mounting plans (see 10.7.1). _____
 - 24.1.5 Body and deck mounting plans (see 19.5). _____

24.2 Prior to final inspection the Contractor shall provide the following;

- a) Scale weight ticket of the completed unit. _____
- b) Certification letter (see 4.4). _____
- c) Dielectric test certificate (see 8.6). _____
- d) Operator's manuals for aerial device – two (2) sets required. _____
- e) Parts and maintenance manuals – two (2) sets required with the following comprising a set:
 - i) Aerial device lubrication chart. _____
 - ii) Maintenance manual. _____
 - iii) Unit parts book. _____
 - iv) Electric wiring diagram (as built) of the completed unit. _____
 - v) Hydraulic circuit diagram (as built) of the completed unit. _____

NOTE: The manuals supplied with this Contract must be in English and shall be specifically for the unit supplied. General purpose manuals are not acceptable. Contract will not be considered complete until these sets of manuals have been delivered. Manuals must be supplied at the time the unit is delivered. USB format preferred.

Bidder shall provide information on any manuals that are available in an electronic format.

25. DELIVERY

25.1 The completed unit shall be serviced, ready for operation and delivered F.O.B with the freight prepaid to the City of Winnipeg, Winnipeg Fleet Management Agency, 185 Tecumseh Street, Winnipeg, Manitoba within **seventy-eight (78) calendar weeks** from the date of official notification of award of Contract. The Contractor shall contact the Contract Administrator prior to delivery of the equipment. Equipment shall be delivered within 8:00 am and 2:00 pm on Business Days. _____

25.2 A pre-delivery inspection shall be performed by the Contractor on all equipment. _____

26. PARTS/LABOUR PRICING

26.1 Bidder to provide City of Winnipeg parts discount % pricing from retail parts pricing. **State** percentage discount. _____

26.2 Bidder to provide City of Winnipeg labour discount % pricing from retail shop labour rate. **State** percentage discount. _____

27. PERFORMANCE RELIABILITY

27.1 The responsibility for the design of the complete aerial device vehicle, its performance, and reliability shall rest upon the Contractor. _____

27.2 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, or 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 schedules. _____

27.2.1 Where the vehicle develops repeated failures in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance. _____

28. WARRANTY (Aerial)

28.1 The Warranty on the aerial device shall include the following:

i) 100% replacement parts and labour for the complete unit for a period of two (2) years. _____

ii) The following components shall carry a lifetime, major structural components limited Warranty (wear components excluded). Warranty shall include parts and labour;

a) Booms. _____

b) Boom articulation links. _____

c) Hydraulic cylinder structures. _____

d) Outrigger weldments. _____

e) Pedestals. _____

f) Sub-bases. _____

g) Turntables. _____

iii) Provide details on any extended Warranty coverage available. _____

28.1.1 A new one (1) year Warranty period shall be provided for any component, subassembly or assembly that is repaired or replaced under the terms of the “repeated failures” clause (Section 27.0 Performance Reliability) The new Warranty period shall be effective from the date of acceptance of the repaired or replaced article. _____

28.2 All Warranty items brought to the attention of the Contractor by the

City shall be addressed within forty-eight (48) hours. The City reserves the right to effect Warranty repairs to the vehicle, at full cost to the Contractor, should the Contractor fail to commence repairs within forty-eight (48) hours.
