

**KEY LARGO FIRE RESCUE AND EMERGENCY MEDICAL SERVICES
DISTRICT
KEY LARGO, FLORIDA**

BIDDER'S PACKAGE

PROJECT NAME: RESCUE PUMPER

PROJECT NUMBER: KLFREMS 10-01

TABLE OF CONTENTS

BID REQUIREMENTS AND FORMS

Invitation To Bid	0020-1
Instructions to Bidders	00100-1 to 00100-7
Bid Form	00300-1 to 00300-4
Supplement to the Bid Form	00301-1 to 00301-5
Bid Bond	00401-1 to 00401-2

CONTRACT REQUIREMENTS AND FORMS

Sample Contract	00500-1 to 00500-11
Performance Bond	00610-1 to 00610-4

TECHNICAL SPECIFICATIONS

Technical Specifications	01270-1 to 01270-3
--------------------------	--------------------

DOCUMENT 0020
INVITATION TO BID

All interested parties are hereby notified that the Key Largo Fire Rescue and Emergency Medical Services District is accepting sealed bids for the purchase of a new rescue pumper truck as specified in the bid documents.

Bid documents may be obtained by contacting the District Clerk by phone: (305) 451-5517 or email: clerk@klfrems.org **All bids must be submitted in sealed envelopes to the address specified in the bid documents on or before Tuesday, May 18, 2010 at 5:00 PM local time. Any bids received after 5:00 PM on said date will not be accepted and will be returned unopened.** Bids submitted will be opened publicly and read aloud at Key Largo Fire Station #24 located at MM 99.8 Overseas Hwy, Key Largo, FL on Wednesday, May 19, 2010 at 9:00 AM local time. The District assumes no responsibility for bids not properly marked.

Bid Security in the amount of five percent (5%) of the Total Base Bid must accompany the Bid in accordance with the Instructions to Bidders.

The District reserves the right to reject any or all bids and to waive informalities, except timely submission of bids, in any bids received, to re-advertise for bids or to take any other such actions that may be deemed in the best interests of the District. As a matter of information to bidders, the District does not bind itself to accept the minimum specifications stated herein, but reserves the right to accept any bid, which in the judgment of the District Board will best serve the needs and interests of the District.

Any person who is adversely affected by the District's decision or intended decision concerning a bid solicitation or a contract award shall file with the District's Representative, as listed below, a written notice of protest within seventy-two (72) hours after receipt of notice of the decision or intended decision. Saturdays, Sundays and legal holidays shall be excluded in the computation of the 72-hour time periods. The formal written protest shall be submitted by the person within ten (10) days after filing the notice of protest. Failure to file a formal written protest shall constitute a waiver of proceedings under Chapter 120, Florida Statutes. A protest is officially filed when it is received by the District's Representative. The formal written protest shall contain the following: (a) Name, address, and file or identification number, if known, of the affected agency, (b) Name and address of the affected party, (c) a statement of the ultimate facts upon which the protest is based, (d) such other information as deemed relevant to the issue, and (e) appropriate bond as specified in Chapter 120, Florida Statutes.

NOTICE TO BIDDERS: Failure to file a bid protest within the time and manner prescribed shall constitute a waiver of any further right to protest such bid award.

DOCUMENT 00100
INSTRUCTIONS TO BIDDERS

The definitions provided in this section will apply to the Project & Bidding Documents.

1.0 DEFINITIONS

- 1.1 Bid\Proposal - The bid documents and proposal submitted by a Bidder.
- 1.2 Bidder - Any person, firm or corporation submitting a proposal for the Work covered by these specifications or his duly authorized representative.
- 1.3 Bidding Documents – This bid package containing documents 00020, 00100, 00300, 00301, 00401, 00501, 00610, and any technical specifications, and all of the documents for the construction of the project, including but not limited to the plans and specifications, notice of award, notice to proceed and contract between the DISTRICT and the Contractor.
- 1.4 DISTRICT – Key Largo Fire Rescue and Emergency Medical Services District.
- 1.5 CONTRACTOR - The person, firm or corporation with whom the DISTRICT has executed a contract for the Work or Project.
- 1.6 Days - Days shall mean calendar days.
- 1.7 Responsible Bidder - Any person, firm, or corporation submitting a Bid for the Work who maintains a permanent place of business, has adequate equipment and personnel to do the Work within the time limits that are established, has adequate financial status to meet the obligations to perform the Work and has not defaulted on a prior contract with the DISTRICT and who meets the qualifications of Article 7.0.
- 1.8 Responsive Bidder - Any person, firm or corporation submitting a Bid for the Work whose Bid form is complete and includes all required attachments and enclosures, free from exclusions or special conditions and has no alternative Bids for any items, unless alternatives are requested in the specifications.
- 1.9 Total Base Bid - The sum of all the unit prices times the quantities as provided in the Bid Form.
- 1.10 Work - The equipment required by the Contract Documents for the Project specified herein.

2.0 PRE-BID CONFERENCE:

- 2.1 There will not be a Pre-Bid Conference for this Invitation to Bid. Prospective bidders who have questions or require clarification may submit their questions as described in Section 4.0

DOCUMENT 00100
INSTRUCTIONS TO BIDDERS

3.0 EXAMINATION OF DOCUMENTS AND SITE

- 3.1 Bidders shall thoroughly examine the Bidding Documents, and Specifications and any other documents which may be applicable to the project.
- 3.2 A sample contract has been included in the Bidding Documents. The DISTRICT is not bound by this sample document and reserves the right to modify the final contract.

4.0 INTERPRETATION OF BIDDING DOCUMENTS

- 4.1 All inquiries, clarifications or interpretations of the Bidding Documents shall be made in writing to the DISTRICT'S REPRESENTATIVE, Mr. Joshua Hauserman, c/o Vernis & Bowling of the Florida Keys, P.A., at least seven (7) days prior to the date for receipt of Bids, by mail: 81990 Overseas Highway, 3rd Floor, Islamorada, FL 33036, by fax to 305-664-5414 or by e-mail to: jhauserman@florida-law.com
- 4.2 Any modification or interpretation of the Bidding Documents will be made by written Addendum to all who are recorded by the DISTRICT as having received a complete set of Bidding Documents.
- 4.3 Interpretations or modifications of Bidding Documents made in any manner other than by written Addendum will not be binding. No oral interpretations or clarifications shall be binding.
- 4.4 A Bidder, prior to submitting his Bid, shall ascertain that he has received all Addenda issued, and shall acknowledge their receipt by enclosing a signed copy of each Addenda with the Bid Form.

5.0 BID PREPARATION AND SUBMITTAL

- 5.1 The Bidder shall prepare Bids on the forms provided by the DISTRICT with all blanks on the Bid Form filled in by typewriter or written in ink.
- 5.2 The Bidder shall write Total Base Bid amount in both words and figures. In case of a discrepancy between the two, the amount written in words shall govern.
- 5.3 The Bidder shall sign the Bid as follows: If the proposal is made by an individual, the Bidder's name and address shall be shown. If made by a firm or partnership, the name and address of the individual(s) authorized to bind the firm or partnership shall be shown. If made by a corporation, the person signing the proposal shall show the name of the state under the laws of which the corporation is chartered, also the names and business addresses of its corporate officers. Anyone signing the proposal as agent shall include in the proposal legal evidence of his/her authority to do so.

DOCUMENT 00100
INSTRUCTIONS TO BIDDERS

- 5.4 The Bidder shall **submit one (1) original and thirteen (13) copies of the Bid and an electronic copy on disc**. Bids shall include the legal name and address of the Bidder and indicate whether the Bidder is a sole proprietor, a partnership, a corporation, or other legal entity. The Bid shall include: 1) Bid Form; 2) Bid Security; 3) Contractor's Qualification Statement; 4) Any Addenda; 6) a Corporate Resolution evidencing Authorization to Submit Bid, if applicable; and 7) Evidence of Insurability (if applicable).
- 5.5 **The Bid shall be enclosed in a sealed opaque envelope**, addressed to Attn: Key Largo Fire Rescue and EMS District. **The envelope shall be further identified with the Project name and number, the Bidder's name and address, and the word "B I D" prominently displayed.**
- 5.6 The Bidder shall deposit Bids at one of the following designated locations on or before the time and date for receipt of Bids as indicated in the Invitation to Bid.

By U.S. Mail:

Key Largo Fire Rescue and EMS District
P.O. Drawer 371023
Key Largo, FL 33037

By Other Carrier/Hand Delivery:

Vernis & Bowling of the Florida Keys, P.A.
c/o Joshua Hauserman
81990 Overseas Highway, 3rd Floor
Islamorada, FL 33036

Bids received after the time and date indicated for receipt of Bids will not be accepted and will be returned unopened.

6.0 **BID SECURITY (BID BOND)**

- 6.1 Each Bid shall be accompanied by a certified or cashier's check drawn on a national or state bank, or an acceptable Bidders Bond, payable unconditionally to the Key Largo Fire Rescue and EMS District, in an amount of five percent (5%) of the amount of the Total Base Bid, as a guarantee that the Bidder will, if award is made, execute an Agreement to do the Work for the Bid amount and furnish any required certificates of insurance and bond documents within the time specified in Article 5 of the Sample Contract, Document 00500. The Bid Bond shall be made payable to: Key Largo Fire Rescue and EMS District.

7.0 **QUALIFICATIONS OF BIDDERS**

- 7.1 Each Bidder shall complete the Contractor's Qualifications Statement provided in Document 00301, along with any other evidence of satisfactory experience, past performance and ability to perform the proposed Work, and shall submit the same with the Bid. Failure to submit the Qualifications Statement and all documents required thereunder together with the Bid Form and all items listed in Section 5.4 will constitute grounds for rejection of the Bid as non-responsive.

DOCUMENT 00100
INSTRUCTIONS TO BIDDERS

7.2 The Bidders may be disqualified and their Bids rejected for any of the following reasons:

- 7.2.1 The bid is not responsive.
- 7.2.2 Reason to believe that collusion exists among Bidders.
- 7.2.3 Determination of lack of responsibility or competency as may be revealed by qualification statements, financial statements, experience records or other questionnaires.
- 7.2.4 The Bidder is or has been involved in any litigation against the DISTRICT.
- 7.2.5 The Bidder has defaulted on any previous contract, or is in arrears on any existing contract on any public or private matters.
- 7.2.6 The submittal of more than one bid from an individual, firm, partnership, corporation or association under the same or different names.
- 7.2.7 The Bidder's previous work with the DISTRICT has resulted in claims from third parties and or subcontractors.

7.3 The DISTRICT reserves the right to make a pre-award inspection of the Bidder's facilities and equipment prior to award.

7.4 It shall be a requirement of this bid that there are no related party transactions between the bidder and any employee, agent or contractor of the DISTRICT. Any Bidder who is a related party, as noted herein, will be considered non-responsive and the proposal and the bid bond will be immediately returned. A Bidder will be considered a related party if the Bidder has an ownership interest or is in any way related to an employee, agent, consultant or contractor, and can influence the management or operating policy of the other to an extent that one of the transacting parties might be prevented from fully pursuing its own separate interests.

7.5 PUBLIC ENTITY CRIMES ACT - In accordance with the Public Entity Crimes Act, (Section 287.133, Florida Statutes) a person or affiliate who is a contractor, who had been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to the DISTRICT, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases or real property to the District, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with the DISTRICT in excess of the threshold amount provided in Section 287.017, Florida Statutes, for Category Two for a period of 36 months from the date of being placed on the convicted vendor list. Violation of this section by the Contractor shall result in rejection of the Bid, termination of the contract, and may cause Contractor debarment.

8.0 AWARD OF CONTRACT

8.1 The award of the contract will be to the lowest responsive and responsible Bidder, whose qualifications indicate the Award will be in the best interest of the

DOCUMENT 00100
INSTRUCTIONS TO BIDDERS

DISTRICT and whose Bid complies with the requirements of these specifications. In no case will the award be made until all necessary investigations have been made into the responsibility of the Bidder(s) and the DISTRICT is satisfied that the Bidders are qualified to do the Work and have the necessary organization, capital and equipment to carry out the Work within the specified timeframes.

- 8.2 If the DISTRICT accepts a Bid, the DISTRICT will provide a written notice of the award to the lowest Responsive and Responsible Bidder.
- 8.3 Until final award of Contract, the DISTRICT reserves the right to reject any and all Bids, with or without cause; to waive any informality or irregularity; or to accept the Bid which is in the best interest of the DISTRICT.
- 8.4 The DISTRICT reserves the right to hold all Bids and Bid security for a period not to exceed 120 days after the date of Bid opening stated in the Invitation to Bid.

9.0 EXECUTION OF CONTRACT AND CONTRACT DOCUMENTS

- 9.1 The successful Bidder(s) shall be notified upon receipt of a written notice of Award. At that time, the DISTRICT will offer an Agreement for the Work.
- 9.2 The successful Bidder will be required to execute the Agreement and submit all requested certificates of insurance and performance and payment bonds, as required in the Contract Documents.

10.0 FAILURE TO EXECUTE THE CONTRACT

- 10.1 The failure of the successful Bidder(s) to execute a contract and submit required insurance certificates and bonds as specified in subsection 9.2 will result in forfeit of the Award. Each Bidder agrees in advance that the DISTRICT will sustain certain damages too difficult to accurately ascertain. Accordingly, if the Award is forfeited under this Section, the amount of the Bid Security (Bid Bond) of the forfeiting Bidder will be retained by the DISTRICT not as forfeiture or a penalty, but as liquidated damages.
- 10.2 The DISTRICT may, at the DISTRICT's sole option, award the contract to the next lowest Responsive and Responsible Bidder or reject all Bids and/or re-advertise the Work.

11.0 RETURN OF THE BID GUARANTY

- 11.1 All Bid guarantees of unsuccessful Bidders will be returned after the contracts are awarded and executed.

12.0 MODIFICATION AND WITHDRAWAL OF BID

- 12.1 Prior to the date and time of bid opening, a Bidder may withdraw his Bid at any time.

DOCUMENT 00100
INSTRUCTIONS TO BIDDERS

12.2 After the bid opening, no Bid may be withdrawn, canceled or modified.

13.0 OPENING OF BIDS

13.1 Bids submitted will be opened publicly and read aloud at the time and place stated in the Invitation to Bid.

13.2 The Bidder agrees to abide by the unit prices or lump sum amount quoted as the Total Base Bid, in the Bid Form for 120 days from the date and time of bid opening.

14.0 CONTRACT TIME AND PERFORMANCE

14.1 The Work to be performed under the Contract Documents shall be commenced upon issuance of a Notice to Proceed by the DISTRICT.

14.2 The number of days in which the Work is to be completed is 180 (One Hundred Eighty) consecutive calendar days from the date of issuance of the Notice to Proceed.

14.3 By virtue of the submission of its Bid, Bidder agrees and fully understands that the completion time of the Work of the Contract is an essential and material condition of the contract and that time is of the essence. The Successful Bidder agrees that all Work shall be prosecuted regularly, diligently and uninterrupted at such rate of progress as will ensure full completion thereof within the time specified.

15.0 GOVERNING LAWS AND REGULATIONS

15.1 Bidders shall be familiar with all federal, state, and local laws, ordinances, rules and regulations that may in any manner affect the Work.

16.0 INSURANCE/EVIDENCE OF INSURABILITY

16.1 The Bidder shall be required to provide and maintain insurance coverage of such types and amounts as are specified in Article 13 of the Sample Contract, Document 00500, for the life of the Contract. Certificates of Insurance shall be provided by the Bidder upon the notice of Award, as specified in the Sample Contract.

16.2 Bidder shall be required to submit with the Bid Form written evidence of insurability from Bidder's insurance company, for the types and amounts of insurance specified in Article 13, of the Sample Contract, Document

17.0 SUBCONTRACTOR LIST

17.1 The Bidder shall submit a list of names and addresses of the subcontractors and major material suppliers proposed for the principal portions of the Work and shall

DOCUMENT 00100
INSTRUCTIONS TO BIDDERS

include such information on Document 00301 Contractor's Qualifications Statement.

- 17.2 Prior to award of Contract, the DISTRICT will notify the Bidder in writing if there is an objection to any person or entity listed. Upon such objection, the Bidder shall propose an acceptable substitute.

18.0 LICENSES, PERMITS AND FEES

- 18.1 The Successful Bidder shall give all notices and comply with all permit requirements, laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work. The DISTRICT shall not be responsible for monitoring the Successful Bidder's compliance with any laws or regulations.

**DOCUMENT 00300
BID FORM**

BID FROM:

Company: _____

Address: _____

Phone/ Fax: _____

to furnish all equipment and perform all work in accordance with the Contract Documents for delivery of a Rescue Pumper Truck to the KEY LARGO FIRE RESCUE AND EMS DISTRICT, Florida.

To: *KEY LARGO FIRE RESCUE AND EMERGENCY MEDICAL SERVICES DISTRICT
ATTN: DISTRICT CLERK
P.O. DRAWER 371023
KEY LARGO, FL 33037*

1.0 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with DISTRICT in substantially the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2.0 Bidder accepts all of the terms and conditions of the Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 120 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of DISTRICT.

3.0 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

3.1 Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all, which is hereby acknowledged.

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____
_____	_____

3.2 Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

3.3 Bidder has given DISTRICT'S Representative written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding

DOCUMENT 00300

BID FORM

Documents, and the written resolution thereof by the DISTRICT'S REPRESENTATIVE is acceptable to Bidder.

3.4 The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

4.0 Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over DISTRICT.

ITEM #	ITEM DESCRIPTION	QTY	UNITS		UNIT PRICE
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
					\$
	TOTAL BASE BID				\$

5.0 Bidder will complete the Work in accordance with the Contract Documents for the following Total Base Bid as itemized above:

\$ _____

Written Bid Amount (in Words):

\$ _____ (Dollars) _____ (cents)

Name of Bidder

Signature of Bidder

DOCUMENT 00300
BID FORM

- 6.0 Bidder's Information:
The BIDDER states that he is an experienced CONTRACTOR and has completed similar work within the last five years. This information has been provided on Document 00301 Contractor's Qualifications Statement.
- 7.0 Bidder agrees that the Work will be substantially completed and ready for final payment in accordance with the Contract Documents on or before the dates or within the number of calendar days indicated in the Instructions to Bidders (Document 00100). If the Bidder does not agree with the time allocated in the Instructions to Bidders, attach a statement to this Bid Form to indicate the number of days required.
- 8.0 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified above, which shall be stated in the Agreement.
- 9.0 The following documents are attached to and made a condition of this Bid:
- A. Required Bid security in the form of _____;
 - B. Bid Bond form
- 10.0 The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

SUBMITTED on _____, 20__.

State Contractor License No. _____. (If applicable)

**DOCUMENT 00300
BID FORM**

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's signature)

Doing business as: _____

Business address: _____

Phone No.: _____ FAX No.: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Business address: _____

Phone No.: _____ FAX No.: _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(CORPORATE SEAL)

Attest _____
(Signature of Corporate Secretary)

Business address: _____

Phone No.: _____ FAX No.: _____

Date of Qualification to do business is _____

**DOCUMENT 00301
SUPPLEMENT TO BID FORM**

CONTRACTOR'S QUALIFICATIONS STATEMENT

THIS FORM MUST BE SUBMITTED WITH BID FOR BID TO BE DEEMED RESPONSIVE. The undersigned guarantees the truth and accuracy of all statements and the answers contained herein.

1. Please describe your company in detail.

2. The address of the principal place of business is:

3. Company telephone number, fax number and e-mail addresses:

4. Number of employees:

5. Number of employees assigned to this project:

**DOCUMENT 00301
SUPPLEMENT TO BID FORM**

6. Company Identification numbers for the Internal Revenue Service:

7. Provide **Monroe County Occupational License Number**, if applicable, and expiration date:

8. How many years has your organization been in business? Does your organization have a specialty?

9. What is the last project of this nature or magnitude that you have completed? Has this firm ever completed a "public" project? Please provide project description, reference and cost of work completed.

10. Have you ever completed any work in Monroe County, Florida? Please provide project description, reference and cost of work completed.

**DOCUMENT 00301
SUPPLEMENT TO BID FORM**

11. Have you ever failed to complete any work awarded to you? If so, where and why?

12. Give names, addresses and telephone numbers of three individuals, corporations, agencies, or institutions for which you have performed work:

12.1.

Name

Address

Telephone No.

12.2.

Name

Address

Telephone No.

12.3.

Name

Address

Telephone No.

13. List the following information concerning all contracts **in progress** as of the date of submission of this bid. (In event of co-venture, list the information for all co-ventures.)

Name of Project	Owner	Value	Contracted Completion Date	% of Completion to Date

**DOCUMENT 00301
SUPPLEMENT TO BID FORM**

(Continue list on insert sheet, if necessary.)

14. Provide list of subcontractor(s), the work to be performed and also a list of major materials suppliers for this Project?

SubContractor Name	<u>Address</u>	Work to be Performed

The foregoing list of subcontractor(s) may not be amended after award of the contract without the prior written approval of the District Board.

- 15. Provide copies of audited or CPA-reviewed financial statements for the past three years, indicating, at a minimum, annual revenues and net income/loss for the past three years.
- 16. Provide names, addresses and telephone numbers of at least three vendor credit and bank references or lines of credit.
- 17. State the true, exact, correct and complete name of the partnership, corporation or trade name under which you do business and the address of the place of business. (If a corporation, state the name of the president and secretary. If a partnership, state the names of all partners. If a trade name, state the names of the individuals who do business under the trade name.)

17.1 The correct name of the Bidder is:

17.2. The business is a (Sole Proprietorship) (Partnership) (Corporation).

**DOCUMENT 00301
SUPPLEMENT TO BID FORM**

17.3. The names of the corporate officers, or partners, or individuals doing business under a trade name, are as follows:

Name/Title of Contractor's Representative

Signature

STATE OF FLORIDA)
) SS.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of _____, 2009, by _____ who is personally known to me or who has produced _____ as identification and who did/did not take an oath.

WITNESS my hand and official seal, this ____ day of _____, 2009.

(NOTARY SEAL)

**DOCUMENT 00401
BID BOND**

BIDDER *(Name and Address):*

SURETY *(Name and Address of Principal Place of Business):*

OWNER *(Name and Address):*

KEY LARGO FIRE RESCUE AND EMERGENCY MEDICAL SERVICES DISTRICT

BID

BID DUE DATE: _____

Project Description including Location is as follows:

PROJECT NAME: _____

PROJECT NO: _____

LOCATION: KEY LARGO, FLORIDA

BOND

BOND NUMBER: _____

DATE: *(Not later than Bid Due Date):* _____

PENAL SUM: _____

IN WITNESS WHEREOF, Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

SURETY

(Seal)
Bidder's Name and Corporate Seal

(Seal)
Surety's Name and Corporate Seal

By: _____
Signature and Title

By: _____
Signature and Title
(Attach Power of Attorney)

Attest: _____
Signature and Title

Attest: _____
Signature and Title

Note: (1) Above addresses are to be used for giving required notice.
(2) Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

DOCUMENT 00401
BID BOND

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to Owner upon default of Bidder for the Work required by the Contract Documents the penal sum set forth on the face of this Bond, and in no event shall Bidder's and Surety's obligation hereunder exceed the penal sum set forth on the face of this Bond.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds and insurance certificates required by the Bidding Documents and Contract Documents.
3. This obligation shall be null and void if:
 - 3.1. Owner accepts Bidder's bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds and insurance certificate required by the Bidding Documents and Contract Documents, or
 - 3.2. All bids are rejected by Owner, or
 - 3.3. Owner fails to issue a notice of award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of and any and all defenses based on or arising out of any time extension to issue notice of award agreed to in writing by Owner and Bidder, provided that the total time for issuing notice of award including extensions shall not in the aggregate exceed 120 days from Bid Due Date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid Due Date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent or representative who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable provision of this Bond conflicts with any applicable provision of any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "bid" as used herein includes a bid, offer or proposal as applicable.

**DOCUMENT 00500
SAMPLE CONTRACT**

**Sample Contract for Goods:
In Excess of Threshold One
(Equal to or in Excess of \$15,000.00)**

KEY LARGO FIRE RESCUE AND EMS DISTRICT
WITNESSETH:

WHEREAS, the Key Largo Fire Rescue and Emergency Medical Services District (the "District"), has requested bids for

WHEREAS, _____ ("Contractor") has submitted a bid, dated _____ to provide the services sought by the District;

WHEREAS, _____ is duly qualified to provide the services sought by the District;

WHEREAS, the District desires to engage _____ to provide such services for the District and _____ desires to provide such services for the District;

NOW, THEREFORE, in consideration of the mutual covenants and benefits hereinafter set forth, the parties herein covenant and agree as follows:

1. REQUEST FOR BIDS AND BID INCORPORATED HEREIN

The terms and specifications of the Request for Bids issued by the District on {Date of Request for Bids and Identifying Number} _____ and the terms of that bid submitted by _____ are herein incorporated by reference as if fully set forth herein, made part of this Contract and are attached hereto as Exhibits "___" and "___" respectively. In the event of a conflict between the terms of this Contract and any exhibit, the terms of this Contract shall control, unless otherwise agreed in writing as an amendment pursuant to the terms for such as provided herein.

2. TERM

The term of this Contract shall be from _____ to _____.

This Contract may be renewed for a period that may not exceed three (3) years or the term set forth above, whichever period is longer. The compensation for the renewal term shall be determined prior to renewal of this contract and is subject to approval by the District. Further, renewal of this contract is contingent upon a determination by the District that the services have been satisfactorily performed, that the services are needed and upon availability of funds.

**DOCUMENT 00500
SAMPLE CONTRACT**

3. CONTRACTOR'S SERVICES

Contractor agrees to provide the following goods/services:

If documentation of the specific goods/services is attached, said documentation is labeled as *Exhibit* "___" to this Contract and is incorporated herewith by reference. In the event of a conflict between the terms of this Contract and any exhibit, the terms of this Contract shall control, unless otherwise agreed in writing as an amendment pursuant to the terms for such as provided herein.

4. COMPENSATION

District shall pay Contractor the sum of _____ for services rendered pursuant to this Contract. Payment to be made as follows:

No payment shall be due until the District verifies that all goods/services for which payment has been requested have been fully and satisfactorily performed. The District will make diligent efforts to verify and pay invoices with the Florida Prompt Payment Act, Florida Statute 218.73.

5. PERFORMANCE BOND

Within ten (10) calendar days after issuance of the Notice of Award, the Contractor shall execute and furnish to the District a performance bond on the form provided by the District. The penal sum stated in the bond shall be the amount equal to 100% of the Contract Price payable under this Contract.

The Performance Bond shall guarantee the full and faithful execution of the Contract in an amount equal to 100 percent (100%) of the total Contract Price, and include guaranteed repair and maintenance of all defects due to faulty materials and workmanship that appear within one year after completion of the contract. The performance bond shall be conditioned on the Contractor performing the Work in the time and manner prescribed in the Contract and supporting documents.

A. QUALIFICATIONS OF SURETY

- 1) Each bond must be executed by a Surety company of recognized standing,

DOCUMENT 00500
SAMPLE CONTRACT

authorized to do business in the State of Florida as Surety, having a resident agent in the State of Florida and having been in business with a record of successful continuous operation for at least five (5) years. Each Surety shall submit verification from the Florida Department of Insurance Office of the Treasurer stating the surety company's license and certificate of authorization to do business in the State of Florida.

- 2) The Surety Company shall hold a current certificate of authority as acceptable Surety on federal bonds in accordance with United States Department of Treasury Circular 570, Current Revisions. If the amount of the Bond exceeds the underwriting limitation in the circular, and the excess risks must be protected by coinsurance, reinsurance, or other methods in accordance with Treasury Circular 297, revised September 2, 1978 (31 DFR Section 223.10, Section 223.111). Further, the Surety company shall provide the District with evidence satisfactory to the District, that such excess risk has been protected in an acceptable manner.

- 3) The District will accept a Surety bond from a company with a rating of B+ or better for bonds up to \$2 million, provided, however, that if any Surety company appears on the watch list that is published quarterly by Intercom of the Office of the Florida Insurance Commissioner, the District shall review and either accept or reject the Surety company based on the financial information available to the District. A Surety company that is rejected by the District may be substituted by the Bidder with a Surety company acceptable to the District, only if the bid amount does not increase.
 - a. Bonds executed by an Attorney-in-Fact on behalf of the Surety, shall have affixed thereto a certified and current copy of Power of Attorney, indicating the monetary limit of such power.

B. BONDS REDUCTION AFTER FINAL PAYMENT

Such bonds shall continue in effect for one (1) year after final payment becomes due except as otherwise provided by law or regulation or by the Contract Documents with the final sum of said bonds reduced after final payment to an amount equal to ten percent (10%) of the Contract Price, or an additional bond shall be conditioned that the Contractor shall correct any defective or faulty Work or material which appears within one (1) year after final completion of the Contract, upon notification by the District.

DOCUMENT 00500
SAMPLE CONTRACT

C. NOTIFICATION TO SURETY

If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be the Contractor's responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change, and evidence of increased coverage provided to the District.

D. DUTY TO SUBSTITUTE SURETY

If the surety on any Bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Florida or it ceases to meet the requirements of other applicable laws or regulations, the Contractor shall within five (5) days thereafter substitute another bond and surety, both of which must be acceptable to the District.

6. **COMPLIANCE WITH LAWS AND POLICIES**

Contractor agrees to comply with all current Key Largo Fire Rescue and Emergency Medical Services District policies and all applicable local, state and federal laws, including laws pertaining to public records requests. Specifically, Contractor has executed a Relationship Disclosure Affidavit, attached hereto as *Exhibit "___"*. Contractor agrees that the District has the right to unilaterally and immediately cancel this Contract upon refusal by Contractor to allow public access to all documents, papers, letters, or other material made or received by the Contractor in conjunction with the contract, unless the records are exempt from s.24(a) of Art. I of the State Constitution and s.119.07(1). Should cancellation be necessary under this clause, the District is required only to provide written notice to Contractor, effective upon receipt of notice, which shall be documented.

7. **INDEPENDENT CONTRACTOR STATUS**

Contractor is, for all purposes arising under this Contract, an independent contractor. Contractor and its officers, agents or employees shall not, under any circumstances, hold themselves out to anyone as being officers, agents or employees of the District, nor any department thereof. No officer, agent or employee of the Contractor or District shall be deemed an officer, agent or employee of the other party. Neither Contractor nor District, nor any officer, agent or employee thereof, shall be entitled to any benefits to which employees of the other party are entitled, including, but not limited to, overtime, retirement benefits, workers compensation benefits, injury leave, or other leave benefits.

**DOCUMENT 00500
SAMPLE CONTRACT**

8. TERMINATION

A. WITHOUT CAUSE

This Contract may be terminated for any reason by either party upon sixty (60) days written notice to the other party at the addresses set forth below. If said Contract should be terminated as provided in this paragraph of the Contract, the District will be relieved of all obligations under said contract and the District will only be required to pay that amount of the contract actually performed to the date of termination with no payment due for unperformed work or lost profits.

B. TERMINATION FOR BREACH

Either party may terminate this Contract upon breach by the other party of any material provision of this Contract, provided such breach continues for fifteen (15) days after receipt by the breaching party of written notice of such breach from the non-breaching party.

C. IMMEDIATE TERMINATION BY DISTRICT

District may terminate this Contract immediately upon written notice to Contractor (such termination to be effective upon Contractor's/Individual's receipt of such notice) upon occurrence of any of the following events:

1. the denial, suspension, revocation, termination, restricting, relinquishment or lapse of any license or certification required to be held by the Contractor, or of any Company/Individual staff's professional license or certification in the State of Florida;
2. conduct by Contractor or any Company/Individual staff which affects the quality of services provided to the District or the performance of duties required hereunder and which would, in the District's sole judgment, be prejudicial to the best interests and welfare of the District;
3. failure by Contractor to maintain the insurance required by the terms of this Contract.

9. ASSIGNMENT

Neither Consultant nor the Key Largo Fire Rescue and Emergency Medical Services District may assign or transfer any interest in this Contract without the prior written consent of both parties. Should an assignment occur upon mutual written consent, this Contract shall inure

DOCUMENT 00500
SAMPLE CONTRACT

to the benefit of and be binding upon the parties hereto and their respective heirs, representatives, successors and assigns.

10. AMENDMENT

This Contract may be amended only with the mutual consent of the parties. All amendments must be in writing and must be approved by the Key Largo Fire Rescue and Emergency Medical Services District.

11. INDEMNIFICATION, GOVERNING LAW & VENUE

Contractor shall indemnify and hold harmless the Key Largo Fire Rescue and Emergency Medical Services District from and against any and all claims, liabilities, damages, and expenses, including, without limitation, reasonable attorneys' fees, incurred by the District in defending or compromising actions brought against it arising out of or related to the acts or omissions of Contractor, its agents, employees or officers in the provision of services or performance of duties by Contractor pursuant to this Contract.

This Contract shall be construed in accordance with the laws of the State of Florida. Any dispute arising hereunder is subject to the laws of Florida, venue in Monroe County, Florida. The prevailing party shall be entitled to reasonable attorney's fees and costs incurred as a result of any action or proceeding under this Contract.

12. REPRESENTATIONS & WARRANTIES

Contractor represents and warrants to the Key Largo Fire Rescue and Emergency Medical Services District, upon execution and throughout the term of this Contract that:

- a) Contractor is not bound by any Contract or arrangement which would preclude it from entering into, or from fully performing the services required under the Contract;
- b) None of the Contractor's agents, employees or officers has ever had his or her professional license or certification in the State of Florida, or of any other jurisdiction, denied, suspended, revoked, terminated and/or voluntarily relinquished under threat of disciplinary action, or restricted in any way;
- c) Contractor has not been convicted of a public entity crime as provided in F.S. §287.133, to wit: A person or affiliate who has been placed on the convicted vendor list following a conviction for public entity crime may not submit a bid, proposal, or rely on a contract to provide any goods or services to a public entity, may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public

**DOCUMENT 00500
SAMPLE CONTRACT**

building or public work, may not submit bids on leases of real property to public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list; and

- d) Contractor and Contractor's agents, employees and officers have, and shall maintain throughout the term of this Contract, all appropriate federal and state licenses and certifications which are required in order for Contractor to perform the functions, assigned to him or her in connection with the provisions of the Contract.

13. INSURANCE

Contractor agrees to secure and maintain at all times during the term of this Contract, at Contractor's expense, insurance coverage, as laid out below, covering Contractor for all acts or omissions which may give rise to liability for services under this Contract. All Contractor staff are to be insured in minimum amounts acceptable to the Key Largo Fire Rescue and Emergency Medical Services District and with a reputable and financially viable insurance carrier, naming the Key Largo Fire Rescue and Emergency Medical Services District as an additional insured. Such insurance shall not be cancelled except upon thirty (30) days written notice to the District. Contractor shall provide the District with a certificate evidencing such insurance coverage within five (5) days after obtaining such coverage. Contractor agrees to notify the District immediately of any material change in any insurance policy required to be maintained by Contractor.

Contractor is required to obtain the following coverage, with documentation of having obtained such coverage being attached hereto as *Exhibit "___"*:

General Liability Insurance

Amount: _____

Details/Comments:

Professional Liability Insurance

Amount: _____

Details/Comments:

**DOCUMENT 00500
SAMPLE CONTRACT**

Vehicle Liability Insurance

Amount: _____

Details/Comments:

Workers Compensation Insurance

Amount: _____

Details/Comments:

14. BILLING

Bills for fees or compensation under this contract shall be submitted in detail sufficient for a proper pre-audit and post-audit thereof. Further, bills for any travel expenses shall be submitted in accordance with s. 112.061 where applicable.

15. THIRD-PARTY BILLING AND PAYMENT

Contractor shall not be entitled to bill nor accept third-party payment without authorization of the District and Contractor agrees that the District shall not be obligated to make any payment that exceeds the rate referred to in the paragraph governing Compensation. The Contractor shall provide service documentation in accordance with professional standards and District criteria as requested.

16. CONTRACT RECORDS RETENTION

Contractor agrees to comply with all state and federal regulations governing contracts with public entities, including but not limited to cooperation with public records requests as provided by law, cooperation with comptrollers and auditors as provided by law, and adherence to Title 34, section 80.36, which requires the retention of all records concerning a public entity contract for three (3) years after the District makes final payment and all other pending matters concerning the contract are closed.

17. ETHICS CLAUSE

Contractor warrants that he/it has not employed, retained or otherwise had act on his/its behalf any former Key Largo Fire Rescue and Emergency Medical Services District officer or employee. For breach or violation of this provision the Key Largo Fire Rescue and Emergency

DOCUMENT 00500
SAMPLE CONTRACT

Medical Services District may, in its discretion, terminate this contract without liability and may also, in its discretion, deduct from the contract or purchase price, or otherwise recover the full amount of any fee, commission, percentage, gift, or consideration paid to the former Key Largo Fire Rescue and Emergency Medical Services District officer or employee.

18. CONFLICT OF INTEREST

The following provisions shall apply for conflict of interest. Any violation of these provisions by a District employee may be grounds for dismissal. No contract for goods or services may be made with any business organization in which the Director or a District member has any material financial interest unless it is a single source or clear documentation exists to show that, no other supplier can provide the identical/comparable goods/service, at a lower cost to the District. No District member, officer or employee may directly or indirectly purchase or recommend the purchase of goods or services from any business organization which they or their near relative have a material interest as defined by §112.313, Florida Statutes, except as allowed by DOE Interpretative Memorandum No. A-20. No District member, employee or official may receive gifts or any preferential treatment from vendors. Such members, officers, officials or employees shall not be prohibited from participating in any activity or purchasing program that is offered to all District employees or in District surplus sales, provided there is no preferential treatment.

19. DEBARMENT CERTIFICATION

A Debarment Certification Form, attached hereto as *Exhibit "___"*, shall be executed by Contractor and is incorporated herein as part of this Contract. Contractor certifies that neither the firm, nor any person associated therewith in the capacity of owner, partner, director, officer, principal, investigator, project director, manager, auditor, and/or position is involved in the administration of federal funds.

20. SEVERABILITY

The parties recognize and agree that should any clause(s) herein be held invalid by a Court of competent jurisdiction, the remaining clauses shall not be affected and shall remain of full force and effect.

21. COUNTERPARTS

This Contract may be executed in one or more counterparts, all of which together shall constitute only one Contract.

22. WAIVER

A waiver by either party of a breach or failure to perform hereunder shall not constitute a waiver of any subsequent breach or failure to perform. Any waiver of insurance requirements as

**DOCUMENT 00500
SAMPLE CONTRACT**

provided by this Contract and/or the policies of the District does not relieve the Contractor of the indemnification provisions contained within this Contract.

23. CAPTIONS

The captions contained herein are used solely for convenience and shall not be deemed to define or limit the provisions of this Contract.

24. ENTIRE CONTRACT

The parties hereto agree that this is the final Contract between the parties and supercedes any and all prior Contracts and/or assurances, be it oral or in writing.

25. NOTICES

All notices required by this Contract, unless otherwise provided herein, by either party to the other shall be in writing, delivered personally, by certified or registered mail, return receipt requested, or by Federal Express or Express Mail, and shall be deemed to have been duly given when delivered personally or when deposited in the United States mail, postage prepaid, addressed as follows:

Key Largo Fire Rescue and Emergency Medical Services District:
Chairman
P.O. Box 371023
Key Largo, FL 33037

With a copy to:
Key Largo Fire Rescue and Emergency Medical Services District Counsel
Vernis & Bowling of the Florida Keys, P.A.
81990 Overseas Hwy, 3rd Floor
Islamorada, FL 33036

_____ (“Contractor”):

**DOCUMENT 00500
SAMPLE CONTRACT**

APPROVED:

LEGAL DEPARTMENT (Initial Review)	DATE
FINANCE DIRECTOR	DATE
LEGAL DEPARTMENT (Final Review)	DATE

IN WITNESS WHEREOF, the parties have executed this Contract on this _____ day of _____, _____.

SIGNATURE OF DISTRICT CHAIRMAN	DATE
--------------------------------	------

SIGNATURE OF CONTRACTOR/REPRESENTATIVE	DATE
--	------

PRINT NAME AND TITLE

DOCUMENT 00610
PERFORMANCE BOND

BY THIS BOND (the "Bond"), We as _____,
called CONTRACTOR, and _____,
hereinafter called SURETY, are bound to the KEY LARGO FIRE RESCUE AND EMERGENCY
MEDICAL SERVICES DISTRICT herinafter called DISTRICT, in the amount of
_____ Dollars

for payment of which CONTRACTOR and SURETY bind themselves, their heirs, personal
representatives, executors, administrators, successors and assigns, jointly and severally, with
reference to a written CONTRACT entered into by CONTRACTOR and DISTRICT, for the
following:

Contract Title: **Rescue Pumper**

THE CONDITION OF THIS BOND is that if the CONTRACTOR:

1. Performs said contract in accordance with its terms and conditions; and
2. Pays DISTRICT all losses, damages (direct and consequential including delay and liquidated damages), expenses, costs, and attorney's fees, including appellate proceedings, that DISTRICT sustains because of a default by CONTRACTOR under the CONTRACT; and
3. Pays DISTRICT and all other amounts due DISTRICT by CONTRACTOR because of a default by CONTRACTOR under the CONTRACT; and
4. Performs the guarantee of all work and materials furnished under the CONTRACT for the time specified in the CONTRACT;

THEN THIS BOND IS VOID, OTHERWISE, IT REMAINS IN FULL FORCE.

Any changes in or under the Contract Documents and compliance or noncompliance with formalities, connected with the Contract or with the changes, do not affect the Surety's obligation under this bond. Surety hereby waives notice of any alteration or extension of time made by the District. Any suit under this bond must be initiated before the expiration of the limitation period applicable to common law bonds under Florida Statutes.

**DOCUMENT 00610
PERFORMANCE BOND**

DISTRICT

KEY LARGO FIRE RESCUE AND EMERGENCY MEDICAL SERVICES DISTRICT,
FLORIDA

By: _____

The ____ day of _____, 20__.

AUTHENTICATION:

District Clerk

(SEAL)

APPROVED AS TO FORM AND LEGALITY
FOR THE USE AND BENEFIT OF THE KEY LARGO FIRE RESCUE AND EMS DISTRICT
ONLY:

District Attorney

WHEN THE PRINCIPAL IS AN **INDIVIDUAL**:

Signed, sealed and delivered in the presence of:

(Witness)

By: _____
(Individual Principal)

(Witness)

Business Address

**DOCUMENT 00610
PERFORMANCE BOND**

WHEN THE PRINCIPAL OPERATES UNDER A TRADE NAME:

Signed, sealed and delivered in the presence of:

(Witness)

Business Name and Address

(Witness)

By: _____
Signature of Individual

WHEN A PARTNERSHIP:

Signed, sealed and delivered in the presence of:

(Witness)

Name and Address of Partnership

(Witness)

(Partner)

WHEN THE PRINCIPAL IS A CORPORATION:

ATTEST:

(Corporate Seal)

(Type Corporate Principal Name)

Business Address

(Secretary)

By: _____
President

**DOCUMENT 00610
PERFORMANCE BOND**

SURETY

ATTEST:

(Surety Seal)

(Type Corporate Surety Name)

Business Address

(Secretary)

By:
SURETY

By: _____
Florida Resident Agent

(Type Florida Resident's Name)

Florida Agent's Business Telephone Number

ATTORNEY-IN-FACT

By: _____

Name _____
(Type)

NOTE 1: Surety shall provide evidence of signature authority, i.e., a certified copy of Power of Attorney.

NOTE 2: If both the Principal and Surety are Corporations, the respective Corporate Seals shall be affixed and attached.

NOTE 3: Surety shall include evidence that Agent is licensed in Florida.

IMPORTANT: *Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Florida.*

ATTACH a certified copy of Power-of-Attorney appointing individual Attorney-in-Fact for execution of Performance Bond on behalf of Surety.

KEY LARGO FIRE RESCUE AND EMS DISTRICT
(Exhibit “_C_” to Standard Form Contract)

BUSINESS/PERSONAL RELATIONSHIP DISCLOSURE AFFIDAVIT

(Exhibit “___” to _____ [Name of Vendor] Contract)

I, _____, of the
City/Township/County of _____, State of
_____, and according to law on my oath, and under penalty of perjury,
depose and say that;

- 1) I am the authorized representative of the company or entity making a proposal for a project described as follows:

Name of company (or vendor if no company): _____; and

Nature of services presently being offered to the District: _____

- 2) I have ___ have not ___, at any time, and excluding the instant proposal, had a business or personal relationship with any member of the Key Largo Fire Rescue and Emergency Medical Services District, and/or with any employee of the Key Largo Fire Rescue and Emergency Medical Services District.

- a.) The details of my or my company’s present and/or former relationship, excluding the instant proposal, are:

{include particular Board member or employee’s name(s), position held by such member or employee and relevant date(s); use reverse for space if needed}

- 3) The statements contained in this affidavit are true and correct, and made with full knowledge that Key Largo Fire Rescue and Emergency Medical Services District relies upon the truth of the statements contained in this affidavit in awarding contracts for the subject project.

Dated: _____

(Signature of Authorized Representative)

Print: _____

STATE OF _____,

COUNTY OF _____

PERSONALLY APPEARED BEFORE ME, the undersigned authority,
_____, who, ___ being personally
known, ___ or having produced _____ as
identification, and after first being sworn by me, affixed his/her signature in the space
provided above on this _____ day of _____, 20_____.

NOTARY PUBLIC

My commission expires:

KEY LARGO FIRE RESCUE AND EMS DISTRICT

Debarment Certification Form (Exhibit “_D_” to Standard Form Contract)

The Bidder certifies that, neither the firm nor any person associated therewith in the capacity of owner, partner, director, officer, principal, investigator, project director, manager, auditor, and/or position involving the administration of federal funds:

(a) Is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions, as defined in 49 C.F.R. 29.110(a), by any federal or state department/agency;

(b) Has within a three-year period preceding this certification been convicted of or had a civil judgment rendered against it for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state, or local government transaction or public contract; violation of federal or state antitrust statutes; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Is presently indicted for or otherwise criminally or civilly charged by a federal, state, or local Governmental entity with commission of any of the offenses enumerated in 49 C.F.R. 29.800; and

(d) Has within a three-year period preceding this certification had one or more federal, state, or local government public transactions terminated for cause or default.

The Bidder certifies that it shall not knowingly enter into any transaction with any subcontractor, material supplier, or vendor who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this project by any federal or state agency.

Dated this _____ day of _____, 20_____.

By _____
Authorized Signature/Contractor

Typed Name/Title

Contractor's Firm Name

Street Address

City/State/Zip Code

Area Code/Telephone Number

STATE OF _____,

COUNTY OF _____

PERSONALLY APPEARED BEFORE ME, the undersigned authority,
_____, who, ___ being personally
known, ___ or having produced _____ as
identification, and after first being sworn by me, affixed his/her signature in the space
provided above on this _____ day of _____, 20 _____.

NOTARY PUBLIC

My commission expires:

**DOCUMENT 01270
TECHNICAL SPECIFICATIONS**

Bid specifications are attached. We require only that your own specifications be comparable to the ones stated.

KEY LARGO FIRE PUMPER

Cab

MODEL

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

Comply _____ Except _____ Exceeds _____

CAB WIDTH

The Apparatus specified shall be constructed as detailed and shall NOT exceed a maximum Over-All-Width of Ninety-nine (99) Inches. This dimension shall include the primary construction of the apparatus body and chassis cab. Any peripherals that are 'removable' shall not be incorporated into this measurement. Items that are considered 'removable' are: Rub Rails, Fenderettes, Mirrors, Lights, Handrails, Front Bumpers, Etc.

Comply _____ Except _____ Exceeds _____

CAB LENGTH

The cab length shall be 146 inches

Comply _____ Except _____ Exceeds _____

FRONT AXLE TO REAR CAB LENGTH

The front axle to the rear of the cab shall be a minimum of 72.0 inches

Comply _____ Except _____ Exceeds _____

WHEELBASE

The chassis wheelbase shall be a minimum 220.00 inches.

Comply _____ Except _____ Exceeds _____

OVERALL VEHICLE LENGTH

Overall length shall not exceed 37 feet

Comply _____ Except _____ Exceeds _____

MODEL YEAR

The chassis shall have a vehicle identification number that reflects a 2010 model year.

Comply _____ Except _____ Exceeds _____

COUNTRY OF SERVICE

The chassis shall be put in service in the country of United States of America (USA).

Comply _____ Except _____ Exceeds _____

APPARATUS TYPE

The apparatus shall be classified as a six occupant, Class A Rescue Pumper type apparatus and shall be equipped with a permanently mounted fire pump which has a minimum rated capacity of 1500 gallons per minute. The apparatus shall include a water tank, hose body and compartmentation.

Comply _____ Except _____ Exceeds _____

AXLE CONFIGURATION

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

Comply _____ Except _____ Exceeds _____

GAWR FRONT

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

The chassis front gross axle weight rating (GAWR) shall be 22,000 pounds.

Comply _____ Except _____ Exceeds _____

GAWR REAR

KEY LARGO FIRE PUMPER

The chassis rear gross axle weight rating (GAWR) shall be 31,000 pounds.

Comply _____ Except _____ Exceeds _____

PUMP PROVISION

The chassis shall include provisions to mount a drive line pump in the middle of the chassis, behind the cab, more commonly known as the midship location.

Comply _____ Except _____ Exceeds _____

CAB STYLE

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

The cab shall be manufactured for heavy-duty service utilizing adequate strength and capacity for the application of protecting firefighters.

The cab shall incorporate a fully enclosed design, allowing for a spacious cab area with no partition between the front and rear sections of the cab. The walls of the vehicle shall include roof supports allowing for an open design. The outside dimension of the cab shall be 94 inches wide with a minimum interior width of 88 inches.

The cab overall length shall be 144.00 inches in length with 74.00 inches from the centerline of the front of the axle to the back of the cab. The cab shall offer a height of 58.00 inches from the front floor to the headliner and a rear floor to headliner height of 65.00 inches, at a minimum. All interior measurements shall include the area within the interior trimmed surfaces and not to any unfinished surface.

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

The cab shall include a driver and officer area with two (2) cab door openings. The front door opening shall offer a clear door opening of 43.00 inches wide X 56.00 inches high. The rear door opening shall offer a clear door opening of 34.00 inches wide X 63.00 inches high. This style of cab shall also include a crew area offering up to (6) seating positions.

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

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

The first step for the crew area shall measure 12.13 inches deep X 20.44 inches wide.

The intermediate step shall measure 10.50 inches deep X 23.00 inches wide.

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

The cab front shall be constructed of 5052-H32 Marine Grade, .090 of an inch thick, one hundred percent primary aluminum plate which shall include a classic front appearance.

Comply _____ Except _____ Exceeds _____

FRONT GRILLE

The cab fascia shall include a stainless steel front grille.

Comply _____ Except _____ Exceeds _____

CAB ENGINE TUNNEL

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

The engine tunnel shall be insulated with multi-layer insulating material,

KEY LARGO FIRE PUMPER

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

Comply _____ Except _____ Exceeds _____

CAB ENTRY DOORS

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

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

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

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

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

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

Comply _____ Except _____ Exceeds _____

CAB ENTRY DOOR TYPE

All entry doors shall be of a flush, full height design and shall be located on the sides of the cab.

Comply _____ Except _____ Exceeds _____

CAB CRASH TEST ECE-29

The cab shall have successfully achieved survival of the International crash test ECE-29, Addendum 28, Revision 1 as indicated below.

As part of the ECE regulation 29 test, the frontal area of the cab is struck by a 3,700 pound pendulum weight. The weight is brought back to a sixty degree angle and then the weight is released and allowed to swing forward, imparting some 32,600 pounds foot of force to the cab front face. The cab shall be so constructed that after the test, there will be minimal intrusion of the cab structure into the passenger area. The doors shall remain usable for both entry and exit. Also, as part of the test the cab roof must withstand a static load bearing test. The cab shall withstand a weight of over 60,000 pounds without permanent damage or collapse. The above tests shall be witnessed by and attested to by an independent third party. The test results shall be recorded on/ by cameras, high speed imagers, accelerometers and strain gauges, with notarized copies of the letters verifying the test results and videos of said test shall be available upon request.

Comply _____ Except _____ Exceeds _____

CAB PAINT EXTERIOR

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

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

KEY LARGO FIRE PUMPER

adhesive bond between the primer and the paint and improve the color and gloss retention of the color. The finish to this procedure shall be a sanding of the cab with 360 grit paper, the seams shall be sealed with SEM brand seam sealer or equivalent and painted with two (2) to four (4) coats of an acrylic urethane type system designed to retain color and resist acid rain and most atmospheric chemicals found on the fire ground or emergency scene.

The cab shall then be painted with the upper and lower colors specifically designated by the customer with a minimum thickness of two 2.00 mils of paint, followed by a clear top coat not to exceed 2.00 mils.

Comply _____ Except _____ Exceeds _____

CAB PAINT MANUFACTURER

The cab shall be painted with PPG Industries or equivalent paint.

Comply _____ Except _____ Exceeds _____

CAB PAINT PRIMARY/ LOWER COLOR

The lower paint color shall be PPG FBCH 71528 Red.

Cab paint colors shall be decided at the preconstruction conference from paint color samples included with the bid package.

Comply _____ Except _____ Exceeds _____

CAB PAINT SECONDARY/ UPPER COLOR

The upper paint color shall be PPG FBCH 2185 White.

Cab paint colors shall be decided at the preconstruction conference from paint color samples included with the bid package.

Comply _____ Except _____ Exceeds _____

CAB PAINT EXTERIOR BREAK LINE CLASSIC

The upper and lower paint shall meet at a break line on the cab which shall fall approximately 1.00 inch under the door windows and above the door handles. The break line shall extend in a straight line and fall approximately 1.00 inch under the windshield and above the windshield wipers on the front of the cab.

Comply _____ Except _____ Exceeds _____

CAB PAINT WARRANTY

The cab and chassis shall be covered by a limited manufacturer paint warranty which shall be in effect for 10 years from the first owner's date of purchase.

Comply _____ Except _____ Exceeds _____

LOW VOLTAGE ELECTRICAL SYSTEM

The chassis shall include a single starting electrical system which shall include a 12 volt direct current system, suppressed per SAE J551. The wiring shall be appropriate gauge cross link with 311 degree Fahrenheit insulation. All SAE wires in the chassis shall be color coded and shall include the circuit number and function. The wiring shall be protected by 275 degree Fahrenheit minimum high temperature flame retardant loom.

Comply _____ Except _____ Exceeds _____

CLASS 1 TOTAL SYSTEM MANAGER

The apparatus shall be equipped with a Class 1 Total System Manager (TSM) or equivalent, for performing electrical load management. The TSM shall have sixteen (16) programmable outputs to supply warning and load switching requirements. Outputs one (1) through twelve (12) shall be independently programmable to activate during the scene mode, the response mode, or both. These outputs can also be programmed to activate with the ignition or master warning switch, or to sequence and shed along with the priority. Output thirteen (13) shall be designated to activate a fast idle system. Output fourteen (14) shall provide a low voltage warning for an isolated battery. Output fifteen (15) is a user configurable output and shall be programmable for activating between 10.50 and 15.00 volts. Output sixteen (16) shall provide a low voltage alarm that activates at the NFPA required 11.80 volts. The TSM shall have a digital display to indicate system voltage in normal operation mode and also indicate the output configuration during programming mode. The TSM shall be protected against reverse polarity and shorted outputs and be enclosed in a metal enclosure to enhance EMI/RFI protection.

Comply _____ Except _____ Exceeds _____

KEY LARGO FIRE PUMPER

POWER AND GROUND STUD

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

Comply _____ Except _____ Exceeds _____

AUXILIARY POWER AND GROUND STUDS

An auxiliary set of power and ground studs shall be provided and installed behind the electrical center cover with a 40 amp breaker. The studs shall be .375 inch diameter and capable of carrying up to a 40 amp load switched with the master power switch.

Comply _____ Except _____ Exceeds _____

EXTERIOR ELECTRICAL TERMINAL COATING

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

Comply _____ Except _____ Exceeds _____

ENGINE

The power plant for the vehicle shall offer a high pressure performance, turbo charged engine which shall feature a high pressure common rail fuel system. This system shall be coupled with a proven Holset turbo which delivers outstanding performance at ratings up to 425 HP. The Cummins ISL engine, Detroit Series 60 or equivalent shall include replaceable mid-stop cylinder liners plus heavy duty roller followers, targeted piston cooling and 30% more efficient oil cooling for improved durability and reliability.

The heavy duty design shall also feature stronger braking capacity.

The engine shall be EPA certified to meet the very latest emissions standards without compromising performance, reliability or durability. The engine shall feature an air charge cooled engine which consists of an in line six (6) cylinder, four cycle diesel powered engine. The engine shall offer a rating of 425 horse power at 2100 RPM which shall be governed at 2200 RPM. The torque rating shall feature 1200 foot pounds of torque at 1300 RPM with 543 cubic inches of displacement. The engine shall feature an electronic governor. A wiring harness shall be supplied ending at the back of the cab. The harness shall include a connector which shall allow an optional harness for the pump panel. The included circuits shall be provided for a tachometer, oil pressure, engine temperature, hand throttle, high idle. A circuit for J1939 data link shall also be provided at the back of the cab. The engine shall include an engine mounted combination full flow/by-pass oil filter with replaceable spin on cartridge for use with the engine lubrication system.

Comply _____ Except _____ Exceeds _____

ENGINE PROGRAMMING HIGH IDLE SPEED

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

Comply _____ Except _____ Exceeds _____

ENGINE HIGH IDLE CONTROL

The vehicle shall be equipped with an automatic high-idle speed control which shall be pre-set to operate when the engine is at a specified RPM to increase alternator output. This device shall operate only when the master switch is activated and the transmission is in neutral with the parking brake set. The device shall disengage when the operator depresses the brake pedal, or the transmission is placed in gear, and shall automatically re-engage when the brake is released, or when the transmission is placed in neutral.

Comply _____ Except _____ Exceeds _____

ENGINE PROGRAMMING

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

Comply _____ Except _____ Exceeds _____

AUXILIARY ENGINE BRAKE

A Jacobs engine compression brake, for the six (6) cylinder engine, with brake light actuation and cutout relay for when in pump mode or when an ABS event

KEY LARGO FIRE PUMPER

occurs shall be installed. The engine brake shall activate upon 0% accelerator when in operation mode.

Comply _____ Except _____ Exceeds _____

AUXILLARY ENGINE BRAKE CONTROL

An engine compression brake control device shall be included. The control device shall be electronic and shall prevent the activation of the engine compression brake during operating wherein undesirable conditions will result if the engine brakes are active. The electronic control device shall monitor various conditions and shall activate the engine brake only if all of the following conditions are simultaneously detected: a valid gear ratio is detected; the driver has requested or enabled engine compression brake operation; the throttle is at a minimum engine speed position; and the electronic controller is not presently attempting to execute an electronically controlled final drive gear shift and there is no active ABS event. The compression brake shall be controlled through an off/low/high rocker switch within easy reach of the driver's position.

Comply _____ Except _____ Exceeds _____

ELECTRONIC LOW ENGINE OIL INDICATOR

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

Comply _____ Except _____ Exceeds _____

ENGINE WARRANTY

The engine shall be warranted for a minimum period of five (5) years.

Comply _____ Except _____ Exceeds _____

REMOTE THROTTLE CONTROL HARNESS

An apparatus interface wiring harness for the engine shall be supplied with the chassis. The midship harness shall include a connector for connection to the chassis harness which shall terminate in the left frame rail behind the cab for reconnection by the apparatus builder. The midship harness shall contain connectors for a Fire Research In Control 300/400 pressure governor or equivalent and a multiplexed gauge. Separate circuits shall be included for pump controls, "pump engaged" and "OK to Pump" indication lights, open compartment ground, start signal, park brake ground, ignition signal, master power, customer ignition, air horn solenoid switch, high idle switch and high idle indication light.

An apparatus interface wiring harness shall also be included which shall be wired to the cab harness interface connectors and shall incorporate circuits with relays to control pump functions. This harness shall control the inputs for the transmission

lock up circuits, governor/ hand throttle controls and dash display which shall incorporate "pump engaged" and "OK to Pump" indication lights. The harness shall contain circuits for the apparatus builder to wire in a pump switch.

Comply _____ Except _____ Exceeds _____

ENGINE PROGRAMMING REMOTE THROTTLE

The engine ECM (Electronic Control Module) discreet wire remote throttle circuit shall be turned off for use with a J1939 based pump controller or when the discreet wire remote throttle controls are not required.

Comply _____ Except _____ Exceeds _____

ENGINE PROGRAMMING IDLE SPEED

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

Comply _____ Except _____ Exceeds _____

COOLING SYSTEM FAN

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

Comply _____ Except _____ Exceeds _____

ENGINE COOLING SYSTEM

There shall be a heavy-duty aluminum cooling system designed to meet the demands of the fire industry. The cooling system shall have the capacity to

KEY LARGO FIRE PUMPER

keep the engine properly cooled under all conditions of road and pumping operations. The cooling system shall be designed and tested to meet or exceed the requirements specified by the engine and transmission manufacturer and all EPA requirements. The complete cooling system shall utilize heavy-duty welds and be mounted to isolate the entire system from vibration or stress.

Comply _____ Except _____ Exceeds _____

ENGINE COOLANT

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

Comply _____ Except _____ Exceeds _____

LOW COOLANT INDICATOR LIGHT AND TONE ALARM

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

Comply _____ Except _____ Exceeds _____

ENGINE/PUMP HEAT EXCHANGER

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

Comply _____ Except _____ Exceeds _____

COOLANT HOSES

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

Comply _____ Except _____ Exceeds _____

ENGINE AIR INTAKE

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

Periodic cleaning or replacement of the screen shall be all that is required after installation.

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

The air flow distribution and dust loading shall be uniform throughout the high performance filter cone pack, which shall result in increased capacity and lower pressure differential for improved horsepower and fuel economy. The air intake system shall include a restriction indicator light in the warning light cluster which shall activate when the air cleaner element requires replacement. The charge air cooler hose shall be formed from aluminized steel tubing and include silicone hump hose with stainless expansion rings and stainless steel "constant torque" style clamps meeting the engine manufactures requirements.

Comply _____ Except _____ Exceeds _____

EXHAUST SYSTEM

The exhaust system shall include a diesel particulate filter and a diesel oxidation catalyst to meet current EPA standards. The system shall be designed and installed using 0.065 inch aluminized steel plumbing from the diesel particulate filter to the discharge which shall terminate horizontally on

KEY LARGO FIRE PUMPER

the officer side of the vehicle ahead of the rear tires. The exhaust system shall be mounted on the underside of the frame outboard, maximizing space for the body compartments. All joints along plumbing following the diesel particulate filter shall be connected with lapping band style clamps.

The system shall include a 5.00 inch diameter plumbing which shall be 0.065 inch thick stainless steel exhaust between the engine turbo and the diesel particulate filter.

The tubing shall include a thermal cover in order to retain heat between the engine turbo and diesel particulate filter. The entire exhaust system shall be bolted to the frame and include system joints connected with zero leak clamps between the turbo and diesel particulate filter.

Comply _____ Except _____ Exceeds _____

ENGINE EXHAUST ACCESSORIES

An exhaust temperature mitigation device shall be shipped loose for installation by the body manufacturer on the vehicle. The temperature mitigation device shall lower the temperature of the exhaust by combining ambient air with the exhaust gasses at the exhaust outlet.

Comply _____ Except _____ Exceeds _____

TRANSMISSION

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

The transmission shall include two (2) internal oil filters and transmission fluid recommended by Allison.

An electronic oil level sensor shall be included with the readout located in the shift selector. The Gen IV-E transmission shall include prognostic diagnostic capabilities. These capabilities shall include the monitoring of the fluid life, filter change indication, and transmission clutch maintenance.

The transmission gear ratios shall be:

1st- 3.49:1; 2nd- 1.86 to 1; 3rd- 1.41 to 1; 4th- 1.00 to 1; 5th- 0.75 to 1; Rev- 5.03 to 1.

Comply _____ Except _____ Exceeds _____

TRANSMISSION MODE PROGRAMMING

The transmission, upon start-up, will automatically select a four (4) speed operation.

The fifth speed over drive shall be available with the activation of the mode button on the shifting pad.

Comply _____ Except _____ Exceeds _____

TRANSMISSION FEATURE PROGRAMMING

The EVS group package number 127 shall contain the 198 vocational package in consideration of the duty of this apparatus as a Pumper. This package shall incorporate an automatic neutral with selector override. This feature commands the transmission to neutral when the park brake is applied, regardless of drive range requested on the shift selector. This requires re-selecting drive range to shift out of neutral for the override. This package shall be coupled with the use of a split shaft PTO and incorporate pumping circuits. These circuits shall be used allowing the vehicle to operate in the fourth range lockup while operating the pump mode due to the 1 to 1 ratio through the transmission, therefore the output speed of the engine is the input speed to the pump. The pump output can be easily calculated by using this input speed and the drive ratio of the pump itself to rate the gallons of water the pump can provide.

An 8 pin Delphi connector will be provided next to the steering column connector.

This will contain the following input/output circuits to the transmission tcm.

Function ID Description Wire assignment

C PTO Request 142

J Fire Truck Pump Mode (4th Lockup) 122 / 123

KEY LARGO FIRE PUMPER

C Range Indicator 145 (4th)
G PTO Enable Output 130
Signal Return 103

Comply _____ Except _____ Exceeds _____

TRANSMISSION SHIFT SELECTOR

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

Comply _____ Except _____ Exceeds _____

ELECTRONIC LOW TRANSMISSION OIL LEVEL INDICATOR

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

Comply _____ Except _____ Exceeds _____

TRANSMISSION PRE-SELECT WITH AUXILLIARY BRAKE

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

Comply _____ Except _____ Exceeds _____

TRANSMISSION WARRANTY

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

Comply _____ Except _____ Exceeds _____

TRANSMISSION COOLING SYSTEM

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

Comply _____ Except _____ Exceeds _____

DRIVELINES

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

Comply _____ Except _____ Exceeds _____

FUEL FILTER/WATER SEPARATOR

The fuel system shall have a Fleetguard FS1003 fuel filter/water separator or equivalent as a primary filter. The fuel filter shall have a drain valve. A water-in-fuel sensor shall be provided and wired to an instrument panel lamp and audible alarm to indicate when water is present in the fuel/water separator.

Comply _____ Except _____ Exceeds _____

FUEL LINES

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

Comply _____ Except _____ Exceeds _____

FUEL SHUTOFF VALVE

A fuel shutoff valve shall be installed in the fuel draw line at the primary fuel filter to allow the fuel filter to be changed without loss of fuel to the fuel pump.

A second fuel shutoff valve shall be installed in the fuel draw line, near the fuel tank to allow maintenance to be performed with minimal loss of fuel.

Comply _____ Except _____ Exceeds _____

FUEL TANK

The fuel tank shall have a minimum capacity of sixty-five (65) gallons. The baffled tank shall be made of 14 gauge aluminized steel. The tank exterior is painted with a PRP Corsol™ or equivalent black anti-corrosive exterior metal

KEY LARGO FIRE PUMPER

treatment finish. This results in a tank which offers the internal and external corrosion resistance.

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

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

Dual draw tubes and dual sender ports shall be installed. A 2.00 inch NPT fill ports shall be available for right or left hand fill. A 0.5 inch NPT drain plug shall be centered in the bottom of the tank.

Comply _____ Except _____ Exceeds _____

FRONT AXLE

The front axle shall be a Meritor Easy Steer Non drive front axle, model number MFS-23 or equivalent. The axle shall include a 3.74 inch drop and a 71.00 inch king pin intersection (KPI). The axle shall include a conventional style hub with a standard knuckle. The weight capacity for the axle shall be rated to 23,000 pounds. This rating shall require special approvals from the wheel manufacturers.

Comply _____ Except _____ Exceeds _____

FRONT WHEEL BEARING LUBRICATION

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

Comply _____ Except _____ Exceeds _____

FRONT SUSPENSION

The front suspension shall include nine (9) leaf, 53.38 inch long and 4.00 inches wide taper leaf springs with a military double wrapped front eye. Both spring eyes shall have a case hardened threaded bushing installed with lubrication counter bore and lubrication land off cross bore with grease fitting. The spring capacity shall be rated at 23,000 pounds.

Comply _____ Except _____ Exceeds _____

STEERING COLUMN/ WHEEL

The cab shall include a Douglas Autotech or equivalent steering column shall be a seven (7) position tilt and 2.25 inch telescopic type with an 18.00 inch steering wheel located on the left side of the cab designating the driver's position. The steering wheel shall be covered with black absorbite padding. The steering column shall contain a horn button, self-canceling turn signal switch, four-way hazard switch and headlamp dimmer switch.

Comply _____ Except _____ Exceeds _____

POWER STEERING PUMP

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

Comply _____ Except _____ Exceeds _____

ELECTRONIC POWER STEERING FLUID LEVEL INDICATOR

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

Comply _____ Except _____ Exceeds _____

FRONT AXLE CRAMP ANGLE

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

Comply _____ Except _____ Exceeds _____

CHASSIS ALIGNMENT

The chassis frame rails shall be cross checked to insure the length and to make sure each is square. The front and rear axles shall be laser aligned, additionally the tires and wheels shall be aligned and toe-in set on the front tires. The completed apparatus shall be rechecked for proper alignment once the chassis has been fully loaded.

Comply _____ Except _____ Exceeds _____

REAR AXLE

KEY LARGO FIRE PUMPER

The rear axle shall be a Meritor model number RS-30-185 single drive axle or equivalent. The axle shall offer the widest range of ratios available, providing for compatibility engines to ensure maximum fuel efficiency and performance. The axle shall feature a life housing design with a standard 0.56 inch wall thickness.

The axle shall feature precision forged differential gears and shall have a rated capacity of 31,500 pounds.

Comply _____ Except _____ Exceeds _____

REAR WHEEL BEARING LUBRICATION

The rear axle wheel bearings shall be lubricated with oil.

Comply _____ Except _____ Exceeds _____

REAR AXLE DIFFERENTIAL LUBRICATION

The rear axle differential shall be lubricated with oil.

Comply _____ Except _____ Exceeds _____

VEHICLE TOP SPEED

The top speed of the vehicle shall be approximately 65 MPH +/-2 MPH at governed engine RPM.

Comply _____ Except _____ Exceeds _____

REAR SUSPENSION

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

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

Comply _____ Except _____ Exceeds _____

FRONT TIRES

The front tires shall be Michelin 425/65R-22.5 20PR "L" tubeless radial XZY3 mixed service tread or equivalent.

The front tire stamped load capacity shall be 22,800 pounds per axle with a speed rating of 65 miles per hour when properly inflated to 120 pounds per square inch.

The front tire U. S. Fire Service intermittent load capacity shall be 23,000 pounds per axle with a speed rating of 65 miles per hour when properly inflated to 120 pounds per square inch.

Comply _____ Except _____ Exceeds _____

REAR TIRES

The rear tires shall be Michelin 315/80R-22.5 20PR "L" tubeless radial XZA1 highway tread or equivalent.

The rear tire stamped load capacity shall be 33,080 pounds per axle with a speed capacity of 75 miles per hour when properly inflated to 130 pounds per square inch.

The rear tire US Fire Service Intermittent Usage load capacity shall be 33,080 pounds per axle with a speed capacity of 75 miles per hour when properly inflated to 130 pounds per square inch.

Comply _____ Except _____ Exceeds _____

TIRE PRESSURE

The rear dual tires shall include braided stainless steel valve extensions that allow adding air or checking tire pressure from the outside of the tires. They shall be held in place by the wheel lug nuts.

Comply _____ Except _____ Exceeds _____

TIRE PRESSURE INDICATOR

There shall be a tire pressure indicator at each tire's valve stem on the vehicle that shall indicate, to a panel on the dash, if there is insufficient pressure in the specific tire.

Comply _____ Except _____ Exceeds _____

FRONT WHEELS

The front wheels shall be Accuride hub piloted, 12.25 inch X 22.50 inch polished aluminum wheels. The wheels shall be forged from a single piece of aluminum which shall be corrosion resistant, engineered to be lightweight and provide exceptional performance.

Comply _____ Except _____ Exceeds _____

KEY LARGO FIRE PUMPER

REAR WHEEL

The rear wheels shall be Accuride hub piloted, 9.00" x 22.5" polished aluminum wheels.

Comply _____ Except _____ Exceeds _____

BRAKE SYSTEM

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

The rear axle spring brakes shall automatically apply in any situation when the air pressure loss below 25 PSI with a mechanical means for releasing the spring brake chambers exists. An audible alarm shall designate when system air pressure is below 60 PSI.

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

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

Additional handling capabilities shall include roll stability control which shall monitor the vehicles rollover threshold based on the roll and yaw. The system shall activate a computerized device which shall slow the vehicle when the threshold is exceeded in either direction. Normal vehicle operation shall resume once the problematic conditions cease. Roll stability control shall be integral with the ABS and ATC systems. Roll stability control capability shall be based on operating weight, rather than capacity and shall be a minimum of 17,000 pounds.

Comply _____ Except _____ Exceeds _____

FRONT BRAKES

The front brakes shall be Meritor EX225 Disc Plus disc brakes with 17" vented rotors or equivalent.

Comply _____ Except _____ Exceeds _____

REAR BRAKES

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

Comply _____ Except _____ Exceeds _____

PARK BRAKE

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

PARK BRAKE ACTUATION VALVE

A Meritor-Wabco or equivalent manual hand control push-pull style valve shall operate the parking brake system. The control shall be yellow in color. The parking brake actuation valve shall be mounted on the driver's dash within easy access.

Comply _____ Except _____ Exceeds _____

KEY LARGO FIRE PUMPER

FRONT BRAKE SLACK ADJUSTERS

Front brake automatic slack adjusters shall be an integral part of the brake assembly and be supplied by the brake manufacturer.

Comply _____ Except _____ Exceeds _____

REAR BRAKE SLACK ADJUSTERS

Haldex rear brake automatic slack adjusters shall be installed on the chassis.

Comply _____ Except _____ Exceeds _____

AIR DRYER

The brake system shall include a Wabco System Saver 1200 air dryer or equivalent. The air dryer incorporates an internal turbo cutoff valve that closes the path between the air compressor and air dryer purge valve during the compressor "unload" cycle. The turbo cutoff valve allows purging of moisture and contaminants without the loss of turbo boost pressure.

Comply _____ Except _____ Exceeds _____

FRONT BRAKE CHAMBERS

The front brakes shall be provided with MGM type 24 long stroke brake chambers.

Comply _____ Except _____ Exceeds _____

REAR BRAKE CHAMBERS

The rear axle shall include TSE 30/36 brake chambers shall convert the energy of compressed air into mechanical force and motion. This shall actuate the brake camshaft, which in turn shall operate the foundational brake mechanism forcing the brake shoes against the brake drum. The TSE Type 36 brake chamber has a 36.00 square inch effective area.

Comply _____ Except _____ Exceeds _____

AIR COMPRESSOR

The air compressor provided for the engine shall be a two (2) cylinder reciprocating Wabco® SS318 pass-through drive type compressor which shall be capable of producing 18.7 CFM at 1200 engine rpm's. The air compressor shall feature a higher delivery efficiency translating to more air delivery per horsepower absorbed. The compressor shall include an aluminum cylinder head which shall improve cooling, reduce weight and decrease carbon formation. Superior piston and bore finishing technology shall reduce oil consumption and significantly increasing the system component life.

Comply _____ Except _____ Exceeds _____

AIR GOVERNOR

An air governor which shall cut-in and cut-out pressures on the vehicle shall be provided and shall be adjusted so that the maximum pressure in the air system and the minimum cut-in pressure.

Comply _____ Except _____ Exceeds _____

AUXILIARY AIR RESERVOIR

Two (2) auxiliary air tank, 2084 cubic inch reservoir, shall be installed on the chassis to act as an additional reserve supply to the air system for air horn, air tool, or other non-service brake use. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake and tool system.

Comply _____ Except _____ Exceeds _____

AIR SUPPLY MOISTURE EJECTORS

An automatic moisture ejector with a manual drain provision shall be installed where necessary. Manual drain valves shall be installed on all other reservoirs of the air supply system.

Comply _____ Except _____ Exceeds _____

AIR SUPPLY LINES

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

Brass compression type fittings shall be used on the nylon tubing. All drop

KEY LARGO FIRE PUMPER

hoses shall include fiber reinforced neoprene covered hoses.

Comply _____ Except _____ Exceeds _____

AIR HORN SHUT-OFF VALVE

A shut-off valve located in the driver's dash shall be installed in the air horn supply line.

Comply _____ Except _____ Exceeds _____

AIR OUTLET CONNECTION

A quick release air outlet female connector shall be installed in the left lower DS pump panel towards the front of the cab for the use of auxiliary air tools. The air outlet connector shall be compatible with a Milton 787, Parker Hannifin B13 or Meyers 54-410 connector.

Comply _____ Except _____ Exceeds _____

PLUMBING AIR OUTLET CONNECTION

The cab mounted air outlet connection shall be plumbed to the chassis auxiliary air system reservoir.

Comply _____ Except _____ Exceeds _____

AIR INLET/ OUTLET FITTING TYPE

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

Comply _____ Except _____ Exceeds _____

AUXILIARY AIR CONNECTION

An auxiliary air line shall be plumbed off the auxiliary air tank and routed inside the cab terminating under the driver dash area. A temporary mounted brass single port tee shall be supplied for the OEM usage, such as pump shift operator valves. If used for a pump shift control it shall be provided and installed by the OEM.

Comply _____ Except _____ Exceeds _____

REAR AIR TANK MOUNTING

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

Comply _____ Except _____ Exceeds _____

FRAME

The frame shall consist of double channel side rails and cross members forming a ladder style frame. The sides of the rails shall be constructed of "C" channel, 10.25 inches high X 3.5 inches deep X .38 inches thick with an inner channel of 9.44 inches high X 3.13 inches deep and .38 inches thick, 110,000 psi minimum yield high strength low alloy steel. Each rail shall be considered on the following key items:

Each rail shall be rated by a Resistance Bending Moment (RBM) minimum of 3,213,100 inch pounds and have a minimum section modulus of 29.21 cubic inches calculated by the radius method. The frame shall measure 35.00 inches in width.

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

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

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

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

All holes for bolts shall be drilled into the frame rails, preventing fracture or

KEY LARGO FIRE PUMPER

fatigue.

Each hole shall be custom placed relative to its component preventing unnecessary holes that present fatigue along each frame rail.

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

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

Comply _____ Except _____ Exceeds _____

FRAME WARRANTY

The frame and cross members shall carry a lifetime warranty to the original purchaser. Proposals offering warranties for frames not including cross members shall not be considered. A copy of the frame warranty shall accompany the bid.

Comply _____ Except _____ Exceeds _____

REAR TOW DEVICE

Two (2) heavy duty tow hooks, painted black shall be installed below the frame at the rear of the chassis. The tow hooks shall be bolted directly to the chassis frame with grade 8 bolts.

Comply _____ Except _____ Exceeds _____

FRAME PAINT

The chassis under carriage consisting of frame, axles, driveline running gear, battery boxes, air tanks and other assorted chassis mounted components shall be painted with gloss black paint. Paint shall be applied prior to airline and electrical wiring installation.

Comply _____ Except _____ Exceeds _____

FRONT BUMPER

A one piece, two (2) rib wrap-around style, polished stainless steel front bumper shall be provided. The material shall be 10 gauge 304 stainless steel, 12" high and 99" wide.

Comply _____ Except _____ Exceeds _____

FRONT BUMPER EXTENSION LENGTH

The front bumper shall be extended 24.00 inches ahead of the cab.

Comply _____ Except _____ Exceeds _____

FRONT BUMPER WINCH

The front bumper winch shall include a Ramsey model RE12000 electric winch with 12,000 pound rated line pull, 12 volt electric winch shall be installed in the center of the front bumper. The winch shall be equipped with 125.00 feet of 0.38 inch cable, clevis hook and a 4 way roller fairlead. The winch shall be operated through a 25.00 foot pendant with a hand held control. The winch shall include a spring applied hydraulic released disc brake and counterbalance valve. It shall feature an easy to use spring loaded clutch with clutch engagement indicator light. The exact location to be determined at the preconstruction meeting. (ELTBDAPCC)

Comply _____ Except _____ Exceeds _____

FRONT BUMPER APRON

The bumper extension shall include a bumper apron which consists of 0.19 inch thick aluminum tread plate constructed for an exact fit within the 24.00 inch bumper extension. The apron shall be installed between the bumper and the front face of the cab affixed using stainless steel bolts attaching the apron to the bumper flange.

Comply _____ Except _____ Exceeds _____

FRONT BUMPER COMPARTMENT CENTER

The bumper apron shall include access provisions for a center mounted winch. The apron shall include an access cover constructed of 0.19 inch thick bright embossed aluminum tread plate to help protect the winch from water, dirt or debris.

Comply _____ Except _____ Exceeds _____

FRONT BUMPER DISCHARGE

KEY LARGO FIRE PUMPER

A 1.5 chromed elbow shall be located on the officer side of the front bumper and will be attached using a Chicksan swivel. The discharge shall be plumbed with a 2 inch flexible hose from the pump and controlled at the driver's side pump panel. ELTBDAPCC

Comply _____ Except _____ Exceeds _____

FRONT BUMPER COMAPARTMENT

The bumper shall include a compartment in the front bumper located on the right hand side outboard of the frame rail which may be used as a hose well. The compartment shall be constructed of 0.13 inch 5052-H32 grade aluminum. The compartment shall include a cover constructed of 0.19 inch thick bright embossed aluminum tread plate.

Comply _____ Except _____ Exceeds _____

FEDERAL Q2B SIREN

The front bumper shall include an electro mechanical Federal Q2B™ siren, which shall be streamlined, chrome-plated and shall produce 123.00 decibels of sound at 10.00 feet. The siren shall produce a long distance warning siren which shall include a unique heavy duty caster clutch design which provides a longer coast down sound while reducing the amp draw requirements to (100) amps. The Federal Q2B™ siren shall measure 10.50 inches wide X 10.00 inches high X 14.00 inches deep.

Comply _____ Except _____ Exceeds _____

SIREN LOCATION

The siren shall be pedestal mounted on the bumper apron on the furthest outboard section of the bumper on the driver side. ELTBDAPCC

Comply _____ Except _____ Exceeds _____

AIR HORN

The front bumper shall include two (2) Grover brand air horns which shall measure 24.50 inches long and 18.0 inches long, with a 6.00 inch round flare. The air horn shall be a trumpet style and shall include a chrome finish.

Comply _____ Except _____ Exceeds _____

AIR HORN LOCATION

The air horns shall be recess mounted in the front bumper face on the driver side of the bumper in the inboard and outboard positions relative to the left hand frame rail. ELTBDAPCC

Comply _____ Except _____ Exceeds _____

ELECTRONIC SPEAKER

The bumper shall include one (1) Cast Products Inc. model SA4301, 100 watt speaker which shall be recess mounted within the bumper fascia. The speaker shall include a flat mounting flange and be chrome in color.

Comply _____ Except _____ Exceeds _____

ELECTRONIC SPEAKER LOCATION

The speaker shall be located in the officer's side of the front bumper fascia, outboard of the frame rails. ELTBDAPCC

Comply _____ Except _____ Exceeds _____

FRONT BUMPER TOW EYES

The bumper shall include two (2) chromed tow eyes shall be installed through the front bumper. The tow eyes shall be fabricated from 0.75 inch thick #1020 ASTM-36 hot rolled steel. The inside diameter of the tow eye shall be 2.00 inch and have a chamfered edge.

Comply _____ Except _____ Exceeds _____

CAB TILT SYSTEM

The entire cab shall be capable of tilting 45 degrees to allow for easy maintenance of the engine and transmission.

The electric-over-hydraulic lift system shall include a red cab lock down indicator lamp on the tilt control which shall illuminate when holding the "Down" button to indicate safe road operation.

It shall be necessary to activate the master battery switch and set the parking brake in order to tilt the cab. Two (2) spring-loaded hydraulic hold down hooks located outboard of the frame shall be installed to hold the cab securely

KEY LARGO FIRE PUMPER

to the frame. Once the hold-down hooks are set in place, it shall take the application of pressure from hydraulic the cab tilt lift pump to release the hooks.

Two (2) cab tilt cylinders shall be provided with velocity fuses in each cylinder port.

The cab tilt pivots shall be 1.90" ball and be anchored to frame brackets with 1.25" diameter studs.

A steel safety channel assembly shall be installed on the right side cab lift cylinder to prevent accidental cab lowering. The safety channel assembly shall fall over the lift cylinder when the cab is in the fully tilted position. A cable release system shall also be provided to retract the safety channel assembly from the lift cylinder to allow the lowering of the cab.

Comply _____ Except _____ Exceeds _____

CAB TILT CONTROL RECEPTACLE

A 6-pin Deutsch connector that includes a cap shall be installed in the right hand side of the front bumper tail to provide a place to plug in the cab tilt remote control pendant. The remote control pendant shall also include 20.00 feet of cable and shall include a mating connector.

Comply _____ Except _____ Exceeds _____

CAB WINDSHIELD

The cab windshield shall have a maximum of 2808 sq. in. area and be of the wraparound or split design, 52.00 inches wide X 27.00 inches high for maximum visibility.

The distance from the Driver or Officer to the front windshield shall be a minimum of 42.00 inches at the furthest seated position. This distance shall ensure the safety of the Driver and Officer from intruding objects in the unlikely event of a head on collision.

Comply _____ Except _____ Exceeds _____

CAB GLASS FRONT DOORS

The front cab doors shall include a power window which is 26.00 inches wide X 31.00 inches high. These windows shall have the capability to roll down completely into the door housing. This shall be accomplished on the door.

Comply _____ Except _____ Exceeds _____

WINDOW TINT

The cab window and windshield glass shall have a manufacturers standard automotive tint which shall allow seventy-five (75) percent light transmittance. After market tint shall not be considered.

Comply _____ Except _____ Exceeds _____

GLASS REAR DOORS

The rear cab side doors shall include a window which is 31.00 inches wide X 26.00 inches high. This power window shall roll up and down completely. The glass utilized for this window shall include an automotive tint unless otherwise noted.

Comply _____ Except _____ Exceeds _____

CAB GLASS SIDE MID FIXED

The cab shall include a window on both sides behind the front and ahead of the crew doors which shall measure 26.00 inches wide X 16.00 inches high. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted in a black rubberized frame.

Comply _____ Except _____ Exceeds _____

OUTER FIXED 16" X 16"

The rear section of the cab on the driver and officer sides below the pump panel hood extension or a shall include a window which shall measure 16.00 inches wide X 16.00 inches high. These windows shall be fixed within this space and shall be oblong in shape. The windows shall be mounted in a black rubberized frame.

Comply _____ Except _____ Exceeds _____

CAB DOOR WINDOW GLASS CONTROLS

All cab door window glass shall be electric powered. They shall have a control switch

KEY LARGO FIRE PUMPER

below each window and a master control within easy reach of the driver.

Comply _____ Except _____ Exceeds _____

CAB INSULATION

The cab ceiling and walls shall include 1.00 inch thick foam insulation. The insulation shall include a foil facing which includes grid reinforcement. The insulation shall act as a barrier absorbing noise as well as assisting in sustaining the desired climate within the cab interior.

Comply _____ Except _____ Exceeds _____

UNDER CAB INSULATION

The underside of the cab tunnel surrounding the engine shall be lined with foam insulation, engineered for application inside diesel engine compartments. The foam insulation shall measure .56 inch thick including a 1.0#/sf PVC barrier and a moisture and heat reflective foil backing, reinforced with fiberglass strands. The foil surface acts as protection against moisture and other contaminants.

The insulation shall act as a noise barrier, absorbing noise thus keeping the decibel level in the cab well within NFPA recommendations. And as an additional benefit, the insulation shall assist in sustaining the desired temperature within the cab interior.

The insulation shall be held in place by 3 mils of acrylic pressure sensitive adhesive and aluminum pins with hard hat, hold in place fastening heads.

The foam shall meet or exceed MVSS 302 flammability test.

The foam shall be cut precisely to fit each section and sealed for additional heat and sound deflection.

Comply _____ Except _____ Exceeds _____

CLIMATE CONTROL

The cab shall include a 57,600 BTU @ 425 CFM front overhead heater/defroster which shall be provided and installed above the windshield between the sun visors.

The temperature and blower controls shall be located on the heater/defroster unit.

The cab shall also include a combination heater air-conditioning unit mounted on the engine tunnel. This unit shall offer eight (8) adjustable louvers, (4 forward facing, four rearward facing) a temperature control valve and two (2) blowers offering three (3) speeds which shall be capable of circulating 550 cubic feet of air per minute. The unit shall be rated for 36,000 BTU of cooling and 45,000 BTU of heating. The temperature and blower controls shall be located on the heater/air conditioning unit.

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

The air conditioning system shall be capable of lowering the cab interior temperature from 100 degrees to 70 degrees or more, within thirty minutes, with a relative humidity of 90 percent.

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

Comply _____ Except _____ Exceeds _____

CLIMATE CONTROL ACTIVATION

The heating and air conditioning controls shall be located on the within easy reach of the driver.

Comply _____ Except _____ Exceeds _____

A/C CONDENSER LOCATION

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

Comply _____ Except _____ Exceeds _____

A/C COMPRESSOR

The air-conditioning compressor shall be a belt driven, engine mounted, open type compressor that shall be capable of producing a minimum of 13000 BTU at 1500 engine rpm's. The compressor shall utilize R-134A refrigerant and

KEY LARGO FIRE PUMPER

PAG oil.

Comply _____ Except _____ Exceeds _____

INTERIOR TRIM FLOOR MAT

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

Comply _____ Except _____ Exceeds _____

INTERIOR TRIM VINYL

The cab interior shall include trim on the front and rear crew ceiling, the cab walls and the rear wall of the cab. The trim shall be constructed of insulated vinyl over a hard board backing. The material shall be securely fastened to the interior of the cab utilizing snap style fasteners with a decorative fastener for a more appealing appearance.

Comply _____ Except _____ Exceeds _____

INTERIOR TRIM SUN VISOR

The header shall include two (2) 7.00 inches high X 18.00 inches wide impact resistant, transparent acrylic polycarbonate sun visors with a smoke gray tint shall be provided and installed on the header above the driver and officer.

The see thru visors are designed for maximum flexibility of positioning utilizing an arm with virtually unlimited adjustability with 13.50 inch long lateral travel of the tinted visor at the end of the arm which can be locked in place by a thumbscrew.

The visors are easily adjusted and can be placed into a chosen position with one hand.

The sun visors will help protect vehicle occupants from solar glare without obscuring their vision.

Comply _____ Except _____ Exceeds _____

ENGINE TUNNEL TRIM

The cab engine tunnel shall be covered with .44 of an inch thick multi-layer mat consisting of .25 inch closed cell foam, .13 of an inch thick rubber and .06 inch thick non-slip pebble grain. The insulation of the tunnel shall provide a cool touch inside the cab when the engine as been warmed up and shall also provide sound attenuation.

Comply _____ Except _____ Exceeds _____

POWER POINT DASH MOUNT

The cab interior shall include two (2) 12 volt cigarette lighter type receptacles in the cab dash dedicated as a power source panel for additional portable or mobile items. The receptacles shall be wired to be hot when the battery master switch is on.

Comply _____ Except _____ Exceeds _____

AUXILIARY POWER POINT ENGINE TUNNEL

The cab interior shall include two (2) 12 volt cigarette lighter type receptacles which shall be provided on the center of the engine tunnel as a power source for portable or mobile electrical items. These receptacles shall be connected to the shore power.

Comply _____ Except _____ Exceeds _____

STEP TRIM

The cab steps shall include Grip Strut® metal grating on the first step, the step closest to the ground. The step shall include a frame which is integral with the construction of the cab for rigidity and strength. The metal grating shall allow water and other debris to flow through rather than becoming packed under the step. The entire middle step shall be integral with the cab in construction and shall be trimmed in an adhesive back grit material adding slip resistance to the painted step.

Comply _____ Except _____ Exceeds _____

INTERIOR DOOR TRIM

The doors of the cab shall include an aluminum plate the same weight and

KEY LARGO FIRE PUMPER

grade as the cab on the interior of the door. The aluminum shall be then painted.

Comply _____ Except _____ Exceeds _____

DOOR TRIM KICK PLATE

The inner door panels shall include an aluminum or stainless steel tread kick plate which shall be fastened to the lower portion of the door panels.

Comply _____ Except _____ Exceeds _____

INTERIOR DOOR TRIM SCUFF PLATE

The trim along the door shall include a stainless steel plate along the door jam to prevent the chipping of paint should the seat belt buckle come in contact with the door jam. The painted surface rear of the front door windows on the inside of the door shall include a stainless steel plate to protect the painted surface from damage caused by the seat belt buckle.

Comply _____ Except _____ Exceeds _____

DOOR PANEL CUSTOMER NAMEPLATE

The interior door trim on the front doors shall include a customer nameplate which states the vehicle was custom built for their Department.

Comply _____ Except _____ Exceeds _____

CAB DOOR TRIM REFLECTIVE

A rectangular reflective chevron shall be installed on the lower half of the inner door panel, one (1) on each door. A 2" ribbon of reflective tape shall be installed at the outer edge of each door.

Comply _____ Except _____ Exceeds _____

INTERIOR GRAB RAIL

A slip-resistant 11.00 inch grab rail shall be provided on the inside of the cab on the hinge (A) post at the driver and officer doors. The rails shall assist personnel in exiting and entering the cab.

Comply _____ Except _____ Exceeds _____

INTERIOR GRAB RAIL FRONT DOOR

Each front door shall include one (1) ergonomically contoured 12.00 inch, or more, slip-resistant rail mounted horizontally on the interior door panels. The rails shall provide ease of access and exiting the cab.

Comply _____ Except _____ Exceeds _____

INTERIOR GRAB RAIL REAR DOOR

A slip-resistant assist rail shall be provided on the inside of each rear crew door the full width of the door below the window glass and shall measure approx. 30 inches in length. The rail shall assist personnel in exiting and entering the cab.

Comply _____ Except _____ Exceeds _____

CAB INTERIOR FLOOR MAT COLOR

The cab interior floor mat shall be black in color.

Comply _____ Except _____ Exceeds _____

INTERIOR TRIM VINYL COLOR

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

V

INTERIOR ABS TRIM COLOR

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

Comply _____ Except _____ Exceeds _____

CAB PAINT INTERIOR

The interior metal surfaces shall be painted with a Zolatone #20-71 onyx black texture finish or equivalent.

Comply _____ Except _____ Exceeds _____

CAB PAINT INTERIOR DOOR TRIM

The inner door panel surfaces shall be painted with a Zolatone #20-71 black onyx finish or equivalent.

Comply _____ Except _____ Exceeds _____

SWITCH PANEL GROUP

The dash shall include three removable panels located one (1) to the right of

KEY LARGO FIRE PUMPER

the driver position, one (1) in the center of the dash and one (1) to the left of the officer position.

Comply _____ Except _____ Exceeds _____

SWITCH PANEL CENTER

The center panel shall include eighteen (18) switches, twelve (12) over six (6) towards the driver side of the panel.

Comply _____ Except _____ Exceeds _____

SWITCH PANEL DRIVER SIDE

The interior shall include a durable vacuum formed ABS composite switch panel which shall be located in the left of the dash. This panel shall include eight (8) total switches with six (6) across the top of the panel and two (2) below, all of which shall be appropriately labeled as to their specific function. Proposals offering add-on style panel shall not be considered, all panels shall be designed for the specific chassis and shall match the interior for a more uniform and attractive appearance.

SWITCH PANEL OFFICER SIDE

The interior shall include a durable vacuum formed ABS composite switch panel which shall be located in the officer side of the dash. This panel shall include eight (8) total switches, four (4) across the top of the panel with four (4) centered underneath. All switches shall be appropriately labeled as to their specific function. Proposals offering add-on style panel shall not be considered, all panels shall be designed for the specific chassis and shall match the interior for a more uniform and attractive appearance.

SWITCH PANEL IGNITION

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

SEATBELT WARNING SYSTEM

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

Once activated, the visual and audible indicators shall remain active until all occupied seats have the seat belts fastened. The dash shall include an indicator panel display indicating the occupation of seats.

LIFEGUARD 4FRONT

The vehicle shall include the LifeGuard 4Front™ frontal collision protection system. In addition to the components of the RollTex system, listed below, the 4Front shall protect the driver with a steering wheel mounted airbag and the officer with a knee bolster airbag in the event of a moderate to severe frontal accident.

LIFEGUARD ROLLTEK ROLLOVER OCCUPANT PROTECTION SYSTEM

The vehicle shall include the LifeGuard RollTek™ rollover occupant protection system or equivalent, which shall secure occupants, increase the survivable space within the cab and protect against head/neck injuries in the event of a roll over accident.

The system shall function using a microprocessor-controlled, solid-state sensing device which, when the system detects a side roll shall provide instantaneous occupant protection (less than 0.3 seconds from trigger to total deployment) by automatically initiating the following sequence:

1. The seat belt shall tighten around the occupant on all seats excluding theatre flip up style seating.

KEY LARGO FIRE PUMPER

2. The air suspension on each seat shall be reduced to its lowest position, tightens belt around occupant and locking the seat in this position thereby providing more survivable space and minimizing head contact with the interior roof (available when air suspension seats are specified).

3. An inflatable curtain shall deploy which includes an air filled bag across the driver's and passenger's side windows which shall protect and cushion the head and neck of the occupant thereby reducing movement and the chance of head contact with the side of the vehicle. The inflatable curtain shall be applicable on all seats adjacent to the cab side excluding theatre flip-up style seating. System Components shall include:

Integrated Roll Sensor **IRS** - detects an imminent rollover, activates protective devices and records crash events.

Integrated Belt Pretension **IBP** device (not available with air suspension seats) - tightens the seat belt around occupant, securing occupant in seat and positions occupant for contact with integrated head cushion.

Seat Pull-down System **S4S** (air suspension seats only) - locks seat to lowest position, increases survivable space, tightens belt around occupant, secures occupant in seat and positions occupant for contact with integrated head cushion.

Inflatable Head Cushion **IHC** - protects head/neck and shields occupant from dangerous surfaces. Remains inflated for 8-10 seconds. This device shall affect the driver, officer and adjacent seats to cab side excluding theatre flip-up style seating.

DIAGNOSTIC SOFTWARE ROLLTEK

The cab and chassis shall include diagnostic software for the RollTek system shipped loose with the vehicle. The software kit number F101560 shall include an interface module with connectors to link a laptop computer to the vehicle for diagnostic purposes.

CAB COMPARTMENTATION

Two (2) upright compartments shall be installed 1 each, behind the Driver and Officer seats. A locking roll up door similar to the exterior doors and accessible from the rear shall be provided.

Unistruts and one (1) adjustable shelf shall be provided and installed in each compartment.

SEAT MATERIAL

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

SEAT COLOR

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

DRIVER SEAT

The driver's seat shall be a Seats Inc. 911 Universal series or equivalent. The seat shall feature 6.00 inch vertical travel air suspension and a high back. The seat shall feature two (2) way adjustable lumbar support and offer an infinite fully reclining adjustable tilting seat back. The seat cushion shall include an adjustment for height and rake angle offering added comfort.

There shall be a red, three-point shoulder harness with lap belt and an automatic retractor attached to the cab and available to the seat. The buckle portion of the seat belt shall be mounted on a rigid or semi-rigid stalk such that the buckle remains positioned in an accessible location. The seat belt assembly anchorages shall conform to the Federal Safety Standard (FMVSS) No. 210, "Seat belt assembly anchorages".

KEY LARGO FIRE PUMPER

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

DRIVER SEAT BACK

The driver's seat shall feature an adjustable lumbar support and offer a contoured head rest.

OFFICER SEAT

The officer's seat shall be a Seats Inc. 911 ABTS series or equivalent. The seat shall feature a tapered and padded seat, and cushion. The seat shall be mounted in a fixed position.

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

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

OFFICER SEAT BACK

The officer's seat back shall include a Ziamatic brand Load and Lock™ walk away self contained breathing apparatus (SCBA) bracket. The mechanical walk away bracket shall meet NFPA 1901-03 9G dynamic requirements for cylinder restraint systems for use in crew compartments of fire truck cabs. The bracket shall consist of a back plate and a short back plate, both of which shall be thermoplastic coated for trouble free service. The bracket shall feature two (2) high cycle double coated clips which shall not mar the cylinders.

The bracket shall accommodate and secure all types of self-contained breathing apparatus cylinders. Each bracket shall include a model LLS strap assembly which shall meet the NFPA 1901-03 standard for SCBA retention and shall be easily adjustable.

SEAT BELT ORIENTATION

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

FORWARD FACING CENTER SEAT QUANTITY

The crew area shall include four (4) forward facing crew seats located across the rear wall.

FORWARD FACING CENTER SEATS (2)

The crew area shall include two (2) fixed seats in the forward facing center position which shall be a Seats Inc. 911 series or equivalent. The seats shall feature a tapered and padded seat, and cushion.

The seat shall include a red, three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant.

The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall measure at minimum 37.00 inches.

FORWARD FACING CENTER SEAT BACK

The crew area shall include a seat back in the forward facing center positions which shall include a Ziamatic brand Load and Lock™ walk away self contained breathing apparatus (SCBA) bracket.

KEY LARGO FIRE PUMPER

FORWARD FACING SEAT FRAME

The forward facing center seating positions shall include an enclosed seat frame which is located and installed on the rear wall. The seat frame shall measure 42.38 inches wide X 12.38 inches high X 22.00 inches deep and shall be fully open offering storage within this area. There shall be (2) access points to this storage area, (1) via the driver side of the seat frame and (1) via the officer side of the seat frame. The seat frame shall be constructed of 5052-H32 Marine Grade, .190 inch thick, 100 percent primary smooth aluminum plate. The seat box shall be painted with the same color as the remaining interior.

FORWARD FACING OUTSIDE SEATS (2)

The crew area shall include two (2) flip-up seats in the forward facing outside position which shall be a Seats Inc. 911 series or equivalent. The seats shall feature a tapered and padded seat, and cushion.

The seat shall include a red, three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant.

The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall measure at minimum 37.00 inches.

FORWARD FACING OUTSIDE SEAT BACK

The crew area shall include a seat back in the forward facing outside positions which shall include a Ziamatic brand Load and Lock™ walk away self contained breathing apparatus (SCBA) bracket.

HELMET HOLDERS

A Zico Model UHH-1 or approved equivalent helmet holder bracket shall be installed for each riding position in the cab. ELTBDAPCC

CAB FRONT UNDERSEAT STORAGE ACCESS DOOR

The officer side front under seat storage area shall include a removable aluminum DA finish cover.

WINDSHIELD WIPER SYSTEM

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

ELECTRONIC WINDSHIELD FLUID LEVEL INDICATOR

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

CAB DOOR HARDWARE

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

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

KEY LARGO FIRE PUMPER

DOOR LOCKS

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

CAB EXTERIOR GRAB RAILS

The cab shall include one (1) each 18.00 inch knurled, anti-slip, one-piece exterior assist rail behind each cab door. The assist rail shall be made of 14 gauge 304- stainless steel and be 1.25 inch diameter to enable easy grabbing with the gloved hand. Each assist rail shall include a stainless steel plate behind which saves the cab from scuffs through continued use of the handle.

REARVIEW MIRRORS

Retrac Aerodynamic style single vision mirror heads, model 613265 or equivalent shall be provided and installed on the front cab doors.

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

The mirrors shall measure 8.00 inches wide X 19.00 inches high. The mirrors shall be motorized, with horizontal and vertical adjustable. The control switches shall be mounted within easy reach of the driver. Separate 8.00 inch convex mirrors model 980-4 or equivalent shall be mounted below the flat mirrors to provide a wider field of vision. The convex mirrors shall be manually adjustable.

The mirrors shall be constructed of a vacuum formed chrome plated ABS plastic housing that is corrosion resistant. The mirrors shall be built with the finest quality non-glare glass.

CAB FENDERS

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

MUD FLAPS FRONT

The front wheel wells shall have mud flaps installed on them.

CAB MODEL IDENTIFICATION

The cab shall not include any custom model nameplates relative to any specific model.

IGNITION

The master battery system shall be controlled by a ¼ turn Cole Hersee thumb switch which shall be mounted to the left of the steering wheel on the dash.

The keyless/start ignition system shall be two rocker switches. One on/off rocker switch for the ignition and the starter rocker switch shall be a momentary hold type. ELTBDAPCC

The starter rocker switch shall only operate when both the master battery and ignition switches are in the "ON" position.

The ignition switch shall illuminate a green LED indicator light on the dash when it is placed in the "ON" position.

BATTERIES

The single start electrical system shall include (6) six BCI 31 950 CCA batteries with a 210 minute reserve capacity and 4/0 welding type dual path starter cables per SAE J541. The cables shall have encapsulated ends with heat shrink and sealant.

BATTERY BOXES

The batteries shall be contained within two (2) black powder coated steel

KEY LARGO FIRE PUMPER

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

BATTERY CABLES

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

BATTERY JUMPER STUDS

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

ALTERNATOR

The starting system shall include a 320 amp Leece-Neville 12 volt alternator. The alternator shall include a self-exciting integral regulator.

BATTERY CONDITIONER

A Kussmaul 1200 battery conditioner shall be supplied. The battery conditioner shall be mounted in the cab behind the driver's seat.

BATTERY CONDITIONER DISPLAY

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

ELECTRICAL INLET CONNECTION

A Kussmaul 20 amp super auto-eject electrical receptacle shall be connected to the battery conditioner and installed on the driver's side of the cab above the wheel well. LTBDAPCC

It shall automatically eject the plug when the starter button is depressed.
The U.L. maximum allowable amperage draw on receptacles is generally 80% of their listed rating, for example, the 20 amp receptacle should not carry more than 16 amp continuous load. When adding the different amperage draws of the components being installed on the chassis be sure to factor in whether the components will draw a continuous load or intermittent load.

AUTO- EJECT ELECTRICAL INLET COVER

The Kussmaul Auto- Eject electrical inlet connection shall include a yellow cover.

AUXILLARY AIR INLET

An air inlet shall be installed to supply air pressure to the braking system while in the station. The male inlet shall be located on the driver's side of the cab above the wheel well. LTBDAPCC

HEADLIGHTS

The cab front shall include (4) rectangular halogen headlamps with separate high and low beams mounted in bright chrome bezels. The headlamps shall be equipped with the "Daytime Running" light feature, which shall illuminate the headlights to 80% brilliance when the ignition switch is in the "On" position and the parking brake is released.

The headlights shall be controlled through a rocker switch on the driver's dash.

KEY LARGO FIRE PUMPER

HEADLIGHT LOCATION

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

TURN SIGNALS

The front fascia shall include two (2) Whelen model 600 4.00 inch X 6.00 inch LED programmable amber turn signals which shall be installed outboard of the warning lights in matching bezels located above the headlamps.

SIDE MARKER/ TURN SIGNALS

The sides of the cab shall include (2) LED round side marker lights which shall be provided just behind the front cab radius corners.

MARKER AND ICC LIGHTS

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

STEP LIGHTS

The middle step located at each door shall include a NFPA compliant 4.00" round incandescent light which shall activate with the opening of the respective door.

The lights shall have 21 candle power of illumination and draw 1.5 amps.

ENGINE COMPARTMENT LIGHT

There shall be two (2) incandescent NFPA compliant lights mounted under the engine tunnel for area work lighting on the engine. The lights shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life. Lights shall be on opposite sides of the engine compartment for maximum illumination.

SIDE MOUNTED SCENE LIGHTING

The side of the cab shall include two (2) Whelen model 810 scene lights, one (1) each side which shall be surface mounted. The Whelen lights shall offer halogen lighting with 8 to 32 degree internal optics.

SIDE SCENE LIGHT LOCATION

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

SIDE SCENE LIGHT ACTIVATION

The scene lighting shall be activated via a single rocker switch located inside the cab on the switch panel.

REAR MOUNTED SCENE LIGHTING

The rear of the cab shall include one (1) Whelen model 810 scene light. The Whelen light shall offer halogen lighting at a 32 degree angle.

REAR SCENE LIGHT LOCATION

The rear of the cab shall include one (1) scene light, mounted at the top of the rear wall and centered.

REAR SCENE LIGHT ACTIVATION

The rear scene lighting shall be activated via an interlock with the parking brake.

INTERIOR CAB LIGHTING

KEY LARGO FIRE PUMPER

The cab shall include an incandescent dome lamp with a red and white lens located over each door. The dome lamps shall be rectangular in shape and shall measure 9.50 inches in length and approximately 5.00 inches wide including a black colored bezel.

The white lamp shall be activated by its respective door when opened and both the red and white lamp shall be activated by an individual switch on the light. A three (3) light module with dual map light shall be located in the headliner, over the engine tunnel.

MAP LIGHTING

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

HAND HELD SPOTLIGHT

The officer position shall include a 12 volt Optronics KB-4003 hand-held spotlight or equivalent which shall be mounted to the right of the engine tunnel. The Optronics spot light shall offer 400,000 candle power. It shall have a 10.00 foot coiled cord and a momentary push button switch.

DO NOT MOVE APPARATUS WARNING

The front headliner of the cab shall include a red flashing light, located in the center for greatest visibility. The light shall be 6.00 inches long X 2.50 inches wide X 1.75 inches high and shall be clearly labeled "Do Not Move Apparatus". In addition to the flashing red light, an audible alarm shall be included which shall sound when a door is open and the parking brake is released.

The light and alarm shall be interlocked for activation when a cab door is not firmly closed, an apparatus compartment door is not closed and the parking brake is released.

MASTER WARNING

The optical warning system shall be controlled by a master switch which shall include all "ON" and all "OFF" capability via a rocker switch on the main panel. Any warning light switches left in the "ON" position shall activate when the master switch is activated. This switch shall be clearly labeled for identification.

CAB EMERGENCY WARNING SYSTEMS

HEADLIGHT FLASHER

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

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

HEADLIGHT FLASHER FUNCTION

The flashing headlights shall be activated through a rocker switch on the main switch panel. The rocker switch shall be clearly labeled for identification.

INBOARD FRONT WARNING LIGHTS MODEL

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

KEY LARGO FIRE PUMPER

position.

INBOARD FRONT WARNING LIGHTS- COLOR

The front warning lights mounted on the fascia for the inboard position shall be red with a clear lens.

FRONT WARNING SWITCH

The front warning lights shall be controlled via rocker switch on the main panel. This switch shall be clearly labeled for identification.

INTERSECTION WARNING LIGHTS MODEL

The chassis shall include two (2) Whelen series 600 Super LED intersection warning lights, one (1) each side, which shall offer multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors.

INTERSECTOR FRONT WARNING LIGHTS COLOR

The intersection lights shall be red with a clear lens.

INTERSECTION WARNING LIGHTS LOCATION

The intersection lights shall be mounted in the rear position on the side of the bumper.

SIDE AND INTERSECTION WARNING SWITCH

The side and intersection warning lights shall be controlled via rocker switch on the main panel. This switch shall be clearly labeled for identification.

FRONT LIGHTBAR MODEL

There shall be one (1) Federal Signal brand VPSL26-WKS LED 8 pod lightbar mounted on the front of the cab roof. The light bar shall be NFPA compliant, and each half shall feature two (2) red LED lights and two (2) clear LED lights. RWRW WRWR

The clear lights shall be disabled with park brake engaged.

LIGHTBAR CONTROL

The light bar shall be controlled through a rocker switch located on the main switch panel. This switch shall be clearly labeled for identification.

INTERIOR DOOR WARNING LIGHTS

The interior panels of each door shall include one (1) red 4.00 inch diameter LED Truck-Lite warning light which shall be provided on the inner surface of each cab door. Each light shall activate with a flashing pattern when the door is in the open position to serve as an indicator to oncoming traffic.

SIREN HEAD

A Whelen 295HFS2 200 watt "hands free" remote siren amplifier control head shall be provided and flush mounted in the switch panel with a location specific to the customer's needs. The siren shall feature hands free mode and will be in "standby" mode awaiting instruction. The siren shall offer radio broadcast, public address, wail, yelp or piercer tones and hands free operation which shall allow the operator to turn the siren on and off from the horn ring.

AIR HORN ACTUATION

The air horn actuation shall be accomplished by a driver and officer mounted lanyard.

MECHANICAL SIREN ACTUATION

The Federal mechanical siren shall be actuated by a red momentary toggle switch located in a position within easy reach of the driver and officer. The

KEY LARGO FIRE PUMPER

siren shall only be active when master warning and ignition switches are on.
A siren brake shall be provided on both drivers and officers sides on the cab.

BACKUP ALARM

An ECCO model 575 backup alarm shall be installed at the rear of the chassis with an output level of not less than 107 dB. The alarm will automatically activate when the transmission is placed in reverse.

INSTRUMENTATION

An ergonomically designed instrument panel shall be provided. The gauges shall be backlit with red LED lamps.

The instrument panel shall contain the following gauges:

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

One (1) electronic speedometer with an integral odometer/ trip odometer and hour meter shall be included.

One (1) two function gauge with primary air system and secondary air system shall be included. The scale on the air pressure gauges shall read from 0 to 140 pounds per square inch (PSI). A red indicator light in the gauge shall indicate a low air pressure.

One (1) fuel gauge. The scale on the fuel level gauge shall read from empty to full. A yellow indicator light shall indicate low fuel at the quarter tank level.

One (1) gauge for engine oil pressure, coolant temperature, transmission oil temperature and a voltmeter shall be included.

A red indicator light in the gauge shall indicate high coolant temperature.

A red indicator light in the gauge shall indicate high transmission oil temperature. A red indicator light shall indicate high or low system voltage.

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

RED LAMPS

Stop Engine - indicates critical engine fault.

Park Brake - indicates park brake is set.

Volts - indicates high or low system voltage.

Low Oil Press - indicates low engine oil pressure.

High Coolant Temp - indicates excessive engine coolant temperature.

High Trans Temp - indicates excessive transmission oil temperature.

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

Low Coolant Level - indicates low engine coolant level.

Air Filter - indicates excessive engine air intake restriction.

Brake System Fault - indicates a failure in the brake system

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

YELLOW LAMPS

Check Engine - indicates engine fault.

Check Trans - indicates transmission fault.

Wait to Start - indicates active engine air preheat cycle.

ABS - indicates anti-lock brake system fault.

Water in Fuel - indicates presence of water in fuel filter.

Check Message Center - indicates there is a fault message present in the LCD digital display.

SRS - indicates a problem in the RollTek supplemental restraint system.

DPF - indicates a restriction of the diesel particulate filter.

HEST - indicates a high exhaust system temperature.

MIL - indicates an engine emission control system fault

Low Fuel - indicates low fuel.

KEY LARGO FIRE PUMPER

GREEN LAMPS

Left and Right turn signal indicators.

Aux Brake Active - indicates secondary braking device is active.

High Idle - indicates engine high idle is active.

ATC – indicates low wheel traction for automatic tractions control equipped vehicles.

OK to Pump – indicates the pump engage conditions have been met.

Pump Engaged – indicates the pump is currently in use.

BLUE LAMPS

High beam indicator.

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

Low air pressure.

Low engine oil pressure.

High engine coolant temperature.

High transmission oil temperature.

Low coolant level.

High or low system voltage

Critical engine fault (Stop Engine).

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

Cab Ajar

Low Oil Level

Door Ajar

Engine Communication Error

Transmission Communication Error

ABS Communication Error

High Coolant Temp

Turn Signal Reminder

Low Fuel

Low Oil Pressure

Low Coolant Level

Low Battery Voltage

High Battery Voltage

Low Primary Air Pressure

Low Secondary Air Pressure

High Trans Temp

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

Stop Engine

Low Coolant Level

Brake System Fault

Check Trans

Check Engine

ABS

Engine Communications Error

Transmission Communications Error

ABS Communications Error

Low Fuel

Low Primary Air Pressure

Low Secondary Air Pressure

Low or High Battery Voltage

High Trans Temp

Low Oil Pressure

High Coolant Temp

KEY LARGO FIRE PUMPER

The instrumentation system will provide an alarm for the following situations:

Seat Belt
Air Filter
Water in Fuel
Cab Ajar
Low Oil Level
Door Ajar

The instrumentation system will provide an alarm for the following situations:

Turn Signal Reminder

VEHICLE DATA RECORDER

The chassis shall have a Vehicle Data Recorder system installed. The system shall be designed to meet NFPA 1901. The following information shall be recorded:

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

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

All materials necessary for downloading the stored information to a laptop shall be included. (Cables, software, etc.)

REARVIEW CAMERA SYSTEM

An Audiovox Voyager, or equivalent, heavy duty rearview camera system, complete with an LCD display monitor, shall be supplied. One (1) camera with a teardrop shaped chrome plated housing shall be shipped loose for bidder's installation in the body to afford the driver a clear view of the rear of the vehicle. The camera shall be wired to a 7.00 inch flip down monitor which shall include a color display and day and night brightness modes installed above the driver position. The camera shall activate when the transmission is placed in reverse. The camera system shall include a one-way communication device shall be installed at the rear of the vehicle for the use of voice commands directly to the driver.

ANTENNA BASE

An antenna base, for use with and NMO type antenna, shall be mounted on the roof of the cab on the right hand front corner of the cab roof so not to interfere with light bars or other roof mounted equipment. The antenna base shall be an Antenex model MABVT8 made for either a 0.375 inch or 0.75 inch receiving hole in the antenna and shall include 17 foot of RG58 A/U cable with no connector at the radio end of the cable. The antenna base design provides the most corrosion resistance and best power transfer available from a high temper all brass construction and gold plated contact design.

ANTENNA CABLE ROUTING

The antenna cable shall be routed from the antenna base mounted on the roof to the area behind the driver's seat

DOOR KEYS

KEY LARGO FIRE PUMPER

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

AS BUILT DIAGRAMS

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

CHASSIS WARRANTY

The chassis manufacturer shall warrant to the original purchaser the custom fire truck chassis for a period of sixty (60) months. The warranty period shall commence on the date the vehicle is delivered to the original purchaser and continue for sixty (60) months thereafter. The warranty shall include conditional items listed in the detailed warranty document which may be provided upon request.

OPERATORS MANUAL AND PARTS LIST

There shall be one (2) chassis operator's manuals which includes a parts list including wiring and air plumbing diagrams provided and shipped loose with the vehicle. All standard wiring and plumbing diagrams shall be created specifically to the chassis model.

ENGINE AND TRANSMISSION OPERATION MANUALS

There shall be one (2) sets of engine operation and maintenance manuals and one (2) set of transmission operation manuals specific to the models ordered included with the final vehicle in the ship loose items.

ENGINE SERVICE MANUALS

There shall be one (2) sets of the engine service reference manuals which shall be provided with the final vehicle.

Engine Troubleshooting and Repair Manual.

Electronic Control System Troubleshooting and Repair Manual.

Operation and Maintenance Manual.

Wiring Diagram.

TRANSMISSION SERVICE MANUALS

There shall be one (2) sets of the following manuals included with the chassis relative to the Allison 3000 transmission:

Allison Parts Catalogue, part number PC2809EN

Allison Service Manual, part number SM2148EN

Allison Technician Manual, part number GN2055EN

Electronic Controls Troubleshooting Manual, part number TS2973EN

Mechanic's Tips, part number MT3004EN

CAB TILT CONTROL

There shall be a remote cab tilt control located behind the pump access panel on the officer side of the apparatus.

LUBRICATION PLATE

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

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

Plate shall be imprinted to avoid fading.

KEY LARGO FIRE PUMPER

CHASSIS REQUIRED LABELING

In accordance with NFPA 1901, signs that state "Occupants must be seated and belted when apparatus is in motion" shall be provided. They shall be visible from each seating position.

VEHICLE INFORMATION LABEL

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

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

Plate shall be imprinted to avoid fading.

MUD FLAPS

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

APPARATUS BODY

EXTRUDED ALUMINUM BODY CONSTRUCTION

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

Aluminum tubular extrusions with a minimal wall thickness of 1/8 inch shall be used in the construction of the structural framework. These extrusions shall be as thick as 1/4 inch in strategic locations for added body strength. Both 6061 T-6 and 6063 T- 52 grade aluminum extrusions shall be used in the construction of the framework.

The tubular construction shall form a framework which provides the structural integrity for the entire body module. Common sizes extrusions used for construction are 2-1/2" x 2-1/2" and 2-1/2" x 1".

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

Absolutely no dissimilar metals shall be used in the body and its supporting substructure without being separated by a sufficient corrosion and electrolysis inhibitor.

DOUBLE INTERIOR WALL CONSTRUCTION

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

SIDE RUB RAILS

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

KEY LARGO FIRE PUMPER

REAR RUB RAILS

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

REAR TAILBOARD

The rear tailboard shall be fabricated of the same structural materials as used in the apparatus body. The tailboard shall be an independent assembly welded to the rear structural framing to provide body protection and a solid rear stepping platform. The rear step shall be designed to incorporate "crush zone" technology. This idea incorporates lighter materials in the tailboard than the body structure so the step will "crush" in a collision before the body structure. On the rear body surface, a sign shall be attached that states: "DO NOT RIDE ON REAR STEP, DEATH OR SERIOUS INJURY MAY RESULT." The rear tailboard and body shall be constructed such that the angle of departure shall be no less than 8 degrees at the rear of the apparatus when fully loaded (Per NFPA 1901). The tail board shall extend out from the rear compartments no more than approx 24".

FOLDING STEPS, HANDRAILS and LADDERS

Each surface of the folding step shall have grip material with a minimum of 42 sq. inches in size. Each step shall be capable of sustaining a 500 lb. static load. The steps shall be Austin/Thomas Hardware model #PHS100 or equivalent. The following steps shall be installed:

Rear Body Ladder

A 5-6 step ladder shall be installed from the tail board to the top of the body for access to the upper compartments and supply hose bed. The rear face scene light shall illuminate the ladder for after dark operations. The ladder tread plates and handrails shall be subject to NFPA 1901. The minimum diameter of the non-slip hand rails shall be 1.5". The tread plates for the ladder shall be oversize in depth.

Driver's Side Front

Four (4) folding steps shall be installed on the Driver's forward wall of the body. These steps shall be utilized to access the water tank fill tower of the apparatus. The steps shall also be utilized to gain access to the top of the pump compartment structure and any equipment located in the immediate vicinity. One (1) light shall be mounted to illuminate each stepping areas provided. Each light shall be a Weldon chrome shielded 12 candle power light. Each light shall be directed towards and positioned above the stepping surfaces.

Handrails

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

One (1) 24" long x 1 1/4" diameter vertical handrail constructed of knurled #3 polished stainless steel tubing shall be horizontally mounted in a best fit location beside the front body steps to assist in climbing the steps according to NFPA 1901. There shall be a 2" minimum clearance between the bracket and the body. ELTBDAPCC

KEY LARGO FIRE PUMPER

One (1) 20" long x 1 1/4" diameter horizontal handrail constructed of knurled #3 polished stainless steel tubing shall be mounted in a best fit location above the ladder to assist in climbing the steps. There shall be a 2" minimum clearance between the bracket and the body. ELTBDAPCC

APPARATUS BODY PAINT

PAINT SPECIFICATIONS

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

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

All welded metal surfaces shall be ground to a smooth surface prior to a degreasing and high pressure, high temperature phosphatizing process. The entire surface shall be sprayed with a non-chromate sealing compound to prevent formulation of stains or flash rust on previously phosphatized parts. The paint applied to the apparatus shall be PPG Industries Delta® brand or equivalent, applied throughout a multi-step process including at least two coats of each color and clear coat finish.

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

The products shall have no adverse effects on the health or nor present any unusual hazard to personnel when used according to manufacturers recommendations for handling and proper protective safety equipment, and for its intended use.

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

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

BODY PAINT COLOR

The apparatus body shall be painted PPG 71528 Red or equivalent. Exact color to be determined at the preconstruction meeting from paint chips supplied with the bid package.

SPEEDLINER COMPARTMENT FINISH

The compartment interiors shall be coated with medium gray Speedliner or equivalent. Speedliner durable finish requires no special maintenance and can be washed just like paint.

LETTERING AND DECALS

The successful bidder shall install approximately:

36-6" letters and numbers

21-12" letters

42- 3" letters

Purchaser supplied department logos

All lettering shall be a gold reflective with black accent stripes.

All lettering shall be clear coated after installation.

Fonts and locations will be finalized at the preconstruction conference.

GENERAL BODY DETAILS

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

FASTENERS

KEY LARGO FIRE PUMPER

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

WHEEL WELLS

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

WHEEL WELL MODULES

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

WHEEL WELL ROLL-OUT DRAWER

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

WHEEL WELL ROLL-OUT DRAWER

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

SCBA COMPARTMENT

There shall be a compartment located in the wheel well to hold three (3) 6.75" diameter x 24.50" long SCBA bottles.
The compartment shall be located in front of the axle on the Officer's side.

SCBA COMPARTMENT

There shall be a compartment located in the wheel well to hold three (3) 6.75" diameter x 24.50" long SCBA bottles.
The compartment shall be located in front of the axle on the Driver's side.

DIVIDED STORAGE COMPARTMENT

There shall be a compartment located in the wheel well for storage of a 2.5 gallon water and a 20# ABC extinguisher.
The compartment shall be located behind the axle on the Officer's side.

DOOR OPEN INDICATOR

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

TORSION BODY MOUNTING SYSTEM

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

Each assembly shall have a two-part rubber vibration isolator. The isolator

KEY LARGO FIRE PUMPER

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

There shall be no welding to the chassis frame rail sides, web or flanges, or drilling of holes in the top or bottom frame flanges between axles. All body to chassis connections shall be bolted so that in the event of an accident, the body shall be easily removable from the truck chassis for repair or replacement. Because of the constant vibration and twisting action that occurs in chassis frame rails and suspension, the torsion mounting system is required to minimize the possibility of premature body structural failures. NO EXCEPTIONS.

BODY STRUCTURE WIDTH

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

COMPARTMENT VENTILATION

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

REAR COMPARTMENT PARTITIONS

The rear center compartment of the apparatus shall have permanent partitions installed to increase utilization of the rear center area and to block access to either of the side compartments. The partitions shall be constructed of the same materials as used in the body structure and shall be welded in place to form permanent compartmentation.

COMPARTMENT UNISTRUT

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

BODY COMPARTMENTATION

COMPARTMENTATION

The following compartments shall be supplied on the apparatus:

Compartment "L1": There shall be one (1) full height compartment ahead of the rear wheels on the Driver's side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 52" wide by 69" high with a depth of 35.5". The door opening shall measure approximately 48" wide by 60" high. The compartment will have approximately 34 cubic feet of space. Trays, shelves and tool boards as follows:

One (1) pull out tool board and two (2) adjustable shelves installed in this compartment.

One (1) Hannay ECR-1618-17-18 series electric rewind cord reel furnished

KEY LARGO FIRE PUMPER

and installed on the apparatus. ELTBDAPCC

Compartment "L2": There shall be one (1) compartment located above the rear wheels on the Driver's side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 62" wide by 35" high with a depth of 25.5". The door opening shall measure approximately 59" wide by 26" high. The compartment will have approximately 32 cubic feet of space. Trays, shelves and tool boards as follows:

This compartment shall have two (2) pull out drop down shelves installed.

Compartment "L3": There shall be one (1) full height compartment located behind the rear wheels on the Driver's side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 62" wide by 69" high with a depth of 25.5".

Trays, shelves and tool boards as follows:

- One (1) full height vertical partition
- Two (2) roll out trays approx 40" wide,
- One (1) roll out tray approx 18" wide
- One (1) adjustable shelf approx 19" wide
- Two (2) adjustable shelf approx 42" wide
- One (1) vertical partition approx 24" high
- One (1) vertical partition approx 12" high

One (1) Hurst Model JL-ER 12V Electric Hose Reel shall be installed in this compartment. See description page 49.

One (1) Hannay ECR-1618-17-18 series electric rewind cord reel furnished and installed on the apparatus. See description page 49.

ELTBDAPCC

Compartment "B1": There shall be one (1) compartment located at the rear of the apparatus, directly below the hose bed access area. The approximate dimensions of this compartment shall be 62" high with a depth of 33" with the lower sides of the compartment being open to the side compartments for maximum storage area. The compartment will have approximately 28.5 cubic feet of space. The upper portion of this compartment shall be the enclosed ladder storage compartment.

Trays, shelves and tool boards as follows:

One (1) roll out tray installed approx 34" wide

Compartment "R1": There shall be one (1) full height compartment located ahead of the rear wheels on the Officer's side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 53" wide by 69" high with a lower depth of 25.5" and an upper depth of 12.5". The door opening shall measure approximately 48" wide by 60" high. The compartment shall have approximately 35 cubic feet of space.

Trays, shelves and tool boards as follows:

- One (1) full height vertical partition
- Two (2) shelves approx 21" wide
- Three (3) shelves approx 27" wide

Compartment "R2": There shall be one (1) compartment located directly over the rear wheels on the Officer's side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 62" wide by 35" high with a depth of 12.5". The door opening shall measure approximately

KEY LARGO FIRE PUMPER

59" wide by 26" high. The compartment will have approximately 15.5 cubic feet of space.

Trays, shelves and tool boards as follows:

Two (2) pull out drop down tray

An aluminum cradle for two (2) SCUBA bottles with hold downs shall be installed on this tray.

Compartment "R3": There shall be one (1) full height compartment located behind the rear wheels on the Officer's side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 62" wide by 69" high with an upper depth of 12.5" and the lower portion being transverse into the rear compartment, unless partitions are installed.

Trays, shelves and tool boards as follows:

One (1) full height vertical partition

Two (2) pull out tool boards

Two (2) adjustable shelves approx 32" wide

Poly Boxes

There shall be 5 poly boxes included which measure 10" X 22".

ENCLOSED LADDER STORAGE

Ladders will be mounted in a compartment located above the booster tank and under the supply hose bed. Access shall be from the Rear Compartment Door. The door shall be switched to the "Open Door Indicator Light" in the cab to alert the driver if the door is not closed. The compartment shall be located above the top of the tank, with the ladders lying flat.

The compartment shall be large enough for one (1) 10' aluminum attic ladder, one (1) 14 foot aluminum roof ladder, one (1) 24 foot two section Duo-Safety aluminum extension ladder, and two (2) pike poles to be stowed in individual divided slots, so one item may be removed without disturbing the others. Each slot shall have a plastic angle installed at the top and bottom to guide the ladders.

Ladders beams shall slide on a plastic or Delrin type slide.

There shall be a stop in the front of each compartment to prevent the items from sliding forward.

Above the ladders an aluminum cover shall be provided to protect the ladders and pike poles from drainage from the supply hose bed.

UPPER STORAGE COMPARTMENTS OFFICER SIDE

Two (2) fixed upper storage compartments shall be provided on the Officer's side of the body.

The compartments shall be as long as the body and 24" wide. The depth of these compartments shall be determined by the hose bed wall height. The compartments shall protrude above the apparatus body roof and walking surface approximately 2" to provide an adequate vertical lip to enable sealing. Trim shall be provided around the perimeter of the compartment edge that mates up with a flat seal gasket on the underside of each hat type formed door when closed to ensure a positive seal.

The formed door shall extend down over the compartment edge approximately 1.5" to minimize the surface area water may penetrate. Each door shall be secured by a single 'T' handle latch, centered along the doors length. Each door shall be fabricated of embossed tread plate aluminum and be secured by a 304 Stainless Steel piano-style hinge. The doors shall all be reinforced appropriately to act as a suitable walking or standing surface. Each door shall be held open by a gas charged strut on each side of the door to permit full access to the compartment area along its length. The struts shall be concealed inside the compartment when the door is in the closed position.

KEY LARGO FIRE PUMPER

The compartments shall be accessed from the hose bed. The compartments shall be accessed from the hose bed and constructed as part of the body.

UPPER STORAGE COMPARTMENTS DRIVER SIDE

Two (2) removable upper storage compartments shall be provided on the Driver's side of the body.

The compartments shall be as long as the body and 24" wide. The depth of these compartments shall be determined by the hose bed wall height. The compartments shall protrude above the apparatus body roof and walking surface approximately 2" to provide an adequate vertical lip to enable sealing. Trim shall be provided around the perimeter of the compartment edge that mates up with a flat seal gasket on the underside of each hat type formed door when closed to ensure a positive seal.

The formed door shall extend down over the compartment edge approximately 1.5" to minimize the surface area water may penetrate. Each door shall be secured by a single "T" handle latch, centered along the doors length. Each door shall be fabricated of embossed tread plate aluminum and be secured by a 304 Stainless Steel piano-style hinge. The doors shall all be reinforced appropriately to act as a suitable walking or standing surface. Each door shall be held open by a gas charged strut on each side of the door to permit full access to the compartment area along its length. The struts shall be concealed inside the compartment when the door is in the closed position.

The compartments shall be accessed from the hose bed and constructed as removable.

Lifting eyes shall be installed to support the loaded weight of each compartment.

Brushed stainless steel sill plates shall be installed at the bottom of each body compartment door opening.

How is this to be fastened to the truck?

COMPARTMENT DIVIDER

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

SHELVING

Each shelf shall be fabricated of .190 thick aluminum sheet material with the outside and inside edges flanged up to prevent equipment from sliding off of the shelves.

Each shelf shall be as wide as possible to allow proper attachment to the unistrut channels. Shelves shall be adjustable up and down.

ROLL OUT TRAYS

There shall be roll out trays furnished and installed in the compartments specified.

They shall be fabricated of 3/16" thick 3003 grade or higher aluminum with four side flanges, corner welded for maximum strength. Each roll-out system shall be bolted to the compartment floor for rigid and sturdy mounting. The tray shall be mounted to a Slide Master slide unit. The roll-out tray shall be rated for 600 lbs. and extend 70% of the slide capacity.

The SlideMaster slides shall be held in locked positions by a lever actuated twist lock.

The roll-out system shall be bolted to the compartment floor for rigid and sturdy mounting. The tray shall be mounted to a Slide Master slide unit. The roll-out tray shall be rated for 600 lbs. and extend 70% of the slide capacity.

ROLL OUT TILT DOWN TRAYS

Each tray shall be fabricated of 3/16" aluminum with four side flanges, corner welded for maximum strength. The tray shall be designed to utilize the full

KEY LARGO FIRE PUMPER

compartment width and be 3" in depth. The tray shall slide out from its stored position and shall tip 30 degrees down from horizontal. There shall be a latching device to hold the tray in the stored position. Each tray shall be as wide as the door allows and approximately 24" deep.

ALUMINUM PULL-OUT TOOL BOARDS

There shall be one (1) aluminum pull out tool boards furnished and installed in the compartments noted. Each board shall be attached to unistrut on the floor shall extend the board to a position perpendicular to the rear wall. Each board shall be mounted on ball bearing slides, top and bottom. A locking device shall be installed on the lower slide to keep the board in the stored and extended position. The tool board shall be located in the Driver's front compartment.

BACKBOARD STOKES COMPARTMENT(S)

There shall be a compartment provided in the rear side of the cab for the storage of backboards and a stokes basket. The compartment shall be transverse and have access with a door located each side. The compartment shall include provisions for mounting the following:

One (1) stokes basket shall be stored in individual storage slots accessible from the officer side of the cab. The slots shall have clear inside dimensions of 25" x 9" x 87".

Two (2) backboards with straps shall be stored in individual storage slots accessible from the driver side of the cab.

ROLL-UP DOORS

All roll up doors shall be Robinson brand or equivalent. Door slats to be of a double wall box frame extrusion. Exterior surface shall be flat, interior surface shall be concave to prevent loose equipment from jamming the door. Slats will be anodized to prevent oxidation.

Slats to have inner-locking end shoes on every slat secured by a Punch-Dimple process. Slats shall have interlocking joints with a folding locking flange. Between each slat is a PVC/Vinyl inner seal to prevent any metal to metal contact.

The track to be a one piece aluminum which has an attaching flange and finishing flange incorporated into its design which facilitates installation and provides a finished look to installation without additional trim or caulking. The track is to have a replaceable side seal. Side seal prevents water and dust intrusion into the compartment.

A drip rail will have a built in replaceable wiper seal. The drip rail is to be made of aluminum. Roll-up door is to have a 4" diameter counterbalance to assist in lifting and to eliminate the risk of accidental closing. The door shall be secured by a full width lift bar, operable by one hand even with heavy gloves. Securing method will be a positive latch device.

All compartment doors shall remain a natural satin aluminum finish.

DOOR CONSTRUCTION

All horizontal and vertical side compartment doors shall be roll-up style doors.

DOOR OPEN INDICATOR

Each roll up door shall have an integral door open indicator magnet in the lift bar. If the bar is not properly closed, it shall activate the "Door Open" light in the cab.

HOSE STORAGE

A hose bed shall be provided with a minimum of thirty (30) cubic feet of storage space. The hose bed shall have a slotted 1/4" aluminum flooring installed to allow drainage. The aluminum flooring shall be manufactured in discrete sections to allow for easy removal and outstanding stability. The area shall be free of sharp edges to protect the hose when loaded or distributed.

KEY LARGO FIRE PUMPER

SUPPLY HOSE BED COVER

There shall be a double door aluminum diamond plate cover for the hose bed furnished and installed. There shall be a permanently mounted hose bed divider

located in the center of the hose bed to support the covers when they are closed. Each cover shall be reinforced and be capable of supporting 400 lbs while standing on cover. Each cover shall be capable of being opened independently. The doors shall be fabricated of 1/8" polished aluminum diamond plate with stainless steel hinges. There shall be a mechanical hold open device to hold each cover in the open position.

The hose bed cover shall be wired to the open door warning light in chassis cab so as to warn crew when the cover is open when the brake is released. The hose bed covers shall be an approved stepping surface constructed of embossed tread plate approved by the latest NFPA standards for abrasiveness.

HOSE BED DIVIDER(S)

There shall be one (1) divider installed in the hose bed. The divider shall be fabricated of 1/4" thick aluminum plate with a double sided reinforcement where it is attached to the adjustable slide rails. The rear of the divider shall have a radius to provide a smooth corner. Hose payout shall be unobstructed by the divider.

DUNNAGE AREA

A vertical bulkhead shall be installed at the front of the hose bed area, just behind the water tank fill tower, forming a storage area that is separated from the hose bed. The rear face of the bulkhead shall serve as a mounting surface for the hose bed dividers, resulting in the ability to move any hose bed divider across the entire width of the hose bed.

FENDERETTES

Two (2) polished stainless steel fenderettes shall be provided on body rear wheel well openings, one (1) each side. A rubber welting shall be provided between the body and the crown to seal the seam and restrict moisture from entering. A dielectric barrier shall be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.

WATER TANK

TANK CAPACITY

The tank shall be 750 gallons in capacity.

TANK LEVEL GAUGE

A Fire Research Tank Vision LED water tank level indicator shall be installed on the pump operator instrument panel. The gauge shall provide the pump operator with an accurate reading of the water tank level. A beveled lens shall be incorporated into the indicator that protrudes from the module to allow viewing of the water tank level by personnel when not standing directly in front of the display.

The tank level gauge shall utilize a pressure transducer mounted on the outside of the tank for sensing water levels without the use of a probe.

POLYPROPYLENE TANK

The booster tank shall be constructed of 1/2" thick polypropylene sheet stock which is a non-corrosive stress relieved thermoplastic. It shall be designed to be completely independent of the body and compartments. All joints and seams are extrusion welded and/or contain the "Bent Edge" and tested for maximum strength and integrity. The top of the booster tank is fitted with

KEY LARGO FIRE PUMPER

lifting eyes designed with a 3 to 1 safety factor to facilitate tank removal.

COVER

The tank cover shall be constructed of 1/2" thick polypropylene and shall be recessed. A minimum of two lifting dowels shall be drilled and tapped 1/2" x 2" to accommodate the lifting eyes.

BAFFLES

The swash partitions are manufactured of 1/2" polyprene. All partitions are equipped with vent and air holes to permit movement of air and water between compartments to provide to provide maximum water flow. All swash partitions interlock and are welded to one another as well as to the walls of the tank.

MOUNTING

The tank shall be mounted in accordance with the tank manufacturers specifications.

FILL TOWER: Fill opening shall be approximately 13" x 12". The tower will have a 1/4" thick removable polyprene screen and a polyprene hinged type cover that will open if the tank is filled at an excess rate. The fill tower shall have a 4" overflow that will discharge underneath the tank, behind the rear wheels.

The overflow shall terminate above the tank water level when filled to the rated capacity.

The fill tower shall be located on the Driver's side front hose bed.

SUMP

The sump will be constructed of 1/2" polyprene and be located inline with the tank suction valve. There shall be a 4" schedule 40 polyprene tube installed that will run from the suction outlet to the sump location. The tank will have an anti-swirl plate located approximately 2" above the sump.

The sump shall have a 3" plug for use in draining and cleaning out the tank.

OUTLETS: In addition to the tank suction valve outlet located in the sump, there shall be an outlet provided for the tank fill valve.

WARRANTY

The tank manufacturers warranty shall be lifetime.

OVERLAYS

The front faces of the apparatus compartments as well as the front header of the hose bed area shall have aluminum diamond plate overlays installed.

The entire back of the apparatus body including both the side compartment and rear compartment back areas shall have raw aluminum overlays installed for the installation of chevron striping.

All overlay areas shall be coated with 3M sealant and adhesive on the back sides to protect and to put an insulating barrier between dissimilar metals to assist in corrosion resistance.

The catwalks shall be approved stepping surfaces constructed of knurled tread plate approved by the latest NFPA standards for abrasiveness.

KNURLED SST HANDRAIL SPECIFICATIONS

All handrails shall be 1 1/4" in diameter, constructed of knurled #3 polished stainless steel tubing. There shall be a 2" minimum clearance between the bracket and the body.

KNURLED SST INSERT HAND RAILS

KEY LARGO FIRE PUMPER

There shall be three (3) hand rails installed on the rear of the apparatus. Each hand rail shall provide approximately 42 inches of gripping area for personnel. Each hand rail shall be constructed of a knurled #3 polished stainless steel tubing to provide a positive grip. The handrails shall be spaced away from the body using chrome plated ends. Two (2) vertical hand rails shall be installed, one on each side, just below the supply hose bed sides. The remaining hand rail shall be installed horizontally, just below the hose bed area.

REAR TOW EYES

There shall be 2 rear tow eyes. Each attached to a frame rail. The location of the tow eyes shall be below the rear center compartment. The tow eyes shall be manufactured of 1" plate steel that is bolted to the chassis frame rail with a minimum of 6 grade 5 bolts. The plate shall be braced to the opposite frame rail to offset forces placed at an angle to the chassis frame.

ELECTRICAL SYSTEM

Modular power distribution boards shall be located in the Officer's front compartment and in the chassis. The power distribution boards shall include an LED diagnostic system to indicate the polarity and continuity of input switch signals as well as indicate when power is present at each output circuit. Behind each rear taillight assembly shall be an easily removable bulkhead that protects the wiring that is associated with the rear lights. A permanently mounted template shall be mounted behind each panel to identify each circuit.

Electrical

components in the right front power distribution panel shall also have a permanently marked identification template with each component labeled to indicate the circuits with which it is associated.

All wiring harness shall be fully engineered and modular in design. The harnesses shall be composed of high temperature (280 degree) copper, multiple strand SXL cross link coated wire designed to carry 125% of the maximum circuit current. The wire shall be of sufficient size so that voltage drop to any electrical device shall not exceed 10% of the system voltage. For ease of maintenance, all wires shall be color coded, with number and function codes repeated every 2". Spare circuits shall be included in the harnesses to permit the addition of components not identified at the time of manufacture. Each harness shall have a tag displaying the part number to identify it. Electrical harnesses with major connections located under the body or under the steps or running boards, shall not be acceptable.

All electrical equipment shall be protected by circuit breakers. Switched circuits are to be operated through relays. Circuit breakers and relays shall be of a type that is readily available from a local supplier and be easily serviced and or replaced. All wiring to be protected with automotive type corrugated loom, braided fabric loom, or PVC conduit. Any connections subject to moisture or exposure shall be environmentally sealed with Deutsch connectors. All other connections shall be made using Packard interlocking connectors, lugs, or terminals mechanically secured to wires.

As-built wiring harness drawings and a master circuit list of electrical circuits that the apparatus builder installs shall be furnished in the delivery manuals. These schematics must show the electrical system broken down into separate functions, or small groups of related functions. Schematics shall depict circuit numbers, electrical components, harnesses, and connectors from beginning to end.

A single drawing for all electrical circuits installed by the apparatus builder shall not be accepted.

The chassis cab, engine and transmission, and apparatus body are to be completely bonded to the truck frame with braided ground straps.

LOAD MANAGER

KEY LARGO FIRE PUMPER

There shall be a load manager furnished and installed by the chassis manufacturer to sequence and load manage the 12 volt electrical components of the apparatus. The load manager shall have response mode and scene mode operations. The load manager shall monitor all battery banks. There shall be an over-voltage indicator. Per NFPA 1901 STD 9-14, there shall be a low voltage alarm to indicate when the batteries are not sustaining the required output. The load manager shall have protection against reverse polarity and short circuit. It shall be manufactured by Class 1 and be model # TSM or equivalent.

LED DOT LIGHTING

There shall be seven (7) lights located on the rear of the vehicle. Three (3) of the lights shall be mounted on the rear face of the body for use as identification lamps.

Two (2) lights shall be located on the rear, one each side and two (2) lights on the sides facing the side, for use as clearance lamps.

If the apparatus is 30' or longer there shall be two (2) amber intermediate turn signals and two (2) amber intermediate marker lights on the sides of the apparatus (one (1) each per side) between the front and rear axles.

The lights shall be Weldon brand 9186-1500 series LED red and amber markers.

REAR TAIL LIGHT CLUSTER

There shall be a rear tail light cluster furnished and installed in a polished bezel at the rear of the apparatus, one each side. The cluster shall be manufactured by Whelen and consist of the following:

1 - Whelen #60 LED series red brake light

1 - Whelen #60 Clear backup light (Halogen)

1 - Whelen #60 LED series amber turn signal light populated in the shape of an arrow

Each tail light cluster shall be mounted on a removable panel of the same material as the rear overlay for easy access to the electrical distribution centers at each rear corner of the apparatus body.

BACKUP LIGHTS

The backup lights shall illuminate when the apparatus is placed in reverse.

PUMP COMPARTMENT LIGHTING

There shall be two (2) 12 volt work lights installed in the pump compartment. Each light shall be activated with a switch located on each light and shall be enclosed in an ABS case. Each light head shall be removable and have a retractable wire that can be extended a minimum of 10 feet to allow maintenance personnel to relocate and direct the light as needed.

ON SCENE "Night Stick" COMPARTMENT STRIP LIGHTING

"Night Stick" LED strip lighting shall be installed in all body compartments including the two (2) high side upper compartments. The light in each compartment shall be on a separate circuit, turning on only the lights that have open compartment doors. The light shall be manufactured by On Scene Solutions.

PERIMETER LIGHTS

There shall be eight (8) underbody perimeter lights furnished and installed.

One (1) under each cab door

One (1) under each side of the front of the body

Two (2) under the rear step to illuminate the ground around the truck.

Lighting designed to provide illumination on areas under the driver and crew door exits shall be switchable and activate automatically when the exit doors are open. They shall also activate when the parking brake is set. The lights

KEY LARGO FIRE PUMPER

shall be manufactured by Trucklite and be model # 40003.

UPPER LIGHTING PACKAGE

The following NFPA lighting package will be supplied and installed in the upper areas of the vehicle.

ZONE A: There shall be a Viewpoint lightbar installed. The lightbar shall each consist of eight (8) pods and shall be configured from Driver's to Officer's as follows: RWRW WRWR

The lightbar shall be manufactured by Federal Signal and be model VPSL26-WKS LED 8 pod.

One (1) Roto Ray Model 200W shall be mounted on the front face of the cab. ELTBDAPCC

ZONE C: There shall be three (3) Federal Signal Model QL64XF-R flashing LED lights with red lenses and chrome bezels installed two (2) in each upper rear corners of the body and one (1) in the center of the body.

ZONE B&D: There shall be four (4) Federal Signal Model QL64XF-R flashing LED lights with red lenses and chrome bezels installed two (2) each side of the body in the upper rear corners.

LOWER LED WARNING LIGHTING

ZONES B&D: There shall be four (4) Whelen Model 50R02ZCR 2"x5" flashing red linear Super-LED lights with clear lenses and chrome bezels installed two (2) on each side of the apparatus in addition to the chassis provided.

ZONE C: There shall be two (2) Whelen Model 60R02FCR 4"x6" flashing red linear Super-LED lights with clear lenses and chrome bezels installed on the rear of the body.

LOWER ZONES B&D CAST ALUMINUM LIGHT HOUSING

A cast aluminum light housing shall be used for the rearmost warning light in zones B&D to ensure the light is mounted as far rearward as possible.

REAR DIRECTIONAL LIGHTS

There shall be a Smart Arrow Messenger or approved equivalent furnished and mounted on the rear of the apparatus. The messenger shall be mounted above the rear center compartment area so as to be readily visible by approaching traffic.

The messenger shall be 35.25" long and shall display text and symbols on a 30", high intensity Led display. The messenger shall be capable of storing 128 predetermined messages with up to 512 characters per message. The messenger shall be manufactured by Whelen and be model # MGM02C0A. ELTBDAPCC

The directional light bar shall be recess mounted in the rear of the body above the rear center door.

12 VOLT RECESSED SCENE LIGHTS

There shall be four (4) Whelen 810 Series scene lights installed on the apparatus as specified below. The lights shall be 12 volt and have 8 to 32 degree optics. The lights shall be model 810CA0ZR.

Two scene lights shall be located on the side of the body, one (1) each side. Two scene lights shall be located on the rear of the body, one (1) each side. The OS, DS and Rear lights shall be activated by separate switches on the rocker switch panel.

ONAN 10k QUIET DIESELGENERATOR

There shall be one (1) 10,000 watt 110/220 volt electric start quiet diesel generator

KEY LARGO FIRE PUMPER

with automatic idle furnished with the apparatus.

Two electric start panels shall be provided. Each shall contain an on/off switch, preheat and starter.

One electric start panel shall be mounted on the center console of the drivers compartment and the other panel shall be located in the L1 compartment.
ELTBDAPCC

GENERATOR MOUNTING

The generator shall be mounted above the officer side of the pump in the most forward area. ELTBDAPCC

LOAD CENTER

There shall be a Circle D electrical load center furnished and installed in a protected environment. The load center shall have provisions for ten (10) 20 amp manual reset type circuit breakers.

Two circuits shall be allocated for 240v 30amp circuits.

All circuits shall be clearly identified with a permanent plastic engraved tag.

The load center shall be located on the driver's side in the forward upper compartment.

TELESCOPING LIGHTS (3)

There shall be three (3) Fire Research Focus side mounted, top raise telescoping scene lights installed on the apparatus as specified below. The light pole shall have a friction type lock to hold the pole in the extended position. .

A mirrored stainless steel protector shall be installed behind each light head to protect the surface behind the lights from being scratched.

Two (2) permanently mounted FCA542-M15 lights 240 volt 1500 watt lights shall be installed on the rear face of the cab and plugged into an appropriate body receptacle.

One (1) removable FCA642-M10 120 volt 1000 watt tripod light shall be mounted on the rear face of the body and plugged into an appropriate body receptacle.

ELTBDAPCC

ELECTRICAL OUTLETS

Electric outlets wired to the load center and clearly marked with a permanent tag shall be installed in the following locations:

Two (2) 120v 20amp outlets shall be installed, one on each side of the rear face of the body.

Two(2) 120v 20 amp outlet shall be installed, one on each side of the body.

Two (2) 240v 30 amp outlet shall be installed, one on each side of the rear face of the cab.

ELTBDAPCC

ELECTRICAL CORD REELS

There shall be two (2) Hannay ECR-1618-17-18 series electric rewind cord reel furnished and installed on the apparatus. ELTBDAPCC

A push button switch to activate the rewind shall be located next to the reel.

There shall be a four way roller assembly mounted on the reel to guide the cord on and off of the spool. There shall also be a cord stop supplied. The reel shall come equipped with 200 feet of yellow 10-3 electrical cord.

The cord shall be hardwired to a Circle D remote power distribution box with (4) four NEMA L5-15 single receptacles. The distribution box shall be stored in a mounting bracket when not in use. The box shall be equipped with a light to indicate when distribution box is energized.

The distribution box shall be equipped with the following receptacles:

Position 1: NEMA L5-15 R

Position 2: NEMA L5-15 R

KEY LARGO FIRE PUMPER

Position 3: NEMA L5-15 R

Position 4: NEMA L5-15 R

A cord reel shall be installed in the L1 and L3 compartments.

HURST ELECTRIC REWIND HOSE REEL

Model JL-ER Electric Rewind Hose Reel

The reel will come complete with 100ft. (30.5 m) of twin lined non-conductive hydraulic hose. The reel is to be specifically designed for its intended use.

The hose is to be rewound by electric motor and include both rewind button and solenoid. The motor shall run from a 12 volt power source and not draw more than 25 amps. The motor and drive should be enclosed within the frame.

The reel is to be a freestanding unit and not permanently attached to the power unit.

The connections to the reel are to be the same quick disconnects as on the tools with a ¼ turn locking mechanism to prevent inadvertent disconnection.

For long life and damage resistance the drum panels and frame side walls are to be made of heavy-gauge stainless steel.

The entire reel is to be no longer than 14.8 in (376 mm), wider than 14.5 in (367 mm) or higher than 18 in (457 mm).

The unit should include a 6 ft (1.8 m) jumper hose for connecting reel to power unit.

The unit should not weigh more than 58 lbs (26.3 kg)

The reel must be compliant with NFPA 1936; 2005 edition.

REFLECTIVE STRIPING

There shall be a 6" inch gold reflective "Scotch-lite" stripe with two (2) 0.25" black accent stripes applied to the outside perimeter of the chassis and apparatus.

The reflective striping shall be applied around the perimeter of the front of the apparatus in a straight line. In addition, when the stripe reaches the front area of the body, the stripe shall jog in a 'Z' pattern, then continuing around the rear of the apparatus at a slightly lower level.

There shall also be a 0.25" black accent stripe between the white and red colors on the cab. TBDAPCC

CHEVRON REFLECTIVE STRIPING

There shall be diamond grade chevron reflective striping applied to the rear of the apparatus as per NFPA 1901.

The chevron striping shall be red and yellow in color.

FUEL FILL DOOR

There shall be an aluminum fuel fill assembly located on the apparatus body accessing the chassis supplied fuel tank. The assembly shall be located in the driver's side rear behind the rear axle. There shall be a drain in the fuel fill assembly to allow over flow to drain on the back side of the apparatus body.

The fuel fill cap to be removable. There shall be a label near the fuel fill door labeled "DIESEL FUEL ONLY". The fuel fill pipe shall have a 3/8" inside diameter vent line installed from the top of the fuel tank to the fill tube.

LICENSE PLATE MOUNTING

A Cast Products, model LP0004, cast aluminum license plate bracket shall be installed on the apparatus. The bracket shall incorporate proper lighting provisions to illuminate the license plate to meet DOT requirements.

EQUIPMENT

The following equipment shall be supplied by the Apparatus Manufacturer:

KEY LARGO FIRE PUMPER

ZICO WHEEL CHOCKS

One (1) set of NFPA compliant Ziamatic folding wheel chocks model # SAC-44 shall be supplied with the apparatus

ZICO WHEEL CHOCK MOUNTING BRACKETS

One (1) set Ziamatic folding wheel chock underbody horizontal mounts model # SAC-44-H shall be furnished and installed on the apparatus under the body in front of the rear wheels.

GROUND LADDERS

One (1) Duo-Safety 24' two (2) section aluminum extension ladder model 900A

One (1) Duo-Safety 14' aluminum roof ladder with folding hooks, model 77

One (1) Duo-Safety 10' folding aluminum attic ladder model 585A

PIKE POLES

One (1) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

WATER PUMP

MIDSHIP PUMP

The pump shall have a capacity of 1500 gallons per minute, measured in U.S. gallons and be compatible with pumping saltwater.

The pump shall be a Waterous model CSUC10, single stage midship pump. Impeller shall be bronze with double suction inlets, accurately balanced (mechanically and hydraulically), of mixed flow design with reverse-flow, labyrinth type, wear rings that resist water bypass and loss of efficiency due to wear. The impeller shall have flame plated hub to assure maximum pump life and efficiency despite the presence of abrasive particles, such as fine sand, in the water being pumped. The wear rings shall be bronze and easily replaceable to restore original pump efficiency and eliminate the need for replacing the entire pump casing due to wear.

The entire pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. A certificate documenting this test shall be furnished with the completed apparatus. The pump shall be fully tested at the pump manufacturer's factory to the performance requirements as outlined by the latest NFPA 1901. Pump shall be free from objectionable pulsation and vibration.

The pump shall be the Class "A" type and shall deliver the percentage of rated discharge 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.

PUMP ENGAGEMENT CONTROL

The pump shall be engaged by a switch that is within easy reach of the driver in his/her seated position. The function and arraignment of this switch shall be accordance with latest NFPA 1901 standard.

MASTER DRAIN VALVE

There shall be a manifold type drain valve installed in the pump compartment.

The drain valve shall be controlled on the right side lower pump house sill.

The clearly marked control shall be a hand wheel knob and marked "open" and "closed".

PUMP SEALS

KEY LARGO FIRE PUMPER

The pump shall be equipped with self adjusting, maintenance free mechanical shaft seals that shall not require manual adjustment. These seals shall be designed in a manor that they will remain functional enough to permit continued use of the pump in the unlikely event of a seal failure.

PRIMING SYSTEM

The priming system shall include an electrically driven rotary vane priming pump rigidly attached to the pump transmission. The priming pump shall be self lubricating and shall not require an external oil reservoir. The pump, when dry, shall be capable of taking suction and discharging water in accordance with NFPA 1901

PRIMER CONTROL

There shall be a pull handle to simultaneously actuate the primer control valve and the primer motor located on the driver's side pump panel.

STAINLESS STEEL PLUMBING

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

All piping components and valving shall be non-painted. All piping welds shall be wire brushed and cleaned for inspection and appearance.

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

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

INTAKES

STEAMER INLETS 6"

There shall be two (2) 6" inlets furnished, one on either side of the pump. The inlets shall not protrude less than 2" away from the side panels and shall each have 6" NST threads and a removable strainer. **No caps are required.**

DRIVER'S SIDE SUCTION 2 1/2"

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

The suction shall be plumbed with a 2 1/2" ball valve with a stainless steel ball.

The suction shall be controlled with a lever directly attached to the valve.

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

The suction shall terminate with a heavily chrome plated brass 2 1/2" NST swivel female adapter with screen. In addition, a 2 1/2" NST male plug shall

KEY LARGO FIRE PUMPER

be included secured by a chain or cable to the inlet termination location.

DISCHARGES

FRONT BUMPER DISCHARGE 1 1/2"

One (1) front bumper discharge shall be provided. The discharge shall utilize a 1 1/2" ball valve with a stainless steel ball.

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

A 2 1/2" liquid filled gauge shall be supplied on the pump panel for discharge pressure reading.

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

The discharge shall terminate with a chrome elbow

The front bumper discharge shall be mounted on top of the gravel shield of the front bumper extension. The discharge shall be placed to the right of the hose well. Exact location to be determined at the preconstruction conference.

MASTER DISCHARGE 3"

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

The gated discharge outlet shall utilize an Akron Brass 3" 8000 series slocloz or equivalent swing-out valve with a stainless steel ball.

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

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

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

A 2 1/2" liquid filled gauge shall be supplied for discharge pressure reading.

CROSSLAYS 1 3/4"

The crosslay hose beds shall be located in the upper portion of the pump compartment. The crosslay shall be constructed with a fifteen (15) inch approximate depth for laying a double stack of each hose size specified below. Removable slotted aluminum flooring shall be provided for hose area drainage. Stainless steel scuff plates shall be installed at the bottom and at the vertical edges of the crosslay opening. Chicksan swivels shall be installed just below the floor of each crosslay bed just high enough for hose couplings to be accessed and tightened on to chicksan swivel. Chicksan swivels shall swing from left to right to allow attached hose to be deployed from either side.

Two (2) crosslays shall be provided for up to 200 feet of 1 3/4" hose.

Each discharge shall utilize an Akron Brass 2" 8000 series swing-out valve with a stainless steel ball.

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

Each 1 3/4" discharge shall be plumbed with 2" high pressure vapor hose and stainless steel couplings and/or stainless steel piping. The plumbing shall be drained with an manually operated drains located at the lowest point of the waterway system.

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

A 2 1/2" liquid filled gauge shall be supplied for discharge pressure reading.

CROSSLAY 2 1/2"

The 2 1/2" crosslay hose bed shall be located in the upper portion of the pump compartment just aft of the 1 3/4" crosslays. The crosslay shall be constructed with a fifteen (15) inch approximate depth for laying a double stack of each hose size specified below. Removable slotted aluminum flooring shall be

KEY LARGO FIRE PUMPER

provided for hose area drainage. Stainless steel scuff plates shall be installed at the bottom and at the vertical edges of the crosslay opening. Chicksan swivels shall be installed just below the floor of the crosslay bed just high enough for hose couplings to be accessed and tightened on to chicksan swivel. Chicksan swivels shall swing from left to right to allow attached hose to be deployed from either side.

The crosslay shall be provided for up to 200 feet of 2 1/2" hose.

The discharge shall utilize an Akron Brass 3" 8000 series swing-out valve with a stainless steel ball.

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

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

A 2 1/2" liquid filled gauge shall be supplied for discharge pressure reading.

CROSSLAY TRIM

Brushed stainless steel trim shall be installed at the openings on each side of the crosslay hose bed area. The trim shall reduce the chaffing of the hose jacket on the edges of the bay area.

CROSSLAY COVER

The crosslay hose bed area shall have a forward hinged 1/8" embossed aluminum tread plate cover. The cover shall be installed to provide a solid surface over all bays and have a mechanical butterfly latched holding the cover in the closed position. When opened, the tread plate cover shall rest upon rubber bumpers or an equivalent type protective to eliminate marring or scratching of other apparatus body work.

DRIVER SIDE DISCHARGE 2 1/2"

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

The discharges shall utilize a quarter-turn ball valve with a stainless steel ball.

The discharges shall be controlled from the side operator's panel.

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

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

A 2 1/2" liquid filled gauge shall be supplied for discharge pressure reading.

REAR DISCHARGE 2 1/2"

There shall be one (1) gated discharge installed on the drivers side rear of the apparatus body.

The discharges shall utilize a quarter-turn ball valve with a stainless steel ball.

The discharges shall be controlled from the side operator's panel.

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

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

A 2 1/2" liquid filled gauge shall be supplied for discharge pressure reading.

DELUGE PLUMBING

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

The gated discharge outlet furnished shall utilize an Akron Brass 3" 8000 series slocloz swing-out valve or equivalent with a stainless steel ball.

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

The deluge shall be plumbed with 4" piping that terminates 3" above the top of

KEY LARGO FIRE PUMPER

the pump compartment unless otherwise specified or required by a specific deck gun selection as noted. The plumbing shall be drained with an auto-drain located at the lowest point of the waterway system if required.

The monitor pipe will be capped with a stainless steel cap to allow for future installation of deck gun.

A 2 1/2" liquid filled gauge shall be supplied for discharge pressure reading. The deluge pipe shall be located up through the pump compartment, centered from left to right. ELTBDAPCC

TANK TO PUMP LINE

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

One (1) Akron Brass 3" swing-out valve with a stainless steel ball shall be installed.

TANK TO PUMP CHECK VALVE

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

TANK FILL LINE

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

One (1) Akron Brass 2" swing-out valve with a stainless steel ball shall be installed.

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

FOAM SYSTEM

FOAMPRO 2002

There shall be a fully automatic electronic direct injection foam proportioning system furnished and installed on the apparatus. The proportioning operation shall be based on an accurate direct measurement of water flows by a paddle wheel flow meter with no water flow restriction. The foam system shall have a 12 volt, 3/4 horsepower "TENV" electric motor, designed for high humidity environments, coupled to a positive displacement piston type foam concentrate pump. It shall have a rated capacity of .01 to 5.0 GPM with operating pressures up to 400 psi. The system shall be model FoamPro 2002, manufactured by the Hypro Corporation installed in accordance with the manufacturers recommendations.

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

- Activate the foam system
- Change foam concentrate proportioning rates from .1% to 6% in .1% increments.
- Display current flow in GPM
- Display total flow in GPM
- Display total amounts of foam concentrates used
- Provide simulated flow for manual operation
- Perform setup and diagnostic functions

The system shall be supplied by either foam tank, with a manual selector valve

KEY LARGO FIRE PUMPER

provided to switch between them. As the valve is switched from one tank to the other, a clean water flush of the foam concentrate pump shall occur to prevent concentrate mixing and possible jelling. The system shall default to preset percentages for each tank, automatically read which tank is selected as well as provide flow readouts for each. As the selected foam tank runs low, the display shall flash a "low concentrate" warning for two minutes. In the event that no additional concentrate is added to the tank, the foam concentrate pump shall be deactivated. The foam and flush inlets of the manual valve shall have check valves to prevent any back flow.

FOAM TANKS

There shall be two (2) foam tanks, one 10 gallon and the other 50 gallon, furnished and plumbed with non-corrosive piping to the foam system. There shall be a square fill tower with a hinged lid equipped with a hold down device for each tank. The fill tower shall be approximately 10" x 10". A label that reads "Foam Tank Fill" and also indicates what class of foam, shall be placed on each foam tank fill tower lid.

The foam tanks shall be integral with the booster water tank provided.

There shall be a 1" quarter turn drain valve furnished for individual drainage of the foam tanks. The valves shall be installed in the pump house and the drain lines. The lines shall be labeled to match the foam tanks.

The system shall supply four (4) discharges as follows:

Front Bumper Line
Front Crosslay (1.5)
Rear Crosslay (2.5)
Rear (2.5)

FOAM GUAGES

A Fire Research Tank Vision LED foam tank level indicator for each foam tank shall be installed on the pump operator instrument panel. The gauges shall provide the pump operator with an accurate reading of the foam tank levels. A beveled lens shall be incorporated into the indicator that protrudes from the module to allow viewing of the water tank level by personnel when not standing directly in front of the display. ELTBDA PCC

PUMP COMPARTMENT

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

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

AIR CHUCK OUTLET

There shall be a quick disconnect air chuck outlet furnished and installed on the apparatus. The air chuck outlet shall end with a female outlet and be plumbed to the chassis air system. It shall have an on/off valve and label on the driver's side lower pump compartment sill.

TORSION PUMP MODULE MOUNTING SYSTEM

The entire pump module assembly shall be mounted so that it "floats" above the chassis frame rails with vibration and torsion isolator assemblies. The body substructure shall be mounted above the frame to allow independent flexing to occur between the body and the chassis. Each assembly shall be mounted to

KEY LARGO FIRE PUMPER

the chassis frame rails with steel, gusseted mounting brackets. Each bracket shall be powder coated for corrosion resistance. Each body mount bracket shall be mounted to the side chassis frame flange with two 5/8"-UNC Grade 5 HHCS.

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

There shall be no welding to the chassis frame rail sides, web or flanges, or drilling of holes in the top or bottom frame flanges between axles. All body to chassis connections shall be bolted so that in the event of an accident, the body shall be easily removable from the truck chassis for repair or replacement. Because of the constant vibration and twisting action that occurs in chassis frame rails and suspension, the torsion mounting system is required to minimize the possibility of premature body structural failures. NO EXCEPTIONS.

PUMP OPERATORS PANEL

The pump operator's panel shall be located on the driver's side of the apparatus pump compartment. The panel shall be split into an upper and lower section. The left upper panel shall house all gauges and controls and be hinged to allow easy access to those components. The door shall have a stainless steel hinge, a dual point chrome push button latch and a rubber seal provided to prevent excessive moisture from entering or leaving the pump house.

Valve controls shall be immediately adjacent to its respective gauge. The valve controls shall be properly labeled and color coded for ease of use. All markings shall be permanent in nature.

Adequate illumination shall be provided for all gauges and controls by means of a 3/16" embossed tread plate light shield with three (3) Weldon 2030 lights on the left side above the gauge panel or an adequate amount of lights space permitting. The officer side pump compartment shall have 3/16" embossed tread plate light shield installed with four (4) Weldon 2030 lights to illuminate the plumbing components.

There shall be a switch located on the pump panel to turn two (2) of the pump panel lights and the right side lights on or off. This switch shall also activate any area step lighting. The third light on the pump panel shall illuminate when the pump is engaged and it is "OK TO PUMP".

PUMP COMPARTMENT SERVICE ACCESS

The front portion of the pump compartment structure (directly behind the chassis cab) shall not be overlaid to provide an opening for access to the midship fire pump.

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

The width of the pump compartment (front to back) shall be 44".

APPARATUS LABELING

The apparatus shall be descriptively tagged with color coded metal labels. The labels shall be applied near Apparatus features that require a user function description.

Wherever necessary, the labels shall be color coded to differentiate controls

KEY LARGO FIRE PUMPER

and their respective functions to simplify and clarify complex configurations.

BEZELS FOR DISCHARGE GAUGES

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

BRUSHED STAINLESS STEEL SIDE PANELS

The tubular structure shall be overlaid on each side of the pump compartment underneath the access panels and each shall be made of brushed stainless steel. There shall be two (2) side pump panels on each side of the pump compartment, one upper and one lower. The left, upper side panel shall be the pump operator's panel.

The operator's panel shall be hinged across the bottom and drop down with a cable hold open device, closing against a door seal. The right side upper shall be vertically hinged at the rear closing against a door seal and shall open first. The left side lower panel shall be attached with mechanical fasteners and be easily removable for pump access. The right side lower vertically hinged at the rear closing against a door seal.

All panels shall be made from heavy duty brushed stainless steel, capable of withstanding the effects of extreme weather and temperature.

RUNNING BOARDS

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

MASTER GAUGES

Both master intake and master discharge gauges shall be manufactured by No Shok or equivalent and located on the operator's panel. The gauges shall have a brass case and have an orange pointer tip for increased visibility. The gauges shall have a white face plate with black numbers. Both master gauges shall be 4" in diameter. The master intake gauge shall read from - 30 to 400 psi with the master discharge gauge reading from 0 to 400 psi.

TESTING PORTS

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

CONTROL XT PRESSURE GOVERNOR AND MONITORING DISPLAY

Fire Research Control XT or equivalent pressure governor and monitoring display kit shall be installed. The kit shall include a control panel, pump intake pressure sensor, pump discharge pressure sensor, water tank pressure sensor, buzzer, and cables. The control panel case shall be waterproof and have dimensions not to exceed 9" high by 15" wide by 3 3/4" deep.

The engine throttle control knob shall be 2" in diameter with a serrated grip, have a red idle push button in the center, and no mechanical stops. Inputs for engine information shall be from a J1939 data bus.

The engine RPM shall be set to idle when the pump engaged interlock signal is recognized regardless of the throttle control knob position. Optical technology shall be used to detect the direction and speed that the control knob is rotated for RPM control.

The following continuous displays shall be provided:

Pump Intake; shown with four daylight bright LED digits more than 1/2" high

Pump Discharge; shown with four daylight bright LED digits more than

KEY LARGO FIRE PUMPER

1/2"high

Engine RPM; shown with four daylight bright LED digits more than 1/2" high

Engine Coolant Temperature; shown on an LED bar graph display

Engine Oil Pressure; shown on an LED bar graph display

Battery Voltage; shown on an LED bar graph display

Transmission Temperature; shown on an LED bar graph display

Water Tank Volume; shown on a super bright LED display

Message Display; two line dot-matrix

Clock Display with AM and PM LEDs

The LED indicators shall be provided:

Check and Stop Engine

Control Mode; PSI and RPM

Throttle Ready

Pump Overheat

The following auxiliary controls shall be provided on the panel:

Pump Panel Light Switch

Pump Push to Prime Button

Inputs to the control panel from the pump intake and pump discharge pressure sensors shall be electrical. The intake pressure display shall show pressures from -30 in. Hg to 600 psi. The discharge pressure display shall show pressures from 0 to 600 psi.

The water tank indicator shall show the volume of water in the tank on nine (9) easy to see super bright LED's. A wide view lens over the LED's shall provide for a viewing angle of 180 degrees. Low water warnings shall include flashing LED's at ¼ tank, down chasing LED's when the tank is almost empty and an audio alarm. The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall place on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

A dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator.

There shall be two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between pressure and RPM modes.

When the pump engaged interlock signal is recognized a THROTTLE READY LED will light to indicate throttle ready and the governor shall be in pressure mode with the engine RPM set to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode, the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi.

The program features shall be accessed via push buttons located on the front of the control panel. It shall allow for the display of detailed information of monitored parameters including accumulated pump and engine hours. The program shall store fault codes with a date and time stamp, control calibration and self-diagnostic capabilities, and be updatable via a USB port. Safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle. The program shall monitor inputs and support audible and visual warning alarms for the following conditions:

High Transmission Temperature

Low Oil Pressure

High Engine Coolant Temperature

Out of Water

Engine Not Responding

KEY LARGO FIRE PUMPER

Pump Overheat

SUCTION RELIEF VALVE

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

HEAT EXCHANGER

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

AIR HORN BUTTON

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

PUMP COMPARTMENT TOP OVERLAY

The top of the pump compartment shall be an approved stepping surface constructed of 1/8" embossed tread plate approved by the latest NFPA standards for abrasiveness.

This space intentionally left blank

KEY LARGO FIRE PUMPER

BOOMER

GENERAL INFORMATION

A multipurpose boom structure shall be provided to enhance fire fighting operations.

It shall consist of a support pedestal, rotating turret and boom assembly. The boom assembly shall be a one (1) piece extruded aluminum boom capable of elevating and rotation, with an integral pre-piped 1 waterway.

INTENT OF BOOM SPECIFICATIONS

The intent of these specifications is to describe an elevating boom. The height of the unit shall be 28 feet.

It is the intent of the purchaser that the device must meet all the requirements of the National Fire Protection Association's (NFPA) 1901 standard, 2009 edition.

DESIGN STANDARDS

The design of the unit shall be to create a structure and system that emphasizes safety, product reliability, and ease of operation. All structural load supporting elements of the boom that are made of a ductile material, shall have a design stress of not more than 50% of the minimum yield strength of the material based on the combination of the rated load and the dead load. The boom shall be capable of operating with a rated load in either high wind of up to 50 mph or icing, up to a coating of .25" over the entire boom structure.

Welding shall be performed by welders that have been certified in accordance with the American Welding Society specifications.

MATERIAL STANDARD

All structural materials used in the boom shall be certified by the mill of the manufactured material. Materials that are not certified shall not be acceptable.

BOOM MOUNTING

The boom shall be midship mounted.

HEIGHT AND REACH

The height of the unit shall be a minimum of 28'.

HYDRAULIC SYSTEM

The hydraulic system shall provide power to the entire boom device as efficiently as possible without the use of a hydraulic cooler.

A hydraulic pump shall be provided which shall be capable of operating under any rated load condition and boom device position at normal engine idle or governor controlled fast idle. The hydraulic pump shall be capable of generating sufficient flows to allow multiple boom functions.

A hydraulic system relief valve shall be provided to prevent damage to any function or circuit. The relief valve shall have a relief spring to ensure proper function and product reliability.

POWER TAKE-OFF (PTO) 12 VOLT SWITCH

The apparatus shall be equipped with a power shift PTO driven by the chassis transmission. An indicator light shall be located in the cab next to the PTO/12V master power switch to show when the PTO is engaged. The PTO shall only engage with the parking brake applied and the transmission in neutral. The PTO shall be a heavy-duty pressure lubricated and cooled unit for extended operations.

BOOM HOUR METER

A boom hour meter shall be installed in the cab adjacent to the boom power

KEY LARGO FIRE PUMPER

and PTO control switch. The hour meter shall be wired to the boom PTO circuit to record hours of operation for the boom. The hour meter shall aid in scheduling preventative maintenance as outlined in the operator's manual.

ENGINE HIGH IDLE ACTUATOR

The high idle actuator shall be used to raise the engine RPM to a preset level for proper boom operation.

For the safety of personnel and equipment, the high idle system shall not activate unless the transmission is in neutral

HYDRAULIC OIL RESERVOIR

A properly sized hydraulic oil reservoir shall be provided to supply the needs of the hydraulic system. A gated suction line shall be provided between the oil reservoir and the hydraulic pump. The tank fill shall be provided with a strainer screen and vent cap and a dipstick for checking fluid levels. The tank shall be constructed from 10 gauge steel, which shall be welded at all interior and exterior seams.

HYDRAULIC SYSTEM FILTRATION

Both outgoing and return line filtration with a rating of 10 microns shall be provided.

Both the pressure and return filters shall be easily accessible for maintenance.

EMERGENCY HYDRAULIC PUMP SYSTEM

In the event of failure of the main hydraulic pump or vehicle engine, the unit shall be equipped with an emergency hydraulic pump, which shall be plumbed into the hydraulic system and be electrically driven from the chassis batteries. The emergency pump shall be capable of stowing the unit.

The emergency pump shall have a separate hydraulic oil supply line, attached directly to the hydraulic oil reservoir. A shutoff valve shall be provided and check valves shall be incorporated on the pressure side the pump.

HYDRAULIC HOSE, TUBING AND FITTINGS

All hydraulic steel tubing, hydraulic rubber covered wire-braided hoses, and hydraulic fittings/adapters shall have a minimum burst pressure rating of four times the operating pressure. Hoses and tubing shall be properly sized to minimize heat build up during extended periods of operation. Hoses and tubing shall be properly sized to minimize flow restrictions.

LIFT AND ROTATION HYDRAULIC CONTROL VALVE

The lift and rotation systems shall be controlled by a proportional, directional control valve. The main control valve shall be positioned to access manual controls in emergency conditions.

HYDRAULIC, ELECTRIC AND WATER SWIVEL

Hydraulic power to the boom hydraulic circuits shall be provided through a multiport, high pressure, hydraulic swivel that permits 360-degrees of continuous turret rotation. The hydraulic swivel shall be rated for 10,500 psi for use with rescue tools.

A collector ring assembly shall provide electrical power to the turret 12 volt and 110/220 volt electric circuits.

Water shall be transferred to the boom waterway by means of a three and one half (3 1/2") inch water swivel enabling 360-degree continuous rotation of the turret.

SUPPORT PEDESTAL

A heavy-duty rest shall be provided to support the boom in the travel position. A bedding plate shall be attached to the boom for protection when the unit is in the travel position. A support structure shall be provided to support the

KEY LARGO FIRE PUMPER

turret and transfer the boom loads to the frame.

ELEVATION SYSTEM

A double acting lift cylinder shall be attached between the turret and the boom. It shall provide smooth precise elevation from **10 degrees** below horizontal to **90 degrees** above horizontal. The lift cylinder shall be equipped with integral (on the cylinder) holding valves, which prevent the boom from lowering should a hydraulic line be ruptured at any point within the hydraulic system.

TURRET ROTATION AND DRIVE SYSTEM

A fully enclosed ball bearing and rotation drive system shall be provided for smooth 360 degree continuous rotation. The drive shall be a large contact area, high torque worm drive system with an integrated brake for smooth and precise rotation. This system shall connect the rotating turret with the pedestal attached to the frame.

BOOM CONSTRUCTION

The boom shall consist of a single piece aluminum extruded tube providing a central waterway path and four protective conduit pathways.

BOOM WATER SYSTEM

The boom waterway system shall be capable of being supplied by both a midship mounted fire pump and an external water source.

All piping from the pump to the turret swivel shall be 4" stainless steel. A 2-1/2" relief valve preset at 175 psi shall be located beneath the turret to protect the water system from excessive pressures.

A 4" heel pin swivel connection shall be provided between the boom waterway and the turret swivel to permit water tower operations from -10 to +90 degrees shall be provided.

HYDRAULICALLY CONTROLLED MONITOR

An Akron hydraulic monitor shall be provided. The lightweight monitor shall have a waterway that will flow up to 1000 GPM.

The motor driven worm gear shall control the vertical travel of 90 degrees above and 45 degrees below horizontal.

The monitor shall capable of 360 degree rotation. The unit shall have a zerk greased fittings to lubricate all the stainless steel ball races.

An Akron nozzle shall be provided. This nozzle shall accommodate the fluctuating flows of 300 to 1000 GPM while operating at 100 PSI. The stream pattern shall be controlled by a hydraulic motor for an infinite pattern selection from straight stream to a wide full fog. There shall be a hydraulic override in case of power failure.

BOOM CAPACITIES IN POUNDS

1000 lb rated capacity in any position.

WATER TOWER OPERATION

The boom and water system shall be designed to permit 1000 GPM flow at 100 psi in any achievable position.

CONTROL STATION

There shall be a control station at the pump panel. Elevation and rotational controls shall operate from this position. These controls shall be arranged to permit the operator to regulate the speed of these operations within safe limits. Load instruction plates shall be located at the control station to show the recommended safe load of the boom. The control devices shall be clearly marked and suitably lighted.

KEY LARGO FIRE PUMPER

PUMP PANEL CONTROL STATION-LEFT

The pump panel control station shall be located on the left side of the truck such that the operator can easily observe the boom while operating the controls.

There shall be a wireless remote control located at the pump panel. The control shall be capable of actuating all boom, monitor and lighting functions. The controls shall be illuminated for night operations, and shall have the following controls and indicators clearly marked:

- A push button "dead man switch" that electrically enables the boom control valves shall protect against accidental movement of the control handles.
- Engine high idle control switch.
- Emergency pump power switch on the pump panel.

PAINT AND FINISH

The boom shall be natural finish aluminum.

The turret, cylinders and support structure shall be sprayed with Ditzler (PPG) Polyurethane primer sealer. Finished paint color shall be painted Ditzler (PPG) Durethane Polyurethane 2185 white.

LIFTING ANCHOR

One slotted lifting anchor shall be provided at the end of the boom with a total capacity of 1000 lbs.

MANUALS

The boom manufacturer shall provide the following manuals pertaining to the boom device:

1. Two (2) Operators manuals
2. Two (2) Parts manuals (exploded views) in a CD format
3. Two (2) Complete Electrical and Hydraulic Diagrams in a CD format

SERVICE

Due to the importance of keeping this vital piece of firefighting apparatus in service with a minimum of downtime, the manufacturer of the boom device shall maintain a network of service centers with factory-trained personnel. The service facility shall carry an inventory of parts, separate from production parts.

WARNING DECALS

Warning decals shall be provided in appropriate locations to alert the operator of potential hazards and operating instructions. All warning labels shall be in general compliance with A.N.S.I. Z34.1 recommendations.

MAINTENANCE & OPERATIONAL DEMONSTRATION PROGRAM

A program for instruction of the Fire Department personnel operation and maintenance shall be provided.

WARRANTY - BOOM DEVICE

The boom device manufacturer shall guarantee to the original purchaser to repair or replace any defective structural component resulting from faulty material or workmanship for a period of twenty (20) years after delivery of the boom device to the purchaser. The warranty shall cover the boom and support structures.

WARRANTY - BOOM DEVICE

The manufacturer of the boom device shall guarantee to the purchaser to repair or replace any defective or prematurely failed parts, resulting from faulty material or workmanship, for a period of one (1) year after delivery of the boom device to the purchaser.

The boomer pipe shall be located on the left side of the pump compartment.

KEY LARGO FIRE PUMPER

BOOMER PRE-CONNECT OUTLET(S)

Two (2) 2 1/2" preconnect outlets and a 4" butterfly valve shall be provided at the tip.

Each preconnect shall utilize an Akron Brass 2 1/2" 8000 series swing-out valve with a stainless steel ball.

Each preconnect shall be controlled with a 'swing-type' lever directly attached to the valve. The lever shall operate just over 90 degrees of travel to provide full open / full closed positioning of the valve.

TIP LIGHTS

Two (2) spotlights shall be mounted at the tip. The spotlights shall be capable of swiveling 180 degrees. The lights shall be manufactured by Collins or equivalent.

BOOM TIP QUARTZ LIGHTS

Six (6) 750 Watt quartz lights shall be installed, three (3) each side of the boom on light arms. The lighting arms shall be hydraulically powered and shall be capable of independent 360 degree rotation to provide properly directed scene lighting. The light shall be wired to the boom 120-volt circuit and shall be equipped with a separate switch.

BOOM TIP RECEPTACLE

There shall be a 110 volt L5-15R twist lock receptacle at the tip.

HYDRAULIC CONNECTIONS AT THE BOOM TIP

Hydraulic tool connections shall be located at the tip of the boom.

AIR TOOL CONNECTION AT THE BOOM TIP

One (1) quick connect fitting shall be located at the tip of the boom.

BOOMER PLUMBING

Each 4" discharge valve shall be controlled from the operator's panel with an Akron hand crank control. There shall be a mechanically driven dial type indicator to show each valve position.

The Boomer shall be plumbed from the pump to the base of the swivel. The plumbing shall be drained with an auto-drain located at the lowest point of the waterway system if required.

A 2 1/2" liquid filled gauge shall be supplied for discharge pressure reading.

KEY LARGO FIRE PUMPER

Extra page for text flow

KEY LARGO FIRE PUMPER

OPTIONS

Electronic keypad for cab doors

Padded backrests for SCBA seats

Locks for roll up doors

KEY LARGO FIRE PUMPER

BIDDER EXCEPTION SHEET

Bidder taking exceptions to any portion of this specification shall use this page to explain that exception. This page may be duplicated if additional space is necessary. Please clearly indicate page and paragraph you are explaining.

KEY LARGO FIRE PUMPER

BIDDER RECOMMENDATION SHEET

This sheet is supplied for bidders to list recommendations that may enhance this vehicle. Please explain any recommendations in detail and include costs if they are additional.