



**THE CORPORATION OF THE
MUNICIPALITY OF WAWA**

**REQUEST FOR TENDER
RFT 2019-10**

**SUPPLY AND DELIVERY OF
ONE (1) TANKER FIRE APPARATUS**

Issue Date: Monday, September 9, 2019

Closing Date: Thursday, October 3, 2019 (3:30 p.m.)

**Attention: Ms. Cathy Cyr, Municipal Clerk
Municipality of Wawa
40 Broadway Avenue, P.O. Box 500
Wawa, ON P0S 1K0**

INFORMATION FOR BIDDERS

ISSUE DATE: Monday, September 9, 2019

TENDER REFERENCE: RFT 2019-10: One (1) Tanker Fire Apparatus

TENDER CLOSING: Thursday, October 3, 2019 at 3:30 p.m. (EST)

Tenders received after 3:30 p.m. (EST) on October 3, 2019 will not be accepted.

Tenders will not be accepted by facsimile or email.

PUBLIC TENDER OPENING: Thursday, October 3, 2019 at 4:00 p.m. (EST)
Municipality of Wawa Council Chambers
40 Broadway Avenue
Wawa, ON P0S 1K0

All to be in accordance with the following and attached:

1. Information for Bidders
2. Tender Form
3. Specifications Document

It is the Bidder's responsibility to ensure that the tender arrives at the Municipal Offices, no later than the closing date and time specified, at the following address:

Courier Address:

Ms. Cathy Cyr, Municipal Clerk
Municipality of Wawa
40 Broadway Avenue
Wawa, ON P0S 1K0

Mailing Address:

Ms. Cathy Cyr, Municipal Clerk
Municipality of Wawa
P.O. Box 500, 40 Broadway Avenue
Wawa, ON P0S 1K0

All submissions to be sealed and clearly marked "RFT 2019-10: One (1) Tanker Fire Apparatus".

Municipal Office Hours of Operation: Open 8:30 am to 4:30 pm, Monday to Friday, except for statutory holidays.

It is the Bidder's responsibility to clarify interpretation of any item in this Request for Tender, not later than five (5) working days before the closing date specified, by contacting the following individuals by email:

Tender Detail: Mr. Kevin Sabourin, Fire Chief
Email: ksabourin@wawa.cc
Telephone: 705-856-2244 ext. 228

1. **SCOPE OF TENDER**

- 1.1 As per the specifications provided, each manufacturer is invited to submit pricing and delivery, called a bid, for one (1) Tanker Fire Apparatus.
- 1.2 The specifications shall be answered on the forms provided or the bid will be disqualified. Each bidder shall submit a set of specifications outlining the exact vehicle proposed.
- 1.3 Other bid forms or the submission of alternates, not detailed in the specifications, shall be cause for disqualification.
- 1.4 It is intent that the specifications clearly identify the furnishing and delivery of a complete Tanker Fire Apparatus as specified.
- 1.5 Bids submitted will be reviewed and evaluated based on qualifications, bonding, quality programs, irregularities, delivery and price.
- 1.6 The purchaser shall be the sole determining organization as to the award of the tender, and the lowest price may not necessarily be accepted.
- 1.7 A bidder may submit separate bids for more than one vehicle. A proponent may submit a bid on a stock unit, and/or demo unit, and/or custom unit that meets the specifications.
- 1.8 The bidder may withdraw a submitted bid at any time up to the official closing time by letter bearing a signature and/or seal. Withdrawal requests received after the proposal closing time will not be permitted.
- 1.9 In the event that only one tender is received at time of closing, the Municipality will either open the tender or delay opening of the tender until a decision is made as to whether to open or reject the tender.
- 1.10 Any and all changes to the terms, conditions or specifications required before proposal closing will be issued by the Municipality in the form of written Addendum. If addenda are issued, their receipt must be acknowledged by the proponents.
- 1.11 The Municipality reserves the right to accept or reject any and all tenders.
- 1.12 The Tender Form must be completed in ink, in full, signed and returned in a sealed envelope clearly marked with the name and address of the bidder, and labeled "**TENDER - TANKER FIRE APPARATUS**"
- 1.13 **FACSIMILES ARE NOT ACCEPTABLE.**
- 1.14 All prices must be in Canadian funds.
- 1.15 Pricing provided shall be held firm for a maximum of thirty (30) calendar days from the tender closing date.
- 1.16 The vehicle shall be delivered in no more than 320 calendar days from the award of the contract to:

**Wawa Fire Department
40 Broadway Avenue
Wawa, Ontario**

Failure to achieve deadline will result in a penalty of \$300.00 per day.

- 1.17 Detail the cost of delivery separately as the Municipality may pick up the vehicle from the successful bidder.
- 1.18 If any payment is required prior to delivery, the bidder shall complete a payment schedule with their submission.
- 1.19 The Municipality reserves the right to hold back 10% of payment until such time as the vehicle is proven to perform at expected levels.

2. **BID DEPOSIT**

- 2.1 A \$10,000 bid deposit shall be provided from the apparatus manufacturer in the form of a Bid Bond or Certified Cheque. Bonds from sales representatives, agents, or other parties shall not be recognized or accepted. This deposit shall remain with the Municipality until the time of contract award.

3. **WARRANTY**

- 3.1 The warranties required by the Municipality are noted in Section 35 of the proposal specification. Copies of all warranties shall be included with the bid submission.
- 3.2 All warranties shall be binding on the successful bidder over the service life of the apparatus.
- 3.3 All warranties from the bidder or any subcontractor, whether or not herein requested for any portion of the unit proposed shall be included in the bid submission.
- 3.4 Warranties shall begin on the dates noted in Section 35 of the proposal specification.

4. **TERMS & CONDITIONS**

- 4.1 Vehicle must be supplied with suitable components necessary to ensure safe and satisfactory operation whether or not specified herein.
- 4.2 Where minimums are called for the unit must meet or exceed the minimum stated.
- 4.3 The successful bidder shall provide instruction by a qualified and responsible representative of the supplier to a representative of the Wawa Volunteer Fire Department. Topics of instruction shall include but not be limited to operation, care and maintenance of the apparatus and equipment. The training plan is to be included with your proposal submission.
- 4.4 Should the vehicle require special tools to perform maintenance, repairs, etc., such tools shall be provided to the Wawa Volunteer Fire Department at the time of delivery and shall be included in the bid price.
- 4.5 The bidder will not, without written consent of the Municipality, make any assignment or any subcontract for the execution of any service or product hereby proposed on.

- 4.6 In cases of dispute whether a product or service proposed or delivered meets the condition in the accepted tender, the decision of the Municipality shall be final and binding on all parties.
- 4.7 Defective components will not be accepted. Parts, equipment and assemblies that have been repaired or modified to overcome deficiencies shall not be furnished without the written approval of the Municipality.
- 4.8 Any welded bolted or riveted construction utilized shall be in accordance with the accepted standards of the industry. Component parts and units shall be manufactured to definite standard with proper fits, clearances, and uniformity. The general appearance of the vehicle shall not show any evidence of poor workmanship.

5. TENDER EVALUATION

- 5.1 This tender will be evaluated on a points system based on the documents submitted with this tender. Failure to submit requested documents may result in your tender being rejected or 0 points being assigned. Evaluation of points being received in each section is at the discretion of the purchaser/fire department.

DESCRIPTION	POINTS
Compliance to Specifications	28
Design	27
Price	15
Warranties	10
ISO Certificate	4
Professional Engineering Certificate of Staff Member	4
C.W.B Welding Certificates	4
Insurance Certificate for \$5,000,000.00	3
Fire Apparatus Manufacture Association Certificate	3
Length of Time in Business/No prototypes	2
TOTAL	100

6. QUALIFICATION DOCUMENT

All bidders must fill this form out completely. Bids not returned with this form completely filled out will be disqualified. Any blank spaces or noncompliance to **Mandatory Requirements** could result in the manufacturers bid submittal being disqualified.

6.1 Requirements

- a) The manufacturer of the apparatus must certified and in good standing with the Workers Compensation Board. Proof of certification must be supplied with the bid. A manufacturer that is not certified in Factory Manufacturing or not in good standing with their local Workers Compensation Board shall be disqualified. **(Mandatory Requirement)**

Comply (Yes/No) _____ **Certificate Attached (Yes/No)** _____

- b) The bidder shall provide a "24Hour", "7-Day Per Week" emergency parts and service toll free telephone number. This phone number must be listed on a separate statement included in the bid package, along with the contact name, business name, address, and phone number of the local service agency, which will service the vehicle after being placed into service. The service agency shall be capable to perform all required service work, and shall also have at their disposal the ability to have any required subcontracting work, such as engine, transmission, etc. Work performed on behalf of the apparatus manufacturer. **(Mandatory Requirement)**

Comply (Yes/No) _____

- c) The bidder shall have a documented and certified ISO 9001 quality program in place. A copy of the certifications must be included with the bid submittal. The apparatus manufacturer shall provide the name of the ISO provider, as well as the ISO providers contact information including phone number **(Mandatory Requirement)**

Comply (Yes/No) _____ **Certificates Attached (Yes/No)** _____

Contact Information Attached (Yes/No) _____

- d) The apparatus manufacturer must provide documentation of having a certified engineer on staff with the bid submittal. **Sub Contracted Engineers Shall Not Be Acceptable and Shall Disqualify The Bid.** **(Mandatory Requirement)**

Comply (Yes/No) _____ **Certificates Attached (Yes/No)** _____

- e) All welding on the apparatus body and plumbing systems must be performed by certified welders. Copies of the certification must be attached with the bid submittal. **(Mandatory Requirement)**

Comply (Yes/No) _____ **Certificates Attached (Yes/No)** _____

- f) The manufacturer of the apparatus must supply a Certificate of Insurance proving that they carry a minimum of \$5,000,000.00 in product liability insurance. Bids not meeting this requirement will not be accepted. A copy of the certificate shall be included with the bid submittal. **(Mandatory Requirement)**

Comply (Yes/No) _____ Certificate Attached (Yes/No) _____

- g) The apparatus manufacturer must be a current member of the Fire Apparatus Manufacturers Association (FAMA). A copy of the certificate must be attached with the bid submittal.

Comply (Yes/No) _____ Certificate Attached (Yes/No) _____

- h) The bidder must have been manufacturing fire apparatus continuously, under the same ownership without interruption for a minimum of twenty (20) years. **(Mandatory Requirement)**

Comply (Yes/No) _____ Certificates Attached (Yes/No) _____

7. ENGINEERING DRAWINGS

- 7.1 The bidder shall submit with the “tender” drawings which are “representative” of the vehicle being proposed and these have been generated on computer-aided-design (CAD) equipment. The drawings submitted shall be on “B” size paper, 11” x 17” in size and views are on 1/16” to 1” scale.

The five (5) view drawings to be provided are as follows:

- Left side exterior view
- Right side exterior view
- Rear exterior view
- Front view
- Top view

- 7.2 The bidder shall provide construction drawings for approval prior to actual construction of the vehicle.

- 7.3 The design of the equipment is in accordance with the best engineering practices. The equipment design and accessory installation shall permit accessibility for use, maintenance and service. All components and assemblies shall be free of hazardous protrusions sharp edges, cracks or other elements, which might cause injury to personnel or equipment.

- 7.4 All oil, hydraulics, and air tubing lines and electrical wiring shall be located in protective positions properly attached to the frame or body structure and shall have protective loom or grommets at each point where they pass through structural members, except where a through-frame connector is necessary.

7.5 Parts and components will be located or positioned for rapid and simple inspection and recognition of excessive wear or potential failure. Whenever functional layout of operating components determines that physical or visual interference between items cannot be avoided, the item predicted to require the most maintenance shall be located for best accessibility.

8. SERVICE MANUAL SUPPORT

As part of the standard delivery manual, the bidder shall give a password-protected link to the end user, allowing access to the manufacturers' database on service parts. The internet-based system shall allow the end user to access the major component supplier's service parts listing such as Hale, Waterous, Akron, etc. This shall be accomplished with simplistic point and click features on the manufacturer line item within the "stripper" or "line item sheet". This will include automatic updates, printable schematics and manufacturer's web links and be available in the commercially available format of Adobe Acrobat Reader to access these documents. As an alternative One (1) compact disc or USB manual(s) may be provided on the operation of the complete apparatus. The electronic manual(s) shall include a troubleshooting guide complete with recommended daily, weekly and annual maintenance procedures as well as a complete colour coded wiring diagram.

TENDER FORM
MUNICIPALITY OF WAWA
TENDER FOR ONE (1) TANKER FIRE APPARATUS

This tender for the supply of one (1) Tanker Fire Apparatus is submitted by:

In accordance with the accompanying specifications, I/we declare the goods submitted herein completely comply or have provided documented exceptions for the fore mentioned specification. I/we propose and agree to supply this unit for the following quotation price:

	OPTION 1- 6 Passenger Cab	OPTION 2 4 Passenger Cab	OPTION 3 Stock Model
Make/Model			
Production Year			
Manufactured at			
Price	\$	\$	\$
HST	\$	\$	\$
Other applicable charges (eg. Delivery)	\$	\$	\$
TOTAL PRICE (Canadian Funds)	\$	\$	\$

Please write TOTAL PRICE in words:

OPTION 1 \$ _____

OPTION 2 \$ _____

OPTION 3 \$ _____

PLEASE INCLUDE PAYMENT SCHEDULE IF APPLICABLE.

NOTE: Lowest, or any tender not necessarily accepted.

Dated this _____ day of _____, 2019.

Witness

Signature of Signing Officer or Owner

Position in Firm

Name of Firm

**WAWA VOLUNTEER FIRE DEPARTMENT
TANKER APPARATUS
SPECIFICATIONS DOCUMENT**

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**WAWA VOLUNTEER FIRE DEPARTMENT
TANKER APPARATUS
SPECIFICATIONS DOCUMENT**

1. GENERAL INSTRUCTIONS

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The bidder shall submit one (1) set of completed Qualification Documents, Proposal Forms, Specifications Documents and Attachments.			
b.	For each item in this RFT the "YES/NO" column of the form must be completed. Bidder shall indicate "YES" only where the equipment or service provided will fully comply with that item. If the mandatory criteria cannot be supplied, "NO" shall be indicated and the "Specification/Variation" column must be completed with the specifics of the proposed alternatives. If necessary, the Bidder may also supply a separate document fully detailing the variation on a separate page, referring to the section and the item number.			
c.	Where the RFT asks for information the answer must appear in the "Specification/Variations" column. If more space is required the information may be provided on a separate page, referring to the section and the item number.			
d.	The bidder shall specifically point out in their written RFT any circumstances where the minimum specification requirements may not be met.			
e.	Proposals which do not meet specification, and for which retrofitting is impractical, will be disqualified.			
f.	The warranty coverage applicable to various components or assemblies shall be specified. Such warranty coverage to become effective from the date the apparatus is placed in service.			
g.	Proposals must be based on a new apparatus. The apparatus and all accessory items shall be in current use in the fire service and have parts availability within a reasonable time/distance.			State parts/warranty dealer and location.
h.	All bidders must supply five (5) view drawings of the truck proposed (see Item 7.1 on page 7). Drawings which are "For reference only" shall not be acceptable.			
i.	Unless otherwise specified, construction shall meet or exceed CAN/ULC S515-13 standards and NFPA 1901 latest edition.			
j.	All items offered must comply with the requirements of all applicable Canadian Federal and Provincial (ON) regulations.			
k.	The specifications are to be considered as a minimum requirement and do not relieve the vendor of the responsibility of supplying a complete fully functional unit suitable for the service intended.			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
i.	Bidder shall state the after sales service and parts support provided.			
m.	The apparatus and equipment shall comply with the Canadian Motor Vehicle Safety Standards and all Federal and Provincial Motor Apparatus laws that are applicable to the apparatus being used in Ontario.			
n.	Documentation supporting the vehicle is to be delivered with the vehicle, such documentation will include: <ul style="list-style-type: none"> One maintenance manual and one parts list (in hard copy) and one additional copy on CD-ROM or USB. Two operator manuals. One set of repair manuals (hard copy and on CD-ROM or USB) Instructions shall include service, maintenance, repair and troubleshooting procedures for major and minor components of the chassis. A table of contents, wiring and air schematics shall be included. Parts lists shall include description, part numbers and quantities of all major and minor components. One "as built" body wiring diagrams 			
o.	One (1) inspection trip for two (2) Fire Department personnel shall be made to the facility at the completion of construction of the apparatus. Air travel (for distances over 400km), meals, and lodging expenses shall be included.			
p.	The GAWR and GCWR or GVWR of the chassis shall be adequate to carry fully equipped apparatus including: full water and other tanks; pump provided; the specified hose load; personnel weight; and any miscellaneous equipment allowance of 1000lb. (454 kg). The successful proponent shall calculate the unequipped personnel weight at 250 lb. (113 kg) per person, times six (6) persons to ride the apparatus. The successful proponent shall supply the final manufacturer's certification of GVWR or GCWR, and GAWR on a nameplate affixed to the vehicle.			State GVW:
q.	Every aspect of the apparatus design shall be compliant with the standards set out by the current version of "NFPA 1901 – Standard for Automotive Fire Apparatus" at the time of manufacture. The height of the vehicle's centre of gravity shall not exceed the chassis manufacturer's maximum limit. State the actual number of inches from the ground for the centre of gravity.			State centre of gravity:

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
q.	<p>The front to rear weight distributions of the fully loaded vehicle as defined in NFPA 1901, latest edition shall be within the limits set by the chassis manufacturer. Front axle loads, when fully loaded, shall not be less than the minimum axle loads specified by the chassis manufacturer. State the actual weight distribution.</p> <p>The difference in weight from side to side on each axle, when the vehicle is fully loaded and equipped as defined in NFPA 1901, latest edition, shall not exceed 7 percent. State the actual weight distribution.</p>			
r.	<p>Hydraulic lines, air system tubing, control cables and electrical lines shall be clipped to the frame or body structure of the apparatus and shall be furnished with metal protective looms or grommets at each point where they pass through body panels or structural members.</p> <p>Exception: Where the design provides a through-the-frame connector, metal protective looms or grommets shall not be required</p>			State Actual Component Protection Method:

2. TRAINING

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	Training sessions shall be provided by a qualified factory technician upon delivery. The intention is to have sufficient training sessions for each operator to become comfortable with key features relevant to the operator. These sessions will not be consecutive, and must be coordinated with the Wawa Volunteer Fire Department.			Online Training Plan:
b.	Training session shall be provided to Municipal mechanic. Will consist of a minimum 8 hour technician course.			State details:

3. CUSTOM CHASSIS

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	A non- extended wrap around front bumper that covers the full width of the cab shall be provided.			
b.	A zone Defense or equivalent, rear-view camera system, complete with a 7" display monitor, shall be supplied. The camera shall activate when the transmission is place in reverse.			State detail:
c.	Two (2) corrosion proof chrome tow eyes shall be mounted directly to the chassis frame rails, on each side of the front bumper.			
d.	The angle of approach and angle of departure shall be within the specifications outlined by NFPA 1901, latest edition.			State angle of approach: State angle of departure:

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
e.	The vehicle shall be equipped with an electronic stability control system which utilizes the chassis manufacturer's anti-lock braking and throttle control systems to aid in the prevention of vehicle rollover			
f.	The preferred chassis is a 4 door custom cab with a center of front axle to rear of cab dimension of 60" and a 10" raised roof with 6 passenger seating.			State actual:
g.	In addition to the standard features, the cab shall include: <ul style="list-style-type: none"> No rear cab window Electric windshield wipers with an intermittent function High output fresh air heater/defroster with fresh air recirculation and air conditioning 			
h.	The chassis cab shall be equipped with west coast style mirrors with chrome finish. Mirrors shall include the following: <ul style="list-style-type: none"> Power control, drivers side and passenger side Mirrors shall be heated, drivers side and passenger side 			
i.	A Delco Remy® or equivalent, alternator will be provided. It will have a rated output current of 320 amps.			State actual amperage rating

4. ENGINE

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The engine shall be an electronically governed, turbocharged diesel engine with a minimum 450 hp and 1250 lb-ft torque. The preferred engine is a Cummins diesel.			State make, model and hp:
b.	The engine shall carry the manufacturer's standard warranty.			State warranty:
c.	The engine shall have an air compressor sufficient for fire service application.			State make, model and CFM:
d.	An engine hour meter shall be mounted in the cab and incorporated into the gauge package.			
e.	The apparatus shall be equipped with an auxiliary braking system with controls mounted on the dash. The preferred method is an engine brake with high, low and off settings.			State actual:
f.	A programmable high idle switch shall be provided and mounted in the cab. It shall be pre-set so when activated, it will operate the engine at the appropriate RPM to increase alternator output and optimize output of the HVAC system.			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
g.	The engine cooling system fan shall incorporate a thermostatically controlled, clutched type fan drive. When the clutched fan is disengaged it shall facilitate improved vehicle performance, cab heating in cold climates, and fuel economy. The fan clutch design in cold climates, and fuel economy. The fan clutch design shall be fail safe so that if the clutch drive fails, the fan shall engage to prevent engine overheating due to the fan clutch failure. Auto fan Control system shall also include a dash switch and indicator light, not engine mounted.			State make:
h.	A pressure sensing governor (PSG) control shall be provided to control and modulate the engine governor. The PSG control shall be interlocked through the vehicle parking brake to prevent interlocked through the vehicle parking brake to prevent accidental operation and will disengage the vehicle foot throttle when in operation. The pressure sensing governor will allow the engine throttle to be governed to maintain either engine speed or fire pump water pressure.			State make and model:

5. ENGINE AIR INTAKE

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	An air cleaner shall be provided that is properly sized for use with the specified engine. The air intake shall be located above the engine cooling package. It shall draw fresh air from the front of the apparatus through the radiator grille. A stainless steel metal screen shall be installed at the inlet of the air intake system that will meet NFPA 1901 latest edition requirements. The air cleaner and stainless steel screen shall be easily accessible. An intake restriction indicator shall be provided.			

6. EXHAUST SYSTEM

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The exhaust system shall be shielded to prevent any heat damage to compartments, wiring, plumbing or any other surrounding component of the truck.			
b.	The Diesel Exhaust Fluid (DEF) tank (if required) shall have a minimum capacity of not less than four and a half (4.5) usable gallons. The DEF tank shall be designed with capacity for expansion in case of fluid freeing. Engine coolant, which shall be thermostatically controlled, shall be run through lines in the tank to help prevent the DEF from freezing and to provide a means of thawing the fluid if it should become frozen.			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
b.	The DEF system shall have indicators and controls on the drivers dash. The indicators shall indicate; <ul style="list-style-type: none"> • DEF fluid level • Regen required • Regen Active • Regen fault The controls shall provide a means to control; <ul style="list-style-type: none"> • Regen inhibit Forced regen			
c.	The chassis exhaust system shall exit horizontally on the passenger side of the vehicle. The exhaust system shall include the necessary heat shield insulation to protect the chassis and cab components.			

7. TRANSMISSION

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	An Allison EVS 3000 automatic transmission with electronic controls shall be provided. The automatic transmission range selector shall be a key pad type shifter, illuminated for night operation and shall be located to the right of the driver. A transmission temperature gauge with warning light and buzzer shall be mounted in the cab.			
b.	The transmission shall be programmed to automatically shift into neutral upon application of the park brake.			

8. CAB INTERIOR

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The ceiling of the cab shall be covered with headliner material.			State material/finish:
b.	The driver's and Officer's seats shall be NON SCBA style High Back Air Suspension Seats with adjustable recline, fixed lumbar, 17.00" deep foam cushions designed with EVC (elastomeric vibration control), and NFPA 1901, latest edition compliant seat sensor.			
c.	There shall be one (1) rear facing seat at the driver side outboard position in the crew cab. For optimal comfort, the seat shall be provided with 15.00" deep foam cushions designed with EVC (elastomeric vibration control). The seat back will be an SCBA back style with 5 degree fixed recline angle. The SCBA cavity shall be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. The seat shall be furnished with 3-point, shoulder type seat belt.			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
d.	<p>There shall be one (1) rear facing seat at the passenger side outboard position in the crew cab. For optimal comfort, the seat shall be provided with 15.00" deep foam cushions designed with EVC (elastomeric vibration control).</p> <p>The seat back will be an SCBA back style with 5degree fixed recline angle. The SCBA cavity shall be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders.</p> <p>The seat shall be furnished with 3-point, shoulder type seat belt.</p>			
e.	<p>There shall be two (2) forward facing seat at the center position in the crew cab. For optimal comfort, the seat shall be provided with 15.00" deep foam cushions designed with EVC (elastomeric vibration control).</p> <p>The seat back will be an SCBA back style with 90 degree back. The SCBA cavity shall be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders.</p> <p>The seat shall be furnished with 3-point, shoulder type seat belt.</p>			
f.	<p>All SCBA types seat in the cab shall have IMMI SmartDock SCBA holder brackets. These brackets shall be compliant with the current NFPA 1901, latest edition.</p>			
g.	<p>All cab seating positions will have red seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length shall meet or exceed the NFPA 1901, latest edition and CAN/ULC – S515 standards.</p> <p>The 3-point shoulder type seat belts shall include a height adjustment.</p> <p>The 3-point shoulder type seat belts shall also include the ReadyReach D-Loop assembly.</p> <p>To ensure safe operation, the seats shall be equipped with seat belt sensors in the seat cushion and belt receptacle that shall activate an alarm indicating a seat is occupied but not buckled.</p>			
h.	<p>Preferred interior cab upholstery to be dark grey or black in colour. Exact colour will be discussed at the pre-construction meeting.</p>			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
i.	A dark coloured durable vinyl type pebble grain texture floor covering material shall be provided. Exact colour will be discussed at the pre-construction meeting. The floor covering shall have soundproof insulation for outside noise. The cab entrance step will areas shall be covered with aluminum tread plate.			State colour and material:
j.	There shall be red and yellow 3m diamond grade reflective striping on inside of all cab doors to warn oncoming traffic of an open cab door. The striping shall be applied at a 45 degree angle.			
k.	Sun visors for both front seat positions shall be installed.			
l.	Speedometer/odometer (speedometer to be in kilometers/hour) Tachometer with hour meter Oil pressure gauge Transmission temperature gauge Dual air pressure gauge Coolant temperature gauge Fuel level gauge Diesel Exhaust Fluid Level gauge Voltmeter			
l.	Low coolant warning light & buzzer High temperature engine coolant warning light & buzzer Low engine oil pressure warning light & buzzer Air cleaner restriction warning light Parking brake indicator light Automatic reset circuit breakers			
m.	The following labels shall be in the cab and in full view of the driver and passenger from their normal seated positions: <ul style="list-style-type: none"> One (1) seat belt warning label with the words, “Occupants must be seated and belted when apparatus is in motion” 			
n.	One (1) proximity door switch shall be installed and wired into each compartment door opening for the purposes of automatically activating a dash mounted flashing indicator when any door is ajar. The light shall be a minimum of 2” in diameter red in colour and labelled “Do Not Move Apparatus” .			

9. CAB EXTERIOR

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	All metal door handles shall have a backing plate to prevent paint scratching and wear.			
b.	The cab exterior shall be painted two tone, gloss black top and gloss red bottom. Exact colour will be discussed at the pre-construction meeting.			
c.	A paint spray out, for Fire Department approval, shall be provided prior to the cab being painted.			

10. DIMENSIONS

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The apparatus shall have the following exterior dimensions including all ladders, lights and any item that is mounted on the apparatus.			
b.	<p>Wheelbase (as determined by the manufactures calculations)</p> <p>Cab to Axle (as determined by the manufactures calculations)</p> <p>G.V.W Rating (as determined by the manufactures calculations)</p> <p>Overall Apparatus Body Width (as determined by the manufactures calculations) – state actual The overall apparatus width is not to exceed 8’5” (102”) excluding mirrors.</p> <p>Overall Apparatus Length (as determined by the manufactures calculations)</p> <p>The overall apparatus length is not to exceed 31’ (372”)</p> <p>Overall Apparatus Height (as determined by the manufactures calculations) The overall apparatus height is not to exceed 10’6” (126”)</p>			<p>State actual Wheelbase:</p> <p>State actual:</p> <p>State GVW:</p> <p>State actual O/A width:</p> <p>State actual O/A length:</p>

11. STEERING AXLE

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The steering column shall have an integral, self-canceling turn signal and a padded steering wheel.			
b.	The steering column shall contain a horn button, four way hazard switch and head lamp dimmer switch on turn lever.			
c.	A multi adjustable tilting and telescoping steering column shall be supplied.			
d.	<p><u>FRONT SUSPENSION – DETAILS</u></p> <p>Front Axle: (as determined by the manufactures calculations)</p> <p>Front Suspensions: (as determined by the manufactures calculations) Preferred: independent front suspension</p> <p>Front Spring Rating: (as determined by the manufactures calculations)</p> <p>Front Axle Rating: (as determined by the manufactures calculations)</p> <p>Wheel Fastening: (as determined by the manufactures calculations)</p>			<p>State actual front axle:</p> <p>State actual front suspension:</p> <p>State actual front spring rating:</p> <p>State actual front axle rating:</p> <p>State actual wheel fastening:</p>

12. REAR AXLE

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The rear axle must have sufficient capacity to carry the trucks finished weight.			State capacity:
b.	<p><u>REAR SUSPENSION – DETAILS</u></p> <p>Rear Axle: (as determined by the manufactures calculations)</p> <p>Rear Suspension: (as determined by the manufactures calculations) Preferred air suspension.</p> <p>Rear Spring Rating: (as determined by the manufactures calculations)</p> <p>Rear axle rating: (as determined by the manufactures calculations)</p> <p>Wheel Fastening: (as determined by the manufactures calculations)</p>			<p>State actual rear axle:</p> <p>State actual rear suspension:</p> <p>State actual rear spring rating:</p> <p>State actual rear axle rating:</p>
c.	<p><u>REAR AXLE DIFFERENTIAL CONTROL</u></p> <p>The rear axle shall include a driver controlled differential lock. This shall allow the main differential to be locked and unlocked when encountering poor road or highway conditions, where maximum traction is needed, for use at speed no greater than 25 mph (40 KPH).</p> <p>A switch within easy reach of the driver shall control the differential lock. The light on the switch shall illuminate with positive engagement of the differential control.</p>			State detail:

13. TIRES & WHEELS

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	Two (2) front tires shall be supplied that will be sufficient for the G.V.W of the fully equipped apparatus, matched to the rated axle weight, and turning radius. The preferred tires are Michelins.			State make and size:
b.	Four (4) rear tires shall be supplied that will be sufficient for the G.V.W. of the fully equipped apparatus and matched to the rated axle weight. The preferred tires are Michelins XDN@2 M&S tread.			State make and size:
c.	The front wheels and outer rear wheels shall be equipped with stainless or chrome lug nut and hub covers.			State actual:

14. FUEL SYSTEM

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The fuel tank shall be 65 US gallons			State capacity:
b.	The fuel tank shall be provided with a high capacity filler neck size with no flow restrictions.			
c.	A fuel filler port shall be provided clearly marked with The words "DIESEL FUEL ONLY".			
d.	A fuel/water separator shall be provided and installed within the chassis fuel system. The separator shall be installed to allow replacement without fuel spillage. i.e. with isolation shut off valves if necessary.			State make and model:
e.	The fuel tank fill port shall be located on the drivers' side of the apparatus.			State Actual

15. BRAKE SYSTEM

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	Brake system must meet Canadian Motor Vehicle standards and current ULC braking specifications.			
b.	The brake system shall also incorporate an air dryer, complete with heater.			
c.	Brake stroke indicators shall be installed on each brake chamber.			
d.	All reservoirs shall be equipped with automatic drains as well as pull cord system for manually draining the reservoirs. The pull cords shall be extended to the side of the truck.			
e.	The air brake system shall be equipped with an electric compressor and 110V shoreline to keep the system air pressure charged while parked in the fire station. (see Section 16-e. Below for details)			
f.	The vehicle shall be equipped with an Anti-lock Braking System (ABS) to provide controlled stopping under emergency braking conditions.			State type:
g.	The ABS shall have the ability to provide Automatic Traction Control (ATC). The ATC shall apply the ABS when drive wheels spin in slippery conditions to aid in better traction for acceleration. There shall be a dash mounted ATC selector switch that allows the ATC to be turned off. The ATC shall default to the on position.			
h.	The ABS shall have the ability to provide Enhanced Stability Control (ESC). The ESC shall provide automatic ABS and throttle control to aid in maintaining vehicle stability.			

16. CHASSIS WIRING

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	Sufficient batteries with a minimum of 1520 Cold Cranking Amps (CCA) each shall be provided and shall be easily accessible but contained within an enclosure as to reduce road grime.			State CCA and number of batteries:
b.	Battery jumper studs shall be provided. The studs shall allow the vehicle to be jump started or charged in the event of battery failure without raising the chassis cab.			State location:
c.	A master battery disconnect switch shall be provided equipped with an indicator light to indicate the "ON" position. The switch shall be located inside the driver's door sill area.			State the location:
d.	Two (2) 12volt power point receptacles shall be installed on the dash to power external electronic equipment.			
e.	One (1) Kussmaul™ Pump Plus 1200 Model #52-21-1100, single output battery charger and air compressor system shall be installed. The pump shall be equipped with an automatic drain routed to the exterior of the vehicle. The unit shall be mounted in a clean dry area and will be accessible for service and/or maintenance.			
f.	There shall be one (1) Kussmaul™, Model 091-55-20-120 20-amp 120 volt AC super auto eject with yellow cover supplied. The shoreline shall be located near the driver's door. A Battery Charger Indicator shall be located on the interior of the cab and viewable from the exterior while standing at ground level, with the driver's door open.			
g.	A 110V AC power receptacle shall be provided in the cab. This receptacle shall be connected to the shoreline power system. The exact location of the receptacle will be discussed at the pre-construction meeting.			
h.	<p>If the alternator output at idle is equal to or lower than the product of the total electrical load of all installed devices (chassis and body) times 1.13, the apparatus shall be equipped with:</p> <p>An Electrical System Manager (ESM) for performing electrical load management.</p> <p>The ESM shall be capable of controlling up to (7) loads according to the voltages which are present.</p> <p>The ESM shall monitor both main and isolated battery (when used) banks and indicate low voltage independently when voltage drops below 11.8 volts for more than 2 minutes.</p> <p>The ESM shall sequence loads on and off at exact intervals when the master switch is toggled.</p>			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
h.	<p>The ESM shall shed loads when voltage drops below corresponding shed point for 30 seconds</p> <p>An output shall activate to indicate over-voltage when battery voltage is over 14.5 volts.</p> <p>A fast idle output shall activate when voltage drops below 12.3 volts for more than 1 minute and the appropriate interlocks are in place.</p>			
i.	<p>The apparatus "Electrical distribution System" (EDS) shall be mounted in a sealed weather proof box and located away from water spray conditions. The main body junction panel shall house the automatic reset breakers and relays where required. The main body junction panel shall be located in the pump compartment.</p>			
j.	<p>One (1) 12 volt dual USB power outlet with 5 volt 2.1 amp output shall be provided in the center cab.</p>			
k.	<p>Chassis wiring/cabling may be accomplished through the use a 12 Volt hard wired electrical system.</p> <p>Cable shall be mounted in the frame and protected from water and heat.</p> <p>The body 12-Volt electrical system shall be designed specifically for the apparatus body.</p> <p>Automatic reset circuit breakers shall be provided and installed in all circuits.</p> <p>All rocker type dash switches shall be non-load bearing and shall be clearly marked and back lighted. All rocker type switches shall be operated in the same direction (i.e. top is "on" and bottom is "off"). Colour coding shall be determined at pre-construction meeting.</p> <p>The alternator shall be connected to the power and ground distribution system with cables sized to carry the Manufacture's rated alternator output. The successful proponent shall provide a written statement identifying all amperage required/used by the vehicle, as well as any recommendation for a higher amp alternator based upon need.</p> <p>Two (2) complete, CLEAR LAMINATED circuit diagrams shall be provided with the apparatus.</p> <p>Exposed cabling (regardless of whether or not it is protected inside of a loom) will not be allowed in compartment interiors.</p>			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
i.	<p>The apparatus shall be equipped with a “Seat Belt Monitoring System” (SBMS) that is connected to the power train CAN (Controller area Network) but consisting of transmission (TCM), engine control (ECM) and anti-lock (ABS) modules mounted on the apparatus. The SBMS will function per NFPA 1901, latest edition (Seat Belt Warning) using a “Seat Belt Input Module” for seat occupied and belt status information.</p> <p>SEAT BELT WARNING DISPLAY</p> <p>A small rocker style display shall be installed in the chassis cab for the seat belt warning system.</p>			
m.	<p>The apparatus shall be equipped with a “Vehicle Data Recorder (VDR) that is connected to the power train CAN (Controller Area Network) But consisting of transmission (TCM), engine control (ECM) and anti-lock brake (ABS) modules mounted on the apparatus. The VDR will function per NFPA 1901, latest edition (Vehicle Data Recorder) utilizing the power train s J1939 data.</p> <p>The VDR data shall be downloadable by USB cable to a computer using either Microsoft TM or Apple TM Operating Systems using Class 1/O.E.M. supplied reporting software.</p>			

17. BODY WIRING

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	All marker lights and reflectors must conform to the Provincial and Canadian Motor Vehicle Safety Standards (CMVSS) Regulations.			
b.	All marker warning scene/perimeter lights shall be Led type lights. PREFERRED			
c.	All nodes used in a multiplex wiring system shall be mounted in a convenient location for future service/maintenance.			State location:
d.	The applicable and current standards for electrical devices including, but not limited to, wiring, connections, overload protection devices shall meet or exceed those set forth by the Society of Automotive Engineers (SAE), and as identified in NFPA 1901, latest edition. Should any of the standards be updated, proponents are expected to meet the revised standard.			
e.	<p>All electrical connections shall be made such that they are sealed from environmental factors.</p> <p>All single wire terminations requiring special connectors with a ring or spade terminal shall be crimped and sealed with heat shrink tubing</p>			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
f.	<p>The body structures shall be designed to provide protected raceways for body wiring.</p> <p>Bolted on access panels shall be provided for all wiring routed through structures.</p>			

18. INTERIOR LIGHT & ACCESSORIES

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	<p>Dome lights shall be provided at each cab door area. The lights shall include a dual red and white LED lamp. There shall be one (1) light centered over each of the Driver and Officer's seat. The clear lamp shall illuminate with the opening of each respective door with both the red and clear portions of the lamp activated by individual lighted switches on each lamp.</p>			
b.	<p>All equipment compartments shall be provided with two (2) – LED strip type compartment lights one (1) on each side of door opening.</p> <p>The lights shall be the full height of the door opening and adequately illuminate the compartment for the night time operation.</p> <p>One (1) proximity switch shall be installed and wired in each compartment door opening for the purposes of turning on the light when the door is opened.</p>			

19. EXTERIOR LIGHTS

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	<p>The cab exterior lighting shall include halogen sealed headlights mounted in bright chrome bezels, amber LED marker lights shall be included (above windshield and on cab front side corners) and combination turn signal/parking lights in bright chrome bezels in accordance with Canadian Motor Vehicle Safety Standard/MTO requirements.</p>			
b.	<p>Two (2) Fire Research, Model SPA900-Q70 scene lights (or equivalent) with chrome flange shall be supplied on each side of the apparatus body.</p> <p>The lights shall be mounted so that they flood the area around the apparatus.</p> <p>Two (2) clearly labelled "LEFT SCENE LIGHT" and "RIGHT SCENE LIGHT" illuminated rocker switches with an "ON" indicator light shall be mounted in the switch panel and located in the cab.</p>			State actual:

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
c.	<p>Two (2) Fire Research, Model SPA900-Q70 scene light (or equivalent) with chrome flange shall be supplied on the rear of the apparatus body.</p> <p>The rear scene lights shall be mounted on the upper rear of the apparatus so that they flood the area behind the apparatus.</p> <p>A clearly labelled “REAR SCENE LIGHT” illuminated rocker switch with an “ON” indicator light shall be mounted in the switch panel and located in the cab.</p> <p>The light shall also be wired to come on when the chassis is placed in reverse for added backup light illumination.</p>			State actual:
d.	<p>Two (2) lights shall be mounted beneath each door. One (1) on each cab step. The lights shall be vertical mounted white LED style lights mounted on the front most part of the cab steps.</p> <p>The lights shall illuminate the cab steps where all occupants exit the cab</p> <p>All cab lights shall automatically illuminate when the parking brake is applied.</p>			
e.	<p>One (1) LED style ground light shall be mounted beneath each cab door and mid body on both sides of the apparatus.</p> <p>All cab and body ground lights shall automatically illuminate when the parking brake is applied.</p>			
f.	<p>Two (2) LED style ground lights shall be mounted below the rear tailboard of the apparatus. Both rear ground lights shall automatically illuminate when the parking brake is applied.</p>			
g.	<p>A minimum of two (2) LED step lights at rear shall adequately illuminate the ladder used to access the top of the apparatus.</p> <p>Both step lights shall automatically illuminate when the parking brake is applied.</p>			
h.	<p>Whelen M6 LED type red stop/tail lights shall be provided and mounted at the rear of the body.</p> <p>Whelen M6 LED type amber directional signal lights with arrows shall be provided and mounted at the rear of the body, one on each side on the rear and below the stop/tail lights.</p>			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
h.	<p>Whelen M6 LED type clear backup lights shall be provided and mounted, one on each side at the rear of the body. The backup lights shall be mounted below the rear stop/tail and directional lights.</p> <p>One (1) pair of chrome plated taillight housings designed to hold four (4) Whelen M6 rear lights shall be provided.</p> <p>The backup lights shall be activated when the transmission is place in reverse.</p>			
i.	Vehicle clearance marker lights with reflectors mounted in accordance with Canadian Motor Vehicle Safety Standard (C.M.V.S.S.) shall be furnished and installed. All apparatus body marker lights shall be LED style lights.			
j.	A license plate mounting bracket shall be provided complete with a chrome plated shielded indirect type LED light. This bracket shall be mounted at the rear of the apparatus body.			
k.	The apparatus shall be equipped with the appropriate number type of reflective devices located and mounted as required by the Canadian Motor Vehicle Safety Standard (C.M.V.S.S.)			

20. WARNING DEVICES

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	<p>Controls, switches and indicators shall be easily accessible and visible while the driver is in a seated position and the apparatus is in motion.</p> <p>The following instrumentation, controls and labels, over and above provided by the manufacturer of the chassis, shall be mounted in the driving compartment as herein specified:</p> <ul style="list-style-type: none"> • Pump shift controls • Pump indicator lights • Master electrical load disconnect switch • Warning lights and siren switches <p>Auxiliary air horn switches:</p> <ul style="list-style-type: none"> • One (1) switch shall be installed to activate the air horn system on the center console. 			
b.	The apparatus warning light panel shall be mounted in a location so that the driver may conveniently access the switches from a seated position with the apparatus in motion.			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
b.	<p>The panel shall include the following switches:</p> <ul style="list-style-type: none"> One (1) lighted master control switch to allow for pre-selection of all emergency lighting <p>A sufficient number of lighted switches to control all lighting and devices herein specified.</p>			
c.	<p>A back-up alarm shall be supplied and the unit shall be installed so that it activates automatically when the vehicle is placed in reverse gear.</p>			
d.	<p>One (1) electronic siren, Whelen 295SLSA1 (or equivalent) complete with a microphone, shall be installed with the controls easily accessible to the driver from the seated position.</p> <p>The siren shall be equipped with a remote mounted speaker Whelen SA315P 100 (or equivalent) mounted behind front grill/bumper area.</p> <p>Where siren and/or speaker models differ from above, state actual models.</p>			State actual:
e.	<p>All emergency lighting (type and installation) shall be in accordance with NFPA 1901, latest edition.</p> <p>All emergency lighting must be LED All lighting listed below is manufactured by Whelen. Where the proponent uses a different lighting package, state manufacturer for lights as listed below.</p> <p>Upper Level – Front Facing Lights (light bar) – Preferred 72” Whelen LED light bar</p> <p>Upper Level – Rear Facing Beacons – Preferred Two (2) Model# L31HRF LED</p> <p>Two (2) located on front of cab – Preferred Two (2) M6*C LED M6 Series c/w Chrome Trim</p> <p>One (1) located on each side of cab above front wheel well – Preferred Two (2) M6 c/w Chrome Trim</p> <p>One (1) located above rear wheel on each side – Preferred Two (2) M6 Series c/w Chrome Trim</p> <p>Two (2) located on rear of apparatus facing rearward – Preferred Two (2) M6 Series c/w Chrome Trim</p>			State actual: State actual: State actual: State actual: State actual:
f.	<p>There shall be a traffic advisor installed on the rear of the body.</p> <p>The light bar shall have a minimum of eight (8) amber LED light heads. Preferred One (1) Whelen TANF85 Linear Super LED 8 Head Traffic</p>			

DETAILED DESCRIPTION		YES	NO	
f.	<p>Advisor.</p> <p>The light bar shall have a control panel located in the chassis cab. The control shall have the ability to provide for various flash patterns and shall incorporate a display to show the selected flash pattern on the control panel.</p> <p>The traffic advisor shall activate in flash mode when the master switch is activated.</p>			

21. RADIO SYSTEM

DETAILED DESCRIPTION		YES	NO	
a.	<p>One (1) Motorola Mobile radio, model Motorola XPR5350e, complete with appropriate antenna shall be supplied. Channel frequencies will be provided at time of pre-construction meeting.</p>			

22. PUMP & PUMP FEATURES

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	<p>U.L.C. tests are to be performed and certified by U.L.C. prior to delivery (ULC Tested, labelled & Listed)</p>			
b.	<p>The pump compartment shall be equipped with a minimum 30,000 BTU hot water heater system. The unit shall be piped to the chassis radiator system with standard eater hose. A valve shall e located on both inlet and outlet sides of the system located under the chassis hood. The hose shall be properly clamped and secured in place and be properly protected from engine exhaust or mechanical damage. The heater shall be equipped with a 12 Volt blower fan with control located on the pump operator's panel.</p>			
c.	<p>A removable casing constructed of galvanized steel or aluminum, dependent on compatibility with the sub-frame material shall completely enclose the underside of the pump compartment and shall be heated by the engines exhaust shall be provided. The heat pan assembly shall include individual panels that can be easily removed from there mounting locations. The two outer slide-out panels shall be bolted in place</p>			State detail:
d.	<p>A flexible rubber gasket shall be installed between the pump compartment and the apparatus body. This gasket will be designed to seal the pump compartment to the apparatus body as tightly as practical. This gasket is necessary for winter operation in extremely cold climates.</p>			
e.	<p>The pump shall incorporate an automatic air primer. The automatic primer shall engage whenever air enters the suction side of the pump.</p>			State make and model:
f.	<p>A thermal relief valve shall be provided.</p>			State make:
g.	<p>A fully adjustable intake relief valve will be provided on the suction side of the pump.</p>			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
h.	All valves mounted directly to the pump shall be complete with locking handles. All valves shall be of the quarter turn, ball type design.			
i.	<p>The fire pump shall be equipped with an overheat protection manager which monitors the temperature of the water inside the pump and relieves water when the temperature inside the pump exceeds 140 degrees Fahrenheit.</p> <p>The system shall also have a warning light on the pup panel to provide additional protection in the event the temperature inside the pump continues to rise with the overheat protection valve open. The warning light and test button shall be mounted to a heavy polished casting that is mounted to the pump operator's panel.</p>			
j.	All suction and discharge valves to be equipped with an individual drain valve installed in such a way as to prevent freezing of the valve or the drainage system.			
k.	The pump shall be painted to eliminate rusting and to provide a clean easy service to the pump area.			
l.	The piping and valve arrangement shall be capable of delivering water to the pump at the rated capacity of the pump. This flow shall be sustainable while pumping a minimum of 80% percent of the certified tank capacity with the apparatus on level ground.			
m.	<p>The pump shall be a PTO mounted type. The pump shall be a triple combination pump capability with a minimum rated capacity of 1250 imperial gallons per minute and be driven by a PTO from a chassis transmission.</p> <p>The entire discharge and intake piping system; valves; caps; drain cocks and lines; and intake and outlet closures; (excluding the tank side of the valves in those lines) shall be suitable to withstand a minimum hydrostatic burst pressure of 500 psig.</p> <p>All caps shall be secured to the apparatus with suitable stainless steel chains.</p> <p>A written copy of the test results shall be provided at the final factory inspection.</p> <p>Pump shall deliver the percentage of rated discharge at pressure indicated below:</p> <ul style="list-style-type: none"> o 100% of rated capacity at 150 psi net pump pressure o 70% of rated capacity at 200 psi net pump pressure o 50% of rated capacity at 250 psi net pump pressure 			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
n.	<p>An orange locking rocker switch for the PTO pump engagement shall be installed in the cab driver's area. The pump shift system shall permit stationary pumping operations.</p> <p>The following indicator lights shall be included with pump shift.</p> <ol style="list-style-type: none"> 1. A green indicator light, labelled "PUMP ENGAGED" shall indicate the pump PTO has successfully been engaged 2. A green indicator light, labelled "OK TO PUMP" shall indicate the PTO is engaged and parking brake is activated. Pump control is through the pressure governor. 3. Pump shift and interlocks shall comply with applicable sections of the NFPA standards. 4. An instruction label and nameplate shall be provided to indicate proper pump engagement instructions. 			
o.	<p>All gauges shall be suitably enclosed and mounted on a "hinged" pump access panel. The panel shall be constructed of the same material as the pump operators control panel, allowing access to the backside of all gauges and gauge lines.</p> <p>The panel is to include a stainless steel piano hinge, flush mounted chrome plated trigger latch, and stainless steel cable end stops.</p> <p>Electrical wiring and all gauge lines shall be properly tie wrapped to prevent kinking or cutting of the lines when the panel is opened.</p>			
p.	<p>All of the pump controls, intakes and discharges shall be clearly identified with colour coded, plate type labels per NFPA 1901, latest edition. A label stating the capacity of the tank, in imperial gallons, shall be affixed on the pump panel and in the view of the operator.</p>			
q.	<p>All suction and pressure gauges herein specified to have a white face with black markings.</p> <p>A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage.</p> <p>The following gauges shall be used:</p> <ul style="list-style-type: none"> • Master Pressure/Suction: 4 ½" (115mm) diameter white face with black markings and capable of reading a range of -30"wc to 400psi and -100 to 2800 kpa • Discharge Gauges: 2 1/2 " (65mm) diameter white face with black markings and capable of reading a range of -30"wc to 400 psi and -100 to 2800 kpa 			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
q.	<p>The gauges shall be fully filled with pulse and vibration dampening silicone to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation to Minus 40°F.</p> <p>The cases shall be temperature compensated with an internal breathing diaphragm to permit fully filled cases and to allow a rigid lens with a distortion free viewing area.</p> <p>Each gauge shall be mounted just above its corresponding control lever.</p>			
r.	<p>All linkage rods for valve actuation shall be equipped with a side mount valve control. The ergonomically designed ¼ turn push-pull T-handle shall be chrome plated zinc with recessed labels or color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide a true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, not require lubrication and ensure consistent long-term operation.</p> <p>The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.</p>			
s.	<p>A 4" (minimum) supply line shall be installed from the tank sump to the pump, with control at the pump operator's panel. The tank to pump supply line shall be sized by the manufacturer to maintain optimal pumping capacity.</p> <p>A 4" (or a size that matches the line size specified above) check valve shall be installed in the tank to pump line to eliminate the possibility of pressure expanding and damaging the tank and to prevent backfilling the tank through the tank to pump suction line.</p>			State actual:
t.	<p>A tank to pump valve shall be supplied with controls at the pump operator's panel and the chassis cab's switch panel.</p> <p>The valve shall be an Elkhart 4" swing-out ball valve.</p> <p>The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valves shall be capable of bi-directional flow and incorporating a self-locking ball. The valve shall not require lubrication of seats or any other internal waterway parts, and be capable of swinging out of the waterway for maintenance.</p>			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
t.	An Elkhart 12 volt electric motor valve actuator shall be provided on the specified Elkhart 4" valve(s). The valve shall be controlled with a UBEC1 push button type control with position indicator lights provided. A color-coded name plate shall be installed adjacent to the valve control.			
u.	One (1) 2 ½" fill line shall be installed from the pump to the tank, with control lever at the operator's pump panel. Plumbing of the line shall be with 2 ½" piping.			
v.	A 2 ½" intake relief valve pre-set at 125 psi shall be permanently installed on the suction side of the fire pump. The valve shall have an adjustment range of 5 psi to 250 psi, and shall be designed to automatically self-restore to a non-relieving position when excessive pressure is no longer present. Discharge side of the intake relief valve shall be plumbed to the area below the running boards, marked with a tag " Intake pressure relief outlet – Do Not Cap ".			
w.	The water tank quantity gauging system shall incorporate a tank level monitor system. The system shall include one (1) electronic display module, a stainless steel pressure transducer sender unit, and the necessary wiring with water-tight plug terminations that do not require sealing grease. The master display module shall show the tank level using 16 super-bright easy-to-see LEDs. Tank level indication shall be achieved by the appropriate illumination of 4 horizontal rows of LEDs, with 4 LEDs per row. Full and near-full levels shall be indicated with the illumination of all 4 rows of LEDs, including the illumination of the top row of 4 green LEDs. Tank levels between ½ and ¾ full shall be indicated with the illumination of the bottom 3 rows of LEDs, including the illumination of the top row of 4 blue LEDs. Tank levels between ¼ and ¾ full shall be indicated with the illumination of the bottom 2 rows of LEDs, including the illumination of the top row of 4 amber LEDs. Tank levels between ¼ full and near empty shall be indicated with the illumination of the bottom row of 4 red LEDs only. Tank levels between near empty and empty shall be indicated by flashing the bottom row of 4 red LEDs. The master display shall have a backlit area above at the top with illuminated water icon WATER LEVEL and a backlit area at the bottom with illuminated tank capacity.			State make and model:

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
w.	<p>A wide-angle polycarbonate diffusion lens in front of the LEDs shall produce a 180° viewing angle. The electronic display module shall be waterproof and shock resistant being encapsulated in a urethane-based potting compounds. The potted display electronics shall be integral to a chrome-plated panel-mount reflector that is secured to the apparatus panel with 4 screws installed from the inside of the panel or optional decorative bezel, through the reflector, and into 4 threaded inserts in the outer diffusion lens.</p> <p>All programming functions shall be accessed and performed from the front of the installed master display module with a magnet. The programming shall include manual or self-calibration for any style tank and networking capabilities to connect remote slave displays, including monster light displays, including monster light displays, and an output for an audible alarm.</p> <p>The apparatus shall be equipped with Four (4) water level monitoring system displays.</p> <ul style="list-style-type: none"> • One (1) display shall be installed in the chassis cab in clear sight of the vehicle operator. • One (1) display shall be located on the driver's side pump panel. • One (1) display shall be located on the up high on the rear warning light. • One (1) display shall be located high and aft right side crew cab door. 			
x.	<p>A master drain valve shall be installed and operated from the pump panel area. The valve shall be located lower than the main pump body and connected in such a manner as to allow complete drainage of the pump and lines supplying the pump. This valve shall be labelled "Master Drain".</p> <p>All drains shall be located in the lowest point in the applicable plumbing circuit but shall not protrude below the lowest point of the body.</p> <p>Drain valves shall be arranged in a straight horizontal row at the bottom of the pump panel, within easy reach of the operator, and properly labelled to identify the line it drains.</p> <p>All remote controlled valves shall be connected via heavy-duty steel rods with adjustable ends.</p>			
y.	<p>There shall be a foam proportioning system suitable for all types of Class A and B foam provided. The preferred system is a Husky® 3</p>			State make and model:

23. SUCTION

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	Two (2) 6" NH suction steamer intakes shall be furnished with removable screens. The intakes shall be located one on the driver's side and one on the passenger side of the apparatus.			
b.	Two (2) 2 ½" suction ports shall also be provided one on the driver' side and one on the passenger side of the apparatus with valve, screen, chrome cap and securement chain.			
c.	<p>The suction manifold assembly shall be fabricated with Schedule #10 type 304 stainless steel. All threaded fittings shall be a minimum of Schedule 10 stainless steel. The suction manifold assembly shall have long radius sweep elbows to minimize water turbulence into the suction volute. The suction manifold shall be welded and pressure tested prior to installation. Te stainless steel manifold assembly shall be attached to the pump intake volute with a heavy-duty, flexible Victaulic coupling.</p> <p>The stainless steel manifold assembly shall have a ten (10) year warranty.</p>			

24. DISCHARGE

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	<p>The apparatus shall be equipped with Five (5) 2 ½" discharge outlets.</p> <p>Two (2) 2 ½" discharge shall be located on the left pump panel and labelled "Driver Side Discharge 1" & "Driver Side Discharge 2". The discharge shall have 2 ½" NST male hose threads.</p> <p>Two (2) 2 ½" discharge shall be located on the right pump panel and labelled "Passenger Side Discharge 3" & "Passenger Side Discharge 4". The discharge shall have 2 ½" NST male hose threads.</p> <p>One (1) 2 ½" discharge shall be located on the rear and labelled "Driver Side Rear 3". The discharge shall have 2 ½" NST male hose threads.</p> <p>All discharges shall be connected to a 2 ½" valves which will be operated by a remote control handle located on the driver side pump panel.</p> <p>Each discharge shall be provided with One (1) chrome plated elbow with rocker lugs with 2 ½" NST swivel female x 2 ½" CSA male hose thread.</p>			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	<p>A liquid filled pressure gauge shall be connected to each discharge and installed immediately above the operating handle.</p> <p>Each discharge shall have an individual drain that operates from the pump panel terminating below the frame.</p>			
b.	<p>The discharge manifold assembly shall be fabricated with minimum of Schedule #10 Type 304 stainless steel. All threaded fittings shall be a minimum of Schedule #40 stainless steel. The discharge manifold assembly shall have long radius sweep elbows to minimize water turbulence. The manifold shall be welded and pressure tested prior to installation. The manifold shall be welded and pressure tested prior to installation. The stainless steel manifold inlet shall be attached to the pump discharge and have additional brackets as required to support the discharge manifold, valves and related components.</p> <p>The stainless steel manifold assembly shall have a ten (10) year warranty.</p>			State detail:

25. PUMP PANEL

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	Driver side pump panel shall be fully enclosed with roll up door.			
b.	<p>A polished stainless steel structurally sturdy hood spanning the full width of the panel with multiple sealed LED light assemblies shall be provided to illuminate the entire pump operator's control panel located on the driver's side of the vehicle. Lights shall be controlled by a switch on this panel.</p> <p>An additional polished stainless steel structured sturdy hood with multiple sealed light assemblies shall be provided to illuminate the passenger side pump panel. Lights shall be controlled by a light switch at the operator's panel.</p> <p>One light on the operator panel shall come on when the pump is engaged.</p>			
c.	The pump panel shall be constructed of aluminium, covered with a black thermoplastic coating (or equivalent).			
d.	All intakes, discharges and specified drain handles extending through the side pump panels shall have a rubber grommet installed for heat retention.			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
e.	<p>All pump controls and gauges to be properly marked and located on driver's side of the pump house.</p> <p>Gauges monitoring each pressure or suction line shall be installed directly above the individual controls for ease of operation with identifying labels mounted between the control and the gauge.</p> <p>The pump panel shall also contain the following standard gauges and controls:</p> <ul style="list-style-type: none"> • Engine Information Display to monitor the following: <ul style="list-style-type: none"> • Engine tachometer • Oil pressure gauge • Engine coolant temperature gauge • Battery voltage • Alarm to indicate problem with each of the monitored functions <p>Primer control</p> <ul style="list-style-type: none"> • ON/OFF switch to control pump operator's panel • Water tank level gauge • Pump "High Pump Temp Alert" • Governor Control • Engine Information Display to monitor the following: <ul style="list-style-type: none"> • Engine tachometer • Oil pressure gauge • Engine coolant temperature gauge • Battery voltage • Alarm to indicate problem with each of the monitored functions <p>Primer control</p> <ul style="list-style-type: none"> • ON/OFF switch to control pump operator's panel • Water tank level gauge • Pump "High Pump Temp Alert" • Governor Control 			

26. WATER TANK

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The tank shall be certified to comply with CAN/ULC S515, latest edition, prior to shipment to the truck manufacturer's facility. A testing certificate shall be provided by an independent testing agency, other than the tank manufacturer.			
b.	Capacity of the tank shall be approximately 1500 Imperial gallons or a capacity as determined by the builder taking size limitations and design criteria into consideration.			State tank capacity

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
b.	The second stage manufacturer shall certify the capacity of the water tank prior to delivery of the apparatus and record this capacity on the manufacturer's record of construction.			State tank capacity
c.	The tank shall be constructed from ultra-high impact polypropylene or comparable.			State actual:
d.	<p>The water tank shall be designed to maintain a low centre of gravity and designed to be self-supportive.</p> <p>Adequate venting of the tank shall be provided to allow water to be pumped into, pumped from and dumped from the tank at a rate herein specified. Adequate tank venting is required while stationary pumping, stationary tank filling and stationary dumping.</p> <p>The overflow outlet, a minimum of 3" in diameter, shall be designed to direct all overflow water to behind the rear axle so as not to interfere with rear tire traction.</p> <p>The tank shall be designed so that it incorporates all of the following features:</p> <ul style="list-style-type: none"> • Be completely independent of the body components and shall be completely removable without disturbing or dismounting the apparatus body structure. • Have a means to permit complete cleaning of the tank. • Incorporate lifting eyes to facilitate easy removal. • Include a combination vent and manual fill tower installed at the front of the tank. The 0.5" thick polypropylene fill and overflow tower shall be equipped with a hinged lid and a removable polypropylene screen. The overflow tube shall be installed in fill tower and piped with a minimum schedule 40 PVC pipe through the tank. • Be securely restrained and cradled, or cushioned and spring-loaded, to avoid stress when travelling over uneven terrain • Incorporate four (4) tank openings; one (1) for tank to pump suction with an anti-swirl plate, one (1) connection for the tank fill line from the pump, one (1) tank fill line independent of the pump and one (1) quick dump opening. 			
e.	The water tank shall be provided with baffles or swash partitions to form a containment or dynamic method of water movement control as per NFPA 1901, latest edition.			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
f.	Prior to installation, the tank shall undergo extensive testing including an electronic spark and water fill test and water pressure tested.			
g.	The tank shall have a minimum of one (1) sump with a 3" or larger threaded outlet on the bottom, with a removable plug, to permit cleaning. If the sump is used for the tank to pump line connection, the design shall prevent sludge or debris in the sump from entering the pump and incorporate an anti-swirl plate above the sump.			State actual:
h.	On (1) 4" Fireman's Friend stainless steel semi-automatic fill shall be provided, including a 4" male NH thread. The valve shall be located and controlled on the rear of the body. The Fireman's friend shall be fitted with a 30 degrees 4" Storz elbow and a 4" Storz x 2 1/2" female adapter. There shall be a lightweight aluminum plug provided and the plug shall be equipped with rocker lugs and chain or cable for attachment the apparatus body.			
i.	There shall be a foam tank for Class A and Class B foam with a capacity of 20 gallons			
j.	There shall be a 10" Newton Quick Dump Valve (or equivalent) located at the rear of the apparatus body. The valve/line shall permit the dumping of the tank water to an external holding tank at a minimum rate of 1000 GPM. The valve shall be mechanical and incorporate locks to hold the valve locked in either the open or closed position. One (1) swivel type dump shall be attached to the Newton Quick Cup Valve. The swivel sump shall have the ability to dump water from the driver's side or the passenger's side and any point in between. The swivel dump shall have an extensive that is hinged and can be folded up when the dump is not in use. The dump shall have the ability to be stowed on either the driver's side or the officer's side of the truck. When the extension is in the down and extended position, with tank fully loaded, there shall be no less than a 34" clearance from level ground to the bottom of the dump to ensure that there is enough clearance for the swivel dump to offload into a portable drop tanks. The dump shall meet NFPA requirements for water delivery on three sides of the vehicle.			

27. BODY

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The body shall be constructed of aluminium.			State Actual:
b.	State body dimensions.			Width: Height: Length:
c.	An extruded aluminum channel rub rail shall be provided along the lower edge on both sides and the rear of the body. The rub rail shall be "set out" from the body by use of nylon spacers. The rub rail shall incorporate red and white reflective material along the vertical surface of the channel.			
d.	Two (2) collapsible wheel chocks shall be supplied and installed in easily accessible slide out mounts under the truck body in front of the rear wheels.			State make and model:
e.	A Sixteen (16.00") deep rear step surface shall be provided at the rear of the apparatus body, bolted in place and easily removable for replacement or repair.			
f.	The left side mount pump panel shall be equipped with side running board. The running board will extend along the width of the pump enclosure from the forward end of the body module to behind the chassis cab and enclosed. The running board shall be constructed of aluminium tread plate, bolted in place with stainless steel fasteners. The step surfaces shall be in compliance with applicable sections of NFPA requirements.			State detail:
g.	The right side mount pump panel shall be equipped with side running board. The running board will extend along the width of the pump enclosure from the forward end of the body module to behind the chassis cab. The running board shall be constructed of aluminium tread plate, bolted in place with stainless steel fastener. The step surfaces shall be in compliance with applicable sections of NFPA requirements,			State detail:
h.	The rear wheel wells of the apparatus body are to be radius cut for a streamlined appearance.			
i.	A polished aluminium fenderette shall be furnished at each rear wheel well opening, held in place with concealed stainless steel fasteners.			
j.	Heavy duty black mud flaps shall be furnished and installed behind the rear wheels o the vehicle. Mud flaps shall extend the full width of each rear dual, and are to be attracted to heavy angle support brackets with stainless steel fasteners. No Exceptions			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
k.	<p>Smooth aluminum shall be installed on the rear of the body, to allow for the proper application and installation of a “Chevron” stripe on the rear.</p> <p>The entire rear portion of the body shall have 3M diamond grade reflective red and yellow striping installed. The chevron style striping shall be applied at a 45-degree upward angle pointing towards the center upper portion of the rear panel.</p>			

28. COMPARTMENT CONSTRUCTION

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	All compartment doors, unless otherwise stated, shall be roll up type doors. All doors shall have door ajar sensors and integrated with the door ajar system.			State manufacturer:
b.	All doors shall incorporate a pull strap to aid in lowering of a raised door. Straps shall be designed as to not interfere with door latching/equipment access. All door handle shall be large enough to allow a firefighter with a gloved hand to operate.			State detail:
c.	Unless otherwise stated, all doors shall be painted. Exact colour will be discussed at the pre-construction meeting.			
d.	All compartments shall be provided with adequate drainage and louvers for ventilation. All louver openings shall be covered and filtered to prevent road dust from entering compartments. No Exception.			State detail:
e.	The tops of the compartments shall be provided with an aluminum drip molding installed above the doors to prevent water from entering the compartments.			
f.	Each compartment shall be provided with LED strips on both sides of compartment, mounted in protected locations and controlled by door ajar switches. Lights are to provide for total compartment illumination regardless of shelf location.			State actual:
g.	The interior of the compartments shall have a coating of abrasion resistant paint. Exact colour will be discussed at the pre-construction meeting.			State details:
h.	<p>Compartment floors shall be of a design to permit easy sweeping out of debris. As such, there shall be no raised lip at the opening of the compartment restricting the eases of cleaning or draining of water.</p> <p>All body compartment floors shall be protected with BLACK “Turtle Tiles” with the exception of those compartments with slide out trays.</p>			State actual:

29. COMPARTMENT LAYOUT

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	<p>Seven (7) compartments shall be incorporated into the design of the body, four (4) on driver side, one (1) enclosing the pump panel, one (1) forward of rear wheels, one (1) above rear wheels and one (1) rearward of the rear wheels. Two on the passenger side of body, one (1) forward of rear wheels and one rearward of rear wheels, and one (1) at the rear. The compartment shall maximize the space available and be as large as possible.</p> <p>Driver side compartments shall be the full height of the body One (1) compartment for hard suction hoses shall be provided at the top of the body compartments, on driver side behind roll up doors. The design shall allow the hose as described in Section 37 to be removed from the rear of the apparatus. The hard suction hose compartment shall have a hinged door with push to latch door catches.</p> <p>Less that distance required for one compartment to accommodate two (2) hard suction hoses.</p> <p>Passenger side compartments shall be the full height of the body less that distance required to accommodate the folding portable water tank and automatic operator</p>			<p>State size of each compartment</p> <p>Forward left:</p> <p>Forward right:</p> <p>Over the wheel left:</p> <p>Over the wheel right</p> <p>Rearward left:</p> <p>Rearward right:</p>
b.	<p>The driver side and passenger side forward and rearward compartments shall have slide out trays installed.</p> <p>The slide-out tray shall have a minimum capacity of 250 pounds. Capacity rating shall be in the extended position. Trays to be supplied with reflective striping and Turtle Tiles.</p> <p>Automatic locks shall be provided for both the “in” and “out” positions. The trip mechanism for it shall be located at the front of the tray for ease of use with a gloved hand.</p>			State detail:
c.	<p>All compartments shall be equipped with a minimum of two (2) adjustable shelves and Turtle Tiles. The driver side shall have Three (3) adjustable shelves.</p> <p>The driver side over the wheel compartment shall be equipped with Two (2) adjustable shelves and Turtle Tiles.</p>			State detail:

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
d.	<p>Ground ladders shall slide into a compartment accessed from the rear of the apparatus. The compartment shall fully enclose and house the specified ground ladders on individual scuff resistant brackets. There will be a stop in front of the compartment to prevent the ladders from sliding forward. The specified water tank shall be constructed with a cavity for the ladders to pass through. A hinged door shall be provided and installed using a D-ring type latch. The door shall be provided with hollow core weather stripping to seal compartment from the elements.</p>			
e.	<p>There shall be one (1) ZICO Quic-lift, or equivalent, electrically operated folding tank storage carrier provided on the right side above the lower compartments to carry a folding tank in the vertical position for travel and fold down over the lower body side for loading and unloading. The folding tank carrier shall have two high strength aluminum casting sets and dual Warner 12-volt linear actuators. The linear actuators shall be controlled with a weather-tight momentary switch located on passenger's side of the body. There shall be a reinforcement plate installed on the compartment top where the folding tank carrier is attached. The system shall be capable of being lowered manually in the event of electrical failure.</p> <p>The carrier shall be fabricated of smooth aluminum painted job colour and have polished aluminum tread plate end caps.</p>			State detail:
f.	<p>Two (2), Breathing air cylinder storage compartment shall be provided and located on the driver side in the rear wheel well of the apparatus body, one (1) ahead and one (1) behind the rear wheel and be designed to store an SCBA cylinder.</p> <p>The cylinder storage compartment shall be constructed entirely of black polymer. The door assemblies shall be provided with a gasket between door and body side, bolted in-place and removable for repair or replacement.</p> <p>The compartment shall be provided with SCBA cylinder scuff protection. A brushed stainless steel door shall be provided.</p> <p>One (1) 1" wide loop of black webbing shall be installed in the SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be mounted, centered in the compartment and shall hang within 1" of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.</p>			State detail:

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
g.	<p>Two (2), Breathing air cylinder storage compartment shall be provided and located on the passenger side in the wheel well of the apparatus body. One (1) ahead and one (1) behind the rear wheel and be designed to store an SCBA cylinder.</p> <p>The cylinder storage compartment shall be constructed entirely of black polymer. The door assemblies shall be provided with a gasket between door and body side, bolted in-place and removable for repair or replacement.</p> <p>The compartment shall be provided with SCBA cylinder scuff protection. A brushed stainless steel door shall be provided.</p> <p>One (1) 1" wide loop of black webbing shall be installed in the SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be mounted centered in the compartment and shall hang within 1" of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.</p>			State detail:

30. MAIN HOSE BED

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The main hose bed shall be located over the water tank and be as large as possible to maximize hose carrying capacity. The main hose bed shall accommodate 600' 2 ½" hose with CSA couplings.			State size and hose capacity:
b.	The center of the hose bed shall include one (1) stationary divider where the covers sit in the closed position.			
c.	The hose bed shall incorporate LED light strips along the length to provide illumination for re-packing hose.			State details:
d.	The flooring of the hose bed shall be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats shall have spacing between the slats hose ventilation. Proper drainage shall be provided under the removable grating to eliminate any standing water.			
e.	Two (2) adjustable and removable hose bed dividers shall be furnished for separating hose.			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
f.	The preferred hose bed cover consists of two (2) independent rigid aluminum covers with lift assist shock absorbers. The covers shall be constructed of polished aluminum tread plate extending the full length of the main hose bed with each extending half the width. Vinyl cover flaps shall be attached to the hose bed covers that will fasten to the rear of the body when the covers are closed to cover the area at the rear of the hose bed. However, if a rigid aluminum cover is not possible due to the height restrictions of the apparatus the main hose bed shall be equipped with a suitable cover to protect the hose from the elements and one adjustable hose bed divider. (Giving a total of three (3) adjustable dividers and zero (0) stationary dividers)			State actual State detail:

31. AUXILLARY HOSE BED

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	<p>Two (2) 1 ¾" cross lays shall be installed in the area above the pump panel. Each cross lay will house 200' of 1 ¾" NPSH couplings.</p> <p>The cross lay's shall be plumbed using 2" I.D. plumbing and one (1) 2" mechanical swivel with a 1 ½" hose connection on each cross lay to permit the use of the hose from either side of the apparatus.</p> <p>The cross lay's shall each be connected to a separate 2" valve which will be operated by a remote control handle located on the pump panel.</p>			
b.	<p>Engraved identification labels with the words "Cross Lay #1" for driver's side and "Cross Lay #2" for passenger side shall be affixed to the pump house module just below the cross lay compartment. The labels shall be yellow in colour for the driver's side and red in colour for the passenger side. An identical label will identify the handle control on the pump panel and be coloured the same as the labels below the corresponding cross lay.</p> <p>One (1) liquid filled pressure gauge shall be connected to each of the discharges and mounted on the pump panel immediately above the cross lay control.</p> <p>The cross lay beds shall be constructed with a smooth surface. Diamond plate material is unacceptable for construction of the cross lays. No Exceptions.</p>			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
b.	<p>The cross lay hose beds shall be equipped with a single (1) aluminum diamond plate hinged cover and vinyl end flaps with hook & loop fasteners. The cover shall have rubber bumpers, latching devices, and lift up handle on each end of the cover.</p> <p>The cross lay hose beds shall be equipped stainless steel "U" shaped roller system, one on each end of the hose bed.</p>			

32. STEPS & HANDRAILS

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	<p>Steps and handrails shall be provided at any location where a firefighter may need to climb on the apparatus. All steps and handrails shall provide for a standard three (3) points of contact for persons climbing on the apparatus. NO EXCEPTIONS.</p>			State locations:
b.	<p>The cab shall have aluminium grab handles at each door position.</p> <p>The aluminium shall be bright anodized for long service. Moulded rubber gaskets shall be installed under the grab handles to protect the painted surface of the cab.</p>			
c.	<p>Steps, platforms, or permanently affixed ladders shall be provided, as necessary, to permit firefighters to access all working and storage areas of the apparatus.</p> <p>There will be no exception to this and details will be discussed at a pre-assembly meeting.</p> <p>When such items are utilized, the maximum stepping height shall not exceed 18", with the exception of the first step to the ground which shall not exceed 24".</p> <ul style="list-style-type: none"> • Platforms or secure ladders shall be provided where the ground to the first step, platform, or ladder exceeds 24". The ground to the first step shall be determined with the apparatus on level ground. • All steps shall have a minimum surface area of 35 square inches, shall be of such a shape that a 5" diameter disk does not overlap any side when placed on the step, and shall be arranged to provide at least 8" of clearance between the leading edge of the step and any obstruction. <p>All steps, platforms, or ladders shall sustain a minimum static load of 500 pounds without deformation.</p>			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
c.	<ul style="list-style-type: none"> A label shall be located on the vehicle at the step areas warning personnel that riding in or on these areas while the vehicle is in motion is prohibited. <p>As a minimum there shall be the following step surfaces:</p> <ul style="list-style-type: none"> Two (2) steps on rear of apparatus on side opposite of fold down ladder One (1) intermediate platform on rear to stand on to access hose bed Three (3) steps below the left cross lay Three (3) steps below the right cross lay 			
d.	<p>There shall be a swing out and down access ladder supplied and installed on the rear of the apparatus, for accessing the top of the apparatus. It shall be of an all-aluminium design and shall incorporate treads 6" deep and no more than 18 apart. The ground to the first step dimensions, on level ground shall be no more than 18". When in the deployed position the ladder shall have an angle of approximately 75-degrees to facilitate ascending and descending the ladder. The ladder shall be retained in the stowed and deployed position by two (2) gas cylinders and shall not require the use of latches to hold it in position.</p>			State details:
e.	<p>Handrails shall be supplied to assist fire fighters whenever they are expected to climb on or onto the apparatus and a ladder is not supplied.</p> <p>There will be no exception to this and details will be discussed at a pre-assembly meeting.</p> <p>NFPA approved, extruded aluminium ribbed finish "non-slip" access rails with chrome plated mounting brackets shall be provided. Smooth access rails or rails having an adhesive or rubber covering that can loosen over time are <u>unacceptable</u>.</p> <p>Handrails shall be fabricated from 1 ¼" diameter anodized aluminium extrusions, with a ribbed design, to provide a positive gripping surface. Handrails shall have a clearance of at least 2" between the handrail and any surface.</p> <p>Rubber gaskets shall be installed below each handrail bracket to prevent cracking or fracturing of the painted surface.</p> <p>Drain holes shall be provided in the bottom of all vertically mounted handrails.</p>			State detail:

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
e.	As a minimum there shall be the following hand rails: <ul style="list-style-type: none"> One (1) long vertical by rear steps located on the opposite side as the fold down ladder One (1) long horizontal below hose bed One (1) near each cross lay 			

33. PAINT, FINISH & LETTERING

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	All removable items, i.e.: brackets, lights, mirrors, etc. Shall be painted separately or removed to insure finish paint behind mounted items. Body components that cannot be finish painted upon assembly shall be finished before assembly.			
b.	A reflective trim and lettering package shall be installed to the specifications of the Wawa Volunteer Fire Department. The exact details will be discussed at a pre-construction meeting. The following outlines the basic requirements.			
c.	There shall be a reflective stripe running the full length of the apparatus on both sides. The stripe shall incorporate a large scrolling "Z" pattern. The stripe shall be one (1) 4" and two (2) 1" white 3M reflective material. The Wawa Volunteer Fire Department shall be overlaid in the 4" portion on the rear of the body on both sides.			
d.	The cab front doors shall have the Wawa Volunteer Fire Department crest applied. Will be provided.			
e.	A graphic of a telephone receiver over the numbers "911" shall be provided on both rear side roll up doors. The graphic shall be roughly 10" in height. The graphic shall be done with white 3M Diamond Grade reflective material.			
f.	On front of cab, between grill and windshield, the word "TANKER 4" shall be gold lettering. On both driver and passenger rear doors of cab the word "Tanker 4" shall be gold lettering.			
g.	The finished body side of the portable tank enclosure shall be provided with a slogan in gold lettering. The verbiage shall read "SMOKE AND CO ALARMS SAVE LIVES"			
h.	The entire rear portion of the body shall have 3M Diamond Grade reflective red and yellow Chevron striping installed as required by NFPA 1901			
i.	The apparatus body and chassis cab shall be painted to match the colour of the apparatus body.			
j.	The cab/body paint colour shall be Red with black on top. A colour chip or equivalent sample shall be provided to successful proponent at a pre-construction meeting.			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
j.	The final finish of the cab shall be to fire apparatus standards; exhibiting excellent gloss durability and colour retention properties.			
k.	Preparation of the painted components, including pre-clean and pre-treat shall be in accordance with the paint manufactures specified guidelines. The apparatus body and all other painted components shall be primed with a primer specified by the paint manufacturer and in accordance with their accepted guidelines.			
l.	The colour coat application shall be acrylic urethane. The final finish shall be free of dirt and sags and shall meet a minimum grade of 5 when compared to the "ACT" general orange peel standards by "ACT" Laboratories, Inc. Of Hillsdale, MI.			
m.	All seams shall be caulked both inside and along the exterior edges with an automotive sealant to prevent moisture from entering between any body panels. Once construction of the body and all parts have been completed, compartment doors, shelves, rub rails, running boards kick plates, overlays, handrails, lights, and all other parts are to be removed. Tacked free of any dust particles, the body and all parts shall be individually spayed to inhibit corrosion and provide lasting adhesion. While constructing the truck body, all parts shall be properly fitted on the body and then removed. The backside of all parts shall be sanded smooth of any burrs and sharp edges. During reassembly of the apparatus, care shall be exercised in fitting and fastening the parts back in their respective position on the vehicle.			
n.	One quart of touch-up paint shall be furnished with the truck.			
o.	The front wheels and rear outer wheels shall be painted black. Actual colour to be discussed at pre-construction meeting			

34. APPARATUS TESTING

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	All applicable tests as outlined under the latest edition of NFPA 1901 shall be performed on the finished apparatus.			
b.	All applicable tests as outlined under the latest edition of CAN/ULC S515-13 shall be performed on the finished apparatus.			

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
c.	Written certificates/documentation detailing the results of all testing shall be provided with the finished apparatus.			
d.	The apparatus, prior to acceptance, will be required to meet the vehicle stability of the applicable NFPA Automotive Fire Apparatus Standard. A calculated or measured center of gravity shall be provided. The calculated or measured center of gravity (CG) shall be no higher than 80-percent of the rear axle track width.			

35. WARRANTY & SERVICE

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The chassis frame shall carry a Non-Pro Rated lifetime warranty. Provide actual warranty coverage with proposal.			State warranty details:
b.	The water pump shall have a minimum Five (5) year Non-Pro Rated warranty. Provide actual warranty coverage with proposal.			State warranty details:
c.	The manufacturer shall warranty the pump plumbing for a minimum period of ten (10) years. Warranty to be non-Pro Rated. Provide actual warranty coverage with proposal.			State warranty details:
d.	Warranties shall begin on the in-service date as reported by the Wawa Volunteer Fire Department. No Exceptions.			
e.	The manufacturer shall warrant the Acrylic Urethane finish for a period of ten (10) years from its date of delivery. The warranty shall be Non-Pro Rated and shall cover 100% of the cost of the warranty repairs and shall include, but not be limited to, adhesion, blistering, bubbling, corrosion, cracking, gloss or colour retention. Provide actual warranty coverage with proposal.			State Warranty details:
f.	The water tank supplied with the apparatus shall come with a lifetime Non-Pro Rated manufacturer's warranty. Provide actual warranty coverage with proposal.			State warranty details:
g.	The manufacturer shall warranty the modular body structure for a period of at least ten (10) years. This warranty shall be Non-Pro Rated. Provide actual warranty coverage with proposal.			State warranty details:
h.	The manufacturer shall warranty the apparatus, bumper to bumper for a one (1) year period. This warranty shall be Non-Pro Rated and shall include the vehicle's electrical system and components as well as workmanship defects. Provide actual warranty coverage with proposal.			State warranty details:

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
i.	Within one (1) business day after receipt of a verbal or written notification that warranty and or service contract work is required, the successful proponent shall respond verbally, and immediately follow up by letter to the Municipality with a statement of intent to show where and when the warranty service shall be accomplished.			
j.	Proponents shall state the location of the fire truck manufacturer's nearest service facility and parts depot to the Municipality's location			Company Name: Address: Phone: Fax: E-mail:
k.	State actual additional warranties or logistical services that the proponent might provide above and beyond the requirements of these specifications.			
l.	Warranties shall begin on the in-service date as reported by the Wawa Volunteer Fire Department. No Exception.			

36. DELIVERY

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The successful proponent shall deliver the vehicle under its own power to the Wawa Volunteer Fire Department as outlined in the Information section #16 and #17. All documents necessary for licensing shall be completed prior to delivery and the vehicle shall be delivered, licensed and registered to the Municipality of Wawa. If cost reduction is possible through the Wawa Volunteer Fire Department taking part in the delivery of the vehicle, proponents should state options for such arrangements.			Vehicle will be delivered complete to specifications within _____ days of date ordered. State delivery cost reduction options:

37. LOOSE EQUIPMENT

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
a.	The list of equipment in this section shall be furnished with, and mounted on, the apparatus upon delivery. Brackets or compartments shall be furnished to mount or contain the equipment properly and safely. All such equipment is to be readily and safely accessible.			
b.	Folding wheel chocks and brackets as previously described.			
c.	Five (5) 30 degree adaptors for 2 ½" discharges. As previously described.			State detail:

DETAILED DESCRIPTION		YES	NO	SPECIFICATIONS/VARIATION
d.	One (1) 24' two section aluminum extension ladder.			State detail:
e.	One (1) 10' aluminum folding attic ladder.			State detail:
f.	One (1) 14' aluminum roof ladder.			State detail:
g.	One (1) 8' pike pole shall be supplied and mounted in the ground ladder storage compartment or another location with convenient access from the rear of the vehicle excluding the hose bed area.			State detail:
h.	Two (2) 6" diameter x 10' long lightweight, NH, long ear hard suction hoses. Two stored in the driver side compartment.			
i.	Two (2) sets of two (2) Hose Wrench and Bracket Combinations. One (1) set to be located and mounted at each of the following locations: <ul style="list-style-type: none"> • Left side pump panel • Right side pump panel 			State detail:
j.	One (1) 2100 imperial gallon aluminum frame folding portable tank shall be supplied or a size that which will accommodate the apparatus full load of water.			State actual: Size: Make: Model: