

ITEM I
CITY OF FAIRHOPE
BID INVITATION

November 2, 2010

Sealed proposals will be received by the City of Fairhope of Baldwin County, Alabama, in the City of Fairhope offices, 555 South Section St. Fairhope, Alabama, until 2:00P.M. November 17, 2010, and then publicly opened thereafter, for furnishing all labor and materials, and performing all work required by the Fairhope Volunteer Fire Department and described as follows:

Bid Number 004-11, FIRE TRUCK OUTFITTED

Questions or comments pertaining to this bid must be presented in writing, sent as e-mail or faxed to the attention of the Purchasing Manager, Daniel P. Ames, P.O. Drawer 429, 555 South Section St., Fairhope, Al 36532, e-mail: dan.ames@cofairhope.com, fax number: 251-990-0125, Seventy Two (72) hours prior to the bid opening or will be forever waived.

All bids must be on blank forms provided in the Bid Documents. **BID BOND IS WAIVED.**
THERE WILL BE NO PREBID MEETING.

The City of Fairhope is an Equal Opportunity Employer and requires that all contractors comply with the Equal Employment Opportunity laws and the provisions of the Contract Documents in this regard. The City also encourages and supports the utilization of Minority Business Enterprises on this and all public bids.

All bids, with their guarantee (when required), must be enclosed in a sealed, opaque envelope, clearly identified on the outside as a "**Sealed Bid**" with **Item Name, Bid Number, City of Fairhope's Name and Address and Bidder's Name and Address**. Each bid must be in a separate envelope. Bids made out in pencil will not be accepted.

Failure to observe the instructions contained herein will constitute grounds for rejection of your bid. The City reserves the right to accept or reject all bids or any portion thereof whichever is in the best interest of the City of Fairhope.

The company that is awarded the bid must have Workman's Compensation Insurance on all of its employees if work is done on City premises. General Liability Insurance must be maintained to hold the City harmless in the event of an accident. Proof of Workman's Compensation Insurance if work is done on City premises and General Liability Insurance specifying coverage must accompany this bid packet. See specifications for details.

No bids will be considered unless the bidder, whether resident or non-resident of Alabama, is properly qualified to submit a proposal for this type of work in accordance with all applicable laws of the State of Alabama. Where applicable, this shall include evidence of holding a current license from the State Licensing board for General Contractors, Montgomery, Alabama, as required by Chapter 8 of Title 34, of the Code of Alabama, 1975. In addition, non-residents of the State if a corporation, shall show evidence of having qualified with the Secretary of State to do business in the State of Alabama. Bidder must have a current business license or purchase a business license with the City of Fairhope prior to bid being awarded.

Daniel P. Ames,
Purchasing Manager
Posted: 11-02-2010

CONTENTS

Invitation.....	I
Instruction to Bidders.....	II
Standard Terms and Conditions.....	III
Scope of Work and Specifications.....	IV
Bid Response Form.....	V

ITEM II

INSTRUCTION TO BIDDERS

AWARD OR REJECTION OF BIDS

1. The Bid will be awarded to the lowest responsible bidder complying with conditions of the invitation for bids, provided his bid is reasonable and it is in the interest of the City of Fairhope to accept it. The bidder to whom the award is made will be notified at the earliest possible date. The City of Fairhope, however, reserves the right to reject any and all bids, or parts thereof, and to waive any informality in bids received whenever such rejection or waiver is in the interest to the City of Fairhope.

COMPLIANCE

1. All bid components will comply with all Federal, State and Local laws, ordinances, codes and regulations.
2. The awarded vendor will be responsible for insuring that all items meet specifications before delivery.
3. Awarded vendor will make no substitutions for bid items without prior written approval of the City of Fairhope Purchasing Department.

ORDERING

1. The City of Fairhope Purchasing Department will issue Purchase Order(s) to the awarded vendor for bid items as needed.
2. If awarded vendor fails to fill Purchase Order(s) or deliver on time, the City of Fairhope reserves the option to procure needed, comparable items from any source, and bill the awarded vendor for associated expenses generated by such failure.

PACKAGING & DELIVERY

1. Deliver bid items to City of Fairhope Warehouse, 555 South Section Street, Fairhope, AL, or other designated City site, maintaining product in proper state, undamaged.
2. At point of delivery, awarded vendor will present an itemized delivery ticket **with the Purchase Order Number clearly referenced thereon**, to City of Fairhope receiving personnel for signing.
3. F.O.B. City of Fairhope, as directed.
4. Receipt inspection will be performed by City of Fairhope and Fairhope Volunteer Fire Department representatives.
5. Shortages, defective or damaged items will be rejected. The awarded vendor will replace such items within ten (10) working days.
6. If applicable, all titles, fees, as well as other charges, are to be paid by awarded vendor. Awarded vendor is to furnish prepaid certificate of title in the name of the City of Fairhope, Title shall change upon acceptance of delivery at the Owner approved delivery location.
7. The bidder shall give the City at least 24 hours notice (Weekends and Holidays excluded) prior to delivery on site.

PAYMENT

1. Invoices -- Upon completion of service and delivery of materials specified in the applicable purchase order, awarded vendor will submit an invoice and signed delivery ticket to:
City of Fairhope
Accounts Payable Department
P.O. Box 429
Fairhope, AL 36533
2. **All invoices must reference appropriate Purchase Order Numbers**
3. Payment Of Invoice: All invoices received by the City of Fairhope are payable within thirty (30) days from the date of receipt by the City of Fairhope, provided they are approved by the City of Fairhope.

COMPLIANCE

1. Compliance with or variations from the specifications must be noted as to each item on the Specification Sheet. This requirement must be met even though the Purchasing Manager may alter the specifications in the form of an addendum to accommodate variances. A request for a change in the specifications to accommodate a variation must be called to the attention of the Purchasing Manager at least 72 hours before the bid opening date. All requests for such changes will be considered and the merits weighed. Only those changes in specifications deemed to be in the best interest of the City will be made. In the event of a change in specifications, an addendum will be supplied to bidders. Exceptions may be accepted if they are minor, equal, or superior to that which is specified, and provided that they are listed and fully explained on a separate page entitled, "Exceptions to Specifications". The exceptions shall refer to the specification page and paragraph number. The City shall determine which (if any) exceptions are acceptable and this determination shall be final.

ITEM III

CITY OF FAIRHOPE, ALABAMA STANDARD TERMS AND CONDITIONS

ACCEPTANCE OF AGREEMENT

This Agreement contains all terms and conditions agreed upon by the Owner and Winning bidder. No other agreement, oral or otherwise, regarding the subject matter of this Agreement shall be deemed to exist or to bind either party hereto. The Winning Bidder shall not employ Subcontractors without the express written permission of the Owner. No waiver, alteration, consent or modification of any of the provisions of the Agreement shall be binding unless in writing and signed by the Owner and Contractor. This Agreement shall not be construed against the party or parties preparing it. It shall be construed as if all the parties and each of them jointly prepared this Agreement, and any uncertainty or ambiguity shall not be interpreted against one or more parties.

ACCEPTANCE OF WORK

The City of Fairhope will be deemed to have accepted the Work after the City of Fairhope agrees the Work is completed by signature on delivery or service tickets. In the event Work furnished under the Contract / Agreement / Purchase Order is found to be defective or does not conform to the intent of the Contract / Agreement / Purchase Order, the awarded vendor shall, after receipt of notice from the City of Fairhope, correct the deficiencies. Failure on the part of the awarded vendor to properly correct the deficiencies within the time period allowed will constitute the City of Fairhope's right to cancel the Contract / Agreement / Purchase Order immediately, upon written notice to the awarded vendor.

ADDENDA

All Addenda are part of the Contract Documents. Include resultant costs in the Bid. Addenda will be issued by FAX or Email to all Bidders on record, and posted to the City of Fairhope website www.cofairhope.com. It is the responsibility of the bidder to verify that all addenda have been received, and to include all signed addenda in the bid submission

ADDITIONAL ORDERS

Unless it is specifically stated to the contrary in the bid response, the City of Fairhope reserves the option to place additional orders against a contract awarded as a result of this solicitation at the same terms and conditions; to extend the renewal date until a new bid is in place, if it is mutually agreeable.

APPLICABLE LAW

This Agreement is deemed to be under and shall be governed by and construed according to the laws of the State of Alabama. Any litigation arising out of the Agreement shall be heard in the Courts of Baldwin County, Alabama.

ASSIGNMENT

The awarded vendor shall not assign the Contract / Agreement / Purchase Order or sublet it as a whole without the express written permission of the City of Fairhope. The awarded vendor shall not assign any payment due them hereunder, without the express written permission of City of Fairhope. The City of Fairhope may assign the Contract / Agreement / Purchase Order, or sublet it as a whole, without the consent of the awarded vendor.

ASSURANCE OF NON-CONVICTION OF BRIBERY

The bidder hereby declares and affirms that, to its best knowledge, none of its officers, directors, or partners and none of its employees directly involved in obtaining contracts has been convicted of bribery, attempted bribery or conspiracy to bribe under the laws of any state or Federal government.

AWARD CONSIDERATION

The following factors will be considered in determining the lowest **responsible** bidder: Overall quality, Conformity with specifications both general and specific, Purposes for which materials or services are required, Delivery dates and time required for delivery, Unit acquisition cost, financial ability to meet the contract, previous performance, facilities and equipment, availability of repair parts, experience, delivery promise, terms of payments, compatibility as required, other costs, and other objective and accountable factors which are reasonable.

AWARD OR REJECTION OF BIDS

The Bid will be awarded to the lowest responsible bidder complying with conditions of the invitation for bids, provided his bid is reasonable and it is in the interest of the City of Fairhope to accept it. The bidder to whom the award is made will be notified at the earliest possible date. The City of Fairhope, however, reserves the right to reject any and all bids and to waive any informality in bids received whenever such rejection or waiver is in the interest to the City of Fairhope.

BACK ORDERS

If it is necessary to back order any items, the vendor must notify the Purchasing Department and advise as to the expected shipping or delivery date. If this date is not acceptable, the City of Fairhope may seek remedies for default.

BID AND PERFORMANCE SECURITY

If bid security is required, a bid bond or cashier's check in the amount indicated on the bid cover must accompany the bid and be made payable to The City of Fairhope of Baldwin County, Al. Corporate or certified checks are not acceptable. Bonds must be in a form satisfactory to the City and underwritten by a company licensed to issue bonds in the State of Alabama. If bid security fails to accompany the bid, it shall be deemed unresponsive, unless the Purchasing Manager deems the failure to be non-substantial. All checks will be returned to the bidders after the contract has been approved. If a performance bond is required, the successful bidder will be notified after the awarding of the contract.

BRAND NAMES

Reference to brand names and numbers is descriptive, but not restrictive, unless otherwise specified. Bids on equivalent items meeting the standards of quality thereby indicated will be considered, providing the bid clearly describes the article offered and indicates how it differs from the referenced brands. Descriptive literature or manufacturers specifications plus any supplemental information necessary for comparison purposes should be submitted with the bid or the bid on that item may be rejected. Reference to literature submitted with a previous bid or on file with the Division of Purchasing will not satisfy this requirement. The burden is on the bidder to demonstrate that the item bid is equivalent to the item specified in the ITB. Bids without sufficient documentation to fully support equality, may be considered non-responsive.

Reference by the City of Fairhope in the ITB to available existing specifications shall be sufficient to make the terms of such specifications binding on the bidder. Unless the bidder specifies otherwise in its bid, it is understood the bidder is offering a referenced brand item as specified in the ITB

or is bidding as specified when no brand is referenced. Failure to examine drawings, specifications and instructions will be at the bidder's risk.

BUSINESS LICENSE

The vendor selected to enter into a Contract / Agreement with the City of Fairhope must be licensed to do business in the City of Fairhope prior to commencement of any work under the contract. Delivery of goods or services to the City of Fairhope by Purchase Order have detailed and varied Business License requirements. In all instances that require a business license. Awarded vendor will provide proof of possessing a current City of Fairhope Business License. Prospective bidders will not be required to possess a City of Fairhope Business License prior to award.

CANCELLATION OF / CONTRACT / AGREEMENT / PURCHASE ORDER / LEASE

A purchase order can be canceled in whole or in part when awarded vendor fails to deliver or perform as specified. Cancellation of a purchase order can only be made by a written purchase order change (POC) from the City of Fairhope. A term contract, lease or agreement can be canceled by the City of Fairhope, for justifiable cause, or convenience, by written notice.

CERTIFICATION PURSUANT TO ACT NO. 2006-557

Alabama law (section 41-4-116, code of Alabama 1975) provides that every bid submitted and contract executed shall contain a certification that the vendor, contractor, and all of its affiliates that make sales for delivery into Alabama or leases for use in Alabama are registered, collecting, and remitting Alabama state and local sales, use, and/or lease tax on all taxable sales and leases into Alabama. By submitting this bid, the bidder is hereby certifying that they are in full compliance with act no. 2006-557, they are not barred from bidding or entering into a

contract pursuant to 41-4-116, and acknowledges that the awarding authority may declare the contract void if the certification is false. All corporations must register to do business in Alabama with the Office of the Secretary of State. Their address is:

Office of the Secretary of State
P.O. Box 5616
Montgomery, AL 36103
(334) 242-5324
Fax: (334) 240-3138
<http://www.sos.state.al.us/index.aspx>

The Foreign Corporation form is online at <http://www.sos.state.al.us/downloads/dl1.cfm>

COST OF REMEDYING DEFECTS

All defects, indirect and consequential costs of correcting, removing or replacing any or all of the defective materials or equipment will be charged against the awarded vendor.

DELIVERY OF BID

Bids must be received in the Purchasing Office by the date and time specified on the bid cover. All bids will be accepted until the time and date stated on the bid cover. No bids will be accepted that extend past the time and date on the bid cover. The time of receipt shall be determined by the time clock stamp in the Purchasing Department. Bids submitted by U.S. Mail must be received by the City of Fairhope of Baldwin County, Alabama, in the City of Fairhope offices, 555 South Section St., Fairhope, Al., unless otherwise specified.

DELIVERY

The number of calendar days required for delivery after receipt of a purchase order shall be stated in the RFQ / ITB / RFP and/or Purchase Orders. When no time is stated in the document, the time shall be fourteen (14) calendar days after receipt of order. If a shipment is not made within the time period specified, the Purchase Order may be canceled.

ENVIRONMENTAL REQUIREMENTS

All products will be clearly labeled for their intended use. Each delivery of product or materials will include a Material Safety Data Sheet (MSDS) for all materials that require an MSDS. All manufacturers/distributors of hazardous substances, including any of the items listed on this bid/quote/contract and subsequent award must include completed material safety data sheet (MSDS) for each hazardous material. Additionally, each container of hazardous materials must be appropriately labeled with:

- a) The identity of the hazardous material,
- b) Appropriate hazard warnings, and
- c) Name and address of the chemical manufacturer, importer, or other responsible party

EQUIPMENT DEMONSTRATION

The City of Fairhope may require equipment/ product materials or service techniques to be demonstrated at a time, date and location to be specified by the City of Fairhope.

EQUIPMENT ELECTRICAL CERTIFICATION

All electrical equipment purchased shall conform to, and be identified in, the applicable standard(s), or otherwise be certified as applicable, as of the bid opening date and time, by Underwriters Laboratories, Inc. or other recognized laboratory facility. Bidder must provide satisfactory documentation with returned bid that all such equipment meets the applicable product standard or has otherwise been certified as outlined above. Unless indicated in the bid document, the above certification shall apply to the equipment itself, not the individual components of that equipment.

ERRORS IN BID

Bidders are assumed to be informed regarding conditions, requirements and

specifications prior to submitting bids. Failure to do so will be at the bidder's risk.

Bids already submitted may be withdrawn without penalty prior to bid opening. Errors discovered after the bid opening may not be corrected.

FORCE MAJEURE

Neither the City nor the awarded vendor shall be deemed in breach of any contract / Purchase Order or Agreement which may result from this proposal submission if it is prevented from performing any of the obligations hereunder by reason of Acts of God, acts of the public enemy, acts of superior governmental authority, strikes or labor disputes, floods, riots, rebellion, sabotage, or any similar other unforeseeable causes beyond its control and not due to its fault or negligence. Each party shall notify the other immediately in writing of the cause of such after the beginning period thereof. The awarded vendor may request cancellation and the City of Fairhope may grant the request if performance is prevented by any of the above referenced causes, or other unavoidable circumstances not attributable to the fault or negligence of the vendor. The burden of proof for such relief rests with the vendor. All correspondence pertaining to cancellation of a purchase order or term contract must be addressed to the City of Fairhope Purchasing Manager.

HAZARDOUS AND TOXIC SUBSTANCES

Bidder must comply with all applicable Federal, State, County and City laws, ordinances and regulations relating to hazardous and toxic substances, including such laws, ordinances and regulations pertaining to information hazardous and toxic substances, and as amended from time to time. Bidder shall provide the City of Fairhope with a "Material Safety Data Sheet" for all goods that carry one.

INDEMNITY

Indemnity: The awarded vendor hereby agrees to indemnify and save harmless the City of Fairhope, its officers, agent, and employees, from and against any and all liabilities, claims, demands, damages, fines, fees, expenses, penalties, suits, proceedings, actions and cost of actions, including reasonable attorneys fees for trial and on appeal, of any kind and nature, arising or growing out of, or in any way connected with the performance of this Contract / Agreement / Purchase Order, to the extent caused by a negligent act or omission of the awarded vendor, their agents, servants, employees, Subcontractors, or others associated with the awarded vendor. The awarded vendor shall be responsible for damage to any equipment excluded from this agreement, or damage or injury caused by any equipment excluded from this agreement, only to the extent that the damage or injury is caused by a negligent act or omission of the awarded vendor, or caused by failure of the awarded vendor's supplied product to perform as specified.

INSPECTION

All materials, workmanship, equipment, and supplies are subject to inspection and test at any source or time. Final inspection, acceptance or rejection will be made at delivery destination. Goods that do not meet specifications will be rejected unless substitutions have been approved by the City of Fairhope. Failure to inspect or to reject upon receipt, however, does not relieve the awarded vendor of liability. When subsequent tests, after receipt, are conducted and when such tests reveal a failure to meet specifications, the City of Fairhope will reject the goods and the awarded vendor shall immediately supply goods meeting specifications or the City of Fairhope may seek damages including but not limited to the testing expense, regardless

of whether a part of or all of the goods have been consumed through the testing process. Rejected goods shall be removed by the awarded vendor promptly after rejection, at his expense. If not removed in fourteen (14) calendar days, they may be disposed of at the discretion of the City of Fairhope. Disposal costs will be the awarded vendor's responsibility.

INSPECTION OF PREMISES

At reasonable times, the City may inspect those areas of the awarded vendor's place of business that are related to the performance of a Contract / Agreement / Purchase Order. If the City makes such an inspection, the awarded vendor must provide reasonable assistance. The City of Fairhope reserves the right on demand and without notice all the vendor's files associated with a subsequent Contract / Agreement / Purchase Order where payments are based on the awarded vendor's record of time, salaries, materials, or actual expenses. This same clause will apply to any subcontractors assigned to the Contract / Agreement / Purchase Order.

INSURANCE

If a Contract / Agreement / Purchase Order results from this RFQ / ITB / RFP, or other form of solicitation, the awarded vendor shall maintain such insurance as will indemnify and hold harmless the City of Fairhope from Workmen's Compensation and Public Liability claims from property damage and personal injury, including death, which may arise from the awarded vendor's operations under this Contract / Agreement / Purchase Order, or by anyone directly or indirectly employed by him/her.

INVITATION TO BID

Any provisions made in the RFQ / ITB / RFP, or other form of solicitation, supersedes any provisions outlined here in the General Terms and Conditions.

INVOICING, DELIVERY, PACKAGING

Invoices shall be prepared only after ordered materials have been delivered. All invoices must show the purchase order number.

Unless otherwise specified in writing, vendors shall not ship any material without an authorized Purchase Order from the City of Fairhope Purchasing Department. All packages delivered must show the purchase order number. The awarded vendor will be required to furnish all materials, equipment and/or service called for at the bid price quoted. In the event the awarded vendor fails to deliver within a reasonable period of time, as determined by the City of Fairhope, the right is reserved to cancel the award and subsequent purchase order and purchase from the next lowest responsible bidder the items needed. The original awarded vendor will be back charged the difference between the original contract price and the price the City of Fairhope has to pay as a result of the failure to perform by the original awarded vendor. All bids will remain firm for acceptance for 60 days from the date of bid opening. Prices shall be net F.O.B., Prepaid and Allow, City of Fairhope chosen site, Baldwin County, Al. The title and risk of loss of the goods will not pass to the City of Fairhope until receipt and acceptance takes place at the F.O.B. point.

LABELING

Individual shipping cartons shall be labeled with the name "City of Fairhope", Purchase Order Number, and where applicable, Contract Number, date of manufacture, batch number, storage requirements, conditions, and recommended shelf life. Bidders are encouraged to offer product packaging with recycled content.

LOSS OR DAMAGE IN TRANSIT

Delivery by a vendor to a common carrier does not constitute delivery to the City of Fairhope. Any claim for loss or damage

incurred during delivery shall be between the vendor and the carrier. The City of Fairhope accepts title only after satisfactory receipt at the delivery point. The City of Fairhope shall note all visible damages on the freight bill and may refuse the damaged goods. The vendor shall make immediate replacement of the damaged merchandise or be subject to damages for breach of contract. If damage is to a small portion of a total shipment and the City of Fairhope will not be inconvenienced because of the shortage, the vendor may be permitted by the Purchasing Manager to deduct the amount of damage or loss from its invoice, in lieu of replacement. Risk of loss during delivery is borne by the vendor until the goods have been accepted by the City of Fairhope, unless otherwise specified in the RFQ / ITB / RFP or other form of solicitation.

MANDATORY SITE VISIT

If the RFQ / ITB /RFP or other form of solicitation requires a mandatory site visit, bidders must inspect the site where installation or service is to take place to obtain a full understanding of scope of work outlined therein. Date of site visit will be determined by the City of Fairhope.

MONITORING OF SERVICES

Performance of services will be monitored by the requisitioning department and/or the Purchasing Department, and evaluation reports may be filed with the Purchasing Department. Performance not meeting specifications will result in cancellation of Contract / Agreement / Purchase Order and may result in vendor being removed from the vendor list.

NONCONFORMING MERCHANDISE

When merchandise received from the lowest responsible bidder is not in accordance with the purchase order, it will be returned to the bidder, at bidder's expense.

NON-DISCRIMINATION

The City of Fairhope is an Equal Opportunity Employer and requires that all contractors comply with the Equal Employment Opportunity laws and the provisions of the Contract / Agreement / Purchase Order Documents in this regard. The City also encourages and supports the utilization of Minority Business Enterprises on this and all public bids.

NON EXCLUSIVE

Unless otherwise specified, this Contract / Agreement / Purchase Order is considered a non-exclusive Contract / Agreement / Purchase Order between the parties.

NOTIFICATION AND ACCIDENT REPORTS

In the event of accidents of any kind, in the performance of a Contract / Agreement / Purchase Order, the awarded vendor shall notify the City of Fairhope immediately and furnish, without delay, copies of all such accident reports to the City of Fairhope. If in the performance of their Work, the awarded vendor fails to immediately report an accident to the City of Fairhope, of which the awarded vendor has knowledge of and which results in a fine levied against the City of Fairhope then the awarded vendor shall be responsible for all fines levied against the City of Fairhope.

PACKAGING

All goods must be packaged in new packing containers. Packing that meets the requirements of common carriers is acceptable, unless otherwise required. A packing slip or invoice must accompany all shipments and must reference the purchase order number.

PAYMENT

Invoices -- Upon completion of service and delivery of materials specified in the applicable purchase order, awarded vendor will submit an invoice and signed delivery ticket to:

City of Fairhope

Accounts Payable Department
P.O. Box 429
Fairhope, Al. 36533

All invoices must reference appropriate Purchase Order Numbers

Payment Of Invoice: All invoices received by the City of Fairhope are payable within thirty (30) days from the date of receipt by the City of Fairhope, provided they are approved by the City of Fairhope.

PAYMENT WITHHELD

Payment may be withheld until all items have been delivered and all requirements of the Contract / Agreement / Purchase Order have been fulfilled.

RECEIPT BY CITY OF FAIRHOPE

If not otherwise stated in the order, the City of Fairhope will be said to have received goods when they have been delivered, unloaded and placed on the agency's dock or if there is no dock, inside an accessible building, and signed for by an authorized City employee. Shipments will be checked against the receiving copy of the Purchase Order. If the purchase order requires grading certificates, USDA Stamps, or any proof of quality, such proof must accompany the shipment.

SET-UP AND INSTALLATION

Unless otherwise specified, bid / quotation to include cost of all uncrating, disposal of shipping materials, set-up, testing and initial instruction to agency personnel.

SPILL CLEAN UP

The awarded vendor shall be responsible for spillage caused by

their negligence, which occurs during transit or unloading operations. The awarded vendor shall immediately report and clean up any spillage. Upon failure to do so, the awarded vendor shall remain responsible for all actual related costs.

PRODUCT TESTING

Vendor shall incur all cost involved in obtaining an Independent Laboratory Test if the City deems necessary during the term of the Contract / Agreement / Purchase Order. The City of Fairhope reserves the right to request a demonstration of any and all items bid before making the award.

PATENTS

Awarded Vendor guaranties that the sale and / or use of goods will not infringe upon any U.S. or foreign patent. Awarded vendor will at his / her own expense, indemnify, protect and save harmless the City of Fairhope, on any patent claims arising from the purchase of goods or services.

PACKAGING

Unless otherwise specified, goods are to be packaged in cartons meeting federal specifications and shipped on non-returnable pallets.

PERMITS LICENSES AND CERTIFICATES

The awarded vendor is to procure all permits, licenses, and certificates, or any approvals of plans or specifications as may be required by Federal, State, Local Laws, ordinances, rules, and regulations, for the proper execution and completion of Work covered under the Contract / Agreement / Purchase Order.

PREPARATION OF BID

All bids / proposals shall be typewritten or in ink on the form(s) prepared by the City of Fairhope. Bids / proposals prepared in

pencil will not be accepted. All bids / proposals must be signed by officials of the corporation or company duly authorized to sign bids / proposals. Any bid / proposal submitted without being signed will automatically be rejected. All corrections or erasures shall be initialed and dated by the person authorized to sign quotations /bids / proposals. If there are discrepancies between unit prices quoted and extensions, the unit price will prevail.

QUESTIONS / CONTACT

Commencing with the issuance of the RFQ / ITB / RFP, or other form of solicitation, no vendor or anyone acting on a vendor's behalf, shall make direct or indirect contact with City personnel or undertake any activities or take any action to otherwise promote its quotation / bid / proposal to the City or its personnel. All communications shall be made to the contact identified in the quotation / bid / proposal documents. Violation of this requirement may, at the City's sole and absolute discretion, be grounds for disqualifying a vendor from further consideration.

REJECTION OF BIDS

The City of Fairhope reserves the right to accept or reject any or all bids in whole or in part for any reason, to waive technicalities or informalities, or to advertise for new proposals, if, in the judgment of the awarding authority, the best interest of the City of Fairhope will be promoted thereby. Bidders may be disqualified and rejection of proposals may be recommended for any of (but not limited to) the following causes: Failure to use the bid forms furnished by the City of Fairhope, Lack of signature by an authorized representative on the bid form, Failure to properly complete the bid form and vendor compliance, Evidence of collusion among bidders, Unauthorized alteration of the bid form.

RIGHT TO AUDIT

The awarded vendor shall maintain documentation of all work performed. The awarded vendor shall make any and all documentation available to the City of Fairhope at all reasonable times, for inspections and audit by the City of Fairhope, during the entire term of the Contract / Agreement / Purchase Order and for a period of Three (3) years after the expiration of the Contract / Agreement / Purchase Order.

SAMPLES

Bidders will not be required to furnish samples at the time of bid opening, unless specifically called for. The City of Fairhope reserves the right to request samples after bid opening to assist in the evaluation of proposals submitted.

SAFETY MEASURES

The awarded vendor shall take all necessary precautions for the safety of the City of Fairhope's and awarded vendor's employees at the Work site, and shall erect and properly maintain at all times, all necessary safeguards for the protection of the workmen and the public. The awarded vendor shall post signs warning against hazards in and around the Work site.

SUBSTITUTIONS

Substitutions on a purchase order shall require the approval of the Originating Buyer. The City of Fairhope reserves the right to reject at destination and hold at the vendor's risk and expense any goods supplied by the vendor which do not conform to the specification or description embodied in the order or are inferior in any respect to the good specified. Any good bought by sample which is inferior in quality to the sample submitted by vendor will be rejected. Any goods delivered that do not meet specifications may be returned to the vendor at its expense. When a good is returned, the vendor must make immediate replacement with acceptable merchandise or the City of Fairhope may seek remedies for default.

TABULATION

Bid results are posted on The City of Fairhope's web site: www.cofairhope.com . The awarded vendor will be sent a written notification via mail.

TAXES

Prices quoted shall be delivered prices, exclusive of all federal or state excise, sales, and manufacturer's taxes. The City will assume no transportation or handling charges other than specified in the RFQ, ITB, RFP or other form of solicitation. The City is tax exempt by law – Code of Alabama 1975.

TERMINATION FOR CONVENIENCE

Any Contract / Agreement / Purchase Order may be terminated for convenience by the City of Fairhope, in whole or in part, by written notification to the awarded vendor.

TERMINATION FOR DEFAULT

Performance of Work under the Contract / Agreement / Purchase Order Agreement may be terminated by the City of Fairhope, in whole or in part, in writing, whenever the City of Fairhope determines that the awarded vendor has failed to meet the requirements of the Contract / Agreement / Purchase Order.

TERMINATION FOR NON-APPROPRIATION

Termination for Non-appropriation – The continuation of any financial obligation beyond the current fiscal year is subject to and contingent upon sufficient funds being appropriated, budgeted, and otherwise made available by the local source, State Legislature and/or federal sources. The City of Fairhope may terminate any financial obligation, and awarded vendor waives any and all claim(s) for damages, effective immediately upon receipt of written notice (or any date specified therein) if for any reason the City of Fairhope's funding from local, State and/or federal sources is not appropriated, withdrawn or limited.

TIME IS OF THE ESSENCE

The City of Fairhope and awarded vendor agree that time is of the essence in the performance of Work called for under this Contract / Agreement / Purchase Order. The awarded vendor agrees that all work will be accomplished regularly, diligently and uninterrupted at such a rate of progress as will ensure full completion thereof within reasonable time periods.

TITLE

All titles, fees, as well as other charges, are to be paid by awarded vendor. Awarded vendor is to furnish prepaid certificate of title in the name of the City of Fairhope, Title shall change upon acceptance of delivery at the City of Fairhope approved delivery location.

VENDOR LIST

A vendor may be removed from the City of Fairhope's Bidders List if a vendor fails to respond to three (3) consecutive ITB's. A properly submitted "No Bid" is considered as a response and the vendor will receive credit for the response.

WARRANTY

The awarded vendor expressly warrants that all articles, materials, and work offered shall conform to each and every specification, drawing, sample, or other description which is furnished to or adopted by the City of Fairhope, and that it will be fit and sufficient for the purpose intended, merchantable, of good material and workmanship, and free from defects. The awarded vendor further warrants all items for a period of one year, unless otherwise stated, from the date of acceptance of the items delivered and installed or work completed. All repairs, replacements, or adjustments during the warranty period will be at the awarded vendor's sole expense. Awarded vendor will provide written warranty for all parts and labor for a period of (1) one year commencing from date of written acceptance of delivery by City of Fairhope. Awarded vendor will provide written copies of all other applicable warranties, such as, Manufacturer's warranty. Those warranties, if any, will be in addition to the awarded vendor's warranty, and the terms of which will not be altered by the awarded vendor's warranty.

ITEM IV

**SCOPE OF WORK AND SPECIFICATIONS
BID NO. : 004-11
BID NAME: FIRE TRUCK OUTFITTED**

1.0 SCOPE OF WORK

- 1.1 The Awarded Vendor to provide all necessary supervision, labor, tools, materials and safety equipment to perform the following tasks:
- 1.2 Provide FIRE TRUCK OUTFITTED as per specifications, as ordered by Purchase Order.
- 1.3 Deliver items to the City of Fairhope Warehouse, Fairhope Al, or other designated City site.
- 1.4 Provide current, applicable Material Safety Data Sheets (MSDS) with each delivery, notifying receiving personnel of any changes, replacements or revisions.
- 1.5 The attached specifications are intended and provided solely as a general and non-exhaustive expression of the intent and purpose of the City of Fairhope regarding this bid; said specifications should be so considered by the bidders. The use of specific names is not intended to restrict the bidder or any seller or manufacturer, but is solely for the purpose of indicating the type, size and quality of materials, product services, or equipment best suited for the City of Fairhope. Accordingly, the bidder admits and agrees that said specifications are not complete in every detail and that the work and materials not indicated or expressly mentioned in said specifications, but which are reasonably necessary for the full and faithful performance of the item(s) bid in accordance with the full and faithful intent, will be included in the bid and incorporated in the work by the bidder and at the bidder's sole expense, the same as if indicated and specified.
- 1.6 This specification outlines the requirements for ONE (1) FIRE TRUCK OUTFITTED. Truck to be procured by the City of Fairhope for use by the Fairhope Volunteer Fire Department.

2.0 SPECIFICATIONS

Certification

The bidder shall furnish a third party testing labs Certificate of Approval for the systems as required by the specifications.

Service Capability

As "the entity having jurisdiction" as defined by NFPA 1071, the buyer requires that all bidders be capable of providing both in-house and on-site service for the apparatus proposed through the use of either an established emergency vehicle service center or a mobile technician. The bidder shall have full time EVT certified maintenance technicians in compliance with NFPA 1071 classifications F-2 through F-6 on staff to provide service. On-site service shall be the primary mode of maintenance and warranty repair to eliminate the requirement of transporting the vehicle outside the fire department jurisdiction. Each bidder shall include copies of the mechanics EVT certification with the bid as proof of meeting this requirement.

Authority of Specifications

These specifications, together with any other documents required herein, shall be included in the final contract for a vehicle.

All design, operational and material features shall fully comply with State and Federal Motor Vehicle Standards as stated in Public Law Number 90-563.

Manufacturer History

A written review of the company, in chronological order, detailing the background of the manufacturer shall be provided as part of the bid proposal.

Inspection Trips

During construction and at no cost to the buyer, the successful bidder shall make arrangements for two (2) officials, one from the City of Fairhope, one from the Fairhope Volunteer Fire Department, to make two (2) inspection visits, one (1) for a preconstruction conference at the factory location, and one (1) for a final inspection at the factory location prior to delivery to the fire department.

Front Bumper

The vehicle shall be equipped with a one-piece 10" high bumper made from 10 gauge polished stainless steel for corrosion resistance, strength, and long lasting appearance. It shall be mounted directly to the front frame extensions for maximum strength. The bumper shall incorporate two (2) stiffening ribs.

The bumper extension shall be approximately 20" from the face of the cab as required.

The extended front bumper gravel shield shall be made of 1/8" aluminum treadplate material.

Front Bumper Tray

A hose tray constructed of 1/8" aluminum shall be recessed into the front bumper extension. The tray shall be located in the center of the bumper and be approximately 12" deep (11" to the top of the slats). One inch thick aluminum slats shall be included in the bottom of the hose tray to aid in the dissipation of water from the tray as well as vents in the sides of the tray to aid in the drying process for the hose.

The center bumper tray shall have a diamond plate lid. The lid shall be hinged and shall be secured in the closed position by a latch and held open with a pneumatic shock.

Frame Rail Construction

The frame shall consist of two (2) C-channel frame rails with heavy-duty crossmembers. Each frame rail shall have the following minimum specifications in order to minimize frame deflection under load and thereby improve vehicle ride and extend the life of the frame:

Dimensions: 10-1/4" x 3-1/2" x 3/8" non-tapered straight rails

Material: 110,000-psi minimum yield strength, high strength, low alloy steel

Section Modulus: 16.61 cu. in.

Resistance to Bending Moment (RBM): 1,827,045-in. lbs.

If larger rails are provided, the maximum height of each frame rail shall not exceed the 10-1/4" dimension by more than 1/2" in order to ensure the lowest possible body height for ease of access as well as the lowest possible vehicle center of gravity for maximum stability.

There shall be a minimum of six (6) crossmembers joining the two (2) frame rails in order to make the frame rigid and hold the rails/liners in alignment. The crossmembers shall be a combination of a formed steel C-channel design along with heavy duty steel fabricated designs as required for the exact chassis configuration. The crossmembers shall be attached to the frame rails with not less than four (4) bolts at each end arranged in a bolt pattern to adequately distribute the crossmember load into the rail/liner and minimize stress concentrations. Manufacturers shall state the number of crossmembers included with their frame.

All frame fasteners shall be high-strength, Grade 8, flanged-head threaded bolts and nuts for frame strength, durability, and ease of repair. The nuts shall be Stover locknuts to help prevent loosening. The frame fasteners shall be tightened to the proper torque at the time of assembly.

The frame rails and frame liners shall be finished with black paint. The frame crossmembers and frame-mounted components (suspensions, axles, air tanks, battery boxes, fuel tank, etc.) shall be painted black.

The apparatus manufacturer shall supply a full lifetime frame warranty including crossmembers against defects in materials or workmanship. Warranties that provide a lifetime warranty for only the frame rails, but not the crossmembers, are not acceptable.

The custom chassis shall have a wheel alignment in order to achieve maximum vehicle road performance and to promote long tire life. The alignment shall conform to the manufacturer's internal specifications. All wheel lug nuts and axle U-bolt retainer nuts shall be tightened to the proper torque at the time of alignment. The wheel alignment documentation shall be made available at delivery upon request.

The body shall be supported at the rear by a steel frame extension bolted to the chassis frame rails. The frame rails and frame extension shall be isolated from the aluminum body extrusions by 5/16" x 2" fiber reinforced rubber.

The frame extension shall be built with (2) 2.5" sq. x .25 wall thickness x full width cross rails welded to (2) 2.5" sq. x .25 wall thickness side rails. The frame extension assembly will be welded to steel weldments, which are secured to the chassis frame with grade 8 5/8" bolts.

The frame extension shall not interfere with N.F.P.A. minimum requirements for angle of departure.

Front Axle

The vehicle shall utilize an ArvinMeritor FL-941 front axle with a rated capacity of 18,000 lbs. It shall have "easy steer" knuckle pin bushings and 68.5" kingpin centers. The axle shall be of I-beam construction and utilize grease-lubricated wheel bearings. The vehicle shall have a nominal cramp angle of 45 degrees.

The front axle hubs shall be made from ductile iron and shall be designed for use with 10-hole hub-piloted wheels in order to improve wheel centering and extend tire life.

The front springs shall be parabolic tapered, minimum 4" wide x 54" long (flat), minimum three (3) leaf, progressive rate with bronze bushings and a capacity of 18,000 lbs. at the ground.

Tapered leaf springs provide a 20% ride improvement over standard straight spring systems. Supporting documentation/data shall be provided upon request.

The vehicle shall be equipped with a Sheppard model M-110 integral power steering gear used in conjunction with a model 292 slave gear or a power assist cylinder depending on application. The steering assembly shall be rated to statically steer a maximum front axle load of 18,000 lbs. Relief stops shall be provided to reduce system pressure upon full wheel cut. The system shall operate mechanically should the hydraulic system fail.

A minimum 2-year/unlimited miles parts and 2-year labor axle warranty shall be provided as standard by ArvinMeritor Automotive.

Front Shock Absorbers

The front suspension shall be furnished with two (2) heavy-duty, double acting shock absorbers, one (1) on each side.

Rear Axle

The vehicle shall be equipped with an ArvinMeritor RS-25-160 single rear axle with single-reduction hypoid gearing and a manufacturer's rated capacity of 27,000 lbs. The axle shall be equipped with oil-lubricated wheel bearings with ArvinMeritor oil seals.

The rear axle hubs shall be made from ductile iron and shall be designed for use with 10 hole hub-piloted wheels to improve wheel centering and extend tire life.

A minimum 2-year/unlimited miles parts and 2-year labor rear axle warranty shall be provided as standard by ArvinMeritor Automotive.

Rear Suspension

The rear suspension shall be a pair of linear-rate leaf springs with auxiliary "helper" leaf springs and bronze bushings. The variable-rate springs with auxiliary springs ensure that the vehicle rides and handles smoothly under both loaded and unloaded conditions. The suspension shall be rated for the maximum axle capacity.

Front Rims & Tires

The front wheels shall be steel hub-piloted disc sized appropriately for the tires.

Front tires shall be two Michelin 315/80R 22.5 tubeless type 20 PR radial tires with XZA-1 highway tread.

Tires with wheels shall have the following weight capacity and speed rating:

18,000 lb. @ 75 mph

The tires and wheels shall conform to the Tire and Rim Association requirements.

Rear Rims & Tires

There shall be four hub-piloted steel disc wheels sized appropriately for the tires.

The rear tires shall be four (4) Michelin 12R22.5 tubeless type 16 PR (Ply Rating) radial tires with XZE highway tread.

The tires with wheels shall have the following maximum weight and speed capacity:

27,000 lbs. (dual) @ 75 MPH.

The tires and wheels shall conform to the Tire and Rim Association requirements.

Tire Pressure Monitor

The apparatus shall be provided with tire pressure indicating valve stem caps. The indicators shall be installed on each tire and be a heavy duty design manufactured specifically for trucks. When tire is properly inflated, the indicator inside the cap shall be green, and when the tire is underinflated by 10%, the indicator inside the cap shall be red.

Extended Valve Stems

The rear tires of the vehicle shall be equipped with extended valve stems.

Front Brakes

The front axle shall be equipped with ArvinMeritor 16-1/2" x 6" S-cam brakes with ArvinMeritor automatic slack adjusters.

A minimum 3-year/unlimited miles parts and 3-year labor front brake warranty shall be provided as standard by ArvinMeritor Automotive. Warranty shall include bushings, seals, and cams.

Rear Brakes

The rear axle shall be equipped with ArvinMeritor 16-1/2" x 7" P-Type S-cam brakes with cast brake drums. The brakes shall be furnished with ArvinMeritor automatic slack adjusters.

A minimum 3-year/unlimited miles parts and 3 year labor rear brake warranty shall be provided as standard by ArvinMeritor Automotive. The warranty shall include bushings, seals, and cams.

Brake System

The vehicle shall be equipped with air-operated brakes and an anti-lock braking system (ABS). The brake system shall meet or exceed the design and performance requirements of the current Federal Motor Vehicle Safety Standard (FMVSS)-121, and the test requirements of the current NFPA 1901 Standard.

A dual-treadle brake valve shall correctly proportion the braking power between the front and rear systems. The air system shall be provided with a rapid pressure build-up feature, designed to meet current NFPA 1901 requirements, to allow the vehicle to begin its emergency response as quickly as possible.

A pressure-protection valve shall be installed to prevent use of the air horns or other air-operated devices should the air system pressure drop below 85 psi. This feature is designed to prevent inadvertent actuation of the emergency/parking brakes while the vehicle is in motion.

Two (2) air pressure needle gauges, one (1) each for front and rear air pressure, with a warning light and buzzer shall be installed at the driver's instrument panel.

The braking system shall be provided with three (3) minimum 1738 cubic inch air tank reservoirs, with a minimum capacity of 1,738 cubic inches each, for a total minimum air system capacity of 5,214 cu. in. One (1) reservoir shall serve as the wet tank and a minimum of one (1) tank shall be supplied for each of the front and rear axles. The total system shall carry a sufficient volume of air to comply with FMVSS-121. Additional isolated reservoirs are not considered part of the braking system since the air in these tanks cannot be applied to the brakes.

Spring-actuated emergency/parking brakes shall be installed on the rear axle.

A Bendix-Westinghouse SR-1 valve, in conjunction with a double check valve system, shall provide automatic emergency brake application when the air brake system pressure falls below 40 psi in order to safely bring the vehicle to a stop in case of an accidental loss of braking system air pressure.

A four-channel Wabco ABS shall be provided to improve vehicle stability and control by reducing wheel lock-up during braking. This braking system shall be fitted to both front and rear axles. All electrical connections shall be environmentally-sealed for protection against water, weather, and vibration.

The system shall constantly monitor wheel behavior during braking. Sensors on each wheel transmit wheel speed data to an electronic processor, which shall detect approaching wheel lock-up and instantly modulate (or pump) the brake pressure up to five (5) times per second to prevent wheel lock-up. Each wheel shall be individually controlled. To improve field performance, the system shall be equipped with a dual-circuit design configured in a diagonal pattern. Should a malfunction occur in one circuit, that circuit shall revert to normal braking action. A warning light at the driver's instrument panel shall signal a malfunction.

The system shall also be configured to work in conjunction with all auxiliary engine, exhaust, or driveline brakes to prevent wheel lock-up.

To improve maintenance troubleshooting, provisions in the system for an optional diagnostic tester shall be provided. The system shall test itself each time the vehicle is started, and a dash-mounted light shall go out once the vehicle is moving above 4 MPH.

A minimum 3-year/300,000 mile parts and labor Anti-Locking Braking System (ABS) warranty shall be provided as standard by Meritor Automotive.

Park Brake Release

One (1) Bendix-Westinghouse PP-5 parking brake control valve shall be supplied on the lower dash panel within easy reach of the driver.

Air Dryer

The chassis air system shall be equipped with a Bendix-Westinghouse AD-9 air dryer to remove moisture from the air in order to help prevent the air lines from freezing in cold weather and prolong the life of the braking system components.

Air Inlet

A 1/4" brass quick-release air inlet with a male connection shall be provided at the driver door jamb. The inlet shall allow a shoreline air hose to be connected to the vehicle, discharging air directly into the wet tank.

Air Lines

Air-lines shall be constructed of color-coded nylon tubing routed in a manner to protect from damage. Brass fittings shall be provided.

Air Horns

Dual air horns shall be provided connected to the chassis air system. The horns shall be mounted through the front bumper. The front bumper shall have two (2) holes punched to accommodate the horns. A pressure protection valve shall be installed to prevent the air brake system from being depleted of air pressure.

Engine

The vehicle shall utilize a Cummins ISL 2010 electronic engine as described below:

- 450 gross BHP at 2200 rpm
- 1250 lb.-ft. peak torque at 1400 rpm
- Six (6)-cylinder, charge air cooled, 4-cycle diesel
- 543 cu. in. displacement -- 4.49 in bore x 5.69 in stroke (8.9 liters)
- 16.6:1 compression ratio
- Interact System Controlled Viable Geometry Turbocharged
- Engine shall be equipped with Full-Authority Electronics
- Electronic Timing Control fuel system
- Fuel cooler
- Fleetguard FS1022 fuel filter with integral water separator and water-in-fuel sensor approved by Cummins for use on the ISL engine
- Fleetguard LF9009 Venturi Combo combination full-flow/by-pass oil filter approved by Cummins for use on the ISL engine
- Engine lubrication system, including filter, shall have a minimum capacity of 25 quarts
- Delco-Remy 39 MT-HD 12-volt starter

- Cummins 18.7 cubic foot per minute (cfm) air compressor
- Corrosion inhibitor additive for coolant system
- After treatment system consisting of a oxidation catalyst and diesel particulate filter and selective catalyst reduction system
- Ember separator compliant with 2009 NFPA 1901 standard
- The engine shall be compliant with 2010 EPA Emission standards

The engine air intake shall draw air through the front cab grill. The intake opening shall be located on the officer (right) side behind front cab face with a plenum that directs air to the air filter. The air cleaner shall be a 11" diameter dry type that is easily accessed for service. Air cleaner intake piping shall be made from aluminized steel tubing with flexible rubber hoses. Air cleaner intake piping clamps shall be heavy-duty, constant-torque, T-bolt clamps to ensure proper sealing under all temperatures in order to keep dust and other contaminants out of the engine intake air stream and protect the engine.

The engine exhaust piping shall be a minimum of 4" diameter welded aluminized steel tubing. The muffler shall be mounted horizontally under the right-hand frame rail in back of the cab in order to minimize heat transmission to the cab and its occupants. The exhaust shall be directed away from the vehicle on the right side ahead of the rear wheels in order to keep exhaust fumes as far away as possible from the cab and pump operator position.

A minimum 5-year/100,000-miles parts and labor warranty shall be provided as standard by Cummins Bulletin 3381161.

A copy of the Engine Installation Review stating the engine installation meets Cummins recommendations shall be provided as requested. The engine installation shall not require the operation of any type of "power-down" feature to meet engine installation tests.

Transmission

The vehicle shall utilize an Allison EVS3000P, electronic, 5-speed automatic transmission.

A push button shift module Allison model #29538373 shall be located right side of the steering column, within easy reach of the driver. The shift position indicator shall be indirectly lit for after dark operation. The shift module shall have a "Do Not Shift" light and a "Service" indicator light. The shift module shall have means to enter a diagnostic mode and display diagnostic data including oil life monitor, filter life monitor, transmission health monitor and fluid level. A transmission temperature gauge with warning light and buzzer shall be installed on the cab instrument panel.

A transmission oil temperature gauge with warning light and buzzer shall be installed on the cab instrument panel to warn the driver of high oil temperatures that may damage the transmission.

The transmission shall have a gross input torque rating of 1250 lb.-ft. and a gross input power rating of 450 HP.

The gear ratios shall be as follows:

- 1st - 3.49
- 2nd - 1.86
- 3rd - 1.41
- 4th - 1.00
- 5th - .75
- Reverse - 5.03

The transmission shall have an oil capacity of 23 quarts and shall be equipped with a fluid level sensor (FLS) system, providing direct feedback of transmission oil level information to the driver.

A water-to-oil transmission oil cooler shall be provided to ensure proper cooling of the transmission when the vehicle is stationary (no air flow). Air-to-oil transmission oil coolers, which require constant air flow, are not acceptable.

The transmission shall be provided with two (2) engine-driven PTO openings located at the 4 o'clock and 8 o'clock positions for flexibility in installing PTO-driven equipment.

The automatic transmission shall be equipped with a power lock-up device. The transmission lock-up shall prevent down shifting of the transmission when the engine speed is decreased during pump operations, thereby maintaining a constant gear ratio for safe operation of the pump. The transmission lock-up shall be automatically activated when the pump is engaged in gear. The transmission lock-up shall be automatically deactivated when the pump is disengaged for normal road operation.

A minimum 5-year/unlimited miles parts and labor warranty shall be provided as standard by Allison Transmission.

Transmission Fluid

The transmission fluid shall be TranSynd synthetic.

Vehicle Speed

The maximum speed shall be electronically limited to 68 MPH as required by NFPA 1901.

Jacobs Engine Brake

One (1) Jacobs engine brake shall be installed to assist in slowing and controlling the vehicle as required by NFPA 1901 for vehicles with gross vehicle weight ratings (GVWR) of 36,000 lbs. or greater. An on-off control switch and a high-medium-low selector switch shall be mounted in the cab.

When activated, the Jacobs engine brake shall cut off the flow of fuel to the cylinders and alter the timing of the exhaust valves. This shall transform the engine into a high-pressure air compressor, driven by the wheels, and the horsepower absorbed by the engine in this mode shall slow the vehicle. The selector switch allows the driver to select the amount of retarding power.

When the on-off switch is in the “on” position, the engine brake shall be automatically applied whenever the accelerator is in the idle position and the automatic transmission is in the lock-up mode. If the accelerator is depressed or if the on-off switch is placed in the “off” position, the engine brake shall immediately release and allow the engine to return to its normal function.

Radiator

The cooling system shall include an aluminum tube-and-fin radiator with a minimum of 1,408 total square inches of frontal area to ensure adequate cooling under all operating conditions. There shall be a drain valve in the bottom tank to allow the radiator to be serviced. A sight glass shall be included for quick fluid level assessment. The radiator shall be installed at the prescribed angle in order to achieve the maximum operational effectiveness. This shall be accomplished according to established work instructions and properly calibrated angle measurement equipment.

Silicone Hoses

All radiator and heater hoses shall be silicone. Pressure compensating band clamps shall be used to eliminate hose pinching on all hoses 3/4” diameter and larger. All radiator hoses shall be routed, loomed, and secured so as to provide maximum protection from chafing, crushing, or contact with other moving parts.

Coolant

The cooling system shall be filled with a 50/50 mixture of EXTENDED LIFE water and antifreeze/coolant conditioner to provide freezing protection to minus 40 (- 40) degrees F for operation in severe winter temperatures.

There shall be a coolant overflow recovery system provided.

Charge Air Cooler System

The system shall include a charge air cooler to ensure adequate cooling of the turbocharged air for proper engine operation and maximum performance.

Charge Air Cooler Hoses

Charge air cooler hoses shall be made from high-temperature, wire-reinforced silicone to withstand the extremely high temperatures and pressures of the turbocharged air. The hoses shall incorporate a flexible hump section to allow motion and misalignment of the engine relative to the charge air cooler. Charge air cooler hose clamps shall be heavy-duty, constant-torque, T-bolt clamps to ensure proper sealing under all temperatures in order to keep dust and other contaminants out of the engine intake air stream and protect the engine.

Fan Shroud

The fan shall be minimum 30” in diameter with no less than eleven (11) blades for maximum airflow and dynamic balance. It shall be made of nylon for strength and corrosion resistance. The

fan shall be installed with grade 8 hardware which has been treated with thread locker for additional security. A fan shroud attached to the radiator shall be provided to prevent recirculation of engine compartment air around the fan in order to maximize the cooling airflow through the radiator. The fan shroud shall be constructed of fiber-reinforced high temperature plastic. The shroud shall be specifically formed with curved surfaces which improves air flow and cooling.

Transmission Cooler

The cooling system shall include a liquid-to-liquid transmission cooler capable of cooling the heat generated from the transmission. When a transmission retarder is selected, the cooler shall have an increased capacity to handle the additional heat load.

Fuel System

One (1) 50 gallon fuel tank shall be provided. The tank shall be of an all-welded, aluminized-steel construction with anti-surge baffles and shall conform to all applicable Federal Highway Administration (FHWA) 393.65 and 393.67 standards. The tank shall be mounted below the frame rails at the rear of the chassis for maximum protection. The tank shall be secured with two (2) wrap-around T-bolt type stainless steel straps. Each strap shall be fitted with protective rubber insulation and shall be secured with grade 8 hardware. This design allows for tank removal from below the chassis.

The fuel tank shall be equipped with a 2" diameter filler neck. The filler neck shall extend to the rear of the vehicle behind the rear tires and away from the heat of the exhaust system as required by NFPA 1901 Standard for Automotive Fire Apparatus. The open end of the filler neck shall be equipped with a twist-off filler cap with a retaining chain.

The tank shall be plumbed with top-draw and top-return fuel lines in order to protect the lines from road debris. Bottom-draw and/or bottom-return fuel lines are not acceptable. A vent shall be provided at the top of the tank. The vent shall be connected to the filler neck to prevent splash-back during fueling operations. A .50" NPT drain plug shall be provided at the bottom of the tank.

The tank shall have a minimum useable capacity of 50 gallons of fuel with a sufficient additional volume to allow for thermal expansion of the fuel without overflowing the vent.

A mechanical fuel pump shall be provided and sized by the engine manufacturer as part of the engine.

All fuel lines shall be rubber.

Alternator

There shall be a 320-amp Leece Neville alternator installed as specified. The alternator shall be a Leece Neville 7890JB series brushless type with integral rectifier and adjustable voltage regulator with an output of 275 amps per NFPA 1901 rating (320 amps per SAE J56).

Battery System

The manufacturer shall supply four (4) heavy-duty Group 31 12-volt maintenance-free batteries. Each battery shall be installed and positioned so as to allow easy replacement of any single battery. Each battery shall be equipped with carrying handles to facilitate ease of removal and replacement. There shall be two (2) steel frame-mounted battery boxes, one (1) on the left frame rail and one (1) on the right frame rail. Each battery box shall be secured to the frame rail with Grade 8 hardware. Each battery box shall hold (2) batteries. The batteries shall have a minimum combined rating of 4,000 cold cranking amps (CCA) @ 0 degrees Fahrenheit and 820 minutes of

reserve capacity for extended operation. The batteries shall have 3/8-16 threaded stud terminals to ensure tight cable connections. The battery stud terminals shall each be treated with concentrated industrial soft-seal after cable installation to promote corrosion prevention. The positive and negative battery stud terminals and the respective cables shall be clearly marked to ensure quick and mistake-proof identification.

Batteries shall be placed on non-corrosive rubber matting and secured with hold-down brackets to prevent movement, vibration, and road shock. The hold-down bracket J-hooks shall be cut to fit and shall have all sharp edges removed. The batteries shall be placed in plastic trays to provide preliminary containment should there be leakage of hazardous battery fluids. There shall be two (2) plastic trays, each containing (2) batteries. Each battery tray shall be equipped with a rubber vent hose to facilitate drainage. The rubber vent hose shall be routed to drain beneath the battery box. The batteries shall be positioned in well-ventilated areas.

The batteries trays shall be placed in a manner that will prevent battery acid from contact with the air tanks, should the batteries boil over.

One (1) positive and one (1) negative jumper stud shall be provide below the front driver side of body/pump module.

Batteries shall have a warranty of twelve (12) months that shall commence upon the date of delivery of the apparatus.

Engine Fan Clutch

The engine shall be equipped with a thermostatically controlled engine cooling fan. The fan shall be belt driven and utilize a clutch to engage when engine reaches a specified temperature and / or the water pump is engaged (if equipped).

When disengaged, the fan clutch shall allow for improved performance from optional floor heaters, reduced cab interior noise, increased acceleration and improved fuel economy.

The fan shall be equipped with a fail-safe engagement so that if the clutch fails the fan shall engage to prevent engine overheating.

Drivelines

Drivelines shall have a heavy-duty metal tube and shall be equipped with Spicer 1710HD universal joints to allow full-transmitted torque to the axle(s). Drive shafts shall be axially straight, concentric with axis and dynamically balanced.

Rear Tow Eyes

Two (2) heavy-duty tow eyes made of 3/4" (0.75") thick stainless steel having 2.5" diameter holes shall be mounted below the body at the rear of the vehicle to allow towing (not lifting) of the apparatus without damage. The tow eyes will be welded to the lower end of a 5" steel channel that is bolted at the end of the chassis frame rails.

Front Tow Hooks

Two (2) heavy-duty stainless steel front tow hooks shall be securely bolted to the front chassis frame rail extensions to allow towing (not lifting) of the apparatus without damage. They shall be mounted in the downward position.

DEF Tank

A diesel exhaust fluid (DEF) tank with a five (5) gallon capacity shall be provided.

The DEF tank shall include a heater fed by hot water directly from the engine block to prevent the DEF from becoming too cool to operate correctly per EPA requirements. The tank shall include a temperature sensor to control the heater control valve that controls the feed of hot water from the engine to the DEF tank heater.

A sender shall be provided in the DEF tank connected to a level gauge on the cab dash.

The tank shall be located R1 compartment floor offset forward.

Custom Cab

The vehicle shall be distinguished by an all-welded extruded aluminum and fully enclosed tilt cab. The cab shall be designed exclusively for fire/rescue service and shall be pre-engineered to ensure long life. It shall incorporate an integral welded substructure of high-strength aluminum alloy extrusions that creates an occupant compartment that is essentially a protective perimeter. The end result is a distinctive structure that is aesthetically appealing, functionally durable, and characterized by increased personnel safety.

The cab shall be constructed from minimum 3/16" aluminum alloy plate roof, floor, and outer skins welded to a high-strength aluminum alloy extruded subframe. Wall supports and roof bows are aluminum alloy. This combination of a high-strength, welded aluminum inner structure surrounded on all sides by load-bearing, welded aluminum outer skins provides a cab that is strong, lightweight, corrosion-resistant, and durable.

The inner structure shall be designed to create an interlocking internal "roll-cage" effect by welding two (2) 3" x 3" x 0.188" wall-thickness aluminum upright extrusions between the 3" x 3" x 0.375" wall-thickness roof crossbeam and the 2.25" x 3" x 0.375" wall-thickness subframe structure in the front. An additional two (2) aluminum upright extrusions within the back-of-cab structure shall be welded between the rear roof perimeter extrusion and the subframe structure in the rear to complete the interlocking framework at the sides of the engine cover. The four (4) upright extrusions -- two (2) in the front and two (2) in the rear -- shall be designed to effectively transmit roof loads downward into the subframe structure to help protect the occupant compartment from crushing in a serious accident. All joints shall be electrically seam welded internally using aluminum alloy welding wire. Bidders shall include a drawing or pictorial illustration of their cab's roll-cage structure as well as proof that the cab structure will support approximately 120,000 lbs of weight. Bidders failing to do so may be considered non-responsive.

The entire cab subframe structure shall be constructed from high-strength aluminum extrusions welded together to provide a structural base for the cab. It shall include a side-to-side C-channel extrusion across the front, with 3/4" x 2-3/4" full-width crossmember tubes spaced at critical points between the front and rear of the cab.

The cab floor shall be constructed from minimum 3/16" smooth aluminum plate welded to the subframe structure to give the cab additional strength and to help protect the occupants from penetration by road debris and under-ride collision impacts.

The cab roof shall be constructed from minimum 3/16" aluminum treadplate supported by a grid of fore-aft and side-to-side aluminum extrusions to help protect the occupants from penetration by falling debris and downward-projecting objects. Molded fiberglass or other molded fiber-reinforced plastic roof materials are not acceptable.

The cab roof perimeter shall be constructed from 4" x 6-5/8" aluminum extrusions with integral drip rails. Cast aluminum corner joints shall be welded to the aluminum roof perimeter extrusions to ensure structural integrity. The roof perimeter shall be continuously welded to the cab roof plate to ensure a leak-free roof structure.

The cab rear skin shall be constructed from 3/16" minimum aluminum plate. Structural extrusions shall be used to reinforce the rear wall.

The left-hand and right-hand cab side skins shall be constructed from 3/16" minimum smooth aluminum plate. The skins shall be welded to structural aluminum extrusions at the top, bottom, and sides for additional reinforcement.

The cab front skins shall be constructed from 3/16" minimum smooth aluminum plate. The upper portion shall form the windshield mask, and the lower portion shall form the cab front. Each front corner shall have a full 9" outer radius for strength and appearance. The left-hand and right-hand sides of the windshield mask shall be welded to the left-hand and right-hand front door frames, and the upper edge of the windshield mask shall be welded to the cab roof perimeter extrusion for reinforcement. The cab front shall be welded to the subframe C-channel extrusion below the line of the headlights to provide protection against frontal impact.

Cab Exterior

The exterior of the cab shall be 94" wide x 130" long to allow sufficient room in the occupant compartment for up to eight (8) fire fighters. The cab roof shall be approximately 101" above the ground with the flat roof option. The back-of-cab to front axle length shall be no less than 58".

Front axle fenderette trim shall be brushed aluminum for appearance and corrosion resistance. Bolt-in front wheel well liners shall be constructed of 3/16" minimum composite material to provide a maintenance-free, damage-resistant surface that helps protect the underside of the cab structure and components from stones and road debris.

The cab windshield shall be of a two-piece replaceable design for lowered cost of repair. The windshield shall be made from 1/4" thick curved, laminated safety glass with a 75% light transmittance automotive tint. A combined minimum viewing area of 2,700-sq. in. shall be provided. Forward visibility to the ground for the average (50th percentile) male sitting in the driver's seat shall be no more than 11 feet 7 inches from the front of the cab to ensure good visibility in congested areas.

Cab Mounts and Cab Tilt System

The cab shall be independently mounted from the body and chassis to isolate the cab structure from stresses caused by chassis twisting and body movements. Mounting points shall consist of

two (2) forward-pivoting points, one (1) on each side; two (2) intermediate rubber load-bearing cushions located midway along the length of the cab, one on each side; and two (2) combination rubber shock mounts and cab latches located at the rear of the cab, one (1) on each side.

An electric-over-hydraulic cab tilt system shall be provided to provide easy access to the engine. It shall consist of two (2) large-diameter, telescoping, hydraulic lift cylinders, one (1) on each side of the cab, with a frame-mounted electric-over-hydraulic pump for cylinder actuation.

Safety flow fuses (velocity fuses) shall be provided in the hydraulic lift cylinders to prevent the raised cab from suddenly dropping in case of a burst hydraulic hose or other hydraulic failure. The safety flow fuses shall operate when the cab is in any position, not just the fully raised position.

The hydraulic pump shall have a manual override system as a backup in the event of an electrical failure. Lift controls shall be located in a compartment to the rear of the cab on the right side of the apparatus. A parking brake interlock shall be provided as a safety feature to prevent the cab from being tilted unless the parking break is set.

The entire cab shall be tilted through a 42-45 degree arc to allow for easy maintenance of the engine, transmission and engine components. A positive-engagement safety latch shall be provided to lock the cab in the full tilt position to provide additional safety for personnel working under the raised cab.

In the lowered position, the cab shall be locked down by two (2) automatic, spring-loaded cab latches at the rear of the cab. A "cab ajar" indicator light shall be provided on the instrument panel to warn the driver when the cab is not completely locked into the lowered position.

Cab Interior

The interior of the cab shall be of the open design with an ergonomically-designed driver area that provides ready access to all controls as well as a clear view of critical instrumentation.

The engine cover between the driver and the officer shall be a low-rise contoured design to provide sufficient seating and elbow room for the driver and the officer. The engine cover shall blend in smoothly with the interior dash and flooring of the cab. An all-aluminum subframe shall be provided for the engine cover for strength. The overall height of the engine enclosure shall not exceed 23" from the floor at each side and 27" in the center section. The engine cover shall not exceed 41" in width at its widest point.

The rear portion of the engine cover shall be provided with a lift-up section to provide easy access for checking transmission fluid, power steering fluid, and engine oil without raising the cab. The engine cover insulation shall consist of 3/4" dual density fiberglass composite panels with foil backing manufactured to specifically fit the engine cover without modification to eliminate "sagging" as found with foam insulation. The insulation shall meet or exceed DOT standard MVSS 302-1 and V-0 (UI subject 94 Test).

All cab floors shall be covered with a black rubber floor mat that provides an aggressive slip-resistant surface in accordance with current NFPA 1901.

A minimum of 57.25" of floor-to-ceiling height shall be provided in the front seating area of the cab and a minimum of 67.25" floor-to-ceiling height shall be provided in the raised roof rear seating area. A minimum of 36" of seated headroom at the "H" point shall be provided over each fenderwell.

The floor area in front of the front seat pedestals shall be no less than 20.5" side to side by 25.0" front to rear for the driver and no less than 20.5" side to side by 26.0" front to rear for the officer to provide adequate legroom.

Battery jumper studs shall be provided to allow jump-starting of the apparatus without having to tilt the cab.

All exposed interior metal surfaces shall be pretreated using a corrosion prevention system.

The interior of the cab shall be insulated to ensure the sound (dbA) level for the cab interior is within the limits stated in the current edition of NFPA 1901. The insulation shall consist of 2 oz. wadding and 1/4" foam padding. The padding board shall be backed with 1/4" thick reflective insulation. The backing shall be spun-woven polyester. Interior cab padding shall consist of a rear cab headliner, a rear wall panel, and side panels between the front and rear cab doors.

The overhead console and heater cover shall be covered with thermoformed, non-metallic, non-fiber trim pieces to provide excellent scuff and abrasion resistance, as well as chemical stain resistance. The thermoformed material shall comply with Federal Motor Vehicle Safety Standard (FMVSS) 302 for flammability of interior materials.

The vehicle shall use a seven-position tilt and telescopic steering column to accommodate various size operators. An 18" padded steering wheel with a center horn button shall be provided.

A full-width overhead console shall be mounted to the cab ceiling for placement of siren and radio heads, and for warning light switches. The console shall be made from a thermoformed, non-metallic material and shall have easily removable mounting plates.

Storage areas, with hinged access doors, shall be provided below both the driver and officer seats. The driver side compartment shall be approximately 20" x 12" x 3.5" high and the officer side compartment shall be approximately 20.25" x 22.75" x 11" high. These compartments shall be utilized for small items storage or for radio components.

The front cab steps shall be a minimum of 8" deep x 24" wide. The first step shall be no more than 24.0" above the ground with standard tires in the unloaded condition per NFPA 1901 standards. The rear cab steps shall be a minimum 12" deep x 21" wide. The first step shall be no more than 24.0" above the ground with standard tires in the unloaded condition per NFPA 1901 standards. The rear steps shall incorporate intermediate steps for easy access to the cab. The steps are to be located inside the doorsill, where they are protected against mud, snow, ice, and weather. The step surfaces shall be aluminum diamond plate with a multi-directional, aggressive gripping surface incorporated into the aluminum diamond plate in accordance with current NFPA 1901.

A black rubber grip handle shall be provided on the interior of each front door below the door window to ensure proper hand holds while entering and exiting the cab. An additional black rubber grip handle shall be provided on the left and right side windshield post for additional handholds.

Cab Doors

There shall be reflective signs on each cab door in compliance with all NFPA requirements.

Four (4) side-opening cab doors shall be provided. Doors shall be constructed of a minimum 3/16" aluminum plate outer material with an aluminum extruded inner framework to provide a structure that is as strong as the side skins.

Front cab door openings shall be approximately 36" wide x 71.5" high, and the rear cab door openings shall be approximately 33.75" wide x 73" high. The front doors shall open approximately 75 degrees, and the rear doors shall open approximately 80 degrees.

The doors shall be securely fastened to the doorframes with full-length, stainless steel piano hinges, with minimum 3/8" diameter pins for proper door alignment, long life, and corrosion resistance. Mounting hardware shall be treated with corrosion-resistant material prior to installation. For effective sealing, an extruded rubber gasket shall be provided around the entire perimeter of all doors.

Stainless steel paddle-style door latches shall be provided on the interiors of the doors. The latches shall be designed and installed to protect against accidental or inadvertent opening as required by NFPA 1901.

The front door windows shall provide a minimum viewing area of 530 sq. in. each. The rear door windows shall provide a minimum viewing area of 500 sq. in. each. All windows shall have 75% light transmittance automotive safety tint. Full roll-down windows shall be provided for the front cab doors with worm gear drive cable operation for positive operation and long life. Scissors or gear-and-sector drives are not acceptable.

Cab Instruments and Controls

Two (2) pantograph-style windshield wipers with two (2) separate electric motors shall be provided for positive operation. Air-operated windshield wipers are not acceptable because of their tendency to accumulate moisture, which can lead to corrosion or to freezing in cold weather. The wipers shall be a wet-arm type with a one (1) gallon washer fluid reservoir, an intermittent-wipe function, and an integral wash circuit. Wiper arm length shall be approximately 28", and the blade length approximately 20". Each arm shall have a 70 degree sweep for full coverage of the windshield.

An overhead mounted heater and defroster with a minimum capacity of 60,000 Btu/hr and all necessary controls shall be mounted in the cab. The airflow system shall consist of two (2) levels, defrost and cab, and shall have fresh air and defogging capabilities.

Cab controls shall be located on the cab instrument panel in the dashboard on the driver's side where they are clearly visible and easily reachable. Emergency warning light switches shall be installed in removable panels for ease of service. The following gauges and/or controls shall be provided:

- Master battery switch/ignition switch (rocker with integral indicator)
- Starter switch/engine stop switch (rocker)
- Heater and defroster controls with illumination
- Marker light/headlight control switch with dimmer switch
- Self-canceling turn signal control with indicators
- Windshield wiper switch with intermittent control and washer control
- Master warning light switch
- Transmission oil temperature gauge
- Air filter restriction indicator
- Pump shift control with green "pump in gear" and "o.k. to pump" indicator lights
- Parking brake controls with red indicator light on dash
- Automatic transmission shift console
- Electric horn button at center of steering wheel
- Cab ajar warning light on the message center enunciator

Controls and switches shall be identified as to their function by backlit wording adjacent to each switch, or indirect panel lighting adjacent to the controls.

Fast Idle System

A fast idle system shall be provided and controlled by the cab-mounted switch. The system shall increase engine idle speed to a preset RPM for increased alternator output.

Electrical System

The cab and chassis system shall have a centrally located electrical distribution area. All electrical components shall be located such that standard operations shall not interfere with or disrupt vehicle operation. An automatic thermal-reset master circuit breaker compatible with the alternator size shall be provided. Automatic-reset circuit breakers shall be used for directional lights, cab heater, battery power, ignition, and other circuits. An access cover shall be provided for maintenance access to the electrical distribution area.

A minimum 12-place (6-place constantly hot, and 6-place ignition switched) fuse panel and ground for customer-installed radios and chargers shall be provided at the electrical distribution area. Radio suppression shall be sufficient to allow radio equipment operation without interference. Single hot lug systems will not meet the intent of this specification.

All wiring shall be mounted in the chassis frame and protected from impact, abrasion, water, ice, and heat sources. The wiring shall be color-coded and functionally-labeled every 3" on the outer surface of the insulation for ease of identification and maintenance. The wiring harness shall conform to SAE 1127 with GXL temperature properties. Any wiring connections exposed to the outside environment shall be weather-resistant. All harnesses shall be covered in a loom that is rated at 280 degrees F to protect the wiring against heat and abrasion.

A Vehicle Data Computer (VDC) shall be supplied within the electrical system to process and distribute engine and transmission Electronic Control Module (ECM) information to chassis

system gauges, the message center, and related pump panel gauges. Communication between the VDC and chassis system gauges shall be through a 4 wire multiplexed communication system to ensure accurate engine and transmission data is provided at the cab dash and pump. The VDC shall be protected against corrosion, excessive heat, vibration, and physical damage.

Two (2) dual rectangular sealed beam halogen headlights shall be installed on the front of the cab, one (1) on each side, mounted in a polished chrome-plated bezel. The low beam headlights shall activate with the release of the parking brake to provide daytime running lights (DRL) for additional vehicle conspicuity and safety. The headlight switch shall automatically override the DRL for normal low beam/high beam operation.

Cab Crashworthiness Requirement

The apparatus cab shall meet and/or exceed relevant NFPA 1901 load and impact tests required for compliance certification with the following:

Side Impact Dynamic Pre-Load per SAE J2422 (Section 5).

Testing shall meet and/or exceed defined test using 13,000 ft-lbs of force as a requirement. The cab shall be subject to a side impact representing the force seen in a roll-over. The cab shall exhibit minimal to no intrusion into the cab's occupant survival space, doors shall remain closed and cab shall remain attached to frame.

Cab testing shall be completed using 13,776 ft-lbs of force exceeding testing requirements.

Quasi-static Roof Strength (proof loads) per SAE J2422 (Section 6) / ECE R29, Annex 3, paragraph 5.

Testing shall meet and/or exceed defined test using 22,046 lbs of mass as a requirement. Testing shall be completed using platen(s) distributed uniformly over all bearing members of the cab roof structure.

Cab testing shall be completed using 23,561 lbs of mass exceeding testing requirements. The cab shall exhibit minimal to no intrusion into the cab's occupant survival space and doors shall remain closed.

Additional cab testing shall be conducted using 117,336 lbs of mass exceeding testing requirements by over five (5) times. The cab shall exhibit minimal to no intrusion into the cab's occupant survival space and the doors shall remain closed.

Frontal Impact per SAE J2420.

Testing shall meet and/or exceed defined test using 32,549 ft-lbs of force as a requirement. The cab shall be subject to a frontal impact as defined by the standard. The cab shall exhibit minimal to no intrusion into the cab's occupant survival space, doors shall remain closed and cab shall remain attached to frame.

Cab testing shall be completed using 34,844 ft-lbs of force exceeding testing requirements.

Additional cab testing shall be conducted using 65,891 ft-lbs of force exceeding testing requirements by over two (2) times.

The cab shall meet all requirements to the above cab crash worthiness.

A copy of a certificate or letter verifying compliance to the above performance by an independent, licensed, professional engineer shall be provided upon request.

For any or all of the above tests, the cab manufacturer shall provide either photographs or video footage of the procedure upon request.

ISO Compliance

The manufacturer shall ensure that the construction of the apparatus cab shall be in conformance with the established ISO-compliant quality system. All written quality procedures and other procedures referenced within the pages of the manufacturer's Quality Manual, as well as all Work Instructions, Workmanship Standards, and Calibration Administration that directly or indirectly impacts this process shall be strictly adhered to. By virtue of its ISO compliance the manufacturer shall provide an apparatus cab that is built to exacting standards, meets the customer's expectations, and satisfies the customer's requirements. If the manufacturer does not fall under ISO 9001 compliance, but operates under a different quality assurance standard, a copy of third party certification of this program must be supplied with the bid response. Bidders failing to do so may be considered non-responsive.

Raised Roof

The rear portion of the cab roof shall be raised 12". This will provide at least 5'-7" standing room. The front of the vista hood shall be sloped at 45 degrees from the vertical. The slope shall begin slightly in front of the centerline of the front axle to leave room for warning lights and air conditioning in front of the vista. The main roof extrusion shall extend up into the vista to strengthen the roof perimeter. Windows shall be provided on front, side, and rear unless otherwise specified.

The rear door shall have an 85" vertical dimension for improved ingress/egress characteristics. The door shall be equipped with a dual striker bolt system.

Front Cab Grille

The front cooling air intake grille shall be constructed of stainless steel mesh and supported by an impact-resistant chrome plated ABS frame providing no less than 81% open area for excellent cooling performance.

Cab Door Map Pockets

A molded interior map pocket shall be incorporated into the cab door panels.

Rear Cab Door Position

The cab rear doors shall be moved to the rear of the wheel opening. This door placement facilitates easier entry and egress by reducing the rear facing seat protrusion into the door opening.

Rear door position to be at 58", or "medium cab."

Cab Front Door Windows

Driver and officer door windows shall have the support pillar located toward the rear of the window to improve visibility of mirrors. There shall be no vent within the window itself.

Cab Door Windows

The rear cab door windows shall be manually operated to raise and lower.

The front windows of the cab shall be manually operated to raise and lower.

Cab Door Locks

Each cab door shall have a manually operated door lock actuated from the interior of each respective door. Exterior of each cab door shall be provided with a barrel style keyed lock below the cab door handle.

The cab shall have 1250 keyed door locks provided on exterior doors to secure the apparatus.

Cab Door Panels

The inner door panels shall be made from a thermoformed, non-metallic, non-fiber material for increased durability and sound deadening. The cab door panels shall incorporate an easily removable panel for access to the latching mechanism for maintenance or service.

Cab Door Exterior Latches

All cab doors shall have "L" style exterior door latches to provide for easier latch operation by firefighters wearing heavy gloves in freezing weather.

A stainless steel scuff plate shall be installed at all cab door "L" handles for added paint protection.

Cab Door Kick Plate

All cab doors shall have diamond plate aluminum kick plates installed on the interior lower portion of the doors.

Cab Step Area Lighting

There shall be four (4) clear incandescent lights provided to illuminate the cab step well area. Each light shall be located on each cab door in the inboard position. Each light shall be activated by the cab door-ajar circuit.

Cab Door Reflective Material

Reflective Yellow/Red material striping shall be supplied on each of the lower cab doors. The

stripes shall run from the lower outer corner to the top upper corner of the panel, forming an "A" shape when viewed from the rear. The reflective material shall meet NFPA 1901 requirements.

Cab Mirrors

Two (2) Velvac model 2010 heated, remote controlled, stainless steel mirrors shall be installed. The west coast style mirrors shall consist of a large 7" x 16" flat and 4" x 6" wide angle convex with stainless steel break-away mounts. The adjustment of the main sections of the mirror and the heater control shall be through dash mounted switches.

Cab Canopy Window

There shall be a fixed window provided between the front and rear doors on the driver and officer side of the cab.

Window dimensions shall be 26.69"W x 24.5"H.

Front Mud Flaps

Black linear low density polyethylene mud flaps shall be installed on the rear of the cab front wheel wells. The design of the mud flaps shall have corrugated ridges to distribute water evenly.

Handrails

Cab door assist handrails shall consist of two (2) 1.25" diameter x 18" long anodized aluminum tubes mounted directly behind both the driver and officer door openings, front and rear doors, each side of the cab. The handrails shall be machine extruded with integral ribbed surfaces to assure a good grip for personnel safety. Handrails shall be installed between chrome end stanchions and shall be positioned at least 2" from the mounting surface to allow a positive grip with a gloved hand.

Rear Cab Wall Construction

The rear cab wall shall be constructed with the use of minimum 3/16" aluminum diamond plate interlocking in heavy duty high strength aluminum extrusions.

Air Conditioning

An overhead air-conditioner / heater system with a single radiator mounted condenser shall be supplied.

The unit shall be mounted to the cab interior headliner in a mid cab position, away from all seating positions. The unit shall provide ten (10) comfort discharge louvers, four (4) to the back area of the cab and six (6) to the front. These louvers will be used for AC and heat air delivery. Two (2) additional large front louvers shall be damper controlled to provide defogging and defrosting capabilities to the front windshield as necessary.

The unit shall consist of a high output evaporator coil and heater core with one (1) high output dual blower for front air delivery, and two (2) high performance single wheel blowers for rear air delivery.

The control panel shall actuate the air-distribution system with air cylinders, which are to be separated from the brake system by an 85-90 psi pressure protection valve. A three-speed blower switch shall control air speed.

The condenser shall be radiator mounted and have a minimum capacity of 65,000 BTU's and shall include a receiver drier.

Performance Data: (Unit only, no ducting or louvers)

AC BTU:	55,000 minimum
Heat BTU:	65,000 minimum
CFM:	1300 @ 13.8V (All blowers)

The compressor shall be a single ten-cylinder swash plate type Seltec model TM-31HD with a minimum capacity of 19.1 cubic inches per revolution.

The system shall be capable of cooling the interior of the cab from 100 degrees ambient to 75 degrees or less with 50% relative humidity in 30 minutes or less.

Seating

All seats shall be Seats, Inc. 911 brand, shall be gray in color, and shall have Imperial 1200 seat cover material.

One (1) Seats, Inc 911 air suspension seat shall be supplied for the driver's position.

Features shall include:

- Universal styling
- High back seat back
- Low profile air suspension assembly with rubber accordion cover
- Weight, height and ride adjustment
- Built-in back and lumbar adjustment
- 4" fore and aft adjustment

One (1) Seats, Inc. 911 Universal fixed SCBA seat shall be supplied for the officer's position in front of the cab to the right of the driver's position.

Features shall include:

- Universal styling.
- High back seat back.
- Built-in back and lumbar adjustment.
- Easy exit, flip up, and split headrest for improved exit with SCBA.

All seat positions shall have a bright red retractable 3-point lap and shoulder harness, providing additional safety and security for personnel. Extensions shall be provided with the seat belts so the male end can be easily grasped and the female end easily located while sitting in a normal position.

One (1) Seats, Inc. 911 Universal SCBA seat shall be provided in the rear facing position over the driver side wheel well.

Features shall include:

- Universal styling.
- High back seat back.
- Easy exit, flip up, and split headrest for improved exit with SCBA.

One (1) Seats, Inc. 911 Universal SCBA seat shall be provided in the rear facing position over the officer side wheel well.

Features shall include:

- Universal styling.
- High back seat back.
- Easy exit, flip up, and split headrest for improved exit with SCBA.

Two (2) Seats, Inc. 911 Universal SCBA seat backs and a two (2) person bench style seat bottom with a single cushion shall be mounted on the rear wall of the cab. Each side of the seat riser shall be angled, providing sufficient legroom while entering and exiting the cab.

Features shall include:

- Universal styling
- Easy exit, flip up, and split headrest for improved exit with SCBA.
- Bench cushion shall be constructed of high-density foam with a heavy-duty wear resistant material.

All seat positions shall have a bright red retractable 3-point lap and shoulder harness, providing additional safety and security for personnel. Extensions shall be provided with the seat belts so the male end can be easily grasped and the female end easily located while sitting in a normal position.

Seating Capacity Tag

A tag that is in view of the driver stating seating capacity of six (6) personnel shall be provided.

Mechanical Air Pack Bottle Bracket

Ziamatic model #QLM-U-OPR mechanical SCBA bottle bracket(s) shall be provided to fit all SCBA bottles currently on the market. The bracket(s) shall be positive locking and be equipped with an adjustable footplate and pull release strap.

The SCBA bracket(s) shall be equipped with a PVC coated flip down restraint to securely lock the SCBA in place without damaging the cylinder wall.

The bracket(s) shall be located officer's seat, rear facing driver's side, inboard driver's side rear wall, inboard officer's side rear wall, rear facing officer's side.

Storage Under Bench Seat

There shall be two (2) hinged doors provided on the sides of the seat risers enabling access to store equipment below the rear wall bench seat.

Cab Interior Color

Cab instrument panel, overhead console, trim panels, headliner, and door panels shall be gray.

Sun Visors

Padded sun visors shall be provided for the driver and officer matching the interior trim of the cab and shall be flush mounted into the underside of the overhead console.

Cab Dash

All surfaces subject to repeated contact and wear -- the center and officer side dash, windshield "A" post covers and lower front kick panel(s) -- shall be covered with thermoformed, non-metallic, non-fiber trim pieces to provide excellent scuff and abrasion resistance, as well as chemical stain resistance. The thermoformed material shall comply with Federal Motor Vehicle Safety Standard (FMVSS) 302 for flammability of interior materials.

Engine Cover

The engine cover shall blend in smoothly with the interior dash and flooring of the cab. The cover shall be constructed from a combination of integral skinned polyurethane foam and thermoformed, non-metallic, non-fiber trim pieces or panels to provide excellent scuff and abrasion resistance, as well as chemical stain resistance. The thermoformed material shall comply with Federal Motor Vehicle Safety Standard (FMVSS) 302 for flammability of interior materials.

The top front center of the engine cover shall be molded 18 lb/cu.ft (+/-0.5) flexible integral skinned polyurethane foam at a Durometer of 60 (+/- 5.0) per ASTM F1957-99 and with a minimum skin thickness of 0.0625 inches and shall be provided to reduce the transmission noise and heat from the engine.

On either side of the engine cover top surface there shall be thermoformed ABS trim with integral padded arm rests for both the driver and the officer. The trim shall include large cup holders ahead of each armrest.

The engine service access door shall be covered with a thermoformed ABS panel with a shallow recess in the top surface.

Cab Dome Lights

A Weldon LED dome light assembly with one (1) white lens and one (1) red lens and plastic housing shall be installed. The white light activates with appropriate cab door and light assembly switch, the red light activates with light assembly mounted switch only.

There shall be two (2) mounted in the front of the cab, one (1) in the driver and one (1) in the officer ceiling.

There shall be two (2) mounted in the rear of the cab, one (1) in the driver side and one (1) in the officer side ceiling.

Clamshell Switch

A heavy-duty metal clamshell switch shall be installed on the officer's side of the engine cover to operate the Q2B.

A heavy-duty metal clamshell switch shall be installed on the officer's side of the engine cover to operate the air horns.

DPF Regeneration Override

An override switch shall be provided for the Diesel Particulate Filter (DPF) regeneration. The switch will inhibit the regeneration process until the switch is reset or the engine is shut down and restarted. The switch shall be located within reach of the driver.

Gauge Cluster

The cab operational instruments shall be located in the dashboard on the driver side of the cab and shall be clearly visible. The gauges in this panel shall be the following:

- Speedometer/Odometer
- Tachometer with integral hour meter
- Engine oil pressure gauge with warning light and buzzer
- Engine water temperature gauge with warning light and buzzer
- Two (2) air pressure gauges with a warning light and buzzer (front air and rear air)
- Fuel gauge
- Voltmeter
- Transmission oil temperature gauge

This panel shall be backlit for increased visibility during day and night time operations.

Headlights

The front of the cab shall have four (4) headlights. The headlights shall be mounted on the front of the cab in the lower position. The headlights shall be day time operational.

Cab Turn Signals

There shall be a pair of Federal Signal QuadraFlare model QL64Z-ARROW LED (Light Emitting Diode) turn signal light heads with populated arrow pattern and amber lens mounted upper headlight bezel and wired with weatherproof connectors.

Battery Charger

A microprocessor controlled charging system shall be installed. The system shall have a 110 volt, 60 hertz, 5.25 amp input with output of 20 amps 12 volts DC.

The battery charging system shall be installed and connected directly to the shoreline to ensure the batteries remain fully charged while the vehicle is in the fire station or firehouse.

The system shall provide a visual signal if battery voltage drops below 11.5 volts. The microprocessor shall be continuously powered from the battery to provide the charge status.

Equalization charge shall only occur when necessary, not with every cycle. The system shall fully charge the batteries while allowing a minimum of 8 amps of additional load for onboard systems.

The battery charger shall be located behind driver's seat.

The battery charger receptacle shall be a Kussmaul 20 Amp NEMA 5-20 super auto-eject #091-55-20-120 with a cover. The super auto-eject receptacle shall be completely sealed and have an automatic power line disconnect.

The receptacle shall be located outside driver's door next to handrail and the cover color shall be Yellow.

Cab 12 Volt Outlet

A plug-in type receptacle for hand held spotlights, cell phones, chargers, etc. shall be installed officer side dash. The receptacle shall be wired battery hot.

Driver Side Body Assembly

The driver side assembly shall be constructed entirely of aluminum extrusions and interlocking aluminum plates for maximum strength. This aluminum modular design shall provide a high strength-to-weight ratio for increased equipment carrying capacity.

The driver side body corners shall be 6063-T5 extruded aluminum corner sections with a 3/16" minimum wall thickness. The side body extrusions shall be 6063-T5 aluminum tubing with a 3/16" minimum wall thickness and 3/16" minimum outside corner radius. The corners and sides shall be welded both internally and externally at each joint using an aluminum alloy welding wire.

The driver side body shall be completely sanded and deburred to assure a smooth finish and painted job color.

Driver Side Compartments

The three (3) driver side compartments shall be constructed from 3003 H14 1/8" smooth aluminum plate. The compartments shall be modular in design and shall not be a part of the body support structure.

There shall be one (1) compartment located ahead of the rear wheels. This compartment shall be approximately 48" wide x 68" high x 26" deep in the lower 57" high section and 12" deep in the upper 11" high section. The compartment shall contain approximately 44.8 cu. ft. of combined storage space. The door opening shall be approximately 48" wide x 68" high.

There shall be one (1) compartment located over the rear wheel. The compartment shall be approximately 56" wide x 34" high x 26" deep and contain approximately 28.6 cu. ft. of storage space. The door opening shall be approximately 56" wide x 34" high.

There shall be one (1) compartment located behind the rear wheel. The compartment shall be approximately 62" wide x 68" high. The forward area of the compartment shall be approximately 48" wide x 68" high x 26" deep in the lower 57" high section and 12" deep in the upper 11" high section. The enhanced extended rear portion of the compartment shall be approximately 14" wide x 68" high x 25" deep in the lower 57" high section and 11" deep in the upper 38" high section. The total combined storage space shall be approximately 57.3 cu. ft. The door opening shall be approximately 62" wide x 68" high.

Each compartment seam shall be sealed using a permanent pliable silicone caulk. The walls of each compartment shall be machine-louvered for adequate ventilation.

An externally-mounted compartment top shall be provided and constructed of a 1/8" (.125") aluminum treadplate. The compartment top shall be removable for easy access to the main body wiring harness.

Officer Side Body Assembly

The officer side assembly shall be constructed entirely of aluminum extrusions and interlocking aluminum plates. This aluminum modular design shall provide a high strength-to-weight ratio for increased equipment carrying capacity.

The officer side body corners shall be 6063-T5 extruded aluminum corner sections with a 3/16" minimum wall thickness. The side body extrusions shall be 6063-T5 aluminum tubing with a 3/16" minimum wall thickness and 3/16" minimum outside corner radius. The corners and sides shall be welded both internally and externally at each joint using an aluminum alloy welding wire.

The officer side body shall be completely sanded and deburred to assure a smooth finish and painted job color.

Officer Side Compartments

The three (3) officer side compartments shall be constructed from 3003 H14 1/8" (.125") smooth aluminum plate. The compartments shall be modular in design and shall not be a part of the body support structure.

There shall be one (1) compartment located ahead of the rear wheel. The compartment shall be approximately 48" wide x 68" high x 26" deep in the lower 30" high section and 12" deep in the upper 38" high section. The compartment shall contain approximately 34.3 cu. ft. of combined storage space. The door opening shall be approximately 48" wide x 68" high.

There shall be one (1) compartment located over the rear wheel. The compartment shall be approximately 56" wide x 34" high x 12" deep and contain approximately 13.2 cu. ft. of storage space. The door opening shall be approximately 56" wide x 34" high.

There shall be one (1) compartment located behind the rear wheel. The compartment shall be approximately 62" wide x 68" high. The forward area of the compartment shall be 48" wide x 30" high x 26" deep in the lower area and 48" wide x 38" high x 12" deep in the upper area. The enhanced extended rear portion of the compartment shall be approximately 14" wide x 68" high x 25" deep in the lower 30" high section and 11" deep in the upper 38" high section. The total combined storage space shall be approximately 43.8 cu. ft. The door opening shall be approximately 62" wide x 68" high.

Each compartment seam shall be sealed using a permanent pliable silicone caulk. The walls of each compartment shall be machine-louvered for adequate ventilation.

An externally-mounted compartment top shall be provided and constructed of a 1/8" (.125") aluminum treadplate. The compartment top shall be removable for easy access to the main body wiring harness.

Rear Body Assembly

The rear body shall be constructed entirely of aluminum extrusions and interlocking aluminum plates and includes a full height center rear compartment.

The rear body frame shall be 6063-T5 1.5" x 4" and 1.5" x 3" aluminum extrusions with a 3/16" minimum wall thickness and 3/16" (0.187") outside corner radius and 1/8" (0.125") aluminum smooth plate. The rear extrusions shall be welded both internally and externally at each joint using an aluminum alloy welding wire.

Rear Body Compartment

The full height center rear compartment shall be constructed from 3003 H14 1/8" (.125") smooth aluminum plate. The compartment shall be modular in design and shall not be a part of the body support structure.

The compartment shall be approximately 38" wide and shall vary in height and depth dependent upon water tank capacity.

The compartment seams shall be sealed using a permanent pliable silicone caulk. Machined louvers shall be provided for adequate ventilation.

Storage Tunnel

A storage compartment shall be provided at the rear body compartment. The storage compartment shall be located to the officer side of the rear compartment.

The storage compartment shall be approximately 13" wide x 29" high x length of side assembly. The storage compartment shall store NFPA equipment.

The storage compartment shall include a vertically hinged door to secure contents. The door shall be constructed of 3/16" (.187") aluminum smooth plate and shall have a push-button style latch.

The compartment door shall be securely attached with a full-length stainless steel piano type hinge with 1/4" pin. The hinge shall be "staked" on every other knuckle to prevent the pins from sliding. The door shall be wired to the door ajar indicator light in the cab and shall be interlocked with the parking brake per NFPA.

Tailboard

A tailboard step shall be provided at the rear of the body. The tailboard shall 15.5" in depth and in accordance with NFPA in both step height and stepping surface. The maximum rear step height to the tailboard shall not exceed 24".

The tailboard step shall be formed from 3/16" minimum aluminum treadplate and shall be reinforced with 6063-T5 1.5" x 3" aluminum extrusion. The tailboard shall be in accordance with current NFPA requirements and shall include a multi-directional aggressive gripping surface incorporated into the diamond plate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (0.125") Gripping surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4". Due to the chance of wear on embossed aluminum treadplate, this material is not acceptable as a substitute for the material specified. A more aggressive material, of which there are several on the market, must be provided.

The tailboard step shall be bolted on to the body from the underside assuring a clear surface and shall be easily removable for replacement in the case of damage.

Extended Compartment Framework

Each side of the tailboard shall be the external compartment frame work of the enhanced extended side compartments. The compartment frame work shall be 6063-T5 1.5"x 4"and 1.5" x 3" aluminum extrusions with a 3/16" minimum wall thickness and 3/16" minimum outside corner radius. The rear extrusions shall be welded both internally and externally at each joint using an aluminum alloy welding wire.

The extended compartmentation shall be stepped down below hosebed level. Includes embossed diamond plate compartment tops.

Rear Access Handrails

Handrails shall be provided at the rear of the body to assist ground personnel accessing the tailboard step and hosebed area. Each handrail shall be constructed of 6063T5 1.25" OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, and shall be mounted between chrome stanchions.

The handrails shall be located- two (2) handrails, one (1) on each side, appropriately sized handrail mounted vertically on the trailing edge of the body and appropriately sized handrail(s) mounted horizontally below the rear hosebed opening.

Double Compartment Door

Double compartment doors shall be constructed using a box pan configuration. The outer door pans shall be beveled and shall be constructed from 3/16" minimum aluminum plate. Inner door pans shall be constructed from 1/8" smooth aluminum plate and shall have nutsert fittings to attach hold-open hardware. The inner pans shall have a 95-degree bend to form an integral drip rail.

The compartment doors shall have a 1" x 9/16" (1" x 0.43") closed-cell "P" EPDM sponge gasket meeting ASTM D-1066 2A4 standards installed around the perimeter of the doors to provide a seal that is resistant to oil, sunlight, and ozone.

A drain hole shall be installed in the lower corner of the inside door pan to assist with drainage.

A polished stainless steel Hansen D-ring style twist-lock door handle with a #459 latch shall be provided on the primary door. The 4-1/2" (4.5") D-ring handle shall be mounted directly to the door latching mechanism with screws that do not penetrate the door material for improved corrosion resistance. The secondary door shall have a positive latching mechanism to hold the door in the closed position.

The compartment doors shall be securely attached to the apparatus body with a full-length stainless steel 1/4" (0.25") rod piano-type hinge isolated from the body and compartment doors with a dielectric barrier. The doors shall be attached with machine screws threaded into the doorframe. The doors shall have a gas shock-style hold-open device.

An anodized aluminum drip rail shall be mounted over the compartment opening to assist in directing water runoff away from the compartment.

The door(s) shall be installed in the following location(s): L1, L3, R1, R3

Single Compartment Door

A single compartment door shall be constructed using a box pan configuration. The outer door pan shall beveled and shall be constructed from 3/16" minimum aluminum plate. The inner door pan shall be constructed from 1/8" (0.125") smooth aluminum plate and shall have nutsert fittings to attach hold-open hardware. The inner pan shall have a 95-degree bend to form an integral drip rail.

The compartment door shall have a 1" x 9/16" (1" x 0.43") closed-cell "P" EPDM sponge gasket meeting ASTM D-1066 2A4 standards installed around the perimeter of the door to provide a seal that is resistant to oil, sunlight, and ozone.

A drain hole shall be installed in the lower corner of the inside door pan to assist with drainage.

A polished stainless steel Hansen D-ring style twist-lock door handle with a #459 latch shall be provided on the door. The 4-1/2" (4.5") D-ring handle shall be mounted directly to the door latching mechanism with screws that do not penetrate the door material for improved corrosion resistance.

The compartment door shall be securely attached to the apparatus body with a full-length stainless steel 1/4" (0.25") rod piano-type hinge isolated from the body and compartment door with a dielectric barrier. The door shall be attached with machine screws threaded into the doorframe. The door shall have gas shock-style hold-open devices.

An anodized aluminum drip rail shall be mounted over the compartment opening to assist in directing water runoff away from the compartment.

The door(s) shall be installed in the following location(s): L2, R2

Smoothplate Double Door

Double compartment doors shall be constructed using a box pan configuration. The outer door pans shall be beveled and shall be constructed from 3/16" (0.188") unpainted aluminum smooth plate. The inner door pans shall be constructed from 1/8" (0.125") smooth aluminum plate and shall have nutsert fittings to attach hold-open hardware. The inner pans shall have a 95-degree bend to form an integral drip rail.

The compartment doors shall have a 1" x 9/16" (1" x 0.43") closed-cell "P" EPDM sponge gasket meeting ASTM D-1066 2A4 standards installed around the perimeter of the doors to provide a seal that is resistant to oil, sunlight, and ozone.

A drain hole shall be installed in the lower corner of the inside door pan to assist with drainage.

A polished stainless steel Hansen D-ring style twist-lock door handle with a #459 latch shall be provided on the primary door. The 4-1/2" (4.5") D-ring handle shall be mounted directly to the door latching mechanism with screws that do not penetrate the door material for improved corrosion resistance. The secondary door shall have a positive latching mechanism to hold the door in the closed position.

The compartment doors shall be securely attached to the apparatus body with a full-length stainless steel 1/4" (0.25") rod piano-type hinge isolated from the body and compartment doors with a dielectric barrier. The doors shall be attached with machine screws threaded into the doorframe. The doors shall have a hold-open device.

An anodized aluminum drip rail shall be mounted over the compartment opening to assist in directing water runoff away from the compartment.

The door(s) shall be installed in the following location(s): B1 compartment

Permanent Shelf

There shall be a permanent mounted aluminum shelf provided for compartment R1 at offset, R3 at offset above the integral structural extrusion. Each shelf shall be at the offset within the compartment.

The shelf shall be constructed of 3/16" smooth aluminum plate. The shelf shall have a minimum 2" front lip for added strength and reinforcement and to accommodate optional plastic interlocking compartment tile systems.

The shelf shall be capable of holding 100 lbs.

Adjustable Shelf

There shall be an aluminum adjustable shelf provided for compartment L3.

The shelf shall be constructed of 3/16" (.187") smooth aluminum plate. The shelf shall have a minimum 2" front and rear lips to accommodate optional plastic interlocking compartment tile systems. For additional strength and reinforcement of the shelf a return break shall be provided on the outward lip. The adjustable shelf shall be capable of holding 250 lb.

The shelf shall be sized, width and depth, to match the size and location in the compartment.

Adjustable Tracks

Tracks shall be provided in L2, L3 for use with adjustable shelves and/or trays in deep non-transverse compartments. The tracks shall be vertically mounted and attached to the side and/or rear walls of the compartments.

Roll-Out/Tilt-Down Tray

A roll-out/tilt-down tray shall be adjustable mounted in compartment L2.

The tray shall be constructed of 3/16" (.187) aluminum with welded corners for strength and rigidity. The tray shall be sized in width and depth as applicable.

An Innovative Industries SlideMaster Tip Down frame and channel assembly shall be provided for the tray for the ease of operation and long service life. A positive twist lock shall be provided to lock the tray in the stored position. The tray shall roll out approximately 90% from its stored position and shall tip 30 degrees from horizontal.

The capacity rating of the tray, in the extended position, shall be 250 lb distributed.

Roll-Out Tray

There shall be a floor mounted roll-out tray provided in compartment L3.

The roll-out tray shall be constructed of 3/16" (.187") smooth aluminum plate with a sanded finish and welded corners for increased strength and rigidity. The tray shall be sized in width and depth as applicable.

For greater tray accessibility, the drawer slides shall feature one hundred percent extension. The tray shall utilize a pneumatic shock to secure the tray in the open or closed position.

The tray shall have a total capacity of 500 lbs.

Compartment Storage Package

Compartment L1 shall have the following items provided for multiple storage requirements.

One (1) vertically mounted partition shall be mounted 20" off the rearward wall and full height of the compartment. The partition shall be constructed of 3/16" (.187") smooth aluminum plate and shall have a sanded finish.

One (1) floor mounted roll-out tray shall be provided forward of the partition. The roll-out tray shall be constructed of 3/16" (.187") smooth aluminum plate with a sanded finish and welded corners for increased strength and rigidity. The tray shall be sized in width and depth as applicable.

The drawer slides shall permit the tray to roll-out of the compartment approximately eighty percent of the compartment depth. The tray shall utilize a pneumatic shock to secure the tray in the open or closed position.

The tray shall have a total capacity of 500 lbs.

Two (2) adjustable shelves shall be provided forward of the partition. The shelves shall be constructed of 3/16" (.187") smooth aluminum plate. The shelves shall have a minimum 2" front lip to accommodate optional plastic interlocking compartment tile systems. For additional strength and reinforcement of the shelves a Super J break shall be provided. The adjustable shelves shall be capable of holding 250 lb.

The shelves shall be sized, width and depth, to match the size and location in the compartment.

The shelves shall be mounted on adjustable tracks. The tracks shall be vertically mounted and attached to the side and/or rear walls of the compartment.

One (1) adjustable roll-out aluminum tool board shall be provided rearward of the partition. The tool board shall be constructed of 3/16" (.187") smooth aluminum plate with a sanded finish and be sized in height and depth as applicable.

The tool board shall be mounted on drawer slides, at the top and bottom, that will permit the board to roll-out of the compartment for easier access to tools and/or equipment. The slide mechanisms shall have ball bearings for ease of extension and retraction operation and dependable service. The tool board shall be mounted at top and bottom on adjustable tracking for ease of placement.

The capacity rating shall be 500 lb. maximum at full extension. A pneumatic shock shall be utilized to secure the toolboard in the open or closed position.

Hosebed Cover

A cover constructed of Red 18 oz. PVC vinyl coated polyester shall be installed over the apparatus hosebed. The base fabric shall be 1000 x 1300 Denier Polyester with a fabric count of 20 x 20 square inch.

The front edge of the cover shall be mechanically attached to the body. The sides of the cover shall be held in place with heavy duty Velcro strips running the length of the hosebed. The rear of the cover shall have an integral flap that extends down to cover the rear of the hosebed. This flap shall be secured in place with heavy duty nylon straps to comply with the latest edition of NFPA 1901.

Crosslay Cover

A crosslay cover shall be provided for the crosslay storage area of the pump module. The crosslay cover shall be provided in compliance with NFPA 1901.

The crosslay cover shall be constructed from 3/16" (.187") aluminum treadplate. The cover shall include a full-length stainless steel 1/4" (0.25") rod piano-type hinge. The cover shall be hinged to open and not interfere with applicable plumbing components on the apparatus.

The crosslay cover shall include applicable grab handle(s) and two (2) hold downs to secure the cover in the closed position. The cover shall be labeled as a non-stepping surface in non-aerial applications.

A pair of covers constructed of heavy duty black nylon cargo netting shall be installed over the side openings of the apparatus crosslay.

The covers shall be secured in place to comply with the latest edition of NFPA 1901.

The crosslay cover shall be hinged along the rearward edge of the crosslay area.

Hold open device(s) shall be provided for aluminum crosslay (single or bi-fold) cover.

DEF Tank Cover

A cover shall be installed over the compartment mounted Diesel Exhaust Fluid (DEF) tank. Includes a hinged door to access the DEF tank fill. Material and finish of the cover to match the compartment walls.

Lower Pump Module

An aluminum extruded lower pump module shall be provided and located forward of the body. The pump module shall be constructed entirely of aluminum extrusions and interlocking aluminum plates. The pump module design and mounting shall be separate from the body to allow the pump module and body to move independently of each other in order to reduce stress from frame twisting and vibration. The exterior surface of the pump module shall have a sanded finish. The pump module panel opening shall be 39" in width.

Pump Module Running Boards

The pump module shall include a running board on each side of the pump module. The running boards shall be in accordance with NFPA in both step height and stepping surface. The maximum step height to each running board shall not exceed 24". The running boards shall be formed from 1/8" (.125") aluminum treadplate. Each running board shall include a multi-directional, aggressive gripping surface incorporated into the treadplate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (.125"). Gripping surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4". Each running board shall be bolted on to the pump module and be easily removable for replacement in the case of damage.

Upper Pump Module

An extruded aluminum upper pump module with a forward area for the top mount pump control panel and a double crosslay shall be provided. The upper pump module shall be constructed entirely of aluminum extrusions and interlocking aluminum plates. The upper pump module design and mounting shall allow the upper area of the pump module to be reconfigured to meet possible future needs or growth of the department. The exterior surface of the upper pump module shall have a sanded finish.

Top Mounted Pump Control Area

The forward upper pump module shall have an area for mounting all the necessary components for a top mount pump controlled application.

Crosslay Triple Preconnect Storage

The upper pump module design shall include an area rearward for a single stacked triple crosslay. Each of the two (2) front crosslay areas shall have a capacity for up to 200' of 1.75" double jacket hose. The rear crosslay shall have a capacity for up to 200' of 2.5" double jacket fire hose. The crosslay floor shall be constructed of 3/16" (.188) smooth aluminum plate and shall be slotted to prevent the accumulation of water and allow for ventilation of wet hose. Two (2) 1/4" (.25") smooth aluminum plate non-adjustable dividers with a sanded finish shall be provided to separate the three (3) hose storage areas.

The crosslay dividers shall be notched on both ends for line(s) nozzle end storage with NFPA cover(s) in closed position.

Pump Module Width

Pump Module shall be no less than 76" wide across the body.

Crosswalk Module

An aluminum extruded crosswalk module shall be provided and located forward of the pump module. The crosswalk module shall be constructed entirely of aluminum extrusions and interlocking aluminum plates. The crosswalk module design and mounting shall be separate from the pump module and the body to allow each to move independently of each other in order to reduce stress from frame twisting and vibration. The exterior surface of the crosswalk module shall have a sanded finish.

The crosswalk walkway shall be in accordance with NFPA in both step height and stepping surface. The crosswalk shall include two (2) crosswalk walkway access dual lighted LED folding steps, two (2) 36" handrails, one (1) on each side mounted vertically on the forward extrusion of the pump module. The crosswalk walkway shall be formed from 3/16" (.188") aluminum treadplate and shall include a multi-directional, aggressive gripping surface incorporated into the treadplate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (.125"). Gripping surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4". The crosswalk walkway shall be bolted on to the module and be easily removable for replacement in the case of damage.

Crosswalk Walkway Compartments

The area directly below the crosswalk walkway shall include two (2) compartments, one (1) each side. Each compartment shall provide approximately 1.4 cu. ft. of storage space. The compartments shall include spring loaded, vertically-hinged 1/8" (.188") aluminum treadplate doors with push-button latches. A switch wired to the door ajar indicator light in the cab shall be provided interlocked with the parking brake per NFPA.

Crosswalk Module Running Boards

The crosswalk module shall include a running board on each side of the pump module. The running boards shall be in accordance with NFPA in both step height and stepping surface. The maximum step height to each running board shall not exceed 24". The running boards shall be

formed from 1/8" (.125") aluminum treadplate. Each running board shall include a multi-directional, aggressive gripping surface incorporated into the treadplate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (.125"). Gripping surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4". Each running board shall be bolted on to the module and be easily removable for replacement in the case of damage.

Top Mount Pump Panels

The top mount gauge panel, driver and officer side pump panels shall be constructed of 14 gauge stainless steel.

The top mount gauge panel shall be able to lift forward for access to panel mounted electrical connections.

The driver and officer panels shall have the ability to be removed from the module for easier access and for maintenance in the pump area.

Pump Access Doors

The driver and officer side pump module shall include an upper horizontally hinged pump access door.

The doors shall be constructed of 3/16" (.187") aluminum treadplate. The compartment doors shall be securely attached with a full-length stainless steel piano type hinge with 1/4" pins. The hinges shall be "staked" on every other knuckle to prevent the pins from sliding. The doors shall include two (2) push button style latches to secure the doors in the closed position and two (2) hold open devices to hold the doors in the open position.

Pump Panel Tags

Color coded pump panel labels shall be supplied to be in accordance with NFPA compliance.

Water Tank

A 1030 gallon booster tank shall be supplied. The booster tank shall be of a pinned baffle design. The booster tank shall be completely removable without disturbing or dismounting the apparatus body structure.

The booster tank top, sides, and bottom shall be constructed of 1/2" UV-stabilized copolymer polypropylene. The copolymer polypropylene tank material shall be welded together utilizing thermoplastic welding technology. A clean hot air temperature controlled process, shall ensure that each weld reaches its plasticized state without cold or hot spots. The copolymer polypropylene material shall be used for its high strength and corrosion resistance for a prolonged tank life.

The booster tank shall have a fill tower with a rearward hinged lid. The fill tower shall be located in the forward area of the tank and shall assist with tank ventilation. The fill tower shall include a removable 1/4" (0.25") thick polypropylene screen.

The booster tank shall have two (2) tank plumbing openings. One (1) for a tank-to-pump suction line with an anti-swirl plate, and one (1) for a tank fill line. A 3" cleanout plug shall be provided at the bottom of the tank sump.

The booster tank shall include longitudinal and latitudinal baffles. The baffles shall be interlocking and thermo welded to the shell of the tank to minimize water surge during travel and provide enhanced road handling stability. The baffle design shall allow waterflow in accordance with NFPA during tank filling or pump operations.

A 2.5' length of black flex hose shall be installed to the bottom of the tank. This shall direct the draining of overflow water past the rear axle and fuel tank, thus reducing the possibility of freeze-up of these components in cold environments. This drain configuration shall also assure that rear axle tire traction shall not be affected when moving forward.

The booster tank shall undergo extensive testing prior to installation in the truck. The testing shall include an electronic spark and tank fill test after both the internal and external tank shell welds are completed.

A lifetime manufacture's limited warranty shall be included.

Tank capacity is 1030 US gallon / 857 Imperial gallons / 3898 Liters.

Any foam cells will reduce water tank capacity.

Tank Fill

One (1) 2" pump-to-tank fill line having a 2" manually operated full flow valve. The valve control shall be located at the pump operator's panel and shall visually indicate the position of the valve at all times. The fill line shall be controlled using a chrome handle with an integral tag.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Tank-to-pump

One (1) manually operated 3" Akron valve shall be installed between the pump suction and the booster tank, 4" piping, with flex hose and stainless steel hose clamps connect to the tank. The valve control shall be located at the pump operator's panel and shall visually indicate the position of the valve at all times.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position and water is flowing through it.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Foam Tank

A 30 gallon foam cell for class B foam shall be supplied. The foam cell shall be integral to the water tank.

The integral tank top, sides, and bottom shall be constructed of black UV-stabilized copolymer polypropylene. The copolymer polypropylene tank material shall be welded together utilizing thermoplastic welding technology. A clean hot air temperature controlled process, shall ensure that each weld reaches its plasticized state without cold or hot spots. The copolymer polypropylene material shall be used for its high strength and corrosion resistance for a prolonged tank life.

The foam tank shall have one (1) fill tower with a hinged lid. The foam fill tower shall include a stainless steel butterfly latch to secure the lid in the closed position and a pressure/vacuum vent mounted in the lid. The fill tower shall be located in the forward area of the tank. The fill tower shall include a removable 1/4" (0.25") thick polypropylene screen.

The foam tank shall undergo extensive testing prior to installation in the truck. The testing shall include an electronic spark and tank fill test after both the internal and external tank shell welds are completed.

A lifetime manufacture's limited warranty shall be included. As this vehicle is intended to perform the function of a pumper with foam capability, foam tank capacity of less than 30 gallons shall not be acceptable.

Storage Tunnel Capacity

The officer side storage tunnel shall have the capacity to store the following.

- (1) 24' 2-section extension ladder
- (1) 14' roof ladder
- (1) 10' folding ladder
- (2) 10' or shorter pike poles
-

Intermediate Pump Panel Steps

Two (2) intermediate pump panel steps shall be provided for use by firefighters loading hose in the crosslay hosebeds.

Each intermediate step shall be constructed of 3/16" (.187") aluminum treadplate. The steps shall include a multi-directional, aggressive gripping surface incorporated into the treadplate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (.125"). Gripping

surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4". The steps shall be bolted onto the pump module and be easily removable for replacement in the case of damage.

Lighting shall be provided for illumination of the upper surface of each step.

Hosebed Folding Steps

Dual lighted LED folding steps shall be positioned to the driver side rear of the body. The steps shall be NFPA compliant for access to the hosebed storage area and in step height and surface area. The steps shall be staggered stepped as applicable with tailboard depth, not applicable with recessed step mounting.

Dual lighted LED folding step with LED lights integral to the step on the top to provide NFPA requirements of 2 FC on the stepping surface. Each step shall also have a LED light integral to the bottom of the step to meet NFPA requirements of a stepping surfaces up to 18" below the step.

The folding step shall sustain a minimum static load of 500LB. The folding step shall also meet NFPA slip resistance qualifications.

One (1) handrail shall be installed (as applicable) in compliance with current NFPA. The handrail shall be constructed of 6063T5 1.25" OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, mounted between chrome stanchions.

Folding Steps

Three (3) dual lighted LED folding steps shall be located officer side front compartment face, and three (3) on the driver side front compartment face. The folding step(s) shall meet current NFPA in step height and surface area.

Dual lighted LED folding step with LED lights integral to the step on the top to provide NFPA requirements of 2 FC on the stepping surface. Folding step shall also have a LED light integral to the bottom of the step to meet NFPA requirements of a stepping surface up to 18" below the step. The folding step shall sustain a minimum static load of 500LB. The folding step shall also meet NFPA slip resistance qualifications.

One (1) handrail shall be installed in compliance with current NFPA. The handrail shall be constructed of 6063T5 1.25" OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, mounted between chrome stanchions.

Rear Mud Flaps

Black linear low density polyethylene (proprietary blend) mud flaps shall be installed on the rear of the rear wheel wells. The design of the mud flaps shall have corrugated ridges to distribute water evenly.

Mainframe Construction

The body mainframe shall be constructed entirely of aluminum. The complete framework shall be constructed of 6061T6 and 6063T5 aluminum alloy extrusions welded together using 5356 aluminum alloy welding wire.

The body mainframe shall include 3" x 3" 6061-T6 aluminum 3/8" (0.375") wall crossmember extrusion or 3" x 3" I-beam section aluminum extrusion depending on the application at the front of the body . A solid 3" x 3" "I-beam" section aluminum extrusion shall be provided the full width of the body forward and rearward of the rear wheel well. The crossmembers shall be designed to support the compartment framing and shall be welded to 1-3/16" x 3" (1.188" x 3") solid 6063-T5 aluminum frame sill extrusions. The frame sill extrusions shall be shaped to contour with the chassis frame rails and shall be protected from contact with the chassis frame rails by 5/16" x 2" (0.31" x 2") fiber-reinforced rubber strips to prevent wear and galvanic corrosion caused when dissimilar metals come in contact.

Body Mounting System

The main body shall be attached to the chassis frame rails with six (6) of 5/8" (0.625") diameter steel U-bolts. The rear of the body shall be spring mounted to allow for chassis flex. This body mounting system shall be used to allow easy removal of the body for major repair or disassembly.

Water Tank Mounting System

The body design shall allow the booster tank to be completely removable without disturbing or dismantling the apparatus body structure. The water tank shall rest on top of a 3" x 3" frame assembly covered with rubber shock pads and corner braces formed from 3/16" angled plate to support the tank. The booster tank mounting system shall utilize a floating design to reduce stress from road travel and vibration. To maintain low vehicle center of gravity the water tank bottom shall be mounted within 5" of the frame rail top.

Hosebed Side Assembly

The hosebed side assemblies shall be made of 3" x 3" slotted aluminum extrusion and 3/16" (.188") smooth plate. The hosebed side assemblies shall provide a 90" high body.

The exterior hosebed side surface shall be completely sanded and deburred to assure a smooth finish and painted job color. The interior hosebed side surface shall be completely sanded and deburred to assure a smooth sanded finish.

Hosebed Capacity

The hosebed shall have no less than the NFPA required cubic foot capacity.

Hosebed

The area above the booster tank shall have a hose storage area provided. The hosebed shall be constructed entirely from maintenance-free, 3/4" deep x 7.5" wide, extruded aluminum slats that shall be pop-riveted into a one-piece grid system. Each slat shall have all sharp edges removed and have an anodized ribbed top surface that shall prevent the accumulation of water and allow for ventilation of wet hose.

The hosebed shall include an open area for the fill tower(s). The hosebed design shall incorporate adjustable tracks in the forward area rearward of the fill tower(s) and the rearward area of the hosebed for the installation of an adjustable divider(s). The adjustable tracks shall hold an adjustable divider(s) mounting nut straight, so only a Philips head screwdriver is required to adjust a divider(s) from side to side.

The hosebed shall be easily removable to allow access to the booster tank below.

Hosebed Divider

There shall be a hosebed divider provided the full fore-aft length of the hosebed.

The hosebed divider shall be constructed of 1/4" smooth aluminum plate with an extruded aluminum base welded to the bottom. The rear end of the divider shall have a 3" radius corner to protect personnel. The divider shall be natural finish aluminum for long-lasting appearance and shall be sanded and deburred to prevent damage to the hose.

The divider shall be adjustable from side to side in the hosebed to accommodate varying hose loads.

There shall be a hand hole cutout on the trailing edge of each hosebed divider. The cutout is specifically sized for use in adjusting of the hosebed divider.

Fuel Fill

A recessed fuel fill shall be provided at the driver side rear wheel well area.

Body Wheel Well

The body wheel well frame shall be constructed from 6063-T5 aluminum extrusion with a slot the full length to permit an internal fit of 1/8" (0.125") aluminum treadplate. The wheel well trim shall be constructed from 6063-T5 formed aluminum extrusion. The wheel well liners shall be constructed of a 3/16" (.187") composite material. The liners shall be bolt-on and shall provide a maintenance-free and damage-resistant surface.

Rubrail

The pump area module and body shall have rubrails mounted along the sides and at the rear step area. Rubrails which do not cover all these surfaces will not be acceptable.

The rubrail shall be C-channel in design and constructed of 3/16" thick 6463T6 anodized aluminum extrusion. The rubrail shall be 2.75" high x 1.25" deep and shall extend beyond the body width to protect compartment doors and the body side. The rubrail depth shall allow marker and/or warning lights to be recessed inside for protection.

The top surface of the rubrail shall have minimum of five (5) raised serrations. Each serration being a minimum of .1" in height and with cross grooves to provide a slip-resistant edge for the tailboard step and pump module running board areas. The rubrail shall be mounted a minimum of 3/16" off the pump module and body with nylon spacers. The ends of each section shall be provided with a finished rounded corner piece.

SCBA Wheel Well Bottle Storage

The body wheel well area shall store up to seven (7) SCBA bottles- four (4) on the officer side and three (3) on the driver side. The bottles shall be externally secured in each storage area by a vertically hinged door which shall be secured in the closed position by a push button latch. The doors shall have a brushed stainless steel finish.

Each storage area shall provide individual storage of a bottle and shall not allow forward or rearward movement of the bottle. The bottle(s) shall be removable from the storage area without the bottle(s) coming into contact with any surface area of the wheel well.

Fire Pump

The pump shall be a midship-mounted Hale QMAX 1500 GPM single stage centrifugal pump. The pump shall be mounted on the chassis frame rails and shall be split-shaft driven.

The entire pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 psi. All metal moving parts in contact with water shall be of high quality bronze or stainless steel. Pump body shall be horizontally split in two sections, for easy removal of impeller assembly including wear rings and bearings from beneath the pump without disturbing pump mounting or piping.

The pump impeller shall be hard, fine grain bronze of the mixed flow design and shall be individually ground and hand balanced. Impeller clearance rings shall be bronze, easily renewable without replacing impeller or pump volute body, and of wrap-around double labyrinth design for maximum efficiency.

The pump shaft shall be heat-treated, corrosion-resistant stainless steel and shall be rigidly supported by three (3) bearings for minimum deflection. The sleeve bearing is to be lubricated by a force fed, automatic oil lubricated design, pressure-balanced to exclude foreign material. The remaining bearings shall be heavy-duty, deep groove ball bearings in the gearbox and shall be splash-lubricated. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of the gearbox.

Two (2) 6" diameter suction ports with 6" NST male threads and removable screens shall be provided, one each side. The ports shall be mounted one (1) on each side of the midship pump and shall extend through the side pump panels. Inlets shall come equipped with long handle chrome caps.

Discharge Manifold

The pump system shall utilize a stainless steel discharge manifold system that allows a direct flow of water to discharge valves. The manifold and fabricated piping systems shall be constructed of a minimum of Schedule 10 stainless steel to reduce corrosion.

The apparatus manufacturer shall provide a full 10 year stainless steel plumbing components warranty. This warranty shall cover defects in materials or workmanship of apparatus manufacturer designed foam/water plumbing system stainless steel components for 10 years. A copy of the warranty document shall be provided with the proposal.

Priming System

The electrically-driven priming pump shall be a positive displacement vane type. One (1) priming control, located at the pump operator's position, shall open the priming valve and start the priming motor. The primer shall be oil-less type. The priming valve shall be electronically interlocked to the "Park Brake" circuit to allow priming of the pump before the pump is placed in gear.

Pump Shift

The pump shift shall be pneumatically-controlled using a power shifting cylinder.

The power shift control valve shall be mounted in the cab and be labeled "PUMP SHIFT". The apparatus transmission shift control shall be furnished with a positive lever, preventing accidental shifting of the chassis transmission.

A green indicator light shall be located in the cab and be labeled "PUMP ENGAGED". The light shall not activate until the pump shift has completed its full travel into pump engagement position.

A second green indicator light shall be located in the cab and be labeled "OK TO PUMP". This light shall be energized when both the pump shift has been completed and the chassis automatic transmission has obtained converter lock-up (4th gear lock-up).

Systems

Two (2) test plugs shall be pump panel mounted for third party testing of vacuum and pressures of the pump.

A master drain valve shall be installed and operated from the pump operator's panel. The master pump drain assembly shall consist of a Class 1 bronze master drain with a rubber disc seal and turning handle.

The manual master drain valve shall have six (6) individually-sealed ports that allow quick and simultaneous draining of multiple intake and discharge lines. It shall be constructed of corrosion-resistant material and be capable of operating at a pressure of up to 600 psi.

The master drain shall provide independent ports for low point drainage of the fire pump and auxiliary devices.

Gearbox Cooler

A gearbox cooler shall be provided to maintain safe operating temperatures during prolonged pumping operations for pump rating 1500 GPM and over.

Auxiliary Engine Cooler

An engine cooler used to lower engine water temperature during prolonged pumping operations and controlled at the pump operator's panel shall be provided.

The engine cooler shall be installed in the engine coolant system in such a manner as to allow cool pump water to circulate around engine water, thus forming a true heat exchanger action. Cooler inlet and outlet shall be continuous, preventing intermixing of engine coolant and pump water.

Pump Rating & Certification

The fire pump shall be rated at 1500 GPM.

The pump, when dry, shall be capable of taking suction and discharging water in accordance with current NFPA 1901. The pump shall be tested at the manufacturer's facility by an independent, third-party testing service. The conditions of the pump test shall be as outlined in current NFPA 1901.

The tests shall include, at a minimum, the pump test, the pumping engine overload test, the pressure control system test, the priming device tests, the vacuum test, and the water tank to pump flow test as outlined in current NFPA 1901.

A piping hydrostatic test shall be performed as outlined in current NFPA 1901.

The pump shall deliver the percentage of rated capacities at pressures indicated below:

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

A test plate, installed at the pump panel, shall provide the rated discharges and pressures together with the speed of the engine as determined by the certification test, and the no-load governed speed of the engine.

A Certificate of Inspection certifying performance of the pump and all related components shall be provided at time of delivery. Additional certification documents shall include, but not limited to, Certificate of Hydrostatic Test, Electrical System Performance Test, Manufacturer's Record of Pumper Construction, and Certificate of Pump Performance from the pump manufacturer.

Pump Cooler

The pump shall have a 3/8" line installed from the pump discharge to the booster tank to allow a small amount of water to circulate through the pump casing in order to cool the pump during sustained periods of pump operation when water is not being discharged. The pump cooler line shall be controlled from the pump operator's panel by a 3/8" snubber valve.

Steamers

The pump 6" steamer inlets shall be mounted approximately 1" from the pump panel to back of cap when installed.

Location: driver's side, officer's side

Pump Seal Packing

The pump shaft shall have only one (1) packing gland located on the inlet side of the pump. It shall be of split design for ease of repacking. The packing gland shall be of a design to exert uniform pressure on packing and to prevent cocking and uneven packing load when tightened. The packing rings shall be permanently lubricated, graphite composition and have sacrificial zinc foil separators to protect the pump shaft from galvanic corrosion.

The packing shall be easily adjusted by hand with rod or screwdriver with no special tools or wrenches required.

Master Drain

A manual master drain valve shall be installed on the pump panel. The master pump drain assembly shall consist of a Class 1 bronze master drain with a rubber disc seal. The master drain shall have a rubber seal to prevent water from running out on the running board.

The manual Master Drain Valve shall have twelve (12) individually-sealed ports that allow quick and simultaneous draining of multiple intake and discharge lines. It shall be constructed of corrosion-resistant material and be capable of operating at a pressure of up to 600 PSI.

The master drain shall provide independent ports for low point drainage of the fire pump and auxiliary devices.

Left 2.5" Intake

One (1) 2 1/2" suction inlet with a manually operated 2 1/2" Akron valve shall be provided on the driver side pump panel.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position and water is flowing through it.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The outlet of the valve shall be connected to the suction side of the pump with the valve body located behind the pump panel. The valve shall come equipped with a brass inlet strainer, 2 1/2" NST female chrome inlet swivel and shall be equipped with a chrome-plated, rocker-lug plug with a retainer device.

The valve shall be controlled by a vertically mounted quarter turn locking handle located on the top mounted operator's panel and shall visibly indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance, and decreased friction loss.

A 3/4" bleeder valve assembly will be installed on the side pump panel.

Intake Relief Valve

The pump shall be equipped with an Akron style 59 cast brass, variable-pressure-setting relief valve on the pump suction side. It shall be designed to operate at a maximum inlet pressure of 250 psi. The relief valve shall be normally closed and shall be set to begin opening at 125 psi in order to limit intake pressures in the pumping system. When the relief valve opens, the overflow water shall be directed through a plumbed outlet to discharge below the apparatus body in an area visible to the pump operator. The overflow outlet shall terminate with a male 2-1/2" NST threaded fitting to allow the overflow water to be directed away from the vehicle with a short hose (supplied by the fire department) during freezing weather or under other conditions where an accumulation of water around the apparatus might be hazardous.

Front Jumper

One (1) 1-1/2" preconnect outlet with a manually operated Akron valve shall be supplied to the extended front bumper. The preconnect shall consist of a 2" heavy-duty hose coming from the pump discharge manifold to a 2" FNPT x 1-1/2" MNST mechanical swivel hose connection to permit the use of the hose from either side of the apparatus.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

An air blowout valve shall be installed between the chassis air reservoir and the front jump line. The control shall be installed on the pump operator's panel.

The discharge shall be supplied with a Class 1 automatic 3/4" drain valve assembly. The automatic drain shall have an all-brass body with stainless steel check assembly. The drain shall normally be open and automatically close when the pressure is greater than 6 psi.

The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

There shall be a polished stainless steel swivel elbow provided for the front bumper discharge located on top of the bumper officer's side outboard.

Deck Gun Discharge

One (1) 3" deck gun discharge outlet with a manually operated Akron valve and 3" stainless steel pipe shall be provided above the pump compartment.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve shall be equipped with a device that limits the opening and closing speeds to comply with the current edition of NFPA1901.

The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

1.5 and 2.5 Crosslays Akron Valve

Two (2) single crosslay discharges shall be provided at the front area of the body. Each crosslay shall include one (1) 2" brass swivel with a 1-1/2" hose connection to permit the use of hose from either side of the apparatus.

Each crosslay hosebed shall consist of a 2" heavy-duty hose coming from the pump discharge manifold to the 2" swivel. The hose shall be connected to a manually operated 2" Akron valve. The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

Each valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

Each valve control shall be located at the pump operator's panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Location: crosslay 1 & 2

One (1) single crosslay discharge shall be provided at the front area of the body. The crosslay shall have one (1) 2-1/2" mechanical swivel hose connection to permit the use of the hose from either side of the apparatus.

The crosslay hosebed shall consist of a 2.5" heavy-duty hose coming from the pump discharge manifold to the 2.5" swivel. The hose shall be connected to a manually operated 2.5" Akron valve. The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator's panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Location: crosslay 3

Left Panel Discharge

One (1) 2-1/2" discharge outlet with a manually operated Akron valve shall be provided at the left hand side pump panel.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Location: left side discharge 1

Right Panel Discharge

One (1) 2-1/2" discharge outlet with a manually operated Akron valve shall be provided at the right side pump panel.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Location: right side discharge 2

Left Rear Discharge

One (1) 2-1/2" discharge outlet with a manually operated Akron valve shall be supplied to the left rear of the apparatus by a 2-1/2" stainless steel pipe.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Location: left rear discharge

Right Panel Discharge, 3.0"

One (1) 3" discharge outlet with a manually operated Akron valve shall be provided at the right side pump panel.

The discharge shall be equipped with a device that shall not allow the valve to open or close in less than three (3) seconds.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Location: right side discharge 1

Bleeder Drain Valve

The specified discharge shall be supplied with a 3/4" bleeder valve assembly. The bleeder valve shall be installed to drain water from the gauge pressure line to prevent freezing of the line. The drain shall be controlled with a quarter-turn valve on the pump panel.

Plumbed to: front bumper discharge, left rear discharge, deck gun, crosslay preconnect, left discharge, right discharge

Top Mount Control Levers

Top mount controls handles for tank supply, tank fill, all top mount controlled intakes, and all discharges shall be lever style controls. The valve control lever shall be a locking chrome top mount control handle located at the pump operator's panel and shall visibly indicate the position of the valve at all times. The control levers shall be located directly adjacent to one another and shall be mounted in line so they are in the same position when shut off. The control lever shall be connected directly to its respective valve by a 7/8" rod to form a direct linkage control system.

Deck Gun Location

Deck gun piping shall be positioned centered in deck gun channel. This location shall allow for optimal operation of a deck gun monitor once installed.

Pressure Governor

The apparatus shall be equipped with a Class 1 engine/pump pressure governor/throttle system connected directly to the Electronic Control Module (ECM) mounted on the engine. The governor shall control and monitor the pump master discharge pressure, eliminating any need for a relief valve on the discharge side of the pump. A special preset feature shall permit a predetermined pressure or RPM to be set and hold it against varying flow rates at independent discharge lines by modulating engine rotation speed. Control of the engine speed shall be dictated by preprogrammed software in the electronic control module. The preset shall be easily adjustable by the operator.

The Class 1 system shall be installed in place of the discharge relief valve and the pump panel mounted hand throttle.

A display/control unit shall be mounted on the pump operator's panel. The control unit shall be a self-contained, weatherproof module, approximately 4.5"W x 6"H. The display unit shall provide alpha-numeric display.

Compound Pressure Gauge

Two (2) Class 1 weatherproof 4-1/2" compound vacuum pressure gauges with a range of 30-0-600 shall be installed on the pump panel. The gauges shall be filled with a liquid solution.

Location: Master Intake, Master Discharge

Water Tank Level Gauge

One (1) Innovative Controls brand water tank level gauge shall be located at the pump operator's panel to provide a high-visibility display of the water tank level. Ten (10) high-intensity light emitting diodes (LED's) on the display module shall have a 3 dimensional lens allowing the full, 3/4, 1/2, 1/4, and refill levels to be easily distinguished at a glance within full 180 degree visibility.

The display module shall be protected from vibration and contamination with the components being encased in an encapsulated plastic housing. The long life and extreme durability of LED indicators eliminates light bulb replacement and maintenance. Color coded cover plates shall complete the assembly of the display module to the pump panel. System calibration shall be accomplished via supplied magnet. Each display level can be set independently for maximum reliability.

The display shall provide a steady indication of fluid level despite sloshing inside of the tank when the vehicle is in motion due to an "anti-slosh" feature.

Foam Tank Level Gauge

One (1) Innovative Controls brand foam tank level gauge shall be located at the pump operator's panel to provide a high-visibility display of the foam tank level. Ten (10) high-intensity light emitting diodes (LEDs) on the display module shall have a 3 dimensional lens allowing the full, 3/4, 1/2, 1/4, and refill levels to be easily distinguished at a glance within full 180 degree visibility.

The display module shall be protected from vibration and contamination with the components being encased in an encapsulated plastic housing. The long life and extreme durability of LED indicators eliminates light bulb replacement and maintenance. Color coded cover plates shall complete the assembly of the display module to the pump panel. System calibration shall be accomplished via supplied magnet. Each display level can be set independently for maximum reliability.

The display shall provide a steady indication of fluid level despite sloshing inside of the tank when the vehicle is in motion due to an "anti-slosh" feature.

ENFO IV System

The apparatus shall be equipped with a Class 1 Enfo IV electronic system and engine operating information display/warning system mounted on the pump operator's panel. The gauge shall be a self-contained, weatherproof display, approximately 4.5"H x 6"W.

Features:

- Engine RPM - engine RPM shall be displayed numerically.
- System voltage display and alarm - a display shall be provided to indicate voltage and an audible alarm warning of low voltage. If the system voltage drops below 11.9 volts (12V ignition), or below 23.8 volts (24V ignition), for more than 2 seconds the audible alarm shall activate and shall cause the display to alternate between the current value and "LO" to warn the operator.
- Engine temperature display and alarm - a display shall be provided to indicate engine temperature and an audible alarm warning of high engine temperature. If the engine temperature reaches 250 degrees F or higher the audible alarm shall activate and the display shall alternate between the current temperature and "HI" to warn the operator.

- Engine oil pressure display and alarm - a display shall be provided to indicate oil pressure and an audible alarm warning of low oil pressure. If the oil pressure drops to 10 PSI or lower the audible alarm shall activate and the display shall alternate between the current pressure and "LO" to warn the operator.

The connection to the apparatus shall be achieved by the use of a Deutsche four (4) position socket connector.

Compound Pressure Gauge

A Class 1 weatherproof 2-1/2" compound vacuum pressure gauge with a range of 30-0-600 shall be installed on the pump panel. The gauge shall be filled with a liquid solution to assure visual reading to within 1% accuracy.

Gauge shall be provided for the following discharge: front bumper discharge, left rear discharge, 1.5 in. crosslay preconnect, 2.5 in. crosslay preconnect, deck gun, left side discharge 1, right side discharge 1, right side discharge 2

Foam System

A quick connect foam outlet shall be provided. The outlet shall be for use with an external foam eductor application. The outlet shall be a 1" male disconnect with a 1" valve. The connection between the foam tank and valve shall be a flex line with a strainer. A check valve shall be provided so water cannot enter into the foam tank once the external water line is connected.

A 1" male and female quick connect fitting shall be provided and shipped loose with the apparatus.

The outlet shall be located: left side pump panel

Multiplex Electrical System

The following specifications describe the low voltage electrical system on the specified fire apparatus. The electrical system shall include all panels, electrical components, switches and relays, wiring harnesses and other electrical components. The electrical equipment installed by the apparatus manufacturer shall conform to current automotive electrical system standards, the latest Federal DOT standards, and the requirements of the applicable NFPA #1901 standards.

The apparatus shall have a multiplexing system to provide diagnostic capability. The system shall have the capability of delivering multiple signals via a CAN bus, utilizing specifications set forth by SAE J1939. The electrical system shall be pre-wired for computer modem accessibility to allow service personnel to easily plug in a modem to allow remote diagnostics, troubleshooting, or program additions. The system shall also include the capability of remote access through a modem via telephone lines.

For superior system integrity, the networked system shall meet the following minimum requirement components:

- Power management center
- Load shedding power management

- Solid-state circuitry
- Switch input capability
- Responsible for lighting device activation
- Self-contained diagnostic indicators
- Power distribution module

All wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected. Voltage drops in all wiring from the power source to the using device shall not exceed 10 percent. The wiring and wiring harness and insulation shall be in conformance to applicable SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with GXL temperature properties. All exposed wiring shall be run in a loom with a minimum 289 degree Fahrenheit rating. All wiring looms shall be properly supported and attached to body members. The electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

The wiring connections and terminations shall use a method that provides a positive mechanical and electrical connection and shall be installed in accordance with the device manufacturer's instructions. Electrical connections shall be with mechanical type fasteners and large rubber grommets where wiring passes through metal panels.

The wiring between the cab and body shall be split using Deutsche type connectors or enclosed in a terminal junction panel area. This system will permit body removal with minimal impact on the apparatus electrical system. All connections shall be crimp-type with heat shrink tubing with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather-resistant connectors shall be provided throughout to ensure the integrity of the electrical system.

Any electrical junction or terminal boxes shall be weather-resistant and located away from water spray conditions. In addition, the main body junction panel shall house the automatic reset breakers and relays where required.

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless they are enclosed in an electrical junction box or covered with a removable electrical panel. The wiring shall be secured in place and protected against heat, liquid contaminants and damage. Wiring shall be uniquely identified at least every two feet (2') by color coding or permanent marking with a circuit function code and identified on a reference chart or electrical wiring schematic per requirements of applicable NFPA #1901 standards.

The electrical circuits shall be provided with low voltage overcurrent protective devices. Such devices shall be accessible and located in required terminal connection locations or weather-resistant enclosures. The overcurrent protection shall be suitable for electrical equipment and shall be automatic reset type and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. The system shall have electro-magnetic interference suppression provided as required in applicable SAE standards.

The electrical system shall include the following:

- Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied. A corrosion preventative compound shall be applicable to all terminal plugs located outside of the cab or body.
- The electrical wiring shall be harnessed or be placed in a protective loom.
- Heat shrink material and sealed connectors shall be used to protect exposed connections.
- Holes made in the roof shall be caulked with silicone. Large fender washers shall be used when fastening equipment to the underside of the cab roof.
- Any electrical component that is installed in an exposed area shall be mounted in a manner that will not allow moisture to accumulate in it.
- A coil of wire must be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.
- All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.

The warning lights shall be switched in the chassis cab with labeled switching in an accessible location. Individual rocker switches shall be provided only for warning lights provided over the minimum level of warning lights in either the stationary or moving modes. All electrical equipment switches shall be mounted on a switch panel mounted in the cab convenient to the operator. For easy nighttime operation, an integral indicator light shall be provided to indicate when the circuit is energized. All switches shall be appropriately identified as to their function.

A single warning light switch shall activate all required warning lights. This switch will allow the vehicle to respond to an emergency and “call for the right of way”. When the parking brake is activated, a “blocking right of way” system shall be automatically activated per requirements of NFPA #1901. All “clear” warning lights shall be automatically shed on actuation of parking brake.

NFPA Required Testing of Electrical System

The apparatus shall be electrical tested upon completion of the vehicle and prior to delivery. The electrical testing, certifications, and test results shall be submitted with delivery documentation per requirements of NFPA #1901. The following minimum testing shall be completed by the apparatus manufacturer:

1. Reserve capacity test:

The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load shall be activated for ten (10) minutes. All electrical loads shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test fail.

2. Alternator performance test at idle:

The minimum continuous electrical load shall be activated with the engine running at idle speed. The engine temperature shall be stabilized at normal operating temperature. The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.

3. Alternator performance test at full load:

The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two (2) hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded by excessive battery discharge, as detected by the system required in NFPA #1901 Standard, or a system voltage of less than 11.7 volts dc for a 12 volt nominal system, for more than 120 seconds, shall be considered a test failure.

4. Low voltage alarm test:

Following the completion of the above tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm activates. The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts dc for a 12 volt nominal system shall be considered a test failure. The battery system shall then be able to restart the engine. Failure to restart the engine shall be considered a test failure.

NFPA Required Documentation

The following documentation shall be provided on delivery of the apparatus:

- a. Documentation of the electrical system performance tests required above.
- b. A written load analysis, including:
 1. The nameplate rating of the alternator.
 2. The alternator rating under the conditions.
 3. Each specified component load.
 4. Individual intermittent loads.

Multiplex Modem

A modem shall be provided for the multiplex electrical system. The modem shall allow for remote diagnostic and software updates via a telephone line. The modem connection shall be located below the driver's side dash.

Data Recorder

A vehicle data recorder system shall be provided to comply with NFPA 1901, 2009 edition. The following data shall be monitored:

- Vehicle speed MPH
- Acceleration (from speedometer) MPH/Sec.
- Deceleration (from speedometer) MPH/Sec.
- Engine speed RPM
- Engine throttle position % of full throttle
- ABS Event On/Off
- Seat occupied status Occupied Yes/No by position
- Seat belt status Buckled Yes/No by position
- Master Optical Warning Device Switch On/Off
- Time 24 hour time
- Date Year/Month/Day

Occupant Detection System

There shall be a visual and audible warning system installed in the cab that indicates the occupant buckle status of all cab seating positions that are designed to be occupied during vehicle movement.

The audible warning shall activate when the vehicle's park brake is released and a seat position is not in a valid state. A valid state is defined as a seat that is unoccupied and the seat belt is unbuckled, or one that has the seat belt buckled after the seat has been occupied.

The visual warning shall consist of a graphical display that will continuously indicate the validity of each seat position.

The system shall include a display panel with LED back-lit ISO indicators for each seating position, seat sensor and safety belt latch switch for each cab seating position, audible alarm and braided wiring harness.

The display panel shall be located Driver side of center dash electrical cover.

Light Bar

Federal Signal Corporation 72" LED Aerohawk light bar model ADX7202 containing eight (8) Solaris LED reflector assemblies, six (6) red and two (2) white shall be provided. No rear lighting. Lens configuration is RRCCRR.

The lightbar(s) shall be installed in the following location: Centered on the front cab roof.

Lower Level Warning Lights

Eight (8) Federal Signal QL64XF-R LED light heads & two (2) Federal Signal 360501-04 LED light heads all with red lens shall be provided.

The light heads shall be mounted as close to the corner points of the apparatus (as is practical) as follows:

- Two (2) QL64XF-R light heads on the front of the apparatus facing forward.
- Two (2) QL64XF-R light heads on the rear of the apparatus facing rearward.
- Two (2) QL64XF-R light heads each side of the apparatus, one (1) each side at the forward most point and one (1) centrally located to provide midship warning lighting.
- Two (2) 360501-04 LED light heads shall be mounted one (1) each side at the rearward most point (as practical).

The side facing lights shall be located at forward most position, centered in rear wheelwell, and side facing at rear of body in rubrail if equipped.

All warning devices shall be surface mounted in compliance with NFPA standards.

The lower level Federal Signal QuadraFlare LED warning lights shall be set to flash at an alternating 75 quad flashes per minute.

Hazard Warning Light

There shall be a Federal Signal FB3 COMP-R Red rotating hazard light installed. The light will have a 12 volt 55 watt bulb rotating at 95 FPM.

The light shall be located center overhead.

Upper Rear Warning Lights

Two (2) Federal Signal Micro Escape lightbars model ME2QL shall be provided. Two (2) Quadraflare LED lights, driver red, officer amber, shall be provided in each of the lightbars. The domes shall be clear.

The lights shall be located (1) each side of body on rearward compartment top to meet Zone C upper requirements.

Electronic Siren

A Federal PA300 siren model 690010 solid state electronic siren with attached noise-canceling microphone shall be installed. The unit shall be capable of driving a single high power speaker up to 200 watts to achieve a sound output level that meets Class "A" requirements.

Operating modes shall include Hi-Lo, yelp, wail, P.A., air horn and radio re-broadcast.

The siren shall be recessed mounted in the cab.

The electronic siren control shall be located in the center overhead.

Speaker

One (1) Federal model TS200 200 watt speaker shall be flush mounted as far forward and as low as possible on the front of the cab. A polished model MSFMT-EF "Electric F" grille shall be provided on the outside of the speaker to prevent road debris from entering the speaker.

The speaker shall produce a minimum sound output of 120 dB at 10 feet to meet current NFPA 1901 requirements.

The speaker shall be located driver side front bumper.

Mechanical Siren

A chrome-plated and pedestal mounted Federal Q2B-P coaster siren shall be installed on top of the front bumper extension. An electric siren brake switch shall be located on the main cab switch panel.

The siren shall be located driver side front bumper.

License Plate Light

One (1) Truck-Lite model 15905 white LED license plate light mounted in a Truck-Lite model 15732 chrome plated plastic license plate housing shall be mounted at the rear of the body.

LED Marker Lights

LED clearance/marker lights shall be installed as specified.

Upper Cab:

- Five (5) amber LED clearance lights on the cab roof.

Lower Cab:

- One (1) amber LED side turn/marker each side of cab ahead of the front door hinge.

Upper Body:

- One (1) red Trucklite LED clearance light each side, rear of body to the side.

Lower Body:

- Three (3) red Trucklite LED clearance lights centered at rear, recessed in the rubrail.
- One (1) red Trucklite LED clearance light each side at the trailing edge of the apparatus body, recessed in the rubrail.
- One (1) amber Trucklite LED clearance/auxiliary turn light each side front of body/module, recessed in the rubrail.

Tail Lights

One (1) Federal Signal model QL64Z-BTT red L.E.D. (Light Emitting Diode) light, one (1) Federal Signal model QL64Z-ARROW amber LED light and one (1) Federal Signal QL64Z-BACKUP white LED light shall be installed in a Cast 4 housing in a vertical position each side at rear and wired with weatherproof connectors.

Light functions shall be as follows:

- L.E.D. red running light with red brake light in upper position.
- L.E.D. amber populated arrow pattern turn signal in middle position.
- L.E.D. white backup light in lower position.

A one-piece polished aluminum trim casting shall be mounted around the three (3) individual lights in a vertical position. The lower space will be used by the 6" x 4" lower NFPA warning light.

Compartment Lights

There shall be a minimum of one (1) Federal Signal model 607141-05 4" circular LED (Light Emitting Diode) mounted in each body compartment greater than 4 cu ft. Compartments over 36" in height shall have a minimum of two (2) lights, one (1) high and one (1) low. Transverse compartments shall have a minimum of two (2) lights, located one (1) each side.

Compartment lights shall be wired to a master on/off rocker switch on the cab switch panel. Each light shall be in a resilient shock shock-absorbent mount for improved bulb life.

The wiring connection for the compartment lights shall be made with a weather-resistant plug in style connector. A single water- and corrosion-resistant switch with a polycarbonate actuator and sealed contacts shall control each compartment light. The switch shall allow the light to illuminate if the compartment door is open.

Ground Lights

The apparatus shall be equipped with a sufficient quantity of lights to properly illuminate the ground areas around the apparatus in accordance with current NFPA requirements. The lights shall be Federal Signal model 607141-05 4" circular LED (Light Emitting Diode) with clear lenses mounted in a resilient shock absorbent mount for improved bulb life. The wiring connections shall be made with a weather resistant plug in style connector.

Ground area lights shall be switched from the cab dash with the work light switch.

One (1) ground light shall be supplied under each side of the front bumper extension if equipped.

Lights in areas under the driver and crew area exits shall be activated automatically when the exit doors are opened.

Recessed Step Light

Two (2) Federal Signal model 607141-05 recessed 4" LED light with clear lens shall be provided to illuminate the step at the location specified.

Location: one (1) each side of the top mount walkway.

Hosebed Light

One (1) Federal Signal GHSCENE flush-mounted scene light with a clear lens shall be installed at the front area of the hosebed to provide hosebed lighting per current NFPA 1901. The light shall include (2) 20-watt halogen light fixtures within the light housing. The two light fixtures shall be adjustable horizontally and vertically to provide the desired coverage. All electrical connectors are to be enclosed in the housing providing protection against the elements.

The hosebed light shall be switched with work light switch in the cab.

Crosslay Light

A Truck-Lite rectangular light shall be installed at the rear area of the crosslay to provide crosslay lighting per current NFPA 1901. The rectangular rubber housing shall contain a 12-volt 2700 candlepower halogen floodlight bulb. The hosebed light shall be switched with work light switch in the cab.

Scene Lights

Two (2) Federal GHSCENE lights with clear lenses shall be provided. Each light shall include (2) 20 watt halogen fixtures within the light housing. Both lights, within each housing, shall be adjustable horizontally and vertically to provide desired coverage. All electrical connectors are to be enclosed in the housing providing protection against the elements.

The light shall be 12VDC, 40 watts, and provide 1050 candelas.

Lights shall be located (1) each side rear compartment face up high and switched in cab (side facing lights switched separately).

The rear scene lights shall be activated when the chassis is placed in reverse to provide additional lighting, in addition to the back-up lights, when backing the vehicle.

Engine Compartment Light

There shall be lighting provided in compliance with NFPA to illuminate the engine compartment area.

Pump Compartment Light

An incandescent light shall be provided in the pump compartment area for NFPA compliance. The light shall be wired to operate with the work light switch in the cab.

Pump Panel Lights

Two (2) Weldon #2030 lights shall be mounted under a light shield directly above each side pump panel with the top mount panel having three (3) lights. The work light switch in the cab shall activate the lights when the park brake is set.

Map Light

A Federal "Littlite" LED map light model LF18-LED shall be supplied. The map light shall be 12 volt with 18" flexible gooseneck and a matte black finish. The light shall have a switch provided for white or red illumination. It shall be located at officer's A post.

Spotlight

A 12 volt 100watt, Federal, model Visibeam II remote controlled spotlight, shall be supplied. The light shall be installed on the apparatus with 140-degree vertical and 360 degree horizontal range of motion. A hand held control pad shall be supplied in the chassis cab.

If one light is selected is shall be mounted center of cab roof. If two are selected they shall be mounted, one each side, above the canopy window between the front and rear cab doors.

Foot Switches

A heavy-duty metal floor-mounted foot switch shall be installed to operate the air horns. It shall be located driver's side.

A heavy duty metal floor mounted foot switch shall be installed to operate the Q2B warning device. It shall be located driver's side.

Back-Up Alarm

An electronic back-up alarm shall be supplied. The 97 dB alarm shall be wired into the chassis back-up lights to signal when the vehicle is in reverse gear.

Quartz Light

Two (2) Kwik-Raze model 31 Magnafire quartz light heads with 70-watt, 12-volt metal halide bulbs rated at 6,000 lumens shall be provided, mounted on a Kwik-Raze model KR1531 custom cab permanent mount housings.

Each light assembly shall be mounted on the cab as specified. Light will reach full output @ 30 seconds. A switch shall be installed on the warning light switch panel in cab.

Location: driver and officer side cab brow on the Vista roof

DOT Required Drive Away Kit

Three (3) triangular warning reflectors with carrying case shall be supplied to satisfy the DOT requirement.

Multiplex Adapter Kit

A multiplex adapter kit shall be provided and shipped loose. The kit shall include a 6' harness with a 9 pin connector/deustch connector and one (1) USB to CAN interface module.

Pump/Preconnect Modules

All applicable pump application modules shall have a sanded finish (not painted job color). Includes upper and lower pump modules, crosswalk module and/or speedlay/pre-connect module (as applicable).

Custom Cab Paint

The apparatus cab shall be painted Akzo-Nobel FLNA3225 Red. The paint process shall meet or exceed current State regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water, and soil. Contractor shall, upon demand, provide evidence that the manufacturing facility is in compliance with State EPA rules and regulations.

The aluminum cab exterior shall have no mounted components prior to painting to assure full coverage of metal treatments and paint to the exterior surfaces of the body. Any vertically- or horizontally-hinged smooth-plate compartment door shall be painted separately to assure proper paint coverage on body, door jambs and door edges.

Paint process shall feature Akzo-Nobel's high solid LV products and be performed in the following steps:

- Corrosion Prevention - all raw material shall be pre-treated with the Weather Jacket Corrosion Prevention system to provide superior corrosion resistance and excellent adhesion of the top coat.
- Akzo-Nobel Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.
- Akzo-Nobel High Solid LV (Top coat) - a lead-free, chromate-free high solid acrylic urethane top coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.

- Akzo-Nobel High Solid LV (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two (2) coats shall be applied.

Any location where aluminum is penetrated, after painting, for the purpose of mounting steps, handrails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment. The pre-treatment shall be applied to the aluminum sheet metal or aluminum extrusions in all locations where the aluminum has been penetrated. All hardware used in mounting steps, handrails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.

After the paint process is complete, the gloss rating of the unit shall be tested with a 20 degree gloss meter.

Paint Break & Two-Tone Cab Paint

The cab shall have a two-tone paint break. The break line shall be approximately 31.5 inches below the cab roof drip rail. The paint break shall include a dip down to the corners of the cab grille.

The two-tone chassis cab shall be Akzo-Nobel lead-free, chromate-free high solid LV acrylic urethane paint color FLNA4006 White applied to the upper section of the cab.

Apparatus Body Paint

The apparatus body shall be painted Akzo-Nobel FLNA3225 Red. The paint process shall meet or exceed current State regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water, and soil. Contractor shall, upon demand, provide evidence that the manufacturing facility is in compliance with State EPA rules and regulations.

The aluminum body exterior shall have no mounted components prior to painting to assure full coverage of metal treatments and paint to the exterior surfaces of the body. Any vertically- or horizontally-hinged smooth-plate compartment door shall be painted separately to assure proper paint coverage on body, door jambs and door edges.

Paint process shall feature Akzo-Nobel's high solid LV products and be performed in the following steps:

- Corrosion Prevention - all raw material shall be pre-treated with the Weather Jacket Corrosion Prevention system to provide superior corrosion resistance and excellent adhesion of the top coat.
- Akzo-Nobel Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.
- Akzo-Nobel High Solid LV (Top coat) - a lead-free, chromate-free high solid acrylic urethane top coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.
- Akzo-Nobel High Solid LV (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two (2) coats shall be applied.

Any location where aluminum is penetrated, after painting, for the purpose of mounting steps, handrails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment. The pre-treatment shall be applied to the aluminum sheet metal or aluminum extrusions in all locations where the aluminum has been penetrated. All hardware used in mounting steps, handrails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.

After the paint process is complete, the gloss rating of the unit shall be tested with a 20 degree gloss meter.

Chassis Rims Paint

The exterior outer chassis wheels shall be painted Job Color. The paint shall be of the highest quality finish for low maintenance, long life, and attractive appearance. The finish shall consist of a corrosion-resistant primer, urethane high build primer, and high performance durable color coat.

The paint process shall meet or exceed current State regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water and soil. Manufacturer shall, upon demand, provide evidence that the manufacturing facility is in compliance with State EPA rules and regulations.

Paint process shall feature Akzo-Nobel's high solid LV products and be performed in the following steps:

- Corrosion Prevention - all raw material shall be pre-treated with the Weather Jacket Corrosion Prevention system to provide superior corrosion resistance and excellent adhesion of the top coat.
- Akzo-Nobel Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.
- Akzo-Nobel High Solid LV (Top coat) - a lead-free, chromate-free high solid acrylic urethane top coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.
- Akzo-Nobel High Solid LV (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two (2) coats shall be applied.

Cab Interior Color

The interior of the cab shall be painted Zolatone gray 20-64.

Lettering

Up to and including sixty (60) genuine Sign Gold letters with contrasting black shade shall be applied per department instructions.

Striping

A 4" white Scotchlite stripe shall be applied to the cab and body. The bottom of the stripe shall be flush with the top of the bumper and shall extend straight back.

Rear Body Scotchlite Striping

Printed chevron style Scotchlite striping shall be provided on the rear of the apparatus. The stripes shall consist of 6" Yellow/Red alternating stripes in an "A" pattern. The striping shall be located on the rear facing extrusions, panels, doors and inboard/outboard of the beavertails if applicable.

Standard 1 Year Warranty

The apparatus manufacturer shall provide a full 1-year standard warranty. All components manufactured by the apparatus manufacturer shall be covered against defects in materials or workmanship for a 1-year period. All components covered by separate suppliers such as engines, transmissions, tires, and batteries shall maintain the warranty as provided by the component supplier. A copy of the warranty document shall be provided with the proposal.

Lifetime Frame Warranty

The apparatus manufacturer shall provide a full lifetime frame warranty. This warranty shall cover all apparatus manufacturer designed frame, frame members, and crossmembers against defects in materials or workmanship for the lifetime of the covered apparatus. A copy of the warranty document shall be provided with the proposal. Frame warranties that do not cover crossmembers for the life of the vehicle shall not be acceptable.

10 Year 100,000 Mile Structural Warranty

The apparatus manufacturer shall provide a comprehensive 10-year/100,000-mile structural warranty. This warranty shall cover all structural components of the cab and/or body manufactured by the apparatus manufacturer against defects in materials or workmanship for 10 years or 100,000 miles, whichever occurs first. Excluded from this warranty are all hardware, mechanical items, electrical items, or paint finishes. A copy of the warranty document shall be provided with the proposal.

10 Year Stainless Steel Plumbing Warranty

The apparatus manufacturer shall provide a full 10-year stainless steel plumbing components warranty. This warranty shall cover defects in materials or workmanship of apparatus manufacturer designed foam/water plumbing system stainless steel components for 10 years. A copy of the warranty document shall be provided with the proposal.

10 Year Paint and Corrosion Warranty

The apparatus manufacturer shall provide a 10-year limited paint and corrosion perforation warranty. This warranty shall cover paint peeling, cracking, blistering, and corrosion provided the vehicle is used in a normal and reasonable manner.

The paint shall be prorated for 10 years as follows:

Topcoat & Appearance: Gloss, Color Retention, Cracking		Coating System, Adhesion & Corrosion: Includes Dissimilar metal corrosion, Flaking, Blistering, Bubbling	
0 to 72 months	100%	0 to 36 months	100%
73 to 120 months	50%	37 to 84 months	50%
		85 to 120 months	25%

Corrosion perforation shall be covered 100% for 10 years.

The warranty period shall begin upon delivery of the apparatus to the original user-purchaser. A copy of the warranty document shall be provided with the proposal.

UV paint fade shall be covered in a separate warranty supplied by Akzo Nobel (Sikkens) and shall be for a minimum of 10 years.

Approval Drawings

A general arrangement drawing depicting the vehicles appearance shall be provided. The drawing shall consist of left side, right side, front, and rear elevation views.

Vehicles requiring pump controls shall include a general arrangement view of the pump operator's position, scaled the same as the elevation views.

Electronic Manuals

Two (2) copies of all operator, service, and parts manuals shall be supplied at the time of delivery in electronic format (CD-ROMs). The electronic manuals shall include the following information:

- Operating Instructions, descriptions, specifications, and ratings of the cab, chassis, body, installed components, and auxiliary systems.
- Warnings and cautions pertaining to the operation and maintenance of the fire apparatus and fire fighting systems.
- Charts, tables, checklists, and illustrations relating to lubrication, cleaning, troubleshooting, diagnostics, and inspections.
- Instructions regarding the frequency and procedure for recommended maintenance.
- Maintenance instructions for the repair and replacement of installed components.
- Parts listing with descriptions and illustrations for identification.
- Warranty descriptions and coverage.

The CD-ROM shall incorporate a navigation page with electronic links to the operators manual, service manual, parts manual, and warranty information, as well as instructions on how to use the manual. Each copy shall include a table of contents with links to the specified documents or illustrations.

The CD must be formatted in such a manner as to allow not only the printing of the entire manual, but to also the cutting, pasting, or copying of individual documents to other electronic media, such as electronic mail, memos, and the like.

A find feature shall be included to allow for searches by text or by part number.

These electronic manuals shall be accessible from any computer operating system capable of supporting portable document format (PDF). Permanent copies of all pertinent data shall be kept file at both the local dealership and at the manufacturer's location.

Loose Equipment

The following loose equipment shall be line-item priced and included in the total bid price. The City of Fairhope shall eliminate any equipment item not desired with the completed vehicle.

Any suggested or required NFPA equipment not specifically listed herein shall be the responsibility of the department to provide & outfit on to the completed apparatus.

- (1) Alco-Lite PRL-14 14' roof ladder
- (1) Alco-Lite PEL-24 24' 2-section extension ladder
- (1) Alco-Lite FL-10 10' folding attic ladder
- (1) Zico AC-32 wheel chock, with QCH-32 mounting bracket, pair
- (1) Amerex A411 20-lbs. ABC extinguisher with model 810 mounting bracket
- (1) Amerex 240 2.5-gal pressurized water extinguisher with model 810 mounting bracket
- (1) Council Tools C60P36 6-lbs. pick head axe with fiberglass handle, with axe blade and handle bracket
- (1) Council Tools C60F36 6-lbs. flat head axe with fiberglass handle, with axe blade and handle bracket
- (1) TFT AH1ST-NL 3" female x 5" Storz elbow, with TFT A01ST 5" Storz cap and retaining device
- (1) TFT XFC-52 Crossfire deck gun package; includes ground base, monitor, stream shaper, stacked tips, and master stream nozzle. Include ground base bracket.
- (1) RealWheels stainless steel deep dish wheel covers for 22.5" rims, single axle, front & rear
- (2) Zico AC-32 wheel chocks with horizontal mounting brackets
- (1) Nupla YPD-6 6' pike pole with fiberglass handle
- (1) Nupla YPD-10 10' pike pole with fiberglass handle
- (1) Nupla YPDH-4A, no. 36124 4' closet hook with fiberglass handle and brackets
- (10) Angus Ultima II 1.75" x 50' white double jacket fire hose with 1.5" aluminum alloy couplings
- (12) Angus 5" x 100' large diameter hose with 5" Storz couplings
- (4) Red Head 148-3 spanner/hydrant set with vehicle mount bracket

- (1) Nupla SF-2 rubber mallet with fiberglass handle
- (2) Fol-da-tank 12 x 14 salvage cover, 10-oz. vinyl
- (1) Superior SU16751 compartment mount (non-riding position) SCBA bracket
- (3) PAC 1004 HandleLok adjustable clamp bracket
- (1) TFT A01ST 5" Storz blind cap with retaining device
- (1) Red Head #37 2.5" female x 1.5" male rigid aluminum alloy adapter
- (2) Red Head #35 2.5" double female swivel aluminum alloy adapter
- (1) Red Head #57 4.5" long-handle female x 2.5" long handle female aluminum alloy adapter
- (2) Red Head #36 2.5" double male rigid aluminum alloy adapter
- (1) TFT AA3HST-NP 4" female x 5" Storz adapter
- (3) TFT FTS200PS 1.5" ThunderFog nozzle, selectable gallonage, with grip
- (1) TFT H2VPP 2.5" playpipe with detent flow control, with TFT FS-3STACK 1.5" triple stacked tips
- (1) TFT UE-095-NF 1.5" 95-gpm foam eductor with pick-up tube and spike
- (5) South Park 2.5" tri-lock
- (1) TFT AB1ST-NX 6" female NH x 5" Storz ball intake valve
- (1) Zoll AED Plus, with CPR-D Padz, batteries, soft case, and Fast Response kit
- (1) Lab Safety Supply HZ540 Eflare LED landing zone kit, with carrying case and (4) amber beacon and (1) steady blue beacon
- (1) Stihl MS460R chainsaw, with depth limiter and (2) spare chains
- (6) MSA M7 SCBA, ATO AM7LD13A0C14AA0, with face piece, carbon cylinder, HUD, 2216-psi, 30-minute bottles, with integrated PASS.
- (6) MSA 2216-psi, 30-minute spare cylinder model number 807586
- (5) 28" traffic cones with dual reflective bands
- (6) ANSI 5-point breakaway traffic vests

- (1) Kenwood TK-7180HK mobile radio, with mic, power cable, mounting bracket, antenna, installed
- (1) Kenwood TK-2180K VHF radio with NiMH battery package, belt clip, charger, and speaker mic
- (2) Streamlight Vulcan 12-volt handlight with vehicle mount charger
- (1) Set of stainless steel deep dish wheel covers with bright finish lug nut covers for the front and rear wheels
- (1) TFT model AYNJ-NF gated wye, 2.5" FNST x (2) 1.5" MNST

Completed unit is to be delivered to the following address, cleaned, with at least ¼ tank of fuel and ready to place in service:

City of Fairhope
555 South Section St.
Fairhope, AL 36532

USE OF OTHER NAMES AND REFERENCES:

Unless otherwise stated, the use of manufacturer's name and product numbers are for descriptive purposes and establishing general quality levels only. They are not intended to be restrictive. Bidders are required to state exactly what they intend to furnish, otherwise, it is fully understood that they shall furnish all items stated.

BROCHURES AND LITERATURE:

Your proposal must be accompanied by descriptive literature (marked), indicating the exact items to be furnished. The term "as specified" will not be acceptable.

END OF SPECIFICATIONS

ITEM V

**CITY OF FAIRHOPE
BID RESPONSE FORM**

BID NO.: 004-11

BID NAME: FIRE TRUCK OUTFITTED

Our bid form must be filled in completely.

1. All pages of this Bid Response Form, and additional requested pages, if any, must be returned.
2. Acknowledgement must be made where a blank (_____) appears.
3. A signed contractual agreement must be in place prior to beginning work or services.
4. Any attachments hereto are made and become a part of this inquiry and must be signed by bidder.

QUANTITIES The City of Fairhope does not guarantee that the City will procure any set quantities.

Delivery lead time ARO: _____ **Days**

We propose to meet or exceed the above specifications for the sum of:

BID PRICE PER DELIVERED UNIT: \$ _____

Manufacturer: _____ **Model:** _____

Each bid must give the full business address of the bidder and must be signed by him with his usual signature. Bids by partnerships must furnish the full names of all partners and must be signed with the partnership name by one of the members of the partnership, or by an authorized representative, followed by the signature and designation of the person signing. Bids by corporations must be signed with the legal name of the corporation followed by the name of the State of Incorporation and by the signature and designation of the president, secretary, or other person authorized to bind it in the matter. The name of each person shall also be typed or printed below the signature. A bid by a person who affixes to this signature the word "president," "secretary," "agent," or other designation without disclosing his principal, may be held to be the bid of the individual signing. When requested by the City of Fairhope, Baldwin County, Alabama, satisfactory evidence of the authority of the officer signing in behalf of the corporation shall be furnished.

The undersigned agrees to furnish the goods/services as requested by you for the City of Fairhope, Baldwin County, Alabama in your invitation to bid, and certifies that they will meet or exceed the specifications called for. The undersigned has read all information pertaining to this bid and has resolved all questions. It is also understood and agreed that all prices quoted are F.O.B. described in the bid documents and specifications. The undersigned also affirms he/she has not been in any agreement or collusion among bidders or prospective bidders in restraint of freedom of competition, by agreement to bid at a fixed price or to refrain from bidding or otherwise.

