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**Revision to a Request for Supply
Arrangement - Révision à une demande
pour un arrangement en matière
d'approvisionnement**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address

Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

Vehicles & Industrial Products Division
140 O'Connor, Tower East
4th Floor
140 O'Connor, Tour Est
4ème étage
Ottawa
Ontario
K1A 0S5

Title - Sujet RFSA - HEAVY TRAILERS	
Solicitation No. - N° de l'invitation E60HP-19TRHV/A	Date 2019-06-13
Client Reference No. - N° de référence du client E60HP-19TRHV	Amendment No. - N° modif. 004
File No. - N° de dossier hp923.E60HP-19TRHV	CCC No./N° CCC - FMS No./N° VME
GETS Reference No. - N° de référence de SEAG PW-\$\$HP-923-76599	
Date of Original Request for Supply Arrangement 2019-03-05 Date de demande pour un arrangement en matière d'app. originale	
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2024-04-01	
Address Enquiries to: - Adresser toutes questions à: Martin, Erik	Buyer Id - Id de l'acheteur hp923
Telephone No. - N° de téléphone (613) 296-7863 ()	FAX No. - N° de FAX () -
Delivery Required - Livraison exigée	
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: TBD	
Security - Sécurité This revision does not change the security requirements of the solicitation. Cette révision ne change pas les besoins en matière de sécurité de l'invitation.	

Instructions: See Herein

Instructions: Voir aux présentes

Acknowledgement copy required	Yes - Oui	No - Non
Accusé de réception requis	<input type="checkbox"/>	<input type="checkbox"/>
The Offeror hereby acknowledges this revision to its Offer. Le proposant constate, par la présente, cette révision à son offre.		
Signature	Date	
Name and title of person authorized to sign on behalf of offeror. (type or print) Nom et titre de la personne autorisée à signer au nom du proposant. (taper ou écrire en caractères d'imprimerie)		
For the Minister - Pour le Ministre		

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THIS RFSA AMENDMENT 004 IS ISSUED TO POST:

- A) REVISED QUESTION & ANSWER #6;**
- B) QUESTIONS AND ANSWER #12 TO #15;**
- C) REVISED PURCHASE DESCRIPTIONS (PD) AND TECHNICAL INFORMATION QUESTIONNAIRES (TIQ) FOR THE 5 GROUPS OF TRAILERS.**

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

QUESTIONS AND ANSWERS, RFSA HEAVY TRAILERS

- Q6: Group 4 – Semi-Trailer – Double Drop with Jeep – Paragraph 3.12.2.e; and Group 5 – Semi-Trailer – Variable Height / Ultra Low Deck, Paragraph 3.12.2.e.**

Dual slope winch cable rollers at the front of the gooseneck. As the Customer requires the winch to be located at the rear of the trailer, does the Customer still require gooseneck mounted winch cable rollers?

A6: No. PD shall be amended to delete para 3.12.2 (e) in Annex A4 Group 4 and Annex 5 Group 5.

Q-12: Annex A1, Group 1, Semi-Trailer, Sliding Axle Item 3.4.2 - Load Performance

a) The semi-trailer must carry a uniformly distributed load of at least that given as "TRAILER CAPACITY" in the Data Table (Paragraph 1.4).

It is not possible to carry the payload required with the combination of features requested for the following reasons:

- 1. Design consideration (customers' requirement for a tandem sliding axle tilt deck trailer)*
- 2. The use of smaller low profile wheels and tires to reduce overall deck height to meet customer's requirement*
- 3. Gross axle weight rating (GAWR) limitations as a result of the use of small diameter wheels and tires*
- 4. Air disc brake limitations (PAN 17 is the only ADB system compatible with smaller wheels)*
- 5. Customer's requirement of a max payload of 36288 kilograms may result in overloading on the tractor drive axles*

Will the customer accept a reduced maximum payload capacity of:

- configuration A: 23752 kgs payload capacity?*
- configuration B: 31788 kgs payload capacity?*

A-12: Requirement for **Disc** Brakes will be removed from this configuration. The following changes to the Purchase Description shall be made:

- Annex A1, Group 1, para 3.6.4 (a) shall be amended to "The semi-trailer **must** be provided with an anti-lock, air brake system."

Q-13: Annex A4, Group 4, Semi-Trailer, Double Drop Trailer System 45 Tonnes with Jeep - Item 3.12.2 - Hydraulic Winch; Annex A5, Group 5, Semi-Trailer, Double Drop - Item 3.12.2 - Hydraulic Winch;

b) The winch must be located at the rear of the trailer below the rear deck level.

The required location of the hydraulic winch is problematic. Will the Customer accept that the winch be installed on the gooseneck adjacent to the engine system. The benefits of installing the winch in this location are:

- 1. The winch is installed in a clean location;*
- 2. The winch can be used to unload equipment from the main deck of the lowbed;*

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3. *The trailer will require a single primary self-contained hydraulic system instead of 2 systems (less weight, less maintenance and reduced cost);*
4. *The detached gooseneck can be relocated to the rear of the trailer to allow for winch operations and pulling equipment onto the lower main deck;*
5. *With the gooseneck attached to the main deck of the trailer, hydraulic power can be supplied to the rear of the trailer to allow for stowing/deploying the third axle (as applicable)*

A-13: The following changes to the Purchase Description shall be made:

- Annex A4, Group 4 and Annex A5, Group 5: Para 3.12.2 (b) Changed to "The winch **must** be located on the trailer Goose-neck, with provisions provided to allow for winching from the rear of the trailer".

**Q-14: Annex A2, Group 2, Semi-Trailer Van - Item 1.4 - Data Table
Annex A3, Group 3, Semi-Trailer Flat/Step Deck - Item 1.4 - Data Table**

The Customer's required maximum payloads may not be possible on some trailer configurations due to the limitation of Gross Axle Weight Rating.

Will the customer accept the manufacturer's recommended maximum payload which may be less than the requested maximum payload, but will not exceed the Gross Axle Weight rating?

A-14: The following changes to the Purchase Descriptions shall be made.

- Annex A2, Group 2 and Annex A3, Group 3: Para 1.4 Data Table, TRAILER CAPACITY, columns A and C changed from 27216 kg (30 ton) to 22727 kg (25 ton).

Q15: Annex A3, Group 3, Semi-trailer Flat/Step Deck - Item 3.6.3.1.a

Wide base tires are not available for configurations C and D, step deck trailers.

Will the Customer remove the requirement for wide base tires on configurations C and D, Group 3?

A15: The following changes to the Purchase Descriptions shall be made.

- Annex A2, Group 2 and Annex 3, Group 3, para 3.6.3.1 shall be deleted
- Annex A2, Group 2, para 1.4 Accessory Table: Delete Line 2 "Wide base single wheels and tires (in lieu)".
- Annex A3, Group 3, para 1.4 Accessory Table: Delete Line 1 "Wide base single wheels and tires (in lieu)".
- Annex A2, Group 2 and Annex A3, Group 3:
 - 1) Para 3.6.3 (a) shall be amended to "The semi-trailer **must** be provided with **either** dual wheels and tires, **or**, wide base single wheels and tires, certified by the manufacturer to be suitably sized and rated for the application and load."
 - 2) Para 3.6.3 (b) shall be amended to "The dual or wide base single wheel assemblies **must** be identical across the trailer system".

An additional change to the requirements, this has been discussed and cleared with PSPC.

- Annex A5, Group 5: Para 1.4 Data Table, TRAILER CAPACITY, configuration B changed from 27216 kg (30 ton) to 31752 kg (35 ton).

DELETE: ANNEXES A1, A2, A3, A4, A5, B1, B2, B3, B4 and B5 in their entirety.

INSERT:

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ANNEX A1
PURCHASE DESCRIPTION
HEAVY DUTY TRAILERS
GROUP 1 - SEMI-TRAILER, SLIDING AXLE

2019-05-28



NOTICE

This documentation has been reviewed by the **Technical Authority** and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'**Autorité technique** et ne contient pas de marchandises contrôlées.

1. SCOPE

1.1 Scope - This Purchase Description defines the requirements for a sliding axle semi-trailer with accessories. The semi-trailer will be used to transport heavy equipment, ISO containers and vehicles. Main configurations are as follows:

Configuration A – Sliding Axle, 35 Ton payload, 53 ft, Tandem

Configuration B – Sliding Axle, 40 Ton payload, 53 ft, Tridem

1.2 Instructions – The following instructions apply to this Purchase Description:

- (a) Requirements, which are identified by the word “**must**”, are mandatory. Deviations will not be permitted;
- (b) Requirements identified by “**must**”..... or “**equivalent**” are mandatory. The Technical Authority will consider substitutes/alternatives for acceptance as a Technical Authority approved equivalent;
- (c) Requirements identified with a “will” define actions to be performed by Canada and require no action/obligation on the Contractor’s part;
- (d) Where “**must**”, “**must**”..... or “**equivalent**”, or “will” are not used, the information provided is for guidance only;
- (e) In this document “provided” means “provided and installed”;
- (f) Where a standard is specified and the Contractor has offered an **equivalent**, that equivalent standard **must** be supplied by the Contractor, at no cost to Canada, when authorized by the **Technical Authority**;
- (g) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **must** be provided for the semi-trailer when requested by the Technical Authority up until the date of the expiration of the warranty period;
- (h) While the SI system is used as the primary system of measurement to define requirements of this Purchase Description, both the SI system and the Standard system of measurements may be indicated. Conversions from one system of measurement to the other may not be exact; and

OPI DSVPM 4 – DAVPS 4

Issued on Authority of the Chief of the Defence Staff

Publiée avec l’autorisation chef d’état-major de la Défense



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- (i) Dimensions stated as nominal are treated as approximate dimensions. Nominal dimensions reflect a method by which materials or products are generally identified for sale commercially, but which differ from the actual dimensions.

1.3 Definitions

- (a) **“Provided”** means “provided and installed”;
- (b) **“Technical Authority”** means the official responsible for the technical content of this Purchase Description;
- (c) **“Equivalent”** means a standard, means, or component type, which the Technical Authority has approved for this requirement as meeting the specified requirements for fit, form, function and performance;
- (d) **“Commercially Equipped”** means that the semi-trailer is provided in its standard commercial configuration with no additional government-specified requirements;
- (e) **“Road Legal”** means the semi-trailer can be legally operated on all Canadian highways and secondary roads, without restrictions or special permits;
- (f) **“Curb Weight”** (CW) means the weight of the fully equipped semi-trailer. The curb weight includes all attached accessories and equipment. The Curb Weight does not include the Payload;
- (g) **“Payload”** means the maximum cargo load carrying capacity of the semi-trailer. The payload is the calculated difference between the Gross Vehicle Weight Rating and the Curb Weight;
- (h) **“Gross Axle Weight Rating”** (GAWR) means the gross axle weight rating, which is the maximum axle load allowed by the manufacturer for this application; and
- (i) **“Gross Vehicle Weight Rating”** (GVWR) means the maximum operating weight of the semi-trailer as stated by manufacturer.



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HEAVY DUTY TRAILERS
GROUP 1 - SEMI-TRAILER, SLIDING AXLE

1.4 **Data Table** - The following table shows the required performance and dimensions for each Configuration and includes paragraph references:

CHARACTERISTIC	PARA	UNITS	CONFIGURATION	
			A	B
TRAILER CAPACITY	3.4.2	kg	31,752	36,288
TRAILER LENGTH	3.4.3 (a)	mm	16,150	16,150
MAIN DECK LENGTH	3.4.3 (b)	mm	13,000	13,000
TRAILER WIDTH	3.4.3 (c)	mm	2,590	2,590
MAIN DECK HEIGHT	3.4.3 (d)	mm	965	965
KP DISTANCE	3.4.3 (e)	mm	533	533
KINGPIN OPERATING HEIGHT	3.4.3 (f)	mm	1,244	1,244
MIN LWC	3.4.3 (g)	mm	2,057	2,057
AXLES CONFIGURATION	3.6.1	-	Tandem	Tridem

1.4.1 **Accessory Table** - The following table indicates with an “X” and by Configuration, the features, accessories, additional items and training.

DESCRIPTION	PARA	CONFIGURATION	
		A	B
Wide Load Package	3.13.1	X	X
Maintenance Manual – English	4.1.2 (e)	X	X
Maintenance Manual – French	4.1.2 (f)	X	X
Parts Manual	4.1.2 (g)	X	X
Training – Familiarization – English	4.2 (a)	X	X
Training – Familiarization – French	4.2 (b)	X	X

2. APPLICABLE DOCUMENTS - The following documents are referenced in this Purchase Description. Canada will not be supplying any reference documents. Available information on the organization is supplied.

SAE Standards

SAE World Headquarters
400 Commonwealth Dr.,
Warrendale, PA, 15096-0001
<http://www.sae.org>

Canada Motor Vehicle Safety Act (CMVSA)

Government of Canada / Transport Canada,
<http://www.tc.gc.ca/eng/acts-regulations/acts-1993c16.htm>

Federal Standard 595C

COLOURS USED IN GOVERNMENT PROCUREMENT
U.S. General Services Administration
<http://www.fed-std-595.com/FS-595-Paint-Spec.html>

3. REQUIREMENTS

3.1 Standard Design

- (a) The semi-trailer *must* be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of equipment for at least three (3) years;
- (b) The semi-trailer *must* include all components, equipment and accessories normally supplied for this application, although they may not be specifically described in this Purchase Description;
- (c) The semi-trailer *must* have engineering certification available, upon request, for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The semi-trailer *must* conform to all applicable laws, regulations and industrial standards in effect in Canada at the time of manufacture. The regulatory areas may include but are not necessarily limited to manufacturing, health and safety, noise levels, environment and emissions; and
- (e) The semi-trailer and accessories *must* operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

3.2 Operating Conditions

3.2.1 Weather

- (a) The semi-trailer *must* operate safely and effectively throughout a temperature range of -40° to 37° C, without degradation in performance, reliability and maintainability.

3.2.2 Terrain

- (a) The semi-trailer *must* operate safely and effectively on paved roads, gravel roads and dirt roads with severe washboard and pot holes, in all-weather conditions and with the stated payload, without degradation in performance, reliability and maintainability.

3.3 Safety Standards

3.3.1 Vehicle Safety Regulations

- (a) The semi-trailer *must* meet the provisions of the Canada Motor Vehicle Safety Act.

3.3.2 Hazardous Materials

- (a) The Contractor *must* minimize or eliminate the use of hazardous materials, ozone depleting substances, polychlorinated biphenyls, asbestos and heavy metals (as described in the Hazardous Products Act of Canada) when manufacturing the semi-trailer.

3.3.3 Safety Features

- (a) The trailer system *must* be provided with the safety features such as warning and instruction plates, non-slip walking surfaces and heat shields where required for operator safety.

3.4 **Performance**

3.4.1 **Trailer Performance**

- (a) The semi-trailer *must* be towed safely at a continuous speed of at least 105 km/h with the stated payload.

3.4.2 **Load Performance**

- (a) The semi-trailer *must* carry a uniformly distributed load of at least that given as “**TRAILER CAPACITY**” in the Data Table (Paragraph 1.4).

3.4.3 **Dimensions**

- (a) The semi-trailer *must* have a nominal overall length of that given as “**TRAILER LENGTH**” in the Data Table (Paragraph 1.4);
- (b) The semi-trailer main deck *must* have a minimum length of that given as “**MAIN DECK LENGTH**” in the Data Table (Paragraph 1.4);
- (c) The semi-trailer *must* have a nominal overall width of that given as “**TRAILER WIDTH**” in the Data Table (Paragraph 1.4);
- (d) The semi-trailer main deck, un-laden, *must* have a nominal height of that given as “**MAIN DECK HEIGHT**” in the Data Table (Paragraph 1.4);
- (e) The semi-trailer *must* have a kingpin distance (KP) of that given as “**KP DISTANCE**” in the Data Table (Paragraph 1.4), measured from the front of the trailer to the centre of the kingpin;
- (f) The semi-trailer *must* operate with the kingpin at a height of that given as “**KINGPIN OPERATING HEIGHT**” in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate; and
- (g) The semi-trailer *must* have a minimum landing wheel clearance from kingpin (LWC) of that given as “**MIN LWC**” in the Data Table (Paragraph 1.4).

3.5 **Semi-Trailer Construction**

3.5.1 **Kingpin**

- (a) The semi-trailer *must* be provided with a 51mm (2in) kingpin.

3.5.2 **Semi-Trailer Frame**

- (a) The semi-trailer *must* be provided with a frame that is reinforced for towing points.

3.5.3 **Decking Floor**

- (a) The semi-trailer main and upper decks *must* be provided with full and continuous flooring consisting of replaceable wood planks of sufficient thickness to accommodate the load;

- (b) The wood planks *must* be treated with Linseed oil or **equivalent** weather proofing treatment; and
- (c) All trailer wheel openings *must* be covered as those areas will be used to transport vehicles and cargo; checker plates are permitted to be part of the main deck surface where required.

3.5.4 **Towing points**

- (a) The semi-trailer *must* be provided with two (2) rear-mounted towing points, positioned and of sufficient strength to permit recovery of the loaded semi-trailer.

3.5.5 **Railway tie-down points**

- (a) The semi-trailer *must* be provided with railway tie-down points, positioned and of sufficient strength to permit the securing and transportation of the loaded semi-trailer on a railroad car.

3.5.6 **Deck-mounted D-Rings**

- (a) The semi-trailer *must* be provided with deck-mounted D-Rings along the main and upper decks, with a minimum rated capacity of 8,700 kg each;
- (b) The D-rings *must* be evenly spaced, with three (3) D-rings located on each side of the upper deck, and twelve (12) D-rings located on each side of the main deck;
- (c) The deck-mounted D-Rings *must* be recessed and flush-mounted to the main deck, with drain holes; and
- (d) The deck-mounted D-Rings *must* be as close as possible to the edge, with a maximum of 203 mm from the side of the semi-trailer.

3.5.7 **Side-mounted tie-down points**

- (a) The semi-trailer main deck *must* be provided with twenty six (26) tie-down points, mounted to the side of the main deck, divided equally between the LH and RH sides of the semi-trailer; and
- (b) Each side-mounted tie-down point *must* have a rating of at least 8,700 kg.

3.5.8 **Stake Pockets**

- (a) The semi-trailer *must* be provided with thirty (30) stake pockets, divided equally between the LH and RH sides of the semi-trailer, with four (4) stake pockets located on the upper deck, and the remainder of the stake pockets located on the main deck.

3.5.9 **Chain Slots**

- (a) The semi-trailer *must* be provided with thirty (30) double-keyhole chain slots, divided equally between the LH and RH sides of the semi-trailer; and
- (b) The chain slots *must* be located on the deck surface, near the edge and evenly spaced, with four (4) chain slots located on the upper deck, and the remainder of the chain slots located on the main deck.

3.5.10 **Bushings/Pins**

- (a) The semi-trailer **must** be provided with replaceable and/or grease-able bushings at all pin and pivot holes; and
- (b) All pins **must** have grooved/spiralled surfaces to allow grease to encircle the pin and reach the end plate.

3.6 **Chassis and Auxiliary Systems**3.6.1 **Axles**

- (a) The semi-trailer **must** be provided with the axle configuration as specified as “**AXLES CONFIGURATION**” in the Data Table (Paragraph 1.4); and
- (b) The axles **must** be of appropriate capacity to carry the maximum payload specified in this document.

3.6.2 **Suspension**

- (a) The semi-trailer **must** be provided with an air bag suspension system;
- (b) The suspension system **must** include an automatic height control valve;
- (c) The suspension system **must** include a manual suspension air dump valve;
- (d) The suspension system **must** include shock absorbers acting on all wheel stations;
- (e) The suspension system **must** include an air gauge to assist the operator in determining system pressure; and
- (f) The suspension system **must** have suspension travel limiters, such as cables or chains fastened to the suspension beam or axle and the under frame, at a length equal to or less than the shock absorber extended stroke; the use of the shock absorbers as travel limiters is not acceptable.

3.6.3 **Wheels and Tires**

- (a) The semi-trailer **must** be provided with **either** dual wheels and tires, **or**, wide base single wheels and tires, certified by the manufacturer to be suitably sized and rated for the application and load;
- (b) The (dual or wide base single) wheel assemblies **must** be identical across the trailer system;
- (c) The semi-trailer **must** be provided with written indications of the operating tire pressure at each wheel station;
- (d) The wheels **must** be provided with loose wheel nut indicators at each wheel station; and
- (e) The semi-trailer **must** be provided with a hub-odometer reading in kilometres.

3.6.4 **Brake System**

- (a) The semi-trailer **must** be provided with an anti-lock, air brake system;

- (b) The brake system *must* be provided with remote, cable operated drain valves on the air reservoirs, with heated moisture expelling valve(s);
- (c) Not Used;
- (d) The semi-trailer *must* be provided with colour coded glad hand couplers for interconnection between semi-trailer and tractor; and
- (e) The semi-trailer *must* be provided with dummy glad hand coupler covers, including a safety chain/cable for each glad hand, to block and protect the air-lines when they are not in use.

3.6.5 Landing Gear

- (a) The semi-trailer *must* be provided with an interconnected two-legged, two-speed, landing gear system with self-levelling landing pads; and
- (b) The landing gear system *must* withstand the weight of the fully loaded semi-trailer when not connected to the tractor.

3.7 Hydraulic System

- (a) The semi-trailer *must* be provided with a hydraulic system that supplies hydraulic power for all the functions on the semi-trailer;
- (b) The hydraulic system controls *must* be located in an illuminated compartment on the roadside of the gooseneck;
- (c) The hydraulic system reservoir tank *must* be provided with an intake filter screen, an external fluid level indicator, and an inspection plate located on top of the tank;
- (d) The hydraulic system *must* be provided with two (2) hydraulic filters, one for the pressure line and the other for the return line;
- (e) The hydraulic system *must* be provided with wet kit connectors (supply and return lines) located at the front of the gooseneck to operate all hydraulic components of the semi-trailer;
- (f) All hoses that are subject to moving with the axles *must* be encased in a flexible E-chain; and
- (g) The hydraulic system *must* be provided with a six-function wireless remote control unit.

3.8 Auxiliary Engine System

- (a) The semi-trailer *must* be provided with one (1) auxiliary engine system to power the hydraulic system;
- (b) The engine *must* operate on gasoline fuel;
- (c) The engine *must* be mounted on appropriate mounts to reduce vibration;
- (d) The engine *must* be enclosed in a compartment;
- (e) Engine controls and instrument gauges *must* be enclosed in a weatherproof compartment on the roadside of the gooseneck;

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- (f) The engine oil pan *must* be provided with a magnetic drain plug;
- (g) The engine exhaust *must* be shielded to prevent inadvertent contact with heated surfaces and directed away from the semi-trailer;
- (h) The engine *must* be provided with a manual fuel shut-off valve;
- (i) **Shut-Down Protection**
 - i The engine system *must* be provided with an automatic low oil pressure shutdown device; and
 - ii The engine system *must* be provided with an automatic high temperature shutdown device.
- (j) **Battery**
 - i The engine system *must* be provided with a maintenance-free battery; and
 - ii The battery *must* be enclosed in a weatherproof compartment.
- (k) **Electrical System**
 - i The engine system *must* have a keyless “stop/start” switch; and
 - ii The engine system *must* be provided with an alternator that supports all operating loads and maintains the battery fully charged.
- (l) **Fuel Tank**
 - i The engine system *must* be provided with a fuel tank; and
 - ii The fuel tank *must* be provided with a fuel gauge.
- (m) **Instruments**
 - i The engine system *must* be provided with an hour meter with integral back lighting;
 - ii The engine system *must* be provided with a temperature gauge with integral back lighting;
 - iii The engine system *must* be provided with an oil pressure gauge with integral back lighting; and
 - iv The engine system *must* be provided with a voltmeter or ammeter with integral back lighting.
- (n) **Filtration Systems**
 - i The engine system *must* be provided with dry type air filter with replaceable element(s); and
 - ii The engine system *must* be provided with spin-off replaceable oil and fuel filters.
- (o) **Engine Compartment**

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- i The engine compartment **must** be accessible while the semi-trailer is loaded;
- ii The engine compartment access door(s) **must** be mounted on hinges to allow the doors(s) to be swung open sideways or upwards;
- iii The door(s) **must** be provided with a positive means to remain open while the operator is working on the engine;
- iv The door(s) **must** be lockable;
- v The compartment **must** have louvers to allow air flow into the engine compartment; and
- vi The engine compartment **must** be provided with working lights.

3.9 Hydraulic Winch

- (a) The semi-trailer **must** be provided with a two-speed, planetary, hydraulic winch to load vehicles onto the main deck;
- (b) The winch **must** be located at the front of the semi-trailer;
- (c) The winch first layer capacity **must** be a minimum of 13,608 kg;
- (d) The winch cable **must** have a minimum length of 38.5 m;
- (e) The winch **must** be provided with dual slope winch cable rollers at the front of the gooseneck;
- (f) The winch **must** be provided with an air-operated cable tensioner;
- (g) The winch **must** be provided with an air-operated winch free-wheel;
- (h) The winch **must** be provided with a remote control to operate the winch from a distance; and
- (i) The winch **must** be provided with a four (4) roller fairlead.

3.10 Electrical System

- (a) The semi-trailer **must** be provided with a 12-volt negative ground electrical system;
- (b) The electrical system **must** provide all power and control for the semi-trailer lighting and anti-lock brake system, while the semi-trailer is connected to the prime mover;
- (c) The electrical system **must** include a SAE J560 7-pin 12 volt semi-trailer receptacle, located in accordance with SAE J702;
- (d) The electrical system **must** include, as a minimum, electrical wiring used for the connection to the tractor vehicle intended for heavy-duty use, with positive engaging connectors, which are mounted securely to the system components;
- (e) Wiring **must** be protected by grommets when passing through metal;
- (f) The harnesses **must** be sealed harnesses and all connections treated with dielectric grease; and

- (g) All electrical components *must* be accessible for servicing.

3.11 **Lighting**

- (a) The semi-trailer *must* be provided with a lighting system conforming to CMVSS requirements;
- (b) The semi-trailer *must* be provided with LED body lighting;
- (c) Lights and reflectors *must* be recessed or otherwise protected from damage; and
- (d) The semi-trailer *must* be provided with two (2) detachable amber strobe lights, one (1) at each rear corner, which activate when the trailer running lights are activated.

3.12 **Miscellaneous Equipment**

3.12.1 **Dock Bumpers**

- (a) Not Applicable.

3.12.2 **Rear Bumper**

- (a) The semi-trailer *must* be provided with a rear bumper per CMVSS.

3.12.3 **Storage Compartments**

- (a) The semi-trailer *must* be provided with two (2) lockable storage compartments;
- (b) The compartments *must* be of sufficient size to accommodate spare straps, chains and fluids;
- (c) The compartment floors *must* be covered with a durable surface, such as DRI decking, to help keep contents dry;
- (d) The compartment floors *must* be equipped with drain holes; and
- (e) The compartments *must* be located as per the Contractor's standard location.

3.12.4 **Spare Wheel Assemblies with Storage**

- (a) The semi-trailer *must* be provided with one (1) spare tire/wheel assembly; and
- (b) The spare tire/wheel assemblies *must* be mounted at the Contractor's standard location.

3.12.5 **Mud Flaps**

- (a) The semi-trailer *must* be provided with mud flaps located behind the rear axle; and
- (b) The mud flaps *must* be made of plain black rubber with no logos displayed.

3.12.6 **License Plate Holder**

- (a) The semi-trailer *must* be provided with an illuminated license plate holder located at the rear.

3.12.7 **Conspicuity Tape**

- (a) The semi-trailer **must** be provided with conspicuity tape conforming to CMVSS requirements.

3.12.8 **Document Holder**

- (a) The semi-trailer **must** be provided with a document holder, located on the road side at the front.

3.12.9 **Identification Plate**

- (a) The semi-trailer **must** be provided with an identification plate containing the following information as a minimum:

- i Manufacturer, model, model year and serial number of the semi-trailer; and
- ii GAWR and GVWR ratings;

- (b) The maximum payload capacity **must** be permanently and clearly marked in a location near the identification plate.

3.13 **Accessories** The accessories listed in the following paragraphs **must** be provided with the semi-trailer when specified in the solicitation.

3.13.1 **Wide Load Package**

(a) **Side Extensions**

- i The semi-trailer **must** be provided with side extensions on both sides of the main deck;
- ii The side extensions **must** cover the whole length of the main deck;
- iii The side extensions **must** add a minimum width of 254 mm to each side of the main deck;
- iv The side extensions **must** be covered with removable wood planking that is similar to the main deck;
- v The wood planking **must** be equal in length to the main deck;
- vi The side extensions **must** have a total load capacity equivalent to the main deck area;
- vii The side extensions **must** be provided with a device to secure them in place while being used; and
- viii The side extension **must** be stowed away to a secured position and be flush or below the top surface of the main deck.

(b) **Wide Load Sign**

- i The semi-trailer **must** be provided with one (1) wide load sign and placard holder located at the rear of the trailer.

(c) **Flag Holders**

- i The semi-trailer **must** be provided with four (4) flag holders located at the front and rear corners of the semi-trailer.

(d) Lighting

- i The semi-trailer **must** be provided with one (1) strobe light for the wide load sign, which activates when the trailer running lights are activated; and
- ii The semi-trailer **must** be provided with wide load pull-out lights located at the front and rear corners of the semi-trailer.

3.14 **Paint and Corrosion Protection System**

3.14.1 **Paint**

- (a) The semi-trailer **must** be painted in accordance with the manufacturer's best production procedures using standard commercial practices and materials, rendering a durable finish of the required film thickness and a smooth appearance free from runs, sags and orange peel;
- (b) DND Users
 - i The paint finish **must** be Olive Drab Green 34094 in accordance with FED STD 595C; and
 - ii Additional lettering and symbols on the outside of the semi-trailer **must** be flat black.
- (c) Non-DND Users
 - i The paint finish **must** be flat black; and
 - ii Additional lettering and symbols on the outside of the semi-trailer **must** be high contrast colour.

3.14.2 **Corrosion Protection System**

(a) **Galvanic Corrosion**

- i The semi-trailer **must** be protected against galvanic corrosion where dissimilar metals are used.

(b) **Rust Prevention Coating**

- i The semi-trailer **must** be provided with a rust prevention coating to the underbody, in addition to the standard factory rustproofing;
- ii The rust prevention coating product applied **must** be Tectyl, Krown or Rust Check;
- iii A decal **must** be affixed to the semi-trailer displaying the type of rust prevention coating used; and
- iv Warranty papers covering the rust prevention coating **must** accompany the semi-trailer.

3.15 **Warning and Instruction Plates**

- (a) The warning and instruction plates **must** be within easy view of the user and in accordance with standard commercial practice;



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- (b) The warning and instruction plates *must* be international symbols and/or bilingual (English and French) markings; and
- (c) Instruction plates *must* include engine operating instructions and any other special procedures for operating the semi-trailer.

3.16 **Semi-Trailer Delivery Condition**

- (a) The semi-trailer *must* be delivered to destination in a fully operational condition (serviced and adjusted);
- (b) The semi-trailer *must* be completely cleaned; and
- (c) The semi-trailer *must* be serviced with standard lubricants and fluids that are compatible with the delivery location and season.

4. **INTEGRATED LOGISTIC SUPPORT**4.1 **Contractor Documentation and Logistic Items**4.1.1 **Documents to Technical Authority (Designated Contact) on Contract**(a) **Manuals for Approval (DND Only)**

- i The Contractor *must* supply a set of manuals for each Configuration/model, in digital format, including the operator, parts and maintenance (shop repair) manuals. It is acceptable that manuals include more than one Configuration/model.
- ii The set of manuals *must* include manuals for all the specified accessories and features for the configuration/model. Accessory manuals may be included as supplements to the vehicle manuals.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv Digital copies *must* be supplied on a CD or DVD.
- v Digital copies *must* be supplied in a searchable PDF format.
- vi A separate CD/DVD *must* be supplied for each Configuration/ Make/ Model with all accessories.
- vii The CD or DVD *must* be permanently and legibly marked with a list of contents.
- viii Manuals will not be returned.
- ix Manual approval, request for additional documentation or request for amendments will be supplied within 15 working days of receipt.
- x The Contractor *must* supply the additional documentation or implement the changes as requested by the *Technical Authority*.
- xi Paper copies of manuals delivered under this contract *must* have the same content as the electronic format approved by the *Technical Authority*.

(b) **Photographs and Line Drawings (DND Only)**

- i The Contractor *must* supply two (2) digital colour photographs, one left-front three-quarter full vehicle view, and one right-rear three-quarter full vehicle view of each Configuration/model;
- ii One (1) digital colour photograph of each attachment taken at the three-quarter view that best illustrates the attachment *must* be supplied;
- iii One front-view and one side-view line drawing showing dimensions of the vehicle *must* be supplied. Brochure line drawings are acceptable;
- iv Photographs *must* an plain background;

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- v Photographs *must* be in a JPEG (Joint Photographic Experts Group) format; and
 - vi Photographs *must* have a resolution of at least eight (8) Mega pixels.
- (c) **Load Analysis Drawing (DND Only)**
- i The Contractor *must* provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and
 - ii The load analysis drawing *must* be in PDF format supplied on a CD or a DVD.
- (d) **Data Summary (DND Only)**
- i The Contractor *must* supply a bilingual data summary for each Configuration/model, with vehicle data (including accessories and features) and a vehicle picture, for each DND contract;
 - ii The **Technical Authority** will supply a bilingual template of a data summary to the Contractor;
 - iii The Contractor *must* submit a digital copy (MS Word) of the completed data summary for approval;
 - iv Data summary approval or comments will be supplied within 15 working days of receipt; and
 - v The Contractor *must* provide responses to the **Technical Authority**'s comments.
- (e) **Warranty Letter (All Users)**
- i The **Technical Authority** will supply a current bilingual warranty letter template to the Contractor;
 - ii The Contractor *must* supply a complete description of the warranty with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested;
 - iii The warranty letter *must* include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
 - iv The Contractor *must* supply a copy of the warranty letter, in PDF digital format, for each vehicle delivered, to the **Technical Authority** or the designated contact for non-DND users.
- (f) **Safety Data Sheets (DND Only)**
- i The Contractor *must* supply a list, in digital format, of all hazardous materials used on the vehicle;
 - ii If there are no hazardous materials are used, this *must* be stated on the list; and

- iii The Contractor *must* supply safety data sheets of all hazardous materials in the list.

4.1.2 **Items Supplied with Each Vehicle**

(a) **Operator's Manual(s)**

- i The Contractor *must* supply the *Technical Authority* approved bilingual operator's manual(s) in both paper and searchable PDF digital format with each vehicle delivered.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

(b) **Warranty Letter(s)** - The Contractor *must* supply a paper copy of the warranty letter(s) with each vehicle delivered;

(c) **Safety Data Sheets**

- i The Contractor *must* supply a set of material safety data sheets; and
- ii The safety data sheets *must* be the same as those supplied to the *Technical Authority* (paragraph 4.1.1 (f)).

(d) **Line Setting Ticket**

- i The Contractor *must* produce a Line Setting Ticket, or equivalent, describing the components provided on the semi-trailer.
- ii The Contractor *must* supply the *Technical Authority* a Line Setting Ticket in both paper and searchable PDF digital format with each vehicle delivered.
- iii Digital copies *must* be supplied on a CD or a DVD.
- iv Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

(e) **Maintenance Manual(s) - English**

- i The Contractor *must* supply the *Technical Authority* approved maintenance (shop repair) manual(s) in English, in paper as well as in searchable PDF digital format, required for the maintenance and repair of the vehicle, features and accessories.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv The Contractor may supply this deliverable as a bilingual package.

(f) **Maintenance Manual(s) – French**

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- i The Contractor *must* supply the *Technical Authority* approved maintenance (shop repair) manual(s) in French, in paper as well as in searchable PDF digital format, required for the maintenance and repair of the vehicle, features and accessories.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv The Contractor may supply this deliverable as a bilingual package.

(g) **Parts Manual(s)**

- i The Contractor *must* supply the *Technical Authority* approved parts manual(s) in paper and searchable digital format, for the vehicle, features and accessories.
- ii The parts manual(s) *must* be in English.
- iii Digital copies *must* be supplied on a CD or a DVD.
- iv Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- v It is desirable to provide the parts manual(s) in French in addition to the English version.

4.2 **Training**

(a) **Training – Familiarization - English**

- i The Contractor *must* supply a familiarization course in English;
- ii The instructor *must* be an OEM Factory Certified Training Provider;
- iii The familiarization course *must* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use and maintenance of all accessories supplied;
- iv The instructor *must* supply responses to questions;
- v The familiarization course *must* have a minimum duration of four (4) hours;
- vi The familiarization course *must* accommodate up to eight (8) personnel;
- vii The familiarization course *must* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *must* be arranged with the **Technical Authority**, or the identified

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user or designated contact person for vehicles shipped for users other than DND;

- ix After completion of the familiarization course, the Contractor *must* have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.

(b) **Training – Familiarization - French**

- i The Contractor *must* supply a familiarization course in French;
- ii The instructor *must* be an OEM Factory Certified Training Provider;
- iii The familiarization course *must* include operation and maintenance segments demonstrating, all safety measures required for safe vehicle use, instructions on the use of all accessories supplied and maintenance;
- iv The instructor *must* supply responses to questions;
- v The familiarization course *must* have a minimum duration of four (4) hours;
- vi The familiarization course *must* accommodate up to eight (8) personnel;
- vii The familiarization course *must* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *must* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped for users other than DND;
- ix After completion of the familiarization course, the Contractor *must* have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.

ANNEX A2
PURCHASE DESCRIPTION
HEAVY DUTY TRAILERS
GROUP 2 - SEMI-TRAILER, VAN

2019-05-28



NOTICE

This documentation has been reviewed by the **Technical Authority** and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'**Autorité technique** et ne contient pas de marchandises contrôlées.

1. SCOPE

1.1 Scope - This Purchase Description defines the requirements for a semi-trailer van with accessories. The configurations are as follows:

Configuration A – Van, Dry, 25 Ton, 53 ft, Tandem

Configuration B – Van, Dry, 35 Ton, 53 ft, Tridem

Configuration C – Van, Reefer, 25 Ton, 53 ft, Tandem

Configuration D – Van, Reefer, 35 Ton, 53 ft, Tridem

1.2 Instructions – The following instructions apply to this Purchase Description:

- (a) Requirements, which are identified by the word “**must**”, are mandatory. Deviations will not be permitted;
- (b) Requirements identified by “**must**”..... or “**equivalent**” are mandatory. The Technical Authority will consider substitutes/alternatives for acceptance as a Technical Authority approved equivalent;
- (c) Requirements identified with a “will” define actions to be performed by Canada and require no action/obligation on the Contractor’s part;
- (d) Where “**must**”, “**must**”..... or “**equivalent**”, or “will” are not used, the information provided is for guidance only;
- (e) In this document “provided” means “provided and installed”;
- (f) Where a standard is specified and the Contractor has offered an **equivalent**, that equivalent standard **must** be supplied by the Contractor, at no cost to Canada, when authorized by the **Technical Authority**;
- (g) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **must** be provided for the semi-trailer when requested by the Technical Authority up until the date of the expiration of the warranty period;
- (h) While the SI system is used as the primary system of measurement to define requirements of this Purchase Description, both the SI system and the Standard system of measurements may be indicated. Conversions from one system of measurement to the other may not be exact; and

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- (i) Dimensions stated as nominal are treated as approximate dimensions. Nominal dimensions reflect a method by which materials or products are generally identified for sale commercially, but which differ from the actual dimensions.

1.3

Definitions

- (a) “**Provided**” means “provided and installed”;
- (b) “**Technical Authority**” means the official responsible for the technical content of this Purchase Description;
- (c) “**Equivalent**” means a standard, means, or component type, which the Technical Authority has approved for this requirement as meeting the specified requirements for fit, form, function and performance;
- (d) “**Commercially Equipped**” means that the semi-trailer is provided in its standard commercial configuration with no additional government-specified requirements;
- (e) “**Road Legal**” means the semi-trailer can be legally operated on all Canadian highways and secondary roads, without restrictions or special permits;
- (f) “**Curb Weight**” (CW) means the weight of the fully equipped semi-trailer. The curb weight includes all attached accessories and equipment. The Curb Weight does not include the Payload;
- (g) “**Payload**” means the maximum cargo load carrying capacity of the semi-trailer. The payload is the calculated difference between the Gross Vehicle Weight Rating and the Curb Weight;
- (h) “**Gross Axle Weight Rating**” (GAWR) means the gross axle weight rating, which is the maximum axle load allowed by the manufacturer for this application; and
- (i) “**Gross Vehicle Weight Rating**” (GVWR) means the maximum operating weight of the semi-trailer as stated by manufacturer.

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1.4 **Data Table** - The following table shows the required performance and dimensions for each Configuration and includes paragraph references:

CHARACTERISTIC	PARA	UNITS	CONFIGURATION			
			A	B	C	D
TRAILER CAPACITY	3.4.2	kg	22,727	31,752	22,727	31,752
TRAILER LENGTH	3.4.3 (a)	mm	16,150	16,150	16,150	16,150
TRAILER WIDTH	3.4.3	mm	2,590	2,590	2,590	2,590
TRAILER HEIGHT	3.4.3 (c)	mm	4,100	4,100	4,100	4,100
INTERIOR BODY HEIGHT	3.4.3	mm	2,667	2,667	2,500	2,500
KINGPIN DISTANCE	3.4.3 (e)	mm	914	914	914	914
KINGPIN HEIGHT	3.4.3 (f)	mm	1,219	1,219	1,219	1,219
MIN LWC	3.4.3	mm	2,700	2,700	2,700	2,700
AXLES CONFIGURATION	3.6.1 (a)	-	Tandem	Tridem	Tandem	Tridem

1.4.1 **Accessory Table** - The following table indicates with an “X” and by Configuration, the features, accessories, additional items and training.

DESCRIPTION	PARA	CONFIGURATION			
		A	B	C	D
Roll-up Door (in lieu)	3.5.6.1 (i) i	X	X		
Aerodynamic Side Skirts	3.10.1	X	X	X	X
Dangerous Goods Placard Holders	3.10.2	X	X	X	X
Tuck-Under Electro Hydraulic Tailgate	3.10.3	X	X	X	X
Maintenance Manual – English	4.1.2 (e)	X	X	X	X
Maintenance Manual – French	4.1.2 (f)	X	X	X	X
Parts Manual	4.1.2 (g)	X	X	X	X
Training – Familiarization – English	4.2 (a)	X	X	X	X
Training – Familiarization – French	4.2 (b)	X	X	X	X

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2. APPLICABLE DOCUMENTS - The following documents are referenced in this Purchase Description. Canada will not be supplying any reference documents. Available information on the organization is supplied.

SAE Standards

SAE World Headquarters
400 Commonwealth Dr.,
Warrendale, PA, 15096-0001
<http://www.sae.org>

Canada Motor Vehicle Safety Act (CMVSA)

Government of Canada / Transport Canada,
<http://www.tc.gc.ca/eng/acts-regulations/acts-1993c16.htm>

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3. REQUIREMENTS

3.1 Standard Design

- (a) The semi-trailer *must* be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of equipment for at least three (3) years;
- (b) The semi-trailer *must* include all components, equipment and accessories normally supplied for this application, although they may not be specifically described in this Purchase Description;
- (c) The semi-trailer *must* have engineering certification available, upon request, for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The semi-trailer *must* conform to all applicable laws, regulations and industrial standards in effect in Canada at the time of manufacture. The regulatory areas may include but are not necessarily limited to manufacturing, health and safety, noise levels, environment and emissions; and
- (e) The semi-trailer and accessories *must* operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

3.2 Operating Conditions

3.2.1 Weather

- (a) The semi-trailer *must* operate safely and effectively throughout a temperature range of -40° to 37° C, without degradation in performance, reliability and maintainability.

3.2.2 Terrain

- (a) The semi-trailer *must* operate safely and effectively on paved roads, gravel roads and dirt roads with severe washboard and pot holes, in all-weather conditions and with the stated payload, without degradation in performance, reliability and maintainability.

3.3 Safety Standards

3.3.1 Vehicle Safety Regulations

- (a) The semi-trailer *must* meet the provisions of the Canada Motor Vehicle Safety Act.

3.3.2 Hazardous Materials

- (a) The Contractor *must* minimize or eliminate the use of hazardous materials, ozone depleting substances, polychlorinated biphenyls, asbestos and heavy metals (as described in the Hazardous Products Act of Canada) when manufacturing the semi-trailer.

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3.3.3 Safety Features

- (a) The trailer system *must* be provided with the safety features such as warning and instruction plates, non-slip walking surfaces and heat shields where required for operator safety.

3.4 Performance**3.4.1 Trailer Performance**

- (a) The trailer system *must* be towed safely at a continuous speed of at least 105 km/h with the stated payload.

3.4.2 Load Performance

- (a) The semi-trailer *must* carry a uniformly distributed load of at least that given as “**TRAILER CAPACITY**” in the Data Table (Paragraph 1.4).

3.4.3 Dimensions

- (a) The semi-trailer *must* have a nominal overall length of that given as “**TRAILER LENGTH**” in the Data Table (Paragraph 1.4);
- (b) The semi-trailer *must* have a nominal overall width of that given as “**TRAILER WIDTH**” in the Data Table (Paragraph 1.4);
- (c) The semi-trailer, un-laden and with the floor level, *must* have a nominal overall height of that given as “**TRAILER HEIGHT**” in the Data Table (Paragraph 1.4);
- (d) The semi-trailer *must* have a minimum interior body height of that given as “**INTERIOR BODY HEIGHT**” in the Data Table (Paragraph 1.4);
- (e) The semi-trailer *must* have a nominal kingpin distance (KP) of that given as “**KINGPIN DISTANCE**” in the Data Table (Paragraph 1.4), measured from the front of the semi-trailer;
- (f) The semi-trailer *must* operate with the kingpin at a nominal height of that given as “**KINGPIN HEIGHT**” in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate; and
- (g) The semi-trailer *must* have a minimum landing wheel clearance from kingpin (LWC) of that given as “**MIN LWC**” in the Data Table (Paragraph 1.4).

3.5 Semi-Trailer Construction**3.5.1 Kingpin**

- (a) The semi-trailer *must* be provided with a 51mm (2in) kingpin.

3.5.2 Semi-Trailer Frame

- (a) The semi-trailer *must* be provided with a frame that is reinforced for towing points.

3.5.3 Floor**3.5.3.1 All Configurations**

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- (a) The semi-trailer floor **must** support loading/unloading by a forklift with a 4,540 kg GVW and 3,630 kg single axle load;
- (b) The interior flooring **must** be constructed of kiln dried or seasoned hardwood, tongue and groove or ship-lap, of sufficient thickness to accommodate the load; and
- (c) Threshold Plate
 - i The interior flooring **must** incorporate a minimum 300 mm wide threshold plate, constructed of checker plated steel or an **equivalent**, at the rear of the semi-trailer; and
 - ii The top surface of the threshold plate **must** be level with the flooring and fastened into the floor cross members with carriage bolts, or welded across the rear to the floor.

3.5.3.2 Configurations C & D

- (a) The semi-trailer floor **must** be provided with insulation with a nominal thickness of 50 mm.

3.5.4 Interior Walls

3.5.4.1 Configurations A & B

- (a) The semi-trailer interior wall **must** be lined with exterior grade plywood; and
- (b) The semi-trailer interior wall surfaces **must** be provided with kick plates as per the manufacturer's standard design, covering the bottom portion of the plywood surface up to a height of at least 450 mm from the floor.

3.5.4.2 Configurations C & D

- (a) The semi-trailer walls **must** be provided with insulation with a nominal thickness of 50 mm;
- (b) The semi-trailer interior walls **must** be lined with a layer of thermal guard material; and
- (c) The semi-trailer interior wall surfaces **must** be provided with kick plates as per the manufacturer's standard design, covering the bottom portion of the plywood surface up to a height of at least 450 mm from the floor.

3.5.5 Roof

3.5.5.1 All Configurations

- (a) The semi-trailer roof **must** be constructed of a one-piece translucent material, secured around its perimeter to the roof rails and to pre-cambered roof bows; and
- (b) Rub Strips
 - i The roof structure **must** be provided with two (2) evenly spaced, full-length ceiling mounted rub strips; and

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- ii The rub strips **must** incorporate the interior lighting and act as a protection to prevent loads from catching on the cross members.

3.5.5.2 Configurations C & D

- (a) The semi-trailer roof **must** be provided with insulation with a nominal thickness of 75 mm.

3.5.6 Rear Doors

3.5.6.1 Configurations A & B

- (a) The semi-trailer body **must** be provided with two (2) rear doors;
- (b) The rear doors **must** be full height, full-width “barn type” doors;
- (c) Each rear door **must** be provided with at least four (4) hinges;
- (d) The rear doors **must** be provided with compression type door hardware, with provisions for locking them with a padlock;
- (e) The rear doors **must** be provided with perimeter door seals along all four (4) edges;
- (f) The rear doors **must** be provided with devices to secure the doors in the full open position;
- (g) The interior door surfaces **must** be lined with exterior grade plywood;
- (h) The interior door surfaces **must** be provided with kick plates as per the manufacturer’s standard design, covering the bottom portion of the plywood surface up to a height of at least 450 mm from the floor;
- (i) Rear Doors – Configurations A & B Accessories. The Rear Doors listed in the following paragraphs **must** be provided on the semi-trailer, upon request.

- i Roll-up Door (in lieu)

1. The semi-trailer body **must** be provided with a roll-up door in lieu of the standard Rear Doors specified above;
2. The dimensions of the roll-up door **must** be maximized;
3. The roll-up door **must** be constructed of replaceable aluminum panels;
4. The roll-up door **must** be provided with replaceable rollers;
5. The roll-up door **must** be provided with a two-spring, two-cable balancer, with an independent spring for each cable;
6. The springs **must** be treated with rust preventative;
7. The roll-up door **must** be provided with stainless steel cables;
8. The roll-up door **must** be provided with inter-panel seals;
9. The roll-up door **must** be provided with seals at the edges to prevent water ingress;
10. The roll-up door **must** be provided with a cam-style lock assembly, with provisions for a padlock;

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11. The roll-up door **must** be provided with a pull strap and a lifting handle; and
12. The roll-up door **must** be provided with stainless steel or corrosion resistant hardware.

3.5.6.2 Configurations C & D

- (a) The semi-trailer body **must** be provided with two (2) rear doors;
- (b) The rear doors **must** be full height, full-width “barn type” doors;
- (c) Each rear door **must** be provided with at least four (4) hinges;
- (d) The rear doors **must** be provided with compression type door hardware, with provisions for locking them with a padlock;
- (e) The rear doors **must** be provided with perimeter door seals along all four (4) edges;
- (f) The rear doors **must** be provided with devices to secure the doors in the full open position;
- (g) The doors **must** be provided with insulation with a nominal thickness of 50 mm;
- (h) The interior door surfaces **must** be lined with a layer of thermal guard material; and
- (i) The interior door surfaces **must** be provided with kick plates as per the manufacturer’s standard design, covering the bottom portion of the door surface up to a height of at least 450 mm from the floor;

3.5.7 Side Door

3.5.7.1 Configurations A & B

- (a) The semi-trailer body **must** be provided with one (1) side door;
- (b) The side door **must** be located on the curb side, immediately behind the landing gear;
- (c) The side door opening nominal dimensions **must** be 2,032 mm high by 1,092 mm wide (80” high x 43” wide);
- (d) The side door **must** be provided with compression type door hardware, with provisions for locking the door with a padlock;
- (e) The side door **must** be provided with perimeter door seals along all four (4) edges;
- (f) The side door **must** be provided with a device to secure the door in the full open position;
- (g) The interior door surface **must** be lined with exterior grade plywood; and

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- (h) The interior door surface **must** be provided with a kick plate as per the manufacturer's standard design, covering the bottom portion of the plywood surface up to a height of at least 450 mm from the floor.

3.5.7.2 Configurations C & D

- (a) The semi-trailer body **must** be provided with one (1) side door;
- (b) The side door **must** be located on the curb side, immediately behind the landing gear;
- (c) The side door opening nominal dimensions **must** be 2,032 mm high by 1,092 mm wide (80" high x 43" wide);
- (d) The side door **must** be provided with compression type door hardware, with provisions for locking the door with a padlock;
- (e) The side door **must** be provided with perimeter door seals along all four (4) edges;
- (f) The side door **must** be provided with a device to secure the door in the full open position;
- (g) The doors **must** be provided with insulation with a nominal thickness of 50 mm;
- (h) The interior door surface **must** be lined with a layer of thermal guard material; and
- (i) The interior door surface **must** be provided with kick plates as per the manufacturer's standard design, covering the bottom portion of the door surface up to a height of at least 450 mm from the floor.

3.5.8 Refrigerating Unit

3.5.8.1 Configurations C & D

- (a) The semi-trailer **must** be provided with a self-contained refrigerating unit that operates on diesel fuel;
- (b) The refrigerating unit **must** be located at the front of the semi-trailer;
- (c) The refrigerating unit **must** be controlled by a thermostat;
- (d) The refrigerating unit **must** maintain the cargo at a selected temperature within the range of -29° C to +10° C; and
- (e) The refrigerating unit **must** run continuously for a minimum of 24 hours before requiring to be refilled with fuel.

3.5.9 Features

(a) Body Panel Joints

- i The semi-trailer body panel joints **must** prevent moisture ingress.

(b) Aerodynamic Corners

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- i The semi-trailer front exterior wall *must* incorporate large aerodynamic radius corners.

(c) **Access Steps**

- i The semi-trailer *must* be provided with access steps to gain access into the semi-trailer from all the doors, when the doors are open; and
- ii The access steps *must* feature grab handles for ease of access into the semi-trailer.

(d) **Floor-mounted Cargo Rails**

- i The semi-trailer *must* be provided with four (4) cargo rails mounted to the floor interior;
- ii The cargo rails *must* be recessed and run the full length of the flooring;
- iii Two (2) cargo rails *must* be installed, one on each side, with the centre a nominal distance of 52 mm from the side wall;
- iv Two (2) cargo rails *must* be installed, one on each side, with the centre a nominal distance of 104 mm from the side wall; and
- v The semi-trailer *must* be provided with twenty-four (24) multi-position cargo hands.

(e) **Wall-mounted Logistics Tracks**

- i The semi-trailer *must* be provided with four (4) logistics tracks mounted to the interior of the side walls;
- ii The logistics tracks *must* be recessed and run the full length of the side walls;
- iii Two (2) logistics tracks *must* be installed on the curbside wall, at heights of 762 mm and 1,524 mm from the floor; and
- iv Two (2) logistics tracks *must* be installed on the roadside wall, at heights of 762 mm and 1,524 mm from the floor.

(f) **Cargo Securement Bars**

- i The semi-trailer *must* be provided with ten (10) cargo securement bars; and
- ii The cargo securement bars *must* function with the wall-mounted logistics tracks.

(g) **Heavy-duty Telescopic Poles**

- i The semi-trailer *must* be provided with two (2) heavy-duty telescopic poles.

3.5.10 **Towing points**

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- (a) The semi-trailer **must** be provided with two (2) rear-mounted towing points, positioned and of sufficient strength to permit recovery of the loaded semi-trailer.

3.5.11 **Railway tie-down points**

- (a) The semi-trailer **must** be provided with railway tie-down points, positioned and of sufficient strength to permit the securing and transportation of the loaded semi-trailer on a railroad car.

3.5.12 **Dock Bumpers**

- (a) The semi-trailer **must** be provided with heavy-duty rubber dock bumpers at the rear corners, measuring nominally 102 mm (4in) deep.

3.5.13 **Rear Bumper**

- (a) The semi-trailer **must** be provided with a rear bumper per CMVSS.

3.6 **Chassis and Auxiliary Systems**

3.6.1 **Axles**

- (a) The semi-trailer **must** be provided with the axle configuration as specified as “**AXLES CONFIGURATION**” in the Data Table (Paragraph 1.4);
- (b) The axles **must** be of appropriate capacity to carry the maximum payload specified in this document;
- (c) The axles **must** be provided with dual-wheels at each wheel station; and
- (d) The axles **must** be mounted as a sliding axle group to assist with axle weight distribution.

3.6.2 **Suspension**

- (a) The semi-trailer **must** be provided with an air bag suspension system;
- (b) The suspension system **must** include an automatic height control valve;
- (c) The suspension system **must** include a manual suspension air dump valve;
- (d) The suspension system **must** include shock absorbers acting on all wheel stations;
- (e) The suspension system **must** include an air gauge to assist the operator in determining system pressure; and
- (f) The suspension system **must** have suspension travel limiters, such as cables or chains fastened to the suspension beam or axle and the under frame, at a length equal to or less than the shock absorber extended stroke; the use of the shock absorbers as travel limiters is not acceptable.

3.6.3 **Wheels and Tires**

- (a) The semi-trailer **must** be provided with **either** dual wheels and tires, **or**, wide base single wheels and tires, certified by the manufacturer to be suitably sized and rated for the application and load;

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- (b) The (dual or wide base single) wheel assemblies *must* be identical across the trailer system;
- (c) The semi-trailer *must* be provided with written indications of the operating tire pressure at each wheel station;
- (d) The wheels *must* be provided with loose wheel nut indicators at each wheel station; and
- (e) The semi-trailer *must* be provided with a hub odometer reading in kilometres.

3.6.3.1 Not used.

3.6.4 Brake System

- (a) The semi-trailer *must* be provided with an anti-lock, air disc brake system;
- (b) The brake system *must* be provided with remote, cable operated drain valves on the air reservoirs, with heated moisture expelling valve(s);
- (c) Not used;
- (d) The semi-trailer *must* be provided with colour coded glad hand couplers for interconnection between semi-trailer and tractor; and
- (e) The semi-trailer *must* be provided with dummy glad hand coupler covers, including a safety chain/cable for each glad hand, to block and protect the air-lines when they are not in use.

3.6.5 Landing Gear

- (a) The semi-trailer *must* be provided with an interconnected two-legged, two-speed, landing gear system with self-levelling landing pads; and
- (b) The landing gear system *must* withstand the weight of the fully loaded semi-trailer when not connected to the tractor.

3.6.6 Spare Wheel Assemblies with Storage

- (a) The semi-trailer *must* be provided with one (1) spare tire/wheel assembly; and
- (b) The spare tire/wheel assembly *must* be mounted on the semi-trailer as per the manufacturer's standard location.

3.7 Electrical System

- (a) The semi-trailer *must* be provided with a 12-volt negative ground electrical system;
- (b) The electrical system *must* provide all power and control for the semi-trailer lighting and anti-lock brake system, while the semi-trailer is connected to the tractor vehicle;
- (c) The electrical system *must* include a SAE J560 7-pin 12 volt semi-trailer receptacle, located in accordance with SAE J702;

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- (d) The electrical system *must* include, as a minimum, electrical wiring used for the connection to the tractor vehicle intended for heavy-duty use, with positive engaging connectors, which are mounted securely to the system components;
- (e) Wiring *must* be protected by grommets when passing through metal;
- (f) The harnesses *must* be sealed harnesses and all connections treated with dielectric grease; and
- (g) All electrical components *must* be accessible for servicing.

3.8 **Lighting**

- (a) The semi-trailer *must* be provided with a lighting system conforming to CMVSS requirements;
- (b) The semi-trailer *must* be provided with LED body lighting;
- (c) Lights and reflectors *must* be recessed or otherwise protected from damage;
- (d) **Interior Lights and Switch**
 - i The semi-trailer *must* be provided with a minimum of five (5) interior LED dome lights that are adequate for a working environment;
 - ii The interior lights *must* be mounted flush to the ceiling rub strips; and
 - iii The interior lights *must* be provided with a timer switch (minimum duration of 15 minutes) or automatically switch off while the semi-trailer is in motion.

3.9 **Miscellaneous Equipment**

3.9.1 **Storage Compartments**

- (a) The semi-trailer *must* be provided with two (2) lockable storage compartments;
- (b) The compartments *must* be of sufficient size to accommodate spare straps, chains and fluids;
- (c) The compartment floors *must* be covered with a durable surface, such as DRI decking, to help keep contents dry;
- (d) The compartment floors *must* be equipped with drain holes; and
- (e) The compartments *must* be located as per the manufacturer's standard location.

3.9.2 **Mud Flaps**

- (a) The semi-trailer *must* be provided with mud flaps located behind the rear axle; and
- (b) The mud flaps *must* be made of plain black rubber with no logos displayed.

3.9.3 **License Plate Holder**

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- (a) The semi-trailer *must* be provided with an illuminated license plate holder located at the rear.

3.9.4 **Conspicuity Tape**

- (a) The semi-trailer *must* be provided with conspicuity tape conforming to CMVSS requirements.

3.9.5 **Document Holder**

- (a) The semi-trailer *must* be provided with a document holder, located on the road side at the front.

3.9.6 **Identification Plate**

- (a) The semi-trailer *must* be provided with an identification plate containing the following information as a minimum:
- i Manufacturer, model, model year and serial number of the semi-trailer; and
 - ii GAWR and GVWR ratings;
- (b) The maximum payload capacity *must* be permanently and clearly marked in a location near the identification plate.

3.10 **Accessories** The accessories listed in the following paragraphs *must* be provided with the semi-trailer when specified in the solicitation.

3.10.1 **Aerodynamic Side Skirts**

- (a) The semi-trailer *must* be provided with aerodynamic side skirts on both sides.

3.10.2 **Dangerous Goods Placard Holders**

- (a) The semi-trailer *must* be provided with four (4) aluminum dangerous goods placard holders;
- (b) One (1) holder *must* be mounted at the centre of each side of the van body, near the bottom;
- (c) One (1) holder *must* be mounted at the rear of the van body, at the lower curb side corner; and
- (d) One (1) holder *must* be mounted on the front of the van body, on the lower road side corner.

3.10.3 **Tuck-under Electro-Hydraulic Tailgate**

- (a) The semi-trailer *must* be provided with an easy-lift, tuck-under electro-hydraulic tailgate with an aluminum deck;
- (b) The tailgate *must* have a capacity of at least of 1,135 kg;
- (c) The tailgate *must* have the capacity rating conspicuously and permanently marked on the tailgate;
- (d) **Controls**

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- i The tailgate *must* be provided with permanently wired weatherproof controls located at the rear curb side corner; and
- ii The tailgate *must* be provided with power up and down controls.

(e) **Tailgate and Platform**

- i The tailgate *must* be provided with a heavy-duty platform with a tapered outer edge and a non-skid surface;
- ii The platform, including the tapered edge, *must* be at least 1,265 mm deep and at least 2,025 mm wide;
- iii The top of the platform *must* be level with the top of the body floor when fully raised;
- iv There *must* be no gap between body floor and the edge of platform;
- v The tailgate *must* be provided with a full width extension of at least 203 mm; and
- vi The tailgate *must* be provided with safety warning decals on the rear face of the body platform, and full width warning strips of solid yellow stripes on the inner and outer edges of the tailgate platform.

(f) **Flip Step**

- i The tailgate *must* be provided with a heavy-duty loop or flip type step on each side of the semi-trailer, flush mounted with the sides of the deck extension; and
- ii The step *must* be 610 mm above ground.

- (g) The semi-trailer *must* be provided with a tailgate master disconnect switch.

3.11 **Paint and Corrosion Protection System**

3.11.1 **Paint**

- (a) The semi-trailer *must* be painted in accordance with the manufacturer's best production procedures using standard commercial practices and materials, rendering a durable finish of the required film thickness and a smooth appearance free from runs, sags and orange peel;
- (b) The paint finish on exposed exterior surfaces normally painted for the commercial trade *must* be white;
- (c) The paint finish on chassis items such as frame and tailgate *must* be low-gloss or flat black; and
- (d) Additional lettering and symbols on the outside of the semi-trailer *must* be in a high contrast colour.

3.11.2 **Corrosion Protection System**

(a) **Galvanic Corrosion**



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- i The semi-trailer *must* be protected against galvanic corrosion where dissimilar metals are used.

(b) **Rust Prevention Coating**

- i The semi-trailer *must* be provided with a rust prevention coating to the underbody, in addition to the standard factory rustproofing;
- ii The rust prevention coating product applied *must* be Tectyl, Krown or Rust Check;
- iii A decal *must* be affixed to the semi-trailer displaying the type of rust prevention coating used; and
- iv Warranty papers covering the rust prevention coating *must* accompany the semi-trailer.

3.12 **Warning and Instruction Plates**

- (a) The warning and instruction plates *must* be within easy view of the user and in accordance with standard commercial practice; and
- (b) The warning and instruction plates *must* be international symbols and/or bilingual (English and French) markings.

3.13 **Semi-Trailer Delivery Condition**

- (a) The semi-trailer *must* be delivered to destination in a fully operational condition (serviced and adjusted);
- (b) The semi-trailer *must* be completely cleaned; and
- (c) The semi-trailer *must* be serviced with standard lubricants and fluids that are compatible with the delivery location and season.

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4. INTEGRATED LOGISTIC SUPPORT

4.1 Contractor Documentation and Logistic Items4.1.1 Documents to Technical Authority (Designated Contact) on Contract(a) Manuals for Approval (DND Only)

- i The Contractor **must** supply a set of manuals for each Configuration/model, in digital format, including the operator, parts and maintenance (shop repair) manuals. It is acceptable that manuals include more than one Configuration/model.
- ii The set of manuals **must** include manuals for all the specified accessories and features for the configuration/model. Accessory manuals may be included as supplements to the vehicle manuals.
- iii Digital copies **must** be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv Digital copies **must** be supplied on a CD or DVD.
- v Digital copies **must** be supplied in a searchable PDF format.
- vi A separate CD/DVD **must** be supplied for each Configuration/ Make/ Model with all accessories.
- vii The CD or DVD **must** be permanently and legibly marked with a list of contents.
- viii Manuals will not be returned.
- ix Manual approval, request for additional documentation or request for amendments will be supplied within 15 working days of receipt.
- x The Contractor **must** supply the additional documentation or implement the changes as requested by the **Technical Authority**.
- xi Paper copies of manuals delivered under this contract **must** have the same content as the electronic format approved by the **Technical Authority**.

(b) Photographs and Line Drawings (DND Only)

- i The Contractor **must** supply two (2) digital colour photographs, one left-front three-quarter full vehicle view, and one right-rear three-quarter full vehicle view of each Configuration/model;
- ii One (1) digital colour photograph of each attachment taken at the three-quarter view that best illustrates the attachment **must** be supplied;
- iii One front-view and one side-view line drawing showing dimensions of the vehicle **must** be supplied. Brochure line drawings are acceptable;
- iv Photographs **must** an plain background;

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- v Photographs *must* be in a JPEG (Joint Photographic Experts Group) format; and
 - vi Photographs *must* have a resolution of at least eight (8) Mega pixels.
- (c) **Load Analysis Drawing (DND Only)**
- i The Contractor *must* provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and
 - ii The load analysis drawing *must* be in PDF format supplied on a CD or a DVD.
- (d) **Data Summary (DND Only)**
- i The Contractor *must* supply a bilingual data summary for each Configuration/model, with vehicle data (including accessories and features) and a vehicle picture, for each DND contract;
 - ii The **Technical Authority** will supply a bilingual template of a data summary to the Contractor;
 - iii The Contractor *must* submit a digital copy (MS Word) of the completed data summary for approval;
 - iv Data summary approval or comments will be supplied within 15 working days of receipt; and
 - v The Contractor *must* provide responses to the **Technical Authority's** comments.
- (e) **Warranty Letter (All Users)**
- i The **Technical Authority** will supply a current bilingual warranty letter template to the Contractor;
 - ii The Contractor *must* supply a complete description of the warranty with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested;
 - iii The warranty letter *must* include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
 - iv The Contractor *must* supply a copy of the warranty letter, in PDF digital format, for each vehicle delivered, to the **Technical Authority** or the designated contact for non-DND users.
- (f) **Safety Data Sheets (DND Only)**
- i The Contractor *must* supply a list, in digital format, of all hazardous materials used on the vehicle;
 - ii If there are no hazardous materials are used, this *must* be stated on the list; and

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- iii The Contractor *must* supply safety data sheets of all hazardous materials in the list.

4.1.2 **Items Supplied with Each Vehicle**

(a) **Operator's Manual(s)**

- i The Contractor *must* supply the *Technical Authority* approved bilingual operator's manual(s) in both paper and searchable PDF digital format with each vehicle delivered.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

(b) **Warranty Letter(s)** - The Contractor *must* supply a paper copy of the warranty letter(s) with each vehicle delivered;

(c) **Safety Data Sheets**

- i The Contractor *must* supply a set of material safety data sheets; and
- ii The safety data sheets *must* be the same as those supplied to the **Technical Authority** (paragraph 4.1.1 (f)).

(d) **Line Setting Ticket**

- i The Contractor *must* produce a Line Setting Ticket, or equivalent, describing the components provided on the semi-trailer.
- ii The Contractor *must* supply the *Technical Authority* a Line Setting Ticket in both paper and searchable PDF digital format with each vehicle delivered.
- iii Digital copies *must* be supplied on a CD or a DVD.
- iv Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

(e) **Maintenance Manual(s) - English**

- i The Contractor *must* supply the *Technical Authority* approved maintenance (shop repair) manual(s) in English, in paper as well as in searchable PDF digital format, required for the maintenance and repair of the vehicle, features and accessories.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

- iv The Contractor may supply this deliverable as a bilingual package.

(f) **Maintenance Manual(s) – French**

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- i The Contractor *must* supply the *Technical Authority* approved maintenance (shop repair) manual(s) in French, in paper as well as in searchable PDF digital format, required for the maintenance and repair of the vehicle, features and accessories.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv The Contractor may supply this deliverable as a bilingual package.

(g) **Parts Manual(s)**

- i The Contractor *must* supply the *Technical Authority* approved parts manual(s) in paper and searchable digital format, for the vehicle, features and accessories.
- ii The parts manual(s) *must* be in English.
- iii Digital copies *must* be supplied on a CD or a DVD.
- iv Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- v It is desirable to provide the parts manual(s) in French in addition to the English version.

4.2 **Training**

(a) **Training – Familiarization - English**

- i The Contractor *must* supply a familiarization course in English;
- ii The instructor *must* be an OEM Factory Certified Training Provider;
- iii The familiarization course *must* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use and maintenance of all accessories supplied;
- iv The instructor *must* supply responses to questions;
- v The familiarization course *must* have a minimum duration of two (2) hours;
- vi The familiarization course *must* accommodate up to eight (8) personnel;
- vii The familiarization course *must* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *must* be arranged with the **Technical Authority**, or the identified

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user or designated contact person for vehicles shipped for users other than DND;

- ix After completion of the familiarization course, the Contractor *must* have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.

(b) **Training – Familiarization - French**

- i The Contractor *must* supply a familiarization course in French;
- ii The instructor *must* be an OEM Factory Certified Training Provider;
- iii The familiarization course *must* include operation and maintenance segments demonstrating, all safety measures required for safe vehicle use, instructions on the use of all accessories supplied and maintenance;
- iv The instructor *must* supply responses to questions;
- v The familiarization course *must* have a minimum duration of two (2) hours;
- vi The familiarization course *must* accommodate up to eight (8) personnel;
- vii The familiarization course *must* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *must* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped for users other than DND;
- ix After completion of the familiarization course, the Contractor *must* have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.

ANNEX A3
PURCHASE DESCRIPTION
HEAVY DUTY TRAILERS
GROUP 3 - SEMI-TRAILER, FLAT/STEP DECK

2019-05-28



NOTICE

This documentation has been reviewed by the **Technical Authority** and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'**Autorité technique** et ne contient pas de marchandises contrôlées.

1. SCOPE

1.1 **Scope** - This Purchase Description defines the requirements for a flat deck semi-trailer with accessories. Main configurations are as follows:

- Configuration A – Flat Deck, 25 Ton payload, 53 ft, Tandem
- Configuration B – Flat Deck, 35 Ton payload, 53 ft, Tridem
- Configuration C – Step Deck, 25 Ton payload, 53 ft, Tandem
- Configuration D – Step Deck, 35 Ton payload, 53 ft, Tridem

1.2 **Instructions** – The following instructions apply to this Purchase Description:

- (a) Requirements, which are identified by the word “**must**”, are mandatory. Deviations will not be permitted;
- (b) Requirements identified by “**must**”..... or “**equivalent**” are mandatory. The Technical Authority will consider substitutes/alternatives for acceptance as a Technical Authority approved equivalent;
- (c) Requirements identified with a “will” define actions to be performed by Canada and require no action/obligation on the Contractor’s part;
- (d) Where “**must**”, “**must**”..... or “**equivalent**”, or “will” are not used, the information provided is for guidance only;
- (e) In this document “provided” means “provided and installed”;
- (f) Where a standard is specified and the Contractor has offered an **equivalent**, that equivalent standard **must** be supplied by the Contractor, at no cost to Canada, when authorized by the **Technical Authority**;
- (g) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **must** be provided for the semi-trailer when requested by the Technical Authority up until the date of the expiration of the warranty period;
- (h) While the SI system is used as the primary system of measurement to define requirements of this Purchase Description, both the SI system and the Standard system of measurements may be indicated. Conversions from one system of measurement to the other may not be exact; and

OPI DSVPM 4 – DAVPS 4

Issued on Authority of the Chief of the Defence Staff
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- (i) Dimensions stated as nominal are treated as approximate dimensions. Nominal dimensions reflect a method by which materials or products are generally identified for sale commercially, but which differ from the actual dimensions.

1.3 **Definitions**

- (a) **“Provided”** means “provided and installed”;
- (b) **“Technical Authority”** means the official responsible for the technical content of this Purchase Description;
- (c) **“Equivalent”** means a standard, means, or component type, which the Technical Authority has approved for this requirement as meeting the specified requirements for fit, form, function and performance;
- (d) **“Commercially Equipped”** means that the semi-trailer is provided in its standard commercial configuration with no additional government-specified requirements;
- (e) **“Road Legal”** means the semi-trailer can be legally operated on all Canadian highways and secondary roads, without restrictions or special permits;
- (f) **“Curb Weight”** (CW) means the weight of the fully equipped semi-trailer. The curb weight includes all attached accessories and equipment. The Curb Weight does not include the Payload;
- (g) **“Payload”** means the maximum cargo load carrying capacity of the semi-trailer. The payload is the calculated difference between the Gross Vehicle Weight Rating and the Curb Weight;
- (h) **“Gross Axle Weight Rating”** (GAWR) means the gross axle weight rating, which is the maximum axle load allowed by the manufacturer for this application; and
- (i) **“Gross Vehicle Weight Rating”** (GVWR) means the maximum operating weight of the semi-trailer as stated by manufacturer.

1.4 **Data Table** - The following table shows the required performance and dimensions for each Configuration and includes paragraph references:

CHARACTERISTIC	PARA	UNITS	CONFIGURATION			
			A	B	C	D
TRAILER CAPACITY	3.4.2	kg	22,727	31,752	22,727	31,752
TRAILER LENGTH	3.4.3 (a)	mm	16,150	16,150	16,150	16,150
TRAILER WIDTH	3.4.3 (b)	mm	2,590	2,590	2,590	2,590
MAIN DECK LENGTH	3.4.3 (c)	mm	16,150	16,150	13,000	13,000
MAIN DECK HEIGHT	3.4.3 (d)	mm	1,525	1,525	1,120	1,120
UPPER DECK HEIGHT	3.4.3 (e)	mm			1,525	1,525
KINGPIN DISTANCE	3.4.3 (f)	mm	609	609	609	609
KINGPIN HEIGHT	3.4.3 (g)	mm	1,245	1,245	1,245	1,245
MIN LWC	3.4.3 (h)	mm	2,700	2,700	2,700	2,700
AXLES CONFIGURATION	3.6.1 (a)	-	Tandem	Tridem	Tandem	Tridem

1.4.1 **Accessory Table** - The following table indicates with an “X” and by Configuration, the features, accessories, additional items and training.

DESCRIPTION	PARA	CONFIGURATION			
		A	B	C	D
Container locks	3.10.1	X	X	X	X
Chain slots	3.10.2			X	X
Deck-mounted D-Rings	3.10.3			X	X
Bulkhead	3.10.4			X	X
Rolling tarp system	3.10.5	X	X		
Maintenance Manual – English	4.1.2 (e)	X	X	X	X
Maintenance Manual – French	4.1.2 (f)	X	X	X	X
Parts Manual	4.1.2 (g)	X	X	X	X
Training – Familiarization – English	4.2 (a)	X	X	X	X
Training – Familiarization – French	4.2 (b)	X	X	X	X



2. APPLICABLE DOCUMENTS - The following documents are referenced in this Purchase Description. Canada will not be supplying any reference documents. Available information on the organization is supplied.

SAE Standards

SAE World Headquarters
400 Commonwealth Dr.,
Warrendale, PA, 15096-0001
<http://www.sae.org>

Canada Motor Vehicle Safety Act (CMVSA)

Government of Canada / Transport Canada,
<http://www.tc.gc.ca/eng/acts-regulations/acts-1993c16.htm>

3. REQUIREMENTS

3.1 Standard Design

- (a) The semi-trailer *must* be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of equipment for at least three (3) years;
- (b) The semi-trailer *must* include all components, equipment and accessories normally supplied for this application, although they may not be specifically described in this Purchase Description;
- (c) The semi-trailer *must* have engineering certification available, upon request, for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The semi-trailer *must* conform to all applicable laws, regulations and industrial standards in effect in Canada at the time of manufacture. The regulatory areas may include but are not necessarily limited to manufacturing, health and safety, noise levels, environment and emissions; and
- (e) The semi-trailer and accessories *must* operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

3.2 Operating Conditions

3.2.1 Weather

- (a) The semi-trailer *must* operate safely and effectively throughout a temperature range of -40° to 37° C, without degradation in performance, reliability and maintainability.

3.2.2 Terrain

- (a) The semi-trailer *must* operate safely and effectively on paved roads, gravel roads and dirt roads with severe washboard and pot holes, in all-weather conditions and with the stated payload, without degradation in performance, reliability and maintainability.

3.3 Safety Standards

3.3.1 Vehicle Safety Regulations

- (a) The semi-trailer *must* meet the provisions of the Canada Motor Vehicle Safety Act.

3.3.2 Hazardous Materials

- (a) The Contractor *must* minimize or eliminate the use of hazardous materials, ozone depleting substances, polychlorinated biphenyls, asbestos and heavy metals (as described in the Hazardous Products Act of Canada) when manufacturing the semi-trailer.

3.3.3 Safety Features

- (a) The trailer system *must* be provided with the safety features such as warning and instruction plates, non-slip walking surfaces and heat shields where required for operator safety.

3.4 Performance

3.4.1 Trailer Performance

- (a) The trailer system *must* be towed safely at a continuous speed of at least 105 km/h with the stated payload.

3.4.2 Load Performance

- (a) The semi-trailer *must* carry a uniformly distributed load of at least that given as “**TRAILER CAPACITY**” in the Data Table (Paragraph 1.4).

3.4.3 Dimensions

- (a) The semi-trailer *must* have a nominal overall length of that given as “**TRAILER LENGTH**” in the Data Table (Paragraph 1.4);
- (b) The semi-trailer *must* have a nominal overall width of that given as “**TRAILER WIDTH**” in the Data Table (Paragraph 1.4);
- (c) The semi-trailer main deck *must* have a nominal length of that given as “**MAIN DECK LENGTH**” in the Data Table (Paragraph 1.4);
- (d) The semi-trailer main deck, un-laden, *must* have a nominal height of that given as “**MAIN DECK HEIGHT**” in the Data Table (Paragraph 1.4);
- (e) The semi-trailer upper deck *must* have a nominal height of that given as “**UPPER DECK HEIGHT**” in the Data Table (Paragraph 1.4);
- (f) The semi-trailer *must* have a nominal kingpin distance (KP) of that given as “**KINGPIN DISTANCE**” in the Data Table (Paragraph 1.4), measured from the front of the semi-trailer;
- (g) The semi-trailer *must* operate with the kingpin at a nominal height of that given as “**KINGPIN HEIGHT**” in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate; and
- (h) The semi-trailer *must* have a minimum landing wheel clearance from kingpin (LWC) of that given as “**MIN LWC**” in the Data Table (Paragraph 1.4).

3.5 Semi-Trailer Construction

3.5.1 Kingpin

- (a) The semi-trailer *must* be provided with a 51 mm (2 in) kingpin.

3.5.2 Semi-Trailer Frame

- (a) The semi-trailer *must* be provided with a frame that is reinforced for towing points.

3.5.3 Decking Floor

3.5.3.1 Configurations A & B

- (a) The semi-trailer **must** be provided with a full and continuous main deck, with no openings;
- (b) The main deck floor **must** be covered with replaceable wood planks of sufficient thickness to accommodate the load; and
- (c) The wood planks **must** be treated with Linseed oil or **equivalent** weather proofing treatment.

3.5.3.2 Configurations C & D

- (a) The semi-trailer **must** be provided with full and continuous main and upper deck, with no openings; frame flanges are permitted to be part of the deck surface;
- (b) The main and upper deck floors **must** be covered with replaceable wood planks of sufficient thickness to accommodate the load; checker plates are permitted to be part of the main deck surface where required; and
- (c) The wood planks **must** be treated with Linseed oil or **equivalent** weather proofing treatment.

3.5.4 Towing points

- (a) The semi-trailer **must** be provided with two (2) rear-mounted towing points, positioned and of sufficient strength to permit recovery of the loaded semi-trailer.

3.5.5 Railway tie-down points

- (a) The semi-trailer **must** be provided with railway tie-down points, positioned and of sufficient strength to permit the securing and transportation of the loaded semi-trailer on a railroad car.

3.5.6 Hydraulic Winches

3.5.6.1 Configurations A & B

- (a) The semi-trailer **must** be provided with twenty (20) sliding winches, divided equally between the LH and RH sides of the semi-trailer; and
- (b) The sliding winches **must** be mounted on a full length sliding mechanism along each side of the semi-trailer.

3.5.6.2 Configurations C & D

- (a) The semi-trailer **must** be provided with twenty (20) sliding winches, divided equally between the LH and RH sides of the semi-trailer; and
- (b) The sliding winches **must** be mounted on a sliding mechanism along each side of the main and upper decks. The winches above the axles can be either sliding or fixed.

3.5.7 Strap Assembly

- (a) The semi-trailer **must** be provided with one strap assembly for each of the winches;



- (b) Each strap assembly *must* consist of a strap, chain and slip hook;
- (c) The strap assembly dimensions *must* be 76 mm (3 in) wide by 9144 mm (30 ft) long; and
- (d) The strap assembly *must* have a minimum working load limit of 2,450 kg.

3.5.8 **Rub Rails**

- (a) The semi-trailer *must* be provided with rub rails and stake pockets along both sides of the semi-trailer to be used with the strap assemblies and winches.

3.6 **Chassis and Auxiliary Systems**

3.6.1 **Axles**

3.6.1.1 **All Configurations**

- (a) The semi-trailer *must* be provided with the axle configuration as specified as “**AXLES CONFIGURATION**” in the Data Table (Paragraph 1.4); and
- (b) The axles *must* be of appropriate capacity to carry the maximum payload specified in this document.

3.6.1.2 **Configurations A & B**

- (a) The axles *must* be mounted as a sliding axle group to assist with axle weight distribution.

3.6.2 **Suspension**

- (a) The semi-trailer *must* be provided with an air bag suspension system;
- (b) The suspension system *must* include an automatic height control valve;
- (c) The suspension system *must* include a manual suspension air dump valve;
- (d) The suspension system *must* include shock absorbers acting on all wheel stations;
- (e) The suspension system *must* include an air gauge to assist the operator in determining system pressure; and
- (f) The suspension system *must* have suspension travel limiters, such as cables or chains fastened to the suspension beam or axle and the under frame, at a length equal to or less than the shock absorber extended stroke; the use of the shock absorbers as travel limiters is not acceptable.

3.6.3 **Wheels and Tires**

- (a) The semi-trailer *must* be provided with **either** dual wheels and tires, **or**, wide base single wheels and tires, certified by the manufacturer to be suitably sized and rated for the application and load;
- (b) The (dual or wide base single) wheel assemblies *must* be identical across the trailer system;
- (c) The semi-trailer *must* be provided with written indications of the operating tire pressure at each wheel station;

- (d) The wheels *must* be provided with loose wheel nut indicators at each wheel station; and
- (e) The semi-trailer *must* be provided with a hub-odometer reading in kilometres.

3.6.3.1 Not used.

3.6.4 **Brake System**

- (a) The semi-trailer *must* be provided with an anti-lock, air disc brake system;
- (b) The brake system *must* be provided with remote, cable operated drain valves on the air reservoirs, with heated moisture expelling valve(s);
- (c) Not Used;
- (d) The semi-trailer *must* be provided with colour coded glad hand couplers for interconnection between semi-trailer and tractor; and
- (e) The semi-trailer *must* be provided with dummy glad hand coupler covers, including a safety chain/cable for each glad hand, to block and protect the air-lines when they are not in use.

3.6.5 **Landing Gear**

- (a) The semi-trailer *must* be provided with an interconnected two-legged, two-speed, landing gear system with self-levelling landing pads; and
- (b) The landing gear system *must* withstand the weight of the fully loaded semi-trailer when not connected to the tractor.

3.7 **Electrical System**

- (a) The semi-trailer *must* be provided with a 12-volt negative ground electrical system;
- (b) The electrical system *must* provide all power and control for the semi-trailer lighting and anti-lock brake system, while the semi-trailer is connected to the prime mover;
- (c) The electrical system *must* include a SAE J560 7-pin 12 volt semi-trailer receptacle, located in accordance with SAE J702;
- (d) The electrical system *must* include, as a minimum, electrical wiring used for the connection to the tractor vehicle intended for heavy-duty use, with positive engaging connectors, which are mounted securely to the system components;
- (e) Wiring *must* be protected by grommets when passing through metal;
- (f) The harnesses *must* be sealed harnesses and all connections treated with dielectric grease; and
- (g) All electrical components *must* be accessible for servicing.

3.8 **Lighting**

- (a) The semi-trailer *must* be provided with a lighting system conforming to CMVSS requirements;



- (b) The semi-trailer *must* be provided with LED body lighting; and
- (c) Lights and reflectors *must* be recessed or otherwise protected from damage.

3.9 **Miscellaneous Equipment**

3.9.1 **Dock Bumpers**

- (a) The semi-trailer *must* be provided with heavy-duty rubber dock bumpers at the rear corners, measuring nominally 102 mm (4in) deep.

3.9.2 **Rear Bumper**

- (a) The semi-trailer *must* be provided with a rear bumper per CMVSS.

3.9.3 **Storage Compartments**

- (a) The semi-trailer *must* be provided with two (2) lockable storage compartments;
- (b) The compartments *must* be of sufficient size to accommodate spare straps, chains and fluids;
- (c) The compartment floors *must* be covered with a durable surface, such as DRI decking, to help keep contents dry;
- (d) The compartment floors *must* be equipped with drain holes; and
- (e) The compartments *must* be located as per the manufacturer's standard location.

3.9.4 **Spare Wheel Assembly with Storage**

- (a) The semi-trailer *must* be provided with one (1) spare tire/wheel assembly; and
- (b) The spare tire/wheel assemblies *must* be mounted in a location that does not interfere with the normal use of the trailer.

3.9.5 **Access Steps**

3.9.5.1 **Configurations C & D**

- (a) The semi-trailer *must* be provided with access steps to gain access onto the main deck; and
- (b) The access steps *must* be located on the curbside and the roadside near the front of the main deck.

3.9.6 **Mud Flaps**

- (a) The semi-trailer *must* be provided with mud flaps located behind the rear axle; and
- (b) The mud flaps *must* be made of plain black rubber with no logos displayed.

3.9.7 **License Plate Holder**

- (a) The semi-trailer *must* be provided with an illuminated license plate holder located at the rear.

3.9.8 **Conspicuity Tape**

- (a) The semi-trailer *must* be provided with conspicuity tape conforming to CMVSS requirements.

3.9.9 **Document Holder**

- (a) The semi-trailer *must* be provided with a document holder, located on the road side at the front.

3.9.10 **Identification Plate**

- (a) The semi-trailer *must* be provided with an identification plate containing the following information as a minimum:
 - i Manufacturer, model, model year and serial number of the semi-trailer; and
 - ii GAWR and GVWR ratings;
- (b) The maximum payload capacity *must* be permanently and clearly marked in a location near the identification plate.

3.10 **Accessories.** The accessories listed in the following paragraphs *must* be provided with the semi-trailer when specified in the solicitation.

3.10.1 **Container Locks**

- (a) The semi-trailer *must* be provided with eight (8) retractable container locks, able to accommodate one (1) 12.2 m ISO container (Class/Designation “1A” IAW ISO 668) or two (2) 6.1 m ISO containers (Class/Designation “1C” IAW ISO 668); and
- (b) The container locks *must* be flush with the deck surface when not in use.

3.10.2 **Chain slots**

3.10.2.1 **Configurations C & D**

- (a) The semi-trailer *must* be provided with double-keyhole chain slots along the main and upper decks to function with the strap assemblies provided with the winches; and
- (b) The chain slots *must* be located on the deck surface, near the edge and evenly spaced, with three (3) chain slots located on each side of the upper deck, and twelve (12) chain slots located on each side of the main deck.

3.10.3 **Deck-mounted D-Rings**

3.10.3.1 **Configurations C & D**

- (a) The semi-trailer *must* be provided with deck-mounted D-Rings along the main and upper decks, with a minimum rated capacity of 8,700 kg each;
- (b) The D-rings *must* be evenly spaced, with three (3) D-rings located on each side of the upper deck, and twelve (12) D-rings located on each side of the main deck;
- (c) The deck-mounted D-Rings *must* be recessed and flush-mounted to the decks, with drain holes; and

- (d) The deck-mounted D-Rings **must** be as close as possible to the edge, with a maximum of 203 mm from the side of the semi-trailer.

3.10.4 **Bulkhead**

3.10.4.1 **Configurations C & D**

- (a) The semi-trailer **must** be provided with a removable steel bulkhead located at the front of the trailer, measuring at least 1,219 mm high.

3.10.5 **Rolling Tarp System**

3.10.5.1 **Configurations A & B**

- (a) The semi-trailer **must** be equipped with a removable, “accordion-style” rolling tarp system over the deck area.
- (b) The rolling tarp system **must** prevent visibility of the cargo, while providing protection from the weather.
- (c) The rolling tarp system **must** be easily retractable forward and rearward to allow unobstructed loading of cargo from the top, curbside or roadside of the semi-trailer;
- (d) The rolling tarp system **must** be fully operable from ground level without the need for the operator to climb onto the deck;
- (e) The rolling tarp system **must** be able to lock into place when extended;
- (f) The rolling tarp system **must** not inhibit the securing of cargo;
- (g) The rolling tarp system **must** not inhibit the function of other trailer equipment;
- (h) **Front Wall**
 - i The rolling tarp system **must** include a solid front wall that is fixed to the front of the semi-trailer;
 - ii The front wall exterior **must** consist of a smooth aluminum skin, painted white;
 - iii The front wall **must** be provided with large radius aerodynamic corners;
 - iv The front wall **must** be provided with panel joints that prevent moisture ingress;
 - v The front wall **must** be provided with an integrated access door that can be locked;
 - vi The front wall **must** have be provided with an air deflector across the top, painted white; and
 - vii The front wall **must** be provided with two rear-facing LED floodlights to illuminate the cargo area, one on each side of the front wall.

- (i) **Superstructure**

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- i The rolling tarp system *must* be provided with a heavy duty superstructure.
 - (j) Track & Wheel Assembly
 - i The rolling tarp system *must* be provided with tracks on both sides of the deck, at full length;
 - ii The tracks *must* be constructed of durable extruded aluminum;
 - iii The tracks *must* be provided with easy-to-replace polymer strips that protect the tracks and wheels from wear;
 - iv The track and wheel assembly *must* not inhibit the winches and straps operation through the rub rail; and
 - v The roller wheel assemblies *must* be provided with sealed bearings for smooth rolling operation and minimum maintenance.
 - (k) Tarp
 - i The tarp *must* be made from heavy-duty material, having a density equal to or greater than 20 ounce per square yard;
 - ii The tarp *must* be reinforced at contact points;
 - iii The tarp *must* be waterproof, weatherproof and resistant to mold, mildew, and UV degradation; and
 - iv The tarp color *must* be white.
 - (l) Rear Access
 - i The rolling tarp system *must* be provided with a rear access consisting of a roll-up tarp system, across the width of the trailer;
 - ii The rear roll-up tarp *must* be made of the same material and colour as the main tarp; and
 - iii The rear roll-up tarp *must* close tightly and be pad-lockable.
- 3.11 **Paint and Corrosion Protection System**
- 3.11.1 **Paint**
- (a) The semi-trailer *must* be painted in accordance with the manufacturer's best production procedures using standard commercial practices and materials, rendering a durable finish of the required film thickness and a smooth appearance free from runs, sags and orange peel;
 - (b) The paint finish *must* be low-gloss or flat black; and
 - (c) Additional lettering and symbols on the outside of the semi-trailer *must* be high contrast colour.
- 3.11.2 **Corrosion Protection System**
- (a) **Galvanic Corrosion**



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- i The semi-trailer *must* be protected against galvanic corrosion where dissimilar metals are used.

(b) **Rust Prevention Coating**

- i The semi-trailer *must* be provided with a rust prevention coating to the underbody, in addition to the standard factory rustproofing;
- ii The rust prevention coating product applied *must* be Tectyl, Krown or Rust Check;
- iii A decal *must* be affixed to the semi-trailer displaying the type of rust prevention coating used; and
- iv Warranty papers covering the rust prevention coating *must* accompany the semi-trailer.

3.12 **Warning and Instruction Plates**

- (a) The warning and instruction plates *must* be within easy view of the user and in accordance with standard commercial practice; and
- (b) The warning and instruction plates *must* be international symbols and/or bilingual (English and French) markings.

3.13 **Semi-Trailer Delivery Condition**

- (a) The semi-trailer *must* be delivered to destination in a fully operational condition (serviced and adjusted);
- (b) The semi-trailer *must* be completely cleaned; and
- (c) The semi-trailer *must* be serviced with standard lubricants and fluids that are compatible with the delivery location and season.

4. **INTEGRATED LOGISTIC SUPPORT**4.1 **Contractor Documentation and Logistic Items**4.1.1 **Documents to Technical Authority (Designated Contact) on Contract**(a) **Manuals for Approval (DND Only)**

- i The Contractor *must* supply a set of manuals for each Configuration/model, in digital format, including the operator, parts and maintenance (shop repair) manuals. It is acceptable that manuals include more than one Configuration/model.
- ii The set of manuals *must* include manuals for all the specified accessories and features for the configuration/model. Accessory manuals may be included as supplements to the vehicle manuals.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv Digital copies *must* be supplied on a CD or DVD.
- v Digital copies *must* be supplied in a searchable PDF format.
- vi A separate CD/DVD *must* be supplied for each Configuration/ Make/ Model with all accessories.
- vii The CD or DVD *must* be permanently and legibly marked with a list of contents.
- viii Manuals will not be returned.
- ix Manual approval, request for additional documentation or request for amendments will be supplied within 15 working days of receipt.
- x The Contractor *must* supply the additional documentation or implement the changes as requested by the *Technical Authority*.
- xi Paper copies of manuals delivered under this contract *must* have the same content as the electronic format approved by the *Technical Authority*.

(b) **Photographs and Line Drawings (DND Only)**

- i The Contractor *must* supply two (2) digital colour photographs, one left-front three-quarter full vehicle view, and one right-rear three-quarter full vehicle view of each Configuration/model;
- ii One (1) digital colour photograph of each attachment taken at the three-quarter view that best illustrates the attachment *must* be supplied;
- iii One front-view and one side-view line drawing showing dimensions of the vehicle *must* be supplied. Brochure line drawings are acceptable;
- iv Photographs *must* an plain background;

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- v Photographs *must* be in a JPEG (Joint Photographic Experts Group) format; and
 - vi Photographs *must* have a resolution of at least eight (8) Mega pixels.
- (c) **Load Analysis Drawing (DND Only)**
- i The Contractor *must* provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and
 - ii The load analysis drawing *must* be in PDF format supplied on a CD or a DVD.
- (d) **Data Summary (DND Only)**
- i The Contractor *must* supply a bilingual data summary for each Configuration/model, with vehicle data (including accessories and features) and a vehicle picture, for each DND contract;
 - ii The **Technical Authority** will supply a bilingual template of a data summary to the Contractor;
 - iii The Contractor *must* submit a digital copy (MS Word) of the completed data summary for approval;
 - iv Data summary approval or comments will be supplied within 15 working days of receipt; and
 - v The Contractor *must* provide responses to the **Technical Authority**'s comments.
- (e) **Warranty Letter (All Users)**
- i The **Technical Authority** will supply a current bilingual warranty letter template to the Contractor;
 - ii The Contractor *must* supply a complete description of the warranty with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested;
 - iii The warranty letter *must* include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
 - iv The Contractor *must* supply a copy of the warranty letter, in PDF digital format, for each vehicle delivered, to the **Technical Authority** or the designated contact for non-DND users.
- (f) **Safety Data Sheets (DND Only)**
- i The Contractor *must* supply a list, in digital format, of all hazardous materials used on the vehicle;
 - ii If there are no hazardous materials are used, this *must* be stated on the list; and

- iii The Contractor *must* supply safety data sheets of all hazardous materials in the list.

4.1.2 **Items Supplied with Each Vehicle**

(a) **Operator's Manual(s)**

- i The Contractor *must* supply the *Technical Authority* approved bilingual operator's manual(s) in both paper and searchable PDF digital format with each vehicle delivered.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

(b) **Warranty Letter(s)** - The Contractor *must* supply a paper copy of the warranty letter(s) with each vehicle delivered;

(c) **Safety Data Sheets**

- i The Contractor *must* supply a set of material safety data sheets; and
- ii The safety data sheets *must* be the same as those supplied to the *Technical Authority* (paragraph 4.1.1 (f)).

(d) **Line Setting Ticket**

- i The Contractor *must* produce a Line Setting Ticket, or equivalent, describing the components provided on the semi-trailer.
- ii The Contractor *must* supply the *Technical Authority* a Line Setting Ticket in both paper and searchable PDF digital format with each vehicle delivered.
- iii Digital copies *must* be supplied on a CD or a DVD.
- iv Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

(e) **Maintenance Manual(s) - English**

- i The Contractor *must* supply the *Technical Authority* approved maintenance (shop repair) manual(s) in English, in paper as well as in searchable PDF digital format, required for the maintenance and repair of the vehicle, features and accessories.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv The Contractor may supply this deliverable as a bilingual package.

(f) **Maintenance Manual(s) – French**

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- i The Contractor *must* supply the *Technical Authority* approved maintenance (shop repair) manual(s) in French, in paper as well as in searchable PDF digital format, required for the maintenance and repair of the vehicle, features and accessories.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv The Contractor may supply this deliverable as a bilingual package.

(g) **Parts Manual(s)**

- i The Contractor *must* supply the *Technical Authority* approved parts manual(s) in paper and searchable digital format, for the vehicle, features and accessories.
- ii The parts manual(s) *must* be in English.
- iii Digital copies *must* be supplied on a CD or a DVD.
- iv Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- v It is desirable to provide the parts manual(s) in French in addition to the English version.

4.2 **Training**(a) **Training – Familiarization - English**

- i The Contractor *must* supply a familiarization course in English;
- ii The instructor *must* be an OEM Factory Certified Training Provider;
- iii The familiarization course *must* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use and maintenance of all accessories supplied;
- iv The instructor *must* supply responses to questions;
- v The familiarization course *must* have a minimum duration of two (2) hours;
- vi The familiarization course *must* accommodate up to eight (8) personnel;
- vii The familiarization course *must* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *must* be arranged with the **Technical Authority**, or the identified

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user or designated contact person for vehicles shipped for users other than DND;

- ix After completion of the familiarization course, the Contractor *must* have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.

(b) **Training – Familiarization - French**

- i The Contractor *must* supply a familiarization course in French;
- ii The instructor *must* be an OEM Factory Certified Training Provider;
- iii The familiarization course *must* include operation and maintenance segments demonstrating, all safety measures required for safe vehicle use, instructions on the use of all accessories supplied and maintenance;
- iv The instructor *must* supply responses to questions;
- v The familiarization course *must* have a minimum duration of two (2) hours;
- vi The familiarization course *must* accommodate up to eight (8) personnel;
- vii The familiarization course *must* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *must* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped for users other than DND;
- ix After completion of the familiarization course, the Contractor *must* have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.

ANNEX A4
PURCHASE DESCRIPTION
HEAVY DUTY TRAILERS
GROUP 4 - DOUBLE DROP TRAILER SYSTEM,
45 TONNES, WITH JEEP

2019-05-28



NOTICE

This documentation has been reviewed by the **Technical Authority** and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'**Autorité technique** et ne contient pas de marchandises contrôlées.

1. **SCOPE**

1.1 **Scope** - This Purchase Description defines the requirements for a variable height, double drop trailer system with a jeep and accessories. The trailer system will be used to transport heavy equipment and vehicles.

1.2 **Instructions** – The following instructions apply to this Purchase Description:

- (a) Requirements, which are identified by the word “*must*”, are mandatory. Deviations will not be permitted;
- (b) Requirements identified by “*must*”..... or “*equivalent*” are mandatory. The Technical Authority will consider substitutes/alternatives for acceptance as a Technical Authority approved equivalent;
- (c) Requirements identified with a “will” define actions to be performed by Canada and require no action/obligation on the Contractor’s part;
- (d) Where “*must*”, “*must*”..... or “*equivalent*”, or “will” are not used, the information provided is for guidance only;
- (e) In this document “provided” means “provided and installed”;
- (f) Where a standard is specified and the Contractor has offered an *equivalent*, that equivalent standard *must* be supplied by the Contractor, at no cost to Canada, when authorized by the **Technical Authority**;
- (g) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance *must* be provided for the semi-trailer when requested by the **Technical Authority** up until the date of the expiration of the warranty period;
- (h) While the SI system is used as the primary system of measurement to define requirements of this Purchase Description, both the SI system and the Standard system of measurements may be indicated. Conversions from one system of measurement to the other may not be exact; and
- (i) Dimensions stated as nominal are treated as approximate dimensions. Nominal dimensions reflect a method by which materials or products are generally identified for sale commercially, but which differ from the actual dimensions.

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1.3 **Definitions**

- (a) “**Provided**” means “provided and installed”;
- (b) “**Technical Authority**” means the official responsible for the technical content of this Purchase Description;
- (c) “**Equivalent**” means a standard, means, or component type, which the Technical Authority has approved for this requirement as meeting the specified requirements for fit, form, function and performance;
- (d) “**Commercially Equipped**” means that the semi-trailer is provided in its standard commercial configuration with no additional government-specified requirements;
- (e) “**Road Legal**” means the semi-trailer can be legally operated on all Canadian highways and secondary roads, without restrictions or special permits;
- (f) “**Curb Weight**” (CW) means the weight of the fully equipped semi-trailer. The curb weight includes all attached accessories and equipment. The Curb Weight does not include the Payload;
- (g) “**Payload**” means the maximum cargo load carrying capacity of the semi-trailer. The payload is the calculated difference between the Gross Vehicle Weight Rating and the Curb Weight;
- (h) “**Gross Axle Weight Rating**” (GAWR) means the gross axle weight rating, which is the maximum axle load allowed by the manufacturer for this application;
- (i) “**Gross Vehicle Weight Rating**” (GVWR) means the maximum operating weight of the semi-trailer as stated by manufacturer; and
- (j) “**Trailer System**” - The semi-trailer coupled to the jeep is referred to as the “trailer system” in this purchase description.

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1.4 **Data Table** - The following table shows the required performance and dimensions for the trailer system and includes paragraph references:

CHARACTERISTIC	PARA.	UNITS	
TRAILER SYSTEM CAPACITY	3.4.2	kg	45,000
SEMI-TRAILER LENGTH	3.5.1 (a)	mm	16,150
SEMI-TRAILER WIDTH	3.5.1 (b)	mm	2,590
SEMI-TRAILER KINGPIN OPERATING HEIGHT RANGE	3.5.1 (c)	mm	1,219 – 1,400
JEEP WIDTH	3.5.1 (e)	mm	2,590
JEEP KINGPIN HEIGHT	3.5.1 (f)	mm	1,245

1.4.1 **Accessory Table** - The following table indicates with an “X”, the accessories, additional items and training.

DESCRIPTION	PARA	
Container Locks	3.11.1	X
Hydraulic Winch	3.11.2	X
Maintenance Manual – English	4.1.2 (e)	X
Maintenance Manual – French	4.1.2 (f)	X
Parts Manual	4.1.2 (g)	X
Training – Familiarization – English	4.2 (a)	X
Training – Familiarization – French	4.2 (b)	X

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2. **APPLICABLE DOCUMENTS** - The following documents are referenced in this Purchase Description. Canada will not be supplying any reference documents. Available information on the organization is supplied.

SAE Standards

SAE World Headquarters
400 Commonwealth Dr.,
Warrendale, PA, 15096-0001
<http://www.sae.org>

Canada Motor Vehicle Safety Act (CMVSA)

Government of Canada / Transport Canada,
<http://www.tc.gc.ca/eng/acts-regulations/acts-1993c16.htm>

Federal Standard 595C

COLOURS USED IN GOVERNMENT PROCUREMENT
U.S. General Services Administration
<http://www.fed-std-595.com/FS-595-Paint-Spec.html>

3. REQUIREMENTS

3.1 Standard Design

- (a) The trailer system *must* be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of equipment for at least three (3) years;
- (b) The trailer system *must* include all components, equipment and accessories normally supplied for this application, although they may not be specifically described in this Purchase Description;
- (c) The trailer system *must* have engineering certification available, upon request, for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The trailer system *must* conform to all applicable laws, regulations and industrial standards in effect in Canada at the time of manufacture. The regulatory areas may include but are not necessarily limited to manufacturing, health and safety, noise levels, environment and emissions; and
- (e) The trailer system and accessories *must* operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

3.2 Operating Conditions

3.2.1 Weather

- (a) The trailer system *must* operate safely and effectively throughout a temperature range of -40° to 37° C, without degradation in performance, reliability and maintainability.

3.2.2 Terrain

- (a) The trailer system *must* operate safely and effectively on paved roads, gravel roads and dirt roads with severe washboard and pot holes, in all-weather conditions and with the stated payload, without degradation in performance, reliability and maintainability.

3.3 Safety Standards

3.3.1 Vehicle Safety Regulations

- (a) The trailer system *must* meet the provisions of the *Canada Motor Vehicle Safety Act*.

3.3.2 Hazardous Materials

- (a) The Contractor *must* minimize or eliminate the use of hazardous materials, ozone depleting substances, polychlorinated biphenyls, asbestos and heavy metals (as described in the Hazardous Products Act of Canada) when manufacturing the semi-trailer.

3.3.3 Safety Features

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- (a) The trailer system *must* be provided with the safety features such as warning and instruction plates, non-slip walking surfaces and heat shields where required for operator safety.

3.4 **Performance**

3.4.1 **Trailer Performance**

- (a) The trailer system *must* be towed safely at a continuous speed of at least 89 km/h with the stated payload.

3.4.2 **Load Performance**

- (a) The trailer system *must* carry a uniformly distributed load of at least that given as “**TRAILER SYSTEM CAPACITY**” in the Data Table (Paragraph 1.4).

3.4.3 **Operating Modes**

- (a) The trailer system *must* carry the stated payload while in the following modes:
- i Double Drop – Main deck of the semi-trailer is lower than the rear deck, payload is evenly distributed across main deck; and
 - ii Single Drop – Main deck is level with the rear deck, payload is evenly distributed across main and rear decks.
- (b) The semi-trailer *must* operate independently (without the jeep) when required and carry the stated payload.

3.5 **Trailer System Construction**

3.5.1 **Dimensions**

- (a) The semi-trailer *must* have a nominal overall length of that given as “**SEMI-TRAILER LENGTH**” in the Data Table (Paragraph 1.4);
- (b) The semi-trailer *must* have a nominal overall width of that given as “**SEMI-TRAILER WIDTH**” in the Data Table (Paragraph 1.4);
- (c) Each kingpin installed on the semi-trailer *must* have an operating height range of that given as “**SEMI-TRAILER KINGPIN OPERATING HEIGHT RANGE**” in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate;
- (d) The semi-trailer *must* have swing clearances suitable for the jeep and tri-axle tractors.
- (e) The jeep *must* have a nominal overall width of that given as “**JEEP WIDTH**” in the Data Table (Paragraph 1.4);
- (f) The jeep *must* operate with the kingpin at a nominal height of that given as “**JEEP KINGPIN HEIGHT**” in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate; and
- (g) The jeep *must* have a swing clearance suitable for dual-axle tractors.

3.5.2 **Kingpin**



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- (a) The trailer system *must* be provided with 51 mm (2 in) kingpins.

3.5.3 **Main Deck**

- (a) The semi-trailer *must* be provided with a main deck with a hydraulically adjustable deck height, allowing the semi-trailer to convert between Single Drop and Double Drop modes;
- (b) The main deck, when laden and in the highest transport position (Single Drop mode), *must* have a maximum deck height of 1,120 mm;
- (c) The main deck, when laden and in the lowest transport position (Double Drop mode), *must* have a maximum deck height of 660 mm;
- (d) The main deck, when laden and in the lowest transport position (Double Drop mode), *must* have a minimum deck ground clearance of 254 mm; and
- (e) The main deck *must* have a minimum length of 7,315 mm;

3.5.4 **Frame**

- (a) The semi-trailer *must* be provided with a frame that is reinforced for towing points.

3.5.5 **Decking Floor**

- (a) The semi-trailer *must* be provided with a full and continuous main and rear decks, with no openings; frame flanges are permitted to be part of the deck surface;
- (b) The main and rear deck floors *must* consist of replaceable wood planks of sufficient thickness to accommodate the load; checker plates are permitted to be part of the rear deck surface where required; and
- (c) The wood planks *must* be treated with Linseed oil or **equivalent** weather proofing treatment.

3.5.6 **Bridging Plates**

- (a) The semi-trailer *must* be provided with bridging plates located between the main deck and the rear deck to accommodate vehicles.

3.5.7 **Towing points**

- (a) The semi-trailer *must* be provided with two (2) rear-mounted towing points, positioned and of sufficient strength to permit recovery of the loaded semi-trailer.

3.5.8 **Railway tie-down points**

- (a) The semi-trailer *must* be provided with railway tie-down points, positioned and of sufficient strength to permit the securing and transportation of the loaded semi-trailer on a railroad car.

3.5.9 **Deck-mounted D-Rings**

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- (a) The semi-trailer *must* be provided with deck-mounted D-rings mounted on top of the main and rear decks, with a minimum rated capacity of 8,700 kg each;
- (b) The D-rings *must* be evenly spaced, with nine (9) D-rings located on each side of the main deck, and four (4) D-rings located on each side of the rear deck;
- (c) The deck-mounted D-ring points *must* be recessed and flush-mounted to the deck, with drain holes; and
- (d) The deck-mounted tie-down points *must* be as close as possible to the edge, with a maximum of 203 mm from the side of the semi-trailer.

3.5.10 **Side-mounted tie-down points**

- (a) The semi-trailer *must* be provided with tie-down points mounted to the side of the main and rear decks, with a minimum rated capacity of 8,700 kg each;
- (b) The tie-down points *must* be evenly spaced, with eight (8) tie-down points located on each side of the main deck, and four (4) tie-down points located on each side of the rear deck; and
- (c) The semi-trailer *must* be provided with two (2) tie-down points on the exterior rear frame, with one (1) tie-down point located near each corner, with a rating of at least 8,700 kg each.

3.5.11 **Gooseneck w/Jeep Adaptor**

- (a) The semi-trailer *must* be provided with a hydraulically operated, removable gooseneck;
- (b) The gooseneck *must* be provided with a cam and lever locking mechanism to lock the gooseneck at various heights, without pins;
- (c) The gooseneck main vertical locking pin and pin lock *must* be air operated, with the controls on the exterior left side of the gooseneck;
- (d) The gooseneck kingpin plate *must* have full surface contact on the towing tractor kingpin plate in all loading conditions;
- (e) The gooseneck *must* be provided with a hydraulic jeep adaptor;
- (f) **Support Arm (Stinger)**
 - i The gooseneck *must* be provided with a hydraulic support arm to support the gooseneck during loading/unloading procedures; and
 - ii The hydraulic support arm *must* eliminate gooseneck movement while the gooseneck is attached to the towing tractor only, and the tractor is in motion;

3.5.12 **Gooseneck-Mounted Tie-down points**

- (a) The semi-trailer *must* be provided with two (2) gooseneck-mounted tie-down points, one on each side, with a minimum rated capacity of 8,700 kg each.

3.5.13 **Front Loading Ramps**

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- (a) The semi-trailer *must* be provided with two (2) tapered front loading ramps, one (1) on each side of the front end of the main deck, to facilitate the loading/unloading of heavy equipment;
- (b) The front loading ramps *must* be the flip-down type, and hinged to the main deck;
- (c) The front loading ramps *must* be as wide as physically permissible;
- (d) The front loading ramps angle to the ground *must* be less than or equal to 30 degrees; and
- (e) The front loading ramps *must* be securely stowed when not in use.

3.5.14 **Side Extensions**

- (a) The semi-trailer *must* be provided with side extensions on both sides of the main deck;
- (b) The side extensions *must* cover the whole length of the main deck;
- (c) The side extensions *must* add a minimum width of 254 mm to each side of the main deck;
- (d) The side extensions *must* be covered with removable wood planks that are similar to the main deck;
- (e) The wood planking *must* be equal in length to the main deck;
- (f) The side extensions *must* have a total load capacity equivalent to the main deck area;
- (g) The side extensions *must* be provided with a device to secure them in place while being used; and
- (h) The side extension *must* be stowed away to a secured position and be flush or below the top surface of the main deck.

3.5.15 **Bushings/Pins**

- (a) The semi-trailer *must* be provided with replaceable and/or grease-able bushings at all pin and pivot holes; and
- (b) All pins *must* have grooved/spiralled surfaces to allow grease to encircle the pin and reach the end plate.

3.6 **Chassis and Auxiliary Systems**

3.6.1 **Axles**

- (a) The semi-trailer *must* be provided with a tri-axle configuration;
- (b) The jeep *must* be provided with a dual-axle configuration; and
- (c) The axles *must* be of appropriate capacity to carry the maximum payload specified in this document.

3.6.2 **Suspension**

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- (a) The semi-trailer *must* be provided with an air bag suspension system;
- (b) The jeep *must* be provided with an air bag suspension system;
- (c) Each suspension system *must* include an automatic height control valve;
- (d) Each suspension system *must* include a manual suspension air dump valve;
- (e) The suspension systems *must* include shock absorbers acting on all wheel stations;
- (f) Each suspension system *must* include an air gauge to assist the operator in determining system pressure; and
- (g) Each suspension system *must* have suspension travel limiters, such as cables or chains fastened to the suspension beam or axle and the under frame, at a length equal to or less than the shock absorber extended stroke; the use of the shock absorbers as travel limiters is not acceptable.

3.6.3 **Wheels and Tires**

- (a) The trailer system *must* be provided with dual wheels and tires certified by the manufacturer to be suitably sized and rated for the application and load;
- (b) The dual-wheel assemblies *must* be identical across the trailer system;
- (c) The trailer system *must* be provided with written indications of the operating tire pressure at each wheel station;
- (d) The wheels *must* be provided with loose wheel nut indicators at each wheel station;
- (e) The semi-trailer *must* be provided with a hub-odometer reading in kilometres; and
- (f) The jeep *must* be provided with a hub-odometer reading in kilometres.

3.6.4 **Brake System**

- (a) The trailer system *must* be provided with an anti-lock, air disc brake system;
- (b) The brake system *must* be provided with remote, cable operated drain valves on the air reservoirs, with heated moisture expelling valve(s);
- (c) Not used;
- (d) The trailer system *must* be provided with colour coded glad hand couplers for interconnection between the trailer system and the tractor; and
- (e) The trailer system *must* be provided with dummy glad hand coupler covers, including a safety chain/cable for each glad hand, to block and protect the air-lines when they are not in use.

3.6.5 **Landing Gear**

- (a) The jeep *must* be provided with a landing gear system; and



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- (b) The landing gear system *must* withstand the weight of the fully loaded trailer system when not connected to the tractor.

3.7 **Hydraulic System**

- (a) The semi-trailer *must* be provided with a hydraulic system that supplies hydraulic power for all the functions on the semi-trailer;
- (b) The hydraulic system controls *must* be located in an illuminated compartment on the roadside of the gooseneck;
- (c) The hydraulic system reservoir tank *must* be provided with an intake filter screen, an external fluid level indicator, and an inspection plate located on top of the tank;
- (d) The hydraulic system *must* be provided with two hydraulic filters, one for the pressure line and the other for the return line; and
- (e) The hydraulic system *must* be provided with wet kit connectors (supply and return lines) located at the front of the gooseneck to operate all hydraulic components of the semi-trailer.

3.8 **Auxiliary Engine System**

- (a) The semi-trailer *must* be provided with one (1) auxiliary engine system to power the hydraulic system;
- (b) The engine *must* operate on gasoline fuel;
- (c) The engine *must* be mounted on appropriate mounts to reduce vibration;
- (d) The engine *must* be enclosed in a compartment;
- (e) Engine controls and instrument gauges *must* be enclosed in a weatherproof compartment on the roadside of the gooseneck;
- (f) The engine oil pan *must* be provided with a magnetic drain plug;
- (g) The engine exhaust *must* be shielded to prevent inadvertent contact with heated surfaces and directed away from the semi-trailer;
- (h) The engine *must* be provided with a manual fuel shut-off valve;

(i) **Shut-Down Protection**

- i The engine system *must* be provided with an automatic low oil pressure shutdown device; and
- ii The engine system *must* be provided with an automatic high temperature shutdown device.

(j) **Battery**

- i The engine system *must* be provided with a maintenance-free battery; and
- ii The battery *must* be enclosed in a weatherproof compartment.



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(k) **Electrical System**

- i The engine system *must* have a keyless “stop/start” switch; and
- ii The engine system *must* be provided with an alternator that supports all operating loads and maintains the battery fully charged.

(l) **Fuel Tank**

- i The engine system *must* be provided with a fuel tank; and
- ii The fuel tank *must* be provided with a fuel gauge.

(m) **Instruments**

- i The engine system *must* be provided with an hour meter with integral back lighting;
- ii The engine system *must* be provided with a temperature gauge with integral back lighting;
- iii The engine system *must* be provided with an oil pressure gauge with integral back lighting; and
- iv The engine system *must* be provided with a voltmeter or ammeter with integral back lighting.

(n) **Filtration Systems**

- i The engine system *must* be provided with dry type air filter with replaceable element(s); and
- ii The engine system *must* be provided with spin-off replaceable oil and fuel filters.

(o) **Engine Compartment**

- i The engine compartment *must* be accessible while the semi-trailer is loaded;
- ii The engine compartment access door(s) *must* be mounted on hinges to allow the doors(s) to be swung open sideways or upwards;
- iii The door(s) *must* be provided with a positive means to remain open while the operator is working on the engine;
- iv The door(s) *must* be lockable;
- v The compartment *must* have louvers to allow air flow into the engine compartment; and
- vi The engine compartment *must* be provided with working lights.

3.9 **Electrical System**

- (a) The trailer system *must* be provided with a 12-volt negative ground electrical system;



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- (b) The electrical system *must* provide all power and control for the trailer system lighting and anti-lock brake system, while the trailer system is connected to the prime mover;
- (c) The electrical system *must* include a SAE J560 7-pin 12 volt semi-trailer receptacle, located in accordance with SAE J702;
- (d) The electrical system *must* include, as a minimum, electrical wiring used for the connection to the tractor vehicle intended for heavy-duty use, with positive engaging connectors, which are mounted securely to the system components;
- (e) Wiring *must* be protected by grommets when passing through metal;
- (f) The harnesses *must* be sealed harnesses and all connections treated with dielectric grease; and
- (g) All electrical components *must* be accessible for servicing.

3.10 **Lighting**

- (a) The trailer system *must* be provided with a lighting system conforming to CMVSS requirements;
- (b) The trailer system *must* be provided with LED body lighting;
- (c) Lights and reflectors *must* be recessed or otherwise protected from damage;
- (d) The semi-trailer *must* be provided with two (2) detachable amber strobe lights, one (1) at each rear corner of the flip axle structure, which activate when the trailer running lights are activated;
- (e) The semi-trailer *must* be provided with one (1) strobe light for the wide load sign, which activates when the trailer running lights are activated; and
- (f) The semi-trailer *must* be provided with wide load pull-out lights located at the front and rear corners of the semi-trailer.

3.11 **Miscellaneous Equipment**

3.11.1 **Dock Bumpers**

- (a) The semi-trailer *must* be provided with heavy-duty rubber dock bumpers at the rear corners, measuring nominally 102mm (4in) deep.

3.11.2 **Rear Bumper**

- (a) The semi-trailer *must* be provided with a rear bumper.

3.11.3 **Storage Compartments**

- (a) The semi-trailer *must* be provided with two (2) lockable storage compartments;
- (b) The compartments *must* be of sufficient size to accommodate spare straps, chains and fluids;
- (c) The compartment floors *must* be covered with a durable surface, such as DRI decking, to help keep contents dry;

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- (d) The compartment floors *must* be equipped with drain holes; and
- (e) The compartments *must* be located on top of the gooseneck.

3.11.4 **Spare Wheel Assemblies with Storage**

- (a) The semi-trailer *must* be provided with two (2) spare tire/wheel assemblies; and
- (b) The spare tire/wheel assemblies *must* be mounted on top of the gooseneck.

3.11.5 **Mud Flaps**

- (a) The trailer system *must* be provided with mud flaps located behind the rear axles of the semi-trailer and the jeep; and
- (b) The mud flaps *must* be made of plain black rubber with no logos displayed.

3.11.6 **License Plate Holder**

- (a) The trailer system *must* be provided with illuminated license plate holders located at the rear of the semi-trailer and the jeep.

3.11.7 **Conspicuity Tape**

- (a) The trailer system *must* be provided with conspicuity tape conforming to CMVSS requirements.

3.11.8 **Document Holder**

- (a) The semi-trailer *must* be provided with a document holder, located on the road side at the front.

3.11.9 **Identification Plate**

- (a) The trailer system *must* be provided with identification plates containing the following information as a minimum:
 - i Manufacturer, model, model year and serial number of the semi-trailer; and
 - ii GAWR and GVWR ratings;
- (b) The maximum payload capacity *must* be permanently and clearly marked in a location near the identification plate.

3.11.10 **Wide Load Sign**

- (a) The semi-trailer *must* be provided with one (1) wide load sign and placard holder located at the rear of the trailer.

3.11.11 **Flag Holders**

- (a) The semi-trailer *must* be provided with four (4) flag holders located at the front and rear corners of the semi-trailer.

3.12 **Accessories** The accessories listed in the following paragraphs *must* be provided with the semi-trailer when specified in the solicitation.

3.12.1 **Container Locks**

- (a) The semi-trailer **must** be provided with eight (8) retractable ISO locks, able to accommodate one (1) 12.2m ISO container (Class/Designation “1A” IAW ISO 668) or two (2) 6.1m ISO containers (Class/Designation “1C” IAW ISO 668);
- (b) The ISO locks **must** be flush with the deck surface when not in use; and
- (c) The ISO locks **must** be located such that the semi-trailer can accommodate ISO containers as follows:
 - i 1x 12.2 m ISO container in Single Drop mode;
 - ii 2x 6.1 m ISO containers in Single Drop mode; and
 - iii 1x 6.1 m ISO container in Double Drop mode.

3.12.2 **Hydraulic Winch**

- (a) The semi-trailer **must** be provided with a hydraulic winch to load vehicles onto the main deck;
- (b) The winch **must** be located on the trailer Goose-neck, with provisions provided to allow for winching from the rear of the trailer;
- (c) The winch first layer capacity **must** be a minimum of 13,608 kg;
- (d) The winch cable **must** have a minimum length of 35 m;
- (e) Not used;
- (f) The winch **must** be provided with an air-operated cable tensioner;
- (g) The winch **must** be provided with an air-operated winch free-wheel;
- (h) The winch **must** be provided with a remote control to operate the winch from a distance;
- (i) The winch **must** be provided with a four (4) roller fairlead; and
- (j) The winch **must** be provided with wet kit connectors nearby to operate the winch from an external source while the main deck is disconnected from the gooseneck.

3.13 **Paint and Corrosion Protection System**3.13.1 **Paint**

- (a) The trailer system **must** be painted in accordance with the manufacturer's best production procedures using standard commercial practices and materials, rendering a durable finish of the required film thickness and a smooth appearance free from runs, sags and orange peel;
- (b) **DND Users**
 - i The paint finish **must** be Olive Drab Green 34094 in accordance with FED STD 595C; and

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- ii Additional lettering and symbols on the outside of the trailer system *must* be flat black.

(c) Non-DND Users

- i The paint finish *must* be flat black; and
- ii Additional lettering and symbols on the outside of the trailer system *must* be high contrast colour.

3.13.2 Corrosion Protection System

(a) Galvanic Corrosion

- i The trailer system *must* be protected against galvanic corrosion where dissimilar metals are used.

(b) Rust Prevention Coating

- i The trailer system *must* be provided with a rust prevention coating to the underbody, in addition to the standard factory rustproofing;
- ii The rust prevention coating product applied *must* be Tectyl, Krown or Rust Check;
- iii A decal *must* be affixed to the semi-trailer displaying the type of rust prevention coating used; and
- iv Warranty papers covering the rust prevention coating *must* accompany the trailer system.

3.14 Warning and Instruction Plates

- (a) The warning and instruction plates *must* be within easy view of the user and in accordance with standard commercial practice;
- (b) The warning and instruction plates *must* be international symbols and/or bilingual (English and French) markings; and
- (c) Instruction plates *must* include engine operating instructions and any other special procedures for operating the trailer system.

3.15 Trailer System Delivery Condition

- (a) The trailer system *must* be delivered to destination in a fully operational condition (serviced and adjusted);
- (b) The trailer system *must* be completely cleaned; and
- (c) The trailer system *must* be serviced with standard lubricants and fluids that are compatible with the delivery location and season.

4. INTEGRATED LOGISTIC SUPPORT

4.1 Contractor Documentation and Logistic Items4.1.1 Documents to Technical Authority (Designated Contact) on Contract(a) Manuals for Approval (DND Only)

- i The Contractor *must* supply a set of manuals for each Configuration/model, in digital format, including the operator, parts and maintenance (shop repair) manuals. It is acceptable that manuals include more than one Configuration/model.
- ii The set of manuals *must* include manuals for all the specified accessories and features for the configuration/model. Accessory manuals may be included as supplements to the vehicle manuals.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv Digital copies *must* be supplied on a CD or DVD.
- v Digital copies *must* be supplied in a searchable PDF format.
- vi A separate CD/DVD *must* be supplied for each Configuration/ Make/ Model with all accessories.
- vii The CD or DVD *must* be permanently and legibly marked with a list of contents.
- viii Manuals will not be returned.
- ix Manual approval, request for additional documentation or request for amendments will be supplied within 15 working days of receipt.
- x The Contractor *must* supply the additional documentation or implement the changes as requested by the *Technical Authority*.
- xi Paper copies of manuals delivered under this contract *must* have the same content as the electronic format approved by the *Technical Authority*.

(b) Photographs and Line Drawings (DND Only)

- i The Contractor *must* supply two (2) digital colour photographs, one left-front three-quarter full vehicle view, and one right-rear three-quarter full vehicle view of each Configuration/model;
- ii One (1) digital colour photograph of each attachment taken at the three-quarter view that best illustrates the attachment *must* be supplied;
- iii One front-view and one side-view line drawing showing dimensions of the vehicle *must* be supplied. Brochure line drawings are acceptable;
- iv Photographs *must* an plain background;

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- v Photographs *must* be in a JPEG (Joint Photographic Experts Group) format; and
 - vi Photographs *must* have a resolution of at least eight (8) Mega pixels.
- (c) **Load Analysis Drawing (DND Only)**
- i The Contractor *must* provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and
 - ii The load analysis drawing *must* be in PDF format supplied on a CD or a DVD.
- (d) **Data Summary (DND Only)**
- i The Contractor *must* supply a bilingual data summary for each Configuration/model, with vehicle data (including accessories and features) and a vehicle picture, for each DND contract;
 - ii The **Technical Authority** will supply a bilingual template of a data summary to the Contractor;
 - iii The Contractor *must* submit a digital copy (MS Word) of the completed data summary for approval;
 - iv Data summary approval or comments will be supplied within 15 working days of receipt; and
 - v The Contractor *must* provide responses to the **Technical Authority's** comments.
- (e) **Warranty Letter (All Users)**
- i The **Technical Authority** will supply a current bilingual warranty letter template to the Contractor;
 - ii The Contractor *must* supply a complete description of the warranty with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested;
 - iii The warranty letter *must* include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
 - iv The Contractor *must* supply a copy of the warranty letter, in PDF digital format, for each vehicle delivered, to the **Technical Authority** or the designated contact for non-DND users.
- (f) **Safety Data Sheets (DND Only)**
- i The Contractor *must* supply a list, in digital format, of all hazardous materials used on the vehicle;
 - ii If there are no hazardous materials are used, this *must* be stated on the list; and

- iii The Contractor *must* supply safety data sheets of all hazardous materials in the list.

4.1.2 **Items Supplied with Each Vehicle**

(a) **Operator's Manual(s)**

- i The Contractor *must* supply the *Technical Authority* approved bilingual operator's manual(s) in both paper and searchable PDF digital format with each vehicle delivered.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

(b) **Warranty Letter(s)** - The Contractor *must* supply a paper copy of the warranty letter(s) with each vehicle delivered;

(c) **Safety Data Sheets**

- i The Contractor *must* supply a set of material safety data sheets; and
- ii The safety data sheets *must* be the same as those supplied to the **Technical Authority** (paragraph 4.1.1 (f)).

(d) **Line Setting Ticket**

- i The Contractor *must* produce a Line Setting Ticket, or equivalent, describing the components provided on the semi-trailer.
- ii The Contractor *must* supply the *Technical Authority* a Line Setting Ticket in both paper and searchable PDF digital format with each vehicle delivered.
- iii Digital copies *must* be supplied on a CD or a DVD.
- iv Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

(e) **Maintenance Manual(s) - English**

- i The Contractor *must* supply the *Technical Authority* approved maintenance (shop repair) manual(s) in English, in paper as well as in searchable PDF digital format, required for the maintenance and repair of the vehicle, features and accessories.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

- iv The Contractor may supply this deliverable as a bilingual package.

(f) **Maintenance Manual(s) – French**

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- i The Contractor *must* supply the *Technical Authority* approved maintenance (shop repair) manual(s) in French, in paper as well as in searchable PDF digital format, required for the maintenance and repair of the vehicle, features and accessories.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv The Contractor may supply this deliverable as a bilingual package.

(g) **Parts Manual(s)**

- i The Contractor *must* supply the *Technical Authority* approved parts manual(s) in paper and searchable digital format, for the vehicle, features and accessories.
- ii The parts manual(s) *must* be in English.
- iii Digital copies *must* be supplied on a CD or a DVD.
- iv Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- v It is desirable to provide the parts manual(s) in French in addition to the English version.

4.2 **Training**

(a) **Training – Familiarization - English**

- i The Contractor *must* supply a familiarization course in English;
- ii The instructor *must* be an OEM Factory Certified Training Provider;
- iii The familiarization course *must* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use and maintenance of all accessories supplied;
- iv The instructor *must* supply responses to questions;
- v The familiarization course *must* have a minimum duration of eight (8) hours;
- vi The familiarization course *must* accommodate up to eight (8) personnel;
- vii The familiarization course *must* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *must* be arranged with the **Technical Authority**, or the identified

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user or designated contact person for vehicles shipped for users other than DND;

- ix After completion of the familiarization course, the Contractor *must* have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.

(b) **Training – Familiarization - French**

- i The Contractor *must* supply a familiarization course in French;
- ii The instructor *must* be an OEM Factory Certified Training Provider;
- iii The familiarization course *must* include operation and maintenance segments demonstrating, all safety measures required for safe vehicle use, instructions on the use of all accessories supplied and maintenance;
- iv The instructor *must* supply responses to questions;
- v The familiarization course *must* have a minimum duration of eight (8) hours;
- vi The familiarization course *must* accommodate up to eight (8) personnel;
- vii The familiarization course *must* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *must* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped for users other than DND;
- ix After completion of the familiarization course, the Contractor *must* have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.

ANNEX A5
PURCHASE DESCRIPTION
HEAVY DUTY TRAILERS
GROUP 5 - SEMI-TRAILER, DOUBLE DROP

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NOTICE

This documentation has been reviewed by the **Technical Authority** and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'**Autorité technique** et ne contient pas de marchandises contrôlées.

1. SCOPE

1.1 **Scope** - This Purchase Description defines the requirements for a low bed semi-trailer with accessories. The semi-trailer will be used to transport heavy equipment, ISO containers and vehicles. Main configurations are as follows:

Configuration A – Double Drop, Variable Height, 35 Ton, payload, 53 ft

Configuration B – Double Drop, Ultra Low Deck, 35 Ton payload, 53 ft

1.2 **Instructions** – The following instructions apply to this Purchase Description:

- (a) Requirements, which are identified by the word “**must**”, are mandatory. Deviations will not be permitted;
- (b) Requirements identified by “**must**”..... or “**equivalent**” are mandatory. The Technical Authority will consider substitutes/alternatives for acceptance as a Technical Authority approved equivalent;
- (c) Requirements identified with a “will” define actions to be performed by Canada and require no action/obligation on the Contractor’s part;
- (d) Where “**must**”, “**must**”..... or “**equivalent**”, or “will” are not used, the information provided is for guidance only;
- (e) In this document “provided” means “provided and installed”;
- (f) Where a standard is specified and the Contractor has offered an **equivalent**, that equivalent standard **must** be supplied by the Contractor, at no cost to Canada, when authorized by the **Technical Authority**;
- (g) Where a technical certification is referred to in this Purchase Description, a copy of the certification or an acceptable Proof of Compliance **must** be provided for the semi-trailer when requested by the **Technical Authority** up until the date of the expiration of the warranty period;
- (h) While the SI system is used as the primary system of measurement to define requirements of this Purchase Description, both the SI system and the Standard system of measurements may be indicated. Conversions from one system of measurement to the other may not be exact; and

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- (i) Dimensions stated as nominal are treated as approximate dimensions. Nominal dimensions reflect a method by which materials or products are generally identified for sale commercially, but which differ from the actual dimensions.

1.3 **Definitions**

- (a) ***“Provided”*** means “provided and installed”;
- (b) ***“Technical Authority”*** means the official responsible for the technical content of this Purchase Description;
- (c) ***“Equivalent”*** means a standard, means, or component type, which the Technical Authority has approved for this requirement as meeting the specified requirements for fit, form, function and performance;
- (d) ***“Commercially Equipped”*** means that the semi-trailer is provided in its standard commercial configuration with no additional government-specified requirements;
- (e) ***“Road Legal”*** means the semi-trailer can be legally operated on all Canadian highways and secondary roads, without restrictions or special permits;
- (f) ***“Curb Weight”*** (CW) means the weight of the fully equipped semi-trailer. The curb weight includes all attached accessories and equipment. The Curb Weight does not include the Payload;
- (g) ***“Payload”*** means the maximum cargo load carrying capacity of the semi-trailer. The payload is the calculated difference between the Gross Vehicle Weight Rating and the Curb Weight;
- (h) ***“Gross Axle Weight Rating”*** (GAWR) means the gross axle weight rating, which is the maximum axle load allowed by the manufacturer for this application; and
- (i) ***“Gross Vehicle Weight Rating”*** (GVWR) means the maximum operating weight of the semi-trailer as stated by manufacturer.

1.4 **Data Table** - The following table shows the required performance and dimensions for each Configuration and includes paragraph references:

CHARACTERISTIC	PARA	UNITS	CONFIGURATION	
			A	B
TRAILER CAPACITY	3.4.2	kg	31,752	31,752
TRAILER LENGTH	3.4.4 (a)	mm	16,150	16,150
TRAILER WIDTH	3.4.4 (b)	mm	2,590	2,590
KINGPIN OPERATING HEIGHT RANGE	3.4.4 (c)	mm	1,219 – 1,400	1,219 – 1,400
MIN LWC	3.4.4 (d)	mm	2,700	2,060
AXLES CONFIGURATION	3.6.1	-	Tridem	Tandem + Flip axle

1.4.1 **Accessory Table** - The following table indicates with an “X” and by Configuration, the features, accessories, additional items and training.

DESCRIPTION	PARA	CONFIGURATION	
		A	B
Container Locks	3.10.1	X	
Hydraulic Winch	3.10.2	X	X
Wide Load Package	3.10.3	X	X
Maintenance Manual – English	4.1.2 (e)	X	X
Maintenance Manual – French	4.1.2 (f)	X	X
Parts Manual	4.1.2 (g)	X	X
Training – Familiarization – English	4.2 (a)	X	X
Training – Familiarization – French	4.2 (b)	X	X



2. APPLICABLE DOCUMENTS - The following documents are referenced in this Purchase Description. Canada will not be supplying any reference documents. Available information on the organization is supplied.

SAE Standards

SAE World Headquarters
400 Commonwealth Dr.,
Warrendale, PA, 15096-0001
<http://www.sae.org>

Canada Motor Vehicle Safety Act (CMVSA)

Government of Canada / Transport Canada,
<http://www.tc.gc.ca/eng/acts-regulations/acts-1993c16.htm>

Federal Standard 595C

COLOURS USED IN GOVERNMENT PROCUREMENT
U.S. General Services Administration
<http://www.fed-std-595.com/FS-595-Paint-Spec.html>

3. REQUIREMENTS

3.1 Standard Design

- (a) The semi-trailer **must** be the latest model from a manufacturer who has demonstrated acceptability by selling this type and size class of equipment for at least three (3) years;
- (b) The semi-trailer **must** include all components, equipment and accessories normally supplied for this application, although they may not be specifically described in this Purchase Description;
- (c) The semi-trailer **must** have engineering certification available, upon request, for this application from the original manufacturers of major equipment, systems and assemblies;
- (d) The semi-trailer **must** conform to all applicable laws, regulations and industrial standards in effect in Canada at the time of manufacture. The regulatory areas may include but are not necessarily limited to manufacturing, health and safety, noise levels, environment and emissions; and
- (e) The semi-trailer and accessories **must** operate in accordance with all original equipment manufacturers' (OEM) rated capacities and performance specifications.

3.2 Operating Conditions

3.2.1 Weather

- (a) The semi-trailer **must** operate safely and effectively throughout a temperature range of -40° to 37° C, without degradation in performance, reliability and maintainability.

3.2.2 Terrain

- (a) The semi-trailer **must** operate safely and effectively on paved roads, gravel roads and dirt roads with severe washboard and pot holes, in all-weather conditions and with the stated payload, without degradation in performance, reliability and maintainability.

3.3 Safety Standards

3.3.1 Vehicle Safety Regulations

- (a) The semi-trailer **must** meet the provisions of the *Canada Motor Vehicle Safety Act*.

3.3.2 Hazardous Materials

- (a) The Contractor **must** minimize or eliminate the use of hazardous materials, ozone depleting substances, polychlorinated biphenyls, asbestos and heavy metals (as described in the Hazardous Products Act of Canada) when manufacturing the semi-trailer.

3.3.3 Safety Features

- (a) The semi-trailer *must* be provided with the safety features such as warning and instruction plates, non-slip walking surfaces and heat shields where required for operator safety.

3.4 **Performance**

3.4.1 **Trailer Performance**

- (a) The semi-trailer *must* be towed safely at a continuous speed of at least 89 km/h with the stated payload.

3.4.2 **Load Performance**

- (a) The semi-trailer *must* carry a uniformly distributed load of at least that given as “**TRAILER CAPACITY**” in the Data Table (Paragraph 1.4).

3.4.3 **Operating Modes** - The semi-trailer *must* carry stated payload while in the following modes:

3.4.3.1 **Configuration A**

- (a) Double Drop – Main deck is lower than the rear deck, payload is evenly distributed across main deck; and
- (b) Single Drop – Main deck is level with the rear deck, payload is evenly distributed across main and rear decks.

3.4.3.2 **Configuration B**

- (a) Flip axle stowed – Reduced payload evenly distributed across main deck; and
- (b) Flip axle deployed – Payload evenly distributed across main deck.

3.4.4 **Dimensions**

- (a) The semi-trailer *must* have a nominal overall length of that given as “**TRAILER LENGTH**” in the Data Table (Paragraph 1.4);
- (b) The semi-trailer *must* have a nominal overall width of that given as “**TRAILER WIDTH**” in the Data Table (Paragraph 1.4);
- (c) The semi-trailer *must* operate with the kingpin at a height range of that given as “**KINGPIN OPERATING HEIGHT RANGE**” in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate; and
- (d) The semi-trailer *must* have a minimum landing wheel clearance from kingpin (LWC) of that given as “**MIN LWC**” in the Data Table (Paragraph 1.4).

3.5 **Semi-Trailer Construction**

3.5.1 **Kingpin**

- (a) The semi-trailer *must* be provided with a 51 mm (2 in) kingpin.

3.5.2 **Main Deck**

3.5.2.1 **Configuration A**

- (a) The semi-trailer **must** be provided with a main deck with a hydraulically adjustable deck height, allowing the semi-trailer to convert between Single Drop and Double Drop modes;
- (b) The main deck, when laden and in the highest transport position (Single Drop mode), **must** have a maximum deck height of 1,120 mm;
- (c) The main deck, when laden and in the lowest transport position (Double Drop mode), **must** have a maximum deck height of 660 mm;
- (d) The main deck, when laden and in the lowest transport position (Double Drop mode), **must** have a minimum deck ground clearance of 254 mm; and
- (e) The main deck **must** have a minimum length of 7,315 mm.

3.5.2.2 Configuration B

- (a) The main deck, when laden, **must** have a maximum deck height of 508 mm;
- (b) The main deck, when laden, **must** have a minimum deck ground clearance of 152 mm; and
- (c) The main deck **must** have a minimum length of 10,668 mm.

3.5.3 Frame

- (a) The semi-trailer **must** be provided with a frame that is reinforced for towing points.

3.5.4 Decking Floor

3.5.4.1 Configuration A

- (a) The semi-trailer **must** be provided with a full and continuous main and rear decks, with no openings; frame flanges are permitted to be part of the deck surface;
- (b) The main and rear deck floors **must** consist of replaceable wood planks of sufficient thickness to accommodate the load; checker plates are permitted to be part of the rear deck surface where required; and
- (c) The wood planks **must** be treated with Linseed oil or **equivalent** weather proofing treatment.

3.5.4.2 Configuration B

- (a) The semi-trailer **must** be provided with a full and continuous main deck, with no openings; frame flanges are permitted to be part of the deck surface;
- (b) The main deck floor **must** consist of replaceable wood planks of sufficient thickness to accommodate the load; and
- (c) The wood planks **must** be treated with Linseed oil or **equivalent** weather proofing treatment.

3.5.5 Bridging Plates

3.5.5.1 Configuration A



- (a) The semi-trailer **must** be provided with bridging plates located between the main deck and the rear deck to accommodate vehicles.

3.5.6 **Towing points**

- (a) The semi-trailer **must** be provided with two (2) rear-mounted towing points, positioned and of sufficient strength to permit recovery of the loaded semi-trailer.

3.5.7 **Railway tie-down points**

- (a) The semi-trailer **must** be provided with railway tie-down points, positioned and of sufficient strength to permit the securing and transportation of the loaded semi-trailer on a railroad car.

3.5.8 **Deck-mounted D-Rings**

3.5.8.1 **Configuration A**

- (a) The semi-trailer **must** be provided with deck-mounted D-rings mounted on top of the main and rear decks, with a minimum rated capacity of 8,700 kg each;
- (b) The D-rings **must** be evenly spaced, with nine (9) D-rings located on each side of the main deck, and four (4) D-rings located on each side of the rear deck;
- (c) The deck-mounted D-rings points **must** be recessed and flush-mounted to the deck, with drain holes; and
- (d) The deck-mounted tie-down points **must** be as close as possible to the edge, with a maximum of 203 mm from the side of the semi-trailer.

3.5.8.2 **Configuration B**

- (a) The semi-trailer **must** be provided with deck-mounted D-rings mounted on top of the main deck, with a minimum rated capacity of 8,700 kg each;
- (b) The D-rings **must** be evenly spaced, with nine (9) D-rings located on each side of the main deck;
- (c) The deck-mounted D-rings points **must** be recessed and flush-mounted to the main deck, with drain holes; and
- (d) The deck-mounted tie-down points **must** be as close as possible to the edge, with a maximum of 203 mm from the side of the semi-trailer.

3.5.9 **Side-mounted tie-down points**

3.5.9.1 **Configuration A**

- (a) The semi-trailer **must** be provided with tie-down points mounted to the side of the main and rear decks, with a minimum rated capacity of 8,700 kg each;
- (b) The tie-down points **must** be evenly spaced, with eight (8) tie-down points located on each side of the main deck, and four (4) tie-down points located on each side of the rear deck; and

- (c) The semi-trailer **must** be provided with two (2) tie-down points on the exterior rear frame, with one (1) tie-down point located near each corner, with a rating of at least 8,700 kg each.

3.5.9.2 Configuration B

- (a) The semi-trailer **must** be provided with tie-down points mounted to the side of the main and rear decks, with a minimum rated capacity of 8,700 kg each;
- (b) The tie-down points **must** be evenly spaced, with ten (10) tie-down points located on each side of the main deck, and four (2) tie-down points located on each side of the rear deck; and
- (c) The semi-trailer **must** be provided with two (2) tie-down points on the exterior rear frame, with one (1) tie-down point located near each corner, with a rating of at least 8,700 kg each.

3.5.10 Gooseneck

- (a) The semi-trailer **must** be provided with a hydraulically operated, removable gooseneck;
- (b) The gooseneck **must** be provided with a cam and lever locking mechanism to lock the gooseneck at various heights, without pins;
- (c) The gooseneck main vertical locking pin and pin lock **must** be air operated, with the controls on the exterior left side of the gooseneck;
- (d) The gooseneck kingpin plate **must** have full surface contact on the towing tractor kingpin plate in all loading conditions;
- (e) Support Arm (Stinger)
 - i The gooseneck **must** be provided with a hydraulic support arm to support the gooseneck during loading/unloading procedures; and
 - ii The hydraulic support arm **must** eliminate gooseneck movement while the gooseneck is attached to the towing tractor only, and the tractor is in motion;

3.5.11 Gooseneck-Mounted Tie-down points

- (a) The semi-trailer **must** be provided with two (2) gooseneck-mounted tie-down points, one on each side, with a minimum rated capacity of 8,700 kg each.

3.5.12 Front Loading Ramps

- (a) The semi-trailer **must** be provided with two (2) tapered front loading ramps, one (1) on each side of the front end of the main deck, to facilitate the loading/unloading of heavy equipment;
- (b) The front loading ramps **must** be the flip-down type, and hinged to the main deck;
- (c) The front loading ramps **must** be as wide as physically permissible;

- (d) The front loading ramps angle to the ground *must* be less than or equal to 30 degrees; and
- (e) The front loading ramps *must* be securely stowed when not in use.

3.5.13 Bushings/Pins

- (a) The semi-trailer *must* be provided with replaceable and/or grease-able bushings at all pin and pivot holes; and
- (b) All pins *must* have grooved/spiralled surfaces to allow grease to encircle the pin and reach the end plate.

3.6 Chassis and Auxiliary Systems

3.6.1 Axles

3.6.1.1 All Configurations

- (a) The semi-trailer *must* be provided with the axle configuration as specified as “AXLES CONFIGURATION” in the Data Table (Paragraph 1.4); and
- (b) The axles *must* be of appropriate capacity to carry the maximum payload specified in this document.

3.6.1.2 Configuration B

- (a) The semi-trailer *must* be provided with a flip axle;
- (b) The flip axle *must* be attached to the rear of the semi-trailer and stowed above the main axles when not in use; and
- (c) The flip axle *must* be operated by the hydraulic system of the semi-trailer to deploy it and stow it away.

3.6.2 Suspension

- (a) The semi-trailer *must* be provided with an air bag suspension system;
- (b) The suspension system *must* include an automatic height control valve;
- (c) The suspension system *must* include a manual suspension air dump valve;
- (d) The suspension system *must* include shock absorbers acting on all wheel stations;
- (e) The suspension system *must* include an air gauge to assist the operator in determining system pressure; and
- (f) The suspension system *must* have suspension travel limiters, such as cables or chains fastened to the suspension beam or axle and the under frame, at a length equal to or less than the shock absorber extended stroke; the use of the shock absorbers as travel limiters is not acceptable.

3.6.3 Wheels and Tires

- (a) The semi-trailer *must* be provided with dual wheels and tires certified by the manufacturer to be suitably sized and rated for the application and load;

- (b) The dual-wheel assemblies *must* be identical across the trailer system;
- (c) The semi-trailer *must* be provided with written indications of the operating tire pressure at each wheel station;
- (d) The wheels *must* be provided with loose wheel nut indicators at each wheel station; and
- (e) The semi-trailer *must* be provided with a hub-odometer reading in kilometres.

3.6.4 Brake System

- (a) The semi-trailer *must* be provided with an anti-lock, air disc brake system;
- (b) The brake system *must* be provided with remote, cable operated drain valves on the air reservoirs, with heated moisture expelling valve(s);
- (c) Not used;
- (d) The semi-trailer *must* be provided with colour coded glad hand couplers for interconnection between semi-trailer and tractor; and
- (e) The semi-trailer *must* be provided with dummy glad hand coupler covers, including a safety chain/cable for each glad hand, to block and protect the air-lines when they are not in use.

3.7 Hydraulic System

- (a) The semi-trailer *must* be provided with a hydraulic system that supplies hydraulic power for all the functions on the semi-trailer;
- (b) The hydraulic system controls *must* be located in an illuminated compartment on the roadside of the gooseneck;
- (c) The hydraulic system reservoir tank *must* be provided with an intake filter screen, an external fluid level indicator, and an inspection plate located on top of the tank;
- (d) The hydraulic system *must* be provided with two hydraulic filters, one for the pressure line and the other for the return line; and
- (e) The hydraulic system *must* be provided with wet kit connectors (supply and return lines) located at the front of the gooseneck to operate all hydraulic components of the semi-trailer.

3.8 Auxiliary Engine System

- (a) The semi-trailer *must* be provided with one (1) auxiliary engine system to power the hydraulic system;
- (b) The engine *must* operate on gasoline fuel;
- (c) The engine *must* be mounted on appropriate mounts to reduce vibration;
- (d) The engine *must* be enclosed in a compartment;
- (e) Engine controls and instrument gauges *must* be enclosed in a weatherproof compartment on the roadside of the gooseneck;

- (f) The engine oil pan *must* be provided with a magnetic drain plug;
- (g) The engine exhaust *must* be shielded to prevent inadvertent contact with heated surfaces and directed away from the semi-trailer;
- (h) The engine *must* be provided with a manual fuel shut-off valve;
- (i) **Shut-Down Protection**
 - i The engine system *must* be provided with an automatic low oil pressure shutdown device; and
 - ii The engine system *must* be provided with an automatic high temperature shutdown device.
- (j) **Battery**
 - i The engine system *must* be provided with a maintenance-free battery; and
 - ii The battery *must* be enclosed in a weatherproof compartment.
- (k) **Electrical System**
 - i The engine system *must* have a keyless “stop/start” switch; and
 - ii The engine system *must* be provided with an alternator that supports all operating loads and maintains the battery fully charged.
- (l) **Fuel Tank**
 - i The engine system *must* be provided with a fuel tank; and
 - ii The fuel tank *must* be provided with a fuel gauge.
- (m) **Instruments**
 - i The engine system *must* be provided with an hour meter with integral back lighting;
 - ii The engine system *must* be provided with a temperature gauge with integral back lighting;
 - iii The engine system *must* be provided with an oil pressure gauge with integral back lighting; and
 - iv The engine system *must* be provided with a voltmeter or ammeter with integral back lighting.
- (n) **Filtration Systems**
 - i The engine system *must* be provided with dry type air filter with replaceable element(s); and
 - ii The engine system *must* be provided with spin-off replaceable oil and fuel filters.
- (o) **Engine Compartment**



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- i The engine compartment *must* be accessible while the semi-trailer is loaded;
- ii The engine compartment access door(s) *must* be mounted on hinges to allow the doors(s) to be swung open sideways or upwards;
- iii The door(s) *must* be provided with a positive means to remain open while the operator is working on the engine;
- iv The door(s) *must* be lockable;
- v The compartment *must* have louvers to allow air flow into the engine compartment; and
- vi The engine compartment *must* be provided with working lights.

3.9 **Electrical System**

- (a) The semi-trailer *must* be provided with a 12 volt negative ground electrical system;
- (b) The electrical system *must* provide all power and control for the semi-trailer lighting and anti-lock brake system, while the semi-trailer is connected to the prime mover;
- (c) The electrical system *must* include a SAE J560 7-pin 12 volt semi-trailer receptacle, located in accordance with SAE J702;
- (d) The electrical system *must* include, as a minimum, electrical wiring used for the connection to the tractor vehicle intended for heavy-duty use, with positive engaging connectors, which are mounted securely to the system components;
- (e) Wiring *must* be protected by grommets when passing through metal;
- (f) The harnesses *must* be sealed harnesses and all connections treated with dielectric grease; and
- (g) All electrical components *must* be accessible for servicing.

3.10 **Lighting**

- (a) The semi-trailer *must* be provided with a lighting system conforming to CMVSS requirements;
- (b) The semi-trailer *must* be provided with LED body lighting;
- (c) Lights and reflectors *must* be recessed or otherwise protected from damage; and
- (d) The semi-trailer *must* be provided with two (2) detachable amber strobe lights, one (1) at each rear corner, which activate when the trailer running lights are activated.

3.11 **Miscellaneous Equipment**

3.11.1 **Dock Bumpers**



- (a) The semi-trailer *must* be provided with heavy-duty rubber dock bumpers at the rear corners, measuring nominally 102mm (4 in) deep.

3.11.2 **Rear Bumper**

- (a) The semi-trailer *must* be provided with a rear bumper.

3.11.3 **Storage Compartments**

- (a) The semi-trailer *must* be provided with two (2) lockable storage compartments;
- (b) The compartments *must* be of sufficient size to accommodate spare straps, chains and fluids;
- (c) The compartment floors *must* be covered with a durable surface, such as DRI decking, to help keep contents dry;
- (d) The compartment floors *must* be equipped with drain holes; and
- (e) The compartments *must* be located on top of the gooseneck.

3.11.4 **Spare Wheel Assemblies with Storage**

- (a) The semi-trailer *must* be provided with two (2) spare tire/wheel assemblies; and
- (b) The spare tire/wheel assemblies *must* be mounted on top of the gooseneck.

3.11.5 **Mud Flaps**

- (a) The semi-trailer *must* be provided with mud flaps located behind the rear axle; and
- (b) The mud flaps *must* be made of plain black rubber with no logos displayed.

3.11.6 **License Plate Holder**

- (a) The semi-trailer *must* be provided with an illuminated license plate holder located at the rear.

3.11.7 **Conspicuity Tape**

- (a) The semi-trailer *must* be provided with conspicuity tape conforming to CMVSS requirements.

3.11.8 **Document Holder**

- (a) The semi-trailer *must* be provided with a document holder, located on the road side at the front.

3.11.9 **Identification Plate**

- (a) The semi-trailer *must* be provided with an identification plate containing the following information as a minimum:
 - i Manufacturer, model, model year and serial number of the semi-trailer; and
 - ii GAWR and GVWR ratings;

- (b) The maximum payload capacity *must* be permanently and clearly marked in a location near the identification plate.

3.12 **Accessories** The accessories listed in the following paragraphs *must* be provided with the semi-trailer when specified in the solicitation.

3.12.1 **Container Locks**

3.12.1.1 **Configuration A**

- (a) The semi-trailer *must* be provided with eight (8) retractable ISO locks, able to accommodate one (1) 12.2m ISO container (Class/Designation “1A” IAW ISO 668) or two (2) 6.1m ISO containers (Class/Designation “1C” IAW ISO 668);
- (b) The ISO locks *must* be flush with the deck surface when not in use; and
- (c) The ISO locks *must* be located such that the semi-trailer can accommodate ISO containers as follows:
 - i 1x 12.2 m ISO container in Single Drop mode;
 - ii 2x 6.1 m ISO containers in Single Drop mode; and
 - iii 1x 6.1 m ISO container in Double Drop mode.

3.12.2 **Hydraulic Winch**

- (a) The semi-trailer *must* be provided with a hydraulic winch to load vehicles onto the main deck;
- (b) The winch *must* be located on the trailer Goose-neck, with provisions provided to allow for winching from the rear of the trailer;
- (c) The winch first layer capacity *must* be a minimum of 13,608 kg;
- (d) The winch cable *must* have a minimum length of 35 m;
- (e) Not used;
- (f) The winch *must* be provided with an air-operated cable tensioner;
- (g) The winch *must* be provided with an air-operated winch free-wheel;
- (h) The winch *must* be provided with a remote control to operate the winch from a distance;
- (i) The winch *must* be provided with a four (4) roller fairlead; and
- (j) The winch *must* be provided with wet kit connectors nearby to operate the winch from an external source while the main deck is disconnected from the gooseneck.

3.12.3 **Wide Load Package**

(a) **Side Extensions**

- i The semi-trailer *must* be provided with side extensions on both sides of the main deck;
- ii The side extensions *must* cover the whole length of the main deck;

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- iii The side extensions *must* add a minimum width of 254 mm to each side of the main deck;
- iv The side extensions *must* be covered with removable wood planks that are similar to the main deck;
- v The wood planking *must* be equal in length to the main deck;
- vi The side extensions *must* have a total load capacity equivalent to the main deck area;
- vii The side extensions *must* be provided with a device to secure them in place while being used; and
- viii The side extension *must* be stowed away to a secured position and be flush or below the top surface of the main deck.

(b) Wide Load Sign

- i The semi-trailer *must* be provided with one (1) wide load sign and placard holder located at the rear of the trailer.

(c) Flag Holders

- i The semi-trailer *must* be provided with four (4) flag holders located at the front and rear corners of the semi-trailer.

(d) Lighting

- i The semi-trailer *must* be provided with one (1) strobe light for the wide load sign, which activates when the trailer running lights are activated; and
- ii The semi-trailer *must* be provided with wide load pull-out lights located at the front and rear corners of the semi-trailer.

3.13 **Paint and Corrosion Protection System**

3.13.1 **Paint**

- (a) The semi-trailer *must* be painted in accordance with the manufacturer's best production procedures using standard commercial practices and materials, rendering a durable finish of the required film thickness and a smooth appearance free from runs, sags and orange peel;

(b) DND Users

- i The paint finish *must* be Olive Drab Green 34094 in accordance with FED STD 595C; and
- ii Additional lettering and symbols on the outside of the semi-trailer *must* be flat black.

(c) Non-DND Users

- i The paint finish *must* be flat black; and

- ii Additional lettering and symbols on the outside of the semi-trailer *must* be high contrast colour.

3.13.2 Corrosion Protection System

(a) Galvanic Corrosion

- i The semi-trailer *must* be protected against galvanic corrosion where dissimilar metals are used.

(b) Rust Prevention Coating

- i The semi-trailer *must* be provided with a rust prevention coating to the underbody, in addition to the standard factory rustproofing;
- ii The rust prevention coating product applied *must* be Tectyl, Krown or Rust Check;
- iii A decal *must* be affixed to the semi-trailer displaying the type of rust prevention coating used; and
- iv Warranty papers covering the rust prevention coating *must* accompany the semi-trailer.

3.14 Warning and Instruction Plates

- (a) The warning and instruction plates *must* be within easy view of the user and in accordance with standard commercial practice;
- (b) The warning and instruction plates *must* be international symbols and/or bilingual (English and French) markings; and
- (c) Instruction plates *must* include engine operating instructions and any other special procedures for operating the semi-trailer.

3.15 Semi-Trailer Delivery Condition

- (a) The semi-trailer *must* be delivered to destination in a fully operational condition (serviced and adjusted);
- (b) The semi-trailer *must* be completely cleaned; and
- (c) The semi-trailer *must* be serviced with standard lubricants and fluids that are compatible with the delivery location and season.

4. **INTEGRATED LOGISTIC SUPPORT**4.1 **Contractor Documentation and Logistic Items**4.1.1 **Documents to Technical Authority (Designated Contact) on Contract**(a) **Manuals for Approval (DND Only)**

- i The Contractor *must* supply a set of manuals for each Configuration/model, in digital format, including the operator, parts and maintenance (shop repair) manuals. It is acceptable that manuals include more than one Configuration/model.
- ii The set of manuals *must* include manuals for all the specified accessories and features for the configuration/model. Accessory manuals may be included as supplements to the vehicle manuals.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv Digital copies *must* be supplied on a CD or DVD.
- v Digital copies *must* be supplied in a searchable PDF format.
- vi A separate CD/DVD *must* be supplied for each Configuration/ Make/ Model with all accessories.
- vii The CD or DVD *must* be permanently and legibly marked with a list of contents.
- viii Manuals will not be returned.
- ix Manual approval, request for additional documentation or request for amendments will be supplied within 15 working days of receipt.
- x The Contractor *must* supply the additional documentation or implement the changes as requested by the *Technical Authority*.
- xi Paper copies of manuals delivered under this contract *must* have the same content as the electronic format approved by the *Technical Authority*.

(b) **Photographs and Line Drawings (DND Only)**

- i The Contractor *must* supply two (2) digital colour photographs, one left-front three-quarter full vehicle view, and one right-rear three-quarter full vehicle view of each Configuration/model;
- ii One (1) digital colour photograph of each attachment taken at the three-quarter view that best illustrates the attachment *must* be supplied;
- iii One front-view and one side-view line drawing showing dimensions of the vehicle *must* be supplied. Brochure line drawings are acceptable;
- iv Photographs *must* an plain background;

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- v Photographs *must* be in a JPEG (Joint Photographic Experts Group) format; and
 - vi Photographs *must* have a resolution of at least eight (8) Mega pixels.
- (c) **Load Analysis Drawing (DND Only)**
- i The Contractor *must* provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and
 - ii The load analysis drawing *must* be in PDF format supplied on a CD or a DVD.
- (d) **Data Summary (DND Only)**
- i The Contractor *must* supply a bilingual data summary for each Configuration/model, with vehicle data (including accessories and features) and a vehicle picture, for each DND contract;
 - ii The **Technical Authority** will supply a bilingual template of a data summary to the Contractor;
 - iii The Contractor *must* submit a digital copy (MS Word) of the completed data summary for approval;
 - iv Data summary approval or comments will be supplied within 15 working days of receipt; and
 - v The Contractor *must* provide responses to the **Technical Authority**'s comments.
- (e) **Warranty Letter (All Users)**
- i The **Technical Authority** will supply a current bilingual warranty letter template to the Contractor;
 - ii The Contractor *must* supply a complete description of the warranty with the requested warranty terms and any system or sub system warranty that exceeds the minimum requested;
 - iii The warranty letter *must* include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
 - iv The Contractor *must* supply a copy of the warranty letter, in PDF digital format, for each vehicle delivered, to the **Technical Authority** or the designated contact for non-DND users.
- (f) **Safety Data Sheets (DND Only)**
- i The Contractor *must* supply a list, in digital format, of all hazardous materials used on the vehicle;
 - ii If there are no hazardous materials are used, this *must* be stated on the list; and

- iii The Contractor *must* supply safety data sheets of all hazardous materials in the list.

4.1.2 **Items Supplied with Each Vehicle**

(a) **Operator's Manual(s)**

- i The Contractor *must* supply the *Technical Authority* approved bilingual operator's manual(s) in both paper and searchable PDF digital format with each vehicle delivered.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

(b) **Warranty Letter(s)** - The Contractor *must* supply a paper copy of the warranty letter(s) with each vehicle delivered;

(c) **Safety Data Sheets**

- i The Contractor *must* supply a set of material safety data sheets; and
- ii The safety data sheets *must* be the same as those supplied to the *Technical Authority* (paragraph 4.1.1 (f)).

(d) **Line Setting Ticket**

- i The Contractor *must* produce a Line Setting Ticket, or equivalent, describing the components provided on the semi-trailer.
- ii The Contractor *must* supply the *Technical Authority* a Line Setting Ticket in both paper and searchable PDF digital format with each vehicle delivered.
- iii Digital copies *must* be supplied on a CD or a DVD.
- iv Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.

(e) **Maintenance Manual(s) - English**

- i The Contractor *must* supply the *Technical Authority* approved maintenance (shop repair) manual(s) in English, in paper as well as in searchable PDF digital format, required for the maintenance and repair of the vehicle, features and accessories.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv The Contractor may supply this deliverable as a bilingual package.

(f) **Maintenance Manual(s) – French**

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- i The Contractor *must* supply the *Technical Authority* approved maintenance (shop repair) manual(s) in French, in paper as well as in searchable PDF digital format, required for the maintenance and repair of the vehicle, features and accessories.
- ii Digital copies *must* be supplied on a CD or a DVD.
- iii Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- iv The Contractor may supply this deliverable as a bilingual package.

(g) **Parts Manual(s)**

- i The Contractor *must* supply the *Technical Authority* approved parts manual(s) in paper and searchable digital format, for the vehicle, features and accessories.
- ii The parts manual(s) *must* be in English.
- iii Digital copies *must* be supplied on a CD or a DVD.
- iv Digital copies *must* be functional without the requirement for a password, an auto-run installation procedure or an Internet connection.
- v It is desirable to provide the parts manual(s) in French in addition to the English version.

4.2 **Training**

(a) **Training – Familiarization - English**

- i The Contractor *must* supply a familiarization course in English;
- ii The instructor *must* be an OEM Factory Certified Training Provider;
- iii The familiarization course *must* include operation and maintenance segments demonstrating all safety measures required for safe vehicle use, instructions on the use and maintenance of all accessories supplied;
- iv The instructor *must* supply responses to questions;
- v The familiarization course *must* have a minimum duration of eight (8) hours;
- vi The familiarization course *must* accommodate up to eight (8) personnel;
- vii The familiarization course *must* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *must* be arranged with the **Technical Authority**, or the identified

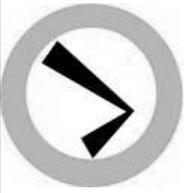
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user or designated contact person for vehicles shipped for users other than DND;

- ix After completion of the familiarization course, the Contractor *must* have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.

(b) **Training – Familiarization - French**

- i The Contractor *must* supply a familiarization course in French;
- ii The instructor *must* be an OEM Factory Certified Training Provider;
- iii The familiarization course *must* include operation and maintenance segments demonstrating, all safety measures required for safe vehicle use, instructions on the use of all accessories supplied and maintenance;
- iv The instructor *must* supply responses to questions;
- v The familiarization course *must* have a minimum duration of eight (8) hours;
- vi The familiarization course *must* accommodate up to eight (8) personnel;
- vii The familiarization course *must* be supplied at the delivery destination;
- viii For vehicles shipped to DND, the date for the familiarization course *must* be arranged with the **Technical Authority**, or the identified user or designated contact person for vehicles shipped for users other than DND;
- ix After completion of the familiarization course, the Contractor *must* have the “**PROOF OF FAMILIARIZATION**” certificate signed by the senior course attendee; and
- x The **Technical Authority** will supply the “**PROOF OF FAMILIARIZATION**” document template in a digital format.



NOTICE

This documentation has been reviewed by the Technical Authority and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'Autorité technique et ne contient pas de marchandises contrôlées.

ANNEX B1
TECHNICAL INFORMATION QUESTIONNAIRE
HEAVY DUTY TRAILERS
GROUP 1 – SEMI-TRAILER, SLIDING AXLE

This questionnaire covers technical information, which **must** be provided for evaluation of the configuration(s) of the vehicle(s) offered.

Where the specification paragraphs below indicate “**Substantial Information**”, the “**Substantial Information**” describing completely and in detail how the requirement is met or addressed **must** be supplied for each performance requirement/specification.

Bidder is required to indicate the document name/title and page number where the **Substantial Information** can be found.

Definition for **Equivalent** is found in the DEFINITION section at the end of this document.

BIDDER INFORMATION

Bidder Name: _____

Address: _____

Proposal Date: _____

Substitutes/Alternatives

Are any equipment substitutes/alternatives offered as **Equivalent**? YES NO

If yes, please identify all equipment substitutes/alternatives offered as **Equivalents** below:

OPI: DSVPM 4 – BPR: DAPVS 4

Issued on Authority of the Chief of the Defence Staff

Publiée avec l'autorisation du chef d'état-major de la Défense



CONFIGURATION A

PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	<p>Scope - This Purchase Description defines the requirements for a sliding axle semi-trailer with accessories. The semi-trailer will be used to transport heavy equipment, ISO containers and vehicles. Main configurations are as follows:</p> <p>Configuration A – Sliding Axle, 35 Ton payload, 53 ft, Tandem</p>	<p>Make</p> <p>Model</p>		
3.4.2	<p>Load Performance</p> <p>(a) The semi-trailer must carry a uniformly distributed load of at least that given as “TRAILER CAPACITY” (31,752 kg) in the Data Table (Paragraph 1.4).</p>	Trailer Capacity	kg	
3.4.3	<p>Dimensions</p> <p>(a) The semi-trailer must have a nominal overall length of that given as “TRAILER LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(b) The semi-trailer main deck must have a minimum length of that given as “MAIN DECK LENGTH” (13,000 mm) in the Data Table (Paragraph 1.4).</p> <p>(c) The semi-trailer must have a nominal overall width of that given as “TRAILER WIDTH” (2,590 mm) in the Data Table (Paragraph 1.4).</p> <p>(d) The semi-trailer main deck, un-laden, must have a nominal height of that given as “MAIN DECK HEIGHT” (965 mm) in the Data Table (Paragraph 1.4).</p> <p>(e) The semi-trailer must have a kingpin distance (KP) of that given as “KP DISTANCE” (533 mm) in the Data Table (Paragraph 1.4), measured from the front of the trailer to the centre of the kingpin.</p> <p>(f) The semi-trailer must operate with the kingpin at a height of that given as “KINGPIN OPERATING HEIGHT” (1,244 mm) in the Data Table (Paragraph 1.4);</p>	<p>Trailer Length</p> <p>Main Deck Length</p> <p>Trailer Width</p> <p>Main Deck Height</p> <p>Kingpin Distance</p> <p>Kingpin Operating Height</p>	<p>mm</p> <p>mm</p> <p>mm</p> <p>mm</p> <p>mm</p> <p>mm</p>	

CONFIGURATION A			
	measured from the ground to the kingpin upper plate.	Minimum Landing Wheel Clearance	mm
3.8	<p>(g) The semi-trailer must have a minimum landing wheel clearance from kingpin (LWC) of that given as “MIN LWC” (2,057 mm) in the Data Table (Paragraph 1.4).</p> <p>Auxiliary Engine System</p> <p>(a) The semi-trailer must be provided with one (1) auxiliary engine system to power the hydraulic system.</p> <p>(b) The engine must operate on gasoline fuel.</p>	<p>Auxiliary Engine Brochure or Technical Specifications</p> <p>Auxiliary Engine Brochure or Technical Specifications</p>	
3.9	<p>Hydraulic Winch</p> <p>(a) The semi-trailer must be provided with a two-speed, planetary, hydraulic winch to load vehicles onto the main deck.</p> <p>(c) The winch first layer capacity must be a minimum of 13,608 kg.</p> <p>(d) The winch cable must have a minimum length of 38.5 m.</p>	<p>Winch Brochure or Technical Specifications</p> <p>First Layer Capacity</p> <p>Cable Length</p>	<p>kg</p> <p>m</p>
4.1.1 (b)	<p>Photographs and Line Drawings (DND Only)</p> <p>(iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.</p>	Dimensioned Line Drawing	
4.1.1 (c)	<p>Load Analysis Drawing (DND Only)</p> <p>i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and</p> <p>ii The load analysis drawing must be in PDF format supplied on a CD or a DVD.</p>	Load Analysis Drawing	

CONFIGURATION B

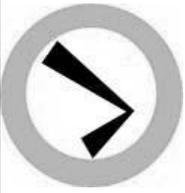
PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	<p>Scope - This Purchase Description defines the requirements for a sliding axle semi-trailer with accessories. The semi-trailer will be used to transport heavy equipment, ISO containers and vehicles. Main configurations are as follows:</p> <p>Configuration B – Sliding Axle, 40 Ton payload, 53 ft, Tridem</p>	<p>Make</p> <p>Model</p>		
3.4.2	<p>Load Performance</p> <p>(a) The semi-trailer must carry a uniformly distributed load of at least that given as “TRAILER CAPACITY” (36,288 kg) in the Data Table (Paragraph 1.4).</p>	Trailer Capacity	kg	
3.4.3	<p>Dimensions</p> <p>(a) The semi-trailer must have a nominal overall length of that given as “TRAILER LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(b) The semi-trailer main deck must have a minimum length of that given as “MAIN DECK LENGTH” (13,000 mm) in the Data Table (Paragraph 1.4).</p> <p>(c) The semi-trailer must have a nominal overall width of that given as “TRAILER WIDTH” (2,590 mm) in the Data Table (Paragraph 1.4).</p> <p>(d) The semi-trailer main deck, un-laden, must have a nominal height of that given as “MAIN DECK HEIGHT” (965 mm) in the Data Table (Paragraph 1.4).</p> <p>(e) The semi-trailer must have a kingpin distance (KP) of that given as “KP DISTANCE” (533 mm) in the Data Table (Paragraph 1.4), measured from the front of the trailer to the centre of the kingpin.</p> <p>(f) The semi-trailer must operate with the kingpin at a height of that given as “KINGPIN OPERATING HEIGHT” (1,244 mm) in the Data Table (Paragraph 1.4).</p>	<p>Trailer Length</p> <p>Main Deck Length</p> <p>Trailer Width</p> <p>Main Deck Height</p> <p>Kingpin Distance</p> <p>Kingpin Operating Height</p>	<p>mm</p> <p>mm</p> <p>mm</p> <p>mm</p> <p>mm</p> <p>mm</p>	

CONFIGURATION B			
	measured from the ground to the kingpin upper plate.	Minimum Landing Wheel Clearance	mm
3.8	<p>(g) The semi-trailer must have a minimum landing wheel clearance from kingpin (LWC) of that given as “MIN LWC” (2,057 mm) in the Data Table (Paragraph 1.4).</p> <p>Auxiliary Engine System</p> <p>(a) The semi-trailer must be provided with one (1) auxiliary engine system to power the hydraulic system.</p> <p>(b) The engine must operate on gasoline fuel.</p>	<p>Auxiliary Engine Brochure or Technical Specifications</p> <p>Auxiliary Engine Brochure or Technical Specifications</p>	
3.9	<p>Hydraulic Winch</p> <p>(a) The semi-trailer must be provided with a two-speed, planetary, hydraulic winch to load vehicles onto the main deck.</p> <p>(c) The winch first layer capacity must be a minimum of 13,608 kg.</p> <p>(d) The winch cable must have a minimum length of 38.5 m.</p>	<p>Winch Brochure or Technical Specifications</p> <p>First Layer Capacity</p> <p>Cable Length</p>	<p>kg</p> <p>m</p>
4.1.1 (b)	<p>Photographs and Line Drawings (DND Only)</p> <p>(iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.</p>	Dimensioned Line Drawing	
4.1.1 (c)	<p>Load Analysis Drawing (DND Only)</p> <p>i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and</p> <p>ii The load analysis drawing must be in PDF format supplied on a CD or a DVD.</p>	Load Analysis Drawing	

DEFINITION

The following definition apply to the interpretation of this Technical Information Questionnaire:

- a) “***Equivalent***” - A standard, means, or component type, which has been accepted by the Technical Authority as meeting the specified requirements for form, fit, function and performance.

**NOTICE**

This documentation has been reviewed by the Technical Authority and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'Autorité technique et ne contient pas de marchandises contrôlées.

ANNEX B2
TECHNICAL INFORMATION QUESTIONNAIRE
HEAVY DUTY TRAILERS
GROUP 2 – SEMI-TRAILER, VAN

This questionnaire covers technical information, which **must** be provided for evaluation of the configuration(s) of the vehicle(s) offered.

Where the specification paragraphs below indicate “**Substantial Information**”, the “**Substantial Information**” describing completely and in detail how the requirement is met or addressed **must** be supplied for each performance requirement/specification.

Bidder is required to indicate the document name/title and page number where the **Substantial Information** can be found.

Definition for **Equivalent** is found in the DEFINITION section at the end of this document.

BIDDER INFORMATION

Bidder Name: _____

Address: _____

Proposal Date: _____

Substitutes/Alternatives

Are any equipment substitutes/alternatives offered as **Equivalent**? YES NO

If yes, please identify all equipment substitutes/alternatives offered as **Equivalents** below:

OPI: DSVPM 4 – BPR: DAPVS 4

Issued on Authority of the Chief of the Defence Staff
Publiée avec l'autorisation du chef d'état-major de la Défense



CONFIGURATION A

PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	<p>Scope - This Purchase Description defines the requirements for a semi-trailer van with accessories. The configurations are as follows:</p> <p>Configuration A – Van, Dry, 25 Ton, 53 ft, Tandem</p>	Make		
3.4.2	<p>Load Performance</p> <p>(a) The semi-trailer must carry a uniformly distributed load of at least that given as "TRAILER CAPACITY (22727 kg)" in the Data Table (Paragraph 1.4).</p>	Model		
3.4.3	<p>Dimensions</p> <p>(a) The semi-trailer must have a nominal overall length of that given as "TRAILER LENGTH (16,150 mm)" in the Data Table (Paragraph 1.4).</p> <p>(b) The semi-trailer must have a nominal overall width of that given as "TRAILER WIDTH (2,590 mm)" in the Data Table (Paragraph 1.4).</p> <p>(c) The semi-trailer, un-laden and with the floor level, must have a nominal overall height of that given as "TRAILER HEIGHT (4,100 mm)" in the Data Table (Paragraph 1.4).</p> <p>(d) The semi-trailer must have a minimum interior body height of that given as "INTERIOR BODY HEIGHT (2,667 mm)" in the Data Table (Paragraph 1.4).</p> <p>(e) The semi-trailer must have a nominal kingpin distance (KP) of that given as "KINGPIN DISTANCE (914 mm)" in the Data Table (Paragraph 1.4), measured from the front of the semi-trailer.</p> <p>(f) The semi-trailer must operate with the kingpin at a nominal height of that given as "KINGPIN HEIGHT (1,219 mm)" in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate;</p> <p>(g) The semi-trailer must have a minimum landing</p>	Trailer Capacity	kg	
		Trailer Length	mm	
		Trailer Width	mm	
		Trailer Height	mm	
		Interior Body Height	mm	
		Kingpin Distance	mm	
		Kingpin Height	mm	
		Minimum Landing	mm	

CONFIGURATION A		
	wheel clearance from kingpin (LWC) of that given as “ MIN LWC” (2,700 mm) in the Data Table (Paragraph 1.4).	Wheel Clearance
4.1.1 (b)	Photographs and Line Drawings (DND Only) (iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.	Dimensioned Line Drawing
4.1.1 (c)	Load Analysis Drawing (DND Only) i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and ii The load analysis drawing must be in PDF format supplied on a CD or a DVD.	Load Analysis Drawing

CONFIGURATION B

PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	<p>Scope - This Purchase Description defines the requirements for a semi-trailer van with accessories. The configurations are as follows:</p> <p>Configuration B – Van, Dry, 35 Ton, 53 ft, Tridem</p>	Make		
3.4.2	<p>Load Performance</p> <p>(a) The semi-trailer must carry a uniformly distributed load of at least that given as “TRAILER CAPACITY” (31752 kg) in the Data Table (Paragraph 1.4).</p>	Model		
3.4.3	<p>Dimensions</p> <p>(a) The semi-trailer must have a nominal overall length of that given as “TRAILER LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(b) The semi-trailer must have a nominal overall width of that given as “TRAILER WIDTH” (2,590 mm) in the Data Table (Paragraph 1.4).</p> <p>(c) The semi-trailer, un-laden and with the floor level, must have a nominal overall height of that given as “TRAILER HEIGHT” (4,100 mm) in the Data Table (Paragraph 1.4).</p> <p>(d) The semi-trailer must have a minimum interior body height of that given as “INTERIOR BODY HEIGHT” (2,667 mm) in the Data Table (Paragraph 1.4).</p> <p>(e) The semi-trailer must have a nominal kingpin distance (KP) of that given as “KINGPIN DISTANCE” (914 mm) in the Data Table (Paragraph 1.4), measured from the front of the semi-trailer.</p> <p>(f) The semi-trailer must operate with the kingpin at a nominal height of that given as “KINGPIN HEIGHT” (1,219 mm) in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate;</p> <p>(g) The semi-trailer must have a minimum landing</p>	Trailer Capacity	kg	
		Trailer Length	mm	
		Trailer Width	mm	
		Trailer Height	mm	
		Interior Body Height	mm	
		Kingpin Distance	mm	
		Kingpin Height	mm	
		Minimum Landing	mm	

CONFIGURATION B		
		Wheel Clearance
4.1.1 (b)	<p>wheel clearance from kingpin (LWC) of that given as "MIN LWC" (2,700 mm) in the Data Table (Paragraph 1.4).</p> <p>Photographs and Line Drawings (DND Only)</p> <p>(iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.</p>	Dimensioned Line Drawing
4.1.1 (c)	<p>Load Analysis Drawing (DND Only)</p> <p>i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and</p> <p>ii The load analysis drawing must be in PDF format supplied on a CD or a DVD.</p>	Load Analysis Drawing

CONFIGURATION C

PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	<p>Scope - This Purchase Description defines the requirements for a semi-trailer van with accessories. The configurations are as follows:</p> <p>Configuration C – Van, Reefer, 25 Ton, 53 ft, Tandem</p>	Make		
3.4.2	<p>Load Performance</p> <p>(a) The semi-trailer must carry a uniformly distributed load of at least that given as “TRAILER CAPACITY” (22727 kg) in the Data Table (Paragraph 1.4).</p>	Model		
3.4.3	<p>Dimensions</p> <p>(a) The semi-trailer must have a nominal overall length of that given as “TRAILER LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(b) The semi-trailer must have a nominal overall width of that given as “TRAILER WIDTH” (2,590 mm) in the Data Table (Paragraph 1.4).</p> <p>(c) The semi-trailer, un-laden and with the floor level, must have a nominal overall height of that given as “TRAILER HEIGHT” (4,100 mm) in the Data Table (Paragraph 1.4).</p> <p>(d) The semi-trailer must have a minimum interior body height of that given as “INTERIOR BODY HEIGHT” (2,500 mm) in the Data Table (Paragraph 1.4).</p> <p>(e) The semi-trailer must have a nominal kingpin distance (KP) of that given as “KINGPIN DISTANCE” (914 mm) in the Data Table (Paragraph 1.4), measured from the front of the semi-trailer.</p> <p>(f) The semi-trailer must operate with the kingpin at a nominal height of that given as “KINGPIN HEIGHT” (1,219 mm) in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate;</p> <p>(g) The semi-trailer must have a minimum landing</p>	Trailer Capacity	kg	
		Trailer Length	mm	
		Trailer Width	mm	
		Trailer Height	mm	
		Interior Body Height	mm	
		Kingpin Distance	mm	
		Kingpin Height	mm	
		Minimum Landing	mm	

CONFIGURATION C

	<p>wheel clearance from kingpin (LWC) of that given as “MIN LWC” (2,700 mm) in the Data Table (Paragraph 1.4).</p> <p>Refrigerating Unit (a) The semi-trailer must be provided with a self-contained refrigerating unit that operates on diesel fuel.</p> <p>Photographs and Line Drawings (DND Only) (iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.</p> <p>Load Analysis Drawing (DND Only) i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and ii The load analysis drawing must be in PDF format supplied on a CD or a DVD.</p>	<p>Wheel Clearance</p> <p>Refrigerating unit Brochure or technical specification</p> <p>Dimensioned Line Drawing</p> <p>Load Analysis Drawing</p>	
3.5.8.1			
4.1.1 (b)			
4.1.1 (c)			

CONFIGURATION D

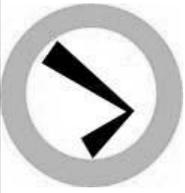
PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	<p>Scope - This Purchase Description defines the requirements for a semi-trailer van with accessories. The configurations are as follows:</p> <p>Configuration D – Van, Reefer, 35 Ton, 53 ft, Tridem</p>	Make		
3.4.2	<p>Load Performance</p> <p>(a) The semi-trailer must carry a uniformly distributed load of at least that given as “TRAILER CAPACITY” (31,752 kg) in the Data Table (Paragraph 1.4).</p>	Model		
3.4.3	<p>Dimensions</p> <p>(a) The semi-trailer must have a nominal overall length of that given as “TRAILER LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(b) The semi-trailer must have a nominal overall width of that given as “TRAILER WIDTH” (2,590 mm) in the Data Table (Paragraph 1.4).</p> <p>(c) The semi-trailer, un-laden and with the floor level, must have a nominal overall height of that given as “TRAILER HEIGHT” (4,100 mm) in the Data Table (Paragraph 1.4).</p> <p>(d) The semi-trailer must have a minimum interior body height of that given as “INTERIOR BODY HEIGHT” (2,500 mm) in the Data Table (Paragraph 1.4).</p> <p>(e) The semi-trailer must have a nominal kingpin distance (KP) of that given as “KINGPIN DISTANCE” (914 mm) in the Data Table (Paragraph 1.4), measured from the front of the semi-trailer.</p> <p>(f) The semi-trailer must operate with the kingpin at a nominal height of that given as “KINGPIN HEIGHT” (1,219 mm) in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate;</p> <p>(g) The semi-trailer must have a minimum landing</p>	Trailer Capacity	kg	
		Trailer Length	mm	
		Trailer Width	mm	
		Trailer Height	mm	
		Interior Body Height	mm	
		Kingpin Distance	mm	
		Kingpin Height	mm	
		Minimum Landing	mm	

CONFIGURATION D		
		Wheel Clearance
3.5.8.1	<p>wheel clearance from kingpin (LWC) of that given as "MIN LWC" (2,700 mm) in the Data Table (Paragraph 1.4).</p> <p><u>Refrigerating Unit</u> (b) The semi-trailer must be provided with a self-contained refrigerating unit that operates on diesel fuel.</p>	Refrigerating unit Brochure or technical specification
4.1.1 (b)	<p><u>Photographs and Line Drawings (DND Only)</u> (iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.</p>	Dimensioned Line Drawing
4.1.1 (c)	<p><u>Load Analysis Drawing (DND Only)</u></p> <ul style="list-style-type: none"> i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and ii The load analysis drawing must be in PDF format supplied on a CD or a DVD. 	Load Analysis Drawing

DEFINITION

The following definition apply to the interpretation of this Technical Information Questionnaire:

- a) “**Equivalent**” - A standard, means, or component type, which has been accepted by the Technical Authority as meeting the specified requirements for form, fit, function and performance.



NOTICE

This documentation has been reviewed by the Technical Authority and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'Autorité technique et ne contient pas de marchandises contrôlées.

ANNEX B3
TECHNICAL INFORMATION QUESTIONNAIRE
HEAVY DUTY TRAILERS
GROUP 3 – SEMI-TRAILER, FLAT/STEP DECK

This questionnaire covers technical information, which **must** be provided for evaluation of the configuration(s) of the vehicle(s) offered.

Where the specification paragraphs below indicate “**Substantial Information**”, the “**Substantial Information**” describing completely and in detail how the requirement is met or addressed **must** be supplied for each performance requirement/specification.

Bidder is required to indicate the document name/title and page number where the **Substantial Information** can be found.

Definition for **Equivalent** is found in the DEFINITION section at the end of this document.

BIDDER INFORMATION

Bidder Name: _____

Address: _____

Proposal Date: _____

Substitutes/Alternatives

Are any equipment substitutes/alternatives offered as **Equivalent**? YES NO

If yes, please identify all equipment substitutes/alternatives offered as **Equivalents** below:

OPI: DSVPM 4 – BPR: DAPVS 4

Issued on Authority of the Chief of the Defence Staff

Publiée avec l'autorisation du chef d'état-major de la Défense



CONFIGURATION A

PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	<p>Scope - This Purchase Description defines the requirements for a flat deck semi-trailer with accessories. Main configurations are as follows:</p> <p>Configuration A – Flat Deck, 25 Ton payload, 53 ft, Tandem</p>	Make		
3.4.2	<p>Load Performance</p> <p>(a) The semi-trailer must carry a uniformly distributed load of at least that given as “TRAILER CAPACITY” (22,727 kg) in the Data Table (Paragraph 1.4).</p>	Model		
3.4.3	<p>Dimensions</p> <p>(a) The semi-trailer must have a nominal overall length of that given as “TRAILER LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(b) The semi-trailer must have a nominal overall width of that given as “TRAILER WIDTH” (2,590 mm) in the Data Table (Paragraph 1.4).</p> <p>(c) The semi-trailer main deck must have a nominal length of that given as “MAIN DECK LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(d) The semi-trailer main deck, un-laden, must have a nominal height of that given as “MAIN DECK HEIGHT” (1,525 mm) in the Data Table (Paragraph 1.4)</p> <p>(f) The semi-trailer must have a nominal kingpin distance (KP) of that given as “KINGPIN DISTANCE” (609 mm) in the Data Table (Paragraph 1.4), measured from the front of the semi-trailer.</p> <p>(g) The semi-trailer must operate with the kingpin at a nominal height of that given as “KINGPIN HEIGHT” (1,245 mm) in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate;</p> <p>(h) The semi-trailer must have a minimum landing</p>	Trailer Capacity	kg	
		Trailer Length	mm	
		Trailer Width	mm	
		Main Deck Length	mm	
		Main Deck Height	mm	
		Kingpin Distance	mm	
		Kingpin Height	mm	
		Minimum Landing	mm	

CONFIGURATION A		
	wheel clearance from kingpin (LWC) of that given as "MIN LWC" (2,700 mm) in the Data Table (Paragraph 1.4).	Wheel Clearance
4.1.1 (b)	Photographs and Line Drawings (DND Only) (iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.	Dimensioned Line Drawing
4.1.1 (c)	Load Analysis Drawing (DND Only) i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and ii The load analysis drawing must be in PDF format supplied on a CD or a DVD.	Load Analysis Drawing

CONFIGURATION B

PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	<p>Scope - This Purchase Description defines the requirements for a flat deck semi-trailer with accessories. Main configurations are as follows:</p> <p>Configuration B – Flat Deck, 35 Ton payload, 53 ft, Tridem</p>	Make		
3.4.2	<p>Load Performance</p> <p>(a) The semi-trailer must carry a uniformly distributed load of at least that given as “TRAILER CAPACITY” (31,752 kg) in the Data Table (Paragraph 1.4).</p>	Model		
3.4.3	<p>Dimensions</p> <p>(a) The semi-trailer must have a nominal overall length of that given as “TRAILER LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(b) The semi-trailer must have a nominal overall width of that given as “TRAILER WIDTH” (2,590 mm) in the Data Table (Paragraph 1.4).</p> <p>(c) The semi-trailer main deck must have a nominal length of that given as “MAIN DECK LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(d) The semi-trailer main deck, un-laden, must have a nominal height of that given as “MAIN DECK HEIGHT” (1,525 mm) in the Data Table (Paragraph 1.4)</p> <p>(f) The semi-trailer must have a nominal kingpin distance (KP) of that given as “KINGPIN DISTANCE” (609 mm) in the Data Table (Paragraph 1.4), measured from the front of the semi-trailer.</p> <p>(g) The semi-trailer must operate with the kingpin at a nominal height of that given as “KINGPIN HEIGHT” (1,245 mm) in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate;</p> <p>(h) The semi-trailer must have a minimum landing</p>	Trailer Capacity	kg	
		Trailer Length	mm	
		Trailer Width	mm	
		Main Deck Length	mm	
		Main Deck Height	mm	
		Kingpin Distance	mm	
		Kingpin Height	mm	
		Minimum Landing	mm	

CONFIGURATION B		
	wheel clearance from kingpin (LWC) of that given as “ MIN LWC” (2,700 mm) in the Data Table (Paragraph 1.4).	Wheel Clearance
4.1.1 (b)	Photographs and Line Drawings (DND Only) (iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.	Dimensioned Line Drawing
4.1.1 (c)	Load Analysis Drawing (DND Only) i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and ii The load analysis drawing must be in PDF format supplied on a CD or a DVD.	Load Analysis Drawing

CONFIGURATION C

PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	<p>Scope - This Purchase Description defines the requirements for a flat deck semi-trailer with accessories. Main configurations are as follows:</p> <p>Configuration C – Step Deck, 25 Ton payload, 53 ft, Tandem</p>	Make		
3.4.2	<p>Load Performance</p> <p>(a) The semi-trailer must carry a uniformly distributed load of at least that given as “TRAILER CAPACITY” (22727 kg) in the Data Table (Paragraph 1.4).</p>	Model		
3.4.3	<p>Dimensions</p> <p>(a) The semi-trailer must have a nominal overall length of that given as “TRAILER LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(b) The semi-trailer must have a nominal overall width of that given as “TRAILER WIDTH” (2,590 mm) in the Data Table (Paragraph 1.4).</p> <p>(c) The semi-trailer main deck must have a nominal length of that given as “MAIN DECK LENGTH” (13,000 mm) in the Data Table (Paragraph 1.4).</p> <p>(d) The semi-trailer main deck, un-laden, must have a nominal height of that given as “MAIN DECK HEIGHT” (1,120 mm) in the Data Table (Paragraph 1.4)</p> <p>(e) The semi-trailer upper deck must have a nominal height of that given as “UPPER DECK HEIGHT” (1,525 mm) in the Data Table (Paragraph 1.4)</p> <p>(f) The semi-trailer must have a nominal kingpin distance (KP) of that given as “KINGPIN DISTANCE” (609 mm) in the Data Table (Paragraph 1.4), measured from the front of the semi-trailer.</p> <p>(g) The semi-trailer must operate with the kingpin at a nominal height of that given as “KINGPIN HEIGHT”</p>	Trailer Capacity	kg	
		Trailer Length	mm	
		Trailer Width	mm	
		Main Deck Length	mm	
		Main Deck Height	mm	
		Upper Deck Height	mm	
		Kingpin Distance	mm	
		Kingpin Height	mm	

CONFIGURATION C

	<p>(1,245 mm) in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate;</p> <p>(h) The semi-trailer must have a minimum landing wheel clearance from kingpin (LWC) of that given as "MIN LWC" (2,700 mm) in the Data Table (Paragraph 1.4).</p> <p>Photographs and Line Drawings (DND Only)</p> <p>(iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.</p>				
4.1.1 (b)		Minimum Landing Wheel Clearance	mm		
		Dimensioned Line Drawing			
4.1.1 (c)	<p>Load Analysis Drawing (DND Only)</p> <p>i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and</p> <p>ii The load analysis drawing must be in PDF format supplied on a CD or a DVD.</p>	Load Analysis Drawing			

CONFIGURATION D

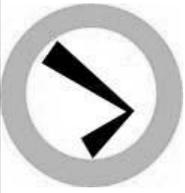
PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	<p>Scope - This Purchase Description defines the requirements for a flat deck semi-trailer with accessories. Main configurations are as follows:</p> <p>Configuration D – Step Deck, 35 Ton payload, 53 ft, Tridem</p>	Make		
3.4.2	<p>Load Performance</p> <p>(a) The semi-trailer must carry a uniformly distributed load of at least that given as “TRAILER CAPACITY” (31,752 kg) in the Data Table (Paragraph 1.4).</p>	Model		
3.4.3	<p>Dimensions</p> <p>(a) The semi-trailer must have a nominal overall length of that given as “TRAILER LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(b) The semi-trailer must have a nominal overall width of that given as “TRAILER WIDTH” (2,590 mm) in the Data Table (Paragraph 1.4).</p> <p>(c) The semi-trailer main deck must have a nominal length of that given as “MAIN DECK LENGTH” (13,000 mm) in the Data Table (Paragraph 1.4).</p> <p>(d) The semi-trailer main deck, un-laden, must have a nominal height of that given as “MAIN DECK HEIGHT” (1,120 mm) in the Data Table (Paragraph 1.4)</p> <p>(e) The semi-trailer upper deck must have a nominal height of that given as “UPPER DECK HEIGHT” (1,525 mm) in the Data Table (Paragraph 1.4)</p> <p>(f) The semi-trailer must have a nominal kingpin distance (KP) of that given as “KINGPIN DISTANCE” (609 mm) in the Data Table (Paragraph 1.4), measured from the front of the semi-trailer.</p> <p>(g) The semi-trailer must operate with the kingpin at a nominal height of that given as “KINGPIN HEIGHT”</p>	Trailer Capacity	kg	
		Trailer Length	mm	
		Trailer Width	mm	
		Main Deck Length	mm	
		Main Deck Height	mm	
		Upper Deck Height	mm	
		Kingpin Distance	mm	
		Kingpin Height	mm	

CONFIGURATION D			
	<p>(1,245 mm) in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate;</p> <p>(h) The semi-trailer must have a minimum landing wheel clearance from kingpin (LWC) of that given as "MIN LWC" (2,700 mm) in the Data Table (Paragraph 1.4).</p>	Minimum Landing Wheel Clearance	mm
4.1.1 (b)	<p>Photographs and Line Drawings (DND Only)</p> <p>(iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.</p>	Dimensioned Line Drawing	
4.1.1 (c)	<p>Load Analysis Drawing (DND Only)</p> <p>i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and</p> <p>ii The load analysis drawing must be in PDF format supplied on a CD or a DVD.</p>	Load Analysis Drawing	

DEFINITION

The following definition apply to the interpretation of this Technical Information Questionnaire:

- a) “***Equivalent***” - A standard, means, or component type, which has been accepted by the Technical Authority as meeting the specified requirements for form, fit, function and performance.



NOTICE

This documentation has been reviewed by the Technical Authority and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'Autorité technique et ne contient pas de marchandises contrôlées.

ANNEX B4
TECHNICAL INFORMATION QUESTIONNAIRE
HEAVY DUTY TRAILERS
GROUP 4 – DOUBLE DROP TRAILER SYSTEM, 45 TONNES, WITH JEEP

This questionnaire covers technical information, which **must** be provided for evaluation of the configuration(s) of the vehicle(s) offered.

Where the specification paragraphs below indicate “**Substantial Information**”, the “**Substantial Information**” describing completely and in detail how the requirement is met or addressed **must** be supplied for each performance requirement/specification.

Bidder is required to indicate the document name/title and page number where the **Substantial Information** can be found.

Definition for **Equivalent** is found in the DEFINITION section at the end of this document.

BIDDER INFORMATION

Bidder Name: _____

Address: _____

Proposal Date: _____

Substitutes/Alternatives

Are any equipment substitutes/alternatives offered as **Equivalent**? YES NO

If yes, please identify all equipment substitutes/alternatives offered as **Equivalents** below:

OPI: DSVPM 4 – BPR: DAPVS 4

Issued on Authority of the Chief of the Defence Staff

Publiée avec l'autorisation du chef d'état-major de la Défense



CONFIGURATION A

PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	Scope - This Purchase Description defines the requirements for a variable height, double drop trailer system with a jeep and accessories. The trailer system will be used to transport heavy equipment and vehicles.	Make		
3.4.2	Load Performance (a) The trailer system must carry a uniformly distributed load of at least that given as “ TRAILER SYSTEM CAPACITY ” (45,000 kg) in the Data Table (Paragraph 1.4).	Model Trailer System Capacity	 kg	
3.5.1	Dimensions (a) The semi-trailer must have a nominal overall length of that given as “ SEMI-TRAILER LENGTH ” (16,150 mm) in the Data Table (Paragraph 1.4). (c) The semi-trailer must have a nominal overall width of that given as “ SEMI-TRAILER WIDTH ” (2,590 mm) in the Data Table (Paragraph 1.4). (c) Each kingpin installed on the semi-trailer must have an operating height range of that given as “ SEMI-TRAILER KINGPIN OPERATING HEIGHT RANGE ” (1,219 – 1,400 mm) in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate. (e) The jeep must have a nominal overall width of that given as “ JEEP WIDTH ” (2,590 mm) in the Data Table (Paragraph 1.4) (f) The jeep must operate with the kingpin at a nominal height of that given as “ JEEP KINGPIN HEIGHT ” (1,245 mm) in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate	 Semi-Trailer length Semi-Trailer Width Semi-Trailer Kingpin Operating Height Range Jeep Width Jeep Kingpin Height	 mm mm mm mm mm	
3.8	Auxiliary Engine System (a) The semi-trailer must be provided with one (1) auxiliary engine system to power the hydraulic system.	Auxiliary Engine Brochure or		

CONFIGURATION A			
		Technical Specifications	
		Auxiliary Engine Brochure or Technical Specifications	
3.12.2	<p>(b) The engine must operate on gasoline fuel.</p> <p>Hydraulic Winch</p> <p>(a) The semi-trailer must be provided with a hydraulic winch to load vehicles onto the main deck.</p> <p>(c) The winch first layer capacity must be a minimum of 13,608 kg.</p> <p>(d) The winch cable must have a minimum length of 35 m.</p>	Winch Brochure or Technical Specifications	kg
4.1.1 (b)	<p>Photographs and Line Drawings (DND Only)</p> <p>(iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.</p>	First Layer Capacity	m
4.1.1 (c)	<p>Load Analysis Drawing (DND Only)</p> <p>i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and</p> <p>ii The load analysis drawing must be in PDF format supplied on a CD or a DVD.</p>	Dimensioned Line Drawing	
		Load Analysis Drawing	

DEFINITION

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AVIS

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ANNEX B5
TECHNICAL INFORMATION QUESTIONNAIRE
HEAVY DUTY TRAILERS
GROUP 5 – SEMI-TRAILER, DOUBLE DROP

This questionnaire covers technical information, which **must** be provided for evaluation of the configuration(s) of the vehicle(s) offered.

Where the specification paragraphs below indicate “**Substantial Information**”, the “**Substantial Information**” describing completely and in detail how the requirement is met or addressed **must** be supplied for each performance requirement/specification.

Bidder is required to indicate the document name/title and page number where the **Substantial Information** can be found.

Definition for **Equivalent** is found in the DEFINITION section at the end of this document.

BIDDER INFORMATION

Bidder Name: _____

Address: _____

Proposal Date: _____

Substitutes/Alternatives

Are any equipment substitutes/alternatives offered as **Equivalent**? YES NO

If yes, please identify all equipment substitutes/alternatives offered as **Equivalents** below:

OPI: DSVPM 4 – BPR: DAPVS 4

Issued on Authority of the Chief of the Defence Staff

Publiée avec l'autorisation du chef d'état-major de la Défense



CONFIGURATION A

PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	<p>Scope - This Purchase Description defines the requirements for a low bed semi-trailer with accessories. The semi-trailer will be used to transport heavy equipment, ISO containers and vehicles. Main configurations are as follows:</p> <p>Configuration A – Double Drop, Variable Height, 35 Ton, payload, 53 ft</p>	<p>Make</p> <p>Model</p>		
3.4.2	<p>Load Performance</p> <p>(a) The semi-trailer must carry a uniformly distributed load of at least that given as “TRAILER CAPACITY” (31,752 kg) in the Data Table (Paragraph 1.4).</p>	Trailer Capacity	kg	
3.4.4	<p>Dimensions</p> <p>(a) The semi-trailer must have a nominal overall length of that given as “TRAILER LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(b) The semi-trailer must have a nominal overall width of that given as “TRAILER WIDTH” (2,590 mm) in the Data Table (Paragraph 1.4).</p> <p>(c) The semi-trailer must operate with the kingpin at a height range of that given as “KINGPIN OPERATING HEIGHT RANGE” (1,219 – 1,400 mm) in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate.</p> <p>(g) The semi-trailer must have a minimum landing wheel clearance from kingpin (LWC) of that given as “MIN LWC” (2,700 mm) in the Data Table (Paragraph 1.4).</p>	<p>Trailer Length</p> <p>Trailer Width</p> <p>Kingpin Operating Height Range</p> <p>Minimum Landing Wheel Clearance</p>	<p>mm</p> <p>mm</p> <p>mm</p> <p>mm</p>	
3.8	<p>Auxiliary Engine System</p> <p>(a) The semi-trailer must be provided with one (1) auxiliary engine system to power the hydraulic system.</p>	Auxiliary Engine Brochure or Technical Specifications		

CONFIGURATION A		Auxiliary Engine Brochure or Technical Specifications	
	(b) The engine must operate on gasoline fuel.		
3.12.2	Hydraulic Winch		
	(a) The semi-trailer must be provided with a hydraulic winch to load vehicles onto the main deck.	Winch Brochure or Technical Specifications	
	(c) The winch first layer capacity must be a minimum of 13,608 kg.	First Layer Capacity	kg
	(d) The winch cable must have a minimum length of 35 m.	Cable Length	m
4.1.1 (b)	Photographs and Line Drawings (DND Only) (iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.	Dimensioned Line Drawing	
4.1.1 (c)	Load Analysis Drawing (DND Only) i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and ii The load analysis drawing must be in PDF format supplied on a CD or a DVD.	Load Analysis Drawing	

CONFIGURATION B

PD Reference	Requirement	Substantial Information required	Value	Location of Substantial Information in Bid Proposal
1.1	<p>Scope - This Purchase Description defines the requirements for a low bed semi-trailer with accessories. The semi-trailer will be used to transport heavy equipment, ISO containers and vehicles. Main configurations are as follows:</p> <p>Configuration B – Double Drop, Ultra Low Deck, 30 Ton payload, 53 ft</p>	<p>Make</p> <p>Model</p>		
3.4.2	<p>Load Performance</p> <p>(a) The semi-trailer must carry a uniformly distributed load of at least that given as “TRAILER CAPACITY” (27,24631.752 kg) in the Data Table (Paragraph 1.4).</p>	Trailer Capacity	kg	
3.4.4	<p>Dimensions</p> <p>(a) The semi-trailer must have a nominal overall length of that given as “TRAILER LENGTH” (16,150 mm) in the Data Table (Paragraph 1.4).</p> <p>(b) The semi-trailer must have a nominal overall width of that given as “TRAILER WIDTH” (2,590 mm) in the Data Table (Paragraph 1.4).</p> <p>(c) The semi-trailer must operate with the kingpin at a height range of that given as “KINGPIN OPERATING HEIGHT RANGE” (1,219 – 1,400 mm) in the Data Table (Paragraph 1.4), measured from the ground to the kingpin upper plate.</p> <p>(g) The semi-trailer must have a minimum landing wheel clearance from kingpin (LWC) of that given as “MIN LWC” (2,060 mm) in the Data Table (Paragraph 1.4).</p>	<p>Trailer Length</p> <p>Trailer Width</p> <p>Kingpin Operating Height Range</p> <p>Minimum Landing Wheel Clearance</p>	<p>mm</p> <p>mm</p> <p>mm</p> <p>mm</p>	
3.8	<p>Auxiliary Engine System</p> <p>(a) The semi-trailer must be provided with one (1) auxiliary engine system to power the hydraulic system.</p>	Auxiliary Engine Brochure or Technical Specifications		

CONFIGURATION B

	(b) The engine must operate on gasoline fuel.	Auxiliary Engine Brochure or Technical Specifications	
3.12.2	<p>Hydraulic Winch</p> <p>(a) The semi-trailer must be provided with a hydraulic winch to load vehicles onto the main deck.</p> <p>(c) The winch first layer capacity must be a minimum of 13,608 kg.</p> <p>(d) The winch cable must have a minimum length of 35 m.</p> <p>Photographs and Line Drawings (DND Only)</p> <p>(iii) One front-view and one side-view line drawing showing dimensions of the vehicle must be supplied. Brochure line drawings are acceptable.</p> <p>Load Analysis Drawing (DND Only)</p> <p>i The Contractor must provide a load analysis drawing showing principle vehicle dimensions for the analysis and the axle and kingpin loads when subjected to the payload; and</p> <p>ii The load analysis drawing must be in PDF format supplied on a CD or a DVD.</p>	<p>Winch Brochure or Technical Specifications</p> <p>First Layer Capacity</p> <p>Cable Length</p> <p>Dimensioned Line Drawing</p> <p>Load Analysis Drawing</p>	<p>kg</p> <p>m</p>
4.1.1 (b)			
4.1.1 (c)			

DEFINITION

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