

## FORM N: DETAILED SPECIFICATIONS 21026

### WORK-OFFICE TRAILER

#### 1. INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

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

#### 2. DESCRIPTION OF EQUIPMENT

- 2.1 These specifications describe **Work-Office Trailer** and other equipment and features as specified herein. The Trailer is an integral portion of the City of Winnipeg Waste Water Services equipment fleet as it is used year-round during all seasons.
- 2.2 The **Work-Office Trailer** shall be a new **2021** model year or newer.
- 2.3 The **Work-Office Trailer** and all other items/components shall be the manufacturer's latest model. The equipment shall be furnished complete and ready for operation. Any parts or accessories not specifically mentioned, but which are required to complete and place the equipment and associated attachments in successful operation shall be furnished as though specifically mentioned in these specifications. The equipment and associated attachments, and all parts thereof, shall conform in strength and quality of material and workmanship, to the best standards and engineering practice of the industry.
- 2.4 The ratings specified herein merely state the minimum values acceptable to the City, not implying that those values are sufficient for the design of the particular equipment being bid.

#### 3. OTHER SPECIFICATIONS AND STANDARDS

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

Transport Canada, National Safety Mark, NSM:

<http://www.tc.gc.ca/eng/acts-regulations/acts-road.htm>

Manitoba Safety and Health Regulation, Parts 12, 16, 22:

[https://www.gov.mb.ca/labour/safety/pdf/1\\_2016\\_wsh\\_ar\\_oc.pdf](https://www.gov.mb.ca/labour/safety/pdf/1_2016_wsh_ar_oc.pdf)

Canadian Motor Vehicle Safety Standards C.M.V.S.S.

[http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,\\_c.\\_1038/section-sched3.html](http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._1038/section-sched3.html)

Manitoba Highway Traffic Act regulations and requirements including, but not limited to, a Manitoba Government Inspection with Safety Sticker.

<http://web2.gov.mb.ca/laws/reggs/index.php?act=h60>

Canadian Standards Association, CSA:

<http://www.csagroup.org/>

Under Writers of Canada, U/L:

<http://www.ulc.ca/>

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

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

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

3.3 Where applicable, the completed unit shall include a Manitoba Government Inspection with Safety Sticker.

3.4 Where applicable, the manufacturer/installer shall affix their National Safety Mark (NSM) certification sticker on each unit.

State NSM number: \_\_\_\_\_

**4. FUEL**

4.1 Where applicable, the equipment shall be fully fuelled upon delivery (no exceptions).

**5. SERVICE FACILITY**

5.1 For the purposes of warranty repairs, the Bidder shall have an authorized service facility. The facility, or a portion thereof, shall be dedicated to the service and maintenance of the type equipment being offered. 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.

**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. MAKE & MODEL**

7.1 State make, model and year being bid:

Make: \_\_\_\_\_

Model: \_\_\_\_\_

Year: \_\_\_\_\_

**8. PERFORMANCE RELIABILITY**

8.1 The design of the **Work-Office** Trailer, its performance and reliability shall rest upon the Contractor.

8.2 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.

8.3 Where the **Work-Office Trailer** develops “repeated failures” in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance.

8.4 The equipment shall be capable of consistent top performance in City of Winnipeg Environment. **Note: The City of Winnipeg has four seasons with ambient temperatures ranging from approximately 90°F (32°C) to -40°F (-40°C).**

**9. Qualifications of Manufacturer & Contractor**

9.1 The manufacturer of the **Work-Office Trailer** shall have five (5) years continuous experience manufacturing trailers.

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

9.3 The Contractor shall have five (5) years continuous experience servicing, repairing and maintaining a **Work-Office Trailer** of the type being offered.

**10. SPECIFICATIONS**

**Work-Office Trailer Complete with Upfitting**

**Critical Dimensions**

10.1	Inside Width	Approximately 90 in.	_____
10.2	Inside Overall Length	Approximately 20 ft. (240 in.)	_____
10.3	Inside Height	Minimum 84 in.	_____

**General Information**

10.4	Unit Number	City of Winnipeg unit number shall be bead welded on the side face of the A-frame	_____
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**Note:** Unit Number is a seven (7) digit number to be supplied at time of P.O. issue

10.5	Certified Weigh Scale Ticket	<ul style="list-style-type: none"> <li>• Required prior to final acceptance</li> <li>• Axle weight and total weight must be clearly indicated</li> </ul>	_____
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10.6	Exterior Height (Including all custom projections)	<p><b>Note:</b> Height restrictions in place at some facilities – Garage Door height of approximately 130 in.</p>	_____
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**State:** exterior height of vehicle including all custom projections: \_\_\_\_\_

**Colours**

10.7	Exterior Colour	White	_____
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**Drawings**

- 10.8 Contractor shall supply: \_\_\_\_\_
- Three (3) view drawings showing complete upfitting during and after Pre-Production meetings
  - Contractor to provide a weight analysis after pre-production meetings
  - Electrical schematic drawings at the completion of the project
  - Drawings are to include all dimensions, materials, and specifications as required
  - Drawings are to be revised as requested by the City
  - Multiple drawing iterations may be required
  - Work to commence after final drawing approval by the City of Winnipeg
  - Any changes required after final approval must be approved by the City
- Note: Drawings can be supply as hard copies, PDF's or electronically

**Trailer Frame**

- |       |                           |                                                                                                                                                                                                                                                                  |       |
|-------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 10.9  | Main Frame Construction   | Flat Deck Interior Wheel Well Design<br><br><b>NOTE:</b><br><b>Overall design, material selection, length and width to match intended application</b><br><br><b>State:</b><br>Manufacturer's design:<br><br>_____                                                | _____ |
| 10.10 | A-Frame Construction      | <ul style="list-style-type: none"> <li>• Continuation of main frame</li> <li>• Gusset plating required at area where "A" frame meets main frame</li> <li>• A-Frame length shall accommodate fuel tank and generator specified in these specifications</li> </ul> | _____ |
| 10.11 | Side Rail Construction    | <ul style="list-style-type: none"> <li>• HSS Steel Tube</li> <li>• 4 in. x 3 in. x 1/8 in.</li> </ul> <p><b>State:</b> material: _____</p>                                                                                                                       | _____ |
| 10.12 | Cross Member Construction | <ul style="list-style-type: none"> <li>• 3 inch I-Beam</li> <li>• 16 in. centres</li> </ul> <p><b>State:</b> material: _____</p>                                                                                                                                 | _____ |
| 10.13 | Underframe Sheathing      | Galvanized steel underframe sheathing                                                                                                                                                                                                                            | _____ |

10.14 Deck Height **State:** deck height: \_\_\_\_\_

**Note:** Height restrictions in place at some facilities – Garage Door height of approximately 130 in.

**Undercoating**

10.15 Trailer Frame and Components: \_\_\_\_\_

Vulcanized Undercoating designed to protect the trailer frame from the elements and rust, but also block excessive road and engine noise

**State:** product name: \_\_\_\_\_

**Axle**

10.16 Type 

- Tandem axle
- Independent leaf spring suspension
- Suspension designed for on/off road use
- Approximately 7000 lbs. capacity each

\_\_\_\_\_

**State:** axle capacity: \_\_\_\_\_

10.17 Brake Type Electric on both axles \_\_\_\_\_

**Wheels**

10.18 Tires 

- Carlisle Radial Trail HD Trailer Tire
- Model – 6H04631
- ST235/80R16
- E-Rated

\_\_\_\_\_

**State:**  
Make and Model: \_\_\_\_\_  
Type: \_\_\_\_\_  
Size: \_\_\_\_\_  
Load rating: \_\_\_\_\_

10.19 Rims 6-Bolt Galvanized \_\_\_\_\_

10.20 Lug Nut Indicators Required \_\_\_\_\_

10.21 Mud Flaps 

- Heavy duty
- Rubber
- Black
- Sized to fit application
- Required front and rear of wheels
- Installed with bottom of flap approximately 12 in. from ground level
- Sufficient clearance from wheels

\_\_\_\_\_

10.22 Anti-Sail Provisions Required \_\_\_\_\_

**Fenders**

10.23 Construction 1/8 in. steel checker plate \_\_\_\_\_

10.24 Clearance Clearance above the wheels shall be full spring and equalizer travel plus 2 in. \_\_\_\_\_

**Jack**

- 10.25 Capacity Approximately 1500 lbs. \_\_\_\_\_  
**State:** capacity: \_\_\_\_\_
- 10.26 Location Front centre of the A-frame \_\_\_\_\_
- 10.27 Lift Approximately 25 in. \_\_\_\_\_  
**State:** lift: \_\_\_\_\_
- 10.28 Crank Type Manual crank \_\_\_\_\_
- 10.29 Ground Support Pad \_\_\_\_\_  
**State:** pad size: \_\_\_\_\_

**Jack Blocks/Pads**

- 10.30 Jack Blocks/Pads \_\_\_\_\_
  - Three (3) sets
  - Stabilizer jack pads
  - Durable, UV-resistant
  - Polypropylene construction

**Trailer Safety Systems**

- 10.31 Trailer Breakaway System \_\_\_\_\_  
Designed to bring the trailer to a safe stop by activating the electric brakes on the trailer, should the trailer be disconnected from the tow vehicle while driving  
**State:**  
Make: \_\_\_\_\_  
Model: \_\_\_\_\_  
Part Number: \_\_\_\_\_
- 10.32 Weight Distribution System (Equalizer Hitch) \_\_\_\_\_  
Designed to accomplish: \_\_\_\_\_
  - Evenly distribute **weight** over the entire length of tow vehicle and trailer, resulting in a more level ride with more control and stability, better braking, less strain on vehicle and increase towing capacity.
  - Correct trailer sway**State:**  
Make: \_\_\_\_\_  
Model: \_\_\_\_\_  
Part Number: \_\_\_\_\_
- 10.33 Stabilizing Jacks \_\_\_\_\_  
Qty two (2)  
Mounted at rear of the trailer  
**State:**  
Make: \_\_\_\_\_  
Model: \_\_\_\_\_  
Part Number: \_\_\_\_\_

10.34	Wheel Chocks	Required	_____
	<b>Hitch</b>		
10.35	Adjustable Trailer Coupler	<ul style="list-style-type: none"> <li>• Trailer coupler with 5-position adjustable channel</li> <li>• 2-5/16 in. ball coupler</li> <li>• Auto Latch</li> <li>• 21,000 lbs. capacity</li> </ul>	_____
10.36	Safety Chains	<ul style="list-style-type: none"> <li>• Two (2) – 6 ft. long safety chains</li> <li>• ½ in.</li> <li>• Transport Grade 70 complete with hooks and spring clasps</li> <li>• Heavy Duty ¾ in. D-Rings welded to frame</li> </ul> <p><b>Note:</b> Chain length to be adjusted at assembly stage</p>	_____
	<b>Trailer Equipment (Plug and Cord)</b>		
10.37	Plug	<ul style="list-style-type: none"> <li>• 7-Blade RV</li> <li>• SAE J2863 rated</li> </ul>	_____
10.38	Cord	<ul style="list-style-type: none"> <li>• 7 wire</li> <li>• PVC trailer wire</li> <li>• UV/Gas/Oil resistant</li> <li>• Free end of cored to extend 24 in. past the lunette eye</li> <li>• Route cord on left side of lunette eye</li> </ul>	_____
10.39	Basic Wiring	SAE J2863 configuration	_____
	<b>Floors (From Exterior to Interior)</b>		
10.40	Trailer Frame	Trailer Frame	_____
10.41	Insulation	<ul style="list-style-type: none"> <li>• <u>Closed Cell</u> Spray Foam</li> <li>• R-20</li> <li>• Approximately 3 in. thickness</li> <li>• Water proof</li> </ul> <p><b>State:</b>  Product name: _____  Insulating material: _____  R-Value: _____</p>	_____
10.42	Sub-Floor	1/4 in. Good One Side (G1S) plywood	_____
	<b>Note:</b> Flooring to be filled and sanded as required for floor covering application.		

10.43 Floor Drains Kazoo style drains \_\_\_\_\_  
2-1/2 in diameter galvanized pipe design  
Two (2) required for each room

**Note:** Locations to be determined at pre-production meeting

10.44 Floor Covering – Room A \_\_\_\_\_  

- Textured, Slip Resistant Floor
- Rhino Linings “TUFFGRIP” applied per manufacturer’s instructions
- To be “tubbed” approximately 12 in. up the walls

10.45 Floor Covering – Room B \_\_\_\_\_  

- Textured, Slip Resistant Floor
- 1/8-inch checker plate
- Screwed and welded
- Rhino Linings “TUFFGRIP” applied per manufacturer’s instructions
- To be “tubbed” approximately 12 in. up the walls

**Walls  
(From Exterior to Interior)**

10.46 Exterior Wall Material Aluminum extruded snap panel \_\_\_\_\_  
construction or equivalent

10.47 Studs and Plates Walls built out to approximately 3 in. to \_\_\_\_\_  
accommodate spray foam

10.48 Insulation Closed Cell Spray Foam \_\_\_\_\_  
R-20  
Approximately 3 in. thickness  
Water proof

**State:** insulating material: \_\_\_\_\_

10.49 Interior Wall Material – Room A \_\_\_\_\_  

- 3/8 in. Good One Side (G1S) plywood
- Primed and painted white

10.50 Interior Wall Material – Room B \_\_\_\_\_  

- 3/8 in. Good One Side (G1S) plywood
- Primed and painted white

**Roof  
(From Exterior to Interior)**

10.51 Roof Construction \_\_\_\_\_  

- Walk-on roof
- Sealed checker plate with non-slip coating
- 6 in. rail around perimeter
- Appropriate roof truss / roof bows at minimum 12 in. spacing
- Accessible for servicing the air conditioner

10.52 Sheathing \_\_\_\_\_  

- 1/2 in. O.S.B.
- Screwed and sanded

10.53 Joists and Plates

- 2 x 6 Spruce-Pine-Fir (SPF) lumber
- 16 in. on centre (no slope)

\_\_\_\_\_

10.54 Insulation

Closed Cell Spray Foam  
R-20  
Approximately 3 in. thickness  
Water proof

**State:** insulating material: \_\_\_\_\_

10.55 Finish

- Kemlite GLASBORD Fiberglass Reinforced Plastic (FRP) composite panels
- Joining strips
- Cleanable
- Stain resistant
- Abrasion resistant
- White

**State:**  
Manufacturer: \_\_\_\_\_

**Room Sizes**

10.56 Room A

Approximately 9.5 ft. L x 7.5 Width x 7 ft. H

\_\_\_\_\_

**Note:** Final size to be determined at pre-production meeting

10.57 Room B

Approximately 10 ft. L x 7.5 Width x 7 ft. H

\_\_\_\_\_

**Note:** Final size to be determined at pre-production meeting

**Wall Partition**

10.58 Studs and Plates

Designed and constructed to suit application of a sliding pocket door

\_\_\_\_\_

10.59 Finish – Room A

- 3/8 in. Good One Side (G1S) plywood
- Primed and painted white

\_\_\_\_\_

10.60 Finish – Room B

- 3/8 in. Good One Side (G1S) plywood
- Primed and painted white

\_\_\_\_\_

**Partition Door**

10.61 Partition Door

Approximately 36 x 80 in. Swing out door with Lexan window

**State:**  
Design: \_\_\_\_\_  
Door size: \_\_\_\_\_

**Note:** Location to be determined at pre-production meeting

## Doors

10.62	Curb Side Door	<ul style="list-style-type: none"><li>• Suitable for mobile application</li><li>• Heavy duty outswing 36 in. x 80 in. solid core industrial metal doors</li><li>• Window (screen slider type) with safety glass</li><li>• Ability to be secured with hold back</li><li>• White</li></ul>	_____
10.63	Step (Curb Side Door)	Retractable underslung step	_____
		<b>Note:</b> Location and design to be determined during pre-production meeting	
10.64	Rear Door	<ul style="list-style-type: none"><li>• Suitable for mobile application</li><li>• Heavy duty outswing 36 in. x 80 in. solid core industrial metal doors</li><li>• Window (screen slider type) with safety glass</li><li>• Ability to be secured with hold back</li><li>• White</li></ul>	_____
10.65	Hardware	<ul style="list-style-type: none"><li>• Kason Style Freezer Lock</li><li>• Latch and Strike 0778</li><li>• Inside Release 481SC</li><li>• Door hinges - abuse and tamper resistance</li><li>• Stainless Steel</li><li>• Cylinder locked</li><li>• Required for both doors</li></ul>	_____
10.66	Entry Assist Handle	<ul style="list-style-type: none"><li>• Aluminium or stainless-steel grab handle with rubber insert</li><li>• One (1) for each door</li><li>• Approximately 24 in. length</li><li>• located for ergonomic entry and egress of trailer</li></ul>	_____
10.67	Hold Back	<ul style="list-style-type: none"><li>• Door hold back</li><li>• Checker plate backing</li><li>• 2 in. rubber bumper</li><li>• Designed for commercial use</li></ul>	_____
10.68	Keys	<ul style="list-style-type: none"><li>• Key alike</li><li>• Four (4) sets</li></ul>	_____
10.69	Trims	<ul style="list-style-type: none"><li>• Air and water tight</li><li>• Metal</li></ul>	_____
10.70	Drip Rails	Required for all exterior doors	_____

**Roof Racks**

- |       |                       |                                                                                                                                                                                                                                           |       |
|-------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 10.71 | Roof Racks            | Required for: <ul style="list-style-type: none"><li>• Storage of ladders and lumber</li><li>• Ladder slides and rollers</li><li>• Qty eight (8) roof mounted bull ring tie downs</li><li>• Protection of Air Conditioning units</li></ul> | _____ |
| 10.72 | Construction          | <ul style="list-style-type: none"><li>• 1.0 in. square aluminum tubing</li><li>• 24 in centres</li></ul>                                                                                                                                  | _____ |
| 10.73 | Access Ladder to Roof | <ul style="list-style-type: none"><li>• Located at front of trailer</li><li>• 1.25 in. square aluminum tubing</li><li>• Lockable ladder cover</li></ul>                                                                                   | _____ |



**Bumper**

- |       |        |                                            |       |
|-------|--------|--------------------------------------------|-------|
| 10.74 | Bumper | Ten (10) inch galvanized grip strut bumper | _____ |
|-------|--------|--------------------------------------------|-------|

## Outfitting and Equipment

10.75 Stadium Locker(s)  
Item # 1  
Room A

### Stadium Locker

- Quantity four (4) or custom built to fit space
- Aluminum or steel (Painted)
- Sides are optional if custom built
- Approximately 24 W x 24 D x 72 H
- Top Shelf
- Footlocker
- Coat Rod with hooks

### Refer to Appendix A: Design Reference Guide

**Note:** Location and sizes to be determined at pre-production meeting



10.76 Foot Locker Bench  
Item # 2  
Room B

### Foot Locker Bench

- Quantity one (1) or custom built to fit space
- Approximately 24 W x 16 D x 16 H
- Top lid
- Storage area

### Refer to Appendix A: Design Reference Guide

**Note:** Location and sizes to be determined at pre-production meeting

10.77 Work Station  
Item # 3  
Room B

Work Station complete with Drawers and  
Top Cabinet

Rousseau R5XHG-4012

Approximate sizes:

- Drawer capacity 400 lbs.
- 48W x 30D x 76H
- Qty two (2) HD drawers 4H
- Qty one (1) HD drawers 6H
- Qty one (1) HD drawers 9H
- Qty one (1) HD drawers 12H
- Top cabinet complete with lockable door
- 1.25 in. thick laminated plywood or  
hardwood countertop with integrated  
backsplash

**Refer to Appendix A: Design Reference  
Guide**

**Note:** Location and sizes to be determined  
at pre-production meeting



10.78 Work Station  
Item # 4  
Room B

Work Station complete with Top and  
Bottom Cabinet

Rousseau R5XHG-4012 except replace  
drawers with cabinet

- Double Door
- One (1) Adjustable Shelf
- One (1) Bottom Shelf
- 1.25 in. thick laminated plywood or  
hardwood countertop with integrated  
backsplash

Approximate size:  
48W x 30D x 76H

**Refer to Appendix A: Design Reference  
Guide**

**Note:** Location and sizes to be determined  
at pre-production meeting



10.79 Shelving - Sloped  
Item # 5  
Room B

Slope Shelving

Quantity one (1) or custom built to fit space

Rousseau SRK1F-HC750601

Approximate size:

- 48W x 18D x 75H
- Qty six (6) sloped shelves included
- Shelves include a front edge to keep stored items in place

**Refer to Appendix A: Design Reference Guide**

**Note:** Location and sizes to be determined at pre-production meeting



10.80 Shelving - Sloped  
Item # 6  
Room B

Slope Shelving

Quantity one (1) or custom built to fit space

Rousseau SRJ1F-EC750501

Approximate size:

- 36W x 18D x 75H
- Qty five (5) sloped shelves included
- Shelves include a front edge to keep stored items in place

**Refer to Appendix A: Design Reference Guide**

**Note:** Location and sizes to be determined at pre-production meeting



10.81 Work Bench Top  
Item # 9  
Room A

Custom built

Approximate size:

- 1.25 in. thick laminated plywood or hardwood reinforced/supported accordingly with integrated backsplash
- 90W (full width of room) 21D (depth of cabinets) x 34H (Cabinets to fit underneath)

**Refer to Appendix A: Design Reference Guide**

**Note:** Location and sizes to be determined at pre-production meeting

10.82 Cabinets Under Work Bench  
Item # 10  
Room A

Quantity two (2)

Rousseau R5ACD-2805

Approximate Size:

- Drawer capacity 400 lbs.
- 24 W x 21 D x 30 H
- Qty one (1) HD drawers 3H
- Qty two (2) HD drawers 6H
- Qty one (1) HD drawers 9H

**Refer to Appendix A: Design Reference Guide**

**Note:** Location and sizes to be determined at pre-production meeting



10.83 Cabinet Above Work Bench  
Item # 11  
Room A

Quantity one (1)

Rousseau R5MGB-2111

Approximate Size:

- 48 W x 14 D x 21 H
- Lockable door

**Refer to Appendix A: Design Reference Guide**

**Note:** Location and sizes to be determined at pre-production meeting



10.84	Air Compressor Item # 12 Room TBD	<ul style="list-style-type: none"><li>• DeWalt DXCMLA1983012</li><li>• 30-Gallon Tank Capacity</li><li>• 6 SCFM @ 90 psi</li><li>• Retractable air hose reel with 50 ft. hose</li><li>• Insulated (noise reduction) and vented enclosure</li></ul> <p><b>State:</b> SCFM @ 90 psi: _____</p> <p><b>Refer to Appendix A: Design Reference Guide</b></p> <p><b>Note:</b> Location to be determined at pre-production meeting</p>	_____
10.85	<b>Boiler System</b> Item # 7 and 8		
10.86	Performance	Shall be capable of consistent top performance for thawing/clearing ice, snow, or dirt year-round in conditions normal to the City of Winnipeg	_____
		<p><b>Note:</b> The City of Winnipeg has four seasons with ambient temperatures ranging from approximately 90°F (32°C) to -40°F (-40°C)</p>	
10.87	Location	Water Tank – Room A, adjacent partition wall, curb side Steamer – Room B, adjacent partition wall, curb side	_____
		<p><b>Refer to Appendix A: Design Reference Guide</b></p> <p><b>Note:</b> Location to be determined at pre-production meeting</p>	
10.88	Make and Model	Easy-Kleen EZO1520E-Steam <b>State:</b> Make: _____ Model: _____	_____
10.89	Production	300 <sup>0</sup> F (149 <sup>0</sup> C) continuous steam production	_____
10.90	BTU	Approximately 400,000 BTU diesel fired heater <b>State:</b> BTU: _____	_____
10.91	Water Tank	<ul style="list-style-type: none"><li>• Approximately 60 Gallon polypropylene water tank</li><li>• Low profile</li></ul> <p><b>Note:</b> Location to be determined during at pre-production meeting</p>	_____

10.92	Tank Filler	Provide access port to fill the tank from the outside _____  <b>Note:</b> Location and size to be determined at pre-production meeting
10.93	Water Tank Protective Cover	Aluminum _____
10.94	Pump	300 PSI 12VDC positive displacement _____
10.95	Ignition	Ignition detection system required _____
10.96	Steam Valve	325°F, 225 PSI, steam valve _____
10.97	Voltage Cord	120V cord required _____
10.98	Dimensions	<b>State:</b> foot print of each unit Steamer: _____  Water Tank: _____
10.99	Hose	<ul style="list-style-type: none"><li>• Steam hose- 50 ft. of ½ in. ID steam hose, pressure and temperature rated for steamer</li><li>• Steamer wand included</li></ul> _____
10.100	Hose Reel	<ul style="list-style-type: none"><li>• Stainless steel, with manual rewind</li><li>• Rear, curb side location</li></ul> <b>Note:</b> Location to be determined during at pre-production meeting _____
10.101	Drainage	Fittings required for: <ul style="list-style-type: none"><li>• Draining the coil</li><li>• Draining the water tank</li><li>• Addition of antifreeze to the tank when required</li></ul> <b>Note:</b> All fittings shall be accessible to operators performing work on the equipment _____
10.102	Venting	If venting is required, please note height restrictions are in place _____
10.103	Protective Barrier	Supply, fabricate and install aluminum sheet as a barrier between the exterior wall and the Steamer _____
10.104	Fuel Pick Lines	Supply and install fuel pick lines for Steamer _____ <ul style="list-style-type: none"><li>• Hose fuel line 5/16 in.</li><li>• Oil Reservoir 3/16 in.</li><li>• Hose fuel vapour 3/16 in.</li></ul>

**Access Hole**

- 10.105 Access Hole for Steamer Hose
- Three (3) in. diameter
  - Covered
- \_\_\_\_\_
- Note:** Location to be determined at pre-production meeting

**Generator**

- 10.106 Type
- Cummins Onan Series
  - 7000 watts at 58 Amps
  - 120/240V
  - Voltage selector switch – 120/240
  - Diesel
- \_\_\_\_\_
- State:**  
Make: \_\_\_\_\_  
Model: \_\_\_\_\_

- 10.107 Enclosure
- Full enclosure (sized to fit generator)
  - Designed to facilitate operation and servicing
  - Access Door
  - Insulated for sound and temperature
  - Lockable
- \_\_\_\_\_
- Note:** Design to be determined at pre-production meeting

**Fuel Tank**

- 10.108 Fuel Tank (Generator and Heating Units)
- 140 L / 37-Gallon Vertical Storage Tank
  - Approximately 47.5 L x 18.5 W x 10 in. D
  - Diesel
  - Located on A-Frame
  - Fuel filler
  - Lockable cap
  - Aluminum or stainless steel
  - Shared with Heating Units
  - Sized to meet the demands of both the Generator and Heating Units (based on 5 days/week and 8 hr./day usage)
- \_\_\_\_\_
- State:**  
Make: \_\_\_\_\_  
Model: \_\_\_\_\_  
Capacity: \_\_\_\_\_

### Mechanical - HVAC

#### Air Conditioning

- |        |                       |                                                                                                                                                                                                                                                                                                                                                                  |       |
|--------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 10.109 | Air Conditioning Unit | Qty two (2) <ul style="list-style-type: none"><li>• Dometic Penguin II</li><li>• Low Profile Roof Top Air Conditioner</li><li>• Roof top mounted above each room</li><li>• Cooling Capacity approximately 13,500 BTU/hr.</li><li>• 120V / 60 Hz</li><li>• Self-contained compressor, evaporator, condenser and fans</li><li>• Integrated control panel</li></ul> | _____ |
| 10.110 | Protective Cage       | <ul style="list-style-type: none"><li>• Surround each unit</li></ul>                                                                                                                                                                                                                                                                                             | _____ |
| 10.111 | Roof Fans             | <ul style="list-style-type: none"><li>• Maxxair Roof Top 00A04401K</li><li>• Qty two (2) in each room</li><li>• 12V</li><li>• 3-Speed variable fan</li><li>• Reversible airflow</li><li>• Built-in thermostat</li></ul>                                                                                                                                          | _____ |

**State:**

Make: \_\_\_\_\_

Model: \_\_\_\_\_

Part Number: \_\_\_\_\_



#### Heating (Espar Heater)

- |        |                                                                                                                                                                                                                               |  |       |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------|
| 10.112 | Supply and install two (2) latest version of diesel fired Espar D4 Airtronic heating units                                                                                                                                    |  | _____ |
|        | <b>Note:</b> One (1) required for each room                                                                                                                                                                                   |  |       |
| 10.113 | <ul style="list-style-type: none"><li>• Ducting should be sized and ported appropriately to distribute heat throughout the work areas</li><li>• Temperature to be equal at front, centre and rear of each work area</li></ul> |  | _____ |
|        | <b>Note:</b> Design and number of ducts and ports to be determined during at pre-production meeting                                                                                                                           |  |       |
| 10.114 | <ul style="list-style-type: none"><li>• Provide enclosure for heating unit for protection from impact damage and water</li><li>• Heating unit should be easily accessible.</li></ul>                                          |  | _____ |
| 10.115 | Inside mounted and vented outside                                                                                                                                                                                             |  | _____ |

### Safety

- |        |                          |                                                                                                                                                                        |       |
|--------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 10.116 | Carbon Monoxide Detector | <ul style="list-style-type: none"><li>• Two (2) - One (1) for each room</li><li>• AC powered with a battery back-up</li></ul>                                          | _____ |
| 10.117 | Smoke Detector           | <ul style="list-style-type: none"><li>• Two (2) - One (1) for each room</li><li>• AC powered with a battery back-up</li></ul>                                          | _____ |
| 10.118 | Fire Extinguisher        | <ul style="list-style-type: none"><li>• Two (2) - One (1) for each room</li><li>• ABC Fire Extinguisher</li><li>• Mounting bracket</li><li>• 10 lb. capacity</li></ul> | _____ |
| 10.119 | First Aid Kit            | <ul style="list-style-type: none"><li>• Two (2) - One (1) for each room</li><li>• Manitoba P36 Kit</li><li>• Manitoba Regulation 217/2006 Schedule B</li></ul>         | _____ |

### Electrical

- |        |          |                                                                                                                                                                                                                             |       |
|--------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 10.120 | Code     | <ul style="list-style-type: none"><li>• All electrical must meet the requirements of the Canadian Electrical Code</li><li>• All electrical components shall be CSA approved</li></ul>                                       | _____ |
| 10.121 | Service  | <ul style="list-style-type: none"><li>• 120/240 volt AC,</li><li>• Single phase,</li><li>• 3-wire,</li><li>• 60 Hertz</li></ul>                                                                                             | _____ |
| 10.122 | Inverter | <ul style="list-style-type: none"><li>• Samlex 3000-Watt Pure Sine Inverter</li><li>• CSA approved</li><li>• Approximately 3000 Watts</li><li>• Cover exposed battery terminals on the inverter to prevent arcing</li></ul> | _____ |

**State:**

Make: \_\_\_\_\_

Model: \_\_\_\_\_

Part Number: \_\_\_\_\_

- |        |                  |                                                                                                                                                                                                          |       |
|--------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 10.123 | Electrical Panel | <ul style="list-style-type: none"><li>• Electrical panel with main breaker and transfer switch</li><li>• CSA approved</li><li>• 100A/24 – 240 V</li><li>• Complete with door</li><li>• 1-Phase</li></ul> | _____ |
| 10.124 | Wiring           | <ul style="list-style-type: none"><li>• All wiring to be loomed</li><li>• All wiring must be concealed within wall cavity and complete with access panels for servicing</li></ul>                        | _____ |

- 10.125 Wiring Access Panels \_\_\_\_\_
- Covered bulkhead/access panels running along interior walls near roof for the purpose of running cabling from front to rear of vehicle
  - The panels shall also provide for future wiring after build is complete

**Receptacles**

- 10.126 Outside Electrical Plugs \_\_\_\_\_
- Qty Two (2) located on curb side of trailer
  - CSA approved
  - GFI
  - 20 Amp
  - Non-metallic weather proof cover

**Note:** Locations to be determined at pre-production meeting

- 10.127 Inside Electrical Plugs \_\_\_\_\_
- Qty twelve (12)
  - Six (6) for Room A
  - Six (6) for Room B
  - 20 Amp
  - CSA approved

**Note:** Locations to be determined at pre-production meeting

- 10.128 USB Outlet \_\_\_\_\_
- Qty two (2) – one for each room
- Combination Duplex Outlet and USB Outlet
  - CSA approved

**Note:** Locations to be determined at pre-production meeting

## Lighting

### Lighting - Interior

10.129	LED	Four (4) per room	_____
		Grote: <ul style="list-style-type: none"><li>• 61G21 – LED Whitelight Recessed Mount 18 in. Dome Light, 18-Diodes, White complete with Motion Sensor</li></ul>	
		<b>State:</b> Make: _____ Part Number: _____	
		<b>Refer to Appendix A: Design Reference Guide</b>	
		<b>Note:</b> Exact locations to be determined at pre-production meeting	

### Lighting - Exterior

10.130	Combination Stop Tail Turn (STT) lights	One (1) per side	_____
		Grote: <ul style="list-style-type: none"><li>• 53252 - SuperNova 4 in. 10-Diode Pattern LED Stop Tail Turn Light</li><li>• 67002 – Pug-in Pigtail</li><li>• 91740 - Grommet</li></ul>	
		<b>State:</b> Make: _____ Part Number: _____	
		<b>Refer to Appendix A: Design Reference Guide</b>	
		<b>Note:</b> Exact locations to be determined at pre-production meeting	
10.131	Back-Up Lights	One (1) per side	_____
		Grote: <ul style="list-style-type: none"><li>• 62091 – SuperNova 4 in. Dual-System LED Back-Up Light</li><li>• 67013 – Pug-in Pigtail</li><li>• 91740 - Grommet</li></ul>	
		<b>State:</b> Make: _____ Part Number: _____	
		<b>Refer to Appendix A: Design Reference Guide</b>	
		<b>Note:</b> Exact locations to be determined at pre-production meeting	

10.132 3-Light Cluster Qty three (3) \_\_\_\_\_

Grote:

- 47122 – SuperNova 2-1/2 in. LED Clearance Marker Light (Red)
- 67001 – Pug-in Pigtail
- 91400 - Grommet

**State:**

Make: \_\_\_\_\_

Part Number: \_\_\_\_\_

**Refer to Appendix A: Design Reference Guide**

**Note:** Exact location to be determined at pre-production meeting

10.133 Clearance Lights Qty sixteen (16) \_\_\_\_\_

Grote:

- 47122 – SuperNova 2-1/2 in. LED Clearance Marker Light (Red)
- 47123 – SuperNova 2-1/2 in. LED Clearance Marker Light (Amber)
- 67001 – Pug-in Pigtail
- 91400 - Grommet

**State:**

Make: \_\_\_\_\_

Part Number: \_\_\_\_\_

**Refer to Appendix A: Design Reference Guide**

**Note:** Exact locations to be determined at pre-production meeting

10.134 License Plate Light Complete with license plate bracket \_\_\_\_\_

Grote:

- 60701 – MicroNova Multi-Volt LED License Light
- 43962 – Mounting Bracket

**State:**

Make: \_\_\_\_\_

Part Number: \_\_\_\_\_

**Refer to Appendix A: Design Reference Guide**

**Note:** Exact location to be determined at pre-production meeting

10.135 Rear Light Mounting Locations **Refer to Appendix A: Design Reference Guide** \_\_\_\_\_

**Note:** Exact locations to be determined at pre-production meeting

10.136 Front Light Mounting Locations **Refer to Appendix A: Design Reference Guide** \_\_\_\_\_

**Note:** Exact locations to be determined at pre-production meeting

10.137 Side (Street and Curb) Light Mounting Locations **Refer to Appendix A: Design Reference Guide** \_\_\_\_\_

**Note:** Exact locations to be determined at pre-production meeting

**Lighting – Exterior - Speciality**

10.138 Control Box / Rocker Panel and Switches Switches for: \_\_\_\_\_

- Warning Lights
- Scene Lights – Curb
- Scene Lights – Street
- Scene Lights – Front
- Scene Lights – Rear

Grote:

- 82-0309 –LED Rocker switches - Sealed
- 82-1914, 82-1915, and 82-1916 – Mounting Brackets

**State:**

Make: \_\_\_\_\_

Part Number: \_\_\_\_\_

**Note:** Exact location to be determined at pre-production meeting

10.139 Directional Arrow Directional Arrow with control box \_\_\_\_\_

Grote:

- 78210 – LED Traffic Directors, small, with arrows, amber
- Control box

**State:**

Make: \_\_\_\_\_

Part Number: \_\_\_\_\_

**Refer to Appendix A: Design Reference Guide**

**Note:** Exact location to be determined at pre-production meeting

10.140 Warning Lights

Quantity Ten (10) in total \_\_\_\_\_

- three (3) each side (street and curb)
- two (2) at front and rear

Grote:

- 78193 – 6 in. Oval LED Strobe Lights with S-Link synchronization (Amber)
- 98410 – 6 in. Oval, Black Bezel
- 92420 - Grommet

**State:**

Make: \_\_\_\_\_

Part Number: \_\_\_\_\_

**Refer to Appendix A: Design Reference Guide**

**Note:** Exact locations to be determined at pre-production meeting

10.141 Scene Lights

Quantity six (6) in total \_\_\_\_\_

- two (2) each side of trailer

Grote:

- 64M11-5 – 1200 Lumen, Proprietary Flood
- Include Spacer and Gasket for surface mounting

**State:**

Make: \_\_\_\_\_

Part Number: \_\_\_\_\_

**Refer to Appendix A: Design Reference Guide**

**Note:** Exact locations to be determined at pre-production meeting

10.142 Swivel Work Light

Quantity one (1) \_\_\_\_\_

Grote:

- 63W61 – 3000 Lumen, Close Range
- 43652 - Adjustable Bracket

**State:**

Make: \_\_\_\_\_

Part Number: \_\_\_\_\_

**Refer to Appendix A: Design Reference Guide**

**Note:** Exact location to be determined at pre-production meeting

## Standards

### Welding Standards

10.143	Welds	Continuous welds	_____
10.144	Standard	CSA Standard W47.1-30 and W59-03	_____
10.145	Weld Spatter	Weld spatter to be removed prior to finish	_____

### Installation Standards

10.146	Tire Clearance	Three inches (3 in.) with rear suspension air bags lowered.	_____
10.147	Holes	<ul style="list-style-type: none"> <li>• Holes in the frame shall be drilled and reamed to fit bolts</li> <li>• Holes required to run wires through shall be drilled (not punched), grommeted and sealed as required</li> </ul>	_____
10.148	Isolators	<ul style="list-style-type: none"> <li>• All interfaces between aluminium and steel are to be separated by an approximately 1/16 in. thick rubber or neoprene sheet</li> <li>• Shall be bolted through with stainless steel bolts and non-conductive bushings</li> </ul>	_____
10.149	Mounting Brackets	Shall be bolted to frame using Grade-8 fasteners.	_____
10.150	Mounting Standards	Any holes required in frame must be drilled and reamed to fit bolts	_____
10.151	Mounting Standards	All non-continuous body seams (joints) shall be caulked with an automotive grade elastomeric sealant	_____
10.152	Overall Height Decal	Engraved type, installed in chassis cab	_____

### Lighting and Electrical Standards

- 10.153 Conformance: \_\_\_\_\_  
• LED Lighting  
• C.M.V.S.S.  
• Manitoba Highway Traffic Act.  
• City of Winnipeg Lighting Visibility Standard  
<http://winnipeg.ca/matmgt/pdfs/PublicWorksEquipLightingVisibility.pdf>
- 10.154 Lighting: \_\_\_\_\_  
• Supplier installed  
• High count LED
- 10.155 Visibility: \_\_\_\_\_  
• No clearance light shall protrude beyond the trailer body
- 10.156 Identification: \_\_\_\_\_  
• All warning lights and switches to be identified with permanent, engraved type labels
- 10.157 Connection System: \_\_\_\_\_  
• Weather Pack Sealed Connection System
- 10.158 Grommets: \_\_\_\_\_  
• Rubber grommets unless otherwise specified
- 10.159 Harnesses: \_\_\_\_\_  
• Harness system, properly routed and secured.  
• All harnesses shall be internally grounded, no exceptions  
• Colour coded or numbered
- 10.160 Junction box: \_\_\_\_\_  
• Complete with necessary compression fittings, required for all vehicle lighting harness connections  
• Securely located  
• Readily accessible for servicing  
• Protected from road spray
- 10.161 All Plug-In Connectors: \_\_\_\_\_  
• All plug-in connectors shall be coated with Truck-Lite NYK Corrosion Preventive Compound prior to assembly
- 10.162 Wiring: \_\_\_\_\_  
• All wiring to be colour coded, loomed and properly secured.
- 10.163 Electrical Connectors: \_\_\_\_\_  
• All electrical connectors to be crimped, soldered and then sealed using heat shrink tubing
- 10.164 Joining of Wires: \_\_\_\_\_  
• All joining of wires to be soldered and sealed using heat shrink tubing or approved OEM weather tight connections

**Note:** Crimp on electrical connectors for joining wires are not acceptable

10.165 Wiring Routing: \_\_\_\_\_

- Any holes required to run wires through shall be drilled (not punched), grommeted and sealed

11.0 **WARRANTY:**

11.1 All warranty information shall be detailed and **include all exclusions.** \_\_\_\_\_

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

Bidder shall state all warranty information.

11.2 The warranty for the **Work-Office Trailer Complete With Upfitting** shall cover the complete equipment, and all parts thereof against any defects of workmanship, construction and materials. \_\_\_\_\_

Any equipment that has become defective during said warranty period and has not proven to have been caused by negligence on the part of the user shall be repaired or replaced at no cost to the City.

The warranty shall be effective from the date the equipment is put into service by the City of Winnipeg

11.3 Trailer Frame **State:** Terms: \_\_\_\_\_

11.4 Trailer Body and Upfitting **State:** Terms: \_\_\_\_\_

11.5 Generator **State:** Terms: \_\_\_\_\_

11.6 Steamer Unit **State:** Terms: \_\_\_\_\_

11.7 Other **State:** Terms: \_\_\_\_\_

12.0 **DELIVERY:**

12.1 **Delivery Point:** \_\_\_\_\_

The complete unit shall be serviced, ready for operation and delivered F.O.B. with the freight prepaid, including invoice and N.V.I.S. (if applicable) to the WFMA 185 Tecumseh Street, Winnipeg MB.

12.2 **Delivery Time:** \_\_\_\_\_

Equipment shall be delivered between 8:00 am and 2:00 pm on Business Days.

**State:** earliest delivery time from date of award: \_\_\_\_\_

12.3 **Delivery Contact:** \_\_\_\_\_

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

12.4 **P.D.I.:** \_\_\_\_\_

A pre-delivery inspection shall be performed by the Contractor on the equipment. Proof upon inspection including completed check list

13.0 **MANUALS:**

13.1 **Manuals:** \_\_\_\_\_

The following manuals shall be supplied with the equipment when delivered:

**Operator** – Two (2) Copies

- One (1) copy shall be sent to the Equipment Operator Training Branch
- One (1) copy to be left with the equipment

**Parts and Service**

- One (1) complete set including preventative maintenance schedules

**Note:** CD or USB flash drive is preferred where available

14.0 **PARTS/LABOUR PRICING:**

14.1 Bidder to provide City of Winnipeg Parts Discount % Pricing from retail parts pricing. \_\_\_\_\_

**State: percentage discount**

14.2 Bidder to provide City of Winnipeg Labor Discount % Pricing from Retail shop labor rate. \_\_\_\_\_

**State: percentage discount**

15.0 **FIRST SERVICE PREVENTATIVE MAINTENANCE KIT:**

15.1 If applicable, in order to assure minimum downtime of the Equipment in future service, the Contractor must provide one (1) complete replacement set of new OEM filters for each unit purchased. The set of required filters shall include (if applicable to the equipment type) air, fuel, oil, transmission, cab and hydraulic, or otherwise all known necessary common replacement filters required for the first preventative maintenance servicing and first transmission service. \_\_\_\_\_

15.2 The Contractor must provide a list of factory recommended lubricants to be used with the equipment, as well as a complete cross reference guide for all warranty approved lubricants and filters that can be used during Preventative Maintenance servicing. \_\_\_\_\_