

FORM N: DETAILED SPECIFICATIONS 21004

EMERGENCY RESPONSE DIVE TRUCK AND VAN BODY

1. INTENT

- 1.1 It is the intent of these specifications to describe a nominal 22'L x 8.5'W specialty van body suitable for use as an emergency response dive vehicle including other equipment as described herein. The dive body shall be installed on a Class 7 crew cab and chassis vehicle to be supplied by the Contractor (see Cab & Chassis Specifications).
- 1.2 The dive body shall be the manufacturer's latest model, as may be modified by these specifications. The emergency response dive truck and van body, 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 dive vehicle shall comply with the applicable regulations:
 - Manitoba Highway Traffic Act
 - Canadian Motor Vehicle Safety Standards, CMVSS Transport Canada
 - National Safety Mark, NSM
 - Manitoba/Winnipeg Safety and Health Act, Parts 12, 22
 - Canadian Standards Association, CSA
 - Under Writers of Canada, U/L
 - Society of Automotive Engineers, SAE
- 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 dive body shall have a minimum of five (5) years continuous experience manufacturing and installing emergency services bodies and 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 customized truck bodies and specialty equipment bodies.
- 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 customized specialty bodies and 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.

7. CREW CAB AND CHASSIS SPECIFICATIONS

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

GVWR

- 7.2 Total 33,000 lbs. _____
- 7.3 Front 12,000 lbs. _____
- 7.4 Rear 21,000 lbs. _____

Chassis Dimensions

- 7.5 Cab-to-axle 170 in. approx., suitable for 22 ft. dive van body, **state** CA _____
- 7.6 Wheelbase 280 in. approx., suitable for 22 ft. dive van body, **state** WB _____

Engine

- 7.7 Type Diesel engine, Tier IV, **state** make, model and displacement _____
- 7.8 Horsepower 300 hp approx., **state** _____

| | | | |
|------|-----------------------------|---|-------|
| 7.9 | Torque | 750 lbf-ft approx., state | _____ |
| 7.10 | Engine shut down | Low oil pressure / high water temperature | _____ |
| 7.11 | Air intake warmer | Required | _____ |
| 7.12 | Fuel shut-off | Electric solenoid type | _____ |
| 7.13 | Air cleaner | Dry type | _____ |
| 7.14 | Air intake restriction ind. | Dash mounted restriction indicator | _____ |
| 7.15 | Oil drain plug | Magnetic type | _____ |
| 7.16 | Oil filter | Full flow, spin-on or cartridge type | _____ |
| 7.17 | Fuel filter | Spin-on or cartridge type | _____ |
| 7.18 | Fuel/water separator | Heated, drainable, mounted under hood, located to be protected from road spray | _____ |
| 7.19 | Block heater | Immersion type, 750 Watt with plastic, covered recessed male plug, located under driver's side door | _____ |
| 7.20 | Coolant | Extended life coolant, antifreeze to -35°F (-37°C) | _____ |
| 7.21 | Coolant hoses | Silicone type, Gates Blue Stripe or Premium type hoses | _____ |
| 7.22 | Fan Drive | Thermostatically controlled, automatic type | _____ |
| 7.23 | Air compressor | Water cooled, pressure lubricated, 13 cfm | _____ |
| | Electrical System | | |
| 7.24 | Alternator | 300 Amp, state make and model | _____ |
| 7.25 | Starter | Delco Remy 38MT HD or equivalent | _____ |
| 7.26 | Batteries | Three (3), 12-volt, group 31, 2250 CCA combined capacity | _____ |
| 7.27 | Battery Box | Under cab c/w enclosure, readily accessible | _____ |
| 7.28 | Battery disconnect | In-cab mounted, state location | _____ |
| 7.29 | Remote boost terminal | Remote battery boost terminal(s), protected from road spray, covered, state location | _____ |
| 7.30 | Cab marker lights | LED | _____ |
| 7.31 | Back-up alarm | Required, 97 dBA, located on inside-rear of frame rails | _____ |
| 7.32 | Accessory switches | Six (6) required, dash mounted for body installation, labelled and backlit | _____ |
| 7.33 | Radio circuit | Independent 20 Amp, 2-way radio circuit, ignition powered, wired under dash loose, labelled | _____ |
| | Exhaust System | | |
| 7.34 | Configuration | Single horizontal muffler with horizontal tailpipe | _____ |
| | Transmission | | |
| 7.35 | Model | Allison 3000 or 3500 EVS Series, state model | _____ |
| 7.36 | Shift selector | Rotary shift control | _____ |
| 7.37 | Cooling | Water to oil transmission cooler | _____ |
| 7.38 | PTO provision | Required with maximum clearance from exhaust | _____ |
| 7.39 | Oil level dipstick | Bayonet type with high and low level markings | _____ |

| | | | |
|------|---------------------------|--|-------|
| 7.40 | Trans. drain plug | Magnetic type | _____ |
| | Front Axle | | |
| 7.41 | Capacity | 12,000 lbs. capacity | _____ |
| | Rear Axle | | |
| 7.42 | Capacity | 21,000 lbs. capacity | _____ |
| 7.43 | Ratio | For 110 km/hr top speed, state ratio | _____ |
| 7.44 | Differential lock | Required for rear drive axle w/dash mtd. switch | _____ |
| | Front Suspension | | |
| 7.45 | Type | Taper leaf spring suspension, 12,000 lbs. capacity | _____ |
| | Rear Suspension | | |
| 7.46 | Type | Air ride suspension, 21,000 lbs. capacity, state make and model of suspension being bid | _____ |
| 7.47 | Susp. control valve | Manual dump valve for air suspension c/w dash mtd. switch and indicator light | _____ |
| 7.48 | Auto refill | Required at 5 km/hr | _____ |
| | Rims, Wheels, Hubs | | |
| 7.49 | Front | 22.5 x 8.25 polished aluminum, 10-bolt, hub piloted | _____ |
| 7.50 | Rear | 22.5 x 8.25 polished aluminum, 10-bolt, hub piloted | _____ |
| 7.51 | Hubs | State type, front and rear | _____ |
| 7.52 | Hub seals | Oil lubricated front and rear | _____ |
| 7.53 | Wheel nut indicators | Required on every second wheel nut, front and rear | _____ |
| | Tires, front | | |
| 7.54 | Size | 11R 22.5 | _____ |
| 7.55 | Make & model | Michelin XZE, Goodyear G662 RSA or equivalent 14-ply tires, state tires | _____ |
| | Tires, rear | | |
| 7.56 | Size | 11R 22.5 | _____ |
| 7.57 | Make & model | Michelin XDE M/S, Goodyear G182 or equivalent 14-ply tires, state tires | _____ |
| | Frame | | |
| 7.58 | Type | Single or double rail, to match GVWR, 1,000,000 in.-lbs. RBM, outside frame clear | _____ |
| 7.59 | Application | Suitable for use with a 22 ft. dive van body | _____ |
| 7.60 | Chassis fasteners | Grade-8 threaded hex headed frame fasteners or huck-spin fasteners | _____ |
| 7.61 | Afterframe | As required for a dive van body installation, 100 in. approx., state | _____ |
| | Steering | | |
| 7.62 | Type | Power | _____ |
| | Brakes | | |
| 7.63 | Type | Hydraulic, ABS, power with optional air supply | _____ |
| 7.64 | Air drier | Wabco System Saver 1200, heated | _____ |
| 7.65 | Moisture ejector | Bendix DV-2, heated, required in wet tank | _____ |

| | | | |
|------|----------------------|---|-------|
| 7.66 | Drain valves | Manual, chain or cable operated, required on each air tank | _____ |
| 7.67 | Parking brake | Dash mounted air operated parking brake knob | _____ |
| | Fuel Tanks | | |
| 7.68 | Type | Dual aluminum, 300 L combined capacity approx., fully fuelled upon delivery | _____ |
| 7.69 | Tank straps | Steel mounting straps with 1/16 in. rubber or neoprene isolators | _____ |
| 7.70 | Fuel separator | Heated, drainable, c/w primer pump | _____ |
| 7.71 | DEF tank | Diesel exhaust fluid tank, 22-30 L approx., state size and location | _____ |
| | Cab | | |
| 7.72 | Type | Conventional type, aluminum or steel w/corrosion inhibitor | _____ |
| 7.73 | Hood | Fibreglass tilt | _____ |
| 7.74 | Cab mounts | Rubber cab mounts | _____ |
| 7.75 | Cab interior/trim | Extreme climate insulation including cloth or vinyl headliner on roof, door panels and rear interior of cab. Door panels to include storage pockets, front and rear | _____ |
| 7.76 | Cab silencer package | Required for minimal decibel level | _____ |
| 7.77 | Hood/Firewall/Engine | Insulated hood liner, engine cover and firewall | _____ |
| 7.78 | Floor covering | Rubber mat with under-padding | _____ |
| 7.79 | Floor mats | Two (2), rubber | _____ |
| 7.80 | Driver seat | High back, air suspension w/foldable right hand armrest, seat belt, heavy-duty cloth upholstery, Cordura or equal, state material | _____ |
| 7.81 | Passenger seat | High back, air suspension w/foldable left hand armrest, seat belt, heavy-duty cloth upholstery, Cordura or equal, state material | _____ |
| 7.82 | Rear seats | High back bucket seats, air suspension w/foldable armrests, seat belts, heavy-duty cloth upholstery, Cordura or equal, state material | _____ |
| 7.83 | Sun visors | Dual flip-up type | _____ |
| 7.84 | Steering wheel | Tilt type | _____ |
| 7.85 | 12-Volt power outlet | Required | _____ |
| 7.86 | Radio | Factory installed AM/FM with Bluetooth® capability, auxiliary input and USB port | _____ |
| 7.87 | Starter switch | Key operated c/w four (4) sets of keys | _____ |
| 7.88 | Key FOBS | Two (2) | _____ |
| 7.89 | Interior light | Dome light with driver and passenger door switches | _____ |
| 7.90 | Heater / Defroster | High output, capable of keeping all windows clear at an outside temperature of -35°F (-37°C) | _____ |
| 7.91 | Air conditioning | Required | _____ |
| 7.92 | Power windows | Required | _____ |

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|--------------------------|------------------------|---|-------|
| 7.93 | Power door locks | Required | _____ |
| 7.94 | Brake & accel. pedals | Hanging type brake and accelerator pedals | _____ |
| 7.95 | Horn | Dual electric | _____ |
| 7.96 | Exterior mirrors | Dual West Coast, stainless steel or polycarbonate, 7" x 14½" approx. | _____ |
| 7.97 | Convex mirrors | 6 in. aux., stainless steel, mtd. below West Coast mirrors, or integral type with polycarbonate mirrors, one (1) per side | _____ |
| 7.98 | Downview mirror | Located over passenger door, 5" x 4" approx. | _____ |
| 7.99 | Windows & windshield | Tinted | _____ |
| 7.100 | Windshield wipers | Electric, intermittent | _____ |
| 7.101 | Windshield washers | Electric | _____ |
| 7.102 | Grab handles | Dual exterior with rubber inserts | _____ |
| 7.103 | Entrance steps | Dual each side, open grate / grip type | _____ |
| 7.104 | Winter front | Heavy-duty vinyl w/twist lock or snap type fasteners | _____ |
| Instrumentation | | | |
| 7.105 | Oil pressure | Gauge | _____ |
| 7.106 | Coolant temperature | Gauge | _____ |
| 7.107 | Transmission oil temp. | Gauge | _____ |
| 7.108 | LOP/HWT | Warning light and buzzer | _____ |
| 7.109 | Voltmeter | Gauge | _____ |
| 7.110 | Air reservoir pressure | Gauge with LAP warning light and buzzer | _____ |
| 7.111 | Engine hourmeter | Required, non-resettable type | _____ |
| Tow Hooks | | | |
| 7.112 | Location | Front mounted | _____ |
| Front Bumper | | | |
| 7.113 | Type | Chrome, full width c/w license plate provision | _____ |
| Colour and Finish | | | |
| 7.114 | Exterior | White | _____ |
| 7.115 | Interior | Dark grey or black | _____ |
| 7.116 | Frame & suspension | Primed and finished with black Imron 5000 paint or equivalent | _____ |
| Accessories | | | |
| 7.117 | Flare kit | Three (3) triangular reflectors, CVSA approved | _____ |
| 7.118 | Fire extinguisher | 5 lb. ABC type, required in cab with mounting bracket | _____ |
| 7.119 | First aid kit | Required, Provincial 1 approved kit, supplied loose | _____ |
| Manuals | | | |
| 7.120 | Operator's manual | Required, one (1) per vehicle | _____ |
| 7.121 | Parts/Repair/Service | Required, including preventative maintenance schedules for life of unit, USB or online manuals preferred | _____ |

Warranty

- 7.122 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:
- 7.123 Basic vehicle **State** _____
- 7.124 Batteries **State** _____
- 7.125 Drivetrain **State** _____
- 7.126 Cab structure/corrosion **State** _____
- 7.127 Frame & crossmembers **State** _____
- 7.128 Cab paint **State** _____
- 7.129 Engine **State** _____
- 7.130 Towing coverage **State** _____
- 7.131 Transmission **State** _____
- 7.132 Axles, front & rear **State** _____
- 7.133 Exhaust system **State** _____

8. DIVE VAN BODY

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

9. BODY DIMENSIONS

- 9.1 Body length, interior (measured to front wall) – 22 ft. approx., **state** length. _____
- 9.2 Body width, exterior – 100 in. approx., **state**. _____
- 9.3 Body height, interior – 82 in. approx., **state** height. _____
- 9.4 Floor height – 40 in. approx., **state** height. _____
- 9.5 Overall height – **state**. _____

10. VAN BODY, EXTERIOR

10.1 Exterior sidewall material – modular body constructed of aluminum, fully welded into an integral structure or aluminum snap lock panels. **State** body construction method. _____

10.2 Roof material – capable of supporting two (2) people of average weight of 200 lbs., covered with diamond plate or equivalent for added support and increased traction. **State** roof construction materials. _____

10.2.1 Roof rail – 6 in. height around perimeter. _____

- 10.2.2 Roof access ladder – rear mounted to allow access to roof c/w a locking hinged cover to prevent unwarranted roof access. _____
- 10.2.3 Framing in roof for Air Conditioning unit and roof vent. _____
- 10.3 Body frame – welded tubular steel or aluminum cage. _____
- 10.4 Floor frame – welded steel or aluminum floor frame and mounting plates c/w heavy duty cross members. _____
- 10.5 Floor crossmembers, front – HSS 3"x2"x.125" steel tubing or equivalent on 16 in centres. **State** material. _____
- 10.5.1 Floor crossmembers, rear – HSS 2"x2"x.125" steel tubing or equivalent on 16 in centres. **State** material. _____
- 10.6 Floor longsills – structural C-channels or equivalent. **State** material. _____
- 10.7 Exterior skirting below floor – 20 in. approx. _____
- 10.8 Mudflaps – no-name, black rubber type with stainless steel bar anti-sail brackets, installed at front and behind rear tires. _____
- 10.9 Rear bumper – full width, heavy-duty step bumper, 14 in. depth c/w a grip strut step surface and tapered ends. Exact bumper design and dimensions to be discussed at a pre-production meeting. _____
- 10.9.1 Bumper shall be bolted to chassis frame and to van body, structurally reinforced and fastened with Grade 8 fasteners. Mounting height shall provide a 17-19 in. step height from ground level. _____
- 10.10 Wheel wells – shall include stainless steel or aluminum wheel liners. _____
- 10.11 Frame and body frame to be primed with a suitable rust inhibitor primer. _____
- 10.12 Insulation, floor – 2-3 in. of spray foam, urethane or equivalent on underside of floor. _____
- 10.12.1 Insulation, walls and ceiling – 2 in. Styrofoam SM insulation or equivalent. _____

11. EXTERIOR COMPARTMENTS, DOORS AND EQUIPMENT

11.1 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.

Exterior Compartments – General

- 11.2 Weather stripping – bulb type automotive style for all doors and compartments. _____
- 11.3 Drip mouldings – required above each door opening where applicable. _____
- 11.4 Compartment door handles – stainless steel paddle type handles or D-ring, Tri-Mark, Eberhard or equivalent. _____

- 11.5 Door keys – four (4) sets required, keyed alike where available. _____
- 11.6 Compartment door hardware – chrome or stainless steel with adjustable striker plates. _____
- 11.7 Rubber bumpers required on exterior door compartments where applicable. _____
- 11.8 Rear bumper – heavy duty galvanized steel bumper, bolt-on c/w two (2) rubber dock bumpers. _____

Driver Side, front to back

- 11.9 Compartment 1, diesel generator compartment – suitably sized to accommodate an 8 kW Onan diesel generator, mounted on a slide-out tray. Compartment shall be sufficiently insulated. Door(s) to be louvered, vertically hinged, lockable. Fuel for the generator shall be supplied from truck fuel tank. **State** make and model of generator being bid. _____
- 11.10 Compartment 2, under floor battery compartment – 28"L x 22"H x 24"D approx., c/w a slide-out tray for batteries. Tray to be lined with neoprene liner. Door to be louvered, vertically hinged, lockable. _____
- 11.11 Compartment 3 – shall include all plumbing components, located under floor in front of wheels, 40"L x 22"H x 24"D approx. c/w fresh water holding tank, an electric pump for the water system and an electric heater for the hot water. The system will include an easy access external fill valve to fill the water system without having to open the compartment. A black-water tank will be heated and include a blackwater drainage system. Door to be vertically hinged and lockable. _____

Passenger Side, front to back

- 11.12 Front entry door – located near front of body, 36"L x 84"H approx., right side hinged, c/w three (3) inside steps. _____
- 11.12.1 Door locks/handles – stainless steel or nickel-plated paddle style handle or heavy duty refer style handle/latch, lockable. **State** type. _____
- 11.12.2 Grab handles – two (2) large grab handles with rubber inserts, ergonomically located for entry and egress. _____
- 11.12.3 Window – approx. 12"L x 18"H fixed, tinted window c/w applicable safety markings. _____
- 11.12.4 Door stay – approx. 150° heavy duty mechanical door check, suitable for high winds. _____
- 11.13 Compartment 4 – air tank storage, located under floor in front of wheels, 72"L x 36"H x 36"D approx., suitable for storage of twenty-four (24) air tanks. When stored, the air tanks shall have a slight angle from front to back. Roll-up Amdor, lockable. _____
- 11.14 Compartment 5 – umbilical and BC mask storage, 72"L x 36"H x 36"D approx. roll-up Amdor, lockable. Compartment shall include a floor drain. _____
- 11.15 Rear entry door – located near rear of body, 36"L x 84"H approx., right side hinged, c/w three (3) inside steps. _____

11.16 Exterior shower provision – hot and cold with retractable shower hose, brushed nickel or stainless-steel c/w enclosed stainless steel hatch to prevent water leakage and debris, mounted bracket for shower head. _____

12. INTERIOR LAYOUT

12.1 Interior height – 80 in. approx., **state** height. _____

12.2 Floor material – ¾ in. marine grade plywood. _____

12.2.1 Interior floor covering – heavy duty smooth black rubber floor or equivalent seamless non-skid flooring. The joints where the floor and cabinets/wall meet shall roll up 90 degrees to prevent seepage of fluids under the cabinets/wall. _____

12.2.2 **State** any floor design options and corresponding price. _____

12.3 Ceiling and side wall material – white, moisture and impact resistant fibreglass reinforced plastic panels or equivalent, **state** material. _____

12.4 Insulation – cavities between the interior and exterior body panelling and doors shall be filled with R8 insulation. Flooring shall have an R5 insulation value. _____

12.5 Fire extinguisher – one (1) 5 lb. ABC type installed in the rear area. Exact location to be determined at pre-production meeting. _____

Front Interior Wall

12.6 Walkthrough – entryway to cab area c/w rubber boot and finished fabric into cab. Sliding door with non-locking handle. _____

Driver Side, front to back

12.7 Communications cupboard – located at top, 48"L x 24"H approx. with a height adjustable shelf at 1 in. increments. The cupboard shall top hinged, latchable door. _____

12.7.1 Hanger bar – directly below the communications cupboard shall be an open area with a heavy-duty hanger bar for winter coats, 48 in. L, no door required. _____

12.7.2 Pull-out drawer – weapons storage, located near floor level, 48"L x 16"H approx., lockable. _____

12.8 Personal storage bins – requires a space of approx. 12 ft. L, twelve (12) bins total, two (2) rows of six (6), located near ceiling height, 24"L x 24"H x 24"D approx. Tether strap(s) is required to contain duty bags during transport. _____

12.8.1 Directly below the personal storage bins shall be drawers and/or shelves. The lay-out shall be discussed during the pre-production drawing phase depending on generator/water tank/heater configuration. _____

Passenger Side, front to back

12.9 Front entry door – 36"L x 84"H approx. as described above. _____

- 12.10 Mask storage hooks – space of approx. 6'L x 4'H capable of storing twelve (12) masks, three rows of four aluminum pipes. Aluminum pipes to be 8 in. L, 1½ in. diameter with a rubber tip. Pipes to be angled upwards approx. 30°. _____
- 12.11 Workbench – heavy-duty workbench, 12 ft. L approx., 36 in. surface height, with teal or aqua blue laminate surface. _____
- 12.12 Backboard mount – located directly underneath workbench towards the front, capable of storing/transporting a 6 ft. scoop stretcher. The stretcher mount shall allow ergonomic accessibility to the stretcher with securement straps or Velcro storage design. _____
- 12.13 Overhead cupboards – two (2), located directly towards the rear of the mask storage hooks, 12-14 in. H, 36 in. W approx. with latchable, top hinged doors. _____

Rear Change/Washroom Area

- 12.14 The space be 6'L x full width of van body containing an exterior door on the passenger side, a bulkhead with a pocket door accessing the front of the van body, a washroom with a pocket door on the driver's side of the van body, and rear bench seating with storage hooks. _____
- 12.15 Rear entry door, passenger side – 36"L x 84"H approx. as described above. _____
- 12.16 Partition wall, front – similar construction to cab-to-body partition with a centre pocket/sliding, latchable door. _____
- 12.17 Rear bench seating – FRP or painted aluminum vinyl seating area, 18"H x 18"D approx., seat shall enclose an underneath storage compartment accessible from the rear of the van body. _____
- 12.17.1 Storage hooks – six (6) approx., located directly above rear bench seating. _____
- 12.18 Washroom – 6'L x 40" D approx., lockable sliding privacy pocket door, fully functional RV style toilet facing the rear of the unit, sink with small cabinet underneath, all associated plumbing to operate the system and connect it to the water tank. Sink to include an electric pump with both hot and cold water. Washroom to include an exhaust fan, soap dispenser, toilet paper dispenser, and paper towel dispenser. The washroom shall be heated by a 110V heater as well as ventilated heat from the main compartment heating system. _____

13. ELECTRICAL & LIGHTING

- 13.1 All vehicle lighting shall conform to C.M.V.S.S. (latest revision) and Manitoba Highway Traffic Act requirements. _____
- 13.2 Supplier installed lighting to be LED Whelen, Truck-Lite or equivalent. _____
- 13.3 Brake lights – two (2) Whelen M Series. _____
- 13.4 Turn signals – two (2) Whelen M Series. _____
- 13.5 Back-up lights – two (2) Whelen M Series. _____
- 13.6 3-light cluster – three (3) 2½ in. lights c/w mounting grommets. _____
- 13.7 Clearance lights – 2½ in. clearance lights c/w mounting grommets. _____

- 13.8 Licence plate lamp – LED c/w license plate bracket. _____
- 13.9 Lighting harnesses – all harnesses shall be internally grounded, properly routed and secured, protected from damage. _____
- 13.10 Junction box – Truck-Lite P/N 50400 or equivalent, 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. _____
- 13.11 All plug-in connectors shall be coated with a di-electric grease or anti-corrosion compound prior to assembly. _____
- 13.12 Antennas and specialty cabling – the City of Winnipeg will supply five (5) antennas and cabling to be installed by Contractor on vehicle roof. Access ports required for servicing antennas. Additional structural metal required for antenna ground plates. Exact locations and terminations to be discussed at pre-production meeting. _____

Note: Antennas and specialty cabling are the only City of Winnipeg supplied equipment.
- 13.13 Warning lights, body mounted – seven (7) red Whelen M-Series and seven (7) blue Whelen M-Series lights with chrome flanges, alternating flash patterns, mounted as follows:
 - i) Front facing – one red, one blue on front section. _____
 - ii) Rear facing – two red, two blue. _____
 - iii) Side facing, driver’s side – two red, two blue. _____
 - iv) Side facing, passenger side – two red, two blue. _____
- 13.14 Warning lights, grille mounted – four (4) Whelen ION Series, two red, two blue, front facing in truck grille. _____
- 13.15 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. _____
- 13.16 Siren package – required with speaker, including one full function hands free siren, one (1) Whelen SA315 series with speaker bracket. _____
- 13.17 Scene lights/flood lights – six (6) Whelen M9 Series, two per side, two rear mounted. _____
- 13.18 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. _____
- 13.19 Interior lights – continuous Luma Bar and/or LED ceiling lights throughout on main isle way, ceiling, under cabinets, rear change room, washroom, passenger side doorway entrance steps and all exterior cabinets. _____
- 13.20 Generator – Onan QD 8000 quiet diesel generator installed in Compartment 1. The generator shall have a remote start feature, accessible from the interior of the vehicle. _____

- 13.21 Body load disconnect switch – required. _____
- 13.22 Electrical package – 120V, 30-Amp including 110V inlet, 30 ft. shore power cord c/w auto eject, 50-Amp electrical box, 50-Amp main breaker and 50-Amp transfer switch. _____
- 13.23 Converter – 120V to 12V, 30 Amp with charger. _____
- 13.24 Wiring access panels – covered bulkhead/access panels running along driver's and passenger's side interior near roof for the purpose of running cabling after build is complete. _____
- 13.25 Duplex receptacles, interior – twelve (12) required with locations to be outlined in the Contractor's pre-production drawings. The receptacles shall be GFI, CSA approved. _____
- 13.26 Duplex receptacles, exterior – two (2) located one exterior of van body, one on driver's side, one on passenger side. _____
- 13.27 Deep cycle batteries – two (2) 12 V, Group 31 batteries securely mounted, readily accessible c/w power level indicator mounted in body. Batteries to be charged from the truck alternator or the shoreline converter. _____
- 13.28 Roof mounted power vents – two (2) ceiling mounted, 3-speed fan, reversible airflow with controls. _____
- 13.29 Back-up camera – rear mounted c/w 7 in. dash mounted screen, Zone Defence 323 or equivalent. _____
- 13.30 12 Volt lines – two (2) 12V lines to mast area wired to switch by ramp door for up/down of mast. _____
- 13.31 Communications cable – required from computer cabinet (Cabinet 4) to mast area. _____
- 13.32 Master disconnect switch – to disable all electrical systems for repair or long-term storage. **State** location. _____
- 13.33 All wiring installed by body manufacturer/installer (including accessories, work lights, etc.) shall be colour coded, loomed, properly secured and protected from damage. _____
- 13.34 All electrical connectors shall be crimped & soldered, then sealed with heat shrink tubing. _____
- 13.35 All joining of wires shall be soldered and sealed using heat shrink tubing (crimp-on electrical connectors for joining wires are not acceptable). _____
- 13.36 Any holes required to run wires through body, cab, steel sections, etc. shall be drilled (not punched), grommeted and sealed. _____

14. INSTALLATION

- 14.1 Mounting of the body shall be in accordance with the chassis manufacturer's guidelines for body mounting including, but not limited to, guidelines for tire and suspension clearance. _____
- 14.2 Welding to truck chassis frame is not permitted. _____

- 14.3 Mounting brackets shall be bolted to chassis frame using Grade-8 fasteners. _____
- 14.4 Any holes required in chassis frame web must be drilled and reamed to fit bolts. _____
- 14.5 All non-continuous body seams (joints) shall be caulked with an automotive grade elastomeric sealant. _____
- 14.6 Departure angle of completed unit – 12° approx. **State** angle. _____
- 14.7 Overall height decal – engraved type, installed in chassis cab. _____
- 14.8 Isolators – all interfaces between aluminum and steel are to be separated by $\frac{1}{16}$ in. thick rubber or neoprene sheet to prevent galvanic corrosion. Bolts used on aluminum or between aluminum and steel shall be bolted through with stainless steel bolts and non-conductive bushings. _____
- 15. MISCELLANEOUS**
- 15.1 Interior heaters – Espar heating system or equivalent, as recommended from body manufacturer for extreme cold climate. Two (2) additional electric base board heaters or fan style electric heaters are also required. **State** details of heating package being bid including makes and models of heaters. _____
- _____
- 15.2 Roof mounted Air Conditioner – one (1) 13,500 BTU, ducted with remote thermostat. **State** make and model being bid. _____
- 15.3 Carbon monoxide monitor – required. _____
- 15.4 Front console – manufacturer’s recommended console including backlit, rocker type switches. Details of the proposed console to be discussed at pre-production meeting. _____
- 15.5 Mounting rails – roof mounted for the use of a ceiling mounted antenna. _____
- 15.6 Escape hatch – roof mounted, **state** dimensions and actuation details. _____
- _____
- 15.7 Water tank – 200 L approx. mounted in water tank cabinet including:
- i) 2 in. drain line with valve plumbed through floor. _____
 - ii) 2 in. aluminium coupler with plug for over flow drain. _____
 - iii) 1 in. supply line to water pump and ball valve plumbed to open fitting. _____
 - iv) City water fill in curb side exterior wall to fill water tank. _____
 - v) Site glass or gauge for capacity. _____
- 15.8 Awning – 15 ft., 12V, white, wind sensor, passenger side mounted, motorized, wired to a single interior switch located near front side entry door. **State** make and model being bid. _____

16. COLOUR AND FINISH

- 16.1 Van body – shall be painted white to match chassis cab with two (2) coats of polyurethane enamel, Dupont Imron, Akzo Sikkens or equivalent. _____
- 16.2 Roof – coated with a black spray-on non-skid coating on walking area. **State** type. _____
- 16.3 Floor, underside – steel and aluminum sections of deck, sub-frame and under body shall be undercoated with an asphalt and rubber based material, Proform or equivalent, applied as per manufacturer’s recommendations. _____
- 16.4 Rear bumper – black powder coated finish. _____
- 16.5 Aluminum or stainless-steel components, unfinished. _____

17. TECHNICAL DOCUMENTS AND MANUALS

- 17.1 Bidders shall provide the following, within five (5) Business Days upon request of the Contract Administrator:
 - 17.1.1 Three (3) view drawings showing complete unit including chassis, body and interior views. _____
 - 17.1.2 Estimated front and rear axle weights of the complete unit (chassis, body, etc. including full fuel, full water tank and two operators). _____
 - 17.1.3 Service facility description. _____
 - 17.1.4 Body to frame mounting plans. _____
- 17.2 Prior to final inspection the Contractor shall provide the following;
 - a) Weigh scale ticket of the completed unit, fully fuelled, including two (2) operators. _____
 - b) Operator’s manuals for cab & chassis and Onan generator – two (2) sets required. _____
 - c) Parts and maintenance manuals – two (2) sets required with the following comprising a set:
 - i) Maintenance manual. _____
 - ii) Unit parts book. _____
 - iii) Electric wiring 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.

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

18. DELIVERY

18.1 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 **fifty-two (52) calendar weeks** from the date of award. The Contractor shall contact the Contract Administrator prior to delivery of the equipment. Equipment shall be delivered within 8:00 am and 3:00 pm on Business Days.

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

18.3 The Contractor shall contact the Contract Administrator prior to delivery of the equipment.

19. PERFORMANCE RELIABILITY

19.1 The responsibility for the design of the complete I-DENT vehicle, its performance, and reliability shall rest upon the Contractor.

19.2 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.

19.2.1 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.

20. WARRANTY

20.1 The warranty on the cab & chassis is listed above in 7.122 – 7.133

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

20.3 Body, exterior – **state**.

20.4 Body, interior – **state**.

20.5 Electrical, lighting, etc. – **state**.

20.6 Generator – **state**.

20.7 Finish, i.e., paint, gelcoat, powder coat, etc. – **state**.

20.8 Provide details on any extended Warranty coverage available.
