

FORM N: DETAILED SPECIFICATIONS 24005

SUPPLY AND INSTALLATION OF 18' X 8' FORESTRY DUMP BODIES

INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

- 1.1 All items in these specifications should be answered indicating compliance or non-compliance.
- 1.2 **Bidder 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 Proponent 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 Proponent 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.

2.0 DESCRIPTION OF EQUIPMENT

- 2.1 These specifications describe the supply and installation of a **Forestry Dump Bodies** and other equipment and features as specified herein.
- 2.2 The **Forestry Dump Bodies** shall be a new **2024** model year or newer.
- 2.3 The **Forestry Dump Bodies** 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.

3.0 OTHER SPECIFICATIONS AND STANDARDS

- 3.1 All applicable SAE standards form an integral part of these specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 3.2 **Where applicable**, the **Forestry Dump Bodies** shall comply with the applicable regulations:

Standard - Specification/Regulation

Internet URL

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:

<http://web2.gov.mb.ca/laws/reg/current/217.06.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

Standard - Specification/Regulation

Internet URL

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/regs/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>

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

3.4 Where applicable, the manufacturer/installer shall be a certified vehicle completer and must affix their National Safety Mark (NSM) certification sticker on each unit.

State NSM number: _____

4.0 FUEL

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

5.0 REFERENCES

5.1 If available, please provide five (5) references where this equipment is used in a working environment where climatic conditions are similar to the City of Winnipeg.

6.0 MAKE & MODEL

6.1 State year, make and model being bid:

Model Year: _____

Make: _____

Model: _____

7.0 PERFORMANCE RELIABILITY

7.1 The responsibility for the design of the **Forestry Dump Bodies** its performance and reliability shall rest upon the Contractor.

- 7.2 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.
- 7.3 Where the **Forestry Dump Bodies** develops “repeated failures” in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance.
- 7.4 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).**

8.0 SERVICE FACILITY

- 8.1 For the purpose 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.

9.0 QUALIFICATIONS OF MANUFACTURER & CONTRACTOR

- 9.1 The manufacturer of the **Forestry Dump Bodies** shall have five (5) years continuous experience manufacturing **Forestry Dump Bodies**.
- 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 **Forestry Dump Bodies** of the type being offered.

Representative Picture, Typical Completed 18’ x 8’ Forestry Dump Body on Truck Chassis, Pictured below – Passenger’s Side View (R1).



10.1 **SPECIFICATIONS**

Scope

10.2 Supply and Delivery of **Forestry Dump Body** complete which will be mounted on a City owned cab and chassis _____

The **Forestry Dump Body** shall be capable of consistent top performance for loading and hauling varying payloads year-round in conditions normal to the City of Winnipeg

- Body and accessories to be mounted by a CMVSS certified installer in accordance with CMVSS regulations as well as the chassis and body manufacturers recommendations.

Note:

The City of Winnipeg has four seasons with ambient temperatures ranging from approximately 90°F (32°C) to -40°F (-40°C)

Make and Model - Forestry Dump Body

10.3 Make **State:** make: _____

10.4 Model **State:** model: _____

10.5 Model Year **State:** model year: _____

Body Weights

10.6 Body Weight **State:** estimated weight of body: _____

Weigh Scale Ticket

10.7 Weigh Scale Ticket: _____

- The Contractor shall provide a certified weigh scale ticket upon delivery of the completed unit
- The scale ticket shall include front and rear axle weights including two (2) operators, all attachments and full of fuel

Installation

10.8 The Contractor shall install the **Forestry Dump Bodies** on the following City owned cab and chassis vehicles: _____

Tandem Axle Conventional Cab and Chassis (International HV607)

PW-PARKS-URBAN FORESTRY

- 56,000 lbs. GVWR, Tandem Axle
- 152 in. CA
- Single rail frame, outside frame clear
- Diesel Engine, Tier IV
- Allison 3500 RDS Series automatic transmission; (6-speed Programming)
- Vertical discharge exhaust
- Air brake system
- Air ride suspension

10.9 **Availability**

The cab and chassis will be available during the second quarter of 2024

10.10 Pick-Up

- The Contractor shall be responsible for picking-up the cab and chassis vehicles from the City upon commencement of the Contract
- 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 8:00 am and 2:00 pm on any Business Day
- The Contractor shall be responsible for any related fuel and Insurance costs to and from their facility

Note: The vehicles will be fully fuelled at the time of pick-up by the Contractor

Drawings

Drawings - Contractor Shall Supply

10.11 Contractor shall supply:

- The Contractor shall supply multi-view CAD drawings to the Contract Administrator upon Award of Contract
- Drawings will be reviewed and approved as part of the Pre-Production planning stages
- Contractor to provide a weight analysis after pre-production meetings
- 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
- Construction of the service body shall not commence until approval is granted

Note: Drawings can be supply as hard copies, PDF's or electronically

10.12 **Forestry Dump Body**

General Dimensions

For the purpose of these specifications:

- L – Length along or parallel to chassis longitudinal axis.
- H – Height, vertical.
- D – Depth on horizontal plane across vehicle

Note: Unless otherwise specified, all dimensions are in inches and are the nominal sizes.

- Left and right is always based on perspective when sitting in the vehicle, so:
- Driver side is the left - L1
- Passenger side is on the right – R1.

- The designations for the driver's side may be referred to as L1 within the documentation.

- The designations for the passenger's side may be referred to as R1 within this documentation.

Material

- | | | | |
|-------|-------------------|--|-------|
| 10.13 | Material (Inside) | <ul style="list-style-type: none"> • Unless Otherwise Specified: • All material that touches the material (internal walls, floor, gate, front wall, dog house) used in construction to be 3/16 in. Abrasion-Resistant Steel (<u>Hardox 500 Tuf</u>) with exception of the cab shield. • The mill certification for the all materials grades should be available upon request; Steel, Hardox grade shall be provided or available to the inspector upon request or Contract Administrator. | _____ |
|-------|-------------------|--|-------|

- | | | | |
|-------|--------------------|-------------------------------|-------|
| 10.14 | Material (Outside) | 10 Gauge 44W Structural Steel | _____ |
|-------|--------------------|-------------------------------|-------|

Dimensions

- | | | | |
|-------|------------------|---|-------|
| 10.15 | Length (Outside) | Approximately 18 ft.
State: length: _____ | _____ |
|-------|------------------|---|-------|

- | | | | |
|-------|-----------------|---|-------|
| 10.16 | Length (Inside) | Approximately 17 ft. 6 in.
State: length: _____ | _____ |
|-------|-----------------|---|-------|

- | | | | |
|-------|-----------------|---|-------|
| 10.17 | Width (Outside) | Approximately 8 ft. 6 in.
State: width: _____ | _____ |
|-------|-----------------|---|-------|

Note: to match chassis track width

- | | | | |
|-------|----------------|--|-------|
| 10.18 | Width (Inside) | Approximately 8 ft.
State: length: _____ | _____ |
|-------|----------------|--|-------|

Front

10.19	Construction	<ul style="list-style-type: none">• <u>1/4 in Hardox 500 Tuf</u>• Formed construction• Vertical or horizontal reinforcement rib(s) formed into front of body as required• Continuously welded to sides and floor	_____
10.20	Front Height (Measured from Floor)	To match cab and chassis height State: front height: _____	_____
10.21	Front Section	Constructed to incorporate a nominal 12 in. L x 12 in. W x 60 in. H provision (Well Front) to contain the installed hoist	_____
10.22	Cab Shield	<ul style="list-style-type: none">• Formed from a single sheet of steel• Complete with reinforced ends• Approximately 24 in. deep• Sloped @ approximately 10° or to match cab contour	_____
10.23	Cab Shield Clearance	Cab shield sides to provide adequate headroom and clearance for entry and egress of vehicle cab	_____

Sides

10.24	Construction	<ul style="list-style-type: none">• Double Wall Design• <u>Inner panel 3/16 in. Hardox 500 Tuf</u>• Outer panel 10-gauge 44W steel• Clean side style formed sides without vertical reinforcements• Welded into a 1-piece design• Formed sloped top rail• Formed, self-cleaning bottom rail• Self-cleaning centre horizontal rib	_____
10.25	Side Height	<ul style="list-style-type: none">• Approximately 48 in.• Measured from floor State: side height: _____	_____
10.26	Rear Side Post	<ul style="list-style-type: none">• <u>3/16 in. Hardox 500 Tuf</u>• One (1) per side Note: Back-Up, Strobe and Clearance Lights to be housed in rear posts	_____
10.27	Top Side Rail Material	Heavy Duty <u>Fabricated from 3/16 in. Hardox 500 Tuf</u> State: method of construction: _____ _____	_____

Note:

Top Rail shall be able to withstand heavy impacts from large tree stumps and tree trunks

Tailgate

10.28 Type

- Two (2) swing-out doors (Barn Door)
- Top hinged on rear side posts
- Greasable fittings on hinged assemblies
- Grease Zerks Fittings
- Due to the operator safety requirements and convenience all manual grease zerks shall be accessible to the operator



- Centered latched



10.29 Construction

- Formed construction
- **Inside liner - 3/16 in. Hardox 500 Tuf**
- With one or two equally spaced horizontal or vertical ribs
- Self-cleaning bottom rail

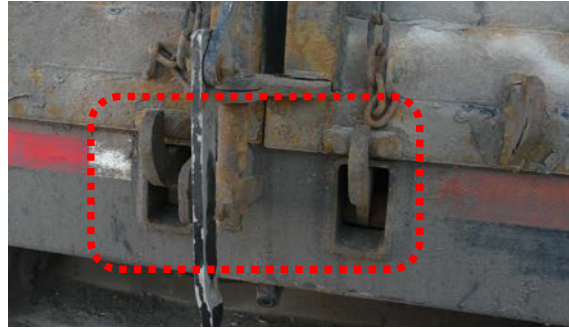
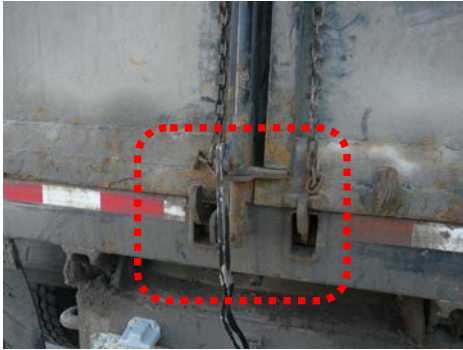
10.30 Operation

The right-side door shall overlap the left side door

10.31 Standard

There shall be no gap between tailgate and the floor and sides when tailgate is in the closed position

- 10.32 Reinforcement With heavy duty approximately $\frac{3}{8}$ in. end plates _____
- 10.33 Tailgate Height (Measured from Floor) Approximately 48 in.
State: tailgate height: _____
- 10.34 Air Operated Safety Latch **Required:**
 To prevent tailgate from only being opened manually _____



Floor

- 10.35 Material **1/4 in. Hardox 500 Tuf**
State:
 Material type: _____
 Material thickness: _____



- 10.36 Construction One-piece construction _____
Note: Two-piece floors are accepted however must be continuously welded constructed
- 10.37 Width Approximately 80 in.
State: width: _____
- 10.38 Long Sills
 - Formed long sills
 - 3/16 in.
 - Tapered hat section design
 - Approximately 8 - 10 in. height
 - Continuously welded to the floor

- 10.39 Floor Slope
 - Approximately 60-degree slope along the joint to the side wall.
 - Slope shall extend upwards approximately 4 - 8 in.

10.40 Corrosion Prevention

Formed long sills to be coated internally with a corrosion preventative compound to deter rust and corrosion

State: _____

Tie Downs

10.41 Tie Downs

Required: Four (4)

Located on inside of dump body

- Two (2) near top/rear of each side
- Two (2) near top/front of each side
- D-Ring
- Tie downs shall be counter sunk
- Tie downs eyes to have a lifting capacity rated for full box weight for lifting box during installation

10.42 Tie-Down Bar

- One per side
- Material = ½ in. Round bar

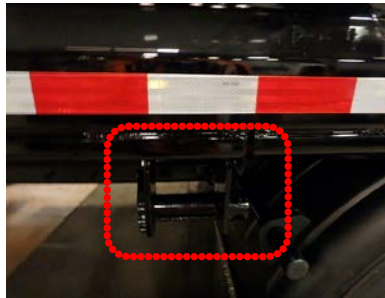


10.43 Trailer Winches

- Qty eight (8)
- Four (4) per side
- Rear half of body
 - Two (2) per side
 - Fixed type
 - Buyers Product 1903020 or similar product with same mechanism and functionality



- Front half of body
 - Two (2) per side
 - Sliding type
 - Buyers Product 1903030 or similar product with same mechanism and functionality



Design and installation to be determined at pre-production meeting

Ladders

10.44 Access Ladders

Required: Two (2)

- Bolt-on installation
- Non-slip treads
- First rung to be approximately 18-22 in. from ground level or match cab and chassis steps to ensure proper body mechanics and ergonomics
- one (1) located curb-side front corner
- one (1) located street side front corner
- Include additional bracing



Design to be determined at a pre-production meeting

10.45 Ladder Rungs

Traction type rungs

- 13-gauge steel, 2¼ in. width
- 4-hole design
- Traction Tread Products or equal functionality product; must be corrugated, knurled, dimpled, coated with skid-resistant material or treated to minimize slipping.



10.46 Inside Steps

- One (1) per side
- Located front of body where access ladder is mounted
- Approximately 12 in. L x 5 in. W
- Located approximately 20 in. from floor

10.47 Grab Handles

- Located for ergonomic access to top of box
- Diameter 1-1/4 in. (32 mm) – 1-1/2 in. (38 mm)
- Spacing behind grab bars approximately 3 in. (76 mm)
- Slip resistant
- **Bolt-on construction**
- **Primed and painted safety yellow**



Design and installation to be determined at a pre-production meeting

Hoist

10.48 Requirements

- Mailhot G3 180-5.7-4.
- 4-Stage
- Front mounted telescopic hoist
- Nitrided, quenched and polished cylinder stages
- Protected against corrosion

State:

Make: _____

Model: _____

10.49 Bore

Approximately 6 in.

State: bore size: _____

10.50 Hoist Capacity

Approximately 25 - 35 tons

State: capacity: _____

10.51 Hoist Dump Angle

- 45° from horizontal
- Cylinder must lower under its own weight with empty load in low ambient temperatures



10.52 Hoist Connection

Required: live swivel

10.53 Hoist Grease Fittings

Required: on all pivot pins

Hydraulics

10.54 PTO

- Muncie or Chelsea or similar component functionality
- Electric/hydraulic power shift

State:

Make: _____

Model: _____

10.55 Hydraulic Pump

- Transmission mounted PTO Pump to operate the dump body
- Parker Dump Pump

State:

Make: _____

Model: _____

10.56 Requirements

Shall be a 3-Line system

10.57 Suction Line Valve

Required: easily accessible, lockable with bolts

10.58 Hydraulic Oil Reservoir

- Right hand side
- Chassis frame mounted
- **Aluminum or Stainless Steel**
- Baffled as required
- Complete with:
 - Breather type filler cap with filter
 - Filler strainer
 - Sight gauge

10.59	Hydraulic Oil	Univis N15 or approved alternate with same functionality	_____
10.60	Capacity	Approximately 25 – 30 gallons State: capacity: _____	_____
10.61	Drain Plug	¾ in. diameter	_____
10.62	Labelling	Reservoir shall be clearly labelled "Hydraulic Oil" with a permanent type, engraved style label	_____
<u>Hydraulic Filters</u>			
10.63	Return Filter	<ul style="list-style-type: none">• Serviceable without oil loss• Tank mounted (Preferred)• Complete with clogging indicator	_____
10.64	Pressure Side Filter	<ul style="list-style-type: none">• Non-bypass type• Absolute rated filter element• Located on return line• Complete with clogging indicator	_____
10.65	Filter Standard	<ul style="list-style-type: none">• Both filters shall contain a corrosion resistant coating• Beta rating of 200• 10-micron particle size• Ergonomically located for servicing	_____
10.66	External Hydraulic Filter Pan	<ul style="list-style-type: none">• External Hydraulic filter shall have a stainless steel or aluminium pan located directly under the filter in case of a potential hydraulic leak and to avoid hydraulic fluid falling to the road• Drain plug included• Design shall not impede the servicing of the filter	_____
10.67	Shut-Off Valve	<ul style="list-style-type: none">• Ball type• Secured in open position with a bracket and bolt	_____
10.68	Hydraulic Hoses	<ul style="list-style-type: none">• Wire braid reinforced• Rated for system operating pressure• 4 to 1 safety factor for burst pressure.	_____
10.69	Protection	Hydraulic hoses to be protected at wear and scuff locations	_____
10.70	Hose Fittings	Hydraulic full flow, crimp-on (non-reusable) type	_____

Cameras

10.71 Back-Up Cameras

Required: Quantity two (2)

- Location # 1 - back of vehicle
- Location # 2 - top of cab complete with protective guard
- Switch provided for second camera
- Rugged, tough camera optics for service conditions



Note: Contractor responsible for contacting cab and chassis supplier for programming assistance and technical support

In-Cab Controls

10.72 Controls

Programmed:

Through OEM dash mounted switches _____

10.73 Switches

All switches shall be back-lit for night time use and clearly identified with engraved style, permanent type labels. _____

Switches:

- PTO Engagement – On/Off
- Dump Box Up/Down – Up/Down Air switch
- Tailgate Open/Close – 12-V On/Off
- Amber and Blue Lighting – One switch, 3-way
- Tarp - Open/Close, momentary switch
- Beacons and mini-light bar
- Second camera



Representative picture of control systems.

Rear Fenders / Mud Flaps

10.74 Rear Fenders

- Heavy Duty rear poly half-moon fenders complete with steel mounting hardware _____
- Installed to have sufficient clearance from body and when chassis suspension is dumped for dump body operation



10.75 Mud Flaps

- Black rubber, no-name, front and rear of back tires _____
- Complete with anti-sail bracket on each mud-flap
- Rear mud flaps shall not contact the ground when the dump body is at maximum dump angle
- Acceptable to bolt directly to fender.

Rear Hitch Plate

10.76 Rear Hitch Plate

- 3/4 in. thick solid steel
- Installed to chassis frame

Note: laminated plates not acceptable

Design (including overhang) and installation to be determined at pre-production meeting



10.77 Pintle Hitch

- Premier "240 Coupling" or approved functionality of a product that is deemed equivalent
- Installed on hitch plate at approximately 24 in. height from the ground



10.78 Trailer Safety Chains Connection Eye Bolt or welded shackle (Required for Trailer Safety Chains)

- One (1) each side of hitch
- Eye bolt or welded shackle on bumper or approved functionality of a product that is deemed equivalent requirement for tower safety chains
- Buyers Products B56730 or equal
- Or
- Buyers Products B48 or equal product

10.79 Tow Capacity Safety Sticker

A weather-resistant tow capacity sticker must be attached to the back bumper or service body deck. This sticker will indicate the maximum tow capacity for both the bumper and/or hitch, which should not be surpassed during operations

Warning Tow Capacity Limit
Do Not Exceed tow capacity of _____

Shovel Holder

10.80 Shovel Holder

- Buyers Product SH675SS
- Mounted on Driver's front wall



Location to be determined at a pre-production meeting

Toolbox

10.81 Toolbox

- Aluminum
- Largest size for available space
- Fold down door style
- Frame mounted
- Both side of truck chassis
- Driver's side – Left L1
- Passenger's side – Right R1



Trailer Equipment

10.82 Trailer Connector

SAE 6-Pole Flat trailer receptacle
mounted and installed in rear hitch plate
complete with all necessary wiring

Note: The cab and chassis will be supplied
with the following:

Wiring:

- Wiring routed to end of frame with two (2) extra feet
- Air lines routed to end of frame with two (2) extra feet
- Separated from main truck lighting
- Circuit breaker protected

Trailer Auxiliary Circuit:

- Electric trailer brake
- Controlled by ignition switch

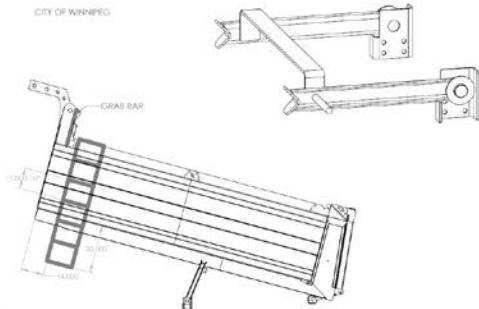
Safety

10.83 Dump Body Prop

Double Prop Design

- Steel tubing construction, to support dump body in raised position and permit servicing of hoist
- Operable by a single person
- Designed so as not to interfere with hoist cylinder or surroundings
- Operating Handle to be positioned outside of chassis frame rails for operator safety (Driver's Side)
- Dump body prop to be complete with receiving bracket
- Safety Lock Pin and Chain required to hold arms in the "Up" position (Driver Side)
- Refer to below pictures for sample design

**Design and installation to be confirmed
at a pre-production meeting**



10.84 Dump Body Prop Colours

All components (prop, handle and receiving bracket) shall be painted with **Safety Orange** for ease of identification

10.85 Dump Body Stowage Warning System

Required:

- Warning system shall be actuated when dump body is not in the fully stowed position.
- Red light and/or buzzer is acceptable in-cab for when dump body not fully stowed.

Buyers Product B95 or Grote 44421



10.86 PTO

Programmed:

To disengage the PTO when 10 kph is reached to prevent the driver from driving off when the body is up

Note: Contractor responsible for contacting cab and chassis supplier for programming assistance and technical support

10.87 Pre-Trip Exterior Light Inspection **Programmed:**
When activated, the vehicle lights repeatedly flash in a specific sequence to allow the operator to verify that the exterior lights are functioning _____

- The light test sequence tests:
- Park Lights
 - Headlights (low and high beams)
 - Right/left front/rear turn lights
 - Brakes Lights
 - Mini Light Bar
 - Beacon(s)
 - Strobe Lights
 - Clearance Lights

Note: Contractor responsible for contacting cab and chassis supplier for programming assistance and technical support

10.88 Warning Light Over Ride **Programmed:**
Rear strobe lights to be programmed to allow for an over-ride for turn signals and brake lights when strobe lights are on _____

Other drivers will be able to determine if the truck is stopping or turning when strobe lights are on

Note: Contractor responsible for contacting cab and chassis supplier for programming assistance and technical support

Back-Up Alarm

10.89 Back-Up Alarm

- SWS model 99202 or Whelen, Grote approved functionality of a product/model that is deemed equivalent _____



- Mounted between frame rails at rear of vehicle
- Protected from damage and road spray/damage

Conspicuity Tape

10.90 Conspicuity Tape

- Truck-Lite 98127 or equal
- Affixed _____

Grease Fittings

10.91 Grease Fittings

Required:

- Tailgate release mechanisms
- Pivot points
- Tailgates

Lighting

10.92 Beacons

- Qty two (2) Amber/Blue LED Beacons
- Class 2 High Dome Strobe Lights
- Complete with switch and labels
- Mounted with aluminum or stainless-steel brackets to B-Pillar
- Forward enough as not to interfere with the cab shield if equipped with one



Whalen L31HMF

OR

SWS 22609 or Grote lighting of approved functionality of a product that is deemed equivalent

Location to be determined at a pre-production meeting

10.93 Mini Light Bar

Whalen RDLPPAB Series Amber/Blue LED Mini Light Bar; or SWS, Grote lighting of approved functionality of a product that is deemed equivalent

- Mounted to centre top of cab
- Protected by Branch Guard – heavy duty construction
- 360° visibility when tarpaulin is in stowed position.



10.94 Control Switch
(Beacons and Mini Light Bar)

- Shall be controlled by a single 3-Way switch with the following functions:
 - Amber – Off – Amber/Blue
- Labelled “Light Bar Amber/Blue” with a permanent type, engraved style label

10.95 Wiring
(Beacons and Mini Light Bar)

- Shall be wired “Hot” (i.e. able to use without the key on)
- Wired through a single OEM dash mounted switch or on the control panel enclosure

10.96 Blue Strobe Lights

- Two (2) oval LED Blue strobe lights
- Rear facing in rear corner pillars
- One per side

10.97 Amber Strobe Lights

- Two (2) oval LED Amber strobe lights
- Whelen 5GA00FAR or equivalent, Grote or SWS functionality
- Rear facing in rear corner pillars
- One per side



10.98 Wiring
(Blue and Amber Strobes)

- All four LED strobe lights shall be wired through the ignition, wired through a single OEM dash mounted switch or on the control panel enclosure, labelled "Strobes" with a permanent type, engraved style label

- All wiring for back-up alarm, warning lights, strobes and trailer connector shall be colour coded, loomed and properly secured

10.99 Combination Turn/Stop and Taillights

- One (1) per side
- P/N Truck-Lite 44302R with P/N 44710 mounting grommets

10.100 Back-Up Lights

- One (1) per side
- P/N Truck-Lite 44206C with P/N 44710 mounting grommets

10.101 3-Light Cluster

- Three (3)
- P/N Truck-Lite 10250R with P/N 10403 mounting grommets
- Located to protect from damage

10.102 Clearance Lights

- Grote 49333 and 49332 with mounting grommets

Or

- Truck-Lite 33050R and 33050Y with 3370 mounting grommets

Note: shall not protrude beyond the dump body

10.103 Clearance Lights
(Mounting Locations)

- Front – qty two (2), located one on each bottom corner of body
- Sides – qty two (2) per side, located on front and rear bottom corners
- Rear – qty two (2), located one on each bottom or top corner

- 10.104 License Plate Light
- Complete with license plate bracket
 - P/N Truck-Lite 36140 (Light)
 - P/N Truck-Lite 36710 (Bracket)
 - Mounted on rear hitch plate
-

Automatic Lubrication System

- 10.105 Contractor Responsibility:
- It is the responsibility of the Contractor to ensure the awarded greasing system company (Sub-Contractor) receives a copy of this Automated Lubrication System specification as outlined below to follow as part of their installation plan
-

State Make & Model: _____

- 10.106 Greasing System:
- Parallel automatic lubrication system – operate under parallel injection system
 - Progressive systems not accepted
 - Grease system connected to all grease points where applicable
 - Outfitted with automatic low level shut-off
 - In-cab monitor showing system status such as low level, low pressure and/or fault code display
-

- 10.107 Pump Reservoir:
- Grease pump - Pneumatic, using an electric solenoid for cycle activation or an electric driven only accepted
 - Minimum 6 kg clear reservoir
 - Pre-programmed parameters to accommodate 500-hour service intervals
 - Pump must have correct fill adapter fitting for the City of Winnipeg maintenance staff to refill reservoir; Adapter fitting- Parker # H2-63
 - In the event the pump needs to be mounted higher than chassis frame level, for safety reasons, access to refill the pump reservoir shall be via remote fill line of minimum 3/8 in. hydraulic steel hose to accommodate a refill procedure at ground level
 - The refill adaptor must be secured with a bulkhead and angle bracket free from being snagged on anything or sharp edges
 - Prior to connecting the automatic lubrication system, it is essential to prefill all connected components with grease.
-

- 10.108 Power Input
- System power connection 12-Volt to an OEM approved ignition source with an accessible fuse protection and for automatic lubrication system to shut down when the engine is turned off
 - Red 1/4" DOT approved airline must be applied and fitted with an air system protection check valve into the system secondary tank
-

- 10.109 Grease Lines – Main
- Extreme Low temperature (example: Parker Blue Stripe or similar product with same properties and functionality) steel braided rubber hose with compatibility to accommodate maximum working pressure of 5000 psi.
 - Hose must be outfitted with #4 JIC crimped
 - Thread sealant for grease lines of each fitting must be applied
-

10.110 Grease Lines – Secondary

- Minimum 3/16" nylon heavy wall grease line or approved functionality of a product that is deemed equivalent
- Each hose on all connected points must be outfitted with #4 JIC crimped ends required for the entire automatic lubrication system
- Installed and protected from extreme environments such as heat sources and components producing vibration
- Protected from tree and or branch impact on any body components higher than 6 feet from ground level
- For diagnostic purposes, all secondary grease lines must use color coded line from the injector to the connected component
- Thread sealant for grease lines of each fitting must be applied

10.111 Greasing Points

State: quantity of greasing points: _____

10.112 Greasing Points Not Connected to Automatic Lubrication System

- Grease points that cannot be connected to the automatic lubrication system must be connected with remote grease lines – considered for extreme environments areas such as internal packer panels or doors
- Where remote lines are used, decals must be applied stating manual greasing is required with recommended grease application intervals
- All grease points on top of the body that pertain to the rear tailgate, must be outfitted as remote greased points using 1/4" steel braided hose and #4 JIC fittings

State: quantity of grease points that cannot be connected to the automatic lubrication system but will be connected with remote lines only and **must be labeled for manual greasing by operator/inspection.**

State: _____

10.113 Injector Manifold

- All manifolds and injectors shall be brass construction
- All manifolds must be fitted with a nylon lock nut hardware and mounted secure in an area away from debris impact and extreme heat sources
- Special guards should be fitted for injector manifolds and hoses in areas of consistent debris impact – snow, ice, garbage etc.

10.114 Environmental Impact Features:

- Ensure the system does not grease while parked or leave excessive grease on roadways, streets etc.
- System layout and grease injector delivery shall not over grease any component to the extent where OEM warranties are voided

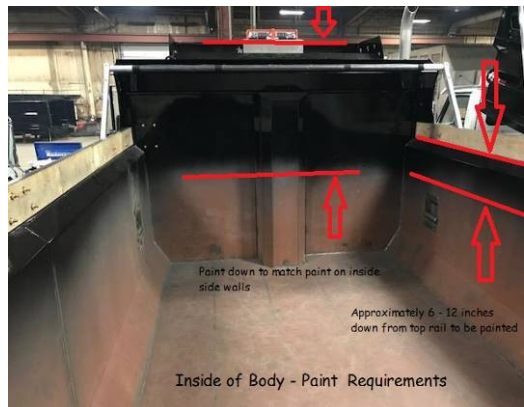
10.115 Modifications:

- Any modification to mount the system that requires drilling, cross drilling, enlargement of existing fitting sizes by drilling and tapping or welding must be preapproved by the contractor administrator prior to installation
- Such activities can and will void warranty thereby holding the automatic lubrication system company liable for any costs and damages involved with the equipment

Standards
(Where applicable/requirements in accordance with application)

Finish

10.116	Service Body/Truck Chassis	<p>Service body must be attached to the truck chassis and properly supported. i.e. bolted and automotive grade U-bolts used to secure service body to truck chassis main frame members.</p> <p>Note: in some cases, the following must be conducted in accordance with service body manufacturers specifications for installation.</p> <p>Body and accessories to be mounted by a CMVSS certified installer in accordance with CMVSS regulations as well as the chassis and body manufacturers recommendations.</p>	_____
10.117	Preparation	<p>All steel components unless otherwise noted in these specifications shall be sandblasted, properly cleaned and primed</p>	_____
10.118	Primer	<ul style="list-style-type: none">• Epoxy or Polyurethane• Two (2) coats – Dry Film Thickness 3.0 – 4.0 mils	_____
10.119	Paint	<ul style="list-style-type: none">• Black• Epoxy or Polyurethane• Two (2) coats:<ul style="list-style-type: none">• 3 - 5 mils Wet Film Thickness with a total combined overall average Dry Film Thickness of 4 – 6 mils	_____
10.120	Requirements	<ul style="list-style-type: none">• Contractor is not required to finish paint the entire inside of the body• A coat of primer in accordance with primer specifications must cover the entire inside of the body• However, the top rail and approximate 6 - 12 in. (from the top rail) of all inside surfaces of the body shall be painted• Front inside wall to match paint line of inside side wall	_____



Welding Standards – Requirements

10.121	Welds	Continuous welds	_____
10.122	Standard	CSA Standard W47.1-30, (CSA W47.1, Certification of companies for fusion welding of steel) and W59-03, (CSA W59, Welded steel construction).	_____ _____

Where Applicable:

CSA W47.2 Fusion Welding of Aluminium Company Certification,
CSA W59.2 - 2018 – Welded Aluminium Construction
Or Equivalent American Welding Society (AWS)

10.123	Weld Quality Inspection	<ul style="list-style-type: none"> • Straight and uniform • Consistent thickness • No spatter drops • No slag, cracking or holes • No dips or craters in the bead • No holes, breaks or cracks in the bead/fillet 	_____
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Not Acceptable – cause for rejection.

- Lack of uniformity and
- Visible spatter
- Cracking, undercutting or breaks in the bead
- Bead width inconsistent

10.124	Weld Spatter	All Weld spatter to be removed prior to finish	_____
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Clearance

10.125	Clearance	Clearance between dump body and back of truck cab shall be a minimum 3 in. in accordance with the Cab and Chassis Incomplete Vehicle Manual	_____
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10.126	Tire Clearance	Body shall provide for approximately 4 in. clearance with rear springs fully loaded	_____
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Installation

10.127	Not-Permitted	<ul style="list-style-type: none"> • Drilling on chassis frame flanges • Welding on the chassis frame 	_____
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10.128	Holes	<ul style="list-style-type: none"> • When necessary and permitted in accordance with manufacturers specifications and regulations holes in the frame shall be drilled, remade and deburred to fit bolts • <u>Bolt holes shall not have excessive play</u> Holes required to run wires through shall be drilled and deburred (not punched), grommeted and sealed as required when permitted. 	_____
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10.129 Isolators

- All interfaces between aluminium and steel are to be separated by an approximately 1/16 in. thick rubber or neoprene sheet
- Shall be bolted through with stainless steel bolts and non-conductive bushings

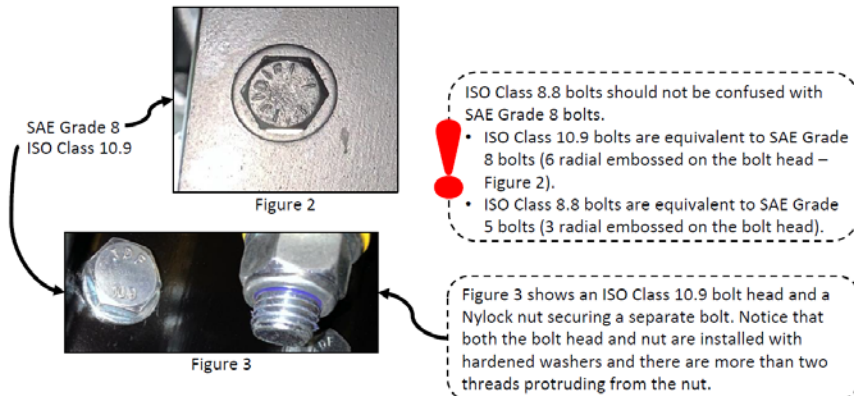
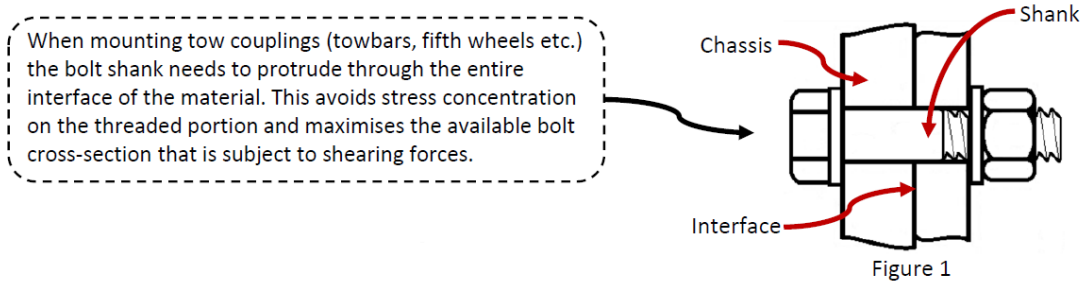
10.130 Mounting Brackets

Shall be bolted to frame using Grade-8 fasteners.

Grade Marking	Specification	Material	Bolt and Screw Size in.	Proof Load, psi	Tensile Strength min psi
	SAE-Grade 8	Medium Carbon Alloy Steel, Quenched and Tempered	1/4 thru 1-1/2	120,000	150,000
	ASTM-A 354 Grade BD	Alloy Steel, Quenched and Tempered			

10.131 Bolt Requirements

- All bolts must be high tensile
- Hardened or equivalent strength washers must be installed under both the bolt head and under the nut
- All nuts need to be high tensile and self locking (Nyloc, Conelock or other suitable self-locking variation)
- At least two bolt threads must protrude from all nuts
- Any suspension component bolts must be ISO Class 10.9 or SAE Grade 8
- All bolts that have been installed to replace OEM bolts must be at least an equivalent class/grade.



10.132 Mounting Standards

Mounting of the body shall be in accordance with the chassis manufacture's guidelines for body mounting, including but not limited to guidelines for tire and suspension clearance and fuel filler installation

10.133 Mounting Standards

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

10.134 Mounting Plates

- Mounting plates utilized or created for the installation or assembly of the service body must feature chamfered corners and avoid sharp right angles



The mounting plate on the truck frame, which is affixed to a service body, has a sharp corner highlighted by a red circle. It is not advisable to have this sharp corner, as it should be rounded to alleviate any stress concentration. Failure to do so may result in the early development of fatigue cracks.



10.135 Bolted Connections to Chassis Frame

- Mounting to the chassis frame is permitted however the bolt/nut assembly must have no gap or skewed connections are allowed; bolt/nut connection must be perpendicular to the clamping surface.
- **Not Recommended**, However, if hole is to be drilled to accommodate bolt/nut assembly, ensure hole is drilled far enough away from any seams, splices or overlays in the chassis frame to ensure bolted and nut/washer connection will be flat, ensure total contact with chassis frame.



The assembly of bolt and nut through the chassis frame must adhere to certain guidelines. In the event that the hole is situated on a curved surface or where a transition occurs in the frame, it is not recommended to utilize it as a mounting location.

However, if the hole location is to be utilized as a mounting location, the following protocol must be observed: A levelling washer must be employed to ensure that the bolt clamping force is fully applied and perpendicular to the frame, with no gaps permitted.

The bolt/nut assembly, located on the seam, is deemed unacceptable.

Lighting and Electrical Standards

- 10.136 Conformance:
- LED Lighting – Class 2
 - C.M.V.S.S.
 - Manitoba Highway Traffic Act.
 - City of Winnipeg Lighting Visibility Standard
- <http://winnipeg.ca/matmgt/pdfs/PublicWorksEquipLightingVisibility.pdf>
- 10.137 Lighting:
- Supplier installed
 - LED – Class 2
 - Stop / turn / tail lights
 - Clearance lights
 - Back-up lights
- 3-Light cluster
- 10.138 Visibility:
- Taillights, back-up lights and warning lights to be fully visible when tailgate is lowered to horizontal position
 - No clearance light shall protrude beyond dump body
- 10.139 Licence plates:
- The front license plate holder is securely installed and comes with the necessary mounting screws for the license plate.
 - The back-license plate holder is securely installed and must have an LED light to illuminate it and should be positioned on the left side at the rear of the vehicle, ensuring it is not obstructed
- 10.140 License Plate Light (Rear Location)
- Complete with license plate bracket
 - P/N Truck-Lite 36140 (Light)
 - P/N Truck-Lite 36710 (Bracket)
- 10.141 Identification:
- All dash mounted warning lights and switches to be identified with permanent, engraved type labels
 - Mounting of labels with 3M VHB Tape or equivalent. To ensure adhesion to interior surfaces 3M Adhesion Promoter 06396 is a convenient liquid primer for enhancing the adhesion of 3M™ Acrylic Foam Tapes in automotive applications. This adhesion promoter works with most LSE plastics used for interior and exterior automotive trim and parts
- No labels to be located on upper surface of dash
- 10.142 LED Strobe Lights:
- Shall be wired “Hot” (I.e. able to be used without the key on)
 - All LED strobe lights shall be wired through the ignition, wired through a single OEM dash mounted switch or on the control panel enclosure, labelled “Strobes” with a permanent type, engraved style label

10.143 Connection System:

- Weather Pack Sealed Connection System or equivalent system having same industry specifications.
- Genuine OEM connectors, terminals, and wire seals are used to guarantee quality and 100% fitment.
- (“J-Box” and shrink tube acceptable)



10.144 Grommets:

- Rubber grommets are to be utilized for passing or running wiring through holes in the chassis of panels, unless stated otherwise.



10.145 Harnesses:

- Harness system, properly routed and secured.
- All harnesses shall be internally grounded, no exceptions
- Colour coded or numbered

10.146 Junction Box:

- Complete with necessary compression fittings, required for all vehicle lighting harness connections
- Securely located
- Readily accessible for servicing
- Waterproof
- Protected from road spray

10.147 All Plug-In Connectors:

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

10.148 Wiring:

- All wiring to be colour coded, loomed and properly secured.
- Genuine OEM connectors, terminals, and wire seals are used to guarantee quality and 100% fitment
- All LED strobe lights shall be wired through the ignition, wired through a single OEM dash mounted switch or on the control panel enclosure, labelled “Strobes” with a permanent type, engraved style label

10.149 Electrical Connectors:

- All electrical connectors to be crimped, soldered and then sealed using adhesive-sealant-lined shrink tubing must be used to guarantee joint integrity, waterproofing and strain relief or rubber fittings



- Pictures above showing acceptable crimping and sealant using adhesive-sealant-lined shrink tubing must be used to guarantee joint integrity, waterproofing

10.150 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

10.151 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 **Forestry Dump Bodies** 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 Factory Warranty - Body **State:** Terms: _____

11.4 Hydraulics **State:** Terms: _____

11.5 Hoist **State:** Terms: _____

11.6 Electrical **State:** Terms: _____

11.7 Lights **State:** Terms: _____

11.8 Paint **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. _____