



INVITATION TO BID
City of Sedro-Woolley
Bid No. 2-09 FD
2009 Spartan Gladiator Triple Combination Pumper
DATE DUE: October 9, 2009

Sealed bids will be received at the Sedro-Woolley City Hall, 325 Metcalf Street, Sedro-Woolley, WA 98284, until 2:00 p.m., Friday, October 9, 2009 for the purchase of one (1) **2009 Spartan Gladiator custom configured Triple Combination Pumper**. Only bids that arrive at City Hall by the deadline will be considered.

BIDDING INFORMATION

Bid submittal sheets are attached.

Information regarding this solicitation, including addenda and bid results are available at www.ci.Sedro-Woolley.wa.us or contact Dean Klinger at 360-855-2252 or e-mail dklinger@ci.Sedro-Woolley.wa.us. All bids shall be submitted on the furnished forms. The City of Sedro-Woolley reserves the right to reject any or all submittals, waive technicalities or irregularities, and accept any submittals if such action is believed to be in the best interest of City of Sedro-Woolley. All bidders must certify that they are not on the Comptroller General's list of ineligible contractors nor the list of parties excluded from Federal procurement or non-procurement programs.

SPECIFICATIONS

Vehicle specification identified in Exhibit A attached and incorporated hereto; please note required preconstruction conference to address final specifications and pre-delivery conference. With the exception of the chassis, and to the extent that proprietary details are contained in the bid specifications, the City may consider equivalent alternatives provided the bidder clearly notes that an equivalent alternate is included and demonstrates its equivalency to the satisfaction of the City.

Bids shall include the cost of all required additional equipment including that named above, installation of all equipment named above if specified, delivery to the City of Sedro-Woolley location indicated, and any incidental and delivery costs. Bids shall include CAD program produced line drawings of the exact apparatus being proposed, according to our specifications, in an 18"x24" size. Drawings must include the left side with chassis cab, right, and rear views of the vehicle and is to fully detail all compartment sizes, door openings, crew cab layout, pump panels, and hosebed arrangement.

In any case, where a vehicle is delivered minus any part, item or accessory issued as standard manufacturer's equipment, and/or as specified by the City of Sedro-Woolley, the vendor will be immediately notified. If missing part, item or accessory cannot be provided and installed within 72 hours, the City of Sedro-Woolley reserves the right to buy the item or part from another source and bill the vendor the cost including installation.

BRAND NAMES USED IN THIS SPECIFICATION

This is a brand name specification bid. It has been determined that only the identified brand name Spartan Gladiator chassis with the 2009 Cummins diesel engine will satisfy the City of Sedro-Woolley's needs.

PRICING AND DELIVERY

Bid price shall include delivery and shall be F.O.B. to: City of Sedro-Woolley Fire Department, 325 Metcalf Street, Sedro-Woolley, WA. Contractor shall contact the Fire Chief, Dean Klinger at (360) 855-2252 for instructions before transit and delivery.

One (1) New 2009 Spartan Gladiator custom configured Triple Combination Pumper is to be delivered to the City of Sedro-Woolley. The Contractor shall assure that the completed vehicle arrives safely to the specified Sedro-Woolley location, without damage, fully tested and operational. Damaged products shall be returned and not accepted at time of delivery. Delivery of the vehicle shall not be complete until all items listed in these specifications are met to the satisfaction of the City of Sedro-Woolley Fire Department. This shall include the standard warranty identification cards or certificates, the Manufacturer’s Statement of Origin and owner’s manual. The City requires vehicles to be pre-inspected and demonstrated at actual work location to ensure vehicles meet customer’s requirements and expectations.

DELIVERY TIME

Vendors must certify that the quoted equipment can be delivered and operational within the stated number of days on their bid.

PRODUCT WARRANTY

All factory warranties shall remain in full effect as equipped throughout the warranty period and will not be voided by any supplemental warranties or accessories.

BID TERM

The City has an immediate need to purchase one (1) vehicle.

BID OPENING

All bids must be submitted to the Sedro-Woolley City Hall, 325 Metcalf Street, Sedro-Woolley, WA 98284 no later than 2:00 p.m., Friday, October 9, 2009, and must be clearly marked:

**Bid No. 2-09 FD
2009 Spartan Gladiator Triple Combination Pumper**

Only firm bids will be accepted and the City reserves the right to reject any or all bids or waive any irregularities and informalities in the bids submitted and accepted by the City. No bidder may withdraw his bid after the hour set for the opening thereof, unless the award is delayed for a period exceeding 60 days. The City further reserves the right to make bid awards to the lowest and most responsive bidder as deemed in the best interest of the City. Bidders are cautioned that neither preliminary bid results nor an indication of the apparent lowest bid will compel the City to make an award. Award, if any, will be evidenced by the issuance of a purchase order or contract.

QUESTIONS

Unauthorized contact regarding this Invitation to Bid with City of Sedro-Woolley employees or contractors may result in disqualification. Any oral communications will be considered unofficial and non-binding to the City of Sedro-Woolley. Bidders should rely only on written statements issued by the individual named below. Questions regarding this Invitation to Bid may be directed to:

**Dean Klinger
360-855-2252
dklinger@ci.Sedro-Woolley.wa.us**

TAXES AND FEDERAL EXCISE TAX

Washington State sales tax shall be shown as a separate line on the bid submittal sheet. No charge by the Bidder shall be made for federal excise taxes. The City of Sedro-Woolley, as a municipal corporation of the State of Washington, is exempt from federal excise tax and such taxes shall not be included in bid prices. The City of Sedro-Woolley agrees to furnish Bidder, upon acceptance of articles supplied under this order, with an exemption certificate, if necessary. Sales tax remitted to the state of Washington shall be coded properly to reflect deliver to the City of Sedro-Woolley.

BUSINESS LICENSE

The awarded vendors are responsible to become compliant with Sedro-Woolley business license requirements per SWMC 5.04. Vendors may call 360-855-1661 for business license information.

COOPERATIVE PURCHASING

RCW 39.34 allows cooperative purchasing between public agencies (political subdivisions). Public agencies which have filed an Intergovernmental Cooperative Purchasing Agreement with the City of Sedro-Woolley and which are actively participating may purchase from City of Sedro-Woolley contracts, provided that the Vendor has agreed to such participation. Each bidder shall indicate on the bid submittal form if it will honor other public agency orders in accordance with contract terms and conditions in addition to orders from the City of Sedro-Woolley. The City of Sedro-Woolley does not accept any responsibility for orders issued by other public agencies.

Public agencies desiring to use the City of Sedro-Woolley's contracts must have executed an Intergovernmental Cooperative Purchasing Agreement with the City of Sedro-Woolley, as required by RCW 39.34. Only those public agencies that have complied with these requirements are eligible to use this contract. The public agency accepts responsibility for compliance with any additional or varying laws and regulations governing purchase by or on behalf of the public agency in question. A purchase by a public agency shall be in effect by an order from the public agency, directed to the Vendor or other party contracting to furnish goods or services to the City of Sedro-Woolley.

The City of Sedro-Woolley accepts no responsibility for the performance of any purchasing contract by the Vendor, and the City of Sedro-Woolley accepts no responsibility for payment of the purchase price for any public agency.

MULTIPLE BIDS

Vendors interested in submitting more than one bid may do so, providing each bid stands alone and independently complies with the instructions, conditions and specifications of this Invitation to Bid.

SINGLE RESPONSE

A single response to this Invitation to Bid may be deemed a failure of competition and in the best interest of the City of Sedro-Woolley, the Invitation to Bid may be cancelled.

BIDDING ERRORS

The City of Sedro-Woolley will not be liable for any errors in any vendor's bid. Vendors will not be allowed to alter bids after the deadline for the submission of bids.

The City of Sedro-Woolley reserves the right to make corrections or amendments due to errors identified in bids by the City of Sedro-Woolley or the vendor. This type of correction or amendment will only be allowed for such errors as typing, transposition or any other obvious error. Vendors are liable for all errors or

omissions contained in their bids.

When, after the opening and tabulation of bids, a Bidder claims error, and requests to be relieved of award, it will be required to promptly present certified work sheets. The Buyer will review the work sheets and if the Buyer is convinced, by clear and convincing evidence, that an honest, mathematically excusable error or critical omission of costs has been made, the Bidder may be relieved of its bid.

After opening and reading bids, the City of Sedro-Woolley will check them for correctness of extensions of the prices per unit and the total price. If a discrepancy exists between the price per unit and the extended amount of any bid item, the price per unit will control. The total of extensions, corrected where necessary, will be used by the City of Sedro-Woolley.

PAYMENT

Payment will be made within 30 days of receipt of a correct invoice for goods that have been delivered and accepted. No down payment or advance payment of any kind will be made. Washington State law requires proof that the materials have been furnished, the services rendered or the labor performed as described before payment may be made. A vendor may submit an invoice for partial shipments or progress payments. All invoices are to be submitted to:

City of Sedro-Woolley
Accounts Payable
325 Metcalf Street
Sedro-Woolley, WA 98284

BID REJECTION

The City of Sedro-Woolley reserves the right to reject any or all bids at any time without penalty.

WITHDRAWAL OF BIDS

Vendors may withdraw a bid that has been submitted at any time up to the due date and time. To accomplish this, a written request signed by an authorized representative of the vendor must be submitted to the City Supervisor.

NON-ENDORSEMENT

As a result of the selection of a vendor to supply products and/or services to the City of Sedro-Woolley, the City is neither endorsing nor suggesting that the vendor's product is the best or only solution. The vendor agrees to make no reference to the City of Sedro-Woolley in any literature, promotional material, brochures, sales presentation or the like, without the express written consent of the City of Sedro-Woolley.

PROPRIETARY MATERIAL SUBMITTED

Any information contained in the bid submitted that is proprietary must be clearly designated. Marking the entire bid as proprietary will be neither accepted nor honored. If a request is made to view a vendor's bid, the City of Sedro-Woolley will comply according to the Open Public Records Act, Chapter 42.56 RCW. If any information is marked as proprietary in the proposal, such information will not be made available until the affected vendor has been given an opportunity to seek a court injunction against the requested disclosure.

RESPONSE PROPERTY OF THE CITY OF SEDRO-WOOLLEY

All materials submitted in response to this request become the property of the City of Sedro-Woolley. Selection or rejection of a response does not affect this right.

NO OBLIGATION TO BUY

The City of Sedro-Woolley reserves the right to refrain from contracting with any vendor. The release of this Invitation to Bid does not guarantee that the City of Sedro-Woolley will purchase.

COST OF PREPARING BIDS

The City of Sedro-Woolley is not liable for any costs incurred by vendors in the preparation and presentation of bids and demonstrations submitted in response to this Invitation to Bid.

BID AWARD

If an award is made as a result of this solicitation, it will be made to the lowest, responsible bidder(s) whose bid(s) is/are determined by the City to be responsive.

Local Preference. The city **may** consider a local tax preference to determine the lowest responsive and responsible bidder, when purchasing materials, supplies or equipment. This consideration is at the city's option for each purchase and shall not be mandatory. In this determination, the city shall consider the sales tax that would be charged by each supplier, in calculation of the lowest responsive and responsible bidder. The city shall then calculate and credit towards the offer price the share of such tax revenue it would specifically receive as a result of purchasing from a supplier located within the city's taxing jurisdiction. The purchase must then be awarded to the lowest bidder after such tax revenue has been considered whenever this local preference is utilized by the city as a factor in determination of lowest bidder. Such tax revenue consideration shall comply with the provisions of RCW 39.30.040 now and as amended. Tax rates change from time to time and the tax rates used for the local preference calculations shall be those in effect at the time bids are due, or those reasonably expected to be in effect at the time an invoice will be payable, at the city's discretion.

DETERMINATION OF BIDDER RESPONSIBILITY

The following elements shall be given consideration in the determination of whether a bidder is responsible:

- The ability, capacity and skill of the bidder to perform the contract or provide the service required.
- The character, integrity, reputation, judgment, experience and efficiency of the bidder.
- Whether the bidder can perform the contract within the time specified
- The quality of performance of previous public and private contracts or services, including, but not limited to, the bidder's failure to perform satisfactorily or complete any written contract. The City's termination for default of a previous contract with a bidder shall be deemed to be such a failure.
- The previous and existing compliance by the bidder with laws relating to the contract or services.
- More than one proposal submitted for the same project from a bidder under the same or different names.
- Evidence of collusion with any other bidder, in which case colluding bidders will be restricted from submitting further bids on the subject project or future tenders.
- The bidder is not qualified for the work or to the full extent of the bid.
- There is uncompleted work with the City or others, or an outstanding dispute on a previous or current contract that might hinder, negatively affect or prevent the prompt completion of the work bid upon.
- The bidder failed to settle bills for labor or materials on past or current public or private contracts.
- The bidder has been convicted of a crime arising from a previous public contract, excepting convictions that have been pardoned, expunged, or annulled.

- The bidder has been convicted of a crime of moral turpitude or any felony, excepting convictions that have been pardoned, expunged or annulled, whether in this state, in any other state, by the United States, or in a foreign country, province or municipality. Bidders shall affirmatively disclose to the City all such convictions, especially of management personnel or the bidder as an entity, prior to notice of award or execution of a contract, whichever comes first. Failure to make such affirmative disclosure shall be grounds, in the City's sole option and discretion, for termination for default subsequent to award or execution of the contract.
- More likely than not, the bidder will be unable, financially or otherwise, to perform the work.
- At the time of bid opening, the bidder is not authorized to do business in Washington, is not registered as a contractor in Washington, or otherwise lacks a necessary license, registration or permit.
- Such other information as may be secured having a bearing on the decision to award the contract.
- Any other reason deemed proper by the City.

LIQUIDATED DAMAGES

Time is of the essence and the goods described herein must be completely furnished and operational by the date promised or the City of Sedro-Woolley will suffer harm. The vendor agrees to pay the City of Sedro-Woolley, as liquidated damages, a sum equal to 1% of the original contract award amount, excluding Washington States Sales Tax, for each and every calendar day that work remains uncompleted after the date promised. This amount shall be fixed as liquidated damages that the City of Sedro-Woolley will suffer by reason of such delay, and not as a penalty. The City of Sedro-Woolley shall have the right to deduct and retain the amount of such liquidated damages from any monies due the supplier.

The supplier shall be entitled to a reasonable extension of time for unavoidable delay in delivery due to causes not reasonably foreseeable by the parties at the time of the contract/purchase order execution, and that are entirely beyond the control and without the fault or negligence of the supplier. These causes include, but are not limited to, acts of God or the public enemy, war or other national emergency making delivery temporarily impossible or illegal, acts or omissions of other suppliers, strikes and labor disputes not brought on by any act or omission of the supplier, fire, flood, epidemics, quarantines, or freight embargos.

CUSTOMER REFERENCES

All bids must include a minimum of two non-vendor owned customer references presently using the proposed equipment in a comparably-sized order to the City of Sedro-Woolley's requirements. Include the following for each reference:

- Company Name
- Business Address
- Name of Contact
- Title of Contact
- Telephone Number of Contact
- Description of Order
- Date of Order

The City of Sedro-Woolley may, at its option, contact other known vendor customers for references.

ADDENDA

Bidders are responsible to check the City of Sedro-Woolley's website: www.ci.Sedro-Woolley.wa.us for the issuance of addenda prior to submitting a bid.

PREBID CONFERENCE

No pre-bid conference will be held for this procurement.

BID OPENING LOCATION

Sealed bids will be opened and read aloud at the appointed time in the Sedro-Woolley City Hall at 325 Metcalf Street, Sedro-Woolley, WA 98284.

Dean Klinger
Chief, SWFD
Buyer

City of Sedro-Woolley
Bid No. 2-09 FD
2009 Spartan Gladiator Triple Combination Pumper
BID SUBMITTAL SHEET

Description	Price Per Unit	Qty	Extended Price
New 2009 Spartan Gladiator Triple Combination Pumper with all Standard and Described Custom Equipment, including delivery	\$	X 1	\$
SUBTOTAL			\$
_____ . _____% Washington State Sales Tax			\$
TOTAL			\$

State the number of calendar days to have a guaranteed delivered to Sedro-Woolley after receipt of Purchase Order: _____

Will you sell additional units to Sedro-Woolley or other government agencies within the State of Washington at the bid price, terms and conditions until further notice? The City of Sedro-Woolley accepts no responsibility for the payment of the purchase price by other government agencies.

Yes No

Has company been in bankruptcy, reorganization or receivership in the last 5 years? Yes No

Has company been disqualified or debarred by any public agency, including the Federal Government, from participation in public contracts? Yes No

Has the company operated at least 1 year without interruption? Yes No

Has an owner of the company been convicted of a crime within the past 10 years? Yes No

Does any employee or official of the City have any financial or other interest in your firm? Yes No

The undersigned hereby accepts the terms and conditions as set forth herein including the standard terms.

This must be signed and dated by the bidder or a representative legally authorized to bind the bidder.

FULL LEGAL NAME OF COMPANY _____

ADDRESS _____

CITY/STATE/ZIP _____

EMAIL ADDRESS: _____

PHONE NAME (PLEASE PRINT) _____ (PLEASE PRINT) _____ FAX _____ TITLE _____

SIGNED _____ DATE _____

SEDRO-WOOLLEY BUSINESS LICENSE _____

City of Sedro-Woolley
Bid No. 2-09 FD
2009 Spartan Gladiator Triple Combination Pumper
CUSTOMER REFERENCES

1. Company Name _____
Business Address _____
Name of Contact _____
Title of Contact _____
Telephone Number of Contact _____
Description of Order _____
Date of Order _____

2. Company Name _____
Business Address _____
Name of Contact _____
Title of Contact _____
Telephone Number of Contact _____
Description of Order _____
Date of Order _____

VENDOR INFORMATION

Years of Operation: _____

Warranty Policies and Procedures: _____

City of Sedro-Woolley
Bid No. 2-09 FD
2009 Spartan Gladiator Triple Combination Pumper
NON COLLUSION CERTIFICATION

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting an offer for this bid/quote, and is in all respects fair and without collusion or fraud.

The below signed bidder has not divulged to nor has discussed or compared his bid with other bidders and had not colluded with any other bidder or parties to bid whatsoever. Note: No premiums, rebates or gratuities to any employee or agent are permitted either with, prior to, or after any delivery of materials. Any such violation will result in the cancellation and/or return of material as applicable.

Company Name: _____

Mailing Address: _____

City/State/Zip: _____

Title: _____

Date: _____

Authorized Signature: _____

(written)

Authorized Signature: _____

(typed/printed)

City of Sedro-Woolley
Bid No. 2-09 FD
2009 SPARTAN GLADIATOR TRIPLE COMBINATION
PUMPER
STANDARD TERMS

STANDARD TERMS AND CONDITIONS: INVITATION TO BID, REQUEST FOR QUOTATION & PURCHASE ORDER CONTRACT

THE PURCHASE ORDER INCLUDES THE FOLLOWING TERMS AND CONDITIONS AND INCLUDES, BUT IS NOT LIMITED TO THE INVITATION TO BID, REQUEST FOR QUOTATIONS, SPECIFICATIONS, PLANS, AND PUBLISHED RULES AND REGULATIONS OF THE CITY OF SEDRO-WOOLLEY AND THE LAWS OF THE CITY OF SEDRO-WOOLLEY PURCHASING DIVISION AND THE STATE OF WASHINGTON, WHICH ARE HEREBY INCORPORATED BY REFERENCE.

1. **CHANGES** No alteration in any of the terms, conditions, delivery price, quality, quantities, or specification of this order will be effective without written consent of the City Supervisor/Purchaser.
2. **HANDLING** No charges will be allowed for handling, including but not limited to packing, wrapping bags, containers or reels, unless otherwise stated herein.
3. **DELIVERY** For any exception to the delivery date as specified on this order, vendor shall give prior notification and obtain written approval thereto from the City Supervisor with respect to delivery under this order. Time is of the essence and the order is subject to termination for failure to deliver as specified and/or appropriate damages. The acceptance by the Purchaser of late performance with or without objection or reservation shall not waive the right to claim damage for such breach nor constitute a waiver of the requirements for the timely performance of any obligation remaining to be performed by Vendor.
4. **PAYMENTS, CASH DISCOUNT, LATE PAYMENT CHARGES** Invoices will not be processed for payment nor will the period of computation for cash discount commence until receipt of a properly completed invoice or invoiced items are received, whichever is later. If an adjustment in payment is necessary due to damage or dispute, the cash discount period shall commence on the date final approval for payment is authorized.
5. **SHIPPING INSTRUCTIONS** Unless otherwise specified, all goods are to be shipped prepaid, F.O.B. Destination. Where shipping addresses indicate room numbers it will be up to the Vendor to make delivery to that location at no additional charge where specific authorization is granted to ship goods FOB shipping point. Vendor agrees to prepay all shipping charges, route as instructed or if instructions are not provided, route by cheapest common carrier and to bill the Purchaser as a separate item on the invoice for said charges. Each invoice for shipping charges shall contain the original or a copy of the bill indicating that the payment for shipping has been made. It is also agreed that the Purchaser reserves the right to refuse COD shipments.
6. **REJECTION** All goods or materials purchased herein are subject to approval by the Purchaser. Any rejection of goods or material resulting because of nonconformity to the terms and specifications of this order, whether held by the Purchaser or returned, will be at Vendor's risk and expense.
7. **IDENTIFICATION** All invoices, packing lists, packages, shipping notices, instruction manuals, and other written documents affecting this order shall contain the applicable purchase order number.
8. **INFRINGEMENTS** Vendor agrees to protect and save harmless the Purchaser against claims, suits or proceedings for patent, trademark, copyright or franchise infringement arising from purchase, installation, use of goods and materials ordered, and assume all expenses or damages arising from claims, suits or proceedings.
9. **WARRANTIES** Vendor warrants that articles supplied under this order conform to specifications herein and are fit for the purpose for which such goods are ordinarily employed, except that if a particular purpose is stated, the material must then be fit for that particular purpose.
10. **ASSIGNMENTS** Provisions or moneys due under this contract shall only be assignable with prior written consent of the City Supervisor.
11. **TAXES** Unless otherwise indicated the Purchaser agrees to pay all State of Washington sales or use tax. No charge by Vendor shall be made for federal excise taxes, and the Purchaser agrees to furnish Vendor, upon acceptance of articles supplied under this order with an exemption certificate.
12. **LIENS, CLAIMS AND ENCUMBRANCES** Vendor warrants and represents that all the goods and materials ordered herein are free and clear of all liens, claims, or encumbrances of any kind.
13. **RISK OF LOSS** Regardless of FOB point, Vendor agrees to bear all risks of loss, injury or destruction of goods and materials ordered herein which occur prior to delivery. Such loss, injury or destruction shall not release Vendor from any obligation hereunder.
14. **SAVE HARMLESS** Vendor shall protect, indemnify, and save the Purchaser harmless from and against any damage, cost or liability for any injuries to persons or property arising from acts or omissions of Vendor, his employees, agents or subcontractors howsoever caused.
15. **PRICES** If price is not stated on this order, it is agreed that the goods shall be billed at the price last quoted or paid, or prevailing market price whichever is lower.

16. **TERMINATION** In the event of a breach by Vendor of any of the provisions of this contract, the Purchaser reserves the right to cancel and terminate this contract forthwith upon giving oral or written notice to Vendor. Vendor shall be liable for damages suffered by the Purchaser resulting from Vendor's breach of contract.
17. **NONDISCRIMINATION AND AFFIRMATIVE ACTION** The vendor agrees not to discriminate against any client, employee or applicant for employment or services because of race, creed, color, national origin, sex, marital status, age or the presence of any sensory, mental or physical handicap with regard to, but not limited to, the following employment upgrading, demotion, or transfer, recruitment or recruitment advertising, lay-offs or termination, rates of pay or other forms of compensation, selection for training or rendition of services.
18. It is further understood that any vendor who is in violation of this clause or an applicable Affirmative Action Program shall be barred forthwith from receiving awards of any purchase order from the CITY unless a satisfactory showing is made that discriminatory practices or noncompliance with applicable Affirmative Action Programs have terminated and that a recurrence of such acts is unlikely.
19. **LABOR AND INDUSTRIES** Contractor is required to procure Labor and Industries permits F700-007-000 and F700-029-000 and abide by the requirements thereof. Copies of "Statement of Intent to Pay Prevailing Wages" and "Affidavit of Wages Paid" shall be submitted to the City Clerk and Department of Labor and Industries, if applicable.
20. **ANTI-TRUST** Vendor and the Purchaser recognize that in actual economic practice overcharges resulting from anti-trust violations are in fact Borne by the Purchaser. Therefore, Vendor hereby assigns to the Purchaser any and all claims for such overcharges.
21. **DEFAULT** The Vendor covenants and agrees, in the event suit is instituted by the Purchaser for default on the part of the Vendor, and the Vendor is adjudged by a court of competent jurisdiction to be in default, he shall pay to the Purchaser all cost, expenses expended or incurred by the Purchaser in connection therewith, and reasonable attorney's fees. The Vendor agrees that the Washington State Superior Court shall have jurisdiction over any such suit, and that venue shall be laid in Skagit County.
22. **BRANDS** When a special brand is named it shall be construed solely for the purpose of indicating the standards of quality, performance, or use desired. Brands of equal quality, performance, and use shall be considered, provided Vendor specifies the brand and model and submits descriptive literature when available. Any bid containing a brand which is not of equal quality, performance, or use specified must be represented as an alternate and not as an equal, and failure to do so shall be sufficient reason to disregard the bid.
23. **ACCEPTANCE BY ACCEPTING THIS PURCHASE ORDER IN WRITING OR BY DELIVERING THE MATERIAL ORDERED, YOU ACCEPT ALL TERMS AND CONDITIONS SET FORTH. FORMAL OBJECTION IS HEREBY MADE TO ANY ADDITIONAL OR DIFFERENT TERMS PROPOSED BY VENDOR AS A CONDITION OF ACCEPTANCE OR DELIVERY.**

EXHIBIT A

PUMPER CAB & CHASSIS

The cab and chassis shall be a new, unused, 2009 Spartan Gladiator Four Door design, full custom all aluminum tilt cab with 10" raised roof extending over the driver and officer, built specifically for the fire service by a publicly held U.S. parent company, specializing in chassis design for all fire service applications. NO EXCEPTIONS

Y_____N_____

The Spartan Gladiator chassis is the fleet standard of the City of Sedro Woolley Fire Department, therefore no exceptions shall be allowed as this chassis is commercially available to all qualified body manufacturers and is not considered a proprietary component. NO EXCEPTIONS.

Y_____N_____

The cab and chassis shall include design considerations for one hundred (100) percent on-road applications, a high horsepower engine, including high speed operations and a consideration for above normal starts and stops. This chassis shall be designed and manufactured for heavy duty service with adequate strength and capacity of all components for the intended load to be sustained. The chassis shall be designed for a duty rating of one hundred (100) percent loaded full time.

Y_____N_____

AXLE CONFIGURATION

The chassis shall offer a single rear drive axle with a single front steer axle configuration (4 X 2).

Y_____N_____

GAWR FRONT

The gross apparatus weight rating and the gross capacity weight rating shall be adequate to carry the weight of equipment and the apparatus, with water tanks full and other tanks at full capacity, miscellaneous equipment and all personnel weights considered as recommended by the most current edition of NFPA 1901.

Y_____N_____

The chassis front gross axle weight rating (GAWR) shall be 20,000 pounds.

Y_____N_____

GAWR REAR

The chassis rear gross axle weight rating (GAWR) shall be 24,000 pounds.

Y_____N_____

CAB STYLE

The cab shall be a custom, enclosed model, built specifically for the fire service by a company specializing in cab and chassis design for all fire service applications.

The cab shall be manufactured for heavy-duty service utilizing adequate strength and capacity for the application of protecting firefighters. The cab shall be of a modular design offering improved strength, durability and reduced weight. The modular design shall allow for faster, less costly replacement of components.

Y_____N_____

Per pound, sheet panel aluminum extrusions offer a higher tensile strength, 45,000 PSI, and yield strength, 40,000 PSI, than that of lower grade sheet such as 3003-H13. For this reason, the cab shall be of aluminum extrusion construction, which shall offer superior strength and the truest, flattest surface ensuring less expensive paint repairs if needed.

Y_____N_____

The method of cab construction shall use a process incorporating techniques outlined in accordance with the American Welding Society D1. 1-96 requirements for structural steel welding. All aluminum welding shall be completed to the American Welding Society and ANSI D1 .2-96 requirements for structural welding of aluminum.

Y_____N_____

To provide a superior finish by reducing welds that fatigue cab metal; the roof, the rear wall and side panels shall be assembled using proven industrial adhesives, designed specifically for aluminum fabrication, which exceed the strength of a weld, for construction.

Y_____N_____

All interior and exterior seams shall be sealed for optimum noise reduction in addition to the most favorable efficiency for heating and cooling retention.

Y_____N_____

The cab shall be constructed of 5052-H32 Marine Grade, one hundred percent primary aluminum plate. A single formed, one (1) piece extrusion, manufactured from 606 1-T6 100 percent primary one-quarter inch thick aluminum shall be used for the "A" pillar adding strength and rigidity to the cab as well as additional roll-over protection. The cab side wall skins and shall be 0.125 inch thick, the rear wall and roof skin shall be 0.19 inch thick, the front skin shall be 0.125 inch thick.

Y_____N_____

The cab shall incorporate tongue and groove fitted 606 1-T6 0.25 inch thick aluminum extrusions for extreme duty situations. The cab shall include multi-layer composite insulation for improved cab heating and cooling in addition to noise reduction.

Y_____N_____

Proposals offering products built with anything less than the alloy-temper mentioned or from any other material, other than aluminum, shall not be considered. Additionally, any cabs utilizing recycled or recovered aluminum plate or extrusion products shall not be considered due to impurities in the composition leading to a lack of strength.

Y_____N_____

The cab shall incorporate a fully enclosed design, allowing for a spacious cab area with no partition between the front and rear sections of the cab. The walls of the vehicle shall include roof supports allowing for an open design. The outside dimension of the cab shall be 96 inches wide with a minimum interior width of 90 inches.

Y_____N_____

The cab overall length shall be 146.38 inches in length with 70.00 inches from the centerline of the front of the axle to the back of the cab. The cab shall offer an interior height of 58.00 inches from the front floor to the headliner and a rear floor to headliner height of 65.00 inches in the crew area, at a minimum. All interior measurements shall include the area within the interior trimmed surfaces and not to any unfinished surface.

Y_____N_____

In order to offer the optimum amount of cab space to occupants, there shall be no consideration given for any cab unable to comply with the minimum measurements for interior cab space as listed.

Y_____N_____

The cab shall include a driver and officer area with two (2) cab door openings. The front door opening shall offer a clear door opening of 43.00 inches wide X 56.00 inches high. The rear door opening shall offer a clear door opening of 34.00 inches wide X 63.00 inches high. This style of cab shall also include a crew area offering up to ten (10) seating positions.

Y_____N_____

The cab shall incorporate a (2) step configuration from the ground to the cab floor for each door opening. The lower step shall be constructed of heavy duty safety grating which meets or exceeds Federal Specification RRG-1602-latest revision and performs under dry, greasy, muddy, soapy and icy conditions and offers open drainage.

Y_____N_____

The first step for the driver and officer area shall measure 11.44 inches deep X 31.13 inches wide. The intermediate step shall measure 8.75 inches deep X 33.00 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 11.00 inches.

Y_____N_____

The first step for the crew area shall measure 12.13 inches deep X 20.44 inches wide. The intermediate step shall measure 10.50 inches deep X 23.00 inches wide. The height from

the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 12.50 inches.

Y_____N_____

CAB GRILLE

The grille shall feature an upper and lower section with a hidden hinge in the center. The upper, hinged portion of the grille shall allow access for quick and convenient fluid checks. Access shall also be provided for service to the windshield wiper motor and linkage, the ember separator headlight assemblies, electrical connections and the transmission ECU. The grille shall allow for a minimum total free air intake of 677.00 square inches.

Y_____N_____

The cab fascia shall include module provisions for two (2) single Hi/Low beam headlight assemblies. The module shall offer an integrated side or turn marker light assembly and shall be hinged permitting easy maintenance of the headlight and turn and marker light assemblies. The hinged headlight module shall offer access to the ember separator, the electrical bulkhead connections, the transmission electronic communications module and the multiplex V-MUX control (if applicable).

Y_____N_____

The fascia shall also offer four (4) additional blank modules below those specified for the head lights for the provision of up to four (4) warning lights.

Y_____N_____

FRONT GRILLE

The fascia shall include a (2) piece hinged, stainless steel raised front grille 40.00 inches wide x 31.95 inches height X .88 inches deep. The grille shall include a minimum free air intake of 519.30 square inches shall be installed on the front of the cab fascia. The upper portion of the grille will be hinged and will have (2) flush push button latches that allow access to the front fluid fills of the cab.

Y_____N_____

CAB ENGINE TUNNEL

The cab interior shall include a fixed type engine tunnel cover sized to accommodate an engine with a small or medium block. The engine tunnel shall be an integral part of the cab constructed of 5052-H32 Marine Grade, .090 of an inch thick, one hundred percent primary aluminum plate. The tunnel shall be a maximum of 41.50 inches wide X 23.00 inches high.

Y_____N_____

The engine tunnel shall be insulated with multi-layer insulating material, consisting of foam, a sound barrier of 1.00 pounds per square foot with a facing which resists heat transfer. This insulation shall be held in place by adhesive, aluminum stick pins and retention caps. Any exposed insulation seams and edges shall be sealed reducing moisture and debris.

Y_____N_____

CAB ENTRY DOORS

The cab shall include a driver and officer area with two cab door openings which offer a clear door opening of 40.75 inches wide.

Y_____N_____

The doors shall be constructed of extruded aluminum with a nominal thickness of .125 inch. The exterior skins shall be constructed of .125 inch aluminum plate. The cab shall include four (4) entry doors as high as possible for ease of entering and egress when outfitted with an SCBA.

Y_____N_____

All cab and crew doors shall be of substantial weight for the optimum strength and rigidity for the best performance in all cab crash testing. Any cab with front and crew doors manufactured of less than the material thickness of .125 inch in both the extrusion and exterior skin shall not be considered.

Y_____N_____

The doors shall include a double rolled style automotive rubber seal around the perimeter of each door frame and door edge which ensures a weather tight fit.

Y_____N_____

All door hinges shall be hidden within flush mounted cab doors for a pleasing smooth appearance and perfect fit along each side of the cab. Each hinge shall be .375 inch piano style and be constructed of stainless steel.

Y_____N_____

The piano style hinge and hidden flush mounted door is the most favorable construction keeping dirt and debris out of the hinge allowing for optimum operation throughout the lifetime of the door.

Y_____N_____

Proposals offering door hinge thickness any less than stated shall not be considered.

Y_____N_____

Proposals including doors that do not comply with the flush mounting as described or those including exposed hinges shall not be considered.

Y_____N_____

CAB ENTRY DOOR TYPE

All entry doors shall be of a flush, design and shall be located on the sides of the cab. Each door shall provide approximately 32.00 inches from the ground to the bottom of the door for clearance of guard rails along interstate highways.

Y_____N_____

LEFT HAND EXTERIOR REAR COMPARTMENT

The cab shall offer an exterior compartment on the left side of the cab behind the rear door. The compartment size shall be 13.50 inches wide X 75.00 inches high X 21.19 inches

deep. The compartment shall have an reversed hinged box pan style flush mount door with a locking bent D-ring slam latch. The interior of the compartment shall have a DA sanded finish. There shall be a switch to activate the open compartment warning light in the cab in the event the door is left ajar. A Rom roll-up door 17.00" wide x 41.00" high shall be provided on the interior for access inside the cab on the driver's side. As done on SO#57432.

Y _____ N _____

LEFT HAND EXTERIOR REAR COMPARTMENT LIGHTING

There shall be one (1) SoundOff Signal brand LED strip light installed to illuminate the exterior rear compartment on the left side of the cab. The strip light shall be 10" long and shall include three (3) bright white Gen3 LEDs for long life and low amp draw.

Y _____ N _____

RIGHT HAND EXTERIOR REAR COMPARTMENT

The cab shall offer an exterior compartment on the right side of the cab behind the rear door. The compartment size shall be 13.50 inches wide X 75.00 inches high X 21.19 inches deep, with a reversed hinged box pan style flush mount door with a locking bent D-ring slam latch. The interior of the compartment shall have a DA sanded finish.

There shall be a switch to activate the open compartment warning light in the cab in the event the door is left ajar.

Y _____ N _____

RIGHT HAND EXTERIOR REAR COMPARTMENT LIGHTING

There shall be one (1) SoundOff Signal brand LED strip light installed to illuminate the exterior rear compartment on the right side of the cab. The strip light shall be 10" long and shall include three (3) bright white Gen3 LEDs for long life and low amp draw.

Y _____ N _____

CAB STRUCTURAL WARRANTY

The cab structure shall be warranted for a period of ten (10) years. Warranty conditions may apply and shall be listed in the detailed warranty document that shall be provided upon request.

Y _____ N _____

As part of the ECE regulation 29 test, the frontal area of the cab is struck by a 3,700 pound pendulum weight. The weight is brought back to a sixty degree angle and then the weight is released and allowed to swing forward, imparting some 32,600 pounds foot of force to the cab front face. The cab shall be so constructed that after the test, there will be minimal intrusion of the cab structure into the passenger area.

Y _____ N _____

The doors shall remain usable for both entry and exit. Also, as part of the test the cab roof must withstand a static load bearing test. The cab shall withstand a weight of over 60,000 pounds without permanent damage or collapse. The above tests shall be witnessed by and attested to by an independent third party. The test results shall be recorded on/by cameras, high speed imagers, accelerometers and strain gauges, with notarized copies of the letters verifying the test results and videos of said test shall be available upon request.

Y _____ N _____

CAB PAINT EXTERIOR

The cab shall be painted prior to the installation of glass accessories and all other cab trim to ensure complete paint coverage and the maximum in corrosion protection of all metal surfaces.

Y____N____

All metal surfaces on the entire cab shall be ground by disc to remove any surface oxidation or surface debris which may hinder the paint adhesion. Once the surface is machine ground a high quality acid etching of base primer shall be applied. Upon the application of body fillers and their preparation, the cab shall be primed with a coating designed for corrosion resistance and surface paint adhesion. The maximum thickness of the primer coat shall be 2.00 mils.

Y____N____

The entire cab shall then be coated with an intermediate solid or epoxy surfacing agent that is designed to fill any minor surface defects, provide an adhesive bond between the primer and the paint and improve the color and gloss retention of the color. The finish to this procedure shall be a sanding of the cab with 360 grit paper, the seams shall be sealed with SEM brand seam sealer and painted with two (2) to four (4) coats of an acrylic urethane type system designed to retain color and resist acid rain and most atmospheric chemicals found on the fire ground or emergency scene.

Y____N____

The cab shall then be painted with the specific color designated by the customer with a minimum thickness of 2.00 mils of paint, followed by a clear top coat not to exceed 2.00 mils

Y____N____

CAB PAINT MANUFACTURER

The cab shall be painted with PPG Industries paint.

Y____N____

CAB PAINT PRIMARY/ LOWER COLOR

The primary/lower paint color shall be PPG FBCH 2185 White.

Y____N____

CAB PAINT WARRANTY

The cab and chassis shall be covered by a limited manufacturer paint warranty which shall be in effect for 10 years from the first owner's date of purchase or in service or the first 100,000 actual miles, whichever occurs first.

Y____N____

LOW VOLTAGE 12VDC ELECTRICAL SYSTEM

The chassis shall include a single starting electrical system which shall include a 12 volt direct current Weldon brand of multiplexing system, suppressed per SAE J55 1. The wiring shall be appropriate gauge cross link with 311 degree Fahrenheit insulation. All SAE wires in the chassis shall be color coded and shall include the circuit number and function where possible. The wiring shall be protected by 275 degree Fahrenheit minimum high temperature flame retardant loom. All nodes and sealed Deutsch connectors shall be waterproof.

Y____N____

APPARATUS WIRING PANEL

An apparatus wiring panel shall be installed on the officer side bulkhead below the dash which shall include (8) each open circuits with three (3) each 20.00 amp, (1) each 30.00 amp, (3) each 10 amp and (1) each 15 amp relay and breaker with trigger wires which shall be connected to the rocker switch panel.

Y_____N_____

MULTIPLEXING DISPLAY

The multiplexing electrical system shall include a Weldon Vista III display which shall be located within the driver side instrument panel ahead of the engine tunnel. The Vista III shall feature a full color LED display screen which includes a message bar displaying the time of day, the current ambient outside temperature and important messages requiring acknowledgement by the user which shall all be displayed on the top of the screen in the order they are received. There shall be virtual controls for the auto climate control, on-board diagnostics, and video ready for back- up cameras, thermal cameras and DVD.

Y_____N_____

The Vista III display shall measure approximately 10.38 inches wide X 7.50 inches overall. The display shall offer varying fonts and background colors. The display shall be fully programmable to the needs of the customer which offers an infinite amount of flexibility for viewable options.

Y_____N_____

VEHICLE DATA RECORDER

The chassis shall have a Weldon Vehicle Data Recorder system installed. The system shall be designed to meet NFPA 1901 and shall be integrated with the Weldon Multiplex electrical system. The following information shall be recorded:

- ▶ Vehicle Speed
- ▶ Acceleration
- ▶ Deceleration
- ▶ Engine Speed
- ▶ Engine Throttle Position
- ▶ ABS Event
- ▶ Seat Occupied Status
- ▶ Seat Belt Status
- ▶ Master Optical Warning Device Switch Position
- ▶ Time
- ▶ Date

Each portion of the data shall be recorded at the specified intervals and stored for the specified length of time to meet NFPA 1901 guidelines and shall be retrievable by connecting a laptop computer to the VDR system.

Y_____N_____

POWER AND GROUND STUD

A 40 amp battery direct power and ground stud shall be provided and installed in the electrical distribution panel. The stud shall be size #10 and protected with a 40 amp circuit breaker.

Y_____N_____

EXTERIOR ELECTRICAL TERMINAL COATING

All terminals exposed to the elements will be sprayed with a yellow protective rubberized coating to prevent corrosion.

Y _____ N _____

ENGINE

The power plant for the vehicle shall offer a high pressure performance, turbo charged engine which shall feature a high pressure common rail fuel system. This system shall be coupled with a proven Holset turbo which delivers outstanding performance at ratings up to 425 HP. The Cummins ISL engine shall include replaceable mid-stop cylinder liners plus heavy duty roller followers, targeted piston cooling and 30% more efficient oil cooling for improved durability and reliability. The heavy duty design shall also feature stronger braking capacity.

The engine shall be EPA certified to meet the very latest emissions standards without compromising performance, reliability or durability. The Cummins ISL 425 engine shall feature an air charged cooled engine which consists of an inline six (6) cylinder, four cycle diesel powered engine. The engine shall offer a rating of 425 horse power at 2000 RPM which shall be governed at 2200 RPM. The torque rating shall feature 1200 foot pounds of torque at 1300 RPM with 543 cubic inches of displacement. The Cummins ISL 425 engine shall feature an electronic governor.

A wiring harness shall be supplied ending at the back of the cab. The harness shall include a connector which shall allow an optional harness for the pump panel. The included circuits shall be provided for a tachometer, oil pressure, engine temperature, hand throttle, high idle and a PSG system. A circuit for J1 939 data link shall also be provided at the back of the cab.

The engine shall include an engine mounted combination full flow/by-pass oil filter with replaceable spin on cartridge for use with the engine lubrication system. The engine shall include Citgo brand Citgard 500, or equivalent SAE 15W40 CJ4 low ash engine oil which shall be utilized for proper engine lubrication.

Y _____ N _____

ENGINE HIGH IDLE SPEED

The engine high idle control shall maintain the engine idle at approximately 1000 RPM when engaged.

Y _____ N _____

ENGINE HIGH IDLE CONTROL WITH V-MUX

The vehicle shall be equipped with an automatic high-idle speed control. It shall be pre-set so when activated, it will operate the engine at the appropriate RPM to increase alternator output. This device shall operate only when the master switch is activated and the transmission is in neutral with the parking brake set. The device shall disengage when the operator depresses the brake pedal, or the transmission is placed in gear, and shall be available to manually or automatically re-engage when the brake is released, or when the transmission is placed in neutral. There shall be an indication on the Vista screen for the high idle speed control.

Y _____ N _____

ENGINE PROGRAMMING

The engine shall include programming which will govern the top speed of the vehicle.

Y _____ N _____

AUXILIARY ENGINE COMPRESSION BRAKE

The engine shall utilize a variable geometry turbo (VGT) which shall slow the engine. The VGT engine brake shall be an integral part of the turbo and shall offer a variable rate of exhaust flow. The VGT engine brake shall activate upon 0% accelerator when in operation mode. A dash mounted switch with on! off and high! low functions shall be installed in the interior of the cab within easy reach of the driver or officer.

Y _____ N _____

AUXILIARY ENGINE BRAKE CONTROL

An engine variable geometry turbo brake control device shall be included. The control device shall be electronic and shall prevent the activation of the engine compression brake during operating wherein undesirable conditions will result if the engine brakes are active. The electronic control device shall monitor various conditions and shall activate the engine brake only if all of the following conditions are simultaneously detected: a valid gear ratio is detected; the driver has requested or enabled engine compression brake operation; the throttle is at a minimum engine speed position; and the electronic controller is not presently attempting to execute an electronically controlled final drive gear shift. The variable geometry turbo brake shall be controlled via a virtual button through the multiplex system.

Y _____ N _____

FORWARD FLUID FILLS

The front of the chassis shall accommodate fluid fills for the engine oil, the windshield washer fluid and the power steering fluid through the grille. This area shall also accommodate checks for the engine oil, and power steering fluid.

Y _____ N _____

ELECTRONIC LOW ENGINE OIL INDICATOR

The engine oil shall be monitored electronically and shall send a signal to activate a light in the instrument panel when levels fall below normal. The light shall activate in a low oil situation upon turning on the master battery and ignition switches without the engine running.

Y _____ N _____

ENGINE WARRANTY

The Cummins engine shall be warranted for a period of five (5) years or 100,000 miles, whichever occurs first.

Y _____ N _____

REMOTE THROTTLE CONTROL

A Class 1 "Captain" pressure governor pump panel control module and a pressure transducer shall be provided. The Class 1 Captain pressure governor shall be designed to control the engine fuel to maintain a desired pump pressure or engine speed setting along with displaying diagnostic information. The Captain shall include a pre-set switch for selecting a pre-determined pressure or RPM and an emergency return to idle switch.

Y _____ N _____

REMOTE THROTTLE CONTROL HARNESS

An apparatus interface wiring harness for the engine shall be supplied with the chassis. The harness shall include a connector for connection to the chassis harness which shall terminate in the left frame rail behind the cab for reconnection by the apparatus builder. The harness shall contain connectors for a Class 1 pressure governor/ throttle system as well as a multiplexed gauge and the Enfo IV. Separate circuits shall be included for pump controls, “pump engaged” and “OK to Pump” indication lights, open compartment ground, start signal, park brake ground, ignition signal, master power, customer ignition, air horn solenoid switch, high idle switch and high idle indication light.

Y_____N_____

An apparatus interface wiring harness shall also be included which shall be wired to the cab harness interface connectors and shall incorporate circuits with relays to control pump functions. This harness shall control the inputs for the transmission lock up circuits, governor/ hand throttle controls and dash display which shall incorporate “pump engaged” and “OK to Pump” indication lights. The harness shall contain circuits for the apparatus builder to wire in a pump switch.

Y_____N_____

ENGINE PROGRAMMING REMOTE THROTTLE

The engine ECM discreet wire remote throttle circuit will be turned on for use with a discreet wire based pump controller.

Y_____N_____

ENGINE PROGRAMMING IDLE SPEED

The engine low idle speed will be programmed at 700 rpm.

Y_____N_____

COOLING SYSTEM FAN

The engine cooling system fan shall be direct drive belt driven on the engine.

Y_____N_____

ENGINE COOLING SYSTEM

There shall be a heavy-duty aluminum cooling system designed to meet the demands of the fire industry. The cooling system shall have the capacity to keep the engine properly cooled under all conditions of road and pumping operations. The cooling system shall be designed and tested to meet or exceed the requirements specified by the engine and transmission manufacturer and all EPA requirements. The complete cooling system shall utilize heavy-duty welds and be mounted to isolate the entire system from any vibration or stress. The individual cores of the cooling system shall be mounted in a manner to allow expansion and contraction at various rates without inducing stress into the adjoining cores.

Y_____N_____

The cooling system shall be comprised of a stacked, single depth package that provides the maximum cooling capacity for the specified engine as well as offers excellent serviceability. The main components shall include a surge tank, charge air cooler, recirculation shield, radiator and transmission cooler. The system shall utilize a surge tank and shall include a coolant overflow tank as an option.

Y_____N_____

Proposals unable to offer a stacked single depth cooling package shall not be considered.

Y_____N_____

There shall be a single depth core that allows greater efficiency, enhanced serviceability, and lighter weight with a higher ambient capability. The individual cores shall be mounted to allow expansion and contraction at various rates without inducing stress into the adjoining core.

Y_____N_____

The cooling package core shall not protrude below the frame of the vehicle by more than 1.1 inch. This feature shall improve the angle of approach thereby reducing possible damage.

Y_____N_____

The radiator shall be a cross-flow design constructed completely of aluminum with welded side tanks. The radiator shall include a minimum of a 627 square inch core and shall be bolted to the bottom of the charge air cooler to allow a single depth core, thus allowing a more efficient and serviceable cooling system. The radiator shall be equipped with a drain cock to drain the coolant for serviceability.

Y_____N_____

The cooling system shall include a one piece injected molded Polymer fan blade designed to provide long life in harsh environments. Polymer fans provide a significant weight reduction over metal fans providing longer life for fan clutch linings and bearings along with increased fan belt life.

Y_____N_____

The cooling system shall be equipped with a surge tank that is capable of being filled and removing entrained air from the system. The surge tank shall be equipped with a low coolant probe and sight glass to monitor the level of the coolant. The surge tank shall have a cap that meets the engine manufactures pressure requirements as well as the system design requirements.

Y_____N_____

All radiator tubes shall be formed from aluminized steel tubing. Recirculation shields shall be installed where required to prevent heated air from reentering the cooling package and affecting performance. When a center hose well is installed an additional shield may be required to redirect the airflow into the coolers.

Y_____N_____

The charge air cooler shall be a cross-flow design constructed completely of aluminum with welded side tanks. The charge air cooler shall have a minimum of a 390 square inch core and be bolted to the top of the radiator to allow a single depth core, thus allowing a more efficient and serviceable cooling system.

Y_____N_____

All charge air cooler tubes shall be formed from aluminized steel tubing and installed with silicone hump hoses and stainless steel “constant torque” style clamps meeting the engine manufactures requirements.

Y_____N_____

ENGINE COOLANT

The cooling package shall include Extended Life Coolant (ELC) installed. The use of ELC provides longer intervals between coolant changes providing improved performance. The coolant shall contain a 50/50 mix of ethylene glycol and de-ionized water to keep the coolant from freezing to a temperature of -34 degrees F.

Y_____N_____

Proposals offering supplemental coolant additives (SCA) shall not be considered, as this is part of the extended life coolant makeup.

LOW COOLANT INDICATOR LIGHT AND TONE ALARM

The instrument panel shall feature a low engine coolant indicator light which shall be located in the center of the instrument panel. An audible tone alarm shall also be provided to warn of a low coolant

Y_____N_____

ENGINE PUMP HEAT EXCHANGER

A single bundle type coolant to water heat exchanger shall be installed between the engine and the radiator. The heat exchanger shall be designed to prohibit water from the pump from coming in contact with the engine coolant. This shall allow the use of water from the discharge side of the pump to assist in cooling the engine.

Y_____N_____

COOLANT HOSES

The cooling systems hose shall be formed silicone hose and formed aluminized steel tubing and include with stainless steel constant torque clamps.

Y_____N_____

ENGINE AIR INTAKE

The engine air intake system shall include an ember separator air intake filter which shall be located in the front of the cab behind the officer side fascia. This filter shall protect the downstream air filter from embers using a combination of unique flat and crimped metal screens constructed into a galvanized steel frame. This multilayered screen shall be designed to trap embers or allow them to burn out before passing through the pack, while creating only minimal air flow restriction through the system. Periodic cleaning or replacement of the screen shall be all that is required after installation.

Y_____N_____

The engine shall also include an air intake filter which shall be bolted to the frame and located under the front of the cab on the officer side. The completely disposable dry type filter shall ensure containment of dust and debris safely contained inside the disposable housing, eliminating the chance of contaminating the air intake system during air filter service via a leak-tight seal.

Y_____N_____

The air flow distribution and dust loading shall be uniform throughout the high-performance filter cone pack, which shall result in increased capacity and lower pressure differential for improved horsepower and fuel economy. The air intake shall be mounted within easy access via a hinged panel behind the headlight module. The air intake system shall include a restriction indicator light in the warning light cluster which shall activate when the air cleaner element requires replacement.

Y_____N_____

The charge air cooler hose shall be formed from aluminized steel tubing and include silicone hump hose with stainless expansion rings and stainless steel “constant torque” style clamps meeting the engine manufactures requirements.

Y _____ N _____

Proposals shall include an indication light representative of the need for replacement of the air intake filter and shall be located at the front of the vehicle.

Y _____ N _____

EXHAUST SYSTEM

The exhaust system shall meet current EPA standards. The system shall be designed and installed using 0.065 inch aluminized steel plumbing from the diesel particulate filter to the discharge which shall terminate horizontally on the officer side of the vehicle ahead of the rear tires. The exhaust system shall be mounted on the underside of the frame outboard, maximizing space for the body compartments. All joints along the plumbing shall be connected with lapping band style clamps.

Y _____ N _____

TRANSMISSION

The drive train shall include an Allison Gen IV-E model EVS 3000 torque converting, automatic transmission which shall include electronic controls. The transmission shall feature two (2) 10-bolt PTO pads located on the converter housing.

Y _____ N _____

The transmission shall include two (2) internal oil filters and Castrol TranSynd™ synthetic TES 295 transmission fluid which shall be utilized in the lubrication of the EVS transmission. An electronic oil level sensor shall be included with the readout located in the shift selector.

Y _____ N _____

The Gen IV-E transmission shall include prognostic diagnostic capabilities. These capabilities shall include the monitoring of the fluid life, filter change indication, and transmission clutch maintenance.

The transmission gear ratios shall be:

1st - 3.49:1; 2nd- 1.86 to 1; 3rd- 1.41 to1; 4th- 1.00 to 1; 5th- 0.75 to 1; 6th-0.64 to 1 (if applicable); Rev- 5.03 to 1.

Y _____ N _____

TRANSMISSION MODE PROGRAMMING

The transmission, upon start-up, will automatically select a four (4) speed operation. The fifth speed over drive shall be available with the activation of the mode button on the shifting pad.

Y _____ N _____

TRANSMISSION FEATURE PROGRAMMING

The EVS group package number 127 shall contain the 198 vocational package in consideration of the duty of this apparatus as a Pumper. This package shall incorporate an

automatic neutral with selector override. This feature commands the transmission to neutral when the park brake is applied, regardless of drive range requested on the shift selector. This requires re-selecting drive range to shift out of neutral for the override. This package shall be coupled with the use of a split shaft PTO and incorporate pumping circuits. These circuits shall be used allowing the vehicle to operate in the fourth range lockup while operating the pump mode due to the 1 to 1 ratio through the transmission, therefore the output speed of the engine is the input speed to the pump. The pump output can be easily calculated by using this input speed and the drive ratio of the pump itself to rate the gallons of water the pump can provide.

An 8 pin Delphi connector will be provided next to the steering column connector. This will contain the following input/output circuits to the transmission tcm.

Function ID	Description	Wire assignment
C	PTO Request	142
J	Fire Truck Pump Mode (4th Lockup)	122 / 123
C	Range Indicator	145 (4th)
G	PTO Enable Output	130
	Signal Return	103
		Y_____N_____

TRANSMISSION SHIFT SELECTOR

An Allison pressure sensitive range selector touch pad shall be provided and located to the right of the driver within clear view and easy reach. The shift selector will provide a prognostic indicator (wrench symbol) between the selected and attained indicators.

Y_____N_____

ELECTRONIC LOW TRANSMISSION OIL LEVEL INDICATOR

The transmission fluid shall be monitored electronically and shall send a signal to activate a light in the instrument panel when levels fall below normal.

Y_____N_____

TRANSMISSION PRE-SELECT WITH AUXILLIARY BRAKE

When the auxiliary brake is engaged, the transmission shall automatically seek shifting to second gear to decrease the rate of speed assisting the secondary braking system and slowing the vehicle speed.

Y_____N_____

TRANSMISSION WARRANTY

The Allison EVS series transmission shall be warranted for a period of five (5) years with unlimited mileage. Parts and labor shall be included in the warranty.

Y_____N_____

TRANSMISSION COOLING SYSTEM

The transmission shall include an air to oil cooler integrated into the lower portion of cooling package. The transmission cooling system shall meet all transmission manufacturer requirements. The cooling system shall feature a circuit provision located within the hydraulic transmission oil which shall provide for rapid warm up to the optimum transmission operating temperature.

Proposals offering water to oil style transmission cooling systems shall not be accepted.

Y_____N_____

DRIVELINES

All drivelines shall be heavy duty metal tube and equipped with Spicer 1710 series universal joints. The shafts shall be dynamically balanced prior to installation to alleviate future vibration. A splined slip joint shall be provided in each driveshaft and shall be coated with Glide coat®.

Y_____N_____

DRIVELINE PUMP

A temporary jackshaft driveline shall be installed by the chassis manufacturer to accommodate the mid-ship split shaft pump as specified by the apparatus manufacturer.

Y_____N_____

DRIVELINE

The driveline jackshaft shall be for a Darley LDM model pump which shall be installed by the original equipment manufacturer or body builder.

Y_____N_____

DRIVELINE PUMP RATIO

The ratio for the midship pump shall be 2.44.

Y_____N_____

DRIVELINE PUMP CENTER LINE

The pump driveline shall include a centerline of the rear axle to the center line of the suction dimension of 99.50 inches.

Y_____N_____

DRIVELINE PUMP SUCTION HEIGHT

The pump driveline shall be installed with a suction height of 0.25 of an inch below the frame.

Y_____N_____

FUEL FILTER/WATER SEPARATOR

The fuel system shall have a Fleetguard FS 1003 fuel filter/water separator as a primary filter. The fuel filter shall have a see through cover to allow visual inspection of fuel and filter condition and a drain

A water in fuel sensor shall be provided and wired to an instrument panel lamp and audible alarm to indicate when water is present in the fuel/water separator.

Y_____N_____

FUEL LINES

The fuel system lines shall be brown reinforced nylon tubing rated for diesel fuel with brass fittings installed from the tank to engine including the return.

Y_____N_____

FUEL SHUTOFF VALVE

There shall be (2) fuel shutoff valves which shall be installed, (1) in the fuel draw line at the primary fuel filter and (1) in the fuel draw line at the secondary fuel filter to allow the fuel filter to be changed without loss of fuel to the fuel pump.

Y_____N_____

FUEL TANK

The fuel tank shall have a minimum capacity of sixty-eight (68) gallons and measure 35.00 inches wide X 20.00 inches high X 24.00 inches long. The baffled tank shall be made of 14 gauge aluminized steel. The tank exterior is painted with a PRP Corsol™ black anti-corrosive exterior metal treatment finish. This results in a tank which offers the internal and external corrosion resistance.

The fuel tank shall be mounted 2.00 inches below the frame, behind the rear axle. The tank can be easily lowered and removed for service purposes.

The tank shall have a vent port to facilitate venting to the top of the fill neck for rapid filling without "blow-back" and a roll over ball check vent for temperature related fuel expansion and draw.

The tank is designed with dual draw tubes and sender flanges. The tank shall have 2.00 inch NPT fill ports for right or left hand fill. A 0.5 inch NPT drain plug shall be centered in the bottom of the tank.

Y_____N_____

FUEL FILL PROVISIONS

The fuel tank fill ports shall be offset with the right fill port located in the forward position and the left fill port located in the rear position.

Y_____N_____

FUEL TANK SERVICEABILITY PROVISIONS

The chassis fuel lines shall have additional length provided so the tank can be easily lowered and removed for service purposes. The additional 8 ft. of length shall be located above the fuel tank and shall be coiled and secured. The fuel line fittings shall be pointed towards the right side (curbside) of the chassis.

Y_____N_____

FRONT AXLE

The front axle shall be a Meritor Easy Steer Non drive front axle, model number MFS-20. The axle shall include a 3.74 inch drop and a 71.00 inch king pin intersection (KPI). The axle shall include a conventional style hub with a standard knuckle.

Y_____N_____

FRONT WHEEL BEARING LUBRICATION

The front axle wheel bearings shall be lubricated with clear oil. The oil level can be visually checked via clear inspection windows in the front axle hubs.

Y_____N_____

FRONT SHOCK ABSORBERS

Two (2) Bilstein inert, nitrogen gas filled shock absorbers shall be provided and installed as part of the suspension system. The shocks shall be a monotubular design and fabricated using a special extrusion method, utilizing a single blank of steel without a welded seam, achieving an extremely tight peak-to-valley tolerance and maintains consistent wall thickness. The

monotubular design shall provide superior strength while maximizing heat dissipation and shock life.

The ride afforded through the use of a gas shock is more consistent and shall not deteriorate with heat, the same way a conventional oil filled hydraulic shock would.

The Bilstein front shocks shall include a digressive working piston assembly allowing independent tuning of the compression and rebound damping forces to provide optimum ride and comfort without compromise. The working piston design shall feature fewer parts than most conventional twin tube and "road sensing" shock designs and shall contribute to the durability and long life of the Bilstein shock absorbers.

Proposals offering the use of conventional twin tube or "road sensing" designed shocks shall not be considered.

Y_____N_____

FRONT SUSPENSION

The front suspension shall include nine (9), 54.00 inch long and 4.00 inches wide taper leaf springs with a military double wrapped front eye. Both spring eyes shall have a case hardened threaded bushing installed with lubrication counter bore and lubrication land off cross bore with grease fitting. The spring capacity shall be rated at 21,500 pounds.

Y_____N_____

STEERING COLUMN/ WHEEL

The cab shall include a Douglas Autotech steering column shall be a seven (7) position tilt and 2.25 inch telescopic type with an 18.00 inch steering wheel located on the left side of the cab designating the driver's position. The steering wheel shall be covered with black absorbite padding.

The steering column shall contain a horn button, self-canceling turn signal switch, four-way hazard switch and headlamp dimmer switch.

Y_____N_____

POWER STEERING PUMP

The hydraulic power steering pump shall be a TRW PS and shall be gear driven from the engine. The pump shall be a balanced, positive displacement, sliding vane type.

Y_____N_____

ELECTRONIC POWER STEERING FLUID LEVEL INDICATOR

The power steering fluid shall be monitored electronically and shall send a signal to activate a light in the instrument panel when levels fall below normal.

Y_____N_____

FRONT AXLE CRAMP ANGLE

The chassis shall have a front axle cramp angle of 48 degrees to the left and 44 degrees to the right.

Y_____N_____

CHASSIS ALIGNMENT

The chassis frame rails shall be cross checked to insure the length and to make sure each is square. The front and rear axles shall be laser aligned, additionally the tires and wheels shall

be aligned and toe-in set on the front tires. The completed apparatus shall be rechecked for proper alignment once the chassis has been fully loaded.

Y_____N_____

REAR AXLE

The rear axle shall be a Meritor model number RS-24- 160. The axle shall be built of superior construction and quality components to provide the rugged dependability needed to stand up to the fire industry’s demands. The axle shall include rectangular shaped, hot-formed housings for extra strength and rigidity. The axles shall also include torsion flow axle shafts that feature a surface hardness which resists fatigue and a resilient core which absorbs shock. There shall be unitized pinion seals within the axle helping to prevent leakage and harmful road contaminants from entering the axle components. The axle shall include a rigid differential case for high axle strength and reduced maintenance.

The axle shall include single reduction gearing and shall have a rated capacity of 24,000 pounds.

Y_____N_____

REAR WHEEL BEARING LUBRICATION

The rear axle wheel bearings shall be lubricated with oil.

Y_____N_____

REAR AXLE DIFFERENTIAL LUBRICATION

The rear axle differential shall be lubricated with oil.

Y_____N_____

VEHICLE TOP SPEED

The top speed of the vehicle shall be approximately 68 MPH +/-2 MPH at governed engine RPM.

Y_____N_____

REAR SUSPENSION

The single rear axle shall feature a Reyco 79KB vari-rate, self-leveling captive slipper type spring suspension, with 57.50 inch X 3.00 inch springs. One (1) adjustable and one (1) fixed torque rod shall be provided.

The rear suspension capacity shall be rated from 21,000 to 31,500 pounds.

Y_____N_____

FRONT TIRES

The front tires shall be Michelin 385/65R22.5 “L” tubeless radial XFE regional tread.

The front tire stamped load capacity shall be 19,840 pounds per axle with a speed capacity of 65 miles per hour when properly inflated to 130 pounds per square inch.

The front tire US Fire Service Intermittent Usage load capacity shall be 20,000 pounds per axle with a speed capacity of 75 miles per hour when properly inflated to 120 pounds per square inch.

Y _____ N _____

FRONT TIRE PRESSURE INDICATORS

There shall be a voucher provided with the chassis for a pop up style tire pressure indicator at each tire valve stem. The indicator shall provide visual indication of pressure in the specific tire.

The tire pressure indicators shall be redeemed upon the vehicle manufacturer's receipt of the voucher for installation by the customer.

Y _____ N _____

REAR TIRES

The rear tires shall be Michelin 1 1R-22.5 16PR "H" tubeless radial XDN2 all weather tread designed for exceptional traction and mileage.

The rear tire stamped load capacity shall be 24,020 pounds per axle with a speed capacity of 75 miles per hour when properly inflated to 120 pounds per square inch.

The rear tire US Fire Service Intermittent Usage load capacity shall be 24,820 pounds per axle with a speed capacity of 75 miles per hour when properly inflated to 120 pounds per square inch.

Y _____ N _____

REAR TIRE PRESSURE EQUALIZATION SYSTEM

There shall be a voucher provided with the chassis for Crossfire dual tire equalization system provided on both sets of dual tires on the rear axle. The Crossfire pressure system shall equalize and monitor the valve which is mounted between the dual tires. This shall bolt easily to the drive axle end allowing air to flow freely from one tire to the other, maintaining equal tire pressure and load distribution. The Crossfire system shall maximize tire life, decrease rolling resistance for increased fuel mileage and improve stability braking and overall safety.

Y _____ N _____

The Crossfire dual tire equalization system shall be redeemed upon the vehicle manufacturer's receipt of the voucher along with the vehicle in-service weight for each axle.

FRONT WHEELS

The front wheels shall be Alcoa hub piloted, 12.25 inches X 22.50 inches polished aluminum wheels. The wheels shall feature one- piece hot forged strength, more payload capacity and brilliant good looks which last.

Y _____ N _____

REAR WHEELS

The rear wheels shall be:

Alcoa hub piloted, 8.25 inch X 22.50 inch polished aluminum wheels. The wheels shall feature one-piece hot forged strength, more payload capacity and brilliant good looks which last.

Y _____ N _____

BRAKE SYSTEM

A rapid build-up air brake system shall be provided. The air brakes shall include a two (2) air tank, three (3) reservoir system with a total of 4152 cubic inch of air capacity. A floor mounted treadle valve shall be mounted inside the cab for graduated control of applying and releasing the brakes. An inversion valve shall be installed to provide a service brake application in the unlikely event of primary air supply loss.

Y_____N_____

The rear axle spring brakes shall automatically apply in any situation when the air pressure falls below 25 PSI and shall include a mechanical means for releasing the spring brakes when necessary. An audible alarm shall designate when the system air pressure is below 60 PSI.

Y_____N_____

A four (4) sensor, four (4) modulator anti-lock braking system (ABS) shall be installed on the front and rear axles in order to prevent the brakes from locking or skidding while braking during hard stops or on icy or wet surfaces. This in turn shall allow the driver to maintain steering control under heavy braking and in most instances, shorten the braking distance. The electronic monitoring system shall incorporate diagonal circuitry which shall monitor wheel speed during braking through a sensor and tone ring on each wheel. A dash mounted ABS lamp shall be provided to notify the driver of a system malfunction. The ABS system shall automatically disengage the auxiliary braking system device when required. The speedometer screen shall be capable of reporting all active defaults using PID/SID and FMI standards.

Y_____N_____

Automatic traction control which shall be installed on the single rear axle. The automatic traction control system shall apply the anti-lock braking system when the drive wheels loose traction. The system shall scale the electronic engine throttle back to prevent wheel spin while accelerating on ice or wet surfaces.

Y_____N_____

Additional handling capabilities shall include roll stability control which shall monitor the vehicles rollover threshold based on the lateral acceleration. The system shall activate a computerized device which shall slow the vehicle when the threshold is exceeded in either direction. Normal vehicle operation shall resume once the problematic conditions cease. Roll stability control shall be integral with the ABS and ATC systems.

A virtual style switch shall be provided and properly labeled “mud/snow”. When the switch is pressed once, the system shall allow a momentary wheel slip to obtain traction under extreme mud and snow conditions. During this condition the ATC light shall blink continuously notifying the driver of activation. Pressing the switch again shall deactivate the mud/snow feature.

Y_____N_____

The electronic stability control unit (ESC) is a functional extension of the electronic braking system. It is able to detect any skidding of the vehicle about its vertical axis as well as any

rollover tendency. The control unit comprises an angular-speed sensor that measures the vehicle's motion about the vertical axis, caused, for instance, by cornering or by skidding on a slippery road surface. An acceleration sensor measures the vehicle's lateral acceleration. The CAN bus provides information on the steering angle. On the basis of lateral acceleration and steering angle, an integrated microcontroller calculates a theoretical angular speed for the stable vehicle condition.

Y _____ N _____

FRONT BRAKES

The front brakes shall be Meritor 16.5" x 6" S-cam drum type.

Y _____ N _____

REAR BRAKES

The rear brakes shall be Meritor 16.50 inch X 7.00 inch S-cam drum type.

Y _____ N _____

PARK BRAKE

Upon application of the push-pull valve in the cab, the rear brakes will engage via mechanical spring force. This is accomplished by dual chamber rear brakes, satisfying the FMVSS parking brake requirements.

Y _____ N _____

In addition to the mechanical rear brake engagement, the front service brakes will also engage via air pressure, providing additional braking capability.

Y _____ N _____

PARK BRAKE ACTUATION VALVE

A Meritor-Wabco manual hand control push-pull style valve shall operate the parking brake system. The control shall be yellow in color.

Y _____ N _____

The parking brake actuation valve shall be mounted on the driver's dash within easy access.

Y _____ N _____

FRONT BRAKE SLACK ADJUSTERS

The front brakes shall include Meritor automatic slack adjusters shall be installed on the chassis which features a simple, durable design offering reduced weight. The automatic slack adjusters shall feature a manual adjusting nut which cannot inadvertently be backed off and threaded grease fittings for easy serviceability.

REAR BRAKE SLACK ADJUSTERS

The rear brakes shall include Meritor automatic slack adjusters shall be installed on the chassis which features a simple, durable design offering reduced weight. The automatic slack adjusters shall feature a manual adjusting nut which cannot inadvertently be backed off and threaded grease fittings for easy serviceability.

Y _____ N _____

FRONT BRAKE DUST SHIELDS

The front axle shall be equipped with brake dust shields.

Y _____ N _____

REAR BRAKE DUST SHIELDS

The rear brakes shall be equipped with brake dust shields.

Y _____ N _____

AIR DRYER

The brake system shall include a Wabco System Saver 1200 air dryer. The air dryer incorporates an internal turbo cutoff valve that closes the path between the air compressor and air dryer purge valve during the compressor "unload" cycle. The turbo cutoff valve allows purging of moisture and contaminants without the loss of turbo boost pressure. The air dryer shall be located on the right frame rail behind the officer step.

Y _____ N _____

FRONT BRAKE CHAMBERS

The front brakes shall be provided with MGM type 30 brake chambers.

Y _____ N _____

REAR BRAKE CHAMBERS

The rear axle shall include TSE 30/30 brake chambers which shall convert the energy of compressed air into mechanical force and motion. This shall actuate the brake camshaft, which in turn shall operate the foundational brake mechanism forcing the brake shoes against the brake drum. The TSE Type 30 brake chamber shall offer a 30.00 square inch effective area.

Y _____ N _____

AIR COMPRESSOR

The air compressor provided for the engine shall be a two (2) cylinder reciprocating Wabco® SS3 18 pass- through drive type compressor which shall be capable of producing 18.7 CFM at 1200 engine RPMs. The air compressor shall feature a higher delivery efficiency translating to more air delivery per horsepower absorbed. The compressor shall include an aluminum cylinder head which shall improve cooling, reduce weight and decrease carbon formation. Superior piston and bore finishing technology shall reduce oil consumption and significantly increasing the system component life.

Y _____ N _____

AIR GOVERNOR

An air governor which shall cut-in and cut-out pressures on the vehicle shall be provided and shall be adjusted so that the maximum pressure in the air system and the minimum cut-in pressure. The air governor shall be located on the air cleaner bracket on the right frame rail behind the officer step.

Y _____ N _____

AIR SUPPLY MOISTURE EJECTORS

Manual drain valves shall be installed on all reservoirs of the air supply system.

Y _____ N _____

AIR SUPPLY LINES

A dual air system plumbed with color coded reinforced nylon tubing air lines shall be installed on the chassis. The primary (rear) brake line shall be green, the secondary (front) brake line red, the parking brake line orange and the auxiliary (outlet) will be blue.

Y _____ N _____

Brass compression type fittings shall be used on the nylon tubing. All drop hoses shall include fiber reinforced neoprene covered hoses.

Y _____ N _____

AIR INLET CONNECTION

A quick release outside air inlet male connector for the shoreline air inlet shall be provided on the driver side of the cab, located in the driver’s step in the forward position. The exact location will be determined at the pre construction meeting.

Y _____ N _____

AIR INLET/ OUTLET FITTING TYPE

The air connector supplied shall be a 0.25 inch size Tru-Flate Interchange style manual connection which is compatible with Milton ‘T’ style, Myers 0.25 inch Automotive style and Parker 0.25 inch 10 Series connectors.

Y _____ N _____

AIR TANK POSITION

There shall be spacers included which shall move the air tanks 1.00 inch inward towards the center of the chassis.

REAR AIR TANK MOUNTING

The air reservoir located towards the rear of the chassis shall be installed parallel to the frame.

WHEELBASE

The Bidder shall state the proposed wheelbase measurement: _____ ”.

Y _____ N _____

The Bidder shall state the proposed cab to axle measurement _____ ”.

Y _____ N _____

A turning radius chart shall be provided within the bid proposal stating the anticipated curb to curb and wall to wall turning capability of the proposed apparatus.

Y _____ N _____

REAR OVERHANG

The chassis rear overhang shall be 51.00 inches.

Y _____ N _____

FRAME

The frame shall consist of double channel side rails and cross members forming a ladder style frame. The sides of the rails shall be formed in the shape of a "C" channel, 10.25 inches high X 3.50 inches deep upper and lower flanges X .38 inches thick with an inner channel of 9.44 inches high X 3.13 inches deep and .38 inches thick. The high strength low alloy steel shall have a Tensile Elastic Limit of 110,000 psi. Each double rail shall be rated by a Resistance Bending Moment (RBM) minimum of 3,213,100 inch pounds and have a minimum section modulus of 29.21 cubic inches. The frame shall measure 35.00 inches in width.

Y _____ N _____

RBM refers to the measure of stiffness of a cross section relative to the yield stress of the material the frame is manufactured from.

Y _____ N _____

Every cross sectional profile of an object has a measure of its mechanical properties based on its shape. These properties of its shape can be broken down relative to the horizontal and vertical direction, represented as Ixx and Iyy. These act as a measure of the shape's resistance to bending.

The section modulus of mass of this profile takes into consideration the stresses imposed on this profile when a load is applied, by considering the maximum distance from the center of the profile to its outer most extremity. Section modulus is a method of measurement for the relative stiffness of a beam section and is based on the horizontal and vertical directional value plus the distance from the center of mass to the extremities of the cross section from the coordinate axis, such that $Z_{yy} = I_{yy}/Y$ and $Z_{xx} = I_{xx}/X$.

Y _____ N _____

Proposals calculating the frame strength using the "box method" shall not be considered.

Proposals including heat treated rails shall not be considered. Heat treating frame rails produces rails that are not uniform in their mechanical properties throughout the length of the rail. Rails made of high strength, low alloy steel are already at the required yield strength prior to forming the rail.

Y _____ N _____

A minimum of seven (7) fully gusseted 0.25 inch thick cross members shall be installed. The inclusion of the engine mounting, body mounting, pump mounting or bumpers shall not be considered as a cross member. The cross members shall be attached using grade 8 flanged head bolts and flanged lock nuts. Each cross member shall be mounted to the frame rails a minimum of utilizing 0.25 inch thick gusset reinforcement plates at all corners balancing the area of force throughout the entire frame.

Y _____ N _____

Any proposals not including additional reinforcement for each cross member shall not be considered.

Y _____ N _____

All holes for bolts shall be drilled into the frame rails, preventing fracture or fatigue. Each hole shall be custom placed relative to its component preventing unnecessary holes that present fatigue along each frame rail.

Y _____ N _____

The frames proposed shall be custom drilled for each component and shall not include any unnecessary holes.

Y_____N_____

All relief areas shall be cut in with a minimum 2.00 inch radius at intersection points with the edges ground to a smooth finish to prevent a stress concentration point.

Y_____N_____

The frame and cross members shall carry a lifetime warranty to the original purchaser. A copy of the frame warranty shall accompany the bid.

Y_____N_____

Proposals offering warranties for frames not including cross members shall not be considered.

Y_____N_____

FRAME WARRANTY

The frame and cross members shall carry a lifetime warranty to the original purchaser.

Y_____N_____

FRAME MODIFICATION OPTIONS

The frame shall include drillings accommodating the body compartments throughout the length of the frame.

Y_____N_____

FRAME CLEAR AREA

The chassis frame shall be left clear of chassis mounted components inside or outside the frame rails within the first 30.00 inches behind the cab to allow space for OEM installed components.

Y_____N_____

FRAME PAINT

The frame shall be powder coated black prior to any attachment of components.

Y_____N_____

All powder coatings, primers and paint shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 shall not have a fail of more than ten (10) squares. The pencil hardness test per ASTM D3363 shall have a final post-curved pencil hardness of H-2H. The direct impact resistance, per ASTM D2794, shall have a direct impact resistance of 120.00 inches per pound at 2 mils. The salt spray resistance per ASTM B-117-97 shall pass 500 hours of salt spray test. The applied process shall allow the application of other products over it and still maintain or exceed the 500 hours salt spray test.

Y_____N_____

Any proposals offering painted frame with variations from the above process shall not be accepted. The film thickness of vendor supplied parts shall also be sufficient to meet the performance standards as stated above.

Y_____N_____

FRONT BUMPER

A one piece, two (2) rib wrap-around style, polished stainless steel front bumper shall be provided. The material shall be 10 gauge 304 stainless steel, 12" high and 101" wide.

Y_____N_____

FRONT BUMPER EXTENSION LENGTH

The front bumper shall be extended 21.00 inches ahead of the cab.

Y _____ N _____

FRONT BUMPER EXTENSION WIDTH

The front bumper extension splayed frame rails shall include an overall width of 44.75 inches.

Y _____ N _____

FRONT BUMPER APRON

The bumper extension shall include a bumper apron which consists of 0.19 inch thick aluminum tread plate constructed for an exact fit within the 21.00 inch bumper extension. The apron shall be installed between the bumper and the front face of the cab affixed using stainless steel bolts attaching the apron to the bumper flange.

FEDERAL Q2B SIREN

The front bumper shall include an electro mechanical Federal Q2BTM siren, which shall be streamlined, chrome-plated and shall produce 123.00 decibels of sound at 10.00 feet. The siren shall produce a long distance warning siren which shall include a unique heavy duty caster clutch design which provides a longer coast down sound while reducing the amp draw requirements to (100) amps. The Federal Q2BTM siren shall measure 10.50 inches wide X 10.00 inches high X 14.00 inches deep. Exact location shall be determined at pre construction meeting.

Y _____ N _____

SIREN LOCATION

The siren shall be recess mounted on the driver side of the front fascia of the bumper. The exact location shall be determined at the pre construction meeting.

Y _____ N _____

SIREN ACCESSORIES

The front of the siren shall include (2) stainless steel flat bars approximately 1.00 inch wide by 19.00 inches long. Each bar shall be placed vertically on the right and left side of the siren face wrapping around towards the back of the siren into the bumper extension offering protection to the Q2B siren.

Y _____ N _____

AIR HORNS

The front bumper shall include two (2) Grover brand air horns which shall measure 24.50 inches long with a 6.00 inch round flare. The air horn shall be a trumpet style and shall include a chrome finish.

Y _____ N _____

AIR HORN LOCATION

The air horns shall be recess mounted in the front bumper face on the officer side of the bumper in the inboard and outboard positions relative to the right hand frame rail. The exact location shall be determined at the pre construction meeting.

Y _____ N _____

AIR HORN AIR RESERVOIR

One (1) air tank, with a 1200 cubic inch reservoir, shall be installed on the chassis to act as a supply tank for operating air horns. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake system.

Y _____ N _____

ELECTRONIC SPEAKER

The bumper shall include two (2) Cast Products Inc. model SA4301, 100 watt speaker which shall be recess mounted within the bumper fascia. The speaker shall include a flat mounting flange and be chrome in color.

Y _____ N _____

ELECTRONIC SPEAKER LOCATION

The speakers shall be located in the front bumper fascia. The exact location will be determined at the pre construction meeting.

Y _____ N _____

FRONT BUMPER TOW HOOKS

Two (2) heavy duty chrome plated tow hooks shall be installed above the front bumper and bolted directly to the chassis frame with grade 8.00 bolts.

Y _____ N _____

CAB TILT SYSTEM

The entire cab shall be capable of tilting 45.00 degrees to allow for easy maintenance of the engine and transmission. The lift system shall include an ignition interlock and red lock down indicator lamp, which shall illuminate when holding the "Down" switch to indicate safe road operation. It shall be necessary to activate the master battery switch with the park brake set in order to tilt the cab. Two cab tilt cylinders shall be provided with velocity fuses in each cylinder port. The cab pivots shall be 1.90" ball and be anchored to frame brackets with 1.25" diameter studs.

Y _____ N _____

Two (2) spring loaded hydraulic hold down hooks located outboard of the frame which shall be installed designed for holding the cab securely to the frame. A steel safety assembly shall be installed on the right side cab lift cylinder to prevent accidental cab lowering. The safety assembly shall fall over the lift cylinder when the cab is in the "Up" position. A cable release system shall also be provided to clear the safety assembly from the lift cylinder when lowering the cab.

Y _____ N _____

CAB TILT AUXILIARY PUMP

A manual cab tilt pump module shall be attached to the rear surface of the driver side battery box.

Y _____ N _____

CAB TILT CONTROL RECEPTACLE

The cab tilt shall include a receptacle which shall be temporarily located on the right hand chassis rail rear of the cab to provide a place to plug in the cab tilt remote control pendant. The tilt pump shall include 8.00 feet of cable with a 6-pin Deutsch connector that includes a cap.

The remote control pendant shall also include 20.00 feet of cable which also includes a mating connector.

Y _____ N _____

CAB WINDSHIELD

The cab windshield shall have a maximum of 2808 sq. in. area and be of the wraparound design, 52.00 inches wide X 27.00 inches high for maximum visibility. The distance from the Driver or Officer to the front windshield shall be a minimum of 42.00 inches at the furthest

seated position. This distance shall ensure the safety of the Driver and Officer from intruding objects in the unlikely event of a head on collision. All glass utilized for the windshield or windows shall include an automotive tint. The left and right windshield shall use the same interchangeable glass.

Y_____N_____

Each proposal shall include the left and right windshield shall be fully interchangeable thereby minimizing maintenance costs. All proposals offering windshields not in compliance with the minimum measurement of viewing area stated above and are not fully interchangeable shall not be considered.

Y_____N_____

CAB GLASS FRONT DOOR

The front cab doors shall include a window which is 26.00 inches wide X 31.00 inches high. These windows shall have the capability to roll down completely into the door housing. This shall be accomplished manually utilizing a crank style handle on the door. The front cab door windows shall be mounted in a black anodized aluminum frame with lower drain slots.

Y_____N_____

There shall be a right angle triangular shaped fixed window which shall measure 2.50 inches wide at the top, 8.00 inches wide at the bottom X 26.00 inches high, more commonly known as “cozy glass” ahead of the front cab door windows. These windows shall be mounted in a rubberized frame.

Y_____N_____

The glass utilized for these windows shall include a green automotive tint unless otherwise noted.

Y_____N_____

WINDOW TINT FRONT

The cab windshield shall have a standard green automotive tint which shall allow seventy-five (75) percent light transmittance.

Y_____N_____

The cab driver and officer door glass shall have a standard green automotive tint which shall allow seventy- five (75) percent light transmittance.

Y_____N_____

GLASS REAR DOOR RIGHT HAND

The rear right hand side door shall include a window which is 31.00 inches wide X 26.00 inches high. This window shall roll up and down manually utilizing a crank style handle on the inside of the door.

The glass utilized for this window shall include an automotive tint unless otherwise noted.

Y_____N_____

WINDOW TINT OFFICER SIDE

The officer side window shall include a standard green automotive tint which shall allow seventy-five (75) percent light transmittance.

Y_____N_____

GLASS REAR DOOR LEFT HAND

The rear left hand side door shall include a window which is 31.00 inches wide X 26.00 inches high. This window shall roll up and down manually utilizing a crank style handle on the inside of the door. The glass utilized for this window shall include an automotive tint unless otherwise noted.

Y _____ N _____

WINDOW TINT DRIVER SIDE

The driver side window shall include a standard green automotive tint which shall allow seventy-five (75) percent light transmittance.

CAB GLASS SIDE MID OFFICER SIDE

The cab shall include a window on the officer’s side behind the front and ahead of the crew doors which shall measure 16.00 inches wide X 26.00 inches high. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include a green automotive tint unless otherwise noted.

Y _____ N _____

WINDOW TINT MIDDLE OFFICER SIDE

The window on the officer side of the cab located between the driver and officer doors shall include a standard green automotive tint which shall allow seventy-five (75) percent light transmittance.

Y _____ N _____

CAB GLASS SIDE MID DRIVER SIDE

The cab shall include a window on the driver’s side behind the front door and ahead of the crew door and above the wheel well which shall measure 16.00 inches wide X 26.00 inches high. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include a green automotive tint unless otherwise noted.

Y _____ N _____

WINDOW TINT MIDDLE DRIVER SIDE

The window on the driver side of the cab located between the driver and officer doors shall include a standard green automotive tint which shall allow seventy-five (75) percent light transmittance.

Y _____ N _____

ENGINE TUNNEL INSULATION

The exterior of the cab tunnel surrounding the engine shall include reinforced closed cell foam insulation. The insulation shall measure 1.00 inch thick and shall include a foil backing and grid reinforcement. The foam shall be cut precisely to fit each section and sealed for additional heat and sound deflection.

The insulation under the tunnel shall act as a noise barrier absorbing noise from the engine as well as assisting in sustaining the desired climate within the cab interior.

Y _____ N _____

CLIMATE CONTROL

The cab shall be equipped with a ceiling mounted combination defrost / heating and air-conditioning system mounted above the engine tunnel in a central location.

Y _____ N _____

The system shall offer sixteen (16) adjustable louvers. Six (6) of the louvers shall face forward towards the windshield, offering 45,000 BTU of heat at 320 CFM for defrosting. The system shall include six (6) rearward facing louvers to direct air for the crew area and four (4) for driver and officer comfort. When in "Cabin Mode" the system shall be designed to produce 60,000 BTU of heat and 32,000 BTU of cooling. The HVAC cover shall be made of ABS plastic.

All auxiliary heating units (if optionally equipped) shall be plumbed in series independent of the heater/defroster system with one (1) seasonal shut-off valve at the front corner on the officer side of the cab.

Y _____ N _____

The air conditioning system shall be capable of lowering the cab interior temperature from 100 degrees to 70 degrees within thirty minutes, with a relative humidity of sixty percent.

Y _____ N _____

The air conditioner lines shall be a mixture of custom bent zinc coated steel fittings and Aero-quip GH 134 flexible hose with Aero-Quip EZ-Clip fittings.

Y _____ N _____

CLIMATE CONTROL ACTIVATION

The heating controls, and air conditioning if included, shall be located on the Vista screen.

Y _____ N _____

A/C CONDENSER LOCATION

A roof mounted A/C condenser shall be installed centered on cab forward of raised roof against the slope rise.

Y _____ N _____

A/C COMPRESSOR

The air-conditioning compressor shall be a belt driven, engine mounted, open type Seltec model TM-21. The compressor shall be compatible with R- 1 34A refrigerant and PAG oil.

Y _____ N _____

INTERIOR TRIM FLOOR MAT

The floor of the cab shall be covered with a multi-layer mat consisting of .25 inch sound absorbing closed cell foam and a .06 inch non-slip vinyl surface with a pebble grain finish. The covering shall be held in place by a pressure sensitive adhesive with aluminum cornering trim. All exposed seam shall be sealed to reduce moisture and debris.

Y _____ N _____

INTERIOR TRIM VINYL

The cab interior shall include trim on the front and rear crew ceiling, the cab walls and the rear wall of the cab. The trim shall be constructed of insulated vinyl over a hard board backing.

The material shall be securely fastened to the interior of the cab utilizing snap style fasteners with a decorative fastener for a more appealing appearance.

Y _____ N _____

CAB INTERIOR TRIM HEADER ABS

The cab interior shall include a header over the driver and officer dash which shall be vacuum formed ABS composite panel with robust styling grooves providing structural integrity. The header shall include (2) vents within the header which are directed at the windshield. Also included will be a drop down panel for access behind the header for service of electronic components, if necessary. The header shall include (2)

cut outs, (1) over the driver and (1) over the officer to accommodate speakers and molded areas to accommodate the sun visors.

Y_____N_____

INTERIOR TRIM SUN VISOR

The header shall include one (1) sun visor above the driver and officer seating positions and above the windshield spanning the length of each windshield. Each sun visor shall be constructed of masonite and covered with insulated vinyl. There shall be an additional extension from the sun visor which shall be high impact resistant, flame resistant, solar gray colored Lexan® polycarbonate.

Y_____N_____

CAB INTERIOR TRIM LH DASH ABS

The driver side dash shall be a (1) piece hinged panel which shall be constructed of durable vacuum formed ABS composite panel which shall be custom molded for a perfect fit surrounding the dash. The ABS shall be aesthetically pleasing in its gray coloring.

Y_____N_____

CAB INTERIOR CENTER DASH

The main center dash cover shall be constructed of 5052-H32 Marine Grade, .090 of an inch thick, one hundred percent primary aluminum plate. The cover shall include three (3) panels within the dash which shall accommodate any additional gauges and controls. All gauges and controls within the panels shall be backlit for night vision and clearly identified representative of their specific function. The center panel shall be within comfortable reach of both the driver and officer.

Y_____N_____

TRIM RIGHT HAND DASH

The right hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick, one hundred percent primary aluminum plate and shall include a glove compartment with a hinged door and a Mobile Data Terminal (MDT) provision. The glove compartment size will measure 14.00 inches wide X 6.63 inches high X 5.88 inches deep. The MDT provision shall be provided above the glove compartment, recessed 3.00 inches below the surface of the dash and measure 16.00 inches wide X 14.00 inches deep.

Y_____N_____

ENGINE TUNNEL TRIM

The cab engine tunnel shall be covered with .44 of an inch thick multi-layer mat consisting of .25 inch closed cell foam, .13 of an inch thick rubber and .06 inch thick non-slip pebble grain.

Y_____N_____

POWER POINT DASH MOUNT

The cab shall include one (1) each 12 volt cigarette lighter type receptacle in the cab dash as a power source for additional portable or mobile items.

Y_____N_____

STEP TRIM

The cab steps shall include a 14 gauge 304 perforated stainless steel construction on the first step, the step closest to the ground. The stainless steel finish shall be a number 7 mirror. The step shall include a frame which is integral with the construction of the cab for rigidity and strength. The perforation shall allow water and other debris to flow through rather than becoming packed under the step. The middle step shall be integral with the cab in construction and shall be trimmed in 3003-H22 embossed aluminum tread plate which is 0.084 inches thick.

Y_____N_____

INTERIOR DOOR TRIM

The doors of the cab shall include an aluminum plate the same weight and grade as the cab on the interior of the door. The aluminum shall be then painted.

Y_____N_____

DOOR PANEL CUSTOMER NAMEPLATE

The interior door trim on the front doors shall include a customer nameplate which states the vehicle was custom built for the City of Sedro Woolley Fire Department.

Y_____N_____

CAB DOOR TRIM REFLECTIVE

A reflective chevron sign shall be installed on the lowest portion of the inner door panel, one (1) on each door. A stripe of reflective tape shall be installed at the outer edge of each door.

Y_____N_____

INTERIOR GRAB HANDLE

A rubber covered 1 1/8 inch grab handle shall be provided on the inside of the cab on the hinge post at the driver and officer doors. The handle shall assist personnel in exiting and entering the cab.

Y_____N_____

INTERIOR GRAB HANDLE FRONT DOOR

Each front door shall include one (1) ergonomically contoured 9.00 inch cast aluminum handle mounted horizontally on the interior door panels. The handles shall feature a textured black powder coat finish and provide ease of access and exiting the cab.

Y_____N_____

INTERIOR GRAB HANDLE REAR DOOR

A black powder coated cast aluminum assist handle shall be provided on the inside of each rear crew door the full width of the door below the window glass and shall measure 30 inches in length. The handle shall assist personnel in exiting and entering the cab.

Y_____N_____

CAB INTERIOR FLOOR MAT COLOR

The cab interior floor mat shall be black in color.

Y_____N_____

INTERIOR TRIM VINYL COLOR

The cab interior vinyl trim surfaces shall be gray in color.

Y_____N_____

INTERIOR ABS TRIM COLOR

The cab interior vacuum formed ABS composite trim surfaces shall be gray in color.

Y _____ N _____

CAB PAINT INTERIOR

The interior metal surfaces shall be painted with a Zolatone #20-72 silver gray texture finish.

Y _____ N _____

CAB PAINT INTERIOR DOOR TRIM

The inner door panel surfaces shall be painted with a Zolatone #20-72 silver gray texture finish.

Y _____ N _____

CONTROL PANELS

The dash shall include three removable panels located one (1) to the right of the driver position, one (1) in the center of the dash and one (1) to the left of the officer position.

Y _____ N _____

SWITCH PANEL CENTER

The center dash shall include a panel with six (6) rocker switches in the upper left quadrant of the panel.

Y _____ N _____

SWITCH PANEL DRIVER

The interior shall include a durable vacuum formed ABS composite switch panel which shall include one (1) switch which shall be located in the left of the dash. This panel shall be appropriately labeled as to its specific function.

Y _____ N _____

Proposals offering add-on style panel shall not be considered, all panels shall be designed for the specific chassis and shall match the interior for a more uniform and attractive appearance.

Y _____ N _____

SWITCH PANEL OFFICER

The interior shall include a durable vacuum formed ABS composite switch panel which shall be located on the officer side of the dash.

Y _____ N _____

SWITCH PANEL IGNITION

The vehicle shall be equipped with a keyless ignition and master, with an "Off! On" and a two switch for "Off! Start".

Y _____ N _____

SEATBELT WARNING SYSTEM

A Weldon seat belt warning system, integrated with the Vehicle Data Recorder system, shall be installed for each seat within the cab. The system shall provide visual and audible warning when any seat is occupied (sixty pounds minimum), the corresponding seat belt remains unfastened, and the park brake is released.

Y _____ N _____

Once activated, the visual and audible indicators shall remain active until all occupied seats have the seat belts fastened. The dash shall include a display on the Weldon Vista screen(s) indicating the occupancy of each seat.

Y _____ N _____

SEAT MATERIAL

The seats shall include a covering of high strength, wear resistant fabric made of durable ballistic polyester. A PVC coating shall be bonded to the back side of the material to help protect the seats from UV rays and from being saturated or contaminated by fluids.

Y_____N_____

SEAT COLOR

All seats supplied on the chassis shall be black in color. This material shall be semi- resistant to UV rays and from being saturated or contaminated by fluids.

Y_____N_____

DRIVER SEAT

The driver's seat shall be an H.O. Bostrom Firefighter Sierra model seat. The seat shall feature eight (8) way electric positioning. The eight (8) positions shall include up and down, fore and aft and front and rear tilt. The seat shall also feature integral springs to isolate shock.

Y_____N_____

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a red, three-point shoulder harness with the lap belt, automatic retractor and buckle as an integral part of the seat assembly.

Y_____N_____

The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall be 37.00 inches measured with the height adjustment in its lowest position and the suspension inflated and/ or raised to the upper limit of its travel.

Y_____N_____

This model of seat shall have successfully completed the static load tests by FMVSS 207, 209, 210 and 302 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.

DRIVER SEAT BACK

The driver's seat shall include a standard seat back incorporating the all belts to seat feature (ABTS) as described above. The seat back shall feature a contoured, adjustable head rest.

Y_____N_____

OFFICER SEAT

The officer's seat shall be an H.O. Bostrom Firefighter Sierra model seat. The seat shall feature six (6) way electric positioning. The six (6) positions shall include up and down, fore and aft and front and rear tilt. The seat shall also feature integral springs to isolate shock.

Y_____N_____

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a red, three-point shoulder harness with the lap belt, automatic retractor and buckle as an integral part of the seat assembly.

Y_____N_____

The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall be 37.00 inches measured with the height adjustment in its lowest position and the suspension inflated and/ or raised to the upper limit of its travel.

Y _____ N _____

This model of seat shall have successfully completed the static load tests by FMVSS 207, 209, 210 and 302 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.

Y _____ N _____

OFFICER SEAT BACK

The officer's seat shall feature a SecureAll™ SCBA locking system which shall be one bracket model and store all U.S. and International SCBA brands and sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable with all adjustment points using similar hardware and adjustments with one tool.

Y _____ N _____

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the taken in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the pivot arm to engage the patented auto- locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.

The SecureAll™ shall include a release handle which shall be integrated into the seat cushion for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

Y _____ N _____

POWER SEAT WIRING

The power seat or seats installed in the cab shall be wired directly to battery power.

Y _____ N _____

REAR FACING OUTER SEAT QUANTITY

The crew area shall include two (2) rear facing crew seats, which include one (1) located directly behind the driver seat and one (1) located directly behind the officer seat.

Y _____ N _____

REAR FACING OUTBOARD SEATS

The crew area shall include a seat in the rear facing outboard positions which shall be a H.O. Bostrom Firefighter series. The seat shall feature a tapered and padded seat, and cushion. The seat shall be mounted in a fixed position.

Y _____ N _____

The seats shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a red, three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant.

Y _____ N _____

The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall measure at minimum 37.00 inches, from the height adjustment in its lowest position and the suspension inflated and/ or raised to the upper limit of its travel to the cab ceiling.

Y _____ N _____

This model of seats shall have successfully completed the static load tests by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.

Y _____ N _____

REAR FACING OUTBOARD SEAT BACKS

The rear facing outboard seats shall feature a SecureAll™ SCBA locking system which shall be one bracket model and store all U.S. and International SCBA brands and sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable with all adjustment points using similar hardware and adjustments with one tool.

Y _____ N _____

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the taken in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the pivot arm to engage the patented auto- locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.

Y _____ N _____

The Secure All™ shall include a release handle which shall be intergrated into the seat cushion for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

Y _____ N _____

SEAT BELT ORIENTATION

The crew position seat belts shall follow the standard orientation which extends from the outboard shoulder extending to the inboard hip.

Y _____ N _____

FORWARD FACING CENTER SEATS QUANTITY

The crew area shall include two (2) forward facing center crew seat located directly behind the engine tunnel in the center of the cab.

Y _____ N _____

FORWARD FACING CENTER SEAT

The crew area shall include a seat in the forward facing center position which shall be a H.O. Bostrom Firefighter series. The seat shall feature a tapered and padded seat, and cushion. The seat and cushion shall be hinged and compact in design for additional room and shall remain in the stored position until occupied.

Y _____ N _____

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a red, three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant.

Y_____N_____

The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall measure at minimum 37.00 inches, from the height adjustment in its lowest position and the suspension inflated and/ or raised to the upper limit of its travel to the cab ceiling.

Y_____N_____

This model of seat shall have successfully completed the static load tests by FMVSS 207/2 10. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208.

The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.

Y_____N_____

FORWARD FACING CENTER SEAT BACKS

The forward facing center seat shall feature a SecureAll™ SCBA locking system which shall be one bracket model and store all U.S. and International SCBA brands and sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable with all adjustment points using similar hardware and adjustments with one tool.

Y_____N_____

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the taken in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the pivot arm to engage the patented auto- locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.

Y_____N_____

The SecureAll™ shall include a release handle which shall be integrated into the seat cushion for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

Y_____N_____

FORWARD FACING SEAT FRAME

The forward facing center seating positions shall include an enclosed seat frame which is located and installed on the rear wall. There shall be one (1) access point to this storage area via the front of the seat frame. The seat frame shall measure 42.38 inches wide X 12.38 inches high X 22.00 inches deep and shall be fully open offering storage within this area. The seat frame shall be constructed of 5052-H32 Marine Grade, .190 inch thick, 100 percent

primary smooth aluminum plate. The seat box shall be painted with the same color as the remaining interior.

Y_____N_____

SEAT FRAME STORAGE ACCESS

There shall be one (1) access point to the seat mounting area of the lowered full width seat frame. The access point shall be covered with a removable access plate painted cab interior color.

Y_____N_____

WINDSHIELD WIPER SYSTEM

The cab shall include a parallel arm wiper system which shall clear the windshield of water, ice and debris. There shall be two (2) windshield wipers, one (1) for the driver and one (1) for the officer, which shall be affixed to a rod style arm. The system shall include a single motor which shall initiate the arm in which both the driver and officer windshield wipers are attached, initiating a back and forth motion for each wiper. The wiper motor shall be activated by an intermittent wiper control located within easy reach of the driver's position.

Y_____N_____

ELECTRONIC WINDSHIELD FLUID LEVEL INDICATOR

The windshield washer fluid level shall be monitored electronically and shall send a signal to activate a light in the instrument panel when levels fall below normal.

Y_____N_____

CAB DOOR HARDWARE

The cab entry doors shall be equipped with exterior pull handles, suitable for use while wearing firefighter gloves. The handles shall be aluminum with a polished chrome plated finish. The exterior pull handles shall include a scuff plate behind the handle constructed of polished stainless steel. All doors shall be keyed alike and designed to prevent accidental lockout.

Y_____N_____

The interior latches shall be black flush paddle type, which are incorporated into an upper door panel.

Y_____N_____

DOOR LOCKS

The entry doors shall include an independent manual door lock actuated through a toggle switch located on the interior of the cab door near the paddle handle or by using a Trimark key through the exterior of the door.

Y_____N_____

DOOR LOCK DRIVER SIDE REAR COMPARTMENT

The driver side rear compartment shall feature a manual door lock.

Y_____N_____

DOOR LOCK OFFICER SIDE REAR COMPARTMENT

The officer side rear compartment shall feature a manual door lock.

Y_____N_____

CAB EXTERIOR GRAB HANDLES

The cab shall include one (1) each 18.00 inch knurled, anti-slip, one-piece exterior assist handle behind each cab door. The assist handle shall be made of 14 gauge 304- stainless steel and be 1.25 inch diameter to enable non-slip assistance with a gloved hand.

Y_____N_____

REARVIEW MIRRORS

Retrac Aerodynamic style single vision mirror heads, model 613285 shall be provided and installed on the front cab doors.

Y _____ N _____

The mirrors shall be flange mounted via 1.00 inch diameter tubular stainless steel arms to provide a rigid mounting to reduce vibration.

Y _____ N _____

The mirrors shall measure 8.00 inches wide X 19.00 inches high. The mirrors shall be motorized, with horizontal and vertical adjustments. Actuation switches shall be provided within easy reach of the driver. Separate 8.00 inch convex mirrors, model 9 80-4 shall be mounted below the flat mirrors to provide a wider field of vision. The convex mirrors are manually adjustable.

Y _____ N _____

The mirrors shall be constructed of a vacuum formed chrome plated ABS plastic housing that is corrosion resistant and include an amber colored marker light.

Y _____ N _____

The upper flat mirrors shall be built with the finest quality non-glare glass and be heated for defrosting in severe cold weather conditions. A heater on/off switch shall be provided in the rocker switch panel.

Y _____ N _____

REARVIEW MIRROR HEAT SWITCH

The heated rearview mirrors shall be controlled through a virtual button on the multiplex display.

Y _____ N _____

TRIM REAR WALL

The rear wall of the cab shall include 3003-H22 aluminum tread plate which shall be 0.072 inches thick. This plate shall cover the entire rear wall of the cab.

Y _____ N _____

CAB FENDERS

Full width wheel well liners shall be installed on the extruded cab to limit road splash and enable easier cleaning. The two-piece liners shall consist of an inner liner 16.00 inches wide made of vacuum formed ABS composite and an outer fenderette 3.50 inches wide made of 14 gauge 304 polished stainless steel.

Y _____ N _____

IGNITION

The master starting system, ignition system shall include chrome thumb turn switch which shall be mounted on the driver side of the cab to the left of the steering wheel on the dash. Each switch will be accompanied by (1) green LED indication light which shall light when the ignition is in the "ON" position and (1) for the master battery switch when in the "ON" position. The thumb turn switches shall also be accompanied by a chrome push button which shall only operate when both the master battery and ignition thumb switches are in the "ON" position.

Y _____ N _____

BATTERIES

The single start electrical system shall include (6) Harris BCI 31 950 CCA batteries with a 210 minute reserve capacity and 4/0 welding type dual path starter cables per SAE J54 1.

The cables shall have encapsulated ends with heat shrink and sealant.

Y _____ N _____

BATTERY BOXES

The batteries shall be contained within two (2) black powder coated steel battery boxes which shall be located on the driver and officer side of the chassis, securely bolted to the frame rails. The boxes shall include drain holes in the bottom for sufficient drainage of water and shall include phenolic board battery hold downs and a durable, Dry-Deck in the bottom of the tray under each battery to allow for air flow and drainage.

Y _____ N _____

BATTERY CABLES

The starting system shall include cables which shall be protected by 275 degree F. minimum high temperature flame retardant loom, sealed and encapsulated at the ends with heat shrink and sealant.

Y _____ N _____

BATTERY JUMPER STUDS

The starting system shall include battery jumper studs. These studs shall be located in the forward most portion of the driver's side lower step. The studs shall allow the vehicle to be jump started, charged, or the cab to be raised in an emergency in the event of battery failure.

Y _____ N _____

ALTERNATOR

The starting system shall include a 270 amp Leece Neville 12 volt alternator, model number A0014949PA. The alternator shall include a self-excited integral regulator.

Y _____ N _____

BATTERY CONDITIONER

A Kussmaul 35/10 battery conditioner shall be supplied. The battery conditioner shall provide a 35 amp output for the chassis batteries and a 10 amp battery saver output. The battery conditioner shall be mounted in the cab behind the driver's seat.

Y _____ N _____

BATTERY CONDITIONER DISPLAY

A Kussmaul battery conditioner display shall be supplied. The battery conditioner display shall be mounted in the cab, viewable through the cab mid side window behind the driver's door.

Y _____ N _____

ELECTRICAL INLET CONNECTION

A Kussmaul 20 amp electrical receptacle shall be connected to the battery conditioner and installed on the driver's side of the cab ahead of the front door.

Y _____ N _____

ELECTRICAL INLET COVER

The Kussmaul electrical inlet connection shall include a red cover.

Y _____ N _____

HEADLIGHTS

A hinged headlamp and combination side marker/turn lamp module shall be part of the front cab fascia. This combination shall include (2) rectangular halogen High/Low beam headlamps with integrated side marker/turn signal lamps. The headlamps shall be equipped with a "Daytime Running" light feature, which will illuminate the headlights to 80% brilliance when the ignition

switch is in the "On" position and the parking brake is released.

Y _____ N _____

The headlights shall be controlled via a virtual button on the Vista display.

Y _____ N _____

HEADLIGHT LOCATION

The headlights shall be located on the front fascia of the cab directly above the front warning lights.

Y _____ N _____

TURN SIGNALS

The headlamp assembly shall include a turn signal and side marker lamp combination within the same module. This light assembly shall be amber in color and shall have a visibility radius of 125 degrees.

Y _____ N _____

SIDE MARKER/ TURN SIGNALS

The headlight module shall include two (2) side turn and marker lights which shall be integral with the headlights.

Y _____ N _____

CORNERING LIGHTS

The bumper tail shall include two (2) Whelen model 500 halogen steady-on cornering lights with clear lenses in the upper position, one (1) each side.

Y _____ N _____

MARKER AND ICC LIGHTS

In accordance with FMVSS, there shall be five (5) cab LED marker lamps designating identification, center and clearance provided. These lights shall be installed on the face of the cab within full view of other vehicles from ground level.

Y _____ N _____

AUXILIARY MARKER/ TURN LIGHTS

The cab shall include two (2) round Weldon series 9186-8560 incandescent lamps which include a stainless steel housing and an 1157 bulb with an amber cover. The lights shall operate as a side clearance marker and turn signal. The lights shall be mounted to the side of the cabs just above the wheel well.

Y _____ N _____

GROUND LIGHTS

Each door shall include incandescent NFPA compliant ground lights mounted to the underside of the cab. The lights shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life. The ground lighting shall be activated through the multiplex system by the opening of the respective door as well as being activated when the parking brake is set.

Y _____ N _____

ENGINE COMPARTMENT LIGHT

There shall be an incandescent NFPA compliant light mounted under the engine tunnel for area work lighting on the engine. The light shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life.

Y _____ N _____

SIDE MOUNTED SCENE LIGHTING

The side of the cab shall include two (2) Whelen model 900 scene lights, one (1) each side which shall be recess mounted. The Whelen lights shall offer halogen lighting at a gradient 32 degree angle.

Y_____N_____

SIDE SCENE LIGHT LOCATION

The scene lighting located on the driver and officer sides of the cab shall be mounted in the upper rearward portion of the 10.00 inch raised roof portion of the cab between the front and rear crew doors.

Y_____N_____

SIDE SCENE LIGHT ACTIVATION

The scene lighting shall be activated via the lights respective door and two (2) virtual buttons on the MUX display located inside the cab, one per side.

Y_____N_____

INTERIOR CAB LIGHTING

The cab shall include an incandescent dome lamp with a red and white lens located over each door. The dome lamps shall be rectangular in shape and shall measure 9.50 inches in length and approximately 5.00 inches wide including a black colored bezel. The white lamp shall be activated by its respective door when opened and via the multiplex display and both the red and white lamp shall be activated by an individual switch on the light.

Y_____N_____

A fifth red and clear lamp shall be located in the headliner, over the engine tunnel.

Y_____N_____

MAP LIGHTING

A Sunnex gooseneck style instrument panel map light with switch at base shall be installed on the officer side of the dash panel within easy reach.

Y_____N_____

HAND HELD SPOTLIGHT

The officer position shall include a 12 volt Collins Pulsar 500 hand-held spotlight which shall be mounted to the right of the engine tunnel. The Collins spot light shall offer 500,000 candle power. The spot light shall have a coil style cord and a momentary switch.

Y_____N_____

DO NOT MOVE APPARATUS WARNING

The front headliner of the cab shall include a Whelen 500 series red LED flashing light, located in the center for the greatest visibility. The light shall be 5.40 inches long X 1.70 inches wide X 0.90 inches high and shall be clearly labeled "Do Not Move Apparatus".

Y_____N_____

In addition to the flashing red light, an audible alarm shall be programmed into the MUX system which shall sound when a door is open, the air brake is released and the vehicle is shifted into gear.

Y_____N_____

In addition to the above flashing light and audible alarm, an overhead view of the entire apparatus shall be programmed into the VMUX Vista display to show the exact location of the door or accessory which is not secured.

Y_____N_____

MASTER WARNING

The optical warning system shall be controlled by a master switch which shall include all “ON” and all “OFF” capability via a virtual button within the MUX display. All warning lights which are “ON” when the master switch is activated shall also activate. This switch shall be clearly labeled for identification.

Y_____N_____

HEADLIGHT FLASHER

An alternating high beam headlamp flashing system shall be installed into the high beam headlamp circuit which shall allow the high beams to flash alternately from left to right.

Deliberate operator selection of high beams will override the flashing function until low beams are again selected. Per NFPA, these clear flashing lights will also be disabled “On Scene” when the park brake is applied.

Y_____N_____

ALTERNATING HEADLIGHT FUNCTION

The flashing headlights shall be activated through a virtual button on the MUX display.

Y_____N_____

INBOARD FRONT WARNING LIGHTS MODEL

The cab front fascia shall include dual Whelen series 600 Super LED warning lights which shall offer multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be surface mounted to the front fascia of the cab within a chrome bezel in the inboard position.

Y_____N_____

INBOARD FRONT WARNING LIGHTS- COLOR

The front warning lights mounted on the fascia for the inboard position shall be red.

Y_____N_____

FRONT WARNING CONTROL

The front warning lights shall be controlled through a virtual control on the MUX display. This switch shall be clearly labeled for identification.

Y_____N_____

AIR HORN SELECTOR SWITCH

A rocker switch shall be installed in the switch panel between the driver and officer to allow control to either the air horn or the electric horn from the steering wheel horn button. The electric horn shall sound by default when the selector switch is in either position which is in accordance with FMVSS requirement.

Y_____N_____

AIR HORN ACTUATION

The air horn actuation shall be accomplished by the steering wheel horn button and a black push button on the switch panel. An air horn activation circuit shall be provided to the chassis harness pump panel harness connector.

Y_____N_____

MECHANICAL SIREN ACTUATION

The mechanical siren shall be actuated by a driver and officer. A switch shall be mounted in the officer switch panel and shall include a siren brake switch on the multiplex display and a push button on the dash. The siren shall only be active when master warning switch is on.

Y _____ N _____

BACKUP ALARM

An ECCO model 575 backup alarm shall be installed at the rear of the chassis with an output level of not less than 107 dB. The alarm will automatically activate when the transmission is placed in reverse. A virtual switch shall be provided on the MUX display to disable of the backup alarm.

Y _____ N _____

INSTRUMENTATION

An ergonomically designed instrument panel shall be provided. The gauges shall be backlit with red LED lamps. All gauges shall be driven by stepper motor movements. The instrumentation system shall be multiplexed and shall receive engine and transmission information over the J1939 data bus to reduce redundant sensors.

Y _____ N _____

The instrument panel shall contain the following gauges:

One (1) electronic tachometer shall be included. The scale on the tachometer shall read from 0 to 3000 RPM.

Y _____ N _____

One (1) electronic speedometer with an integral LCD odometer/ trip odometer and hour meter shall be included. The speedometer shall have a dual scale with miles per hour (MPH) as the dominant scale and kilometers per hour (KPH) on the minor scale. The speedometer scale shall read from 0 to 90 MPH (0 to 140 KPH). The odometer shall display up to 9,999,999.9 miles. The trip odometer shall display up to 9,999.9 miles.

The LCD screen shall also be capable of displaying certain diagnostic functions. The hour meter shall display engine hours of operation.

Y _____ N _____

One (1) three function gauge with primary system, secondary system and fuel level shall be included. The scale on the air pressure gauges shall read from 0 to 140 pounds per square inch (PSI). The air pressure scales shall be non-linear to expand the scales in the region of normal operation. A red indicator light in the gauge shall indicate a low air pressure. The scale on the fuel level gauge shall read from empty to full. A yellow indicator light shall indicate low fuel at the quarter tank level.

Y _____ N _____

One (1) four function gauge with engine oil pressure, coolant temperature, transmission oil temperature and a voltmeter shall be included. The scale on the engine oil pressure gauge shall read from 0 to 140 pounds per square inch (PSI). The engine oil pressure scale shall be non-linear to expand the scale in the region of normal operation. A red indicator light in the gauge shall indicate low engine oil pressure. The scale on the coolant temperature gauge shall read from 160

to 250 degrees Fahrenheit (F). A red indicator light in the gauge shall indicate high coolant temperature. The scale on the transmission oil temperature gauge shall

read from 100 to 300 degrees Fahrenheit (F). A red indicator light in the gauge shall indicate high transmission oil temperature. The scale on the voltmeter shall read from 8 to 16 volts. A red indicator light shall indicate high or low system voltage.

Y_____N_____

The instrument panel shall contain an Annunciator Module that contains the following indicator lights. All indicator lights shall contain LED lamps.

Y_____N_____

RED LAMPS

Stop Engine - indicates critical engine fault. (5)

Park Brake - indicates park brake is set.

Volts - indicates high or low system voltage. (4)

Low Oil Press - indicates low engine oil pressure. (4)

High Coolant Temp - indicates excessive engine coolant temperature. (4)

High Trans Temp - indicates excessive transmission oil temperature. (4)

Low Air - indicates low air pressure in either system one or system two. (4)

Low Coolant Level - indicates low engine coolant level. (1) (5)

Air Filter - indicates excessive engine air intake restriction. (5)

Brake System Fault – indicates a failure in the brake system (hydraulic brake systems only). (5)

Seat Belt Indicator – indicates when a seat is occupied and corresponding seat belt remains unfastened.

Y_____N_____

YELLOW LAMPS

Check Engine - indicates engine fault. (5)

Check Trans - indicates transmission fault. (5)

Wait to Start - indicates active engine air preheat cycle. (2) (5)

ABS - indicates anti-lock brake system fault. (5)

Water in Fuel - indicates presence of water in fuel filter. (1) (5)

Check Message Center – indicates there is a fault message present in the LCD digital display. SRS – indicates a problem in the RollTek supplemental restraint system. (1) (5)

DPF – indicates a restriction of the diesel particulate filter. (3) (5)

HEST – indicates a high exhaust system temperature. (3) (5)

MIL – indicates an engine emission control system fault. (3) (5)

Low Fuel – indicates low fuel. (4)

Y_____N_____

GREEN LAMPS

Left and Right turn signal indicators. Aux Brake Active - indicates secondary braking device is active. (1)

High Idle - indicates engine high idle is active. (1) ATC – indicates low wheel traction for automatic tractions control equipped vehicles, also indicates mud/snow mode is active for ATC system. (1) (5) OK

to Pump – indicates the pump engage conditions have been met. (1) Pump Engaged – indicates the pump is currently in use. (1)

Y_____N_____

BLUE LAMPS

High beam indicator.

Y_____N_____

CHASSIS AUDIBLE ALARMS

The instrumentation system shall provide a constant audible alarm for the following situations:

- Low air pressure.
- Low engine oil pressure.
- High engine coolant temperature.
- High transmission oil temperature.
- Low coolant level. (1)
- High or low system voltage
- Critical engine fault (Stop Engine).

Y_____N_____

CHECK MESSAGE CENTER

The Check Message Center icon will illuminate and a message will be displayed in the LCD screen for the following situations:

- Cab Ajar
- Low Oil Level
- Door Ajar
- Engine Communication Error
- Transmission Communication Error
- ABS Communication Error
- High Coolant Temp
- Turn Signal Reminder
- Low Fuel
- Low Oil Pressure
- Low Coolant Level
- Low Battery Voltage
- High Battery Voltage
- Low Primary Air Pressure
- Low Secondary Air Pressure
- High Trans Temp

Y_____N_____

The instrumentation system will provide a continuous alarm for the following situations:

- Stop Engine
- Low Coolant Level
- Break System
- Fault Check Trans
- Check Engine
- ABS Engine Communications Error
- Transmission Communications Error
- ABS Communications Error
- Low Fuel
- Low Primary Air Pressure
- Low Secondary Air Pressure
- Low or High Battery Voltage
- High Trans Temp
- Low Oil Pressure
- High Coolant Temp

Y_____N_____

The instrumentation system will provide a 1 60mSec second alarm every 880mSec for the following situations:

Seat Belt

Air Filter

Water in Fuel

Cab Ajar

Low Oil level

Door Ajar

Y_____N_____

The instrumentation system will provide a 1 60mSec second alarm every 5Sec for the following situations:

Turn Signal Reminder

Y_____N_____

- (1) *Feature only available when optionally equipped.*
- (2) *Feature only available on engines with pre-heat capability.*
- (3) *Feature only on vehicles with diesel particulate filter (DPF).*
- (4) *Warning light is present in gauge.*
- (5) *A message in the LCD screen will also be displayed.*

COMMUNICATIONS RECEIVER

A Panasonic compact disc player with AM/FM stereo receiver, weather band and four (4) speakers shall be installed in the cab. The receiver shall be installed above the driver position. The speakers shall also be installed inside the cab with two (2) speakers recessed within the headliner of the front of the cab just behind the windshield and two (2) speakers in the upper rear corners of the cab.

Y_____N_____

ADDITIONAL SPEEDOMETER

The officer dash shall include a speedometer. The speedometer shall be analog and shall be housed in a chrome bezel.

Y_____N_____

ANTENNAS –RADIO

A small antenna shall be located on the driver side of the cab roof for AM/FM and weather and reception.

Y_____N_____

REARVIEW CAMERA SYSTEM

Dual Audiovox Voyager heavy duty rearview cameras, complete with an LCD display monitor shall be supplied. One (1) camera with a teardrop shaped chrome plated housing shall be shipped loose for OEM installation in the body to afford the driver a clear view of the rear of the vehicle and one (1) shall be mounted on the officer side of the cab below windshield ahead of the front door at approximately the same level as the cab door handle. The rear camera shall activate when the transmission is placed in reverse and the right camera shall activate with the right side turn signal. The cameras shall be wired to a 7.00 inch flip down monitor which shall include a color display and day and night brightness modes installed above the driver position. The camera system shall include a one- way communication device shall be installed at the rear of the vehicle for the use of voice commands directly to the driver.

Y_____N_____

CAB EXTERIOR PROTECTION

The cab face shall have a removable plastic film installed over the painted surfaces to protect the paint finish during transport to the body manufacturer.

Y_____N_____

FIRE EXTINGUISHER

A 2.50 pound BC D.O.T approved fire extinguisher shall be shipped loose with the cab.

Y_____N_____

DOOR KEYS

The cab and chassis shall include a total of four (4) door keys for the manual door locks.

Y_____N_____

AS BUILT DIAGRAMS

The cab and chassis shall include one (1) complete set of wiring schematics and option wiring diagrams.

Y_____N_____

CHASSIS WARRANTY

The chassis manufacturer shall warrant to the original purchaser the custom fire truck chassis for a period of twelve (12) months. The warranty period shall commence on the date the vehicle is delivered to the original purchaser and continue for twelve (12) months thereafter. The warranty shall include conditional items listed in the detailed warranty document which may be provided upon request.

Y_____N_____

MODEL YEAR

The chassis shall have a vehicle identification number that reflects a 2009 model year.

NO ALTERNATIVES WILL BE CONSIDERED FOR THIS SPECIFICATION.

Y_____N_____

OPERATORS MANUAL AND PARTS LIST

There shall be one (1) chassis operator's manual which includes a parts list including wiring and air plumbing diagrams provided and shipped loose with the vehicle. All standard wiring and plumbing diagrams shall be created specifically to the chassis model.

Y_____N_____

ENGINE AND TRANSMISSION OPERATION MANUALS

There shall be one (1) set of engine operation and maintenance manuals and one (1) set of transmission operation manuals specific to the models ordered included with the final vehicle in the ship loose items.

Y_____N_____

FRONT BUMPER AREA ADDITIONS

There shall be a hose well provided on the bumper extension. The hose well shall be made of smooth aluminum and shall have the edges flush with the gravel shield. There shall be modular floor tiles located in the bottom and drain holes in the corners.

Y_____N_____

There shall be a diamond plate box type construction cover provided on the bumper compartment. There shall be a notch in the front corner adjacent to the front discharge. The rear edge of the cover shall be attached with a stainless steel hinge.

The cover shall have a chrome handle and heavy duty rubber RV hold downs to secure the lid.
There shall be a pneumatic hold open device to hold the door open.

Y_____N_____

The hose well shall be located in the front bumper of the apparatus. It shall be designed to hold a minimum of 150' of 1 3/4" double jacketed attack hose and nozzle.

Y_____N_____

CAB TILT CONTROL

There shall be a remote cab tilt control located in the walkway compartment on the right side of the apparatus.

Y_____N_____

FUEL FILL DOOR

There shall be an aluminum fuel fill assembly located on the apparatus body accessing the chassis supplied fuel tank. The assembly shall be located in the left rear Smart Storage module behind the rear axle. The fuel fill assembly will have a door that matches the Smart Storage module doors. There shall be a drain in the fuel fill assembly to allow over flow to drain on the back side of the apparatus body. The fuel fill cap to be removable. There shall be a label near the fuel fill door labeled "DIESEL FUEL ONLY". The fuel fill pipe shall have a 3/8" inside diameter vent line installed from the top of the fuel tank to the fill tube.

Y_____N_____

WIRELESS FIRECOM INTERCOM SYSTEM

A 3010R intercom system designed for Six-persons and six positions shall be designed and mounted in the chassis cab. The 3010R system adds advanced electronics and user friendly features for increased performance. This system uses wireless headsets and single and multiple channel base stations.

The drivers and officers headsets are to be radio interface capable.

A two-way radio interface cable shall be provided to interface with the intercom system. The two-way radio system shall be a Purchaser provided Kenwood Radio System.

Y_____N_____

ANTENNA MOUNTING BASES

Two (2) antenna mounting bases with sufficient length of 50 OHM coax cable and weather proof cab shall be supplied for two-way radios. The mount shall be located on the cab roof in a best fit location. The cable shall be routed to the officer's side seat box with enough cable for customer to route to the instrument panel if needed.

Y_____N_____

SHORE POWER PLUG

The shore power plug shall be located in the driver's side step or door area. Exact location will be determined at the pre construction meeting.

Y_____N_____

SHORELINE POWERED CAB ELECTRICAL OUTLETS

There shall be two (2) shoreline powered electrical strips with a minimum of six (6) duplex outlets provided on the back of the doghouse for radio and flashlight chargers. The electrical strip

shall be oriented with the ground terminal located on the long side to allow for large charger plugs.

Y_____N_____

SIREN

One (1) Code 3 electronic siren, V-Con model # 3692 shall be furnished and installed. It shall be 58-200 watts and feature wail, yelp and hi-low tones with manual wail and manual electronic air horn. The siren and hard wired, noise canceling microphone shall be installed within reach of the driver and officer unless otherwise directed by the fire department.

Y_____N_____

CHASSIS REQUIRED LABELING

Signs that state "Occupants must be seated and belted when apparatus is in motion" shall be provided. They shall be visible from each seating position.

Y_____N_____

There shall be a lubrication plate mounted inside cab listing the type and grade of lubrication used in the following areas on the apparatus and chassis:

- Engine oil
- Engine Coolant
- Transmission Fluid
- Pump Transmission Lubrication Fluid
- Drive Axle Lubrication Fluid
- Generator Lubrication Fluid (if applicable)
- Tire Pressures

Y_____N_____

VEHICLE INFORMATION LABEL

There shall be a travel clearance warning label located in the chassis cab. The travel clearance warning label shall be located in easy view of the driver. The travel clearance warning label to include the following information:

1. Overall travel clearance height in feet and inches.
2. Overall travel clearance length in feet and inches.
3. Overall travel clearance width in feet and inches.

Y_____N_____

MUD FLAPS

Heavy-duty rubber mud flaps shall be provided behind all wheels. The mud flaps shall be black rubber type and be bolted in place.

Y_____N_____

WHEEL COVERS

There shall be chrome plated lug nut covers and hub caps furnished and installed on the front and rear wheels. There will also be a chrome Baby Moon hub cover for the rear wheels.

Y_____N_____

HELMET RESTRAINTS

Five (5) Zico NFPA 1901 Compliant helmet holders will be supplied and installed in the cab per the direction of the Fire Department.

Y_____N_____

EMS STORAGE CABINET SHELVING

The Spartan full height compartment on the driver's side shall have two (2) shelves and adjustable shelf tracking installed. Each shelf shall be fabricated of 1/8" smooth aluminum and shall have 1" formed lips to retain its contents and provide rigidity. The shelf provided shall be left natural finish aluminum with Dri-Dek flooring.

Y_____N_____

BACKBOARD STORAGE COMPARTMENT

The Spartan full height compartment on the Officer's side shall have a single fixed vertical divider installed. Two (2) nylon equipment straps with nylon speedbuckles shall be provided to either side of the vertical divider to the side walls (4) total.

Y_____N_____

MIDSHIP PUMP

The pump shall have a capacity of 1500 gallons per minute, measured in US gallons. The pump shall be a Darley model LDM, single stage midship pump.

Y_____N_____

Pump casing shall be of fine grain alloy cast iron, vertically split, with a minimum tensile strength of 30,000 PSI- bronze fitted pump is to have a heating jacket in the main pump casing.

Y_____N_____

Impeller to be high-strength bronze alloy of mixed flow design, accurately balanced for precision fit and durability. Impeller is to feature a double-suction inlet design with opposed volute cutwaters to minimize radial thrust. Renewable bronze, double-labyrinth, wraparound seal rings are to be furnished in the pump.

Y_____N_____

Pump shaft to be precision-ground stainless steel. Pump shaft is to be splined to receive a broached impeller hub. Bearings are to be heavy duty, deep groove , radial-type ball bearings, oversized for long life. Bearings to be protected at all openings from road dirt and water splash with oil seals and water slingers.

Y_____N_____

Transmission case to be alloy cast iron of heavy-duty design with adequate oil reserve capacity to maintain low operating temperature. Magnetic drain plug is to be provided. Pump drive shaft shall be precision- ground, heat treated alloy steel-minimum 2 1/2" x 10-spline ends. Power to drive the fire pump shall be provided by the vehicle engine.

Y_____N_____

Pump ratio to be selected by manufacturers Engineering Department. Gears are to be helical in design and precision cut for quiet operation and long life. Gears to be cut from high strength alloy steel, heat treated and gas nitrided. Gear face to be minimum of 3-1/2". Chain drive and/or designs requiring extra lubricating pump are not acceptable.

Y_____N_____

The entire pump shall be the Class "A" type and shall deliver the following;

100 % of rated capacity at 165 PSI net pump pressure
100 % of rated capacity at 150 PSI net pump pressure
70 % of rated capacity at 200 PSI net pump pressure
50 % of rated capacity at 250 PSI net pump pressure

Y _____ N _____

Since this pump is available to all bidders on an equal basis, and because of the desire to standardize within the department for training and parts stocking purposes, there shall be no exception to the Darley pump specifications.

Y _____ N _____

MASTER DRAIN VALVE

There shall be a manifold type drain valve installed in the pump compartment. All pump drains shall be connected to the master drain valve. The drain valve shall be controlled on the left side lower pump house sill. The control shall be a hand wheel knob marked "open" and "closed".

Y _____ N _____

PUMP SEALS

The pump shall come equipped with pump packing. The stuffing box is to be a single-plunger injection style, utilizing a plastallic, graphite composite packing that equalizes pressure around the shaft. Packing renewal is made by removing the plunger and inserting pellet form of packing as needed. Replacement of packing, or adjustment, should be able to be made within fifteen minutes. This type of packing gland is desired in order to minimize friction, heat generation and apparatus downtime. Shaft seals or braided rope packing gland designs do not meet this requirement. Steel with long-wearing, titanium hard coating provided under the packing gland plunger. The pump shaft shall have long wearing ceramic hard coating under packing glands.

Y _____ N _____

Darley remote packing adjustment option shall be provided to extend the adjusting bolts to the running board area.

Y _____ N _____

PUMP SHIFT

The drive unit shall be provided with an air pump shift system. The control valve shall be a spring loaded guard lever that locks in "Road" or "Pump" mode.

Y _____ N _____

To the left of the pump shift control, there shall be two indicator lights to show the position of the pump when the control is moved to "Pump" position. A green light shall be energized when the pump shift has been completed and shall be labeled "PUMP ENGAGED"; a second green light shall be labeled "OK TO PUMP" energized when both the pump shift has been completed and the chassis automatic transmission is engaged.

Y _____ N _____

A third green indicator light shall be installed adjacent to the throttle on the pump operator's panel. This light shall be labeled "Throttle Ready".

Y _____ N _____

In addition to this indicator light, an additional indication shall be provided to the pump operator at the panel when the pump is ready to pump. This additional indication shall be that one (1) of the operator's panel illumination lights will only activate when the "OK TO PUMP" indicator is lit. The remaining panel lights shall be controlled via push button switch.

Y_____N_____

PRIMER SYSTEM

The pump primer shall be U. L. Approved and capable of developing a minimum of 22" of vacuum The primer shall be a electrically driven, positive displacement, rotary vane design, complete with valve, solenoid, motor and pump. Priming pump shall be constructed of heat-treated, and hard coated aluminum alloy. Model# AP00960.

Y_____N_____

PRIMER CONTROL

There shall be a push/pull priming knob shall be located on the operator's panel.

Y_____N_____

THERMAL RELIEF VALVE

A mechanical thermal relief valve shall be installed to protect the pump from overheating. It shall be mechanical and will not require operator monitoring. It shall automatically reset in the event of it going into operation. It shall contain an integral strainer to keep mechanism free of contamination. It shall be set at 120 degrees F(49 degrees C).

Y_____N_____

Relief valve shall discharge out the right side below the running board. A warning light, shall be installed on the pump panel to alert the operator that the relief valve is open. It will be accompanied by an audible alarm. The valve shall be a Darley with alarm.

Y_____N_____

STEAMER INLETS

There shall be two (2) 6" inlets furnished, one on either side of the pump. The right side inlet shall have short suction tube so the inlets will protrude 1-2" away from the side panels. This will allow for an internal valve to be connected while keeping the valve from protruding past the running board. Each inlet shall have 6" NST threads and a removable strainer.

Y_____N_____

INTAKE WATERWAY VALVE(S)

One (1) Elkhart brand 6" Electrically operated wafer valve(s) shall be mounted directly to the pump intake manifold and be located behind the right side pump panel. The valve shall be mounted between the main pump body casting and the steamer inlet casting. A quarter turn air bleeder valve shall be plumbed to the water supply side of the intake valve (by a 3/4" NPT port) to help evacuate air from the system and avoid cavitation of the pump.

Y_____N_____

An additional suction relief valve with a range of pressure adjustment from 75 to 250 PSI shall be furnished, and installed inside pump compartment piped to the right side suction inlet of the pump. The valve shall be preset at 125 PSI suction inlet pressure. The valve shall be installed inside the pump compartment where it will be easily accessible for future adjustment. The excess water shall be plumbed to the atmosphere. For normal pumping operations, the relief valve shall not be capped and there shall be a placard stating "DO NOT CAP" installed.

Y_____N_____

5" STORZ ELBOW & CAP(S)

There shall be one (1) 6"NST Female Swivel x 5" Storz aluminum elbow(s) and one (1) 5" storz cap(s) furnished on the right side steamer inlet.

Y_____N_____

6" LONG HANDLED STEAMER CAP

A chrome 6" NST Female self venting cap shall be provided on the left side steamer inlet.

Y_____N_____

PUMP COOLING LINE

There shall be a 3/8" line run from the pump to the water tank to assist in keeping the pump water from overheating. There shall be a 1/4 turn on/off valve installed on the operator's panel.

Y_____N_____

PUMP ANODE(S)

Two (2) anode(s) shall be included in plumbing system of the apparatus to protect the components that come in contact with the water system from corrosion and deterioration.

Y_____N_____

STAINLESS STEEL PLUMBING

All auxiliary suction and discharge plumbing related fittings, waterways, and manifolds shall be fabricated with stainless steel pipe, brass or high pressure flexible piping with stainless steel couplings – NO EXCEPTIONS. Galvanized components and/or iron pipe shall NOT be accepted to ensure long life of the plumbing system without corrosion or deterioration of the waterway system. Where waterway transitions are critical (elbows, tees, etc), no threaded fittings shall be allowed to promote the smooth transition of water flow to minimize friction loss and turbulence. All piping components and valving shall be non- painted. All piping welds shall be wire brushed and cleaned for inspection and appearance.

Y_____N_____

The high pressure flexible piping shall be black SBR synthetic rubber hose with 300 PSI working pressure and 1200 PSI burst pressure for flexible piping sizes 1.5" through 4". Sizes 3/4", 1" and 5" are rated at 250 PSI working pressure and 1000 PSI burst pressure. All sizes are rated at 30 in HG vacuum. Reinforcement consists of two plies of high tensile strength tire cord for all sizes and helix wire installed in sizes 1" through 5" for maximum performance in tight bend applications. The material has a temperature rating of --40° F to +210° F.

Y_____N_____

The stainless steel full flow couplings are precision machined from high tensile strength stainless steel. All female couplings are brass. Mechanical grooved and male 3/4" and 1" couplings are brass. A high tensile strength stainless steel ferrule with serrations on the I. D. is utilized to assure maximum holding power when fastening couplings to hose.

Y_____N_____

2 1/2" RIGHT SIDE SUCTION

There shall be one (1) 2 1/2" gated suction inlet installed on the apparatus. The intake valve shall be equipped with a 3/4" bleeder.

Y_____N_____

Each suction shall be plumbed with a 2 1/2" Elkhart Brass valve.

Y_____N_____

Each suction shall be controlled from the top operator's panel.

Y _____ N _____

Each side suction shall be plumbed with 2 1/2" piping. The plumbing shall be drained with a quarter-turn drain system. The drain control shall be located on the lower sill on either side of the pump house

Y _____ N _____

The suction shall terminate with a heavily chrome plated brass 2 1/2" NST swivel female adapter with screen. In addition, a 2 1/2" NST male plug shall be included secured by a chain or cable to the inlet termination location.

Y _____ N _____

REAR SUCTION

There shall be an auxiliary steamer inlet located on the right rear of the apparatus. There shall be a drain control furnished at the low point of the line. There shall also be an additional primer line furnished at the highest point of the line to assist in drafting with the auxiliary inlet.

The suction shall be plumbed with a 5" Elkhart Brass electrically actuated butterfly valve. The electric valve shall be operated with a control switch located on the pump operators panel. A quarter turn air bleeder valve shall be plumbed to the water supply side of the intake valve (by a 3/4" NPT port) to help evacuate air from the system and avoid cavitation of the pump.

Y _____ N _____

A suction relief valve with a range of pressure adjustment from 75 to 250 PSI shall be furnished, and installed inside pump compartment piped to the suction side of the pump. The valve shall be preset at 125 PSI suction inlet pressure. The valve shall be installed inside the pump compartment where it will be easily accessible for future adjustment. The excess water shall be plumbed to the atmosphere. For normal pumping operations, the relief valve shall not be capped and there shall be a placard stating "DO NOT CAP" installed.

Y _____ N _____

The rear suction shall be plumbed with 4" piping. The piping system shall include a suction relief valve with a range of pressure adjustment from 75 to 250 PSI. The valve shall be preset at 125 PSI suction inlet pressure.

Y _____ N _____

The suction shall be plumbed with air operated drain(s) in the locations specified. The drain/bleeder(s) shall be a 3/4" brass valve operated by an air actuator. The drain/bleeder(s) shall be controlled by a toggle switch located on the pump operator's panel.

Y _____ N _____

The suction shall be located on the right rear of the apparatus, below the hose bed.

Y _____ N _____

REAR SUCTION TERMINATION

The suction shall terminate with a heavily chrome plated brass 4" NST male adapter.

Y _____ N _____

5" STORZ ELBOW & CAP(S)

There shall be one (1) 4" NST Female Swivel x 5" Storz aluminum elbow and one (1) 5" storz cap furnished on the right rear suction inlet.

Y_____N_____

2 1/2" LEFT SIDE SUCTION

There shall be one (1) 2 1/2" gated suction inlet(s) installed on the apparatus. Each intake valve shall be equipped with a 3/4" bleeder.

Y_____N_____

Each suction shall be plumbed with a 2 1/2" Elkhart Brass valve.

Each suction shall be controlled from the top operator's panel.

Y_____N_____

Each side suction shall be plumbed with 2 1/2" piping. The plumbing shall be drained with a quarter-turn drain system. The drain control shall be located on the lower sill on either side of the pump house

Y_____N_____

The suction shall terminate with a heavily chrome plated brass 2 1/2" NST swivel female adapter with screen. In addition, a 2 1/2" NST male plug shall be included secured by a chain or cable to the inlet termination location.

Y_____N_____

LEFT REAR DISCHARGES

There shall be one (1) gated discharge(s) installed in the rear of the apparatus, on the left side of the truck.

Y_____N_____

Each discharge shall utilize an Elkhart Brass 2 1/2" valve.

Y_____N_____

Each discharge shall be controlled from the top operator's panel.

Y_____N_____

Each discharge shall be plumbed with 2 1/2" Class 1 high pressure vapor hose and stainless steel couplings and/or stainless steel piping. The plumbing shall be drained with a quarter-turn drain system. The drain control shall be located on the lower sill on either side of the pump house.

Y_____N_____

The discharge shall terminate with a 2 1/2" NST adapter and a 2 1/2" NST female by male swivel 45 degree elbow. In addition, a 2 1/2" NST self-venting lug cap shall be included, secured by a chain or cable to the outlet termination location.

Y_____N_____

A Class 1 2 1/2" lighted gauge shall be supplied for discharge pressure reading 0-400 psi. The gauge shall utilize green LED lights and be manufactured by Class 1.

Y_____N_____

PUMP COMPARTMENT SPEEDLAYS

Two (2) speedlay(s) shall be provided for up to 200 feet of 1 3/4" hose. Chicksan swivels shall be installed above each speedlay hose bed accessible enough for hose couplings to be tightened on to chicksans and allow the speedlay hose beds to be removable, if required. The speedlay hose beds shall have vertical and horizontal hand cut outs in each end to aid tray removal and replacement. Chicksan swivels shall swing from left to right to allow attached hose to be deployed from either side.

Each suction shall be controlled from the top operator's panel.

Y _____ N _____

Each side suction shall be plumbed with 2 1/2" piping. The plumbing shall be drained with a quarter-turn drain system. The drain control shall be located on the lower sill on either side of the pump house

Y _____ N _____

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Y _____ N _____

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Y _____ N _____

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Y _____ N _____

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Each discharge shall utilize an Elkhart 2800 Series Brass 2" valve.

Y_____N_____

Each discharge shall be controlled from the side operator's panel.

Y_____N_____

Each discharge shall be plumbed with 2" Class 1 high pressure vapor hose and stainless steel couplings and/or stainless steel piping. The plumbing shall be drained with an auto-drain located at the lowest point of the waterway system.

Y_____N_____

The discharge shall terminate with a brass 1 1/2" NST chicksan swivel. This discharge is intended to be pre-connected to hose, so no cap shall be provided.

A Class 1 2 1/2" lighted gauge shall be supplied for discharge pressure reading 0-400 psi. The gauge shall utilize green LED lights and be manufactured by Class 1.

Y_____N_____

SPEEDLAY TRIM

Brushed stainless steel trim shall be installed at the openings on each side of the speedlay hose bed area. The trim shall extend 8" into the speedlay bay opening from the outer edge. The trim shall reduce the chaffing of the hose jacket on the edges of the bay area.

Y_____N_____

SPEEDLAY ROLLERS

Stainless steel hose roller guides shall be installed on two (2) speedlay bay opening(s) on each side of the speedlay hose bed area. The rollers shall aid in hose deployment and reduce the chaffing of the hose jacket on the edges of the bay area.

Y_____N_____

SPEEDLAY COVER

Each speedlay hose bed area shall have a vinyl cover installed on the sides of the speedlay area. Each cover shall be held in place by velcro on all four sides. A nylon strap shall be attached to the bottom for fast access with a gloved hand. Each cover shall be tethered to it's respective hosebed.

Y_____N_____

The hose bed cover shall be red.

Y_____N_____

FRONT BUMPER DISCHARGE

One (1) front bumper discharge shall be provided in the location specified. Each discharge shall utilize an Elkhart Brass 2" valve.

Y_____N_____

Each discharge shall be controlled from the top operator's panel.

Y _____ N _____

Each discharge shall be plumbed with 2" Class 1 high pressure vapor hose and stainless steel couplings and/or stainless steel piping.

Y _____ N _____

Each discharge shall be plumbed with an auto-drain located at the lowest point of the waterway system.

Y _____ N _____

The discharge shall terminate with a polished stainless steel 1 1/2" NST chicksan swivel. This discharge is intended to be pre-connected to hose, so no cap shall be provided.

Y _____ N _____

The front bumper discharge shall be mounted on top of the gravel shield of the front bumper extension. The discharge shall be placed to the right of the hosewell. The discharge shall terminate with a chicksan swivel to accommodate deployment of hose in different directions.

Y _____ N _____

A Class 1 2 1/2" lighted gauge shall be supplied for discharge pressure reading 0-400 psi. The gauge shall utilize green LED lights and be manufactured by Class 1.

Y _____ N _____

RIGHT SIDE DISCHARGES

There shall be one (1) gated discharge(s) installed on the right side of the apparatus.

Y _____ N _____

Each discharge shall utilize an Elkhart Brass 2 1/2" valve.

Y _____ N _____

Each discharge shall be controlled from the top operator's panel.

Y _____ N _____

Each discharge shall be plumbed with 2 1/2" piping. The plumbing shall be drained with a quarter-turn drain system. The drain control shall be located on the lower sill on either side of the pump house.

Y _____ N _____

The discharge shall terminate with a 2 1/2" NST adapter and a 2 1/2" NST female by male swivel 45 degree elbow. In addition, a 2 1/2" NST self-venting lug cap shall be included, secured by a chain or cable to the outlet termination location.

Y _____ N _____

A Class 1 2 1/2" lighted gauge shall be supplied for discharge pressure reading 0-400 psi. The gauge shall utilize green LED lights and be manufactured by Class 1.

Y _____ N _____

LEFT SIDE DISCHARGES

There shall be two (2) gated discharge(s) installed on the left side of the apparatus.

Y _____ N _____

Each discharge shall utilize an Elkhart Brass 2 1/2" valve.

Y _____ N _____

Each discharge shall be controlled from the top operator's panel.

Y _____ N _____

Each discharge shall be plumbed with 2 1/2" piping. The plumbing shall be drained with a quarter-turn drain system. The drain control shall be located on the lower sill on either side of the pump house.

Y _____ N _____

The discharge shall terminate with a 2 1/2" NST adapter and a 2 1/2" NST female by male swivel 45 degree elbow. In addition, a 2 1/2" NST self-venting lug cap shall be included, secured by a chain or cable to the outlet termination location.

Y _____ N _____

A Class 1 2 1/2" lighted gauge shall be supplied for discharge pressure reading 0-400 psi. The gauge shall utilize green LED lights and be manufactured by Class 1.

Y _____ N _____

MASTER LDH DISCHARGE(S)

There shall be one (1) master LDH discharge installed on the right side of the apparatus in the pump module area.

Y _____ N _____

Each discharge shall be controlled from the operator's panel with a 3" Elkhart valve with electric valve control. Three (3) lights shall provide indication if each valve is completely open, completely closed or in transit.

Y _____ N _____

Each discharge shall be plumbed with 3" piping. The plumbing shall be drained with a quarter-turn drain system. The drain control shall be located on the lower sill on either side of the pump house.

Y _____ N _____

The discharge shall terminate with a 3" NST adapter and a 3" NST female swivel by 5" Storz cast aluminum 30 degree elbow. In addition, a 5" Storz cap shall be included, secured by a chain or cable to the outlet termination location.

A Class 1 2 1/2" lighted gauge shall be supplied for discharge pressure reading 0-400 psi. The gauge shall utilize red LED lights and be manufactured by Class 1.

Y _____ N _____

DELUGE PLUMBING

There shall be one (1) deluge waterway(s) installed on the apparatus.

Y _____ N _____

Each discharge shall be controlled from the operator's panel with a 3" Elkhart valve with electric valve control. Three (3) lights shall provide indication if each valve is completely open, completely closed or in transit.

Y _____ N _____

The deluge shall be plumbed with 3" piping that terminates 3" above the top of the pump compartment unless otherwise specified or required by a specific deck gun selection as noted. The plumbing shall be drained with an auto-drain located at the lowest point of the waterway system if required.

Y_____N_____

There will be a Task Force Tips 18" Extenda-Gun installed on the deluge pipe. The Extenda-Gun will be wired to the cab "Door Open" indicator light that will notify occupants the gun is not properly stowed.

Y_____N_____

A Class 1 2 1/2" lighted gauge shall be supplied for discharge pressure reading 0-400 psi. The gauge shall utilize red LED lights and be manufactured by Class 1.

Y_____N_____

The deluge pipe shall be located up through the pump compartment, centered from left to right.

Y_____N_____

DUAL PURPOSE MONITOR

An Elkhart Model 8297-5 1, part number 08297512, Stinger portable monitor shall be provided. The lightweight Elk-O-Lite deck gun shall be equipped with the #8297-10 complete upper unit and a portable base. The waterway shall have a 3" unobstructed waterway for flows up to 1000 GPM.

Y_____N_____

The monitor shall have a handwheel driven, stainless steel vertical worm gear that shall be fully enclosed and protected from weather and intrusion from other elements. The monitor shall be capable of full 360 degree travel with vertical travel from 75 degrees above horizontal to 20 degrees below horizontal positive twist lock for positioning while in deck gun mode. While in the portable mode the monitor shall have a travel range of 75 degrees through 35 degrees above horizontal travel with a safety stop.

Y_____N_____

This deck gun shall be capable of deploying on the portable base #80927101. The forged aluminum legs with self-adjusting ground spikes shall lock in place for deployment and fold for compact storage. The monitor shall be equipped with a carrying handle. The unit shall have a Zerk grease fitting for ease of lubrication.

Y_____N_____

This monitor shall be equipped with a 0-200 PSI liquid filled pressure gauge and a 2-1/2" NH male outlet. The portable base shall have one (1) 5" free swivel locking Storz inlet with and shall be furnished a 10' safety chain.

Y_____N_____

The monitor shall be painted red urethane enamel with hard anodized trim.

Y_____N_____

MONITOR BASE MOUNTING BRACKET

Elkhart #8297MB, part number 08297811, mounting bracket for storing a Stinger portable based monitor

shall be provided. The bracket shall be constructed of lightweight Elk-O-Lite and shall have spring-loaded locking arms with a quick and easy release. The mounting bracket shall be designed for vertical or horizontal mounting on an apparatus. This bracket shall be mounted per the direction of the Fire Department.

Y_____N_____

MONITOR ADAPTER

Elkhart model #8298P-RF deck mount adapter, part # 08298131 shall be provided. The adapter shall have a 3" NPT female inlet to attach to the 3" NPT male threads on the riser in the area where the deck gun will be installed allowing for only 270 degrees of rotation.

Y_____N_____

STREAM SHAPER

Elkhart Model #282A, part number 03476001, stream shaper shall be provided. The stream shaper shall be used in conjunction with aluminum monitors using a smooth bore deluge tip or with any 2-1/2" nozzle. The shaper shall have a 2-1/2" NH female inlet and a 2-1/2" NH male outlet, with interior replaceable nylon vanes. The stream shaper shall be Elk-O-Lite construction with a hard anodized finish.

Y_____N_____

DELUGE STACKED TIPS

Elkhart Model #ST-194, part number 00626001, quad stacked deluge tips shall be provided.

This unit shall have four (4) sized tips of:

1-3/8" discharge with a 1-1/2" NH female base, part number 66525001

1-1/2" discharge with a 1-1/2" Underwriters female base, part number 66524001

1-3/4" discharge with a 2" NH female base, part number 66523001

2" discharge with a 2-1/2" NH female base, part number 66522001

Y_____N_____

FOAM SYSTEM

FOAMPRO 2001

There shall be a fully automatic electronic direct injection foam proportioning system furnished and installed on the apparatus. The proportioning operation shall be based on an accurate direct measurement of water flows by a paddle wheel flow meter with no water flow restriction. The foam system shall have a 12 volt, 1/2 horsepower "TENV" electric motor, designed for high humidity environments, coupled to a positive displacement piston type foam concentrate pump. It shall have a rated capacity of .01 to 2.6 GPM with operating pressures up to 400 psi. The system shall be model Foam Pro 2001, manufactured by the Hypro Corporation installed in accordance with the manufacturers recommendations.

Y_____N_____

The system shall be equipped with a digital electronic control display. It shall be installed on the pump operators panel and enable the pump operator to perform the following functions:

- Activate the foam system
- Change foam concentrate proportioning rates from .1% to 3% in .1% increments.
- Display current flow in GPM
- Display total flow in GPM
- Display total amounts of foam concentrates used
- Provide simulated flow for manual operation
- Perform setup and diagnostic functions

Y_____N_____

The system shall be supplied by a single foam tank that shall be monitored by the control display. The display shall flash a "low concentrate" warning for two minutes when the foam tank runs low. In the event that no additional concentrate is added to the tank, the foam concentrate pump shall be deactivated.

Y _____ N _____

The system shall supply four (4) discharge(s) as follows:

Two (2) 1 1/2" speedlays.

One (1) 2 1/2" rear blitz line.

One (1) 1 1/2" front bumper preconnect.

Y _____ N _____

FOAM TANK

There shall be a 20 gallon foam tank furnished and plumbed with non-corrosive piping to the foam system. There shall be a square fill tower with a hinged lid equipped with a hold down device. The fill tower shall be approximately 10" x 10". A label that reads "Foam Tank Fill" shall be placed on the foam tank fill tower lid.

Y _____ N _____

The foam tank(s) shall be integral with the booster water tank provided.

There shall be a 1" quarter turn drain valve furnished for drainage of the foam tank. The valve shall be installed in the pump house with a drain line extended to the side running board.

Y _____ N _____

FOAM TANK LEVEL GAUGE

A foam tank level gauge shall be furnished and installed. The gauge utilizes a pressure transducer that mounts on the outside of the tank; no probes shall be used. The readout will show foam levels in increments of 1/20th of the tank capacity. At 1/4 of the tank, a visual warning will be seen and an audible alarm shall activate. The readout shall be mounted on the pump panel.

Y _____ N _____

TANK TO PUMP LINE

The connection between the tank and the pump shall be capable of the flow recommendations as set forth in NFPA Pamphlet 1901, latest revision and shall be tested to those standards when the pump is being certified. One (1) non-collapsible flexible hose(s) and valve(s) shall be incorporated into the tank to pump plumbing to allow movement in the line as the chassis flexes to avoid damage during normal road operation. Schedule 10 stainless steel or schedule 40 Poly-Vinyl Chloride piping may be used to complete the connection from the tank to pump valve to the water tank.

Y _____ N _____

The tank to pump line shall be controlled from the operator's panel with a 4" Elkhart valve with electric valve control. Three (3) lights shall provide indication if each valve is completely open, completely closed or in transit.

Y _____ N _____

TANK TO PUMP CHECK VALVE

There shall be a tank to pump check valve, conforming to NFPA standards, which shall be of bronze construction. The check valve shall be mounted as an integral part of the pump suction extension.

Y _____ N _____

TANK FILL LINE

One (1) 2" tank fill/recirculating line shall be installed from the pump directly to the booster tank.

Y _____ N _____

One (1) Elkhart Brass 2" valve(s) shall be installed.

Y _____ N _____

Each valve shall be controlled from the top operator's panel.

Y _____ N _____

PUMP COMPARTMENT

The complete apparatus pump compartment shall be constructed of a combination of structural tubing and formed sheet metal. The same materials used in the body shall be utilized in the construction of the pump compartment. The structure shall be welded utilizing the same A. S. W. Certified welding procedure as used on the structural body module. These processes shall ensure the quality of structural stability of the pump compartment module.

Y _____ N _____

The pump compartment module shall be separated from the apparatus body with a gap. This gap is necessary to accommodate the flexing of the chassis frame rails that is encountered while the vehicle is in transit so that harmful torsional forces are not transmitted into the structural framework.

Y _____ N _____

TORSION PUMP MODULE MOUNTING SYSTEM

The entire pump module assembly shall be mounted so that it "floats" above the chassis frame rails with vibration and torsion isolator assemblies. The body substructure shall be mounted above the frame to allow independent flexing to occur between the body and the chassis. Each assembly shall be mounted to the chassis frame rails with steel, gusseted mounting brackets. Each bracket shall be powder coated for corrosion resistance. Each body mount bracket shall be mounted to the side chassis frame flange with two 5/8"-UNC Grade 5 HHCS.

Y _____ N _____

Each assembly shall have a two-part rubber vibration isolator. The isolator shall be of a specific durometer to carry the necessary loads of the apparatus body, equipment, tank, water, and hose. The quantity of mounts utilized shall correspond directly to the anticipated weight being supported. Certain assemblies shall also incorporate a torsion spring. Helical coil springs shall be incorporated into specific mounts in tandem with the rubber isolators to minimize the stress absorbed by the body caused from chassis frame rail flexing.

Y _____ N _____

The mounting system will be warranted for a period of 25 years, or 250,000 miles, after delivery to the original purchaser. A copy of the proposed body mount system will be provided in the bidder's proposal package.

Y _____ N _____

There shall be no welding to the chassis frame rail sides, web or flanges, or drilling of holes in the top or bottom frame flanges between axles. All body to chassis connections shall be bolted so that in the event of an accident, the body shall be easily removable from the truck chassis for repair or replacement.

Y_____N_____

Because of the constant vibration and twisting action that occurs in chassis frame rails and suspension, the torsion mounting system is required to minimize the possibility of premature body structural failures. NO EXCEPTIONS.

Y_____N_____

OPERATORS PANEL

The operators panel shall be a "top mount", constructed on two incline surfaces. The lower panel shall be used to house all valve controls with the upper panel housing the discharge and other pump monitoring gauges. Valve control levers shall be immediately adjacent and instruments shall be neatly arranged for easy access and visible from the operator's location.

Y_____N_____

TOP PANEL VALVE CONTROLS

All manual valve controls will operate in a vertical line, with heavy duty stainless steel valve control handles.

Y_____N_____

Valve controls will be connected to valves utilizing heavy duty steel tubing, with adjustable clevis type ends at valve and handle.

Y_____N_____

Class One valve control handles will be designed with large serrated easy grip handles, with recessed color coded large labels attached directly to the valve control handles. Labels only attached to the panel not acceptable. Valve handles will have "Twist-Lock" feature, allowing valve to be securely locked in place to prevent creeping when gated under high flow conditions.

Y_____N_____

The valve control handles will be arranged in a logical manner dividing the right and left side discharges of the apparatus.

Y_____N_____

All discharges located on the right side of the apparatus will have their corresponding valve controls located on the right side of the top mount control panel. All discharges located on the left side of the apparatus will have their corresponding valve controls located on the left side of the top mount control panel. Miscellaneous valve controls will be located in an logical manner to be approved by the Fire Department

Y_____N_____

UPPER CONTROL PANEL

The upper gauge panel of the top mounted controls will be hinged to allow access to gauges and upper valve controls. The stainless steel piano hinge will be mid panel height and will extend the full width of the panel. Quarter turn fasteners will be utilized to secure the upper portion the control panel.

Y_____N_____

SPEEDLAY HOSE BEDS

Two (2) 200' 1-3/4" speedlay hose beds shall be provided in the forward portion of the pump compartment module. The speedlay hose beds shall be constructed as an integral part of the pump compartment tubular structure. The speedlay hose beds shall be approximately twelve (12)

inches deep and approximately six and a half (6-1/2) inches wide for laying a double stack of each hose size specified. The speedlay hose

beds shall span the entire width of the pump compartment module. Slotted smooth aluminum flooring shall be provided for hose area drainage. Stainless steel scuff plates shall be installed at the bottom and at the vertical edges of the speedlay hose bed opening.

Y_____N_____

There shall be four (4) Weldon LED lights furnished under a polished stainless steel light shield for illumination of the pump operators panel. Each side pump compartment shall have polished stainless steel light shields installed with four (4) Weldon 2030 lights each side to illuminate the plumbing components.

Y_____N_____

Three (3) lights on the pump panel, side pump and all step lighting shall automatically activate when with the park brake is applied. The fourth light on the pump panel shall illuminate when the pump is engaged and it is "OK TO PUMP".

Y_____N_____

PUMP COMPARTMENT SERVICE/SPEEDLAY ACCESS

The front portion of the pump compartment structure shall be overlaid with tread plate. Removable speedlay hose bed trays shall be provided to facilitate hose loading and serviceability of the pump and components. The speedlay hose beds shall be easily removed from the pump compartment tubular structure. The access area from the front for the pump and components will be limited in nature due to the speedlay hose bed feature.

Y_____N_____

The structural framework of the pump compartment shall be self-supportive and independent of the apparatus body. The pump module shall be approximately 74" in width as measured laterally across the apparatus. The width of the apparatus as measured longitudinally (measured within the wheelbase dimension of the apparatus) shall be specified in the remainder of the specifications.

Y_____N_____

APPARATUS LABELING

The apparatus shall be descriptively tagged with color coded metal labels. The labels shall be applied near Apparatus features that require a user function description. Wherever necessary, the labels shall be color coded to differentiate controls and their respective functions to simplify and clarify complex configurations.

Y_____N_____

All labels that are not installed into discharge handles shall be attached with mechanical fasteners.

Y_____N_____

BEZELS FOR DISCHARGE GAUGES

Deluxe chrome plated Zinc metal bezels shall be supplied around the discharge pressure gauges.

Y_____N_____

BEZELS FOR VALVE CONTROL HANDLES

Deluxe metal bezels shall be supplied around the openings in the pump panels for all valve control handles.

Y_____N_____

BEZELS FOR DISCHARGES AND SUCTIONS

Mirrored stainless steel bezels shall be supplied around the openings in the pump panels for all discharge and suction fittings.

Y _____ N _____

ALUMINUM WALKWAY WITH "DIAMONDBACK" GRIP STEPS

The walkway shall be located between the cab and pump house where flex joints shall be provided between the walkway and pump compartment as well as between walkway and the chassis cab. These flex joints shall be required to reduce the negative effects that chassis frame rail twist can induce into structural components.

Y _____ N _____

The walkway shall be constructed of aluminum tubing to provide a framework for stepping and standing areas.

Y _____ N _____

Each side of the walkway shall have an intermediate step which facilitates access to the walkway standing surface from the running board level. The surface of the walkway, intermediate steps, and running board areas of the walkway shall be constructed of an aggressive aluminum "Diamondback" grip extrusion. The running board stepping surface shall be flush with the top of the supportive tubular framework. The tubing shall have aggressive grip tape applied to make it a suitable for stepping and standing as well. Each surface shall be 'slip-resistant' compliant with the latest NFPA recommendations for stepping and standing surfaces. The distance between steps shall be approximately 11".

Y _____ N _____

The walkway area immediately in front of the pump compartment shall be 24" in width. This pump operator's area shall be illuminated with two (2) lights mounted on the front face of the pump compartment. The lights shall be activated on and off with the panel lights.

Y _____ N _____

WALKWAY TOOL COMPARTMENTS

The walkway steps shall be incorporated into 'lift-up' style doors which enclose the integral walkway tool and equipment compartments. The door shall be hinged at the top and open with the assistance of a gas charged cylinder.

This cylinder also holds the door in the 'open' and 'closed' positions for ease of operator use by eliminating the need for a latching mechanism.

Y _____ N _____

18" HANDRAILS

Two (2) 18" handrails shall be mounted on the pump compartment (one each side) near the walkway steps to facilitate access up to the operator's panel area.

BLACK SPEEDLINER CONTROL PANEL

The surface of the operator's control and gauge panel shall be manufactured from heavy duty non-glare black "Speedliner" bedliner type coated aluminum, that is capable of withstanding the effects of extreme weather and temperature.

Y _____ N _____

BLACK SPEEDLINER SIDE PANELS

The tubular structure shall be overlaid on each side of the pump compartment underneath the

access panels and each shall be made of black speedliner (Linex type finish) covered aluminum.

Y _____ N _____

There shall be two (2) side pump panels on each side of the pump compartment, one upper and one lower. Each upper panel shall be hinged across the bottom and drop down with a cable hold open device. Each upper access opening shall be accessible by a quick-release type latch, closing against a door seal. Each lower panel shall be vertically hinged on the rearward or body side. Each lower opening shall be accessible by a quick-release type latch closing against a door seal. Each lower panel shall provide a large access opening to the pump for service. All panels shall be made from heavy duty speedliner covered aluminum, capable of withstanding the effects of extreme weather and temperature.

Y _____ N _____

The exterior outboard upper portion of the top panel sides shall be painted white to match the current Purchaser's fleet.

Y _____ N _____

RUNNING BOARDS

The running boards shall be made of a structural tubular framework. The tubular frame support all loads by transmitting the loads through the pump compartment structure directly to the chassis frame rails. The running boards shall be independent of the apparatus body and shall be tied only to the pump compartment structure, thereby eliminating any pump compartment to body interference. This is essential in keeping a truly 'modular' configuration. Slip-resistant abrasive shall be applied to the top surface of the running board framework to provide a suitable stepping surface.

Y _____ N _____

LEFT SIDE FLOATING HOSE WELL

The left side running board area shall have a floating hose well with compartment matting and drain holes. The hose well shall be fabricated of 1/8" aluminum. The hose well shall be formed so that it rests in the framework of the running board with no fasteners installed. The front and rear ends of the hose well shall be slightly tapered. This will help to allow the well to float up instead of being damaged in cases where extreme break over angles are encountered or road debris may impact the hose well. The hose well shall be approximately 8" deep (measured from the top of the running board) and as wide and long as possible to fit in the framework of the running board.

There shall be two (2) velcro straps provided at the top of the hose well. The straps shall be used to hold the hose in place during transit.

Y _____ N _____

RIGHT SIDE FLOATING HOSE WELL

The right side running board area shall have a floating hose well with compartment matting and drain holes. The hose well shall be fabricated of 1/8" aluminum. The hose well shall be formed so that it rests in the framework of the running board with no fasteners installed. The front and rear ends of the hose well shall be slightly tapered. This will help to allow the well to float up instead of being damaged in cases where extreme break over angles are encountered or road debris may impact the hose well. The hose well shall be approximately 8" deep (measured from the top of the running board) and as wide and long as possible to fit in the framework of the running board.

Y _____ N _____

There shall be two (2) velcro straps provided at the top of the hose well. The straps shall be used to hold the hose in place during transit.

Y_____N_____

MASTER GAUGES

Both master intake and master discharge gauges shall be manufactured by Class One and mounted on the operator's panel. The master gauges shall be 4 1/2" in diameter. The master intake gauge shall read from - 30 to 400 psi with the master discharge gauge reading from 0 to 400 psi. The gauge shall utilize green LED lights and be manufactured by Class 1.

Y_____N_____

TESTING PORTS

There shall be a pressure and vacuum test gauge adapter with chrome plated plugs furnished and installed on the pump operator's panel.

Y_____N_____

PRESSURE GOVERNOR

The Pressure Governing System as earlier stated within this specification shall be installed on the pump panel. The PSG allows for pump pressure control and throttle control.

Y_____N_____

The PSG installation shall be wired specifically for the Cummins electronic engine.

Y_____N_____

SUCTION RELIEF VALVE

A suction relief valve with a range of pressure adjustment from 75 to 250 PSI shall be furnished, and installed inside pump compartment piped to the suction side of the pump. The valve shall be preset at 125 PSI suction inlet pressure. The valve shall be installed inside the pump compartment where it will be easily accessible for future adjustment. The excess water shall be plumbed to the atmosphere via the unloader pipe and shall dump on the opposite side of the pump operator. The valve shall come with 2 1/2" male NPT threads that can be capped if the relief valve fails in the open position. For normal pumping operations, the relief valve shall not be capped and there shall be a placard stating "DO NOT CAP" installed.

Y_____N_____

ENGINE INFO CENTER

There shall be a Class 1 ENFO IV furnished and installed on the pump panel of the apparatus. The ENFO IV provides the pump operator with Engine RPM, Oil Pressure, Engine Temperature, and Electrical System Voltage.

This compact unit contains all required engine audible alarms including the low voltage alarm.

Y_____N_____

HEAT EXCHANGER

The supplementary heat exchanger cooling system furnished with the chassis shall be complete to the discharge side of the fire pump through the engine compartment, without intermixing, for absorption of excess heat. The heat exchanger shall be adequate in size to maintain the temperature of the coolant in the pump drive engine not in excess of the engine manufacturer's temperature rating under all pumping conditions. Appropriate drains shall be provided to allow draining the heat exchanger to prevent damage from freezing. A manual shut-off valve shall be supplied at the pump operator's position.

Y_____N_____

AIR HORN BUTTON

There shall be an air horn activation button furnished and installed on the pump operator's gauge panel.

Y _____ N _____

RADIO BOX

There shall be a free standing, weather resistant radio box mounted on the top operators panel above the light shield. The box shall be approximately 12" wide x 8" deep x 6" tall. The box shall have a hinged door secured by a push-button latch.

Y _____ N _____

PUMP COMPARTMENT TOP OVERLAY

The top of the pump compartment shall be an approved stepping surface constructed of embossed tread plate approved by the latest NFPA standards for abrasiveness.

Y _____ N _____

DUNNAGE AREA

There shall be a single wall 1/8" aluminum diamond plate dunnage area furnished above the pump for equipment mounting and storage. It shall be as wide as possible side to side, and as deep as possible space permitting.

Y _____ N _____

ALUMINUM BODY CONSTRUCTION

The complete apparatus body shall be constructed of a combination of structural tubing and formed sheet metal. These components shall be welded together utilizing an A.W.S. Certified welding procedure. This process shall ensure the quality of structural stability of the apparatus body.

Y _____ N _____

Aluminum tubular extrusions with a minimal wall thickness of 1/8 inch shall be used in the construction of the structural framework. These extrusions shall be as thick as 1/4 inch in strategic locations for added body strength. Both 6061 T-6 and 6063 T-52 grade aluminum extrusions shall be used in the construction of the framework. The tubular construction shall form a framework which provides the structural integrity for the entire body module. Common sizes extrusions used for construction are 2-1/2" x 2-1/2" and 2-1/2" x 1".

Y _____ N _____

Sheet metal Panels complete the structure by forming the compartmentation specified. Wherever this sheet metal serves as a load-bearing component, it shall be reinforced with structural tubular supports to ensure sound construction for lasting service. Body compartment floors shall be 'sweep-out' in design to aid in regular cleaning maintenance of the apparatus. In most areas, 1/8" 3003 sheeting is used, but may be substituted by 3/16" or 1/4" sheet if necessary in extreme load bearing applications.

Y _____ N _____

Absolutely no dissimilar metals shall be used in the body and its supporting substructure without being separated by a sufficient corrosion and electrolysis inhibitor. Bodies which utilize "L" style brackets bolted to the chassis frame shall not be acceptable. Bodies which utilize a design that requires the compartments to be bolted to a separate sub-frame shall not be acceptable.

Y _____ N _____

DOUBLE INTERIOR WALL CONSTRUCTION

The compartments shall have a smooth finished interior appearance. This shall be accomplished by overlaying the structural tubular construction with smooth sheet metal panels.

Y _____ N _____

COMPARTMENT LOAD CAPACITY

Each compartment shall have a minimum of one additional structural compartment floor support centered on the underside of the compartment floor. This additional member shall be integral with the rest of the body structure. Each compartment must be designed, and 3rd party analyzed to carry a working load of:

Full depth side compartment: 1,000 lbs per compartment

Half depth side compartment: 750 lbs per compartment

Rear center compartment: 1,500 lbs per compartment

NO EXCEPTIONS

Y_____N_____

FINITE ELEMENT ANALYSIS

The proposed body design must have completed a review and analysis by a licensed engineer. At a minimum, the engineer must have conducted a computer model finite element analysis of the proposed design. The analysis is to include real world working load scenarios. Analysis to cover both static and dynamic situations must be completed. The purpose of the finite element analysis is to ensure proper design of the apparatus body, and that it is capable of carrying the typical fire apparatus loads and those specified by NFPA for equipment. The analysis process must conclude that the body structure is properly designed and manufactured to provide longevity under normal conditions.

Y_____N_____

The engineer must also validate the manufacturing processes are consistent with the design and analysis performed. Proof of having completed this testing must be submitted with the bid.

Y_____N_____

SIDE RUB RAILS

The bottom edge of the compartments shall be trimmed with rub rails to absorb minor damage while protecting the body. The rub rails shall be fabricated of brightly anodized aluminum channel. The rub rails shall be bolted in place with stainless steel bolts and shall be spaced away from the body with 1/2" nylon spacers to help prevent the collection of water and debris. Each rub rail section shall be easily removable and replaced should it become damaged.

Y_____N_____

REAR RUB RAILS

The rearward edge of the rear step shall be trimmed with rub rails to absorb minor damage while protecting the body. The rub rails shall be fabricated of brightly anodized aluminum channel. The rub rails shall be bolted in place with stainless steel bolts and shall be spaced away from the body with 1/2" nylon spacers to help prevent the collection of water and debris.

Each rub rail section shall be easily removable and replaced should it become damaged.

Y_____N_____

RUB RAIL REFLECTIVE STRIPING

One inch red reflective striping shall be applied to the length of each rub rail section making the perimeter of the apparatus more readily visible.

Y_____N_____

REAR TAILBOARD-RESCUE STYLE INSET DESIGN

The rear tailboard shall be fabricated of the same structural materials as used in the apparatus body. The tailboard shall be an independent assembly welded to the rear structural framing to

provide body protection and a solid rear stepping platform. The rear step shall be designed to incorporate "crush zone" technology. This idea incorporates lighter materials in the tailboard than the body structure so the step will "crush" in a collision before the body structure.

Y_____N_____

The rear tailboard shall not extend further than the skirted compartments (no beavertail). The R3 and L3 compartments are to extend into the rear tailboard area allowing the compartments to be full depth in the lower 30" (height) of the compartment. This extension shall form a natural stepping surface and will be covered with embossed treadplate aluminum.

Y_____N_____

On the rear body surface, a sign shall be attached that states: "DO NOT RIDE ON REAR STEP, DEATH OR SERIOUS INJURY MAY RESULT."

Y_____N_____

The rear tailboard and body shall be constructed such that the angle of departure shall be no less than 8 degrees at the rear of the apparatus when fully loaded (Per NFPA 1901).

Y_____N_____

The rear tailboard shall be approximately thirteen and one-half (13.5) inches deep and shall incorporate a ventilated "Diamondback" material stepping surface bolted in place which spans the width of the apparatus. The extruded stepping surface shall be completely enclosed by the supporting structural framework to minimize damage. The ventilated "Diamondback" material shall be capable of being easily replaced if necessary, using only hand tools.

The framework shall be covered with an adhesive tape providing an aggressive traction surface. Use of any aluminum diamond plate material on these areas shall not be acceptable.

Y_____N_____

FOLDING STEPS

All folding steps shall be Austin #FS-200 CHR 8" square die cast, aluminum folding steps. The steps shall be chrome plated, be tested to over 2,000 lbs. static load, and include a serrated non-skid step pad. The step shall exceed the slip resistance and strength requirements for the current NFPA 1901 standards.

Y_____N_____

RIGHT REAR FOLDING STEPS

Two (2) folding steps shall be installed on the right rear vertical face of the body. Steps are to be inboard facing (1) below the compartment transition and (1) above.

Y_____N_____

One (1) light shall be mounted to illuminate the forward stepping areas provided. Each light shall be a Whelen 0AC0EDCR LED with a 45 deg. mounting bezel. Each light shall be directed towards and positioned above the stepping surfaces. Whelen provides a 5 year HPD Heavy-Duty Professional warranty.

Y_____N_____

One (1) 10" long x 1 1/4" diameter handrail constructed of knurled #3 polished stainless steel tubing shall be mounted in a best fit location above the step(s) to assist in climbing the steps according to NFPA 1901. There shall be a 2" minimum clearance between the bracket and the body.

Y_____N_____

LEFT REAR FOLDING STEPS

Two (2) folding steps shall be installed on the left rear vertical face of the body. Steps are to be inboard facing (1) below the compartment transition and (1) above.

Y_____N_____

One (1) light shall be mounted to illuminate the forward stepping areas provided. Each light shall be a Whelen 0AC0EDCR LED with a 45 deg. mounting bezel. Each light shall be directed towards and positioned above the stepping surfaces. Whelen provides a 5 year HPD Heavy-Duty Professional warranty.

Y_____N_____

One (1) 10" long x 1 1/4" diameter handrail constructed of knurled #3 polished stainless steel tubing shall be mounted in a best fit location above the step(s) to assist in climbing the steps according to NFPA 1901. There shall be a 2" minimum clearance between the bracket and the body.

Y_____N_____

LEFT FORWARD FOLDING STEPS

Four (4) folding steps shall be installed on the left forward wall of the front compartment. These steps shall be utilized to access the water tank fill tower of the apparatus. The steps shall also be utilized to gain access to the top of the pump compartment structure and any equipment located in the immediate vicinity.

Y_____N_____

One (1) light shall be mounted to illuminate the forward stepping areas provided. Each light shall be a Whelen 0AC0EDCR LED with a 45 deg. mounting bezel. Each light shall be directed towards and positioned above the stepping surfaces. Whelen provides a 5 year HPD Heavy-Duty Professional warranty.

Y_____N_____

One (1) 10" long x 1 1/4" diameter handrail constructed of knurled #3 polished stainless steel tubing shall be mounted in a best fit location above the step(s) to assist in climbing the steps according to NFPA 1901. There shall be a 2" minimum clearance between the bracket and the body.

Y_____N_____

PAINT SPECIFICATIONS

All bright metal fittings, if unavailable in stainless steel, shall be heavily chrome plated.

Y_____N_____

Critical body and sub-frame area which cannot be primed after assembly shall be pre-painted.

Y_____N_____

All welded metal surfaces shall be ground to a smooth surface prior to a degreasing and high pressure, high temperature phosphatizing process. The entire surface shall be sprayed with a non-chromate sealing compound to prevent formulation of stains or flash rust on previously phosphatized parts.

Y_____N_____

The paint applied to the apparatus shall be PPG Industries Delta® brand, applied throughout a multi-step process including at least two coats of each color and clear coat finish.

Y_____N_____

The coating shall be an infra red, baked air dried. The coatings shall provide full gloss finished suitable for application by high-pressure airless or conventional low pressure air atomizing spray.

Y_____N_____

The coatings shall not contain lead, cadminum or arsenic. The polyisocyanate component shall consist of only alifatic isocyanates, with no portion being aromatic isocyanate in character. The solvents used in all components and products shall not contain ethylene glycol mono-ethyl ethers or their acetates (commercially recognized as cellosolves), nor shall they contain any chlorinated hydrocarbons. The products shall have no adverse effects on the health or nor present any unusual hazard to personnel when used according to manufacturers recommendations for handling and proper protective safety equipment, and for its intended use.

Y_____N_____

The coating system, as supplied and recommended for application, shall meet all applicable federal, state and local laws and regulations now in force or at any time during the courses of the bid.

Y_____N_____

The manufacturer shall supply (upon request) for each product and component of the system, a properly complete OSHA "Material Data Safety Sheet".

Y_____N_____

The following documents of the issue in effect on the date of the invitation to quote, form a part of this document to the extent specified herein:

Y_____N_____

Federal Standards: Number 141A and 141B paint, varnish, lacquer and related material: methods of inspection, sampling, and testing.

Y_____N_____

Military Standard: MIL-C 83486B Coating, Urethane, Alifatic Isocyanate, for Aerospace applications.

Y_____N_____

Industry Methods and Standards: ASTM Method of Analysis (American Society for testing and Materials). BMS 10-72A (Boeing Material Specifications).

Y_____N_____

The entire exterior body structure (excluding roll-up doors) shall receive the primer coats and the finish coats. The apparatus body, will be painted in a down draft type paint booth to reduce dust, dirt or impurities in the finish paint. The painted surfaces shall have a finish with no runs, sags, craters, pinholes or other defects.

Y_____N_____

BODY PAINT COLOR

The apparatus body shall be painted PPG 2185 White.

Y_____N_____

SPEEDLINER COMPARTMENT FINISH

The compartment interiors shall be coated with medium gray Speedliner.

Y_____N_____

Speedliner is a durable bedliner type finish that requires no special maintenance and can be washed just like paint.

Y_____N_____

GENERAL BODY DETAILS

All compartmentation shall be constructed in a sweep out design to be water and dust proof, manufactured to the maximum possible storage capacity.

Y_____N_____

FASTENERS

All bolts and nuts used in the finish construction of the apparatus shall be coated stainless steel which helps prevent dissimilar metal electrolytic reaction and corrosion. The Manufacturer may be requested to supply evidence of fastener coating and results of salt spray testing when dissimilar metals are used. Any bolt extending into a compartment or into the hose bed area shall have an acorn nut attached or be protected in such manner where sharp edges are avoided.

Y_____N_____

WHEEL WELLS

Wheel wells shall have semicircular black polymer composite inner liners that are bolted to the wheel well panel and supported inboard by brackets that are connected to the body framework. Each wheel well shall be a continuous piece with no breaks or ledges where road grime or debris may accumulate.

This liner shall be removable for access to suspension assembly for repairs. There shall be no exception to the bolted wheel well inner liner requirement.

Y_____N_____

WHEEL WELL MODULES

The body wheel well area on each side of the body shall be fabricated of smooth aluminum and finish painted. They shall incorporate smart storage compartments utilize the most space possible. The smart storage compartment doors shall be painted.

Y_____N_____

LEFT SIDE WHEEL WELL ROLL-OUT DRAWER

There shall be a roll-out drawer installed above the rear wheel on the left side of the body. The drawer shall be approximately 23.5" deep by 59" wide and have a 220 lb. capacity.

Y_____N_____

RIGHT SIDE WHEEL WELL ROLL-OUT DRAWER

There shall be a roll-out drawer installed above the rear wheel on the right side of the body. The drawer shall be approximately 23.5" deep by 59" wide and have a 220 lb. capacity.

Y_____N_____

WHEEL CHOCK COMPARTMENT

There shall be a compartment located in the wheel well to hold a set of Zico folding wheel chocks.

Y_____N_____

The compartment shall be located in front of the axle on the left side.

Y_____N_____

RIGHT FRONT SCBA COMPARTMENT

There shall be a compartment located in the wheel well to hold three (3) 6.75" diameter x 24.50" long SCBA bottles.

Y _____ N _____

The compartment shall be located in front of the axle on the right side.

Y _____ N _____

RIGHT REAR SCBA COMPARTMENT

There shall be a compartment located in the wheel well to hold three (3) 6.75" diameter x 24.50" long SCBA bottles.

Y _____ N _____

The compartment shall be located behind the axle on the right side.

Y _____ N _____

LEFT REAR STORAGE COMPARTMENT

There shall be a compartment located in the wheel well for storage of miscellaneous equipment.

Y _____ N _____

The compartment shall be located behind the axle on the left side.

Y _____ N _____

SMART STORAGE DOOR OPEN INDICATOR

Each smart storage compartment door shall have a magnetic style switch. If the door is not properly closed, it shall activate the "Door Open" light in the cab.

Y _____ N _____

TORSION BODY MOUNTING SYSTEM

The entire body module assembly shall be mounted so that it “floats” above the chassis frame rails with vibration and torsion isolator assemblies. The body substructure shall be mounted above the frame to allow independent flexing to occur between the body and the chassis. Each assembly shall be mounted to the chassis frame rails with steel, gusseted mounting brackets. Each bracket shall be powder coated for corrosion resistance. Each body mount bracket shall be mounted to the side chassis frame flange with two 5/8”-UNC Grade 5 HHCS.

Y _____ N _____

Each assembly shall have a two-part rubber vibration isolator. The isolator shall be of a specific durometer to carry the necessary loads of the apparatus body, equipment, tank, water, and hose. The quantity of mounts utilized shall correspond directly to the anticipated weight being supported. Certain assemblies shall also incorporate a torsion spring. Helical coil springs shall be incorporated into specific mounts in tandem with the rubber isolators to minimize the stress absorbed by the body caused from chassis frame rail flexing.

Y _____ N _____

The mounting system will be warranted for a period of 25 years, or 250,000 miles, after delivery to the original purchaser. A copy of the proposed body mount system will be provided in the bidder’s proposal package.

Y _____ N _____

There shall be no welding to the chassis frame rail sides, web or flanges, or drilling of holes in the top or bottom frame flanges between axles. All body to chassis connections shall be bolted so that in the event of

an accident, the body shall be easily removable from the truck chassis for repair or replacement.

Y _____ N _____

Because of the constant vibration and twisting action that occurs in chassis frame rails and suspension, the torsion mounting system is required to minimize the possibility of premature body structural failures.

Y _____ N _____

BODY STRUCTURE WIDTH

The width of the apparatus body from the outside of the left compartments to the outside of the right compartments shall be 99" excluding any attached peripherals such as rub rails, fenderettes, grab handles, etc.

Y _____ N _____

COMPARTMENT VENTILATION

To allow for proper air circulation & flow, each compartment shall have a venting route. For example: All upper compartments (if apparatus is so equipped) shall vent into the lower compartments. The lower compartments shall be vented into the wheel well area by a high grade foam filter frame assembly. The filter locations shall be determined by what's best-fit for each body configuration. The venting filter shall be easily removable for cleaning and shall be treated to prevent mildew.

Y _____ N _____

COMPARTMENT UNISTRUT

Vertically mounted unistrut shall be installed in ALL compartments of the apparatus body to accommodate mounting shelves, trays, and other miscellaneous equipment items.

Y _____ N _____

TOOL BOARD MOUNTING STUDS

Studs shall be provided on the rear wall of the left over-wheel compartment of the apparatus body to accommodate mounting of tool boards.

Y _____ N _____

COMPARTMENTATION

The following compartments shall be supplied on the apparatus:

Compartment "L1 ": There shall be one (1) full height compartment ahead of the rear wheels on the left side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 49" wide by 69" high with a depth of 25.5" . The door opening shall measure approximately 43.5" wide by 60" high. The compartment will have approximately 49.75 cubic feet of space.

Y _____ N _____

Compartment "L2": There shall be one (1) compartment located directly over the rear wheels on the left side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 62" wide by 35" high with a depth of 25.5". The door opening shall measure approximately 59" wide by 26" high. The compartment will have approximately 32 cubic feet of space.

Y _____ N _____

Compartment "L3": There shall be one (1) full height compartment located behind the rear wheels on the left side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 49" wide by 69" high with a depth of 25.5" and the lower portion being transverse into the rear

compartment, unless partitions are installed. The door opening shall measure approximately 43.5" wide by 60" high. The compartment will have approximately 49.75 cubic feet of space.

Y_____N_____

Compartment "B 1 ": There shall be one (1) compartment located at the rear of the apparatus, directly below the hose bed access area. The approximate dimensions of this compartment shall be 62" high with a depth of 33" with the sides of the compartment being open to the side compartments for maximum storage area. The compartment will have approximately 28.5 cubic feet of space.

Y_____N_____

Compartment "R1 ": There shall be one (1) full height compartment located ahead of the rear wheels on the right side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 49" wide by 69" high with a lower depth of 25.5" and an upper depth of 12.5". The door opening shall measure approximately 43.5" wide by 60" high. The compartment shall have approximately 36.25 cubic feet of space.

Y_____N_____

Compartment "R2": There shall be one (1) compartment located above the rear wheels on the right side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 62" wide by 35" high with a depth of 12.5". The door opening shall measure approximately 59" wide by 26" high. The compartment will have approximately 9.5 cubic feet of space.

Y_____N_____

Compartment "R3": There shall be one (1) full height compartment located behind the rear wheels on the right side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 49" wide by 69" high with an upper depth of 12.5" and the lower portion being transverse into the rear compartment, unless partitions are installed. The door opening shall measure approximately 43.5" wide by 60" high. The compartment shall have approximately 36.25 cubic feet of space.

Y_____N_____

FULL HEIGHT REAR CENTER COMPT

The rear center compartment of the apparatus shall be full height, as high as possible as determined by water tank height. The compartment shall have a roll-up door installed. The door opening shall be approximately 27" wide and 45" high.

Y_____N_____

COMPARTMENT DIVIDERS

Sheet metal compartment dividers shall be installed in the over-wheel compartments. These dividers shall aid in keeping loose equipment from falling into the front and/or rear compartments.

Y_____N_____

COMPARTMENT DIVIDER

A sheet metal compartment divider shall be installed in the left rear compartment, twelve (12) inches from the front wall. There shall be unistrut attached to both sides of the divider to aid in equipment mounting.

Y_____N_____

A sheet metal compartment divider shall be installed in the right rear compartment, twelve (12) inches from the front wall. There shall be unistrut attached to both sides of the divider to aid in equipment mounting.

Y _____ N _____

COMPARTMENT FLOOR MATTING

Black floor tile shall be installed on seven (7) compartment floor(s). The tile shall be custom fitted to the interior compartment construction to help in protecting the entire surface of the compartment floor from equipment damage.

Y _____ N _____

Tapered floor tile shall be installed on seven (7) compartment floor edge(s). The beveled tile shall be custom fitted to the matting installed and the interior compartment construction. The tapered tile shall aid in the removal and installation of equipment and help in protecting the compartment floor edge from equipment damage.

Y _____ N _____

SHELVING

Each shelf shall be fabricated of .190 thick aluminum sheet material with the outside and inside edges flanged up to prevent equipment from sliding off of the shelves. Each shelf shall be as wide as possible to allow proper attachment to the above described unistrut channels. Shelves shall be adjustable up and down. Shelving shall be supplied in the following locations:

Y _____ N _____

12.5" SHELVES

Five (5) shelf(ves) shall be installed in the compartment(s) specified. The shelf(ves) shall be as wide as possible and 12.5" deep.

Y _____ N _____

The shelves shall be located as follows:

- R1: Two (2) shelves
- R2: One (1) shelf.
- R3: Two (2) shelves.

Y _____ N _____

Each shelf or tray shall be fitted with protective black matting for a pleasing appearance and durability.

Y _____ N _____

25.5" SHELVES

Four (4) shelf(ves) shall be installed in the compartment(s) specified. The shelf(ves) shall be as wide as possible and 25.5" deep.

Y _____ N _____

Shelves shall be mounted as follows:

- L1: Two (2) Shelves.
- L3: Two (2) Shelves. These shelves shall terminated approximately 14" from the front wall allowing room for a vertical toolboard.

Y _____ N _____

Each shelf or tray shall be fitted with protective black matting for a pleasing appearance and durability.

There shall be one (1) shelf(ves) installed in the rear center compartment area of the apparatus. The shelf(ves) shall be as wide and deep as possible.

Y_____N_____

Each shelf or tray shall be fitted with protective black matting for a pleasing appearance and durability.

Y_____N_____

ROLL OUT TRAY(S)

There shall be roll out tray(s) furnished and installed in the compartments specified. They shall be fabricated of 3/16" thick 3003 grade or higher aluminum with four side flanges, corner welded for maximum strength.

Y_____N_____

The following shall be supplied:

There shall be one (1) roll out tray(s) installed in the L-1 compartment. The tray shall be as wide as the door allows and 24" deep. Each roll-out system shall be bolted to the compartment floor for rigid and sturdy mounting. Each rollout tray system shall incorporate a pair of cadmium plated, ball bearing roller slides with a pneumatic hold-open and closed device. This system eliminates the need for clumsy latching devices and firmly holds the tray in the open or closed position. The roll-out tray shall be rated for 220 lbs. and extend to 100% of the slide capacity.

Y_____N_____

Each shelf or tray shall be fitted with protective black matting for a pleasing appearance and durability.

Y_____N_____

There shall be one (1) roll out tray installed in the rear center compartment. The tray shall be as wide as the door allows and approximately 23.5" deep. The roll-out system shall be bolted to the compartment floor for rigid and sturdy mounting.

The tray shall be mounted to a Slide Master slide unit. The roll-out tray shall be rated for 600 lbs. and extend 100% of the slide capacity.

Y_____N_____

Each shelf or tray shall be fitted with protective black matting for a pleasing appearance and durability.

Y_____N_____

The one (1) SlideMaster slides shall be held in locked positions by a lever actuated twist lock.

Y_____N_____

The one (1) SlideMaster slides shall be wet painted silver.

Y_____N_____

ALUMINUM PULL-OUT TOOL BOARDS

There shall be two (2) aluminum pull out tool board(s) furnished and installed in the compartments noted. Each board shall be attached to unistrut on the floor and ceiling of the compartment making it (them) adjustable front to rear and shall extend the board to a position perpendicular to the rear wall. Each board shall be mounted on ball bearing slides, top and bottom. A locking device shall be installed on the lower slide to keep the board in the stored and extended positions.

Y_____N_____

Each toolboard is to have a 6" well on either side of the toolboard to allow shovel heads and other long handle tools to set into.

Y_____N_____

The toolboard shall be located in the left rear compartment.

Y_____N_____

ALUMINUM SWING-OUT TOOL BOARDS

There shall be one (1) aluminum swing out tool board(s) furnished and installed in the compartments noted. The board shall have a tubular frame with a rod attached to the floor and ceiling of the compartment that shall extend the board to a position perpendicular to the rear wall. Locking devices shall be installed to keep the board in the stored and extended positions.

Y_____N_____

The toolboard shall be located in the left over wheel compartment.

Y_____N_____

ALUMINUM WALL MOUNTED TOOL BOARD

There shall be one (1) aluminum tool board(s) mounted in the compartment(s) specified. Each tool board shall be bolted to the back wall of the compartment spaced 1/2" away with poly spacers.

Y_____N_____

The toolboard shall be located in the left over wheel compartment.

Y_____N_____

SCBA CLIPS

There shall be one (1) SCBA holder(s), each complete with back plate, foot plate and one (1) cylinder clip(s) furnished and installed. The clip(s) shall be manufactured by Zico model #UN-6-30-2-SF.

Y_____N_____

The SCBA clip(s) will be installed in the exterior face of swing out toolboard in L2 compartment.

Y_____N_____

DOOR CONSTRUCTION

All compartment doors shall be roll-up style doors.

Y_____N_____

ROBINSON BRAND ROLL-UP DOORS

Roll up doors shall be Robinson brand. Door slats to be of a double wall box frame extrusion. Exterior surface shall be flat, interior surface shall be concave to prevent loose equipment from jamming the door. Slats will be anodized to prevent oxidation. Slats to have inner-locking end shoes on every slat secured by a Punch-Dimple process. Slats shall have interlocking joints

with a folding locking flange. Between each slat is a PVC/Vinyl inner seal to prevent any metal to metal contact.

Y_____N_____

Track to be one piece aluminum which has an attaching flange and finishing flange incorporated into its design which facilitates installation and provides a finished look to installation without additional trim or caulking. Track to have a replaceable side seal. Side seal prevents water and dust intrusion into the compartment.

Y_____N_____

Drip rail will have a built in replaceable wiper seal. Drip rail to be made of aluminum. Roll-up door to have a 4" diameter counterbalance to assist in lifting and to eliminate the risk of accidental closing. The door shall be secured by a full width lift bar, operable by one hand even with heavy gloves. Securing method will be a positive latch device.

Y_____N_____

All compartment doors shall be left a natural satin aluminum finish.

Y_____N_____

COMPARTMENT DOOR SILLS

Brushed stainless steel sill plates shall be installed at the bottom of each body compartment door opening.

Y_____N_____

DOOR OPEN INDICATOR

Each roll up door shall have an integral door open indicator magnet in the lift bar. If the bar is not properly closed, it shall activate the "Door Open" light in the cab.

Y_____N_____

HOSE STORAGE

A hose bed shall be provided with a minimum of thirty (30) cubic feet of storage space. The hose bed shall have a slotted 1/4" aluminum flooring installed to allow drainage through the tank cavity to the ground below. The aluminum flooring shall be manufactured in discrete sections to allow for easy removal and outstanding stability. The area shall be free of sharp edges to protect the hose when loaded or distributed.

Y_____N_____

The walls of the hose bed shall be 85" tall, measured from the bottom edge of the compartments to the top flange.

Y_____N_____

VINYL COATED NYLON HOSE BED COVER

There shall be a hose bed cover furnished that is made of vinyl coated nylon. The cover shall be held in place by extruded aluminum channel on the front and an elastic shock cord sewn into the tarp with brass grommets where the shock cord passes through the hose bed cover on the sides. Hooks shall be provided on the sides to provide a means of attaching the cover to the apparatus. The hooks shall be made of cast aluminum. The cover shall have a flap that extends down over the rear of the hose bed which shall be described below.

Y_____N_____

The cover shall have a flap that extends down over the rear of the hose bed which shall be fastened by an elastic shock cord sewn into the tarp with brass grommets where the shock cord passes through the hose bed cover. Hooks shall be provided on the lower corners to provide a means of attaching the cover to the apparatus. The hooks shall be made of cast aluminum.

Y _____ N _____

The hose bed cover shall be red.

Y _____ N _____

HOSEBED DIVIDERS

There shall be three (3) divider(s) installed in the hose bed. The divider(s) shall be fabricated of 1/4" thick aluminum plate with a double sided reinforcement where it is attached to the adjustable slide rails. The rear of the divider(s) shall have a radius to provide a smooth corner and a hand cut out to aid in access to the hose bed area. Hose payout shall be unobstructed by the divider(s).

Y _____ N _____

DUNNAGE AREA

A vertical bulkhead shall be installed at the front of the hose bed area, just behind the water tank fill tower, forming a storage area that is separated from the hose bed. The rear face of the bulkhead shall serve as a mounting surface for the hose bed dividers, resulting in the ability to move any hose bed divider across the entire width of the hose bed.

Y _____ N _____

FENDERETTES

Two (2) polished stainless steel fenderettes shall be provided on body rear wheel well openings, one (1) each side. A rubber welting shall be provided between the body and the crown to seal the seam and restrict moisture from entering. A dielectric barrier shall be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.

Y _____ N _____

BOOSTER TANK CAPACITY

The tank shall be 1000 gallons in capacity.

Y _____ N _____

TANK LEVEL GAUGE

A tank level gauge shall be mounted on the pump panel. The gauge will provide the pump operator with an accurate reading of the tank level in increments of 1/20th of a tank, with a visual warning will be provided at 1/4 of a tank. The tank level gauge will utilize a pressure transducer that mounts on the outside of the tank for sensing the water level. No probes shall be installed for the tank. The gauge shall be manufactured by Class 1 and be model TLW.

Y _____ N _____

The tank level gauge shall include an audible alarm which activates when the booster tank reaches 1/4 capacity.

Y _____ N _____

UPF TANK POLYPRENE TANK

The booster tank shall be constructed of 1/2" thick PT2ETM polypropylene sheet stock which is a noncorrosive stress relieved thermoplastic, natural in color, and UV stabilized for maximum protection. It shall be designed to be completely independent of the body and compartments. All joints and seams are nitrogen welded and tested for maximum strength and integrity. The top of the booster tank is fitted with removable lifting eyes designed with a 3 to 1

safety factor to facilitate easy tank removal. The transverse swash partitions shall be manufactured of 3/8" PT2ETM polypropylene (natural in color) and extend from approximately 4" off the floor to just under the cover. The longitudinal swash partitions shall be constructed of 3/8" PT2ETM polypropylene (natural in color) and extend from the floor of the tank through the cover to allow for positive welding and maximum integrity. All partitions shall be quipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are welded to each other as well as to the walls of the tank.

Y_____N_____

The tank cover shall be constructed of 1/2" thick PT2ETM polypropylene, natural in color, and UV stabilized, to incorporate a multi three-piece locking design which allows for individual removal and inspection if necessary. The tank cover shall be recessed 3/8" from the top of the tank and shall be welded to both sides and longitudinal partitions for maximum integrity. Each one of the covers shall have hold downs consisting of 2" polypropylene dowels spaced a maximum of 30" apart. These dowels shall extend through the covers and will assist in keeping the covers rigid under fast filling conditions. A minimum of two lifting dowels shall be drilled and tapped 1/2" x 13" to accommodate the lifting eyes.

BOOSTER TANK MOUNTING

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 that 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 that 400 square inches of unsupported area.

Y_____N_____

The tank must be isolated from the cross members through the used of hard rubber strips with, a minimum thickness and width dimensions of .250" x 2" and a minimum Rockwell Hardness of 60 durometer. Additionally, the tank must be supported around the entire bottom outside perimeter and captured both front and rear as well as side to side to prevent the tank from shifting during vehicle operation.

Y_____N_____

A picture frame type cradle mount shall be utilized with a minimum of 2" x 2" x .250 mild steel, stainless steel or aluminum angle. Where aluminum or steel tubing and channel sub-frames are incorporated in the body structure, the use of corner angles having a minimum dimension of 4" x 4" x .250 x 6" high are permitted for the purpose of capturing the tank.

Y_____N_____

Although the tank is designed on a free floating suspension principle, it is required that the tank have 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 top of the tank, half way between the front and the rear on each side of the tank. These stops can be constructed of steel, stainless steel or aluminum angle having minimum dimensions of 3" x 3" x .250 and shall be approximately 6 to 12 inches long. These brackets must incorporate a hard rubber isolating pad with a minimum thickness of .250 inch affixed on the underside of the angle. The angle should then be bolted to the body side walls of the vehicle while extending down to rest on the top outside edge of the upper side wall of the tank. Internal mounting block design and hose bed floors must also be designed so that the floor slat supports extend full width from side wall to side wall and are not permitted to drop of the edge of the tank or in any way come in contact with the individual

covers where a puncture could occur. Hose floor loading must support up to 200 lbs per square foot and must be evenly distributed whenever possible. Other equipment such as generators, portable pumps, etc must not be mounted directly to the tank top unless provisions have been designed into the tank for that purpose. The tank shall be completely removable without disturbing or dismantling the apparatus structure.

Y _____ N _____

BOOSTER TANK FILL TOWER

The fill opening shall be approximately 13" x 12". The tower will have a 1/4" thick removable polypropylene screen and a polypropylene hinged type cover that will open if the tank is filled at an excess rate. There shall be a removable 1/4" thick polypropylene screen to prevent debris from falling into the tank. The fill tower shall have a 4" overflow that will discharge underneath the tank, behind the rear wheels. The overflow shall terminate above the tank water level when filled to the rated capacity.

Y _____ N _____

The fill tower shall be located in the left front hose bed.

Y _____ N _____

BOOSTER TANK SUMP

The sump will be constructed of 1/2" polypropylene and be located inline with the tank suction valve. There shall be a 4" schedule 40 polypropylene tube installed that will run from the suction outlet to the sump location. The tank will have an anti-swirl plate located approximately 2" above the sump.

Y _____ N _____

The sump shall have a 3" plug for use in draining and cleaning out the tank.

Y _____ N _____

BOOSTER TANK OUTLETS

In addition to the tank suction valve outlet located in the sump, there shall be an outlet provided for the tank fill valve. If there are any additional options selected (such as an extra tank suction or direct tank inlets), there shall be additional outlets provided to accommodate these items.

Y _____ N _____

OVERHEAD LADDER RACK

A hydraulically powered pivoting dual arm ladder rack shall be installed on the right side of the apparatus to store the ladders recessed above the right side of the hose bed in the flat position. The ladder rack assembly is to be constructed from 2" x 2" square stainless steel tubing, gusseted as necessary for strength.

Y _____ N _____

The ladder rack will store the ladders later described in this specification.

Y _____ N _____

Stainless steel scuff plates shall be applied to all non-weight bearing surfaces for paint protection.

Y _____ N _____

The rack system shall have two (2) hydraulic cylinders, (1) mounted on each end of the body. The hydraulic cylinders shall be mounted to allow for ease of maintenance and repair.

Y _____ N _____

Easy to remove internal compartment access plates shall be provided inside the right side compartments to allow access to hydraulic fittings. These shall be screwed into place with

stainless steel machine screws.

Each ladder rack arm shall have protective polished stainless steel covers (wrappers) over each hydraulic ram to protect hydraulic lines, and fittings, and to provide a vertical surface for rear warning lights and a pleasing appearance.

Y _____ N _____

The hydraulic ladder rack shall be powered by a separate 12 volt "electric over hydraulic" pump system and shall provide for easy adjustment of ladder rack travel speed. The hydraulic pump shall be located in the dunnage area above the pump or at the front of the hose bed. Pump shall be easily accessible for ease of maintenance and shall include a protective aluminum cover designed to protect plumbing and connections from inadvertent damage.

Y _____ N _____

Lubrication fittings utilized on the ladder rack shall be easily accessible from the exterior of the apparatus. Any pivot point shall have an easily accessible zerkl fitting provided to allow for lubrication as required.

Y _____ N _____

The ladder rack shall be mounted so as to allow for rack, when fully lowered, to clear all side compartment doors on the right side of the apparatus, allowing full travel of the rack, regardless of door position. Further, no cutout on the right side compartments shall be required, as the rack is to clear all door obstructions.

Y _____ N _____

The ladder rack shall be equipped with weatherproof up/down controls located at the right rear of the body, allowing operator to see both the rear and side of the apparatus during raising and lowering operations. The up/down controls shall be interlocked with a positive locking mechanism that shall not allow the controls to be used unless the mechanism is released.

Y _____ N _____

The ladder rack controls shall be enclosed in an aluminum CPI door on the left rear body skirt for additional protection.

Y _____ N _____

An air actuated positive locking mechanism shall be provided directly adjacent to the ladder control. The locking mechanism shall consist of two (2) 3/4" minimum diameter solid stainless steel air actuated cylinders that shall hold each vertical ladder arm in the upright position when bedded. Locking mechanisms that require the ladder rack to be manually unlocked, or utilize hinged clamps are not desired. All controls must be neatly grouped at the right rear of the body.

Y _____ N _____

A visual and audible warning light and buzzer system shall activate in the cab to warn personnel when the ladder rack not fully bedded and secured and the parking brake is released. The apparatus body shall be reinforced at all pivot points and cylinder mounting points with a minimum of 3/4" aluminum plate to prevent undue stress on the aluminum body.

Y _____ N _____

The ladder rack in the lowered position shall be as low as possible from the bottom of the ladders to the ground level. The purchaser desires easy ground level access for average height personnel and it is preferred that the bottom of the ladders in lowered position not exceed 50" from the ground.

Y _____ N _____

The ladder rack shall be equipped with two (2) Whelen 500 series single sided LED warning lights with red (rear) and amber (front) on the ends. The lights shall flash when the ladder rack control is engaged.

Y_____N_____

The vertical arms of the ladder rack shall have 1” reflective stripes applied for additional safety.

Y_____N_____

The ladder rack shall incorporate silicone or rubber pads to eliminate metal to metal contact between the ladder rack and the ladders.

Y_____N_____

The above ladders will be mounted, and secured by heavy duty positive locking thermoplastic polyurethane straps. Nylon straps or spring loaded clamps are not desired as it may cause damage to the ladder rungs through vibration.

Y_____N_____

PIKE POLE STORAGE

Two (2) pike poles shall be mounted on the hydraulic ladder rack with PAC brackets for easy pop-in and out access.

Y_____N_____

ATTIC LADDER STORAGE

One (1) attic ladder shall be mounted on the hydraulic ladder rack with two PAC rubber draw latches one on each end of the ladder.

Y_____N_____

HARD SUCTION STORAGE

Two (2) hard suction hose carrier(s) shall be provided. The carrier(s) shall be constructed of aluminum and anodized for a durable, long lasting finish. There shall be (2) hold-downs, one at each end, which shall hold the hard suction hose on each tray.

Two (2) hard suction carrier(s) shall be located on the left side above the apparatus compartments.

Y_____N_____

OVERLAYS

Overlays shall be painted to match the body and coated with 3M sealant and adhesive on the back sides to protect and to put an insulating barrier between dissimilar metals to assist in corrosion resistance.

Y_____N_____

The following areas shall have smooth painted overlays installed:

- The entire back of the apparatus body including both the side compartments.

Y_____N_____

The following areas shall have a diamond plate surface.

- The entire front area of the skirted compartments.
- The area below the rear hosebed including inboard facing surfaces with folding steps.

Y _____ N _____

The catwalks shall be approved stepping surfaces constructed of knurled tread plate approved by the latest NFPA standards for abrasiveness.

Y _____ N _____

The front body vertical wall overlays shall incorporate a 16 gauge mirrored stainless steel 1.0" x 1.0" corner trim piece for edge protection. The vertical edge trim shall extend from top to bottom and shall be fastened at a minimum of three locations, top, middle, and bottom.

Y _____ N _____

The rear body vertical wall overlays shall incorporate a 16 gauge mirrored stainless steel 1.0" x 1.0" corner trim piece for edge protection. The vertical edge trim shall extend from top to bottom and shall be fastened at a minimum of three locations, top, middle, and bottom. The vertical edge trim that is protecting chevron striping or a surface that shall be striped shall NOT be secured using an adhesive substrate, only fasteners shall be used in these cases.

Y _____ N _____

KNURLED SST HANDRAIL SPECIFICATIONS

All handrails shall be 1 1/4" in diameter, constructed of knurled #3 polished stainless steel tubing. There shall be a 2" minimum clearance between the bracket and the body.

Y _____ N _____

KNURLED SST INSERT HAND RAILS

There shall be three (3) hand rails installed on the rear of the apparatus. Each hand rail shall provide approximately 42 inches of gripping area for personnel. Each hand rail shall be constructed of a knurled #3 polished stainless steel tubing to provide a positive grip. The handrails shall be spaced away from the body using chrome plated ends. Two (2) vertical hand rails shall be installed, one on each side, just below the hose bed sides. The remaining hand rail shall be installed horizontally, just below the hose bed area.

Y _____ N _____

18" HANDRAILS

Two (2) 18" horizontal handrail(s) shall be located one (1) each side on top of the top control side panel module.

Y _____ N _____

TOW EYES

There shall be two rear tow eyes attached to the frame rails, accessible below the rear center compartment. They shall be manufactured of 1" plate steel and each plate shall be bolted to the chassis frame rail with a minimum of 6 grade 5 bolts. The two plates shall be anchored together with 1" steel tubing to prevent swaying of the frame rails during a towing operation.

Y _____ N _____

LOW-VOLTAGE ELECTRICAL SYSTEM

The apparatus shall be equipped with a Logic Controlled, Low-Voltage (12v) Electrical System compliant with the latest revision of the NFPA 1901 guideline.

Y_____N_____

The system shall be capable of performing total load management, load management sequencing, and load shedding via continuous monitoring of the low-voltage electrical system. In addition, the system shall be capable of switching loads (like operating as an emergency warning lamp flasher) eliminating the dependency on many archaic electrical components such as conventional flasher modules. The system shall also incorporate provisions for future expansion or modification.

Y_____N_____

The low-voltage electrical system shall be designed to distribute the placement of electrical system hardware throughout the apparatus thereby enabling a smaller, optimized wire harness. The programmable, logic controlled system shall eliminate redundant electrical hardware such as harnesses, circuit boards, relays, circuit breakers, and separate electrical or interlock subsystems and associated electronics for controlling various electrical loads and inputs.

Y_____N_____

As-built electrical system drawings and a vehicle-specific reference of I/O shall be furnished in the delivery manuals. These drawings shall show the electrical system broken down into separate functions, or small groups of related functions. Drawings shall depict circuit numbers, electrical components and connectors from beginning to end. **A single drawing for all electrical circuits installed by the apparatus builder shall not be accepted.**

Y_____N_____

LED DOT LIGHTING

There shall be seven (7) lights located on the rear of the vehicle. Three (3) of the lights shall be mounted on the rear face of the body for use as identification lamps. Two (2) lights shall be located on the rear, one each side and two (2) lights on the sides facing the side, for use as clearance lamps.

Y_____N_____

If the apparatus is 30' or longer there shall be two (2) amber intermediate turn signals and two (2) amber intermediate marker lights on the sides of the apparatus (one (1) each per side) between the front and rear axles.

Y_____N_____

The lights shall be Weldon brand 9186-1500 series LED red and amber markers.

Y_____N_____

REAR TAIL LIGHT CLUSTER

There shall be a rear tail light cluster furnished and installed in a polished bezel at the rear of the apparatus, one each side. The cluster shall be manufactured by Whelen and consist of the following:

- 1 - Whelen #60 LED series red brake light
- 1 - Whelen #60 Clear backup light (Halogen)
- 1 - Whelen #60 LED series amber turn signal light populated in the shape of an arrow

Y_____N_____

The rear brake lights are to be programmed with pulse flash before steady on with brake activation.

Y _____ N _____

Each tail light cluster shall be mounted on a removable panel of the same material as the rear overlay for easy access to the electrical distribution centers at each rear corner of the apparatus body.

Y _____ N _____

SWITCHABLE REAR SCENE / BACKUP LIGHTS

There shall be a switch on the left side of the rear of the apparatus that shall control the backup/scene lights after the park brake has been set.

The switch shall work independently of the parking brake circuit, after the park brake has been set. The lights shall shut off when the park brake is disengaged.

Y _____ N _____

PUMP/TRANSVERSE COMPARTMENT LIGHTING

There shall be one (1) 12 volt work light(s) installed in the pump/transverse compartment. Each light shall be activated with a switch located on each light and shall be enclosed in an ABS case. Each light head shall be removable and have a retractable wire that can be extended a minimum of 10 feet to allow maintenance personnel to relocate and direct the light as needed.

Y _____ N _____

HIGH SIDE UPPER ROM COMPARTMENT STRIP LIGHTING

Two (2) ROM LED strip lights shall be installed in two (2) high side upper compartment(s). The lights in each compartment shall be on a separate circuit, turning on only the lights that have open compartment doors. The lights shall be manufactured by ROM.

Y _____ N _____

FULL HEIGHT ROM COMPARTMENT STRIP LIGHTING

Two (2) ROM LED strip lights shall be installed in two (2) full height compartment(s). The lights in each compartment shall be on a separate circuit, turning on only the lights that have open compartment doors. The lights shall be manufactured by ROM.

Y _____ N _____

REAR ROM COMPARTMENT STRIP LIGHTING

Two (2) ROM LED strip lights shall be installed in the rear center compartment. The light in the compartment shall be on a separate circuit, turning on only the lights that have open compartment doors. The lights shall be manufactured by ROM.

Y _____ N _____

PERIMETER LIGHTS

There shall be four (4) underbody perimeter lights furnished and installed in addition to the chassis provided. One (1) under each side of the front of the body, and two (2) under the rear step to illuminate the ground around the truck. They shall be manufactured by Trucklite and be model # 40003.

Y _____ N _____

UPPER LIGHTING PACKAGE

The following NFPA lighting package, manufactured by Whelen, shall be supplied and installed in the upper areas of the vehicle.

Y_____N_____

ZONE A: There shall be a 88" Edge Ultra Freedom lightbar installed.

The lightbar shall house two (2) corner red linear Super LEDs, Eight (4) front red linear Super LEDs, two (2) front white linear Super LEDs, four (4) front and rear corner red linear Super LEDs and a 3M 9592 opticom in the following configuration:

Red/Red/Clear/Red/Red/Opticom/Red/Red/Clear/Red/Red

Y_____N_____

The outer lenses shall be RED with the exception of the clear flashers. The lightbar shall be manufactured by Whelen and be model FN88QLED Custom.

Y_____N_____

ZONE C: There shall be two (2) Whelen beacons, with 360 degree LED lights installed at the rear upper outboard corners of the apparatus. The beacons shall be model L3 1HRFN with red lenses.

Y_____N_____

CAST ALUMINUM LIGHT STANCHIONS

Two light stanchions shall be mounted in the upper rear corners of the body sides, one each side. Each shall be large enough to accommodate an upper zone C rotating beacon and a hose bed light if specified. The DOT lights specified elsewhere in the quote shall also be located one on the side and the other located on the rear of each stanchion.

Y_____N_____

LOWER LED WARNING LIGHTING

ZONE A: The warning lights shall be supplied as previously described in the custom chassis portion of the specification.

Y_____N_____

ZONES B&D: There shall be six (6) Whelen model 60R02FCR 4"x6" flashing red linear Super-LED lights with clear lenses and chrome bezels installed three (3) on each side of the apparatus.

Y_____N_____

MID ZONE C: There shall be two (2) Whelen model 900 7"x 9" flashing red linear Super-LED lights with clear lenses and chrome bezels installed on the mid rear of the body.

Y_____N_____

UPPER ZONE C: There shall be two (2) Whelen model 900 7"x 9" flashing amber linear Super-LED lights with clear lenses and chrome bezels installed on the upper rear of the body.

Y_____N_____

LOWER ZONES B&D CAST ALUMINUM LIGHT HOUSING

A cast aluminum light housing shall be used for the rearmost warning light in zones B&D to ensure the light is mounted as far rearward as possible.

Y_____N_____

REAR DIRECTIONAL LIGHTS

There shall be a directional lightbar furnished and mounted on the rear of the apparatus. The lightbar shall be mounted above the rear center compartment area so as to be readily visible by approaching traffic

Y_____N_____

The directional lightbar shall be 46.82" long with eight (8) 5mm LED light heads. The lightbar shall be manufactured by Whelen and be model # TAL85.

Y_____N_____

The directional light bar shall be recess mounted in the rear of the body above the rear center door.

Y_____N_____

12 VOLT RECESSED SCENE LIGHTS

There shall be two (2) Whelen 810 Series scene light(s) installed on the apparatus as specified below. The light(s) shall be 12 volt and have 8 to 32 degree optics. The light(s) shall be model 81 0CA0ZR.

Y_____N_____

The scene lights shall be located on the rear of the body, one (1) each side.

Y_____N_____

The scene light(s) shall be activated through the multiplexing vista display and by a switch at the rear of the body.

Y_____N_____

HARRISON HYDRAULIC 6,000 WATT GENERATOR

One (1) Harrison Hydraulic Driven Generator rated at 6,000 watts.

Y_____N_____

HARRISON HYDRAULICALLY DRIVEN GENERATOR

The system shall be designed and assembled by a company with no less than 10 years experience in the manufacture of hydraulic driven generators. The system shall be tested at the full nameplate load prior to shipping and be accompanied with the test report. The test report will document the generators performance at various loads from no load to full load to ensure reliable power delivery at those loads.

Y_____N_____

The motor/generator shall be placed in a frame which affords protection to the components and provides a unitized mounting module containing the motor/generator, reservoir, oil cooler, filtration, on/off manifold containing a cross port check valve allowing unit to be started and shut down remotely. The generator shall be a commercial type with a heavy-duty bearing and of brushless design to ensure low maintenance. No brushes or slip rings shall be allowed. The reservoir shall include an oil level sight gauge, oil temperature gauge, fill cap, oil filter, and a venturi boost unit to provide positive pressure to the pump suction port. The generator and motor shall be close coupled and aligned using a Morse taper with a through bolt to secure the motor to the generator. No two (2) bearing generators shall be permitted.

Y_____N_____

The system must be capable of producing the full nameplate power when driven from the vehicle PTO from idle to maximum engine speed. The generator system must be able to operate on either

a Constant Engaged PTO or a Hot Shift PTO. Determination as to which PTO to use will be made by the Fire Department. The generator must be able to be used while vehicle is either stationary or in motion.

Y_____N_____

The hydraulic motor and pump shall be of axial piston design to provide low internal leakage and a high degree of frequency stability. No gear pumps or motors will be used. The pump shall match the system with the proper orifice, pressure compensator, and load sense settings to provide stable output regardless of engine rpm or electrical load demands.

Y_____N_____

The system shall be capable of normal operations using a commonly available ATF fluid, such as GM Dextron II or equivalent. All fluid service points shall be in close proximity to the reservoir for ease of scheduled maintenance.

Y_____N_____

There shall be a meter containing the volts, amp, frequency and hour meter supplied and installed with the generator and mounted in a location close to the apparatus breaker box..

Y_____N_____

HOT SHIFT PTO

A 'hot' shift shall be added to the hydraulic generator installation. The guarded switch shall be used to disconnect the PTO from the transmission in the event of hydraulic system failure (broken hose, etc) during operation. The PTO shall remain 'engaged' to keep fluid circulating through the system so that when you wish to 'excite' the generator, you may do so with a separate switch mounted on the dash or in another operator accessible area. If the switch does not include a light a indicator light shall be supplied. This light shall be energized when the generator is 'excited'.

Y_____N_____

GENERATOR MOUNTING

The generator shall be mounted in the hose bed area near the front of the apparatus above the water tank.

Y_____N_____

LOAD CENTER

There shall be a electrical load center furnished and installed in a protected environment. The load center shall have provisions for eight (8) 20 amp manual reset type circuit breakers.

Y_____N_____

The load center shall be located on the driver's side in the forward upper compartment.

Y_____N_____

GENERATOR POWERED OUTLETS

The following outlets shall be supplied on the apparatus and be live when the generator is running;

Y_____N_____

There shall be four (4) outlet(s) installed in the following specified location on the apparatus. The outlet(s) shall be 120 vac/20 amp twist lock (NEMA L5-20), single receptacle with a weatherproof cover.

Y_____N_____

- Two (2) outlet(s) shall be located on the catwalks for the pedestal mounted scene lights.

Y_____N_____

- One (1) outlet(s) shall be located at the left rear compartment face of the apparatus body.

Y_____N_____

- One (1) outlet(s) shall be located at the right rear compartment face of the apparatus body.

Y_____N_____

SHORELINE POWERED OUTLETS

The following outlets shall be supplied on the apparatus and be live when shoreline power is provided;

Y_____N_____

There shall be one (1) outlet(s) installed in the following specified location on the apparatus. The outlet(s) shall be 120 vac/20 amp twist lock (NEMA L5-20), single receptacle with a weatherproof cover.

One (1) outlet(s) shall be located on the forward wall, inside the left front (L1) body compartment.

Y_____N_____

120/240 VOLT PEDESTAL MOUNTED SCENE LIGHTS

There shall be two (2) Havis Shields Magnafire non telescoping removable mounted scene light(s) installed on the apparatus as specified below. The light(s) shall be 120 volt 750 watt and shall have a tilt and swivel adjustment. The light(s) shall be model KR-37DM with hold down assembly.

Y_____N_____

The scene light(s) shall have a switch on the lighthouse.

Y_____N_____

The scene lights shall be located on the side of the body, one (1) each side, centered on the catwalk.

Y_____N_____

TELESCOPING LIGHTS

There shall be two (2) Havis Shields Magnafire 3000 side mounted, bottom raise telescoping scene light(s) installed on the apparatus as specified below. Lights are to include Silver Billet System, 4" offset bracket, lower receiver bracket, and grab rail option. The light(s) shall be 120 volt 750 watt. The light(s) shall be model KR-SB-GR-36.

Y_____N_____

The scene light pole(s) shall have a "up" indicator switch to indicate that the light is in a raised position.

Y_____N_____

A mirrored stainless steel protector shall be installed behind each light head to protect the surface behind the light(s) from being scratched.

Y_____N_____

Two (2) light(s) shall be mounted on the rear face of the custom chassis cab.

Y_____N_____

The scene lights shall be activated by a switch on the rocker switch panel.

Y _____ N _____

The scene lights shall be activated by a switch on both sides of the pump panel.

Y _____ N _____

DOOR LETTERING

The lettering shall be gold leaf with black shadowing and edging or per the direction of the Purchaser to match current fleet standards. Lettering shall be applied as directed by the fire department with a maximum of 60 letters up to 6" in height. The striping shall be Scotchcal with black edging.

Y _____ N _____

REFLECTIVE STRIPING

There shall be a 6" inch reflective "Scotch-lite" stripe with a one (1) 2" accent stripes applied to the outside perimeter of the chassis and apparatus or per the direction of the Purchaser to match current fleet standards.

Y _____ N _____

Vehicle shall comply with all NFPA standards for striping

The final striping pattern shall be determined and approved by the Purchaser at the Pre-Construction Meeting.

Y _____ N _____

The reflective striping shall be Red in color.

Y _____ N _____

CAB DECAL

An adhesive decal shall be applied to each side of the cab which incorporates a waving American Flag with the head of the Bald Eagle. The decal shall be the same size and design to match the Purchaser's current fleet standard.

Y _____ N _____

LICENSE PLATE MOUNTING

A Cast Products, model LP0005, cast aluminum license plate bracket shall be installed on the apparatus. The bracket shall incorporate proper lighting provisions to illuminate the license plate to meet DOT requirements.

Y _____ N _____

EQUIPMENT

The following equipment shall be supplied by the Apparatus Manufacturer unless otherwise indicated as Fire Department supplied:

ZICO WHEEL CHOCKS

One (1) set(s) of NFPA compliant Ziamatic folding wheel chocks model # SAC-44 shall be supplied with the apparatus

Y _____ N _____

GROUND LADDERS

The following ground ladders shall be provided:

- one (1) Duo-Safety 35' three (3) section aluminum extension ladder(s), model 1225A
- one (1) Duo-Safety 14' aluminum roof ladder(s) with folding

hooks, model 775A - one (1) Duo-Safety 10' folding aluminum attic ladder(s), model 585A

Y _____ N _____

PIKE POLES

The following pike poles shall be provided, installed with an appropriate mounting bracket: - one (1) Duo-Safety 12' pike pole(s) with fiberglass handle
- one (1) Duo-Safety 6' pike pole(s) with fiberglass handle(s)

Y _____ N _____

HARD SUCTION HOSE

Two (2) 10' length(s) of 6" clear PVC hose(s) with lightweight couplings shall be supplied and installed on the apparatus.

Y _____ N _____

STRAINERS

One (1) 6" Chrome plated barrel strainer(s) shall be supplied with the apparatus.

Y _____ N _____

AXES

One (2) 6 lb Fiberglass handled flat head axe(s) shall be supplied with the apparatus.

Y _____ N _____

Two (2) 6 lb Fiberglass handled pick head axe(s) shall be supplied with the apparatus.

Y _____ N _____

Two (2) Axe(s) shall be mounted on the specified apparatus in the noted location(s). Each axe shall be mounted such that the head shall be placed in a blade-protecting, welded aluminum holder, and the handle shall be secured by a chromed tulip-clip mounting bracket.

Y _____ N _____

The two (2) axe(s) shall be mounted one (1) each side of the pump panel.

Y _____ N _____

36" HALLIGAN TOOL(S)

One (2) 36" Halligan Tool(s) shall be supplied with the apparatus.

Y _____ N _____

One (2) PAC brand (Model K5003) bracket against the back wall of the cab on the officer's side adjacent to rear cab door for storage of forcible entry irons. The bracket will accommodate One (1) 36" Hooligan tool married to a 6 lb. Flathead axe. The brackets will be adequate to secure the irons when the cab is tilted for service and maintenance.

Y _____ N _____

RECHARGEABLE FLASHLIGHTS

There shall be three (3) hand held Streamlite #45107 litebox(es) with 12 volt charger(s) furnished and installed on the apparatus, wired to the batteries. The exact location will be determined at the pre construction meeting.

Y _____ N _____

There shall be five (5) Streamlite #90509 Survivor LED portable flashlights with 12 volt chargers furnished and installed on the apparatus wired to the batteries. The exact location will be determined at the pre construction meeting.

Y _____ N _____

WRENCH SETS

All NFPA required spanner and hydrant wrenches will be furnished and installed on the apparatus. Exact location will be determined at the pre construction meeting.

Y _____ N _____

PERFORMANCE TESTS AND REQUIREMENTS:

A road test shall be conducted with the apparatus fully loaded and a continuous run of ten miles or more will be made, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts and rear axles shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus. The successful bidder shall furnish a Weight Certificate showing weights on front axle, rear axles and total weight for the completed apparatus at time of delivery.

Y _____ N _____

A. The apparatus shall be capable of accelerating to 35 MPH from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed RPM of the engine.

Y _____ N _____

B. From a steady space of 15 MPH the vehicle shall accelerate to 35 MPH within 30 seconds. This shall be accomplished without moving the gear selector.

Y _____ N _____

C. The service brakes shall be capable of stopping the fully loaded vehicle in 35 feet at 20 MPH on level dry concrete highway.

Y _____ N _____

D. The apparatus, fully loaded, shall be capable of obtaining a minimum speed of 68 MPH on a level dry concrete highway with the engine not exceeding it's governed RPM (fully loaded).

Y _____ N _____

E. If optioned, the apparatus shall be tested and approved by the Underwriter's Laboratories Incorporated in accordance with their standard practices for aerial apparatus.

Y _____ N _____

F. The Contractor shall furnish copies of the Pump Manufacturer's Certification of hydrostatic test, the Engine Manufacturer current certified brake horsepower curve, and the Manufacturer's record of apparatus construction details when delivered.

Y _____ N _____

The contractor shall supply the final manufacturer's furnished certification of GVWR and GAWR on a nameplate affixed to the vehicle.

Y _____ N _____

A permanent plate shall be mounted in the driver's compartment to specify the quantity and type of the following fluids used in the vehicle: Engine oil, engine coolant, chassis transmission fluid, pump transmission lubrication fluid, pump primer fluid (if used) and drive axle lubrication fluid.

Y _____ N _____

A permanent plate in the driver's compartment shall be installed, specifying the seating capacity of the enclosed cab.

Y_____N_____

Signs that state "OCCUPANTS MUST BE SEATED AND BELTED WHEN APPARATUS IS IN MOTION" shall be provided and will be visible from each seated position. An accident prevention sign shall be located at the rear step area of the apparatus. It shall warn all personnel that standing on the step while apparatus is in motion shall be prohibited.

Y_____N_____

A nameplate indicating the chassis transmission shift selector position to be used when pumping shall be provided in the driving compartment and located so that it can be easily read from the driver's position.

Y_____N_____

SUPPLIED INFORMATION & EXTRAS

The apparatus manufacturer shall supply two (2) copies of apparatus manuals with all manufactured apparatus. The manuals shall include, but not be limited to: all component warranties, users manuals and information for supplied products, apparatus engineering information including drawings and build prints, and whatever other pertinent information the manufacturer can supply to its customer regarding the said apparatus.

Y_____N_____

Included in the delivery of the unit, the manufacturer shall also include spare hardware and extra fasteners, paint for touch-up, information regarding washing and care procedures, as well as other recommendations for care and upkeep of the general apparatus.

Y_____N_____

The manufacturer shall also supply a manufacturer's record of apparatus construction details, including the following information:

Owner name and address;

Apparatus manufacturer, model, and serial number;

Chassis make, model, and serial number;

GAWR of front and rear axles;

Front tire size and total rated capacity in pounds;

Rear tire size and total rated capacity in pounds;

Chassis weight distribution in pounds with water (if applicable) and manufacturer mounted equipment (front and rear);

Engine make, model, serial number, rated horsepower, related speed and no load governed speed; Type of fuel and fuel tank capacity;

Electrical system voltage and alternator output in amps;

Battery make and model, capacity in CCA;

Paint numbers;

Weight documents from a certified scale showing actual loading on the front axle, rear axle(s), and overall vehicle (with the water tank full (if applicable) but without personnel, equipment, and hose);

Written load analysis and results of the electrical system performance tests;

Y_____N_____

Transmission make, model, and type;
Engine to pump gear ratio and transmission gear ratio used;
The engine manufacturer's certified brake horsepower curve for the engine furnished,
showing the maximum no load governed speed;

Y_____N_____

APPARATUS TEST BY UNDERWRITERS LABORATORIES

The following Apparatus shall comply with all NFPA 1901 applicable regulations in effect as of the contract signing date. There shall be multiple tests performed by the contractor and Underwriter's Laboratories when the apparatus has been completed. The manufacturer shall furnish the completed Test Certificate(s) to the purchaser at time of delivery. Since the inspection services of Underwriters Laboratories are available to all bidders on an equal basis, no other third party testing service shall be acceptable. The tests conducted on the apparatus shall include, but not be limited to:

Y_____N_____

PUMP & PLUMBING PERFORMANCE TEST

The apparatus pump and plumbing system shall be tested and certified.

Y_____N_____

12 VOLT ELECTRICAL TEST

The apparatus low voltage electrical system shall be tested and certified.

Y_____N_____

FOAM SYSTEM TESTING

The apparatus foam system shall be tested and certified.

Y_____N_____

GENERATOR & 110/220-VOLT UL TESTING

The apparatus generator system shall be tested and UL certified.

Y_____N_____

COLOR CODED ELECTRICAL SCHEMATICS

The apparatus manufacturer shall supply one (1) set(s) of as-built wiring schematics with each apparatus.

Y_____N_____

OPERATING INSTRUCTIONS AND DEMONSTRATION

As required by applicable sections of NFPA #1901, operating instructions and demonstration of the apparatus shall be provided at the purchaser's location. A trained and qualified technician shall provide these instructions and demonstration of the apparatus.

Personnel providing the instructions shall be professionally trained by the manufacturer prior to the delivery process. All costs of these instructions shall be borne by the bidder. The bidder shall provide classroom instructions, instruction and operating manuals as required by NFPA #1901, and provide all other necessary material necessary to assure proper operation of the apparatus.

This instruction period shall be a minimum of one (1) day at the purchaser's location. The purchaser shall pick the date and time of training in coordination with the bidder.

Y_____N_____

INSPECTION TRIPS

The intent of this section is to ensure that the City has the opportunity to see the factory, work directly with personnel responsible for fabricating the apparatus prior to complete final design and details prior to construction, to view and potentially modify the apparatus during construction and to inspect the apparatus after construction but before delivery.

Two (2) inspection trips for Fire Department personnel shall be made to the factory as follows:

- A. Pre-inspection. Two (2) representatives of the City.
- B. Pre-delivery. Two (2) representatives of the City.

Bidder shall coordinate the timing of the inspection trips with the Chief; Chief shall be responsible for booking air and hotel reservations. Air travel from Bellingham (BLI) to nearest airport to factory, meals and lodging expenses shall be included in bid and paid directly by Bidder.

Y_____N_____