FORM A: BID
(See B8)

1. Contract Title — SUPPLY AND DELIVERY OF AN UNDERBRIDGE INSPECTION DEVICE VEHICLE

2. Bidder

_____
Name of Bidder

_____
Usual Business Name of Bidder as it appears on Invoice (if different from above)

_____
Street

_____
City Province Postal Code

_____
Email Address of Bidder

_____
Facsimile Number

(Mailing address if different)

_____
Street or P.O. Box

_____
City Province Postal Code

_____
GST Registration Number (if applicable)

The Bidder is:

(Choose one)

☐ a sole proprietor

☐ a partnership

☐ a corporation

carrying on business under the above name.

3. Contact Person — The Bidder hereby authorizes the following contact person to represent the Bidder for purposes of the Bid.

_____
Contact Person Title

_____
Telephone Number Facsimile Number

_____
Email Address

4. Definitions — All capitalized terms used in the Contract shall have the meanings ascribed to them in the General Conditions and D3.

5.	Offer	The Bidder hereby offers to perform the Work in accordance with the Contract for the price(s), in Canadian funds, set out on Form B: Prices, appended hereto.
6.	Commencement of the Work	The Bidder agrees that no Work shall commence until he/she is in receipt of a notice of award from the Award Authority authorizing the commencement of the Work.
7.	Contract	By submitting a bid in response to this Tender, the Bidder certifies that it has read, understands, and agrees to the terms and conditions of this Tender and that the Tender, in its entirety shall be deemed to be incorporated in and to form a part of this offer notwithstanding that not all parts thereof are necessarily attached to or accompany this Bid.
8.	Addenda	The Bidder certifies that the following addenda have been received and agrees that they shall be deemed to form a part of the Contract: No. _____ Dated _____ _____ _____ _____ _____
9.	Time	This offer shall be open for acceptance, binding and irrevocable for a period of sixty (60) Calendar Days following the Submission Deadline.
10.	Indigenous Self-Declaration	The City is requesting that Bidders identify if their business is at least 51% owned by one or more Indigenous persons of Canada. ☐ YES, 51% or more Indigenous ownership ☐ NO, it is not This information is being gathered for statistical purposes only and will not be used for purposes of evaluation.

11. Signatures

The Bidder or the Bidder's authorized official or officials have signed this

_____ day of _____ , 20_____ .

Signature of Bidder or
Bidder's Authorized Official or Officials

_____

_____
(Print here name and official capacity of individual whose signature appears above)

_____

_____
(Print here name and official capacity of individual whose signature appears above)

FORM B: PRICES
(See B9)

SUPPLY AND DELIVERY OF AN UNDERBRIDGE INSPECTION DEVICE VEHICLE

UNIT PRICES

ITEM NO.	DESCRIPTION	SPEC. REF.	UNIT	QUANTITY	UNIT PRICE
1.	Underbridge Inspection Device	19016	Each	1	
2.	82,000 lbs. GVWR Conventional Cab & Chassis	19017	Each	1	

_____
Name of Bidder

FORM N: DETAILED SPECIFICATIONS 19016

UNDERBRIDGE INSPECTION DEVICE

1. INTENT

1.1 It is the intent of these specifications to describe an underbridge inspection device and other equipment as described herein, installed on a cab and chassis to be supplied by the Contractor.

1.2 The underbridge inspection device shall be the manufacturer's latest model, as may be modified by these specifications. The 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 ANSI A92.8 (Latest Edition) Bridge Inspection Unit – Safety Requirements, Definitions and Specifications, form an integral part of these specifications and shall have precedence in any conflict concerning minimum acceptable standards.

2.2 All applicable SAE Standards form an integral part of the chassis specifications and shall have precedence in any conflict concerning minimum acceptable standards.

2.3 The completed underbridge inspection device shall comply with the Canadian Motor Vehicle Safety Act (CMVSS) and the Manitoba Highway Traffic Act and all regulations thereunder. It is understood that the completed unit's weights may not meet legal limits and will have to be permitted by the City.

2.4 All welding and welding designs of the load supporting elements shall conform to the requirements of the Canadian Standards Association Standard W47.1-03 and W59-03 or US standards AWS D1.1 and D1.2.

3. QUALIFICATIONS OF THE MANUFACTURER

3.1 The manufacturer of the underbridge inspection device shall have a minimum of five (5) years continuous experience manufacturing and installing 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.

4. QUALIFICATIONS OF THE BIDDER

4.1 The Bidder shall be a manufacturer or authorized distributor/supplier of under bridge inspection equipment.

4.2 The Contractor shall have an authorized service facility located within 10 km of the boundaries of the City of Winnipeg. The facility, or a portion thereof, shall be dedicated to the service, maintenance and warranty of the bridge inspection unit being offered. Further to B9.1, Bidders shall provide a description of the service facility including, but not limited to, number of qualified service staff, years of service experience on bridge inspection units, and general service capabilities. A

description of the service facility shall be provided within 3-Calendar Days upon request of the Contract Administrator.

4.3 If a suitable warranty facility is not available within 10 km of the boundaries of the City of Winnipeg, the Bidder may propose that warranty work be performed by the City of Winnipeg Repair Facility. Any Work performed by the City of Winnipeg Repair Facility shall be charged to the Contractor at the Facility's shop rate in effect at the time the work is performed (for example, shop rate for 2019: $109.^{00}$/hour regular time, $154.^{00}$/hr overtime and callout.

4.4 The Contractor shall furnish a letter, stamped by a registered professional engineer, indicating that the completed underbridge inspection device vehicle complies with ANSI A92.8 Standards.

4.5 All welding and welding design of the load supporting elements shall conform to the requirements of the ANSI A92.8 Standards.

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 specification 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 under bridge inspection device vehicle shall be capable of operating safely and efficiently without the use of outriggers in any working position and in confined areas while performing bridge inspections and maintenance functions during summer and winter conditions normal to the City of Winnipeg. Temperature ranges in the City of Winnipeg are -40°C to +40°C

7. CAB AND CHASSIS

7.1 The cab and chassis shall be a new, 2019 cab and chassis complying with Detailed Specifications 19017 in accordance with the instructions given.

8. UNDERBRIDGE INSPECTION UNIT (GENERAL)

8.1 Type – 62 ft. horizontal reach underbridge inspection device, with four (4) articulating booms, two (2) rotating turrets with an aluminium work platform. _____

8.1.1 **State** make and model being bid._____

8.2 Overall travel height – 162 in. or lower, **state** height. _____

8.3 Booms – four (4) articulating booms, two (2) hydraulically extendable sections. _____

8.4 Reach of each boom stage:

a) Horizontal underbridge reach – 62 ft. approx., **state**. _____

b) Vertical reach down – 67 ft. 6 in. approx., **state**. _____

c) Vertical reach up – 51 ft. 6 in. approx., **state**. _____

d) Sidewalk vertical clearance – 11 ft. approx., **state**. _____

e) Sidewalk horizontal clearance – 13 ft. approx., **state**. _____

f) Boom 1 movement – +30° to -35°. _____

g) Boom 2 movement – 0° to -105°. _____

h) Boom 3 movement – +90° to -60°. _____

i) Boom 4 movement – +90° to -36°. _____

j) Vertical clearance, boom 1 to boom 3 – 24 ft. _____

8.5 Rotation No. 1 – 270°, ability to operate over either side of the truck. _____

8.6 Rotation No. 2 – 180°. _____

8.7 Tilt alarm system to indicate excessive slope condition. _____

8.8 Booms 3 and 4 to have anchor points to assist with potential rescue operations. _____

9. UNDERBRIDGE INSPECTION DEVICE PLATFORM

9.1 Personnel platform – end-hung, continuous aluminium skin construction (i.e., expanded mesh not acceptable) with non-skid floor including telescoping and hydraulic 180° rotating features. _____

9.1.1 Platform dimensions – 40" L x 72" W x 42" H. _____

9.1.2 Platform capacity – 600 lbs. _____

9.1.3 Safety lanyard attachments – three (3), **state** size and type. _____

9.2 Platform levelling system – automatic, hydraulic. _____

9.3 Platform folding steps – four (4) fold-down steps installed on the inside face of the front and back walls of the platform. Steps to have a serrated surface to prevent skidding, 6½" L x 6½" W, 500 lbs. capacity each. Exact locations to be discussed at time of installation. _____

9.4 Platform heater – permanently installed in the platform. **State** make, model and type being bid. _____

10. COUNTERWEIGHT, SPRING LOCKOUTS AND SUBFRAME

10.1 Outrigger shall not be provided. The unit shall be capable of performing safely in all working positions without the use of outriggers from either left or right side of the truck. _____

10.2 Stability requirements – to meet ANSI A92.8 _____

10.3 Counterweight – at base of the pedestal, able to rotate with the unit. _____

10.4 Hydraulic sliding counterweight – installed under the truck to optimize weight and counterbalance position. _____

10.5 Counterweights to stay within the confines of the truck body when stowed and in operation. _____

10.6 Spring lockouts shall be provided on all springs, four (4) required. _____

10.7 Colour monitor – located at the pedestal enabling operators to constantly monitor boom and turret movements. _____

10.8 Interlock system – tied into the controls to maintain operation within the unit's full range of stability. _____

10.9 Sub-frame – plated type, full length, fastened to top of chassis frame. _____

10.9.1 Method of attaching sub-frame to be detailed in manufacturer's mounting plans and specifications to be supplied within forty eight (48) hours of the request of the Contract Administrator. _____

11. HYDRAULIC CONTROLS

11.1 Controls – full metering with separate levers for each function. Control levers shall be protected to prevent accidental actuation of any boom or turret functions. _____

11.2 Controls to be hardwired with wireless capability, included at both operator stations. _____

11.3 Controls to permit for multiple, simultaneous boom movements, and to be fully featherable and meterable. _____

11.4 Two speed engine throttle control to be provided for use when platform controls are utilized. _____

11.5 Emergency stop button – red palm button, designed to shut down both the chassis and auxiliary engines. _____

11.6 Master control group – located at the pedestal with controls for all boom and rotation functions. _____

11.6.1 Controls shall be mounted in the platform, protected from the elements with a cover. _____

11.6.2 Lower controls shall be capable of overriding the platform controls. _____

11.6.3 Master control group to include the following:

a) Pressure gauge. _____

b) Spring lockout controls. _____

c) Override handle. _____

d) Emergency stop button. _____

e) Lower/upper control selector switch. _____

f) Hourmeter for underbridge crane when in use. _____

11.7 Throttle control – switch controlled. _____

11.8 Interlock override – located with the master control group, secured behind a cover. _____

11.9 All controls must be clearly identified with permanent, engraved type labels. Glued labels will not be accepted. _____

11.10 Control system – microprocessor control system with graphical terminal, colour display for unit operation, individual function performance. Display to monitor unit's parameters, hydraulics and enable troubleshooting. _____

11.11 Communication system – provided with speakers in the truck cab, at the turntable, and in the platform. Platform station to operate in hands-free mode. _____

12. HYDRAULICS

12.1 PTO – Constant mesh, Muncie Powerclutch, Chelsea or 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 underbridge inspection device requirements. **State** make and model. _____

12.3 Hydraulic oil reservoir – steel construction, baffled as required, complete with breather type filler cap with filter, filler strainer, sight gauge (or dipstick) and drain plug. _____

12.4 Suction strainer – 100 micron with magnetic suction separator, in tank mounted, flow capacity of 2-times pump capacity. _____

12.5 Shut-off valve – located between reservoir and pump, secured in open position with bracket and bolt. _____

12.6 Return line filter – 10 micron, spin-on type, serviceable without oil loss. _____

12.7 Relief valve(s) – provided to adequately protect the system and provide hydraulic, overload protection to all functions of the underbridge inspection device. _____

12.8 Hydraulic oil – suitable for climatic conditions normal to the City of Winnipeg, MIL spec 5606A. **State** recommended oil and Petro-Canada equivalent. _____

12.8.1 Tank label – hydraulic tank to be labeled with a permanent type, engraved style label stating the manufacturer and type of oil being used. _____

12.9 Hydraulic tubing shall be guarded as necessary. _____

12.10 Hydraulic hoses – burst rated at 4 times working pressure, protected at all wear and scuff locations. _____

12.11 Hydraulic cylinders – double acting type, equipped with integral holding valves. _____

12.12 Emergency override – shall allow hydraulic control of boom functions in the event of engine failure. _____

13. BODY COMPARTMENTS

13.1 For the purpose of these specifications:
L – Length, along or parallel to chassis frame rails.
H – Height or vertical.

D – Depth on horizontal plane across chassis.

13.2 Compartment layout, general – two (2) underdeck compartments, three (3) deck mounted compartments, aluminium construction. _____

13.2.1 **State** make and model of compartments being bid. _____

13.3 Underdeck compartments – two (2) located at rear of deck, one on each side, bottom hinged doors, 30"L x 24"H x 24"D approx. _____

13.4 Deck mounted compartments – three (3) located on the driver's side, top hinged doors, 48"L x 18"H x 24"D approx. c/w louvered vents to allow compartments to vent without any water intrusion. _____

13.5 Compartment door handles – stainless steel paddle type or T-handles, with locks that are keyed alike. _____

13.6 Door hinges and latches – stainless steel with adjustable striker plates. _____

13.7 All compartment door openings shall be sealed using automotive, bulb type, rubber gaskets. _____

13.8 Bottom hinged doors shall be equipped with check chains or cables. Top hinged doors shall be equipped with heavy duty gas struts. _____

14. MAIN DECK ASSEMBLY

14.1 Deck – ¼ in. steel checker-plate, full width, full length. _____

14.2 Deck sides – 4"x 1½" x ⅛" rectangular steel tubing. _____

14.3 Tire/deck clearance – bumper pad clearance plus 3 in. _____

15. ACCESSORIES

15.1 Auxiliary engine – 20 hp auxiliary diesel engine installed under deck in steel compartment, engine fuel run from chassis fuel tank, auxiliary engine c/w a non-resetable hourmeter. Exhaust pipe to run horizontal under the chassis and vertical up the passenger side adjacent to the main exhaust discharge and mounted to main exhaust discharge. **State** make and model of auxiliary engine being bid. _____

15.1.1 Generator – 5 kW generator installed, direct mounted to auxiliary engine. _____

15.2 Intercom system – 12 V provided in the cab, at the pedestal and in the platform. _____

15.3 Floodlights – two (2) 12 V removable LED floodlights provided in the platform. _____

15.4 High pressure wash line – ½ in. OD provided in platform, routed to rear of truck c/w quick coupler connectors on both ends. _____

15.5 Video monitoring system – cameras suitable to withstand -40°C to +40°C temperatures, mounted to Turret 2 and Boom 3 with exact installation locations to be verified prior to installation. Cameras to allow for constant monitoring of personnel in the platform c/w multi-view monitor mounted in the cab, visible to the driver. _____

16. REAR BUMPER AND HITCH

16.1 Rear bumper – heavy duty bumper, full width with fold down step. _____

16.2 Rear hitch plate – ½ in. thick solid steel, (laminated plates unacceptable) installed to chassis frame. _____

16.3 Hitch reinforcement – "A" frame hitch reinforcement including 3" x 3" x $^{3}/_{8}$" angle iron welded to back of hitch plate and bolted to chassis frame web *OR* integrally welded into back of truck frame. _____

16.4 Combination hitch – Premier 150 with 2 in. ball or equivalent hitch, adjustable hitch heights, initially installed on hitch plate at a 24 in. height. _____

16.5 Lunette eyes for trailer safety chains – one (1) each side of hitch, Buyers Products B56730 or equivalent. _____

17. ELECTRICAL & LIGHTING

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

17.2 Supplier installed lighting shall be LED Truck-Lite or equivalent and shall include the following components:

17.2.1 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. _____

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

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

17.2.4 3-light cluster – three (3) P/N 10250R with P/N 10700 mounting grommets. _____

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

17.2.6 Licence plate lamp – P/N 36140, complete with license plate bracket. _____

17.2.7 Lighting harnesses – Truck-Lite 50 Series Harness system or equivalent, properly routed and secured, protected from damage. The lighting harness shall not be spliced into the main truck harness. _____

17.3 Junction box – P/N 50400 or equivalent, complete with necessary compression fittings, necessary for all vehicle lighting harness connections, located inside rear of truck frame, readily accessible, protected from elements. _____

17.4 All plug in connectors to be coated with Truck-Lite NYK Compound or equivalent prior to assembly. _____

17.5 Back-up alarm – STAR 62-097 or equivalent, 97 dB(A) rating, installed at rear of body, located to be protected from damage and road spray. _____

17.6 Back-up camera – 2½" camera light, mounted in center 3-light cluster light housing, PRO Series or equivalent, c/w 7" in-cab colour monitor. _____

17.7 Mini Light Bars – two (2) Whelen R2LPPA, top-mounted for 360° visibility. _____

17.7.1 Branch guard – heavy duty branch guard constructed by $^{3}/_{8}$ in. roundbar. _____

17.7.2 Oval LED warning lights – ten (10) Whelen 5GA00FAR, three (3) per side, two (2) front, and two (2) rear. Exact locations to be determined at time of installation. _____

17.7.3 Mini light bars and oval LED warning lights shall be wired through the ignition, wired through a single OEM dash mounted fused switch, labelled with a permanent type, engraved style label. _____

17.8 Trailer plug – 7-way RV connector, wired to code. _____

17.9 Power take-off engaged warning light – O.E.M. warning light. _____

17.10 Boom stow warning light – dash mounted on the instrument panel, normally on when the boom is not in fully stored position. A micro switch is required to trigger the light. _____

17.11 All wiring for locally installed accessories, lights and back-up alarm shall be colour coded, loomed and properly secured and protected from damage. _____

17.12 All joining wires shall be soldered and sealed using heat shrink tubing (crimp-on electrical connectors for joining wires are not acceptable). _____

17.13 Any holes required to run wires through shall be drilled (not punched), grommeted and sealed as necessary. _____

17.14 PTO Hourmeter – dash mounted, non-resetable, energized by engagement of PTO. _____

17.15 All switches and warning lights shall be identified with permanent engraved type labels. No labels allowed on upper surface of dash. _____

17.16 120V duplex receptacles – three (3) GFI, CSA approved, weatherproof type with hinged covers. Locations to be one (1) curb side below deck, one (1) passenger side below deck, and one (1) at rear of unit. Lower deck mounted outlets to be located for prevention of road spray. _____

17.17 240 receptacle – one (1), GFI, CSA approved, 50A, weatherproof type with hinged cover, located in platform. _____

17.18 Floodlights – two (2) 12V removable LED floodlights provided in the platform. _____

18. INSTALLATION

18.1 The Contractor shall install the underbridge inspection device on the chassis specified in attached tandem-tandem cab & chassis Detailed Specifications 19017. _____

18.2 Bridge Inspection Unit shall be installed in accordance with ANSI A92.8 and in accordance with the bridge crane manufacturer's guidelines. _____

18.3 Mounting of the 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. _____

18.3.1 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. _____

18.4 Welding to truck chassis frame is not permitted. _____

18.5 Mounting brackets to be bolted to chassis frame using grade-8 fasteners. _____

18.6 Any holes required in chassis frame web must be drilled and reamed to fit bolts. _____

18.7 All non-continuous body seams (joints) shall be caulked with an automotive grade elastomeric sealant. _____

18.8 Departure angle of completed unit – 12° approx., **state** angle. _____

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

18.10 Isolators – all interfaces between aluminium and steel are to be separated by $^{1}/_{16}$ in. thick rubber or neoprene sheet to prevent galvanic corrosion. Bolts used on aluminium or between aluminium and steel shall be bolted through with stainless steel bolts and non-conductive bushings. _____

19. MISCELLANEOUS

19.1 Mudflaps – no name, fabric reinforced, black rubber with anti-sail brackets installed fore and aft of and rear tires. Mudflaps required aft of front tires, both axles. _____

19.2 Grab handles – supplied to provide safe access on and off deck. _____

19.3 Grease fittings – readily accessible, with remote fittings where applicable. _____

19.4 Anchor points – for safety and rescue purposes, six (6) anchor points/ eye bolts are to be provided, three (3) per side of the truck, 5,000 lbs. capacity each. The steel eye bolts must have a 2½ in. ID or higher, evenly spaced either along the frame rails or the sides of the flat deck. _____

19.5 Access steps/ladder – for safety and rescue purposes, traction type ladder rungs to be attached to Boom No. 4 to access the bucket when in the vertical or near vertical position. The boom must also contain anchor points for lanyard attachments. Specific design to be discussed at pre-production meeting. _____

20. AUTO 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 and underbridge unit (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. _____

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. _____

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

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

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

20.8.1 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. _____

20.9 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. _____

20.10 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. _____

21. COLOUR AND FINISH

21.1 Underbridge inspection device steel boom sections – sandblasted and painted using primer and paint process, applied to components prior to assembly so that all surfaces are coated. _____

21.2 Bumper, boom rests, shall be sandblasted, primed, then painted black using polyurethane enamel. _____

21.3 Deck surface – properly cleaned and coated with Davis Frost LX-00097 Black Sure Foot Enamel or equivalent. _____

21.4 All metal surfaces to be painted shall be free of oil, dirt, rust etc.. Chemical pre-treatment such as multistage cleaners are acceptable. _____

22. TECHNICAL DOCUMENTS AND MANUALS

22.1 Bidders shall include the following, within forty-eight hours of the request of the Contract Administrator:

22.1.1 Three (3) view drawings showing complete unit including chassis, underbridge inspection device, compartments, etc. _____

22.1.2 Estimated front and rear axle weights of the complete unit (chassis, device, compartments, etc. fully fuelled, full hydraulic tanks). _____

22.1.3 Service facility description (see section 4.2). _____

22.1.4 Subframe mounting plans (see section 10.9.1). _____

22.1.5 Body and deck mounting plans. _____

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

a) Scale weight ticket of the completed unit. _____

b) Certification letter (see section 4.4). _____

c) Operator's manuals for underbridge inspection device – three (3) sets. _____

d) Parts, repair and technical maintenance manuals – USB or online format with the following comprising a set:

i) Underbridge inspection device lubrication chart. _____

ii) Maintenance manual. _____

iii) Unit parts book/list. _____

iv) Electric wiring diagram (as built) of the completed unit. _____

v) Hydraulic circuit diagram (as built) of the completed unit. _____

vi) Parts, repair and service manual for auxiliary engine. _____

NOTE: The manuals supplied with this Contract must be in English and shall be specifically for the unit supplied. General purpose manuals are <u>not acceptable</u>. 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.

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

_____

_____

23. PERFORMANCE RELIABILITY

23.1 The Contractor shall assure the City of Winnipeg that the manufacturer shall be responsible for the design of the complete underbridge inspection device vehicle, its performance, and reliability. _____

23.2 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 schedule. _____

23.2.1 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. _____

24. WARRANTY (Underbridge Device)

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

24.2 Body, exterior – **state**. _____

24.3 Underbridge device – **state**. _____

24.4 Electrical, lighting, etc. – **state**. _____

24.5 Generator – **state**. _____

24.6 Provide details on any extended Warranty coverage available. _____

_____

_____

_____

_____

25. FIRST SERVICE PREVENTATIVE MAINTENANCE KIT

25.1 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 the unit purchased (chassis and body). The set or required filters shall include air, fuel, oil, cabin and hydraulic filters, or otherwise all known necessary common replacement filters for the first preventative maintenance service. _____

25.2 The Contractor shall provide a list of OEM 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 (Chassis and body). _____

26. DISCOUNT FOR PARTS AND LABOUR

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. _____

FORM N: DETAILED SPECIFICATIONS 19017

82,000 LBS. GVWR CONVENTIONAL CAB & CHASSIS

(Underbridge Inspection Device Chassis)

1.0 TYPE

1.1 Shall be an 82,000 lbs. GVWR conventional, tandem-tandem cab & chassis suitable for use as an underbridge inspection device truck. The vehicle shall be furnished complete and ready for use with all features and equipment as described herein.

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

2.0 OTHER SPECIFICATIONS AND STANDARDS

2.1 All applicable SAE standards form an integral part of these specifications and shall have precedence in any conflict concerning minimum acceptable standards.

2.2 The completed unit and all its components shall comply with all C.M.V.S.S. and Manitoba Highway Traffic Act regulations and requirements including, but not limited to, a Manitoba Government Inspection with Safety Sticker on the driver's side window.

3.0 SERVICE FACILITY

3.1 For the purpose of warranty repairs, the cab & chassis supplier shall have an authorized service facility located within 10 km of the boundaries of the City of Winnipeg. The facility, or a portion thereof, shall be dedicated to the service and maintenance of the type equipment being offered. Further to B9.1, Bidders shall provide a description of the service facility including, but not limited to, number of qualified service staff, years of service experience, and general service capabilities within three (3) Business Days upon request of the Contract Administrator.

4.0 INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

4.1 All items in these specifications must be answered indicating compliance or non-compliance. **Bidders shall state "yes" for compliance or state deviation,** or give 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 specification is used, the City will also consider deviations and/or equivalents.

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

ITEM 5.0	SPECIFICATION		BIDDER TO STATE "YES" OR STATE DEVIATION
	GVWR		
5.1	Total	82,000 lbs. approx., **state**	_____
5.2	Front	36,000 lbs. approx., **state**	_____
5.3	Rear	46,000 lbs. approx., **state**	_____
	Dimensions		
5.4	Cab to Axle	215 in. effective approx., **state**	_____
5.5	Wheelbase	Suitable for Underbridge unit, 260 in. approx, **state**	_____

DETAILED SPECIFICATIONS 19017 (continued)

5.6	Axle spread, front	72 in. approx., **state**	_____
5.7	Axle spread, rear	54 in. approx., **state**	_____
5.8	Afterframe	70 in. approx., **state**	_____
5.9	Turning radius	**State**	_____
	Engine		
5.10	Type	Tier IV Final Diesel, inline 6-cylinder, **state** make and model being bid	_____
5.11	Horsepower	450 HP gross, **state**	_____
5.12	Torque	1650 lbf-ft, **state**	_____
5.13	Engine shut down	Low oil pressure / high water temperature	_____
5.14	Air cleaner	Dry type	_____
5.15	Air intake restriction ind.	Dash mounted indicator	_____
5.16	Oil drain plug	Magnetic type	_____
5.17	Oil filter	Full flow, spin-on type	_____
5.18	Fuel filter	Spin-on type	_____
5.19	Fuel/water separator	Heated, drainable, mounted under hood, located to be protected from road spray	_____
5.20	Fuel line primer pump	Required	_____
5.21	Block heater	Immersion type, 1200 Watt with covered recessed male plug, located under driver's side door	_____
5.22	Coolant	Extended Life coolant, antifreeze to -35°C	_____
5.23	Coolant hoses	Silicone type, Gates Blue Stripe or equivalent	_____
5.24	Fan Drive	Thermostatically controlled, automatic type	_____
5.25	Air compressor	Water cooled, pressure lubricated, 13-19 cfm	_____
	Electrical system		
5.26	Electrical type	Point to point or Multiplex	_____
5.27	Electrical connectors	Plug-in, sealed type	_____
5.28	Alternator	160 Amp Delco Remy 36-SI or equivalent	_____
5.29	Starter	Delco Remy 39MT with over-crank protection or equivalent	_____
5.30	Circuit breakers	Auto-reset, readily accessible	_____
5.31	Batteries	Three (3), 12-Volt, group 31, 2250 CCA combined capacity	_____
5.32	Battery Box	Under cab or frame mounted enclosure c/w heavy duty hold-down device for lid	_____
5.33	Battery disconnect	In-cab mounted outboard of driver's seat, lockable with pad lock	_____
5.34	Battery boost terminal	Remote battery boost terminal(s), protected from road spray, covered, state location	_____

DETAILED SPECIFICATIONS 19017 (continued)

5.35	Cab marker lights	LED	_____
5.36	2-way radio circuit	Independent 20 Amp circuit, ignition powered, wired under dash loose, labelled	_____
5.37	Accessory switches	As necessary for body installation, dash-mounted for “PTO”, “Warning Lights” “Boom Stow” etc. and additional two (2) switches labelled “Aux”. All switches complete and wired for body installation, labeled and backlit. **State** quantity	_____
	Exhaust system		
5.38	Configuration	Stationary extreme outboard single horizontal muffler under cab, chrome vertical discharge, underframe routing. Discharge tip shall have a backslash type end	_____
5.39	Overall exhaust height	Approx. 18 in. higher than cab roof line	_____
5.40	Heat shield	Necessary over exhaust next to cab door	_____
	Transmission		
5.41	Model	Allison 4500 RDS with 6-speed programming or equivalent. Transmission to come with load base management programming. Bidder to provide a performance SCAAN within three (3) days of a request of the Contract Administrator	_____
5.42	Shift selector	Digital push-button type, dash mounted	_____
5.43	Cooling capacity	Water to oil transmission cooler, as per manufacturer’s recommendation for severe duty cycle	_____
5.44	Oil level dipstick	Bayonet type with high and low level markings	_____
5.45	Fluid	Synthetic type	_____
5.46	Trans. drain plug	Magnetic type	_____
	Front axle		
5.47	Type	Tandem axle, 36,000 lbs. capacity or higher, **state** make, model and capacity	_____
5.48	Axle lube	Synthetic type	_____
	Rear axle		
5.49	Type	Meritor or equivalent, 46,000 lbs. capacity	_____
5.50	Ratio	For 110 km/hr top speed, **state** ratio	_____
5.51	Inter-axle lock	Complete with dash mounted switch	_____
5.52	Differential lock	For both drive axles w/dash mounted switch	_____
5.53	Axle lube	Synthetic type	_____
	Hubs/Hub seals		
5.54	Hubs	Steel or iron hubs, front and rear	_____
5.55	Hub seals	Oil lubricated front and rear	_____

DETAILED SPECIFICATIONS 19017 (continued)

	Front suspension		
5.56	Type	Multi-leaf spring suspension, 36,000 lbs. capacity	_____
	Rear suspension		
5.57	Type	Hendrickson RT463, 46,000 lbs. rear suspension or equivalent, **state** make and model being bid	_____
	Rims, wheels		
5.58	Front	22.5 x 12.25 steel disk, hub piloted	_____
5.59	Rear	22.5 x 8.25 steel disk, hub piloted	_____
	Tires, front		
5.60	Make & Model	Mud & Snow, **state** make and model being bid	_____
5.61	Size	385/65R 22.5, 18-ply	_____
	Tires, rear		
5.62	Make & Model	Mud & Snow, **state** make and model being bid	_____
5.63	Size	11R 22.5, 16-ply	_____
	Frame		
5.64	Type	110,000 psi, 3,500,000 in-lb RBM approx.	_____
5.65	Application	Suitable for underbridge crane installation	_____
5.66	Chassis fasteners	Grade-8 threaded hex headed frame fasteners	_____
5.67	Afterframe	As required for underbridge crane, 70 in. approx.	_____
	Steering		
5.68	Type	Power	_____
	Brakes		
5.69	Type	Air, ABS, S-cam drum brakes, front & rear	_____
5.70	Slack adjusters	Clearance sensing, automatic type, Meritor or equivalent	_____
5.71	Parking brake	Spring set, four (4) chamber system	_____
5.72	Brake pots	Vented type	_____
5.73	Dust shields	Front and rear	_____
5.74	Moisture ejector	Heated, required in all air tanks Bendix DV-2 or equivalent	_____
5.75	Drain valves	Manual, chain or cable operated, required on each air tank	_____
5.76	Air drier	Heated, Wabco System Saver 1200 or equivalent	_____
	Fuel tank		
5.77	Type	Aluminium, 300 L capacity approx., fully fuelled upon delivery	_____
5.78	Tank straps	Steel straps with $^{1}/_{16}$ in. rubber or neoprene isolators to prevent galvanic corrosion	_____
5.79	Fuel separator	Heated, drainable	_____
5.80	DEF tank	Diesel exhaust fluid tank, 35 L approx., state size and location	_____

DETAILED SPECIFICATIONS 19017 (continued)

	Cab		
5.81	Type	Conventional w/corrosion inhibitor	_____
5.82	Construction	Aluminium or galvanized steel construction	_____
5.83	Cab mounts	Air suspension	_____
5.84	Cab interior / trim	Extreme climate insulation including cloth or vinyl headliner on roof, door panels and rear interior of cab	_____
5.85	Cab silencer package	For minimal decibel level	_____
5.86	Interior door storage	Driver and passenger door map pockets	_____
5.87	Overhead storage	Overhead console storage pocket	_____
5.88	Hood/Firewall/Engine	Insulated hood liner, engine cover and firewall	_____
5.89	Floor covering	Rubber mat with under-padding	_____
5.90	Floor mats	Two (2), rubber	_____
5.91	Driver's seat	High back, air suspension w/foldable armrests, heavy-duty cloth upholstery, **state** material	_____
5.92	Passenger seat	High back, air suspension w/foldable armrests, heavy-duty cloth upholstery, **state** material	_____
5.93	Sun visors	Dual flip-up type	_____
5.94	Steering wheel	Tilt and telescopic type	_____
5.95	12-Volt power outlet	Socket type with independent circuit	_____
5.96	Radio	Factory installed AM/FM with "hands free" Bluetooth® capability, USB and aux. inputs	_____
5.97	Starter switch	Key operated c/w four (4) keys	_____
5.98	Interior light	Dome light with driver and passenger door switches	_____
5.99	Heater / Defroster	High output, capable of keeping all windows clear at an outside temperature of -35°F (-37°C)	_____
5.100	Air conditioning	Factory OEM, in-cab	_____
5.101	Brake & accel. pedals	Hanging type brake and accelerator pedals	_____
5.102	Horn, electric	Dual electric	_____
5.102.1	Horn, air	Single or dual trumpet greater than 100 dBA	_____
5.103	Exterior mirrors	Dual polycarbonate unpainted aerodynamic mirrors with integral convex mirrors, 16" x 7", heated, 4-way motorized adjustment, suitable for 102 in. equipment width	_____
5.104	Downview mirror	Located over passenger door, 5" x 4" approx.	_____
5.105	Windshield wipers	Electric, intermittent	_____
5.106	Windshield washers	Electric	_____
5.107	Grab handles	Dual exterior, stainless steel or aluminium	_____
5.108	Entrance steps	Dual each side, aluminium construction, integral with second axle fenders, grip type	_____
5.109	Winter front	Heavy-duty vinyl w/twist lock or snap type fasteners	_____

DETAILED SPECIFICATIONS 19017 (continued)

	Instrumentation		
5.110	Oil pressure	Gauge	_____
5.111	Coolant temperature	Gauge	_____
5.112	Transmission oil temp.	Gauge	_____
5.113	LOP/HWT	Warning light and buzzer for low oil pressure and high water temperature	_____
5.114	Voltmeter	Gauge or instrument panel	_____
5.115	Air reservoir pressure	Gauge with low air pressure warning light and buzzer	_____
5.116	Engine hourmeter	Non-resetable type	_____
	Tow hooks		
5.117	Location	Front mounted	_____
	Front bumper		
5.118	Type	Chrome, full width	_____
	Colour		
5.119	Exterior	White	_____
5.120	Interior	Black or grey	_____
5.121	Frame & suspension	Primed and finished with black Imron 5000 paint	_____
5.122	Wheels	Powder coated white	_____
	Accessories		
5.123	Flare kit	Three (3) triangular reflectors, CVSA approved	_____
5.124	Fire extinguisher	5 lb. ABC type, required in cab with mounting bracket	_____
	Warranty		
5.125	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 warranties:	
5.126	Basic vehicle	**State**	_____
5.127	Batteries	**State**	_____
5.128	Drivetrain	**State**	_____
5.129	Cab structure	**State**	_____
5.130	Cab corrosion	**State**	_____
5.131	Frame & crossmembers	**State**	_____
5.132	Cab paint	**State**	_____
5.133	Engine	**State**	_____
5.134	Towing coverage	**State**	_____
5.135	Transmission	**State**	_____

DETAILED SPECIFICATIONS 19017 (continued)

5.136	Axles, front and rear	**State**	_____
5.137	Exhaust system	**State**	_____
	Manuals		
5.138	Operator's	Three (3)	_____
5.139	Parts, repair, service	Three (3) sets, for complete cab & chassis being bid including front tandem axle, USB or online preferred	_____
	Delivery		
5.140	Delivery point	Completed vehicle shall be serviced, ready for operation and delivered F.O.B. with the freight prepaid, including invoice and N.I.V.S. to the WFMA 185 Tecumseh Street, Winnipeg MB	_____
5.141	Delivery time	Within fifty-six (56) calendar weeks from the date of award. Equipment shall be delivered within 8:00 am and 2:00 pm on Business Days	_____
5.142	Delivery contact	The Contractor shall contact the Contract Administrator prior to delivery of the equipment	_____
5.143	PDI	A pre-delivery inspection shall be performed by the Contractor on the equipment. Proof upon inspection including completed check list	_____

FORM N: TRADE-IN OPTION

1. TRADE-IN OPTION

1.1 This Tender includes the provision of a "trade-in" option of one (1) used 2007 Aspen Aerials A-62 Underbridge Inspection Device Vehicle. The Bidder may include a price amount as listed below. The 2007 Aspen A-62 was purchased new, and used solely by The City of Winnipeg. A brief description of the equipment is as follows:

City of Winnipeg Unit #2997851

Cab & Chassis;

- 2007 Freightliner M2 112 Tandem-Tandem
- 3959 Hours (as of March 15, 2019)
- 29 788 km
- Cat C11, 335 HP, 1250 lbf-ft torque
- Allison 4500 RDS transmission
- 36,000 lbs. front tandem axle
- 46,000 lbs. Hendrickson RT-463 rear axle, 54 in spacing
- Air-ride seats and cab mounts

Underbridge Crane Inspection Device;

- 2007 Aspen Aerials A-62
- 2274 Hours (as of March 15, 2019)
- 4-articulating booms
- 40"x60"x42" personnel platform, 600 lbs. capacity
- Auxiliary engine with 5Kw generator
- Intercom system
- High pressure wash line
- Flat deck body with underbody compartments
- Rear trailer hitch
- Digital display
- Warning light package
- Video camera system
- Platform steps

1.2 Bidders are encouraged to view the vehicle to evaluate the condition prior to submitting a Bid Price. Viewing of the 2007 A-62 Underbridge Inspection Device Vehicle can be arranged one (1) Calendar Week prior to the Submission Deadline of the Tender by contacting the Contract Administrator in D4. Note: Photos are from 2007.

TRADE-IN PRICE, CDN FUNDS (Optional): $_____