REQUEST FOR PROPOSAL

FOR

TRIPLE COMBINATION PUMPER TRUCK

Original and three (3) copies of a Proposal in an envelope plainly marked **"Proposal for Triple Combination Pumper Truck "** will be received at Village of Pemberton 7400 Prospect Street, Pemberton, BC V0N 2L0, up to **July 14, 2023 12:00** pm local time.

Closing Date: FRIDAY , July 14, 2023 AT 12:00 P.M .

*** PROPOSALS WILL NOT BE OPENED IN PUBLIC ***

NOTE: Should any potential bidders download this Request for Proposal, it is the Proponent's responsibility to check for Addenda's, which will be posted, on the Village of Pemberton's website.

Website address

REQUEST FOR PROPOSALS (RFP)

Triple Combination Pumper Truck

On behalf of Pemberton Fire Department, the Village of Pemberton is interested in receiving Proposals for a Triple Combination Pumper Truck. The Village is not necessarily interested in obtaining the lowest price for this product, interested parties with proven experience and qualifications for the design, construction, and supply of the Triple Combination Pumper Truck will only be considered. The quality of the product, performance, delivery, maintenance, service and other factors will be taken into consideration in the evaluation of this RFP.

Proposals clearly marked “Triple Combination Pumper Truck” on the sealed envelope will be received at the office of the Village of Pemberton, 7400 Prospect Street, Pemberton, BC V0N 2L0, up to and including 12:00 p.m. local time Friday, July 14, 2023 at 12:00 pm local time.

Further information and instructions may be obtained from the office of the Fire Chief between the hours of 8:30 a.m. and 4:00 p.m. Monday to Friday at (604) 894-6111or via e-mail: cadams@pemberton.ca

This is a Request for Proposals only and will not necessarily give rise to a contract.

Proposals received after the closing time will be returned unopened.

The Village reserves the right to waive information in any Proposal, or reject any or all Proposals or to accept the Proposal deemed most favourable in the Village’s interest.

Cameron Adams
Fire Chief
Village of Pemberton

1.0 General Information

1.1 Submission of Proposal

Four (4) physical copies of each Proposal, bearing the Proponents initials on each page along with Proponent's information package shall be submitted in a sealed envelope and shall be addressed to:

The Village of Pemberton
PO Box 100
7400 Prospect Street
Pemberton, BC
V0n 2L0
Attention: Fire Chief

The Proposal envelope must be clearly marked **Triple Combination Pumper Truck.** Submitted Proposals transmitted by facsimile machine or email will **not** be considered.

1.2 Closing Date

Proposals will be received up to and including closing time of **12:00 pm, local time, Friday, July 14, 2023.** Proposals received after the closing time will be rejected and returned unopened.

RESPONSES WILL NOT BE OPENED IN PUBLIC.

1.3 RFP Clarification

If a Proponent has any question about the contents of the RFP, or about any matters relating to it (including any clarification, errors or omissions of or in this RFP), the question must be directed in writing, and not orally, to the Village's representative at the contact address set out The Village's representative will respond to all questions via an addendum which will be posted to the Village of Pemberton website

The Village of Pemberton
PO Box 100
7400 Prospect Street
Pemberton, BC
V0N 2L0
Attention: Fire Chief Email: cadams@pemberton.ca

1.4 Discrepancies or Omissions:

Proponents finding discrepancies or omissions in the RFP document, or having any doubts to the meaning or intent of any part thereof, should immediately notify the Purchasing contact in writing, which may send written instructions or explanations to all Proponents on record with the Village of Pemberton. No responsibility will be accepted for oral instructions. Addenda or correspondence issued during the RFP period shall be considered part of this document and become part of the final Contract Documents.

1.5 Further Terms & Conditions:

a. This RFP should not be construed as a contract to purchase goods or services or to enter into any other contractual arrangement.

b. This RFP is not an invitation to Tender or an invitation to bid, but is a request for submission of Proposals on the terms and conditions described in these RFP documents **and will not necessarily give rise to a Contract.**

c. The Village will not be obligated in any manner to any Proponent whatsoever until a written agreement has been duly executed, by authorized Village personnel, relating to any approved Proposal. However, Proposals should be as detailed and complete as possible to facilitate the formation of a contract based on a Proposal or Proposals that are pursued.

d. In the event that only one RFP is received, the Village reserves the right to return the RFP unopened.

1.6 Amendment of Proposals before Submission Date:

A Proponent is entitled to amend its Proposal at any time before the deadline for submission of Proposals. Amended Proposals must be received by closing date identified herein.

2.0 Scope Of The Proposal

2.1 Scope Of Work

The Village of Pemberton is interested in receiving Requests for Proposal from qualified contractors for the supply of a new or used Triple Combination Pumper Truck. This custom Triple Combination Pumper Truck must be designed and engineered specifically for fire service application (Scope of Work). This apparatus shall be of a height, width, and length, as specified in the RFP. The apparatus must also meet appropriate Canadian and NFPA standards as specified in the RFP.

The Scope of Work is intended to define the Work activities as accurately as possible. The Proponent is encouraged to use innovation when developing its Proposal and propose revisions or alternatives that are considered beneficial to the project.

2.2 Project Budget

The Scope of Work may have to be adjusted to ensure that the cost of the services remains under budget. The Proponent shall identify possible changes in the Scope of Work proposed, if necessary, in order to keep this assignment within budget, and shall contact the Village if they wish to discuss this prior to drafting their Proposal.

3.0 Content Of Proposal

Proposals (one original, three copies) must be submitted in printed form. The following topics should be addressed in the following order:

3.1 Covering Letter

A covering letter signed by an authorized representative of the company should be provided outlining the intent of the response and stating that the information contained in the response accurately describes the services to be provided. The response must also guarantee that all quoted prices will be honored for a specified period from the submission date.

3.2 Proponent Profile And Reference

A description of the Contractor's organization, size, and services provided areas of expertise and length of time in operation must be addressed. Please provide as described. References must be provided. If there are special concerns or restrictions on our use of the reference, these concerns must be addressed in the Proposal. We will not complete any agreement without adequate reference checks. Please provide references as described in Section 14.0.

3.3 Scheduling

The Proposal will include the Proponent's itinerary to complete the Work proposed (start-up, information gathering, site visits, preliminary plans, etc.)

3.4 Costs

The Proposal will define the costs for the Proponent's goods and services. The Proposal shall outline the costs of all components and include all applicable taxes and other associated costs. All prices shall be in Canadian dollars.

4.0 Bid Sheet

The Village of Pemberton

Proposal Bid Sheet for Triple Combination Pumper Truck

The undersigned Proponent has carefully examined the Conditions, Specifications, and Drawings
(If applicable) for the Work requested and will construct or provide the services required.

This proposal is valid for: ____days and shall expire on _____

Description	Price
For the design, construction and delivery of one (1) Triple Combination Pumper Truck	**$**
SUBTOTAL	**$**
5% GST	**$**
7% PST	**$**
Environmental Taxes & Levies	**$**
TOTAL	**$**
NOTE: please include a delivery lead-time schedule with your submission.	
Delivery Date	

Firm Name	
Address:	Email:
Phone No:	Postal Code:
Fax No:	Date:
"Signature of Bidder"	
Print Name	

**** must be an official signatory of the company**

4.1 Interpretation

Definitions

a. “Best Value” means the value placed upon quality, service, past performance and price.

b. “Village” means The Village of Pemberton

c. “Village Representative” means the representative or appointee engaged by the Village to supervise the Work.

d. “Contract” means an agreement with specific terms between the Village and the Successful Proponent

e. “Contract Documents” means the executed agreement between the Successful Proponent and the Village, or the Purchase Order issued by the Village.

f. “must,” “mandatory” or “required” means a requirement that must be met in order for a Proposal to receive consideration

g. “Preferred Proponent” means the Proponent who submitted the favoured Proposal.

h. “Premises” shall mean building(s) or part of a building with its appurtenances.

i. "Proposal" shall mean the Proponent's submission to the RFP.

j. “Proponent” means a party submitting a Proposal to this RFP.

k. “RFP” means the Request for Proposal.

l. “Request for RFP” (RFP) includes the documents listed in the index of the RFP and any modifications thereof or additions thereto incorporated by addenda before the close of the RFP.

m. “should” or “desirable” means a requirement having a significant degree of importance to the objectives of the RFP.

n. “Special Conditions” means the special conditions, which are included in the RFP.

o. “Specifications” means the specifications which are included in the RFP.

p. “Subcontractor” includes, inter alia, a person, firm or corporation having a Contract with the Successful Proponent for the execution of a part or parts, or furnishing to the Successful Proponent materials and / or equipment called for in the RFP.

q. “Successful Proponent” means the Proponent submitting the most advantageous RFP as determined by the Village.

r. “Work” means any labour, duty and/or efforts to accomplish the purpose of this project.

5.0 Form Of Proposal

Project Title: **Triple Combination Pumper Truck**

Department: **Pemberton Fire Department**

The Proponent confirms it has obtained and carefully examined all of the documents making up the Request for Proposal issued by the Village of Pemberton and any addenda issued in connection therewith.

The Proponent undertakes and agrees that:

5.1 Execution of Contract

If the offer contained in this Proposal is accepted, upon being advised that the Contract Documents are available at the office of the Corporate Officer, the Proponent will obtain the Contract Documents and Drawings, if any, and will execute and identify the Documents and Drawings in a form and manner acceptable to the Corporate Officer and will deliver the same within (10) days from the time when the same are available or are delivered or mailed to the Proponent.

5.2 Commencement, Prosecution and Completion Of Work

If awarded the Contract, the Proponent shall supply the goods on the date set out in the Contract Documents and shall complete the Contract within the time specified in the Contract Documents

5.3 No Collusion

Except as otherwise specified or as arising by reason of the provision of the Contract Documents, no person whether natural, or body corporate, other than the Proponent has or will have any interest or share in this Proposal or in the proposed Contract which may be completed in respect thereof. There is no collusion or arrangement between the Proponent and any other actual or prospective Proponents in connection with Proposals submitted for this project and the Proponent has no knowledge of the contents of other Proposals and has made no comparison of figures or agreement or arrangement, expressed or implied, with any other party in connection with the making of the Proposal.

5.4 Failure Or Default of Proponent

If the Proponent for any reason whatsoever fails or defaults in respect of any matter or thing which is an obligation of the Proponent under the terms of this Proposal, the Village at its option may consider the Proponent has abandoned the offer made or the Contract if the offer has been accepted, whereupon the acceptance, if any, of the Village shall be null and void and the Village shall be free to select an alternate solution of its choosing.

6.0 Instructions To Proponents

The following terms will apply to this RFP and to any subsequent Contract. Submission of a Proposal in response to this RFP indicates acceptance of all the following terms:

6.1 General

The law applicable to this RFP shall be the law in effect in the Province of British Columbia. Except for an appeal from a British Columbia Court to the Supreme Court of Canada, no action in respect to this RFP shall be brought or maintained in any court other than in a court of the appropriate jurisdiction of the Province of British Columbia.

In carrying out its obligations hereunder, the Proponent shall familiarize itself and comply with all applicable laws, bylaws, regulations, ordinances, codes, specifications and requirements of all regulatory authorities, and shall obtain all necessary licenses, permits and registrations as may be required by law. Where there are two or more laws, ordinances, rules, regulations or codes applicable to the Work, the more restrictive shall apply.

Applicability of law: All references in the RFP to statutes and regulations thereto and Village bylaws shall be deemed to be the most recent amendments thereto or replacements thereof.

Copyright: All designs, drawings, concept drawings, specifications, digital, hard copies, web pages, internet pages, maps and plans commissioned by the Village, shall remain the property of the Village of Pemberton.

In the case of any inconsistency or conflict between the provisions of the RFP, the provisions of such documents and addenda thereto will take precedence in governing in the following order: (1) addenda; (2) RFP; (3) Special Conditions; (4) Specifications; (5) Drawings; (6) Executed Form of RFP; (7) all other documents.

Headings are for convenience only: Headings and titles in the RFP are for convenience only and are not explanatory of the clauses with which they appear.

Method of payment is governed by Village policy as well as applicable Federal and Provincial laws.

The RFP, accepted submission, and Village Contract Documents represent the entire Agreement between the Village and the Successful Proponent and supersede all prior negotiations, representations or agreements either written or oral. The Contract Documents may be amended only by written instrument agreed and executed by the Successful Proponent and the Village.

7.0 Request for RFP Process

7.1 Not a Tender Call

This RFP is not a tender call, and the submission of any response to this RFP does not create a tender process. This RFP is not an invitation for an offer to contract, and it is not an offer to Contract made by the Village.

7.2 No Obligation to Proceed

Though the Village fully intends at this time to proceed through the RFP, in order to select the services, the Village is under no obligation to proceed to the purchase, or any other stage. The receipt by the Village of any information (including any submissions, ideas, plans, drawings, models or other materials communicated or exhibited by any intended Proponent, or on its behalf) shall not impose any obligations on the Village. There is no guarantee by the Village, its elected and appointed officials or employees, that the process initiated by the issuance of this RFP will continue, or that this RFP process or any RFP process will result in a Contract with the Village for the purchase of the equipment, service, or project.

7.3 Late Proposals

Proposals received after the final date and time for receipt of Proposals will be considered as "late Proposals." Late Proposals will not be accepted and will be returned unopened to the sender.

8.0 Pre-RFP Information

8.1 Cost of Preparation

Any cost incurred by the Proponent in the preparation of this Proposal will be borne solely by the Proponent.

8.2 Negotiation with Preferred Proponent:

The Proponent that submits to the Village the most advantageous Proposal and which represents the interests of the Village, best overall, may be awarded the contract. The Village reserves the right to accept or reject all or part of the RFP, however, the Village is not precluded from negotiating with the successful Proponent to modify its Proposal to best suit the needs of the Village.

The Village reserves the right to obtain additional information from the short-listed Proponents to clarify the information in their submission, conduct interviews to discuss their suitability for the project or proceed to negotiate services, a contract, and details of the RFP with the most qualified firm.

If the Village selects a Preferred Proponent, the Village will enter into negotiations with the Preferred Proponent in an attempt to settle one or more

Contract necessary to implement the project, as generally described in this RFP. If the Village considers that it is unlikely to settle such agreements with the Preferred Proponent despite having negotiated with the Preferred Proponent for at **least 30 days** after selection of the Preferred Proponent, the Village is entitled to cease negotiations with the Preferred Proponent and to begin negotiations with another Proponent.

The Village reserves the right to negotiate specific terms of the Contract with the Proponent prior to the final award of the Contract. The Village also reserves the right to negotiate specific terms of the Contract with the Successful Proponent as the Contract progresses.

8.3 Rejection Of Proposals

The Village reserves the right to reject, at the Village's sole discretion, any or all Proposals, without limiting the foregoing, any Proposal which either:

a. is incomplete, obscure, irregular or unrealistic;
b. has non-authorized (not initialed) erasures or corrections in the Proposal or any schedule thereto;
c. omits or fails to include any one or more items in the Proposal for which a price is required by the RFP; or
d. fails to complete the information required by the RFP to be furnished with a Proposal or fails to complete the information required whether the same purports to be completed or not.

Further, a Proposal may be rejected on the basis of the Proponents past performance, financial capabilities, completion schedule of compliance with Federal, Provincial, and Municipal legislation. As it is the purpose of the Village to obtain a Proposal most suitable to the interests of the Village and what it wishes to accomplish, the Village has the right to waive any irregularity or insufficiency in any Proposal submitted and to accept the Proposal which is deemed to be the Best Value for the Village.

8.4 Evaluation Criteria

a. The following criteria, but not restricted thereto, will be used to evaluate responses:
b. The Proponents organization and technical capability to provide the equipment, goods and service.
c. The Proponents performance and experience on similar projects.

d. Awards will be made based on the Best Value offered, and the Best Value will be determined by the Village. The quality of the service to be supplied, the conformity with the specifications, the suitability to requirements, guarantee clauses, and references shall all be taken into consideration.
e. Evaluation Criteria see Section 15.0. Proposals will be evaluated based on predetermined criteria and weighting as detailed on the attached Proposal Evaluation Form.

8.5 Evaluation Committee

Evaluation of Proposals will be by an Evaluation Committee formed by the Village and may include a representative of its Purchasing Division.

8.6 Confidentiality

The Village will endeavor to keep all Proposals confidential. The material contained in the Proposal from the Successful Proponent will be incorporated in the Contract Document and information which is considered sensitive and/or proprietary shall be identified as such by the Proponent. Technical or commercial information included in the Village Contract Document shall not be released if the Purchasing Manager of the Village deems such releases inappropriate, subject to the Freedom of Information and Protection of Privacy Act.

8.7 Clarification

The Village reserves the right to seek Proposal clarification with the Proponents to assist in making evaluations.

8.8 Gifts And Donations

Proponents will not offer entertainment, gifts, gratuities, discounts, or special services, regardless of value, to any employee of the Village. The Successful Proponent shall report to the Purchasing Manager of the Village any attempt by Village employees to obtain such favors.

8.9 Acceptance Of Proposal

The Village shall not be obligated in any manner to any Proponent whatsoever until a written Contract has been duly executed relating to an approved

Proposal. No act of the Village other than a notice in writing signed by the Corporate Officer or the Purchasing Manager of the Village shall constitute an acceptance of a Proposal. Such acceptance shall bind the Successful Proponent to execute in a manner satisfactory to the Village.

a. Proposals must meet all the requirements herein to be eligible for consideration. Proposals that are unsigned, incomplete, conditional, illegible, unbalanced, obscure or that contain additions not called for, reservations, erasures, alteration, or irregularities of any kind may be rejected as incomplete.
b. Proposal Form must contain the Proponent's business or home address and legal status must be disclosed and must be signed by a duly authorized official.
c. The Proposal is irrevocable and open for acceptance for a period of sixty(30) days from the date of closing of the RFP
f. Proposals will only be considered from reputable firms with proven previous experience on projects involving goods or services of a similar nature, magnitude, and complexity to that which will be covered by the Contract.
g. The Village reserves the right to accept the RFP offer in total or in part, to reject any or all offers, to waive any minor informalities, irregularities, or technicalities, and to accept the offer deemed most favorable to the Village. If the Village determines that a Proposal contains false or misleading information, the Village is entitled to reject that Proposal at any time as being invalid.
h. The Village shall not be obligated to either accept or reject any non-compliance with the requirements of this RFP.

8.10 Negotiation Delay

If a written Contract cannot be negotiated within thirty (30) days of notification of the successful Proponent, the Village may, at its sole discretion at any time thereafter, terminate negotiations with that Proponent and either negotiate a Contract with the next qualified Proponent or choose to terminate the RFP process and not enter into a Contract with any of the Proponents.

8.11 Enquiries

All enquiries related to this RFP are to be directed, in writing, to the following person. Information obtained from any other source is not official and should not be relied upon. Enquiries and responses will be recorded and may be distributed to all Proponents at the Village's option.

Village of Pemberton
c/o Fire Chief

8.12 Final Date and Time for Receipt Of Proposals

Proposals must be received in a sealed envelope by 12:00 p.m. (local Pemberton time) on Friday, July 14, 2023.

Village of Pemberton
c/o Fire Chief
PO Box 100
7400 Prospect Street
Pemberton, BC
V0N 2L0

Proposals **must not** be sent electronically. Proposals and their envelopes should be clearly marked with the name and address of the Proponent and the RFP title.

9.0 Proposal Preparation:

9.1 Alternative Solutions

If alternative solutions are offered, please submit the information in the same format, as a separate Proposal.

9.2 Changes To Proposal Wording

The Proponent will not change the wording of its Proposal after closing and no words or comments will be added to the Proposal unless requested by the Village for purposes of clarification.

9.3 Limitation of Damages

The Proponent, by submitting a Proposal, agrees that it will not claim damages, for whatever reason, relating to the RFP or in respect of the competitive process, in excess of an amount equivalent to the reasonable costs incurred by the Proponent in preparing its Proposal. The Proponent, by submitting a Proposal, waives any claim for loss of profits if no agreement is made with the Proponent.

9.4 Firm Pricing

Proposals must be firm for at least 60 days after the final date. Prices will be firm for the entire Contract period.

9.5 Currency And Taxes

Prices quoted are to be:

in Canadian dollars;
inclusive of duty, where applicable;
FOB destination, delivery charges included where applicable; and
including GST & PST see (price Fee Summary Sheet Page)

10.0 Additional Terms

10.1 Sub-Contracting

a. Using a sub-contractor (who must be clearly identified in the Proposal) is acceptable. This includes a joint submission by two Proponents having no formal corporate links. However, in this case, one of these Proponents must be prepared to take overall responsibility for successful interconnection of the two product or service lines and this must be defined in the Proposal.

b. Sub-contracting to any firm or individual, whose current or past corporate or other interests may, in the Village's opinion, give rise to a conflict of interest in connection with this project will not be permitted. This includes, but is not limited to, any firm or individual involved in the preparation of this Proposal.

10.2 Liability For Errors

While the Village has used considerable efforts to ensure an accurate representation of information in this RFP, the information contained in this RFP is supplied solely as a guideline for Proponents. The information is not guaranteed or warranted to be accurate by the Village, nor is it necessarily comprehensive or exhaustive. Nothing in this RFP is intended to relieve Contractors from forming their own opinions and conclusions with respect to the matters addressed in this RFP.

10.3 Agreement With Terms

By submitting a Proposal the Proponent agrees to all the terms and conditions of this RFP. Contractors who have obtained the RFP electronically must not alter any portion of the document, with the exception of adding the information requested. To do so will invalidate the Proposal.

10.4 Use of Request for RFP

This document, or any portion thereof, may not be used for any purpose other than the submission of Proposals.

Special Conditions

a. A qualified Proposal is one, which meets the needs and specifications of the Village, the terms and conditions contained in the RFP. The Preferred Proposal is a qualified Proposal offering the Best Value, as determined by the Village.

b. The Village will decide whether a Proposal is qualified by evaluating all of the Proposals based on, but not limited to, the needs of the Village, specifications, terms and conditions and price. The Village Purchasing Manager and/or department head of the Village will examine all Proposals and recommend which Proposal is in the Village's best interest.

c. A Proposal which is unqualified is one that exceeds the cost expectations of the Village and/or does not meet the terms and conditions contained in the RFP and/or does not meet the needs and specifications of the Village. The Village reserves the right to reject any or all unqualified Proposals.

d. The Village reserves the right to cancel this RFP at any time.

e. The Village recognizes that Best Value is the essential part of purchasing a product and/or service and therefore the Village may prefer a Proposal with a higher price, if it offers greater value and better serves the Village's interests, as determined by the Village, over a Proposal with a low price. The Village's decision shall be final.

f. The Village reserves the right to negotiate with a Preferred Proponent, or any Proponent, on any details, including changes to specifications and price. If specifications require significant modification, all Proponents shall have the

opportunity to adjust their Proposals or re-submit altogether, as determined by the Village Purchasing Manager and/or department head.

g. All equipment, goods, and workmanship must conform to all Laws and Standards necessary for use in Canada and the Province of British Columbia.

h. The Successful Proponent, herein named the Contractor, shall guarantee that their Proposal will meet the needs of the Village and that any or all items supplied and/or services rendered shall be correct. If the item(s) supplied by the Contractor and/or the service(s) rendered by it are in any way incorrect or unsuitable, all correction costs shall be borne solely by the Contractor.

i. All prices submitted on the Bid Sheet shall include delivery F.O.B. Village Fire Department or other destination point, as specified by the Village, and the Contractor shall bear all risks of loss and/or damage.

j. Where only one Proposal is received, the Village reserves the right not to make public the amount of the Proposal. The amount of the Proposal will be made public if a Contract is awarded.

k. The Village reserves the right to accept or reject a Proposal, where only one Proposal is received.

l. The Village reserves the right in its sole discretion to accept or reject all or part of any Proposal which is non-compliant with the requirements of this RFP

m. The Village shall not be obligated either to accept or reject any non-compliance with the requirements of this RFP.

n. The Village reserves the right to cancel the Contract for goods and/or services as outlined in this RFP, at any time, by providing thirty (30) days written notice to the Successful Proponent.

12.0 REQUIREMENTS

1. The bidder must have been manufacturing fire apparatus continuously, without interruption for a minimum of Twenty (20) years. (Mandatory Requirement)

   Comply (Yes/No) _____

2. The vehicle proposed must not be a prototype. Photos of the proposed model to be included with the bid package with the customer's contact information (Mandatory Requirement)

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

   Customer Contact Attached (Yes/No) _____

3. How long has the proposed vehicle been in production?
   Number of Years _____

4. 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) _____

5. The bidder shall have a quality manual available for inspection by the purchaser (Mandatory Requirement)

   Comply (Yes/No) _____

6. The bidder must indicate that they are the prime contractor for this bid, and that all non-purchased components are not subcontracted.

   Comply (Yes/No) _____

7. All welding on the apparatus body and plumbing systems must be performed by certified welders. The certificates must be certified in a minimum of Division 2. Copies of the certification must be attached with the bid submittal. (Mandatory Requirement)

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

8. 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) _____

9. 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) _____

10. The manufacturer of the apparatus must supply a Certificate of Insurance proving that they carry a minimum of $25,000,000.00 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) _____ Certificates Attached (Yes/No) _____

11. The manufacturer of the apparatus must be registered with Transport Canada to the National Safety Mark Standards. Bids not meeting this requirement will not be accepted. Copies or registration must be attached with the bid submittal. (Mandatory Requirement)

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

12. The manufacturer of the apparatus must be 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) _____

13.0 Specifications

Triple Combination Pumper Truck

13.1 General Instructions

Fire Apparatus Specifications	*Yes*	*No*	*Variation*
TESTING AND CERTIFICATION The completed vehicle shall be tested and labeled to CAN/ULC-S515-13 by an independent third-party certification organization. The third-party organization shall be accredited for testing systems on fire apparatus in accordance with ISO/IEC 17020 or ISO/IEC Guide 65. The certification organization shall not be owned or controlled by manufacturers or vendors of the apparatus being tested. The certification organization shall be primarily engaged in certification work and shall not have a monetary interest in the product's ultimate profitability. The certification organization shall witness all test and shall refuse to certify any test result for a system if the components do not pass the testing required by this system. There shall be no conditional, temporary, or partial certification of test results. Appropriate forms of data sheets shall be provided and used during testing. Manufacturer's certification is not acceptable. (Mandatory Requirement) The manufacturer shall be certified to ISO 9001 The completed vehicle shall undergo, prior to delivery, a two (2) hour road test with all applicable emergency equipment activated. A certification shall be provided to the purchaser outlining the results of this road test			

CARRYING CAPACITY PLATE A warning label shall be provided in the cab within sight of the driver stating the seating capacity of the cab/crew cab. Another warning label shall be provided in the cab within sight of the driver that the occupants must be seated and belted.			
VEHICLE DIMENSION PLATE A warning label shall be provided in the cab within sight of the driver stating the following apparatus dimensions: Height and length in standard and metric measurements. Gross vehicle weight rating in pounds and kilograms.			
WEIGHT AND BALANCE CALCULATION The apparatus, prior to acceptance will be required to meet the vehicle stability of the applicable NFPA or ULC automotive fire apparatus standard. A calculated center of gravity shall be performed to ensure the apparatus meets these requirements. The calculated center of gravity shall be no higher than 80 percent of the rear track axle width.			
DIELECTRIC VOLTAGE TESTING The wiring and permanently connected devices and equipment shall be subject to a dielectric voltage withstand test of 900 volts for one minute. The testing shall be performed after all body work has been completed. The electric polarity of all permanently wired equipment, cord reels, and receptacles shall be tested to verify that wiring connections have been properly made.			

FLUID CAPACITY AND TYPE LABEL A permanent label shall be provided and shall state the type and quantity of the following fluids used in the vehicle: Engine Oil Engine Coolant Chassis Transmission Fluid Drive Axle Fluid Pump Gear Case Primer Lubricant (If Applicable)			
SERVICE REQUIREMENTS The bidder shall provide a "24 Hour", "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. (Mandatory Requirement) 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.			
ENGINEERING DRAWINGS Engineering drawings shall be submitted to the purchaser prior to commencement of the manufacturing process. This drawing shall show at a minimum the front, left, right and rear views of the vehicle, as it will look at the time of completion.			

A copy of this drawing shall be signed and returned to the apparatus manufacturer and become part of the vehicle contract.			

BODY MANUAL - ELECTRONIC Two (2) digitized manual(s) shall be provided on operation of the complete apparatus. The manual(s) shall include a troubleshooting guide complete with recommended daily, weekly and annual maintenance procedures.			
REQUIREMENTS OF THE APPARATUS MANUFACTURER All chassis, pumps and major components must be manufactured in North America and must be able to supply parts for an emergency vehicle within 48 hours.			
DIMENSIONS Complete Truck to be as short as possible to allow best maneuverability that meets or exceeds NFPA 1901 turn radius – include all information including overall length, wheelbase, cab to axle etc. While offering the specified cabinet space. Preferred dimensions are as follows: • Wheelbase: Maximum of Two Hundred and forty inches (240”) • Height: one hundred and twenty-seven inches (127”) • Length: Maximum of Three hundred and sixty-four inches (364”) (not including front turret) • Width: Ninety-six inches (96”). Width does not include rub rails or mirrors. Vender shall state the dimensions of the proposed apparatus.			
CHASSIS SPECIFICATIONS			
MODEL			

Chassis shall be a 4 door (crew cab) Freightliner, M2 106 plus 4x4 conventional chassis			
MODEL YEAR The chassis shall have a vehicle identification number that reflects a current model year.			
ENGINE Chassis shall be supplied with a Detroit Diesel DD8 375HP engine Minimum 275 Amp brushless Altenator Minimum two (2) group 31 batteries Auxiliary engine exhaust brake			
TRANSMISION/DRIVELINE Chassis shall be provided with the following: Allison 3000 EVS transmission with PTO provisions Meritor MTC 2-speed Transfer case 16,000 lbs front drive axle 27,000 lbs rear axle with differential lock ABS/Traction Control/Electronic Stability Control Systems.			
CAB EXTERIOR 2-tone Paint (paint specifications can be found under “Paint and Finish” starting on page 117.) LED Headlights			

Dual fender mounted air horns			
CAB INTERIOR NFPA compliant seats. Air ride driver's and officer's seat. SCBA seatbacks for officer and rear Crew seats Rear passenger seats with under seat storage Tilt/telescopic steering wheel			
NFPA Vehicle Data Recorder and Tire Pressure Indicators added to comply with NFPA standards.			
VEHICLE TYPE The chassis shall be manufactured for use as a straight truck type vehicle and designed for the installation of a permanently mounted apparatus behind the cab. The apparatus of the vehicle shall be supplied and installed by the apparatus manufacturer.			
COUNTRY OF SERVICE The chassis shall be put in service in the country of Canada (CAN). The chassis will meet applicable Canadian Technical Standards Document per Canadian Motor Vehicle Safety Regulations as clarified in the incomplete vehicle document which accompanies each chassis. Dealers should be responsible for compliance to provincial, regional, or local regulations, identify those regulations and order any necessary optional equipment from Freightliner Chassis or their OEM needed to follow regulations.			

SERVICE TYPE The chassis shall be a pumper vehicle designed for emergency fire service which shall be equipped with a permanently mounted fire pump. The apparatus shall include a water tank and hose body whose primary purpose is to combat structural and associated fires. The chassis shall be a Fire tank/Pumper with a main driveline driven split-shaft PTO/Pump			
CHASSIS PREPARATION The chassis shall be carefully inspected for compliance to the required specifications and to assure that it is ready for apparatus construction. Any components that require relocation or modification shall be done at this time.			
CHASSIS WHEELS The chassis wheels shall be an aluminum polished finish from the chassis supplier.			

CHROME HUB AND LUG NUT COVERS The front wheels shall be fitted with chrome baby moon type hub covers. The rear wheels shall be fitted with chromed "Top Hat" type hub covers. All front and rear wheel lug nuts shall have chrome lug nut covers installed.			
TIRES Michelin XDN2 315/80R22.5 Front tires (or similar in design and use) Michelin XDN2 12R22.5 rear tires (or similar in design and use)			
ON SPOT AUTO TIRE CHAINS A set of On Spot automatic tire chains shall be installed at the rear tires. The automatic tire chain system shall be air actuated from the chassis air system, and shall be controlled with an activation switch located in the cab within easy reach of the driver. Tire Chains - Pair - B.C. Compliant			

FRONT AND REAR MUD FLAPS Four (4) heavy duty rubber rear mud flaps shall be provided and installed on the apparatus. The mud flaps shall be installed behind the front and rear wheels.			
CHASSIS EXHAUST MODIFICATIONS To maintain chassis engine performance, the chassis exhaust shall be modified minimally after any exhaust treatment devices and shall meet the chassis supplier's recommendations. The exhaust shall exit at the curbside of the apparatus before the rear axles and shall be a straight exhaust pipe design and will feature a Plymovent exhaust extraction system adapter fitted to exhaust tip.			
EXHAUST SYSTEM HEAT SHIELD Where the chassis exhaust piping passes under or near a body compartment, the exhaust piping shall be shielded utilizing a heat shield manufactured from 1/8" 3003-H22 aluminum checker plate to prevent compartment exposure to radiant heat. The heat shield shall be mounted to the tail pipe with suitably sized muffler clamps.			
CUSTOM ALUMINUM CHECKER PLATE STEPS Full custom fabricated 3/16" checker plate steps and vertical riser assemblies shall be installed under the crew cab doors, left and right sides. The checker plate steps shall have NFPA rated slip resistance on all walking surfaces and shall be easily removable for ease of service and maintenance.			
CAB STEP LIGHTING Each cab step shall be illuminated by Tecniq P/N E03 LED lights to meet the requirements of NFPA 1901.			

BATTERY CHARGER PACKAGE - 40AMP The following components shall be installed: <u>Battery Charger - Kussmaul - Pump Plus 1200 PLC</u> A Kussmaul Pump Plus1000 Series Model #091-193-12, 40 amp battery charger and 10 amp Battery Saver shall be installed. The battery charger shall be a Pump Plus #1200 Series 40 amp high output battery charger. The charger shall have the following operational specifications: a) 120 volts AC input at 10 amps b) 12 volts DC output at 40 amps The battery charger shall supply a 'single battery bank' with automatic operation and with an aluminum enclosure. The system shall have a built-in sense circuit to check battery voltage 120 times a second; the system shall compensate for voltage drop in charging wires and provide quick recharging with no over-charging. The unit shall include front panel connections for a remote display and auxiliary loads. <u>Air Compressor - 12V - 100 PSI</u> The compressor shall be a Kussmaul P/N 091-9-12V 12 volt compressor. The Auto Pump 12 volt driven air compressor shall ensure that the air brake system is properly pressurized for immediate response of the unit. A pressure switch shall regulate operation and shall automatically sense low air pressure in the brake system and restore the proper pressure. The unit shall have no interference with the vehicle mounted air compressor. The compact compressor shall have sealed bearings and a 15 amp circuit breaker installed in pressure switch assembly.			

The air compressor shall have the following ratings: 1. 100 PSI maximum rating 2. Pre-set at 75 PSI “ON” and 95 PSI “OFF” 3. Adjustable different range of 20 PSI to 100 PSI 4. Output: 0.30 SCFM @ 80 PSI 0.35 SCFM @ 60 PSI 5. Rating: 12 volt at 11 amps <u>Shoreline Inlet - Kussmaul Super Auto Eject - 20 Amp</u> A Kussmaul Super Auto Eject Model #091-55-20-120, 20 amp 120 volt shore power assembly, cover, solenoid input wire, power cord, and plug shall be installed. The 12 volt solenoid shall eject the shore power cord away from vehicle path upon sensing engine start; after ejection, the weatherproof cover snaps into position over inlet. The unit shall sequence energizing of an Auto Eject, eliminating terminal arching when connecting and disconnecting power cord. The unit shall have a waterproof back enclosure with watertight cable fittings, which protect mechanism from road contamination. A pre-wired 3 foot AC electrical cord and starting sense wire (side wired) shall be installed. The assembly shall have the following dimensions: 6.17” high x 4.08” wide x 2.8” deep with 4 lb. weight. Cover color to be yellow. Other colors available, please specify if otherwise: red, blue, white, gray, black.			

Battery Charger Remote Digital Display The charger shall include a Model #091-199-001 single bar remote digital display.			
SHORELINE INLET - 15 AMP - 110 VOLT A shoreline inlet shall be installed in the cab step area or as per the fire departments specifications. The inlet shall be weatherproof.			
110 VOLT CAB/CREW CAB RECEPTACLE(S) One (1) 110 volt three prong, duplex straight blade receptacle(s) shall be provided in the cab/crew cab area and connected directly to the shoreline receptacle.			
REARVIEW CAMERA/MONITOR SYSTEM One (1) Federal Signal model #CAMSET56-AHD-NTSC2 Camera/Monitor System shall be provided. The system shall consist of (1) 5.6” Color Monitor, (1) Standard Rearview Camera, and (1) 65.5-foot Extension Cable. Monitor The monitor shall be a 5.6” AHD LCD Color Monitor with built-in control box for up to (2) cameras with independent trigger wire for each input. The monitor shall incorporate a built-in speaker, and a photo sensor for automatic brightness adjustment for low-light / no-light conditions. Multi-voltage 12/24 VDC capable Resolution: 720P/1080P			

The monitor dimensions shall measure 5.9” length x 4.7” width x 1.1” depth. <u>Standard Rearview Camera</u> The camera shall be a high-resolution Color CCD camera made from an anti-corrosion aluminum alloy housing. The camera shall feature a photo sensor and (16) infrared LEDs for low-light / no-light conditions, a built-in microphone, and shall have a 118-degree viewing angle. Pixel resolution of the camera shall be 1280 x 960 The camera shall be IP68 rated for water and dust protection. The camera dimensions shall measure 3.0” length x 2.4” width x 2.9” height <u>Extension Cable</u> The camera-to-monitor Extension Cable shall be 20 meters (65.5 feet) in length with waterproof connector.			
CONSOLE – PAINTED There shall be a console installed in the chassis cab with an angled design making it easier to access vital emergency controls. The top of the console shall be easily removable for maintenance and service. The console shall have a storage bin. One (1) divider shall be installed in the console bin.			

CHAINED IGNITION KEY The key utilized for the ignition shall be securely chained to either the steering column or the cab dash to prevent loss or removal of the ignition key.			
SCBA AIR BOTTLE BRACKET(S) - CHASSIS CAB Four (4) Zico Load and Lock Walk Away SCBA air bottle holder bracket(s) shall be provided and installed in the chassis cab seating area.			
HELMET HOLDERS The helmet holders shall be Ziamatic Universal Helmet Holders, model UHH-1.			
TRANSPORTATION ROAD SAFETY KIT The following Transportation Road Safety Kit shall be supplied. One (1) 2.5 lb. ABC vehicle type fire extinguisher, with mounting bracket. One (1) standard First Aid Kit shall be provided. One (1) set of three (3) D.O.T. approved reflective warning road safety triangles shall be supplied with the apparatus.			

PUMP			
DUNNAGE STORAGE - SIDE CONTROL PUMPHOUSE A storage bin manufactured from 3/16" embossed aluminum checker plate shall be recessed at the top of the pump house. The bin shall be approximately 18" deep.			

The pump house framing shall be reinforced utilizing 2" x 2" x .25" aluminum angles and 2" x .25" aluminum flat bar, to support the dunnage bin The dunnage bin shall come with a minimum of one (1) drain block fitted with a stainless steel screen. PVC braided hose shall be installed and securely fastened to the pump house interior framing to allow for dunnage storage drainage through the bottom of the pump house.			
SIDE PUMP HOUSE SLIDE OUT STEP A heavy-duty non-skid, .125" aluminum checker plate Slide Master slide out step shall be provided to both side of the pump house area, installed below the side running board assembly. This step shall have a pull handle and positive type step extension and retraction locks.			

PUMP HOUSE The pump house shall be a full frame module constructed from 2" x 2" x .188" and 3" x 3" x .25" (6061-T6 / 6063-T6) heavy-duty structural aluminum extrusions which shall provide maximum strength and durability. The pump house shall be manufactured separately to allow for movement and flexibility. The pump house shall be attached to the chassis frame with .25" thick heavy-duty mounting plates and .5" grade 8 cadmium plated bolts with self-locking nuts. A transition bracket with rubber mounts shall be installed to the chassis frame. The pump house shall then be mounted to the rubber mounts. The front and rear of the pump house shall have 1/8" 3003 H14 Hi Shine checker plate trim			
PUMP INSPECTION DOOR The pump house interior shall be accessible by an inspection door on the right side. The inspection door shall be constructed from .125" aluminum high shine checker plate. The door shall be fastened to the upper portion of the pump house with stainless steel piano hinges. The locking mechanisms for the door shall be a set of two (2) lift and turn twist lock latches.			

HEAT PANS The bottom of the pump house shall be fitted with a heat pan. The heat pan shall enclose all sides, front, and rear and bottom of the pump house. The heat pan vertical side walls shall be constructed from 1/8" 5083-H321 salt water grade sheet aluminum and shall be installed to the underside of the pump house. There shall be dual 12 gauge 5052 H321 aluminum panels that shall be split in the center and removable for access to the pump house components. Any additional vertical enclosure to properly enclose the heat pan around chassis components shall be with 12 gauge 5052 H321 aluminum.			
CONTROL PANEL - SIDE The pump operator's panel and the right side pump panel shall be constructed from 1/8" aluminum with a black anti-glare coating. Both the right side and left side pump panels shall be bolted to the pump house for ease of removal. The pump operator's panel shall be manufactured in a two-tier design. The bottom/lower tier (portion) shall be screwed into place and can be removable for servicing. The lower level contains all the valve controls, discharges, suctions, drains, etc. All suction and discharge ports exiting through the panels shall be laser cut to provide a smooth exact fit. No cover overlay plates shall be used. The top tier (portion) of the panel shall be bottom hinged with a stainless steel piano hinge and shall have two (2) lift and turn twist lock latches located at the top of the			

panel for pump and gauge servicing. This panel shall contain all gauges and monitoring instruments. All gauges and controls shall be symmetrically and logically laid out to easily enable the pump operator to monitor all aspects of pump operation. All valve controls shall be made by use of heavy-duty steel rods, pivots, and Class I operators. All discharge and auxiliary suction valves shall be mounted behind the panel.			
PUMP INSPECTION DOOR The pump house interior shall be accessible by an inspection door on the right side. The inspection door shall be constructed from .125" aluminum high shine checker plate. The door shall be fastened to the upper portion of the pump house with stainless steel piano hinges. The locking mechanisms for the door shall be a set of two (2) lift and turn twist lock latches. A full height, vertically hinged, black coated inspection door may be supplied if there are minimal discharge and suction inlets on the panel.			
MASTER GAUGE TEST PORTS The pump operator panel shall come with Class 1 P/N 121384 vacuum and pressure testing port			

PUMP BYPASS CONTROL A Class 1 P/N 105120 brass assembly with chrome plated zinc handle petcock control valve shall be mounted at the pump operator panel to allow tank water to recirculate thru the pump. The port size and plumbing shall be ¼”.			
AUXILIARY HEAT EXCHANGER There shall be an auxiliary heat exchanger mounted on the chassis. The heat exchanger will allow tank water to cool the chassis engine. The heat exchanger shall be operated by a Class 1 P/N 105120 brass assemble with chrome plated zinc handle petcock control valve. This valve shall be mounted at the pump operator panel. The plumbing to the auxiliary heat exchanger control valve shall be 1/4".			
CROSS LAY HOSE BEDS Two (2) cross lay hose beds shall be provided and installed transversely above the pump house and shall have vinyl hose matting flooring to allow for water drainage and air movement under the hose. A 3/16" aluminum divider shall separate the hose beds. Each hose bed shall be sized to hold 200' of 1 3/4" hose.			
CROSS LAY PLUMBING - 1.5" DISCHARGE The plumbing on the 1.5" discharge(s) shall be 2" diameter heavy duty piping with Victaulic and Class 1 SBR synthetic rubber hose with stainless steel couplings. Each discharge shall be equipped with a 90-degree swivel with 1.5" male threaded couplings to allow them to be used from either side of the apparatus.			

THREAD TYPE - DISCHARGE 1.5" All 1.5" thread types shall be NPSH. <u>Akron Style 8820 Swing - Out™ Valve</u> The valve shall be Akron Brass Style 8820 Swing-Out™ Valves. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. Product must carry a 10 year manufacturer's warranty. <u>Valve Actuator</u> The valves shall have chrome T handle actuators. For chemical and wear resistance a Lamacoid label specifying the discharge shall be inset into the T handle actuator. The label shall be color coded as per NFPA 1901 requirements.			

Discharge Gauge - Dual Scale A 2.5" discharge gauges shall be mounted adjacent to the discharge valve control handle. A removable bright metal or color coded trim ring shall be supplied. The gauge shall be fully filled with pulse and vibration dampening Interlube to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation. To prevent internal freezing and to keep contaminants from entering the gauge, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem (no exceptions). The gauges shall be in dual scale and measure in increments of 0-400 psi and 0-2800 kPa. Drain Valves A drain shall be installed at the pump panel. The drain shall have 3/4" Synflex drain lines tied to a 1/4 turn drain valve with high pressure brass fittings.			
Drain Valves A drain shall be installed at the pump panel. The drain shall have 3/4" Synflex drain lines tied to a 1/4 turn drain valve with high pressure brass fittings.			
CROSS LAY TARP A heavy-duty vinyl tarp cover shall be provided over the cross lay compartments and held in position with a combination of shock cord fastener and 1/4 turn fasteners. The vinyl tarp shall be red in color.			

PUMP HOUSE RUBBER SEAL There shall be a rubber foam cell permanently mounted between the pump house and the body for maximum pump house heat retention. The seal shall be mounted vertically down the height of the pump house, one each side. There shall be no rub rails mounted on the pump house running boards.			
PUMP HOUSE HEATERS Two (2) DTAC 210-12 16,000 BTU forced air coolant heaters shall be installed. The heaters shall be mounted low in the pump house so that the heat will be distributed evenly in the pump house and will keep the drain lines open. An on/off illuminated rocker switch shall be mounted on the pump panel for operation of the heaters.			
PUMP PANEL LIGHTS - LED - SIDE PANEL There shall be a total of four (4) 6.5" x 3" Tecniq E10 clear LED dome lights, (two (2) each side) to adequately illuminate the side pump panels. The lights shall be mounted under a protective hood of the same material as the side pump panels. The lights shall be activated by a switch at the pump operator panel.			
PUMP HOUSE INTERIOR LIGHTING- LED The interior of the pump house shall be illuminated by a total of two (2) 6.5" x 3" Tecniq E10 clear LED dome lights, one (1) each side. The lights shall be activated by a switch at the pump operator panel.			

PRESSURE GOVERNOR, MONITORING, and MASTER PRESSURE DISPLAY Fire Research InControl series TGA400-A00 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 5 1/2" high by 10 1/2" wide by 2" deep. The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1 3/4" from the front of the control module. Inputs for monitored information shall be from a J1939 data bus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring. The following continuous displays shall be provided: Pump discharge; shown with four daylight bright LED digits more than 1/2" high Pump Intake; shown with four daylight bright LED digits more than 1/2" high			
Pressure / RPM setting; shown on a dot matrix message display Pressure and RPM operating mode LEDs Throttle ready LED Engine RPM; shown with four daylight bright LED digits more than 1/2" high Check engine and stop engine warning LEDs Oil pressure; shown on a dual color (green/red) LED bar graph display Engine coolant temperature; shown on a dual color (green/red) LED bar graph display Transmission Temperature: shown on a dual color (green/red) LED bar graph display Battery voltage; shown on a dual color (green/red) LED bar graph display. The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED			

intensity shall be automatically adjusted for day and nighttime operation. The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions: High Battery Voltage Low Battery Voltage (Engine Off) Low Battery Voltage (Engine Running) High Transmission Temperature Low Engine Oil Pressure High Engine Coolant Temperature Out of Water (visual alarm only) No Engine Response (visual alarm only). The program features shall be accessed via push buttons and a control knob located on the front of the control panel. There shall be a USB port located at the rear of the control module to upload future firmware enhancements. Inputs to the control panel from the pump discharge and intake pressure sensors shall be electrical. The discharge pressure display shall show pressures from 0 to 600 psi. The intake pressure display shall show pressures from -30 in. Hg to 600 psi.			

WATER TANK VOLUME INDICATOR Fire Research TankVision Pro model WLA300-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, and a 10' sensor cable. The indicator shall show the volume of water in the tank on nine (9) easy to see super bright RGB LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of Polycarbonate/Nylon material, and have a distinctive blue label. The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display tank volume, adjustable brightness control levels and a data link to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm. The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall be placed on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.			

PUMP SPECIFICATIONS - PTO The pump shall be a Waterous Pump, Model CXPA1250 The pump shall be rated at: 5000 Liters per minute at 150 P.S.I. 1050 Imperial Gallons per minute at 150 P.S.I. 250 U.S. Gallons per minute at 150 P.S.I. The pump shall be the Class "A" type and shall deliver the percentage of rated discharge at pressures indicated below. 100% of rated capacities at 150 PSI net pump pressure. 100% of rated capacities at 165 PSI net pump pressure. 70% or rated capacities at 200 PSI net pump pressure. 50% of rated capacities at 250 PSI net pump pressure. Pump when dry shall be capable of taking suction and discharging water with a lift of 10 feet in not more than 30 seconds through 20 feet of suction hose of the appropriate size. An additional 15 seconds shall be allowed when the system includes an auxiliary 4" or larger front or rear intake pipe. The entire pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. A certificate documenting this test shall be furnished with the completed apparatus. The pump shall be fully tested at the pump manufacturer's factory to the performance requirements as outlined by the latest NFPA 1901. Pump shall be free from objectionable pulsation and vibration. Pump casing shall be close grained gray iron, bronze fitted and horizontally split in two sections for easy removal of entire impeller assembly without disturbing setting of pump in chassis or pump piping.			

All impellers shall be bronze, accurately balanced for vibration - free running. Replaceable bronze wear rings to be provided. Impeller shaft shall be stainless steel, accurately ground to size and polished under packings. Shaft shall be supported at each end by ball type oil grease lubricated bearings. Sleeve bearings or bushings will not be acceptable. Bearings shall be protected from water and sediment by stuffing boxes with square, graphited rings of packing at each end of impeller shaft. Packing shall be held in place by split, bronze glands, which are fully removable and adjustable. The pump, for ease and rapid servicing in the future, shall have the Waterous separable impeller shaft, which allows true separation of transmission or pump without disassembly or disturbing the other component. This shall be accomplished by making a two piece shaft separable between the flinger ring and packing gland. This feature will allow field service to accomplish in much less time since each component (pump or transmission) can be repaired independently. Disassembly of the pump when the transmission requires service or vice-versa is not required.			

PUMP TRANSMISSION The pump transmission shall be rigidly attached to the pump body assembly and be of latest design incorporating a high strength, involute tooth form Morse™ HV chain drive capable of operating at high speeds to provide smooth, quiet transfer of power. The shift engagement shall be accomplished by a free-sliding collar and shall incorporate an internal locking mechanism to insure that collar will be maintained in ROAD or PUMP position.			
PUMP OPERATION WARNING LABEL There shall be a warning label mounted on the pump operator's panel that states the following: Warning: Death or serious injury might occur if proper operating procedures are not followed. The pump operator as well as individuals connecting supply or discharge hoses to the apparatus must be familiar with water hydraulics hazards and component limitations.			
PUMP SHAFT MECHANICAL SEAL Pump shall be equipped with self adjusting, maintenance free mechanical shaft seals. The seals shall be designed to be functional in the unlikely event of mechanical seal failure. The mechanical seal shall consist of a flat, highly polished spring-fed carbon ring that is sealed to and rotates with the impeller shaft. The carbon ring is to press against a highly polished stainless steel stationary ring that is sealed within the pump body. In addition, a throttling ring shall be pressed into the steel chamber cover, providing a very small clearance around the rotating shaft in the event of a mechanical seal failure. The pump performance shall not deteriorate, nor shall the pump lose prime while drafting if the seal fails during pump operation. These seals will be provided in place of adjustable pump packing.			

PTO PUMP – PUMP AND ROLL The PTO pump shall be used for stationary pumping and also for pump and roll operations			
WATEROUS PRIMER - OIL LESS The priming pump shall be a Waterous electrically driven, positive displacement electric rotary vane with single quick action control on pump panel. All rotating parts of the pump shall be made of corrosion resistant aluminum, stainless steel, and laminated phenolic. The pump cylinder shall be made of aluminum alloy, hard anodized and Teflon coated for corrosion resistance and long life. The handle control, when pulled, is to automatically open the priming valve and activate the primer motor at the same time, thus being a one hand operation. The primer valve is to be connected to the top of both pump volutes making it possible to prime the pump no matter if the pump is in pressure or volume. If a front or rear suction is supplied, an additional line shall be connected to the highest point or points between the pump and the inlet thus insuring a complete prime.			
PRIMING SYSTEM LABEL The priming system shall be marked with a label to indicate proper operation.			

6" MAIN SUCTION MANIFOLD - STAINLESS STEEL There shall be a total of two (2) 6" main inlets, one each side of the pump house. The plumbing for the two (2) main suction inlets shall be single piece design manufactured from schedule 10 stainless steel with schedule 40 threaded fittings. The suction manifold shall be bolted to the pump utilizing heavy duty grade 8 bolts for firm vibration free installation. A victaulic coupler is not acceptable. (Mandatory Requirement)			
MAIN SUCTION INLET CHROME CAPS Each inlet shall come with a chrome plated long handled cap. **AUXILIARY SUCTION - ROAD SIDE** One (1) 2-1/2" gated inlet(s) shall be provided at the left side pump panel. The inlet(s) shall come complete with a chrome female swivel threaded adaptor. There shall be a chrome cap with the inlet(s) and the cap shall come with a chain that is attached to the pump operator panel. The plumbing shall be schedule 10 stainless steel. A rubber grommet shall enclose the plumbing coming out of the pump panel for maximum heat retention in the pump house. (Mandatory Requirement) <u>Akron Style 8825 Swing - Out™ Valve</u> The valves shall be Akron Brass Style 8825 Swing-Out™ Valves. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.			

The valve shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. Product must carry a 10 year manufacturer's warranty. <u>Valve Actuator</u> The valve control shall be by a chrome swing handle located near the discharge. <u>Drain Valves</u> A drain shall be installed at the pump panel. The drain shall have 3/4" Synflex drain lines tied to a 1/4 turn drain valve with high pressure brass fittings.			
PISTON INTAKE RELIEF VALVE(S) One (1) Dixon FSGR 6" female swivel x 4" Storz aluminum piston intake relief valve(s) shall be supplied.			
STORZ CAP(S) One (1) Dixon 4" Storz cap(s) complete with retaining cable shall be supplied for the external valve(s)			
SUCTION RELIEF VALVE A 2-1/2" Elkhart model 40-20 flange mounted adjustable suction relief valve shall be provided and installed in the suction side of the pump. The discharge side of the valve shall be plumbed to the area below the running board, away from the pump operator. The relief valve shall have			

an adjustable working range of 75 PSIG to 250 PSIG and be pre-set at 125 PSI.			
TANK FILL LINE - PUMP TO TANK There shall be a 2" discharge provided at the pump operator panel for a pump to tank line. <u>Akron Style 8820 Swing - Out™ Valve</u> The valve shall be Akron Brass Style 8820 Swing-Out™ Valves. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. Product must carry a 10 year manufacturer's warranty. <u>Valve Actuator</u> The valves shall have chrome T handle actuators. For chemical and wear resistance a Lamacoid label specifying the discharge shall be inset into the T handle actuator. The label shall be color coded as per NFPA 1901 requirements.			
PUMP DISCHARGE MANIFOLD All plumbing for the discharge manifold and discharge plumbing shall be schedule 10 stainless steel with schedule 40 threaded fittings. In some cases, heavy duty, high pressure, wire reinforced flexible hose with stainless steel couplings shall be utilized for plumbing connections.			

Victaulic couplings shall be used on the plumbing lines to take tension off piping and to permit flexing and movement without damage to the pump and its components. Heavy duty U-bolt clamps and bracing shall be used on all plumbing lines and connections where required for firm vibration free installation.			
TANK SUPPLY LINE A 4" tank supply line shall be installed from the tank to the pump. A 3" check valve shall be installed in the pump to eliminate the possibility of pressure expanding and damaging the tank. <u>Butterfly Valve</u> The valve shall be a 3" manually operated butterfly valve. <u>Valve Actuator</u> The valves shall have chrome T handle actuators. For chemical and wear resistance a Lamacoid label specifying the discharge shall be inset into the T handle actuator. The label shall be color coded as per NFPA 1901 requirements.			
2.5" DISCHARGE - LEFT SIDE Two (2) 2.5" gated discharge(s) shall be provided at the left side pump panel. This discharge(s) shall be equipped with a chrome 30-degree adapter, chrome plated rocker lug cap, and retaining chain that is attached to the pump panel. A rubber grommet shall enclose the plumbing coming out of the pump panel for maximum heat retention in the pump house. (Mandatory Requirement) <u>Akron Style 8825 Swing - Out™ Valve</u> The valves shall be Akron Brass Style 8825 Swing-Out™ Valves. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a self-locking ball feature using an			

automatic friction lock design and specially designed flow optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. Product must carry a 10 year manufacturer's warranty. <u>Valve Actuator</u> The valve control shall be by a chrome swing handle located near the discharge. <u>Discharge Gauge - Dual Scale</u> A 2.5" discharge gauges shall be mounted adjacent to the discharge valve control handle. A removable bright metal or color coded trim ring shall be supplied. The gauge shall be fully filled with pulse and vibration dampening Interlube to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation. To prevent internal freezing and to keep contaminants from entering the gauge, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem (no exceptions). The gauges shall be in dual scale and measure in increments of 0-400 psi and 0-2800 kPa. <u>Drain Valves</u> A drain shall be installed at the pump panel. The drain shall have 3/4" Synflex drain lines tied to a 1/4 turn drain valve with high pressure brass fittings.			
2.5" DISCHARGE – CURBSIDE One (1) 2.5" gated discharge(s) shall be provided at the curbside pump panel.			

This discharge(s) shall be equipped with a chrome 30-degree adapter, chrome plated rocker lug cap, and retaining chain that is attached to the pump panel. A rubber grommet shall enclose the plumbing coming out of the pump panel for maximum heat retention in the pump house. (Mandatory Requirement) <u>Akron Style 8825 Swing - Out™ Valve</u> The valves shall be Akron Brass Style 8825 Swing-Out™ Valves. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. Product must carry a 10 year manufacturer's warranty. <u>Valve Actuator</u> The valves shall have chrome T handle actuators. For chemical and wear resistance a Lamacoid label specifying the discharge shall be inset into the T handle actuator. The label shall be color coded as per NFPA 1901 requirements. <u>Discharge Gauge - Dual Scale</u> A 2.5" discharge gauges shall be mounted adjacent to the discharge valve control handle. A removable bright metal or color coded trim ring shall be supplied. The gauge shall be fully filled with pulse and vibration dampening Interlube to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation.			

To prevent internal freezing and to keep contaminants from entering the gauge, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem (no exceptions). The gauges shall be in dual scale and measure in increments of 0-400 psi and 0-2800 kPa. <u>Drain Valves</u> A drain shall be installed at the pump panel. The drain shall have 3/4" Synflex drain lines tied to a 1/4 turn drain valve with high pressure brass fittings.			
3" DELUGE GUN DISCHARGE (12V) A 3" deluge gun discharge shall be provided and installed above the pump house. The plumbing leading to the monitor standpipe shall be schedule 40 stainless steel with schedule 40 threaded fittings. A threaded cap shall come with the monitor standpipe if no monitor is ordered. <u>Akron Electric Valve - Style 8630 Swing-Out™</u> The electric valve(s) shall be an Akron Brass Style 8630 Swing-Out™ Valve. The valve(s) shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The electric actuator shall have a 16:1 gear ratio, which actuates from fully open to fully closed in 5 seconds, a clutch less motor, and utilize an electric controller with current limiting design. Product must carry a 10 year manufacturer's warranty.			

AKRON 9327 ELECTRIC VALVE CONTROLLER An Akron Brass Style 9327 Navigator Pro Mini Valve Controller shall be provided. The electric controls must be of true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open and close buttons. One additional button shall be available to be used for preset activation. The unit must be capable of being used in conjunction with at least two additional displays to control one valve. The unit must provide position indication through a series of 5 ultra-bright LEDs. It shall have manual adjustment of the brightness in the menus. The unit must carry a five year warranty. <u>Discharge Gauge - Dual Scale</u> A 2.5" discharge gauges shall be mounted adjacent to the discharge valve control handle. A removable bright metal or color coded trim ring shall be supplied. The gauge shall be fully filled with pulse and vibration dampening Interlube to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation. To prevent internal freezing and to keep contaminants from entering the gauge, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem (no exceptions). The gauges shall be in dual scale and measure in increments of 0-400 psi and 0-2800 kPa. <u>Drain Valves</u> A drain shall be installed at the pump panel. The drain shall have 3/4" Synflex drain lines tied to a 1/4 turn drain valve with high pressure brass fittings.			

AUXILIARY SUCTION INLET - REAR One (1) auxiliary suction inlet(s) shall be provided at the rear of the apparatus. The plumbing shall be 4" diameter schedule 10 stainless steel with schedule 40 threaded fittings. This inlet(s) shall be equipped with a 4" Storz 30 degree adapter, Storz cap, and retaining chain that is attached to the apparatus body.			
SUCTION RELIEF VALVE A 2-1/2" Elkhart model 40-20 flange mounted adjustable suction relief valve shall be provided and installed in the suction side of the pump. The discharge side of the valve shall be plumbed to the area below the running board, away from the pump operator. The relief valve shall have an adjustable working range of 75 PSIG to 250 PSIG and be pre-set at 125 PSI. Akron Electric Valve - Style 8840 Swing-Out™ The electric valve(s) shall be an Akron Brass Style 8840 Swing-Out™ Valve. The valve(s) shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The electric actuator shall have a 16:1 gear ratio, which actuates from fully open to fully closed in 5 seconds, a clutch less motor, and utilize an electric controller with current limiting design. Product must carry a 10 year manufacturer's warranty.			

AKRON 9327 ELECTRIC VALVE CONTROLLER An Akron Brass Style 9327 Navigator Pro Mini Valve Controller shall be provided. The electric controls must be of true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open and close buttons. One additional button shall be available to be used for preset activation. The unit must be capable of being used in conjunction with at least two additional displays to control one valve. The unit must provide position indication through a series of 5 ultra-bright LEDs. It shall have manual adjustment of the brightness in the menus. The unit must carry a five year warranty. <u>Drain Valves</u> A drain shall be installed at the pump panel. The drain shall have 3/4" Synflex drain lines tied to a 1/4 turn drain valve with high pressure brass fittings.			

SIDEWINDER EXM MONITOR (7100 SD) Monitor shall be constructed from durable, hard anodized, lightweight Elk-O-Lite® material with a variable cross-sectional and vaned waterway for flows up to 700 GPM at 250 PSI for continuous duty; shall be constructed with thrust rods and thrust bearings on both horizontal and vertical rotational joints for improved product longevity; shall be configured with female 2.5“ NPT or 2.5” BSPT style inlet connection; shall be configured with male 2.5“ NHT or 2.5” BSPP style outlet connection; shall have two (2) gear motors that allow for simultaneous vertical and horizontal adjustment, one motor shall control up to 350 degree horizontal rotation while the other motor shall control up to 135 degrees vertical travel (-45 degree to + +90 degree vertical rotation from horizontal); horizontal and vertical motors shall have a manual override device for use in the event of power failure; electric controls shall be NEMA 4 rated and allow for programmable horizontal center position, vertical and horizontal stops, stow position, keep out zones, and motor speeds fast or slow; electric control shall allow for horizontal and vertical oscillation, electric control shall be CAN and/or radio frequency compatible; electric control shall be compatible with both 12VDC and 24VDC power supply.			

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SIDEWINDER EXM MONITOR (7100 SD) Monitor shall be constructed from durable, hard anodized, lightweight Elk-O-Lite® material with a variable cross-sectional and vaned waterway for flows up to 700 GPM at 250 PSI for continuous duty; shall be constructed with thrust rods and thrust bearings on both horizontal and vertical rotational joints for improved product longevity; shall be configured with female 2.5“ NPT or 2.5” BSPT style inlet connection; shall be configured with male 2.5“ NHT or 2.5” BSPP style outlet connection; shall have two (2) gear motors that allow for simultaneous vertical and horizontal adjustment, one motor shall control up to 350 degree horizontal rotation while the other motor shall control up to 135 degrees vertical travel (-45 degree to + +90 degree vertical rotation from horizontal); horizontal and vertical motors shall have a manual override device for use in the event of power failure; electric controls shall be NEMA 4 rated and allow for programmable horizontal center position, vertical and horizontal stops, stow position, keep out zones, and motor speeds fast or slow; electric control shall allow for horizontal and vertical oscillation, electric control shall be CAN and/or radio frequency compatible; electric control shall be compatible with both 12VDC and 24VDC power supply. **FRONT BUMPER TURRET MOUNT** The front bumper shall have an aluminum mounting structure for a front turret. Structure shall be painted body color with checker plate trim. **QUICK CONNECT FOR SIDEWINDER EXM (7150)** Quick Connect shall be compatible with the 7100 Sidewinder EXM providing a reliable means to remove the monitor from plumbing without the use of any tools;			

shall incorporate a safety mechanism that prevents removal of the monitor when in a pressurized state.			
EXM PANEL MOUNT CONTROLLER (7010) Controller shall have a NEMA 4 rating with reverse polarity and circuit board moisture protection; control circuitry shall use programmable integrated circuit technology for monitor up/down, left/right rotation, stow, horizontal and vertical automatic oscillation, nozzle control functions, and, valve control functions; shall provide the user feedback for power on, valve open position, valve closed position, and valve pre-set position; shall provide programming capability for horizontal center position, horizontal stops, stow position, block-out zones, and motor speeds fast or slow; shall be USB compatible allowing for system uploading of firmware or configuration files and downloading of diagnostic files; shall be CAN and/or radio frequency compatible; shall be compatible with both 12VDC and 24VDC power supply.			
VALVE Unibody Valve with E3F Electric Actuator - The Unibody water valve provides a convenient remote on/off and pre-set valve positioning control of the water supply. This allows the operator complete control of the unit from the safety of the vehicle cab or handheld radio controller. The water valve motor speed prevents water hammer, yet closes quickly enough to help preserve the limited on-board water supply. The electric actuated Unibody Valve may be powered with 12 or 24 Volts. A combination of 2" heavy-duty stainless piping and Class1 SBR synthetic rubber hose with stainless steel couplings shall be routed from the pump to the remote monitor. The piping shall come equipped with an automatic drain.			
6000-200E			

Nozzle shall be constructed of durable, hard anodized, lightweight Elk-O-Lite® Material; shall have multiple gallonage settings of 15-30-45-60-95-125-150-200 GPM (60-120-170-250-360-500-550-700 LPM) when operated at a nozzle inlet pressure of 100 psi (6.9 Bar) and shall be constant gallonage at each of those settings; shall be capable of manually changing gallonage settings while flowing under normal operating pressures; shall have a manual flush feature that can be operated without shutting down the flow; shall have infinite pattern setting from straight stream to wide fog that is electrically controlled with a 12VDC signal with manual override; shall have a 2.5 inch FNHT swivel inlet connection; shall have an elastomer bumper allowing for installation of an appropriately sized foam expansion tube.			
EXM POSITION DISPLAY MODULE (7051) Position Feedback Display shall provide user feedback for horizontal and vertical monitor positioning based on absolute position sensors, shall provide available range of motion through back-light feature; shall be CAN compatible; shall be compatible with both 12VDC and 24VDC; shall compatible with 7100, 7200, 7250, or 7400 EXM monitors. There shall be a Class 1 digital pressure gauge installed in the chassis for the front bumper turret. A weatherproof transducer (transmitter) shall be supplied and mounted in the appropriate location in the piping system. The individual transducers shall be connected to the readout using the appropriate wiring in strict accordance with the instructions supplied by Class l.			

THREAD TYPE - DISCHARGE 2.5" The threads that shall be provided for the 2.5" Discharges and 2.5" Suction Inlets shall be BCT.			
1.5" HOSEBED PRE-CONNECT DISCHARGE There shall be Two (2) 1.5" discharge(s) provided to the right side of the main hosebed. The plumbing shall be 2" schedule 10 stainless steel with schedule 40 stainless steel threads and Class 1 high pressure hose with stainless steel couplings. Discharge positioning shall be at the fire department discretion. <u>Akron Style 8820 Swing - Out™ Valve</u> The valves shall be Akron Brass Style 8820 Swing-Out™ Valves. The valves shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valves shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valves shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the			

removal of six bolts. Product must carry a 10 year manufacturer's warranty. Valve Actuator The valves shall have chrome T handle actuators. For chemical and wear resistance a Lamacoid label specifying the discharge shall be inset into the T handle actuator. The label shall be color coded as per NFPA 1901 requirements. Discharge Gauge - Dual Scale A 2.5" discharge gauges shall be mounted adjacent to the discharge valve control handles. A removable bright metal or color-coded trim ring shall be supplied. The gauges shall be fully filled with pulse and vibration dampening Interlube to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation. To prevent internal freezing and to keep contaminants from entering the gauge, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem (no exceptions). The gauges shall be in dual scale and measure in increments of 0-400 psi and 0-2800 kPa. Drain Valves A drain shall be installed at the pump panel. The drains shall have 3/4" Synflex drain lines tied to a 1/4 turn drain valve with high pressure brass fittings.			

2.5" DISCHARGE - REAR One (1) 2.5" gated discharge(s) shall be provided at the rear of the apparatus. The plumbing leading to the rear discharge shall be high pressure Class 1 hose and schedule 10 stainless steel with schedule 40 threaded fittings. This discharge(s) shall be equipped with a chrome 30 degree adapter, chrome plated rocker lug cap, and retaining chain that is attached to the apparatus body. <u>Akron Style 8825 Swing - Out™ Valve</u> The valves shall be Akron Brass Style 8825 Swing-Out™ Valves. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. Product must carry a 10 year manufacturer's warranty. <u>Valve Actuator</u> The valves shall have chrome T handle actuators. For chemical and wear resistance a Lamacoid label specifying the discharge shall be inset into the T handle actuator. The label shall be color coded as per NFPA 1901 requirements. <u>Discharge Gauge - Dual Scale</u>			

A 2.5" discharge gauges shall be mounted adjacent to the discharge valve control handle. A removable bright metal or color coded trim ring shall be supplied. The gauge shall be fully filled with pulse and vibration dampening Interlube to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation. To prevent internal freezing and to keep contaminants from entering the gauge, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem (no exceptions). The gauges shall be in dual scale and measure in increments of 0-400 psi and 0-2800 kPa. <u>Drain Valves</u> A drain shall be installed at the pump panel. The drain shall have 3/4" Synflex drain lines tied to a 1/4 turn drain valve with high pressure brass fittings.			
2.5" HOSEBED PRE-CONNECT DISCHARGE One (1) 2.5" gated discharge(s) shall be provided at the left side of the hosebed. The plumbing leading to the discharge shall be high pressure Class 1 hose and schedule 10 stainless steel with schedule 40 threaded fittings. <u>Akron Style 8825 Swing - Out™ Valve</u> The valves shall be Akron Brass Style 8825 Swing-Out™ Valves. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require lubrication of seats or any			

other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. Product must carry a 10 year manufacturer's warranty. <u>Valve Actuator</u> The valves shall have chrome T handle actuators. For chemical and wear resistance a Lamacoid label specifying the discharge shall be inset into the T handle actuator. The label shall be color coded as per NFPA 1901 requirements. <u>Discharge Gauge - Dual Scale</u> A 2.5" discharge gauges shall be mounted adjacent to the discharge valve control handle. A removable bright metal or color-coded trim ring shall be supplied. The gauge shall be fully filled with pulse and vibration dampening Interlube to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation. To prevent internal freezing and to keep contaminants from entering the gauge, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem (no exceptions). The gauges shall be in dual scale and measure in increments of 0-400 psi and 0-2800 kPa. <u>Drain Valves</u> A drain shall be installed at the pump panel. The drain shall have 3/4" Synflex drain lines tied to a 1/4 turn drain valve with high pressure brass fittings.			

STORZ DISCHARGE WITH SLO CLOZ- SIDE One (1) gated Storz discharge(s) shall be provided at the curbside pump panel. The plumbing shall be 4" diameter stainless steel plumbing. The inlet(s) shall be equipped with a 4" Storz 30 degree adapter, Storz cap, and retaining chain that is attached to the apparatus body. <u>Akron Electric Valve - Style 8840 Swing-Out™</u> The electric valve(s) shall be an Akron Brass Style 8840 Swing-Out™ Valve. The valve(s) shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. All stainless-steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The electric actuator shall have a 16:1 gear ratio, which actuates from fully open to fully closed in 5 seconds, a clutch less motor, and utilize an electric controller with current limiting design. Product must carry a 10-year manufacturer's warranty.			

AKRON 9327 ELECTRIC VALVE CONTROLLER An Akron Brass Style 9327 Navigator Pro Mini Valve Controller shall be provided. The electric controls must be of true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open and close buttons. One additional button shall be available to be used for preset activation. The unit must be capable of being used in conjunction with at least two additional displays to control one valve. The unit must provide position indication through a series of 5 ultra-bright LEDs. It shall have manual adjustment of the brightness in the menus. The unit must carry a five year warranty. <u>Discharge Gauge - Dual Scale</u> A 2.5" discharge gauges shall be mounted adjacent to the discharge valve control handle. A removable bright metal or color coded trim ring shall be supplied. The gauge shall be fully filled with pulse and vibration dampening Interlube to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation. To prevent internal freezing and to keep contaminants from entering the gauge, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem (no exceptions). The gauges shall be in dual scale and measure in increments of 0-400 psi and 0-2800 kPa. <u>Drain Valves</u> A drain shall be installed at the pump panel. The drain shall have 3/4" Synflex drain lines tied to a 1/4 turn drain valve with high pressure brass fittings.			

HOSE REEL - HANNAY F-SERIES A Hannay F-Series hose reel shall be supplied and installed on the fire apparatus. The hose reel shall have the capacity to hold 150' of 1" hose. <u>Valve Actuator</u> The valves shall have chrome T handle actuators. For chemical and wear resistance a Lamacoid label specifying the discharge shall be inset into the T handle actuator. The label shall be color coded as per NFPA 1901 requirements. <u>Hose Reel Plumbing - 1 Inch</u> The hose reel plumbing shall be a combination of 1" dia. Class 1 high pressure flex hose with stainless steel fittings. The valve shall be an Akron 8810 brass valve with stainless steel ball valve. <u>Drain Valves</u> A drain shall be installed at the pump panel. The drain shall have 3/4" Synflex drain lines tied to a 1/4 turn drain valve with high pressure brass fittings. <u>Elkhart EB15 Valve</u> An Elkhart EB15 valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. This valve shall be actuated using an Elkhart Brass R1F manual valve actuator. <u>Hose Reel Installation - Electric</u>			

The hose reel shall be installed in an enclosed location under the chassis and behind the chassis cab steps as per the fire departments specifications. Two (2) gauge 200 amp battery cable shall be wired to the hose reel for the hose reel electric motor. The power supply shall have an 80 amp manual reset circuit breaker. A weather proof momentary switch shall be mounted near the hose reel in a suitable location or as specified by the fire department. <u>Hose Reel Option - 1/2 Horsepower 12V Electric Motor</u> The hose reel shall have a power rewind via a chain and sprocket drive with a 12V electric 1/2 hp motor. An auxiliary back-up manual gear-driven rewind with a detachable handle shall be provided. <u>Hose Reel Finish</u> The exterior of the reel shall have a painted oven-cured enamel finish. <u>Hose Reel Option - Guide Rollers</u> The hose reel shall have a single outrigger roller and spool assembly to guide the booster hose from and to the reel. <u>Hose Reel Hose</u> There shall be a 150' of Niedner Reeltex hose supplied for the hose reel. The hose shall be a single jacket construction of 100% virgin spun polyester combined with a special helical interior reinforcement. The outside jacket shall be treated with red Encap™ elastomer which shall completely encapsulate the jacket fibers. The hose reel shall come with a male 1" outlet and special riser and/or a larger drum to prevent "kinking" for Niedner hose.			

Hose Reel Air Blow Out An airline that is tied to the chassis air tanks shall be plumbed to the hose reel plumbing to blow water from the hose reel hose line. The airline shall be 3/8” Synflex material. The air shut off valves shall be Class 1 quarter turn stainless ball valves and shall be located near the hose reel installation location.			
NOZZLE(S) One (1) Akron #1702, 1" Turbojet® nozzle(s) complete with pistol grip shall be supplied. The nozzle(s) shall have 13-25-40-60 GPM flow settings.			
FOAM PRO 2001 FOAM SYSTEM The vehicle shall be equipped with an electronic, fully automatic, variable speed direct injection, discharge side foam proportioning system. The system shall be capable of handling foam concentrate. The foam system shall be a FoamPro 2001. The foam proportioning operation shall be based on direct measurement of water flows, and remain consistent within the specified flows, and pressures. The system must be capable of delivering accuracy to within 3% of calibrated settings over the advertised operation range when installed according to factory standards. The system shall be equipped with a control module suitable for installation on the pump panel. Incorporated within the motor driver shall be a microprocessor that receives input from the system flow meter, while also monitoring foam concentrate pump output, comparing values to ensure that the operator preset proportional amount of foam concentrate is injected into the discharge side of the fire pump. A paddlewheel type flow meter shall be installed in the discharges specified to be foam capable. As this system uses more than one flow meter an interface electronics			

module will be provided to totalize these flows and send the flow total to the microprocessor in the computer control display. The digital computer control display shall enable the pump operator to perform the following control and operation functions for the foam proportioning system: 1. Provide push-button control of foam proportioning rates from .1% to 9.9% in .1% increments. 2. Show the current flow per minute of water. 3. Show the total volume of water discharged during and after foam operations are completed. 4. Show the total amount of foam concentrate consumed. 5. Slow the flow rates for manual operation. 6. Perform setup and diagnostic functions for the computer-controlled microprocessor. 7. Flash a "low concentrate" warning when the foam concentrate tank(s) run low. 8. Flash a "no concentrate" warning and shut the foam concentrate pump off, preventing damage to the pumpshould the foam tank(s) empty. A 12 volt electric motor driven positive displacement foam concentrate pump shall be provided. The pump capacity shall be 2.5 gpm at 400 psi. A pump motor electronic driver shall receive signals from the computer control display and power the 1/2 hp electric motor directly coupled to the concentrate pump in a variable speed duty cycle to ensure that the correct proportion of concentrate preset by the pump operator is injected into the water stream.			

A full flow check valve shall be provided to prevent foam contamination of the fire pump and water tank or water contamination of the foam tank(s). The 2000 series components shall include: 1) An operator control and display 2) Paddlewheel flow meters 3) Foam pump and electric motor/motor driver 4) All required wiring harness 5) Low level tank switch(s) 6) Multi-Flo electronic module 7) An electronic dual tank valve or manual dual tank valve 8) A foam injection check valve An operations manual shall be provided for the unit.			
FOAM SYSTEM DISCHARGE MANIFOLD A stainless steel foam discharge manifold shall be provided for the foam system. This foam manifold shall have four (4) outlets for connection into the apparatus plumbing system. Plumb foam to both crosslays, Hose reel and 2.5” hosebed pre-connect.			
INTEGRAL FOAM TANK The integral foam tank shall have the following capacities: 25 Imperial Gallons, 114 liters The foam tank shall be provided as an integral part of the booster tank and piped to the foam system. The tank shall have a separate fill tower with cover labeled ("FOAM FILL ONLY") for filling the foam tank.			

CLASS A FOAM TANK VOLUME INDICATOR Fire Research TankVision Pro model WLA360-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, a 10' sensor cable and a tank vent. The indicator shall show the volume of Class A foam concentrate in the tank on nine (9) easy to see super bright RGB LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of Polycarbonate/Nylon material, and have a distinctive green label. The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display tank volume, adjustable brightness control levels and a data link to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm. The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the foam tank near the bottom. No probe shall be placed on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.			
INTEGRAL FOAM TANK WATER ALLOWANCE The integral foam cell will deduct water from the specified water tank volume.			

BOOSTER TANK The booster tank shall have the following capacities: 1000 Imperial gallons, 4546 liters. The tank shall be provided with a lifetime tank manufacturer warranty. The transverse and longitudinal swash partitions shall be manufactured of Polypropylene Copolymer material. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow and meet NFPA rules. All swash partitions interlock with one another and are welded to each other as well as to the walls and floor of the tank. The tank shall have a combination vent and fill tower. The fill tower shall be constructed of .5" thick Polypropylene Copolymer and shall be a minimum dimension of 8"x 8" outer perimeter. The tower shall be located in the left front corner of the tank unless otherwise specified by the purchaser. The tower shall have a .25" thick removable Polypropylene Copolymer screen and a Polypropylene Copolymer hinged-type cover. Inside the fill tower, there shall be a combination vent overflow pipe. The vent overflow shall be a minimum of schedule 40 pipe with a minimum I.D. of 4", unless a dump chute is included in the design in which case the I.D shall be 6". Both shall be of a design to run through the tank. The tank overflow shall be piped behind the rear wheels. The tank cover shall be constructed of recessed .5" thick Polypropylene Copolymer, stress relieved, U.V. stabilized material. A minimum of two lifting dowels shall be drilled and tapped .5" x 2" to accommodate the lifting eyes.			

There shall be one (1) sump standard per tank. The sump shall be constructed of .5” Polypropylene Copolymer and be located in the left front corner of the tank and shall meet the requirements of NFPA. There will be two (2) standard tank outlets: one for tank to sump suction line and one for a tank fill line. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank, and be capable of withstanding sustained fill rates of up to 1,000 G.P.M. The tank shall rest on the body cross members in conjunction with such additional cross members, spaced at a distance that would not allow for more than 530 square inches of unsupported area under the tank floor. In cases where overall height of the tank exceeds 40 inches, cross member spacing must be decreased to allow for not more than 400 square inches of unsupported area. The tank must be isolated from the cross members through the use of hard rubber strips with a minimum thickness and width dimension of .25” x 2” and a minimum Rockwell hardness of 60 durometers. Additionally, the tank must be supported around the entire bottom outside perimeter and capture both front and rear as well as side to side to prevent tank from shifting during vehicle operation. The tank shall be mounted in the apparatus body in a manner that the total outside bottom perimeter of the tank shall be supported. The bottom of the tank shall be completely isolated from the frame by heavy-duty .25" thick rubber strips. There shall be a picture frame type cradle mount system utilized for the purpose of capturing the tank. There shall be a support system across the top of the tank to prevent excessive bouncing when the tank is empty.			

Although the tank is designed as a free-floating suspension unit, it is required that the tank has adequate hold down restraints to minimize movement during vehicle operation. If proper retention has not been incorporated into the apparatus hose floor structure, an optional mounting restraint system shall be located on the top of the tank, halfway between the front and rear on each side of the tank. The tank shall be completely removable without disturbing or dismantling the apparatus structure.			
LIMITED LIFETIME POLY TANK WARRANTY The water tank shall carry a tank manufacturer lifetime warranty against defects and workmanship. The apparatus manufacturer must be authorized for installation and alterations on poly tanks to not void any written warranties. (Mandatory Requirement)			

TANK DRAIN The tank shall have a 1.5" tank drain installed in the bottom of the tank and accessible from the ground.			
BODY			
APPARATUS BODY The body shall be designed with improved approach angles to be “wildland” design and fabricated with the highest quality components available, and acceptable to the fire service industry. Only new components shall be in the manufacturing process. The body shall be engineered and designed to provide a low center of gravity and carry a correct load distribution.			

The entire body superstructure and sub frame shall be constructed of heavy-duty tubular aluminum and channels to provide a full frame body design. The use of tubular aluminum and channels shall provide for extreme strength, maximum durability, and maximum resistance to buckling and failure. The full frame body construction method shall provide for greater strength and integrity. Formed body construction shall not be acceptable. All compartments shall be fabricated with 1/8" aluminum panels, salt-water marine grade 5083-H321, which are inserted into the body framework. The framework allows for reinforcement to the compartment, for installation of heavy equipment. The 1/8" aluminum panels, salt-water marine grade 5083-H321 panels shall provide extreme strength, rust corrosion resistance, and maximum durability. Skilled craftsmen shall perform all welding operations on the body. All welding shall be electronically with the highest quality components. Certified welders shall perform all welding. Proof of welder certification shall be provided with the completed vehicle.			
BODY SUBFRAME The body framework shall be assembled on a jig, and shall be clamped together and squared. The framework shall be electronically welded with digital pulse welders forming the integral superstructure. The body frame rails shall be constructed of 6061T6/6063-T6, 3" x 3" aluminum extrusions, with a wall thickness of 1/4". The front cross member shall be a heavy duty 3" x 3" x 1/4" aluminum extrusions providing maximum strength and durability.			

The rear cross members shall be heavy duty 3" x 3" x 1/4" aluminum extrusions providing maximum strength and durability at the rear section of the body. These body cross members shall extend the full width of the body. The cross members shall provide support for the body side compartments and rear tailboard section. The body sub frame and the chassis frame shall be insulated and separated by a rubberized belt. The body side compartments, both sides and the rear shall be full frame constructed from heavy-duty aluminum extrusions 2" x 2" x 3/16". The body shall be mounted to the chassis frame rails with four side mounting plates. This shall provide for maximum mounting strength and flexibility.			
CORROSION PROTECTION All body components or attachments made from dissimilar metals shall be fastened to the body utilizing an UHMW/Polyethylene material to prevent metal-to-metal contact preventing dielectric corrosion. All fasteners used in attaching or fastening of aluminum panels shall be installed with stainless steel hardware. Rivets shall not be acceptable. (Mandatory Requirement) All fasteners shall be installed in a manner, which shall involve drilling, tapping, and application of non-corrosive grease before the stainless steel bolts are installed. Self-tapping screws or screws without threads shall not be acceptable. (Mandatory Requirement)			

SCBA AIR BOTTLE STORAGE COMPARTMENT(S) There shall be two (2) double air bottle storage compartment(s) installed in the rear fenders. The double air bottle storage compartment(s) shall have a sealed weatherproof stainless steel access door with two black compression latch opening devices. The door shall be secured with a stainless-steel hinge. The bottle storage tubes shall be manufactured from aluminum and come with rubber matting to protect the bottles. A nylon strap shall secure the air bottle in the tube in case of accidental door opening while in transit. The door shall be tied to the door ajar warning light in the chassis cab.			
SUB STRUCTURE WARRANTY - 20 YEAR The substructure shall be warranted for a period of twenty (20) years on the apparatus sub structure for corrosion perforation. (Mandatory Requirement)			
BODY WARRANTY - 20 YEAR The apparatus body warranty shall cover the entire body against manufacturer defects for a period of twenty 20 years on aluminum and stainless steel full framed bodies. (Mandatory Requirement)			

HOSE BED The main hose bed shall be located above the booster tank and be sized to meet the requirements for a Pumper Fire Apparatus as specified in NFPA 1901 (Latest Edition) and ULC S515-13 The inner sides of the hose bed shall be natural finish aluminum smooth plate free of protrusions and obstructions. There shall be three (3) Aluminum Unistrut tracks for the optional hose bed divider(s), two (2) at the forward section of the hose bed, and one (1) at the rear. The rear track shall have come with 10' of snap cover to prevent the hose couplings from catching the track. The snap cover shall be shipped loose for customer installation after the hose bed dividers have been set up.			
HOSE BED MATTING The hose bed flooring shall be fitted with vinyl type matting to allow for air movement under the hose			
HOSE BED DIVIDER - ADJUSTABLE There shall be Three (3) adjustable hose bed divider(s) provided. The divider(s) shall be easily adjustable in the hose bed slide tracks. Each divider shall be constructed from 3/16" 5083-H321 salt water marine grade aluminum which shall be welded into a custom aluminum extrusion base frame. Each hose bed divider shall have an oval handhold provided at the rear portion of the divider.			

ALUMINUM CHECKER PLATE HOSE BED COVER One (1) polished aluminum checker plate hose bed cover shall be provided and installed over the main hose bed area. This cover shall be manufactured in two (2) sections, each one hinged at hose body side sheet and closing to center of hose bed. Each cover shall have a gas strut door stay to hold it in the open position. A fixed center hose bed partition shall be provided and shall be slightly higher than the hose bed side walls. The hose bed cover shall slant downward to each side of the body for drainage. The aluminum hose bed cover shall have a vinyl end flap to cover the rear of the hose bed. A total of four (4) 12" H20 Lumabar LED lights shall be mounted under the hose bed divider lids for illumination when the cover is in the open position.			
HOSE BED ACCESS STEP A hose bed access step shall be installed below the hose bed. The step shall be manufactured from 3/16" 3003-H22 embossed checker plate aluminum and shall meet the requirements of NFPA 1901 latest edition for slip resistance, depth, and weight load. The step dimensions shall be approximately 51" wide on the front and approximately 58" on the rear. These dimensions may be adjusted due to optional equipment clearance and the final sign off drawing will have the actual dimensions. The step shall be fastened to the apparatus rear face utilizing stainless steel screws.			

REAR FENDERS The rear fenders of the apparatus shall be fully removable to allow for servicing of the apparatus suspension system. The rear fender outer skin shall be fabricated from 1/8" 3003-H14 hi shine aluminum checker plate. The inner wheel well shall be fabricated from 1/8" 5083-H321 salt water grade aluminum. The fender shall be attached to the body using stainless steel screws. The screws shall be pre tapped before installation. Self tapping screws are not acceptable. All dissimilar metals shall receive a strip of UHMW isolation tape for corrosion resistance.			
SIDEWALL AND FRONT COMPARTMENT TRIM The sidewalls and compartment tops shall be 3/16" 5052-H32 aluminum panel, painted with the same color and paint process as the body finish. The compartment tops shall extend past the compartments to form a drip guard. The sidewall shall be fastened with stainless steel fasteners. The front apparatus body exterior compartment trim shall be 1/8" 3003 - H22 aluminum checker plate. The exterior trim shall be fastened with stainless steel fasteners.			
REAR BODY SECTION - NATURAL FINISH ALUMINUM The rear section of the apparatus body shall be finished with 1/8" 5083 H321 aluminum plate panels. The panels shall have a natural finish for installation of Chevron. The panels shall be fastened to the rear body framework with stainless steel fasteners. The stainless-steel fasteners are drill tapped. Sheet metal screws or self tapping screws are not acceptable. (Mandatory Requirement)			

BODY COMPARTMENTS The body compartments shall be fabricated with 1/8" 5083-H321 salt-water marine aluminum panels. These panels shall be non-corrosive, durable, and add strength and integrity to the body construction. The interior compartment seams shall be sealed and caulked with a permanent, pliable automotive type sealer. All compartments shall have a 1" drop on the lower edge of the door opening to accommodate the door seal, and to stop moisture from entering the compartment. (Mandatory Requirement) All compartments shall have sweep out floors. All compartments shall be fitted with vinyl matting. The external compartments tops shall be constructed of hi-shine 1/8” 3003-H14 aluminum tread plate. All compartments shall have an aluminum drip molding installed over the top of the compartment doors. All compartments shall be weatherproof.			
COMPARTMENT MATTING There shall be versatile PVC matting supplied on the all body compartment floors. The matting shall be interlocking and 1" high to allow for air movement.			

LEFT SIDE BODY COMPARTMENTS The following compartments shall be provided on the driver's side of the apparatus body. One (1) compartment forward of the rear wheel measuring 36"W x 65"H x 13.5" / 26"D frame opening. One (1) compartment over the rear wheel measuring 60"W x 35"H x 13.5"D frame opening. One (1) compartment behind the rear wheel measuring 36"W x 49"H x 13.5" / 26"D frame opening. The body compartments shall be fabricated with 1/8" 5083 salt water marine grade aluminum panels. These panels shall be non-corrosive, durable, and add strength and integrity to the body construction. The interior compartment seams shall be sealed and caulked with a permanent, pliable automotive type sealer. All compartments shall have a 1" drop on the lower edge of the door opening to accommodate the door seal, and to stop moisture from entering the compartment. (Mandatory Requirement) All compartments shall have sweep out floors. All compartments shall be weatherproof.			

RIGHT SIDE BODY COMPARTMENTS The following compartments shall be provided on the curbside of the apparatus body. One (1) compartment forward of the rear wheel measuring 36"W x 65"H x 13.5" / 26"D frame opening. One (1) compartment over the rear wheel measuring 41"W x 35"H x 13.5"D frame opening. One (1) compartment behind the rear wheel measuring 36"W x 49"H x 13.5" / 26"D frame opening. The body compartments shall be fabricated with 1/8" 5083 salt water marine grade aluminum panels. These panels shall be non-corrosive, durable, and add strength and integrity to the body construction. The interior compartment seams shall be sealed and caulked with a permanent, pliable automotive type sealer. All compartments shall have a 1" drop on the lower edge of the door opening to accommodate the door seal, and to stop moisture from entering the compartment. (Mandatory Requirement) All compartments shall have sweep out floors. All compartments shall be weatherproof.			
REAR BODY COMPARTMENT The following compartments shall be provided on the rear of the apparatus body. One (1) compartment forward of the rear wheel measuring 46"W x 42"H x 28"D frame opening.			

AMDOR ROLL UP DOORS The doors shall be Amdor Roll-Up type doors to include: double wall aluminum box section slats with integral hinge joint and recessed slat seal, reusable end shoes with snap-in securement, double wall aluminum reinforced bottom rail with either Stainless Steel Lift Bar door latching system, aluminum track with side frame, sill plate, and top gutter with non-marring top seal, side seals, bottom seal, with all wear component material to be Type 6 Nylon. The slats shall have a true box section with a flat interior surface to prevent equipment hang-up. The slats shall have a face depth of 1.0 inches and a wall thickness of 0.045 inches. Each slat incorporates a recessed slat seal to weatherproof the compartment and reduce rattle between slats. For every inch of height an integral continuous hinge joint spans the width of the door to provide superior strength. The door glides on non-interlocked end shoes. Each end shoe is independent and positively secured by an exclusive snap-in device. Door slats can be easily removed and replaced when required. The Stainless Steel Lift Bar system shall be provided to keep the door securely closed. This system complements the superior strength of the bottom rail with bottom seal and integral reinforcing flange. Wear components are constructed of Type 6 Nylon to provide maximum strength and durability. Type 6 Nylon is a naturally lubricating material, which provides exceptional temperature characteristics. Each door is equipped with slat, top, bottom and side seals to keep moisture and dirt on the outside. The non-marring top seal provides a seal without marking the door surface.			

The compartment door at the L1 location shall be Amdor roll up style. The compartment door at the L2 location shall be Amdor roll up style. The compartment door at the L3 location shall be Amdor roll up style. The compartment door at the R1 location shall be Amdor roll up style. The compartment door at the R2 location shall be Amdor roll up style. The compartment door at the R3 location shall be Amdor roll up style. The compartment door at the B1 location shall be Amdor roll up style.			
DOOR STRAPS All roll up doors that exceed comfortable open reach height of the 5th percentile adult female specified in the Canadian Motor Vehicle Safety Regulations shall receive an Amdor Flex HD pull strap. The strap shall be installed so as to not obstruct the closing of the roll up door. Pan doors, if applicable, that exceed comfortable open reach door height of the 5th percentile adult female specified in the Canadian Motor Vehicle Safety Standards shall receive a nylon strap to assist in door closure.			

COMPARTMENT SHELVING - ADJUSTABLE Four (4) adjustable 3/16" aluminum compartment shelves with upturned edges shall be provided. Each shelf shall be provided with plastic matting.			
ADJUSTABLE SHELVING UNI-STRUT SIDE TRACKS Four (4) set(s) of four (4) aluminum Unistrut side tracks shall be provided for installation of adjustable shelves.			
ROLL OUT TRAY(S) Two (2) heavy duty ball bearing roll out tray shall be provided. The tray(s) shall have two (2) side mounted, 500 lb. rated ball bearing roll out 18" travel sliding tracks and a 3/16" aluminum tray with up turned edges. The tray shall be supplied with plastic floor matting and corner drain holes. The tray(s) shall have a drop bar tray retainer to keep the tray secure in either the open or closed position.			
VERTICAL TOOLBOARD(S) ON SLIDE OUT TRAY Two (2) vertical tool boards(s) shall be installed on the specified slide out trays. The vertical tool boards shall be manufactured from perforated 3/16" 5052-H32 aluminum.			

PAC TRAC TOOL MOUNTING SYSTEM Mounted in the upper section of the specified body compartment(s) there shall be the PAC TRAC P/N 7000 extruded aluminum tool mounting system. The track shall be manufactured from 6063-T5 aluminum. Each track will be secured to the compartment wall with PAC P/N 7001 “Z” mounts. The location of the track shall be: Tool Board - PAC Trac -48": Back wall of R2 Compartment Tool Board - PAC Trac -60": Backwall of L2 Compartment			
INTERGRATED TOOLBOX There shall be a four (4) drawer heavy duty toolbox approximately 24” wide and sized to match compartment depth inside a body compartment. Heavy duty drawer packs are constructed from 1/8" 5052-H32 grade aluminum throughout. 250lb capacity full extension, ball-bearing slides for each drawer. Replaceable dual spring latches for each drawer. Top two (2) drawers shall be approx. 3” deep and bottom two (2) shall be approx. 6” deep.			

WILDLAND REAR FLUSH PAN BODY COMPARTMENT There shall be two compartments below the L3 and R3 compartments. The compartments shall come with flush fit pan doors. The doors shall have stainless steel door hinges and flip and turn door latches. These compartments shall be tapered from the forward section matching the height of the body rubrail at L1/R1 compartments and the rear angled upwards to provide a departure angle of approximately 29 degrees.			
LADDER RACK A Zico HLAS power overhead ladder rack shall be supplied and mounted on the curb side of the apparatus. The Horizontal Ladder Access System (HLAS) stores the ladders horizontally over the top of the apparatus, allowing for more compartment storage on the sides. When needed, the HLAS system lowers the ladders at the flick of a switch to a convenient height for safe & easy retrieval. System lowers ladders away from the side body, so that access to side compartments is still possible. The ladder rack shall be powered by a heavy-duty, self-contained hydraulic actuator with a maximum load of 500 lb. The ladder rack shall meet NFPA 1901-09 Standards. A Flashing Light Kit is provided. The ladder control switch shall be installed at the rear of the apparatus. There shall be an aluminum plate covering the ladder rack hydraulic operators. The plate shall be manufactured from 3/16" 5052 - H32 Aluminum and be of a two piece design that articulates with a stainless steel hinge. The plate shall be painted to match the apparatus.			

ATTIC LADDER BRACKET A custom aluminum channel attic ladder bracket, with retaining pin, shall be provided for storage of the attic ladder.			
FOLDING LADDER A Duo-Safety model 585-A, 10 foot folding ladder shall be provided.			
ROOF LADDER A Duo-Safety model 775-A, 14 foot roof ladder shall be provided.			
EXTENSION LADDER A Duo-Safety model 900-A, 35 foot, 3-section extension ladder shall be provided.			
RUB RAILS - APPARATUS BODY - NON-SLIP Three inch "C" channel aluminum rub rails shall be bolted into place with nylon spacers on the lower framework below the apparatus body compartments. The rub rail will extend to the outside edges of the apparatus body for protection of the body from impact damage. The top surface of the rub rail shall have a non-slip surface meeting the requirements of NFPA 1901 for non slip walking surfaces.			

HOSE BED ACCESS LADDER - STAINLESS STEEL - REAR There shall be a 12" wide folding ladder on the roadside rear of the apparatus for access to the main hose bed. The ladder shall be manufactured from 11 Gauge 304 - 2B stainless steel. Each rung of the ladder shall be 9 1/2" wide and shall be manufactured as an integral component of the side rails for maximum strength and rigidity. Each rung shall have a slip resistant dimpled surface. (Mandatory Requirement) The ladder shall come with a gas strut to assist in unfolding the ladder or for folding the ladder for storage while not in use. The hose bed access ladder shall have a weight rating of 500lbs. Two (2) 30" 1 1/4" diameter aluminum knurled handrails shall be vertically attached on each side of the hose bed access ladder. A single minimum 12" hand rail shall be supplied as an additional hand hold.			
HOSE BED ACCESS LADDER STEP LIGHT The hose bed access ladder steps area shall be illuminated by one (1) Whelen PEL2C LED light.			
BODY HANDRAILS The following hand rails shall be installed on the apparatus body. One (1) 48" mounted vertically on the curbside rear. One (1) 42" mounted horizontally on the upper rear, below the hose bed area.			

One (1) 12" mounted vertically on the upper rear above the hose bed access ladder. The body hand rail shall be 1 1/4" in diameter and shall be knurled aluminum for maximum grip and safety The hand rail shall be installed and supported with chrome plated polished cast brackets. The handrail brackets shall be provided with an isolation gasket and held in place with stainless steel screws.			
FLIP DOWN REAR ACCESS STEP - STAINLESS STEEL A flip down step shall be mounted on the curbside rear of the apparatus to gain access to the curbside equipment storage bins. The step shall be manufactured from 11 gauge 304 stainless steel and have a locking pin to allow the step to be stored in the upright position while not in use. the pin shall be secured to the body with a stainless-steel cable. A platform step shall be installed next to the folding step for an additional stepping surface. This step shall be approximately 10" D by 9" W and shall be manufactured from 11 gauge 304 stainless steel. All stepping surfaces shall be dimpled to meet the nonslip step requirements of NFPA 1901 latest edition.			
HARD SUCTION HOSE MOUNTING Internal suction hose storage for two (2) lengths of hard suction hose shall be installed above the body roadside body compartments. Accessible from the rear with a hinged aluminum door utilizing twist lock latche(s). The exterior of the suction hose storage compartment shall be painted to match the apparatus body.			

HARD SUCTION HOSE - KOCHEK Two (2) ten foot section(s) of 4" Kochek PVC lightweight, flexible, hard suction hose shall be provided with lightweight male and female storz couplings.			
BARREL STRAINER One (1) 4" Kochek BS407 Storz barrel strainer shall be provided and shipped loose with the completed vehicle.			
COFFIN COMPARTMENTS The apparatus shall come with coffin compartment storage mounted on the curbside compartment top. The boxes shall be manufactured from aluminum. The compartment interior shall be a natural finish. The compartment exterior facing the outer body shall be painted with the same paint process as the apparatus body. Each compartment shall come with versatile floor matting. <u>Coffin Compartment Doors</u> The coffin compartments shall come with a total of two (2) doors. Each door shall be manufactured from 1/8" 3003 H22 aluminum checker plate. Each door shall be secured with a stainless steel "D" ring latch. Each door shall come with a stainless steel piano hinge. Each door shall be weatherproof utilizing a hollow cell foam rubber seal. Each door shall be illuminated with one (1) Amdor Luma bar H2O 12V LED lights.			

Each coffin compartment door shall come with a spring gas strut.			
REAR TOW EYES - PAINTED Two (2) heavy duty steel painted tow eyes shall be bolted directly to the rear frame rails. These tow hooks shall be easily accessible from the rear of the apparatus body.			
CHEVRON STRIPPING There shall be 6" chevron stripping decals applied to the rear face of the apparatus. The chevron decals shall be made of high visibility Reflexite™ material that is red / yellow in color and shaped to form an "A" style pattern. A minimum of 50% of the rear body shall be covered with Chevron.			
LIGHTING/ELECTRICAL			
STEP LIGHTS - LED All steps on the body shall have adequate light, per the requirements of NFPA and ULC, for illumination. The lights shall be Tecniq EON-Linear White 2.9"W lights for folding and cast step lighting or shall be already supplied with the manufacturer supplied steps.			
LICENSE PLATE ILLUMINATION A LED light shall illuminate the rear license plate mount. The light shall come with a chrome bezel.			

COMPARTMENT LIGHTS - LED All body compartments shall have LED lights activated by a switch. The LED compartment lights shall be flush mount and provide a consistent 120 degree wide beam pattern. There shall be a minimum of two strip lights installed in each compartment.			
TRAFFIC CONTROL DIRECTIONAL LIGHT - LED One (1) Whelen model TAL65 LED directional light shall be mounted on the rear of the vehicle as high as possible for best visibility. The light shall have a manufacturer 5 year warranty. Traffic Advisor - Installation - Standard Electrical			
TRAFFIC CONTROL DIRECTIONAL LIGHT- RECESSED MOUNTED The traffic control directional light shall be recessed mounted flush with the rear of the apparatus body.			
12V INVERTER One (1) Tundra 12V Inverter(s) shall be tied to the chassis batteries and mounted in a dry location on the apparatus as close as possible to the chassis battery system. A remote on/off switch shall be installed in the chassis cab to turn the inverter on and off. The inverter is designed to deliver 2500 Watts or 10 amps at 120Volts. The inverter shall have a power surge capacity of 5000 Watts for one (1) second. The inverter will operate with input voltages between 11 and 15 volts DC. If the voltage drops lower than 11.5 volts, the low battery warning alarm will sound. The inverter will shut off if the voltage drops below 11 volts to protect the batteries from being discharged. The inverter will not restart until the input voltage exceeds 13.0			

volts. The inverter will shut down if the voltage exceeds 15 volts. This protects the inverter from excessive input voltage. The inverter shall come with two (2) 120V plug ins. Inverter Installation			
RECEPTACLE(S) – INTERIOR One (1) 120 volt / 15 amp duplex straight blade receptacle(s) shall be provided and installed on the interior of the fire apparatus body. Location shall be at the Fire Departments discretion.			
BODY SCENE LIGHTING – LEFT Two (2) Whelen model M9LZC surface mount light(s) shall be installed on the left side of the body. The lights shall come with a chrome plated plastic bezel. There light shall have 9860 Lumens. The light shall have a manufacturer Lifetime warranty.			
BODY SCENE LIGHTING – RIGHT Two (2) Whelen model M9LZC surface mount light(s) shall be installed on the curbside of the body. The lights shall come with a chrome plated plastic bezel. There light shall have 9860 Lumens. The light shall have a manufacturer Lifetime warranty.			

BODY SCENE LIGHTING - REAR Two (2) Whelen model M9LZC surface mount light(s) shall be installed on the rear of the body. The lights shall come with a chrome plated plastic bezel. There light shall have 9860 Lumens. The light shall have a manufacturer Lifetime warranty. The rear scene light(s) shall be activated when the chassis transmission is place into reverse.			
LED SCENE LIGHT One (1) Fire Research Spectra LED Scene Light model SPA600-K20 tripod telescopic light shall be provided. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall extend 40" and rotate 360 degrees. An internal brake shall slow the extension pole during lowering. The outer pole shall be a grooved aluminum extrusion. The folding legs shall be anodized aluminum tubing with plastic end caps. The fully extended tripod system shall exceed a height of 11'. Wiring shall extend from the pole bottom with a 4' retractile cord. The lamp head shall have sixty (60) ultra-bright white LEDs, 48 for flood lighting and 12 to provide a spot light beam pattern. It shall operate at 120 volts AC, draw 2 amps, and generate 20,000 lumens of light. The lamp head shall have a unique lens that directs flood lighting onto the work area and focuses the spot light beam into the distance. The lamp head angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamp head shall be no more than 5 3/8" high by 14" wide by 3 3/4" deep and have a heat resistant handle. The lamp head and mounting arm shall be powder coated. The LED scene light shall be for fire service use. Location of light shall be: Determined by Fire Department			

RECEPTACLE(S) - EXTERIOR (WEATHER PROOF) One (1) 120 volt / 15 amp duplex straight blade receptacle(s) shall be provided and installed on the exterior of the fire apparatus body. The receptacle(s) shall have a sealed weather proof cover to protect against the elements. Location shall be at the Fire Departments discretion.			
ON/OFF SWITCH FOR SPECTRA LAMPHEAD Fire Research Spectra –ON option switch shall be installed on the Spectra LED lamp head. The weatherproof on-off toggle switch shall be mounted in a switch box below the lamp head. The switch box shall be powder coated white.			
LED TELESCOPIC SCENE LIGHT Two (2) Fire Research Spectra LED Scene Light model SPA530-Q20 top mount push up telescopic light(s) shall be installed. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall extend 4' and rotate 360 degrees. A 3 1/2" round mounting flange shall be provided. Wiring shall extend from the pole bottom with a 4' retractile cord. The lamp head shall have 84 ultra-bright white LEDs, 72 for flood lighting and 12 to provide a spot light beam pattern. It shall operate at 12/24 volts DC, draw 19.2/9.6 amps, and generate 20,000 lumens of light. The lamp head shall have a unique lens that directs flood lighting onto the work area and focuses the spot light beam into the distance. The lamp head angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamp head shall be no more than 5 3/8" high by 14" wide by 3 3/4" deep and have a heat resistant handle. The lamp head and mounting arm shall be powder coated.			

The LED scene lights shall be for fire service use. Location of lights shall be: Determined by Fire Department			
GUIDE RAILS FOR TELELIGHTS Two (2) FRC "No Scratch" guide rails shall be installed in conjunction with the side mount raised telescopic lights. The guide rails shall consist of a guide collar, guide rail assembly and a steady rest bracket to prevent scratching and denting of the apparatus body surfaces. Electrical wiring shall be provided in between each 12V light and the main 12v electrical distribution box to ensure a proper and safe connection. The switch(es) for the 12 Volt lights shall be located on the lamp heads			
HAZARD LIGHT SWITCH Fire Research Spectra –SW530 option raised pole hazard light switch shall be installed. A magnetic switch shall close when the pole is raised to activate a door ajar light in the chassis cab.			

ELECTRICAL SYSTEM - MULTIPLEXED The manufacturer shall design the wiring system for the apparatus in accordance to the SAE, Society of Automobile Engineers. The manufacturer shall determine the circuit loads and design the system to accommodate these loads with appropriate circuit routings and relays. All wiring harnesses shall be properly secured and routed. All passages required for routing shall be grommeted and sealed as required. All wiring shall be easily accessible for servicing. All wiring shall be SAE J1128 and SAE J1292 GXL type wire, as per fire industry standards. All exposed wiring shall be crimped and heat shrunk for added protection. The wiring harnesses shall be pre-engineered for correct circuit loading and shall be custom made. The harnesses shall be function, number, and color coded and shall be fitted inside automotive high temperature loom. All connections to the main panel box must be made with waterproof automotive style guided pin locking connectors An enclosed main electrical distribution panel that provides protection against dirt, dust, oil, and water shall be installed in the upper section of the pump house. All electrical connections to the panel shall be made through positive locking environmentally sealed connectors. The panel features a solid state power distribution board(s) with visual diagnostics.			

All circuits are protected by automatic resetting circuit breakers. All breakers shall be properly sized to the circuit load and are direct plug in sockets. All wiring shall have a strain pull test on wiring connections of 40 pounds.			
BATTERY MASTER SWITCH The battery master switch shall be supplied by the chassis manufacturer.			
ZONE A UPPER EMERGENCY LIGHTING The zone A upper emergency lighting zone shall have the following: A Whelen Justice 56" light bar (Model: JE2NFPA) warning system shall be furnished and mounted to the chassis using a Whelen Stainless steel mount. The mount shall allow for adjustment of the lightbar angle. The light bar shall have a manufacturer 5 year warranty.			
BROW LIGHT - WHELEN - PCH2 One (1) brow light(s) shall be mounted on the chassis cab. The brow light(s) shall be Whelen Pioneer Plus, P/N PCH2, 75 / 75 Watt LED Floodlight(s) with Whelen brow light mounts applicable to the chassis specified. The light shall have 20,260 Lumens. The light shall have a manufacturer Lifetime warranty.			

ZONE A LOWER EMERGENCY LIGHTING The zone A lower emergency lighting zone shall have the following lights and shall be mounted to the chassis grill: Two (2) Whelen M6 Series Model # M6RC warning lights . These lights shall have a clear lens, red LED's and come with a chrome bezel. The light shall have a manufacturer Lifetime warranty.			
ZONE B UPPER EMERGENCY LIGHTING The zone B upper emergency lighting zone shall have the following: No emergency lights in this zone			

ZONE B LOWER EMERGENCY LIGHTING The zone B lower emergency lighting zone shall have the following: Two (2) Whelen M6 Series Model # M6RC warning lights . These lights shall have a clear lens, red LED's and come with a chrome bezel. The light shall have a manufacturer Lifetime warranty.			

ZONE C UPPER EMERGENCY LIGHTING The zone C upper emergency lighting zone shall have the following: No emergency lights in this zone			
ZONE C LOWER EMERGENCY LIGHTING The zone C lower emergency lighting zone shall have the following: Two (2) Whelen M6 Series Model # M6RC warning lights . These lights shall have a clear lens, red LED's and come with a chrome bezel. The light shall have a manufacturer Lifetime warranty.			
ZONE D UPPER EMERGENCY LIGHTING The zone D upper emergency lighting zone shall have the following: No emergency lights in this zone			
ZONE D LOWER ZONE The zone D lower emergency lighting zone shall have the following: Two (2) Whelen M6 Series Model # M6RC warning lights . These lights shall have a clear lens, red LED's and come with a chrome bezel. The light shall have a manufacturer Lifetime warranty.			

REAR WARNING LIGHTS - LED – UPPER Two (2) Whelen, model L31HRFN LED red beacons lights shall be provided and mounted for upper Zone C lighting, one (1) each side, and controlled by a switch located in the cab. The lights shall have a Lifetime manufacturer warranty.			
HEADLIGHT WIG WAG FLASHER The chassis high beam headlights shall be equipped with an alternating flashing, wig wag headlight system. An electronic flasher shall be used to control the lights. A control switch panel shall activate the flashing system.			

ELECTRONIC SIREN Whelen Siren Amplifier model # 295HFS2 shall be provided. The 295HFS2 shall incorporate a 12V/200W remote siren amplifier on an aluminum alloy chassis covered by an aluminum alloy housing with a powder coated black top for maximum protection. The 295HFS2 shall be furnished with a flush mount black polycarbonate powder coated control head. The 295HFS2 shall have the ability for either 100 or 200 watt output. The front overlay of the control head shall be made of a black polycarbonate and powder coated. The lettering and artwork on the overlay shall be illuminated with adjustable backlighting of soft LED non-glaring green. The control head operating controls will consist of a power switch, manual button, and a function rotary switch. The control head shall include a 20A/32V fuse. The microphone shall be hardwired to the 295HFS2. The 295HFS2 PC board shall have input polarity protection, output short circuit protection. The solid state siren speaker amplifier shall be vibration resistant. The 295HFS2 shall have four Scan-Lock™ siren tones with two manual functions for additional siren tones. The siren amplifier shall have the ability to customize the placement of each siren tone with the rotary switch. The siren amplifier shall have a “Siren in Use” icon driver and adjustable preset repeat radio volume. The PTT (push to talk) switch on the microphone shall override all siren functions. The 295HFS2 shall have a combination On/Off and horn ring transfer switch with Bi-polarity horn/ring activation control. The 295HFS2 shall have SI Test® capability to perform a complete diagnostic silent test of amplifier and speaker(s). The siren amplifier shall have a quick disconnect plug. The 295HFS2 shall have the ability to activate siren tones with “Aux Enable” input either with a slide switch, power controls, or relay-to-ground connector. The 295HFS2 shall meet Class A requirement for SAE, AMECA, KKK1822, and California Title XII. The sire amplifier shall include stainless steel			

hardware for installation. The 295HFS2 is covered by a five year factory warranty			
ELECTRONIC SIREN SPEAKER There shall be a Whelen model # SA315P, 123db / 100 watt electronic siren speaker provided at the front bumper and connected into the electronic siren. The speaker shall have a manfacturer 2 Year warranty.			
SPEAKER COVER – BUMPER MOUNT The chassis bumper shall come with a cut out for mounting the siren speaker behind. The cut out shall come with a stainless steel cover that is slotted to allow sound to pass thru. The bumper shall be chromed after the cut out has been made (Mandatory Requirement)			

REAR TAIL LIGHT ASSEMBLY The rear Backup Light assembly shall consist of the following: There shall be a total of Two (2) Whelen Plast3V chrome plated plastic brake / tail / turn light bezels installed on the rear of the apparatus. One each side. The bezels shall be attached with pre-tapped stainless steel fasteners. Brake Light Assembly - M6 LED There shall be Two (2) Whelen M62BTT Series LED turn lights installed on the rear of the apparatus. These lights shall be installed in the tail light bezels on the rear of the apparatus and shall come with red lenses The lights shall have a Lifetime manufacturer warranty. Turn Light Assembly - LED There shall be Two (2) Whelen M62T Series amber LED turn lights installed on the rear of the apparatus. These lights shall be installed in the tail light bezels on the rear of the apparatus. The lights shall have a Lifetime manufacturer warranty. Turn Light Assembly - LED - Maximum Intensity There shall be One (1) Whelen M6 Model M6B2U White LED backup lights installed on the rear of the apparatus. The lights shall have a Lifetime manufacturer warranty.			

HAND HELD CAB SPOT LIGHT One (1) Sho-Me P/N 06.0300 hand held spot light, with a momentary type control switch and 12' coiled cord shall be provided and mounted on the right side in the cab and wired into the 12 volt electrical system. The spot light shall have a 150 watt incandescent style bulb that draws 11.5 amps and shall be rated at 300,000 candle power. The light shall be secured in the chassis cab with a stainless steel NFPA compliant hook.			
HOSEBED FLOOD LIGHT(S) - LED There shall be two (2) DTI model DTI-LED-010WX6 12V light(s) provided for hose bed and area lighting. The LED lighting shall be rated for 2700 lumens. The mounting base shall be a stainless steel mount that swivels vertically and horizontally. The lights shall be controlled from the cab and shall come with a shut off switch at the light head.			
GROUND LIGHTS - LED There shall be eight (8) LumaBar H2O 12” LED ground lights with outward facing angle brackets installed underneath the apparatus. The ground lights shall be activated by a switch installed in the chassis cab. Ground lights that are directly underneath a door opening will turn on automatically when the door is opened.			
ENGINE COMPARTMENT LIGHT - LED One (1) Tecniq EON P/N E03-W000-1 LED light(s) shall be installed in the engine compartment. The light shall come with a Tecniq stainless steel light bezel. A mercury switch shall activate the light when the hood is opened.			

DOOR AJAR SYSTEM A chassis supplied red flashing warning light for the door ajar system shall be provided in the cab. This light shall be activated when a compartment door on the apparatus body is open. A magnetic sensor shall be installed in all compartments with a roll up door A On / Off depression style switch shall be supplied in all compartments with a pan door.			
CLEARANCE AND MARKER LIGHTS - LED All clearance / marker lights, reflectors shall comply with department of transport motor vehicle safety standards. The clearance / marker lights shall be LED (light emitting diode) type. A set of LED (light emitting diode) mid body turn signals shall be installed to comply with department of transport motor vehicle safety standards for vehicles over 30 feet in length.			
TWO WAY RADIO POWER SUPPLY There shall be one (1) dedicated 12V power supply line(s) coiled underneath the chassis dash for the future install of each customer supplied two way radio.			
ANTENNA MOUNT(S) One (1) mount(s) for future antenna installation shall be installed on the chassis cab roof. The antenna leads shall be wired to the chassis cab dash area for future installation of a radio.			

SETCOM INTERCOM There shall be a Setcom wireless intercom system with 5 headsets to be installed within the cab interfaced to a Icom mobile radio supplied by department and identified at prebuild meeting. Fire Com equivalent acceptable. Interface cable must be supplied.			
PAINT AND FINISHING			
PAINT COLOR - CHASSIS The chassis shall be painted a two-tone color by the chassis manufacturer. The lower paint color shall be the color of the final apparatus body. Paint Break Striping			

FINISH AND PAINTING - PPG The painting shall be done in accordance with automotive practices using Delfleet® Evolution FBCH high solids polyurethane paint with the PPG painting process. All painting shall be baked at 160 degrees F. for a minimum 45 minutes to provide an automotive quality finish. After assembly, the body substructure shall be deburred and hand sanded. All ledges inside and outside shall be cleaned and sealed. The painting process consists of the following applications: a) Wash entire body with DX 440 wax and grease remover b) Etch primer, PPG F3963 (0.2 - 0.35 mils dry) c) Primer, PPG F3975 (3.0 - 6.0 mils dry) d) Wash entire body with DX 330 wax and grease remover e) Primer sealer, Epoxy PPG F399x (1.0 - 4.0 mils dry) f) Base coat, Delfleet® evolution PPG FBCH (1.0 - 3.0 mils dry) g) Clear coat, PPG F3906 clear (minimum of 2.0 mils) All outside seams that are not 100 percent welded shall be sealed and caulked inside and outside. Only after the entire painting process is completed shall the body structures be installed on the chassis.			

Only after the body is painted shall the components such as doors, aluminum inlay panels, mounting brackets, handrails, pump panels, and other accessories be installed.			
PAINT WARRANTY The paint shall be warranted by PPG for a period of Ten (10) years and shall be non prorated. (Mandatory Requirement) Items covered in the warranty shall include all body interior and exterior surfaces and painted pump houses and shall cover the following: Peeling or delaminating of the topcoat and other layers of paint. Cracking or checking due to failure of the product Excessive loss of gloss caused by cracking, checking, or hazing.			
PAINT POLISH BODY - A.C.T. STANDARDS #3 The paint finish on the body shall meet the ACT test panel #3 level for orange peel visual standard. Test sample swatches shall be made available on request for paint finish comparison. (Mandatory Requirement)			
COMPARTMENT FINISH The interior of all compartments of the body shall also be sealed and caulked. A textured finish of light gray urethane paint with a dark gray spatter finish shall be applied to all compartment interiors.			

BODY UNDERCOATING - CORASHIELD® The whole frame / cross members / wheelwell area / and inner body of the apparatus body shall be thoroughly prepared and sprayed with Corashield® that will help prevent rust and corrosion. A minimum of 8-10 mils of Corashield® shall be sprayed. The bottom, sides and tops of the cross members shall be fully covered. The Corashield® is a sprayable latex coating designed for use on aluminum, fiber glass, cold rolled steel, galvanized steel, and most metal primers. Corashield® is formulated to give very good corrosion protection. This medium viscosity, sag resistant coating can be easily sprayed onto exposed underbody areas, and into restricted areas such as tubing and "hidden" areas accessible only with spray wands. Corashield® dries quickly at ambient temperatures and will withstand urethane paint bakes after only 30 min drying at room temperature. Corashield® provides better protection than any of the competitive products tested without the environmental and safety problems inherent in many of the undercoating available today.			
KROWN RUST INHIBITOR There shall be an application of Krown rust inhibitor applied to the chassis and the apparatus body as per the suppliers recommendation for maximum rust protection prior to delivery of the apparatus.			

6" REFLECTIVE BODY PRIMARY STRIPING - "Z" STRIPE There shall be a six inch wide reflective stripe applied to the left and right sides of the apparatus. The striping on the left and right sides of the apparatus shall incorporate a "Z" style design layout. The reflective stripe shall be a 3M Scotchlite product.			
2" REFLECTIVE IN RUB RAIL - WHITE 3M REFLECTIVE There shall be a two inch wide reflective stripe applied in the apparatus rub rail. The reflective stripe shall be white reflective 3M Scotchlite products.			
INSPECTION AND DELIVERY			
DELIVERY LEAD TIME The village of Pemberton prefers to take delivery no earlier then May 1st of 2025 and no later then March 1st of 2026			
INSPECTION Forming part of the proposal, the proponent shall provide one (1) preconstruction meeting, one (1) mid inspection and (1) final inspection for three (3) Pemberton Fire Rescue Services Personnel. All lodging, transportation costs and meals shall be at the proponent's expense.			
TRAINING ONE (1) day of Training shall be provided to fulltime staff upon delivery of the apparatus by the manufacturer.			

REFERENCES:

Four (4) references in the format noted below must be provided.

If there are special concerns or restrictions on our use of the reference, these concerns must be addressed in the submission.

- Description of the project;
- Status of the project, completed, in progress, on hold;
- Company name;
- Contact name;
- Contact phone number; and
- Contact email address.

Description of the project:	
Status of the project: i.e. completed, in progress, on hold or other:	
Company Name:	Contact Name:
Contact Phone Number:	Contact e-mail address:

TENDER EVALUATION

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.

			Weight Key			
Criteria	Weight	Score	Not Satisfied Score = 0%	Somewhat Satisfied Score = 50%	Satisfied Score = 75%	Very Satisfied Score = 100%
Insurance Certificate for $25,000,000.00	10 points					
Financial Fitness /	10 points					
ISO Certificate	10 points					
Length of Time in Business / No prototypes	5 points					
Professional Engineering Certificate of Staff Member	5 points					
C.W.B. Welding Certificates	5 points					
Fire Apparatus Manufacture Association Certificate	5 points					
24 Hour Warranty Policy/ Service within 100 Miles	5 points					
Tender Meets Specs	15 points					
Body & Paint Warranty Certificates	10 points					
Price	10 points					
Dimensions	10 points					