

## FORM N: DETAILED SPECIFICATIONS 22020

### PICK-UP TRUCK MOUNTED HI-RAILS

#### 1. SCOPE

- 1.1 These specifications describe the supply & installation of hi-rail units to be installed on City owned and supplied pick-up trucks as described in these specifications. The hi-rails and accessories shall be furnished complete and ready for use by the City. All parts not specifically mentioned, but which are required to complete and place the equipment into successful operation shall be furnished as though specifically mentioned in these specifications.
- 1.2 The hi-rail attachments shall be the manufacturer's latest model as may be modified by these specifications. The hi-rail, 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 of 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 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=EAlaIqObChMIqK3GzYiC9wIVBQx9Ch2EmQOjEAAYASAAEglcp\\_D\\_BwE](https://www.csagroup.org/store/?gclid=EAlaIqObChMIqK3GzYiC9wIVBQx9Ch2EmQOjEAAYASAAEglcp_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 hi-rails shall have a minimum of five (5) years continuous experience manufacturing and installing equipment 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 hi-rail equipment and accessories.

4.2 For the purposes of Warranty repairs, the Bidder shall have an authorized service facility located within 10 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 hi-rail equipment being offered.

4.3 Further to B12, Bidders shall provide a description of the facility including, but not limited to, number of qualified staff, years of service experience on specialty bodies, and general service capabilities within three (3) Business Days upon request of the Contract Administrator.

**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. REFERENCES**

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

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**7. PERFORMANCE**

7.1 Shall be capable of consistent top performance for traveling, transporting and hauling on roadways and railways during the climatic conditions which are normal to the City of Winnipeg.

**8. HI-RAIL SPECIFICATIONS**

8.1 Type – hydraulic lift Harsco HR 1515C1, Rafna R290 or equivalent, **state** make and model being bid. \_\_\_\_\_

8.2 The hi-rail unit being bid shall allow for all four truck tires to ride on the railway tracks. \_\_\_\_\_

8.3 Track gauge – 56.5 in. \_\_\_\_\_

8.4 Construction – fabricated steel unit, welded and bolted construction. \_\_\_\_\_

- 8.5 Attachment to vehicle – front and rear units shall be bolted to vehicle frame with custom mounting brackets specific to the chassis supplied. The unit shall be fitted with incrementally spaced mounting holes to allow full adjustment of installation for vehicle’s frame height, base curb weight, and on-rail tracking. \_\_\_\_\_
- 8.6 Rims and tires – aluminium, aftermarket rims with heavy duty tires suited for the hi-rail unit being bid. The rims and tires shall be properly aligned and the speedometer recalibrated. A credit shall be applied for the OEM rims and tires. \_\_\_\_\_
- 8.7 Suspension – four-wheel independent spring suspension. \_\_\_\_\_
- 8.8 Rail wheels – profile steel wheels. \_\_\_\_\_
- 8.8.1 Tread diameter – 10 in. \_\_\_\_\_
- 8.8.2 Flange diameter – 12½ in. \_\_\_\_\_
- 8.9 Safety locks – positive self-engaging mechanical lock, locked in rail and highway positions. \_\_\_\_\_
- 8.10 Derail skirts – to be supplied on front and rear of units. \_\_\_\_\_
- 8.11 Rail sweeps – bolt-on, front and rear. \_\_\_\_\_
- 8.12 Raise/lower – hydraulic, double acting cylinders with electric control switch located by each unit. \_\_\_\_\_
- 8.13 In-cab controls – electric, ergonomically located near driver’s position, suitable for operation by a single operator. \_\_\_\_\_
- 8.14 Bumper – front OEM bumper to be modified to accommodate hi-rail unit being bid. \_\_\_\_\_
- 8.15 Suspension overloads – auto levelling air bag overload between frame and rear springs c/w compressor, sized for GVWR. **State** make and model being bid. \_\_\_\_\_

**9. INSTALLATION**

9.1 The hi-rail unit shall be installed on the following City supplied pick-up truck:

**2022 Ford F-350**

- 10,600 lbs. GVWR
- 6.2L V8 Gasoline Engine
- Crew Cab
- 4wd
- 6½ ft. box
- Ford OEM receiver hitch and brake controller

9.2 The rear hi-rail mount shall be compatible with the use of the rear receiver hitch. \_\_\_\_\_

9.3 Running boards – custom made extending entire length of underside of front and rear doors, each side. Constructed of AGS 6061 aluminium grip strut, 9-1/2" x 2" x .08", c/w 1/8" aluminium checkerplate as an inside kick plate. Support brackets shall consist of 1 1/2" x 1 1/2" x 1/8" RC aluminium square tubing with 1/4" aluminium support plates. \_\_\_\_\_

9.3.1 Running boards, mounting – cab steps to be mounted using the existing holes in the frame and body where applicable with 3/8-16 nut inserts to secure the mounting brackets to the body. \_\_\_\_\_

9.4 Mounting of the hi-rail unit shall be in accordance with the manufacturer's recommended mounting procedures including, but not limited to, guidelines for tire and suspension. \_\_\_\_\_

9.5 Any holes required in chassis frame web must be drilled and reamed to fit bolts, no exceptions. \_\_\_\_\_

9.5.1 Drilling on chassis frame flanges is not permitted. \_\_\_\_\_

9.5.2 Welding on the chassis frame is not permitted. \_\_\_\_\_

9.6 Hi-rail shall be bolted to chassis frame using Grade 8 fasteners. \_\_\_\_\_

**10. INTERFACES**

10.1 All interfaces between aluminium and steel are to be separated by a minimum of 1/16 in. thick rubber or neoprene sheet and shall be bolted through with stainless steel bolts and non-conductive bushings. \_\_\_\_\_

**11. ELECTRICAL AND LIGHTING**

11.1 All vehicle lighting shall conform to C.M.V.S.S. and Manitoba Highway Traffic Act requirements. \_\_\_\_\_

11.2 Back-up alarm – SWS 99901 97 dB(A) rating, installed at rear of pick-up truck, located to be protected from damage. \_\_\_\_\_

11.3 Auxiliary work lighting – two (2) forward and two (2) rearward, LED work lights to illuminate rail gear area. **State** make and model being bid. \_\_\_\_\_

11.3.1 Actuation switches – labelled "Work Lights" with a permanent type, engraved style label. Exact mounting location to be determined at time of installation. \_\_\_\_\_

11.4 All wiring for lights and switches shall be colour coded, loomed and properly secured. \_\_\_\_\_

11.4.1 All electrical connectors shall be crimped and soldered, then sealed using heat shrink tubing. \_\_\_\_\_

11.4.2 All joining of wires shall be soldered and sealed using heat shrink tubing or approved OEM weathertight connections (crimp-on electrical connectors for joining of wires are not acceptable). \_\_\_\_\_

11.4.3 Splicing into factory chassis or body wiring harnesses is not acceptable. \_\_\_\_\_

11.4.4 Any holes required to run wires through shall be drilled (not punched), grommeted and sealed as required. \_\_\_\_\_

**12. PERFORMANCE RELIABILITY**

12.1 The responsibility for the design of the hi-rail and associated, its performance and reliability shall rest upon the Contractor.

12.2 The term "*repeated failures*" as used herein is defined to mean that the same component, subassembly, or assembly develops repeated defects, breakdowns and/or malfunctions rendering the vehicle inoperative, or requiring repeated shop correction, service and/or replacement during the warranty period applicable for said component, subassembly, of assembly. Minor items or ordinary service adjustments are not included, or considered under the scope of repeated failures, as well as other factors, such as operational damage due to accidents, misuse or lack of proper maintenance, service and lubrication attention by not following the manufacturer's preventative maintenance schedule.

12.3 Where the hi-rail unit and associated develops repeated failures in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance.

**13. WARRANTY**

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

13.2 Hi-rail gear and associated equipment – **state**. \_\_\_\_\_

13.3 Electrical, lighting, etc. – **state**. \_\_\_\_\_

**14. MANUALS**

14.1 Operator's manuals (hi-rail) – one (1) per vehicle, plus one extra to be sent to the Training Branch as per D15.3. \_\_\_\_\_

14.2 Parts and maintenance manuals – two (2) complete sets per vehicle required, USB format preferred, required with the following comprising a set:

- i) Unit lubrication chart;
- ii) Maintenance manual;
- iii) Unit parts book;
- iv) Electric wiring diagram; and
- v) Hydraulic circuit diagram. \_\_\_\_\_

Note: The manuals supplied with this contract must be in English and shall be specifically for the unit supplied. General purpose manuals will not be acceptable. The Contract will not be considered complete until these have been delivered. Manuals must be supplied at the time the unit is delivered.

**15. PICK-UP AND DELIVERY**

15.1 Pick-up – the Contractor shall be responsible for picking-up the trucks from the City upon award. The vehicles will be available for pick-up at the Winnipeg Fleet Management Agency, 185 Tecumseh St., Winnipeg, Manitoba. Pick-up times will be between 8:00am and 2:00pm on any Business Day. The Contractor shall be responsible for any related fuel costs to and from their facility. \_\_\_\_\_

15.2 Delivery – the unit shall be serviced, ready for operation, fully fuelled and delivered F.O.B. with the freight prepaid to the Winnipeg Fleet Management Agency, 185 Tecumseh Street, Winnipeg, Manitoba within **twelve (12) calendar weeks** from the date of award of Contract. The Contractor shall contact the Contract Administrator prior to delivery of the equipment. Equipment shall be delivered within 8:00am and 2:00pm on Business Days.

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

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15.4 Weigh scale ticket – the unit shall be delivered with a certified weigh scale ticket. The weights shown on the ticket shall include front and rear axle loads with one (1) operator, one (1) passenger, and the unit fully fuelled.

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