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**Gatineau, Québec K1A 0S5**  
**Bid Fax: (819) 997-9776**

## SOLICITATION AMENDMENT MODIFICATION DE L'INVITATION

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**  
Industrial Vehicles & Machinery Products Division  
11 Laurier St./11, rue Laurier  
7B1, Place du Portage, Phase III  
Gatineau  
Québec  
K1A 0S5

<b>Title - Sujet</b> ROAD GRADERS	
<b>Solicitation No. - N° de l'invitation</b> W8476-155165/A	<b>Amendment No. - N° modif.</b> 004
<b>Client Reference No. - N° de référence du client</b> W8476-155165	<b>Date</b> 2014-10-23
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$HS-620-65715	
<b>File No. - N° de dossier</b> hs620.W8476-155165	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2014-10-30</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Shirwa, Marian	<b>Buyer Id - Id de l'acheteur</b> hs620
<b>Telephone No. - N° de téléphone</b> (819) 956-3994 ( )	<b>FAX No. - N° de FAX</b> (819) 956-5227
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

Solicitation No. - N° de l'invitation

W8476-155165/A

Amd. No. - N° de la modif.

004

Buyer ID - Id de l'acheteur

hs620

Client Ref. No. - N° de réf. du client

W8476-155165

File No. - N° du dossier

hs620W8476-155165

CCC No./N° CCC - FMS No/ N° VME

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**This amendment 004 is raised to modify the Request for Proposal (RFP) and to provide questions with answers to potential bidders as follows:**

**1) Modify the Request for Proposal (RFP)**

**a) Purchase Description**

- **Delete:** Purchase Description for Grader, Large, Road, AWD, dated 2014-07-03
- **Insert:** Purchase Description for Grader, Large, Road, AWD, dated 2014-10-17

**b) Technical Information Questionnaire**

- **Delete:** Technical Information Questionnaire, dated 2014-07-03
- **Insert:** Technical Information Questionnaire, dated 2014-10-17

**2) Questions and Answers:**

**Question 4**

Item 3.4.1 (a) Blade Pull – In the request you ask for a blade pull of 135 kN. In the Technical Information Questionnaire 3.4.1 the formula provided is for a Tandem Drive Grader. The formula used for an All Wheel Drive Grader is usually the total weight of the grader x .9 Coefficient of Traction due to the fact that the front wheels are also driving. Does this need to be corrected or are you asking for 135 kN with rear wheels only. With front wheels on you add an extra 10000 lbs of Rim / Blade pull.

**Answer 4**

Canada is asking for a **Blade Pull** of 135 kN evaluated with only the weight over the rear wheels. It is understood that all wheel drive equipment is being asked for.

**Question 5**

Item 3.4.1 (b) Engine Rated Power – In the request you ask for 162 kW. Would DND consider a slight variance in horsepower? We offer a Tier 3 engine with 160kW in first gear. Tier 3 is the current Canadian EPA standard. With the transition of engines going from Tier 3 to IT4/FT4 in Europe and the USA more weight is added to the machines and the slight increase in power is used to offset the increase in weight and in no way changes the performance of the machine. With the variance we could provide the current Tier 3 engine.

**Answer 5**

Canada will consider equipment with an **Engine Rating – First Gear** of at least 160 kW. Amended Purchase Descriptions and Technical Information Questionnaires reflecting this change are included.

**Question 6**

Item 3.12 Wheels Rims and Tires – Does DND have a preferred tire size. Either 14:00R24 or 17.5R25 can be provided. Both are options neither being a standard size.

**Answer 6**

Canada is not specifying tire size. The Technical Authority will consider any no cost optional tires after contract award.


Solicitation No. – N° de l'invitation

W8476-155165/A

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**All other terms and conditions remain the same.**

2014-10-17

	<b>NOTICE</b>
	This documentation has been reviewed by the Technical Authority and does not contain controlled goods.
	<b>AVIS</b>
	Cette documentation a été révisée par l'Autorité technique et ne contient pas de marchandises contrôlées.

## PURCHASE DESCRIPTION FOR

### GRADER, LARGE, ROAD, DED, AWD

#### 1. SCOPE

1.1 **Scope** - This purchase description covers the requirements for large, diesel engine driven, articulated frame graders. It is anticipated that vehicles such as Caterpillar 140M3 AWD, John Deere 872G/GP, Volvo G976, or a vehicle of equal or larger size, if appropriately equipped, would be capable of meeting these specifications.

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

- (a) Requirements, which are identified by the word "**shall**", are mandatory. Deviations will not be permitted;
- (b) Requirements identified by "**shall**<sup>(B)</sup>" are mandatory. The Technical Authority will consider substitutes/alternatives for acceptance as an 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 "**shall**", "**shall**<sup>(B)</sup>", or "will" are not used, the information provided is for guidance only;
- (e) In this document "provided" **shall** mean "provided and installed";
- (f) Where technical certification is required, a copy of the certification or an acceptable proof of compliance **shall** be provided upon request;
- (g) Metric measurements **shall** be used to define the requirement. Other measurements are for reference only and may not be exact conversions; and

Revisions		
Rev	Date	Description
A	2014/07/03	Initial Release
B	2014/10/17	Change to Engine Rating, Table 1.4

OPI DSVPM 4 - DAPVS 4

Issued on Authority of the Chief of the Defence Staff

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



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- (h) Dimensions stated as nominal **shall** be 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** - The following definitions apply to the interpretation of this Purchase Description:

- (a) "Technical Authority" - The government official responsible for technical content of this requirement;
- (b) "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; and

1.4 **Configuration Capability Table** - Vehicles covered by this Purchase Description are represented as configurations. The following table shows required performance and dimensions by configuration, with a clause reference.

			CONFIGURATION
CHARACTERISTIC	CLAUSe	UNITS	H
BLADE PULL	3.4.1 (a)	kN	135
ENGINE RATING - FIRST GEAR	3.4.1 (b)	kW	160
DRIVE	3.4.1 (c)		6X6
ARTICULATION	3.7.1	Degrees	20

1.4.1 **Attachment Capability Table** - The following table shows the required performance and capacity information by attachment and configuration, with a clause reference.

				CONFIGURATION
CHARACTERISTIC		CLAUSe	UNITS	H
CIRCLE	CUTTING ANGLE	3.5.1 (a)	°	90
MOULDBOARD	HEIGHT	3.5.1 (a)	mm	600
	LENGTH		mm	4,250
	DIGGING DEPTH		mm	700
	GROUND PRESSURE		kN	95
SCARIFIER	TEETH	3.5.1 (b)	-	11
	SWATH		mm	1100
	GROUND PRESSURE		kN	45
REAR PLOW	CUTTING HEIGHT	3.5.2 (b)	mm	760

1.4.2 **Attachment and Feature Table** - The following table indicates, with "✓", for each configuration the attachments or features which **shall** be provided, with a clause reference.

ATTACHMENT/FEATURE	CLAUSE	CONFIGURATION		
		H1	H2	H3
V Plow	3.5.2 (a)		✓	✓
Rear Plow Wing	3.5.2 (b)	✓	✓	✓
Windrow Eliminator	3.5.2 (c)		✓	✓
Front Lift Group	3.5.2 (d)	✓	✓	✓
Dozer Blade	3.5.2 (e)		✓	
Towed Compactor	3.5.2 (f)		✓	
Towed Compactor Provisions	3.5.2 (g)		✓	✓
Sod Mulcher	3.5.2 (h)		✓	
Sod Mulcher Provisions	3.5.2 (i)		✓	✓
Blade Extension	3.5.2 (j)		✓	✓
Front Wheel Drive System	3.9.1 (a)	✓	✓	✓
Tire Chains	3.12.1 (a)	✓	✓	✓
Winter Tires	3.12.1 (b)		✓	✓
Solar Battery Charging System	3.15.1 (a)	✓	✓	✓
Amber Coloured Strobe Light	3.16.1 (a)	✓	✓	✓
Initial Parts Kit	4.1.1 (c)	✓	✓	✓
Familiarization	4.2 (a)	✓	✓	✓

## 2. APPLICABLE DOCUMENTS

### 2.1 Government Furnished Documents - NOT APPLICABLE

2.2 Other Publications - The following documents form part of this Purchase Description. Web sites for the organization are given when available. Effective documents are those in effect on date of manufacture. Sources are as shown:

#### *SAE Handbook*

Society of Automotive Engineers Inc.  
400 Commonwealth Dr.,  
Warrendale, PA, 15096  
<http://www.sae.org>

#### *Yearbook*

Tire and Rim Association Inc.,  
3200 West Market St.,  
Akron, Ohio, 44321  
<http://www.us-tra.org/traHome.htm>

*Canadian Motor Vehicle Safety Standards (CMVSS)*

Transport Canada,  
Road Vehicle and Motor Vehicle Regulation,  
330 Sparks Street, Tower C,  
Ottawa, Ontario K1A 0N5  
<http://www.tc.gc.ca/eng/acts-regulations/regulations-crc-c1038.htm>

*International Organization for Standardization (ISO)*

ISO Central Secretariat  
1, ch. de la Voie-Creuse  
CP 56, CH-1211 Geneva 20  
Switzerland  
<http://www.iso.org/iso/home.htm>

### **3. REQUIREMENTS**

#### **3.1 Standard Design**

- (a) The vehicle **shall** be the latest model. The manufacturer **shall** have manufactured and sold this type and size class of vehicle for at least 1 year;
- (b) The vehicle **shall** have engineering certification available, upon demand, for this application from the original manufacturers of major equipment systems and assemblies;
- (c) The vehicle **shall** conform to all applicable laws, regulations and industrial standards governing manufacture, safety, noise levels and pollution in effect in Canada at the time of manufacture; and
- (d) The vehicle offered **shall** not have systems and components operating at capacities beyond those published by the system or component manufacturer.

#### **3.2 Operating Conditions**

3.2.1 **Weather** - The vehicle/equipment **shall** operate under the extremes of weather conditions found in Canada in temperatures ranging from -40 to 37° C (-40 to 99° F).

3.2.2 **Terrain** - The vehicle/equipment **shall** be capable of being operated on highways, secondary roads, gravel roads, off-road, and cross-country conditions (e.g. dirt tracks, rough logging roads, and open recently ploughed fields). Terrain conditions **shall** include year round operations on snow, mud, sand and ice.

#### **3.3 Safety Standards**

3.3.1 **Noise Level** - The vehicle/equipment noise levels **shall** meet the requirements of legislation relative to Occupational Safety and Health both at the operator's station and exterior to the vehicle.

3.3.2 **Hazardous Materials** - The contractor **shall** minimize the use of hazardous materials, ozone depleting substances, polychlorinated biphenyls, asbestos and heavy metals used in the fabrication of the product supplied.



Items considered as hazardous materials **shall** be those given in the Hazardous Products Acts. The contractor **shall** provide Material Safety Data Sheets to the Technical Authority of all the above substances used in the fabrication of the product supplied.

3.4 **Performance** - Proof of Compliance **shall** be provided for validation of performance.

3.4.1 **Performance**

- (a) The vehicle **shall** have a blade pull evaluated with rear wheel drive only and coefficient of traction measuring 0.9 or at least that defined as "BLADE PULL" in the Configuration Capability Table;
- (b) The vehicle **shall** have a first gear engine power rating of at least that defined as "ENGINE RATING - FIRST GEAR" in the Configuration Capability Table, evaluated with the all wheel drive (AWD) engaged; and
- (c) The vehicle **shall** have a drive system type given as "DRIVE" in the Configuration Capability Table.

3.4.2 **Vehicle Delivery Condition** - The vehicle **shall** be delivered to destination in a fully operational condition (serviced and adjusted). Both the interior and exterior of the vehicle **shall** be cleaned. If the vehicle requires assembly at destination, the Contractor **shall** be responsible for all manpower and equipment to perform assembly. The consignee will provide the area required for assembly. For shipment verification, all items such as wheel wrenches, jacks, and all other tools, equipment and accessories which are shipped loose with the equipment, **shall** be listed on the shipping certificate or to an attached packing note.

3.5 **Equipment**

3.5.1 **Application Equipment** - Equipment/features below **shall** be provided:

- (a) **Mouldboard** - A circle with a mouldboard (blade) designed to give a rolling tumble to the materials **shall** be provided. The Circle and Mouldboard **shall** have:
  - i Power actuated blade tilt and side shift;
  - ii A bank cutting angle, either side, of at least that given in the Attachment Capability Table as "CIRCLE" - "CUTTING ANGLE";
  - iii Mouldboard blade dimensions of:
    - 1. Height of at least the value given in the Attachment Capability Table as "MOULDBOARD" - "HEIGHT"; and
    - 2. Length of at least the value given in the Attachment Capability Table as "MOULDBOARD" - "LENGTH".
  - iv Have a digging depth of at least the value given in the Attachment Capability Table as "MOULDBOARD" - "DIGGING DEPTH";
  - v Have a ground pressure of the value given in the Attachment Capability Table as "MOULDBOARD" - "GROUND PRESSURE"; and

- vi One or more bolt on replaceable cutting edges.
- (b) **Scarifier** - A "V" type mid-mount scarifier **shall** be provided, which **shall** have:
  - i At least the number of teeth as given in the Attachment Configuration Table as "**SCARIFIER**" - "**TEETH**";
  - ii A swath of at least the value given in the Attachment Configuration Table as "**SCARIFIER**" - "**SWATH**"; and
  - iii A ground pressure of at least the value given in the Attachment Configuration Table as "**SCARIFIER**" - "**GROUND PRESSURE**".
- (c) **Hydraulic Mouldboard Float Control** - A mouldboard float control **shall** be provided;
- (d) **Vehicle Tie-Down Devices** - Permanent and integrally vehicle tie-down devices **shall** be provided.
  - i The vehicle Tie-Downs **shall** be designed for forward thrust of 4 G, a rearward thrust of 4 G, an upward thrust of 2 G and a side thrust of 1.5 G (1 G = shipping weight of the equipment), loads are not imposed simultaneously;
  - ii The vehicle Tie-Downs **shall** be designed to withstand stresses imposed by thrust loads (all directions) with a factor of safety of 1.5 with respect to the ultimate strength of the material;
  - iii The vehicle Tie-Downs **shall** be designed/located to prevent shifting or movement during transport on low-bed trailers, rail car and aboard ships;
  - iv The vehicle Tie-Downs **shall** be located to permit easy attachment of cables or turnbuckles;
  - v The vehicle Tie-Downs **shall** be identified and marked with maximum strain permitted. Markings **shall** be painted using a contrasting colour; and
  - vi The vehicle **shall** include complete tie down instructions showing locations. This information **shall** be shown in the manual and it is preferred that it is marked in the vehicle cab (in the form of decals).
- (e) **Protection Against Vandalism** - Vandal protection measures including provisions for locking the engine covers, filler caps and cab **shall** be provided;
- (f) **Recovery Hooks** - Towing hooks, loops, or a component with equivalent capability at the front and rear of the vehicle **shall** be provided. The contractor **shall** obtain approval from the Technical Authority for recovery hooks whose location is other than the vehicle chassis;
- (g) **Tool Compartment** - Tool compartment to hold all tools and loose equipment required for daily maintenance **shall** be provided.

- i The tool compartment **shall** be protected from the elements including road splash or be of weatherproof construction with anti-return type drainage; and
- ii The tool compartment **shall** be equipped with a means to be locked. The cover **shall** have a weatherproof seal.
- (h) **Filler Caps** - Clearly/permanently identified filler caps by contents, using international symbols, a standard (i.e. SAE 10W30) or written in French and English **shall** be provided; and
- (i) **Non-Skid Walking Surfaces** - The vehicle **shall** have all walking surfaces covered with a coarse non-skid coating for operator safety.

3.5.2 **Attachments and Features** - The following equipment and features **shall** be provided, when indicated with an "✓" in the Attachments and Features Table:

- (a) **"V" Plow** - A front mounted "V" plow, which **shall** include mounting framework and controls located in the cab. The plow **shall** be wider than the vehicle's footprint;
- (b) **Rear Plow Wing** - A rear plow wing which **shall** be mounted behind the operator and articulation.
  - i The plow wing **shall** include mounting framework with controls in the cab and working lights to illuminate the wing mould-board.
  - ii The plow wing **shall** have a bench cutting height of no less than that given in the Attachment Capability Table as "REAR PLOW" - "CUTTING HEIGHT".
  - iii The plow wing **shall** have a nominal length of 3,657mm (12 feet).
  - iv The plow wing **shall** be equipped with float control.
  - V The main hydraulic lines connecting the wing to the vehicle **shall** be equipped with drip-less quick connect fittings;
- (c) **Windrow Eliminator** - A rear mounted windrow eliminator. The windrow eliminator **shall** work in conjunction with the mouldboard to allow single pass grading of gravel shoulders;
- (d) **Front Lift Group** - A front lift group compatible with a Craig Manufacturing MG-VP 9' V-Plow **shall** be provided. The front lift group **shall** be compatible with all attachments provided with the vehicle;
- (e) **Dozer Blade** - A dozer blade which **shall** mount to the front lift group;
- (f) Towed **Compactor** - A smooth tire compactor which **shall** mount to the rear framework of the grader..
  - i The compactor **shall** have a weight of at least 1,500 kg;

- ii The compactor **shall** have a secure transport position for when the compactor is not in use; and
  - iii The compactor **shall** have a compacting width of at least 2,250mm.
  - (g) **Towed Compactor Provisions** - All required mounting provisions and vehicle functions to operate the Compactor equipped on the vehicle.
  - (h) **Sod Mulcher** - A front mounted hydraulically operated sod mulcher. The following applies:
    - i The sod mulcher **shall** have a nominal drum width of 2,740mm;
    - ii The sod mulcher **shall** have a nominal drum diameter of 510mm;
    - iii The sod mulcher **shall** mount to the grader front lift group;
    - iv The sod mulcher **shall** angle to the left and right; and
    - v The sod mulcher **shall** have replaceable cutting teeth.
  - (i) **Sod Mulcher Provisions** -All required mounting provisions and vehicle functions to operate the Sod Mulcher equipped on the vehicle;
  - (j) **Blade Extension** - A mouldboard blade extension. The following applies:
    - i The extension **shall** have a nominal length of 610mm;
    - ii The extension profile **shall** match that of the mouldboard; and
    - iii The extension **shall** have a bolt on replaceable cutting edge.
- 3.6 **Operator Station** - The operator station **shall** include:
- (a) **ROPS Cab** - A weatherproof pressurized, insulated cab incorporating Roll Over Protective Structure, which **shall**<sup>(8)</sup> conform to SAE J1040 or ISO 3471. The cab **shall**:
    - i Have a ventilation and defrosting system capable of keeping windows free from frost and moisture and include a heater conforming to SAE J1503 and SAE J169 or to ISO 10263-4;
    - ii Have safety glass in windows. It is preferred the glass be tinted to reduce solar heating load;
    - iii Have windshield wipers conforming to SAE J198 having at least 2 speeds preferably with an intermittent setting, including a windshield washer for each wiper; and
    - iv Have two lockable doors, or one door and at least visibly labelled one window as an emergency operator escape route.
  - (b) **Suspension Seat** - An operator's air suspension seat and backrest in conformance with SAE J899 or in conformance with ISO 11112:1995 and ISO 7096. The seat **shall** be selected to be comfortable for an operator who may be operating the vehicle for extremely long periods and have

seat material being a breathable fabric or a mesh surface. The seat **shall**:

- i Be equipped with seat belts, conforming to with SAE J386 , Type 1 or ISO 6683; and
  - ii Be horizontally and vertically adjustable while in a seated position.
- (c) **Mirrors** - Adjustable rear-view mirrors positioned for safe reverse operation. If exterior mirrors are used, they **shall** be heated with separate dashboard switch. It is preferred that the non-reflective surface of the mirror be flat black. It is preferred that mirrors be a split type with at least 25 percent convex or fully convex; and
- (d) **Radio** - A radio, which turns off automatically when the vehicle is not in service. It is preferred that the radio includes a CD player and an auxiliary input connection.
- (e) **Air Conditioner** - An air conditioning system conforming to SAE J1503 and SAE J169 or conforming to ISO 10263-4. Air conditioning units **shall** not use ozone-depleting refrigerants such as CFCs (Chlorofluorocarbons) but preferably use HFCs (Hydro Fluorocarbons).
- (f) **Rear View Camera** - A rear view camera **shall** be installed on the vehicle. The camera image **shall** be displayed in the cab of the vehicle.

3.7 **Chassis** - The vehicle chassis **shall** be the manufacturer's standard for a vehicle of this type and size.

3.7.1 **Articulation** - The vehicle **shall** articulate to both sides an angle of at least that given as "ARTICULATION" in the Configuration Capability Table;

3.7.2 **Fenders** - The vehicle **shall** be equipped with front and rear fenders.

3.7.3 **Licence Plate Holder** - The vehicle **shall** be equipped with a rear mounted licence plate holder.

3.8 **Engine** - The engine **shall** be diesel powered.

3.8.1 **Engine Components** - Engine components **shall** be the manufacturer's standard.

3.8.2 **Fuel Tank(s)** - The fuel tank(s) **shall** be the manufacturer's standard. The fuel tank(s) **shall** be at least half full when delivered.

3.8.3 **Engine Cold Weather Aids** - Cold weather aids to enable the engine (operating with winter grade fuels/oils) to be started at temperatures down to -40° C **shall** be provided. External electrical power for engine and battery heaters **shall** be a single cover-protected plug that is accessible without lifting engine covers. The following **shall** be included:

- (a) 110-volt engine heater(s) with a capacity as recommended by the engine manufacturer or conforming to SAE Information Sheet J1310;

- (b) 110-volt battery heater(s) having wattage matched to battery size to prevent battery damage due to overheating. The battery **shall** be housed in an insulated battery box or in a heated cab; and
- (c) A low temperature starting aid. The engine **shall** have one of the following: ether injection system, glow plug(s) or intake air preheat system.

3.8.4 **Fuel-Fired Pre-Heater** - A fuel-fired preheat system **shall** be provided. The fuel-fired pre-heater **shall** be the size recommended by the heater manufacturer. The model **shall** be subject to Technical Authority approval.

3.9 **Transmission** - The vehicle **shall** be equipped with the manufacturer's standard continuous power transmission such as a power shift, power shuttle or hydrostatic.

3.9.1 **Transmission Features** - The following transmission features **shall** be provided when specified in the Attachment and Features Table:

- (a) **Front Wheel Drive System** - A driver selected front wheel drive system to provide power grader steering wheels, which **shall** have a device to provide full disengagement or over-riding of drive motors for rear tandem drive operations and be free wheeling for road travel.

3.10 **Brake System** - The manufacturer's standard brake system **shall** be provided and **shall**<sup>(B)</sup> conform with SAE J/ISO 3450.

3.11 **Steering** - The manufacturer's standard steering **shall** be supplied conforming to SAE Vehicle Standard J1511 and include leaning front wheels.

3.12 **Wheels, Rims and Tires** - The wheels, tires and rims **shall** have G-2 treads and preferably be radial tires.

3.12.1 **Tire Attachments** - The following tire attachments and features **shall** be provided when specified in the Attachment and Features Table:

- (a) **Tire Chains** - Tire chains for the rear tandem tires as well as a storage rack(s) outside the cab **shall**<sup>(B)</sup> be provided. The contractor **shall** receive Technical Authority approval for storage location.
- (b) **Winter Tires** - A set of radial ply, tubeless winter tires installed in lieu of standard tire option.

3.13 **Controls** - The vehicle **shall**<sup>(B)</sup> have the manufacturer's standard controls including arm-rest mounted controls for the mouldboard and a throttle control for convenient right foot operation.

3.14 **Instruments** - Instruments **shall** be manufacturer's standard including a numeric read-out hour-meter, which displays accumulated running time up to 9,999 hours.

3.15 **Electrical System** - The vehicle electrical system **shall** be the manufacturer's standard.

3.15.1 **Electrical System Features** - The following **shall** be provided when indicated in the Attachment and Features Table:

- (a) **Solar Battery Charging System** - A solar battery charging system **shall** be provided. The solar battery charging system **shall**<sup>(B)</sup> be a NSN 6130-01-487-0035. The solar battery charging system **shall** be equipped with a guard to prevent damage from debris or removing snow from the vehicle. The contractor **shall** have solar battery charging system location/wiring approved by the Technical Authority prior to installation.

3.16 **Lighting** - The vehicle **shall** have the manufacturer's standard lights, conforming to Canadian Motor Vehicle Safety Standards (CMVSS) for this type of vehicle. The lighting **shall** include as a minimum:

- (a) **Mouldboard Lights** - Lamps to illuminate the mouldboard at night **shall** be provided.
- (b) **Amber Coloured Strobe Light** - An amber coloured strobe light either continuously on or with a dash mounted control switch **shall** be provided. The strobe light(s) **shall** provide maximum vehicle visibility and preferably be mounted on the cab roof. The strobe light **shall** be LED.
- (c) **Working Lights** - Lights illuminating the front and rear working areas for operations in dark locations **shall** be provided. The working lights **shall** be LED.

3.17 **Hydraulic System** - The hydraulic system **shall** be the manufacturer's standard complete with all components required for the operation of the hydraulic equipment specified. All hydraulic lines used for the operation of auxiliary attachments **shall** be equipped with drip-less quick connect fittings i.e. plow wing.

3.18 **Lubricants and Hydraulic Fluids** - The vehicle **shall** be serviced with the manufacturer's non-proprietary standard lubricants and hydraulic fluids.

3.18.1 **Automatic Greasing System** - The vehicle **shall** be equipped with an Automatic Greasing System, which **shall** automatically provide grease to the majority of the greasing points to the manufacturer's specifications. The system **shall** include a telltale light indicating that the system is functioning and a low grease level alarm in the operator's station. The mounting location **shall** not impede ingress or egress of the vehicle. Final mounting location and configuration will be approved by the Technical Authority prior to vehicle delivery.

3.19 **Paint** - The vehicle **shall** be painted using manufacturer's standard commercial colours. The prime coating **shall** be a high-durability, corrosion-resistant type. The prime coating **shall**<sup>(B)</sup> be epoxy type or baked powder coat.

3.20 **Identification** - The following information **shall** be permanently marked in a conspicuous and protected location:

- (a) Manufacturer's name, model and serial number; and
- (b) Manufacturer's Vehicle Identification Number (VIN), where applicable.

4. **Integrated Logistic Support** - The Contractor is required to ensure that spare parts required to properly maintain and repair vehicles are available for purchase for a period of 10 years.

4.1 **Documentation and Support Items** - The Contractor **shall** provide the following documentation and support items.

4.1.1 **Items with Each Vehicle** - The Contractor **shall** provide the following items with each vehicle:

- (a) **Vehicle Manuals** - Manuals required for safe operation, maintenance and repair of the vehicle. It is preferred that complete sets of manuals are provided on CD/DVD-ROM (without password(s), installation requirements or requiring an Internet connection). An Operator's Manuals in paper format **shall** always be provided with each vehicle. The Vehicle Manuals **shall** include:
  - i **Operator's Manuals** - Operator's manuals in a bilingual format or as 2 manuals in a single binder (one English, and one French);
  - ii **Parts Manuals** - The Parts Manuals in a bilingual format or as 2 manuals in a single binder (one English, and one French);
  - iii **Maintenance (Shop Repair) Manuals** - The Maintenance (Shop Repair) Manual in a bilingual format or as 2 manuals in a single binder (one English, and one French);
- (b) **Warranty Letter** - A paper copy of the completed bilingual Warranty Letter in the approved format provided with each vehicle shipped. Designated warranty providers **shall** honour the warranty letter;
- (c) **Initial Parts Kit** - One Initial Parts Kit, which **shall** include all items in "Initial Parts Kit List" approved by the Technical Authority.
- (d) **Fluid/Lubricant Reference Sheet** - A quick reference sheet (in English) providing fluid and lubricant type and grade required for all vehicle fluids and lubricants **shall** be provided with each vehicle. The quick reference sheet **shall** be laminated; and
- (e) **Keys** - 4 sets of keys **shall** be provided with each vehicle.

4.1.2 **Documents Provided to Technical Authority** - Example documents are available from the Technical Authority. The Contractor **shall** provide the following documents to the Technical Authority:


- (a) **Data Summary** - A bilingual Data Summary for each make/model/configuration with data and a vehicle picture on the Technical Authority provided form. This provides a document in accordance CFTO D-01-100-200/SF-002: "Preparation of Data Summaries for Commercial Vehicles & Equipment". The contractor may request the CFTO if they need further information. The Contractor **shall** provide a Data Summary before shipment of vehicles;
- (b) **Sample Manuals** - A set of Sample Manuals in digital format, including the Operator, Parts and Maintenance Manuals. The sample manuals **shall** be delivered to the Technical Authority 30 working days before delivery



of vehicles. Sample manuals will not be returned. The Technical Authority will provide manual approval or comments within 30 days;

- (c) **Warranty Letter Technical Authority Copy** - The Contractor **shall** send a copy of the Warranty Letter, in electronic format, to the Technical Authority for each vehicle, at shipment;
- (d) **Photographs** - Two (2) digital pictures, one left-front three-quarter view, and one right-rear three-quarter view of each make/model/configuration. It is preferred that pictures have an uncluttered background. Pictures **shall** have a size of at least four (4) Mega pixels;
- (e) **Initial Parts Kit List** - A list of parts needed to perform preventive maintenance on one vehicle for a 1 year period as per the maintenance manual. A complete change of all filters and filter elements **shall** be included in the list. The list will be reviewed, amended (if required) and approved by the Technical Authority. The list **shall** include the following elements:
  - i Part description;
  - ii Original Equipment Manufacturer Part number;
  - iii Suggested quantity; and
  - iv Unit cost.
- (f) **Material Safety Data Sheets** - The contractor **shall** provide a listing of all hazardous materials used in the fabrication of the product supplied to the Technical Authority, if there are no hazardous materials used, this **shall** be noted on the listing. The contractor **shall** provide Material Safety Data Sheets for all the hazardous materials used in the fabrication of the product supplied.4.2 **Training** - The Contractor **shall** perform the following training as indicated in the Attachment and Features Table:
  - (a) **Familiarization** - At least 1-day (8 hours) familiarization instruction at each destination, for a maximum of 8 personnel, no later than one month after delivery of each vehicle. The instruction **shall** include the detailed operation and normal servicing of the vehicle/equipment and **shall** be split into two - four (4) hour segments for operator familiarization and maintainer familiarization. Familiarization instructions **shall** be available in both official languages for destinations in the province of Quebec or as requested by the Technical Authority. The training dates **shall** be arranged in conjunction with the Technical Authority. After completion of the familiarization session, the Contractor **shall** have a "PROOF OF FAMILIARIZATION INSTRUCTION" certificate signed by the consignee. The Technical Authority will supply this document in an electronic format, when requested.

2014-10-17

	<b>NOTICE</b>
	<p>This documentation has been reviewed by the Technical Authority and does not contain controlled goods.</p> <p style="text-align: center;"><b>AVIS</b></p> <p>Cette documentation a été révisée par l'Autorité technique et ne contient pas de marchandises contrôlées.</p>

**TECHNICAL INFORMATION QUESTIONNAIRE**

**REF - GRADER, LARGE, ROAD, DED, AWD**

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

Where the specification paragraphs below indicate "Proof of Compliance", the "Proof of Compliance" **shall** be provided for each performance requirement/specification.

Bidders should indicate the requested information and indicate the document name/title and page number where the Proof of Compliance can be found.

Definitions for **Equivalent** and **Proof of Compliance** are found in the DEFINITIONS section at the end of this document.

**CONTRACTOR INFORMATION**

Contractor Name \_\_\_\_\_

Address \_\_\_\_\_

Proposal Date \_\_\_\_\_

**Substitutes/Alternatives**

Please identify all equipment substitutes/alternatives offered as **Equivalents** below:

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Revisions		
Rev	Date	Description
A	2014/07/03	Initial Release
B	2014/10/17	Add Engine Rating to Compliance Table

**OPI DSVPM 4 - DAPVS 4**

Issued on Authority of the Chief of the Defence Staff

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



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**Configuration H****VEHICLE CONFIGURATION:**

Please provide the following information to aid in the evaluation of proof of compliance documentation.

**NOTE:** Completion of this document does not constitute proof of compliance. Additional supporting documentation/information must be provided as per definition of "Proof of Compliance."

**Make** \_\_\_\_\_ **- Model** \_\_\_\_\_

**CONFIGURATION COMPLIANCE TABLE - Proof of Compliance**

CLAUSE	CHARACTERISTIC	VALUE	UNIT	DOCUMENT TITLE	PAGE
3.4.1 (a)	Blade Pull		kN		
3.4.1 (b)	Engine Rating - First Gear		kW		
3.4.1 (c)	Drive				
3.7.1	Articulation		Degrees		

**ATTACHMENT COMPLIANCE TABLE - Proof of Compliance**

CLAUSE	CHARACTERISTIC		VALUE	UNIT	DOCUMENT TITLE	PAGE
3.5.1 (a)	Circle	Cutting Angle		Degrees		
3.5.1 (a)	Mouldboard	Height		mm		
		Length		mm		
		Digging Depth		mm		
		Ground Pressure		kN		
3.5.1 (b)	Scarifier	Teeth				
		Swath		mm		
		Ground Pressure		kN		
3.5.2 (b)	Rear Plow			mm		

3.4.1 **Blade Pull - Calculation** - Proof of Compliance

Weight on rear tires (RW) = \_\_\_\_\_

Information can be found in document(s): \_\_\_\_\_ page: \_\_\_\_\_.

Coefficient of Traction = 0.9

RW x 0.9 = BLADE PULL

\_\_\_\_\_ x 0.9 = \_\_\_\_\_

3.5.1 **Application Equipment** - Proof of Compliance

(c) **Hydraulic Float Control**

Information can be found in document(s): \_\_\_\_\_ page: \_\_\_\_\_.

3.5.2 **Optional Equipment** - Proof of Compliance

(a) **"V" Plow**

The make and model are \_\_\_\_\_ and,

Proof of compliance for the front lift group can be found in document(s): \_\_\_\_\_ page: \_\_\_\_\_.

(b) **Rear Plow Wing**

The make and model are \_\_\_\_\_ and,

Proof of compliance for the front lift group can be found in document(s): \_\_\_\_\_ page: \_\_\_\_\_.

(c) **Windrow Eliminator**

The make and model are \_\_\_\_\_ and,

Proof of compliance for the front lift group can be found in document(s): \_\_\_\_\_ page: \_\_\_\_\_.

(d) **Front Lift Group**

The make and model are \_\_\_\_\_ and,

Proof of compliance for the front lift group can be found in document(s): \_\_\_\_\_ page: \_\_\_\_\_.

(e) **Dozer Blade**

The make and model are \_\_\_\_\_ and,

Proof of compliance for the front lift group can be found in document(s): \_\_\_\_\_ page: \_\_\_\_\_.

(f) **Compactor**

The make and model are \_\_\_\_\_ and,  
Proof of compliance for the front lift group can be found in  
document(s): \_\_\_\_\_ page: \_\_\_\_\_.

(h) **Sod Mulcher**

The make and model are \_\_\_\_\_ and,  
Proof of compliance for the front lift group can be found in  
document(s): \_\_\_\_\_ page: \_\_\_\_\_.

3.6 **Operator Station - Proof of Compliance**

(a) ROPS Certification proof of compliance can be found in document(s):  
\_\_\_\_\_ page: \_\_\_\_\_.

(f) Proof of compliance for the rear view camera can be found in  
document(s): \_\_\_\_\_ page: \_\_\_\_\_.

3.7.2 **Fenders - Proof of Compliance**

Proof of compliance can be found in document(s): \_\_\_\_\_  
page: \_\_\_\_\_.

3.8 **Engine - Proof of Compliance**

The engine fuel type is \_\_\_\_\_ and,  
Proof of compliance can be found in document(s): \_\_\_\_\_  
page: \_\_\_\_\_.

3.13 **Controls - Proof of Compliance**

The mouldboard controls are \_\_\_\_\_ and,  
Proof of compliance can be found in document(s): \_\_\_\_\_  
page: \_\_\_\_\_.

3.15.1 **Solar Battery Charging System - Proof of Compliance**

(a) The make and model are \_\_\_\_\_ and,  
Proof of compliance can be found in document(s): \_\_\_\_\_  
page: \_\_\_\_\_.

3.18.1 **Automatic Greasing System - Proof of Compliance**

The make and model are \_\_\_\_\_ and,  
Proof of compliance can be found in document(s): \_\_\_\_\_  
page: \_\_\_\_\_.

## DEFINITIONS

*The following definitions 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.
- b) "Proof of Compliance" is defined as an unaltered document, such as a brochure and/or technical literature and/or a third party test report provided by a nationally and/or internationally recognized testing facility and/or a report generated by a nationally and/or internationally recognized third party software. The document **shall** provide detailed information on each performance requirement and/or specification. Where a document submitted as Proof of Compliance does not cover all the performance requirements and/or specifications or when no such document is available or when modifications to the original equipment or customization are required to achieve the performance requirements and/or specifications, a Certificate of Attestation (as a separate document) signed by a senior engineer representing the Original Equipment Manufacturer (OEM) detailing the modifications and how they meet the performance requirements and/or specifications **shall** be provided. The certificate **shall** detail all performance requirements and/or specifications required to substantiate compliance. One certificate can be provided for one or all performance requirements and/or specifications.