Jasper County Fire Rescue
Side Mount Pumper
Specifications and Proposal Requirements

Bidder Complies	
Yes	No

YES, NO SPEC REQUIREMENT

Each bidder must indicate his compliance with these specifications by marking "YES" or "NO" in the appropriate column for each individual paragraph of this specification.

Indicating "YES" to a paragraph shall mean full compliance; indicating "NO" shall mean an exception is being taken.

Any deviation from the specification, no matter how small, must be annotated.

All exceptions must be fully explained on a separate page, titled "Exceptions", giving reference to the page and paragraph where the exception is being taken.

Failure to comply with this requirement shall result in the bid proposal being rejected.

Jasper County Fire-Rescue shall be the sole arbiter as to what exceptions may be allowed or disallowed.

In the event a bidder fails to make any indication of compliance for any or all provisions it will be assumed that the bidder is taking total exception to the specification and the bid shall be disallowed.

BIDDER INSTRUCTIONS

Bids shall be addressed and submitted in accordance with the advertised "Bid Notice". The words "Jasper Count Fire-Rescue Side Mount Pumper Bid" the date, and the bid opening time must be stated on the face of the bid envelope. It is the bidder's responsibility to see that their proposals arrive on time. Late proposals, telegram, facsimile or telephone bids shall not be considered.

Each bid shall be accompanied by a detailed description of the apparatus and equipment it proposes to provide. It is the intent of these specifications to cover the furnishing and delivery of a complete and soundly engineered apparatus equipped as specified. Minor details of construction and materials, where not otherwise specified, are left to the discretion of the contractor, who shall be solely responsible for the design and construction of all features.

Brand names or model numbers have been specified for some items. These have been carefully selected because of their reliability and availability for replacement locally. In order to be most responsive, items named, or an item "equal to" the particular item specified by brand name or model, should be contained in the bid proposal. It is the bidder's responsibility to prove to Jasper County Fire Rescue that an item bid as "equal to" a particular specified item, is truly of equal quality, design, and function. Jasper County Fire-Rescue maintains the right to make a final decision as to the acceptability of an item bid as "equal to" a particular specified item.

No exception shall be allowed for any of the aforementioned instructions. Bids not submitted in accordance with these instructions shall be rejected.

TIMELY PROPOSALS

It is the bidder's responsibility to see that their proposals arrive on time.

Late proposals, facsimiles, telegrams, or telephone bids shall not be considered.

ADDENDA & INTERPRETATION

No interpretation of the meaning of the specifications or other contract documents shall be made to any Bidder verbally.

Bidder Complies	
Yes	No

Every request for such interpretation shall be in writing and addressed to the Purchaser and must be received at least ten days prior to the date fixed for the opening of the bids to be given consideration.

Any and all such interpretations and any supplemental instructions shall be in the form of written addenda to the specifications which, if issued, shall be mailed by certified mail to all prospective Bidders not later than five days prior to the date fixed for the opening of bids.

Failure of any Bidder to receive any such addendum or interpretation shall not relieve any Bidder from any obligation under his bid as submitted.

All addenda so issued become a part of the contract documents.

BID EVALUATION

Purchaser, Fire Chief and Purchasing Agent shall evaluate bids received. This evaluation shall be based as a minimum on the following criteria:

- Commitment for expedient delivery.
- Commitment to the general conditions contained herein, including warranty.
- Completeness of the proposal, i.e., the degree that it responds to all requirements and requests for information contained herein.
- Manufacturing and delivery schedule.
- Contractors demonstrated capabilities and qualifications.
- Equipment suppliers and/or local representatives demonstrated capabilities and qualifications.

Exceptions shall be referenced to the paragraph and page of these specifications where the item appears. Drawings, photographs, and technical information about the exception shall be included as necessary. Any exceptions may be considered during the evaluation process, and the decision shall be final.

Proposals taking total exceptions to specifications shall not be accepted.

The mention in the specifications of apparatus, equipment or material by brand name or by such specified description of same as is hereby made, is intended to convey to the bidder's understanding, the degree of excellence required. Any article, equipment, or material, which shall conform to the standards and excellence so established, and is of equal merit, strength, durability and appearance to perform the desired function, is deemed eligible for offer as a substitute. The qualifications of the offer shall be judged as to their conformance with these specifications. Any equipment offered other than herein specified shall be subject to a competitive demonstration and evaluation, shall be subject to a competitive demonstration and evaluation by Jasper County Fire-Rescue. Such demonstration to be provided on request within ten working days after the receipt of bids.

The result of that demonstration and evaluation shall be of prime importance in the recommendation to the governing body for the final contract award.

Bidder shall furnish free of charge, upon request, technical information, graphs, charts, photographs, engineering diagrams, steering geometry, drive train certifications, instruction guides, or other documentation as requested to show that the equipment offered fully complies with these specifications.

Bidder shall provide a tour of the specific manufacturing facility where the apparatus will be built for 3 Jasper County Fire-Rescue personnel prior to the awarding of bid. This must include all associated costs of travel and lodging. No exceptions.

Bidder Complies	
Yes	No

Bidder shall provide, after the award of the bid, a final pre-build meeting with full detailed specifications, measurements and scale drawings.

Bidder shall provide a mid-build and post build inspection at the manufacturing facility for 3 Jasper County Fire Rescue personnel. This must include all associated costs of travel and lodging. Punch lists will be created at these inspections and addressed prior to delivery. No exceptions.

Bidder shall be able to provide mobile/onsite maintenance, repair and diagnostic services at any/all locations within Jasper County SC. This will include but not be limited to warranty claims, annual pump testing, preventive maintenance and service.

Bidder shall be able to provide a full service warranty and repair facility within a two (2) hour apparatus drive of Jasper County SC. This shall include but not be limited to full service body, paint, electrical, mechanical and fabrication capabilities.

CONTRACT AWARD

The Purchaser reserves the right to reject any or all bids deemed to be unresponsive. The Purchaser also reserves the right to waive any informalities, irregularities and technicalities in procedure.

The Purchaser reserves the right, before awarding the contract, to require a bidder to submit evidence of his qualifications as may be deemed necessary. Documentation, which may be required, is financial soundness, technical competency, and other pertinent qualifications of a bidder, including past performance (experience) with the Purchaser.

Jasper County Fire-Rescue has the right to accept or decline the bids for any available reason that they may deem necessary.

DESIGN CLAUSE

These specifications outline the components, installation methods, and operational characteristics the manufacturer is agreeing to provide in order to meet the purchaser's requirements. Subject to the terms of the purchase agreement, other construction details not explicitly listed in these specifications will be determined at the discretion of the builder. In the event the purchaser desires a different construction or installation not already described in these specifications, additional charges may apply, and quoted lead time commitments will be adjusted.

VEHICLE TRANSPORTATION - DEALER PROVIDED

Transportation for the completed vehicle to the end user shall be provided by the sales representative.

FAIR ETHICAL & LEGAL COMPETITION

In order to ensure fair, ethical, and legal competition, neither original equipment manufacturer (OEM) nor parent company of the OEM shall have ever been fined or convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market. There will be no exceptions.

MATERIAL & WORKMANSHIP

All equipment furnished shall be guaranteed to be new and of current manufacture, to meet all requirements of these specifications.

Bidder Complies	
Yes	No

All workmanship shall be of high quality and accomplished in a professional manner so as to insure a functional apparatus with a pleasing, aesthetic appearance.

CONTRACT ADMINISTRATOR

The successful bidder shall designate a contract administrator to provide a single point interface between the purchaser and the contractor on all matters concerning the contract.

CONTINGENCY FUND

There shall be a $6,500 contingency per truck for Jasper County Fire-Rescue to make changes at either the pre-construction meeting or during the build cycle. If Jasper County Fire-Rescue does not use these contingency funds the final invoice will be lowered to meet the total amount spent.

Bidder Complies	
Yes	No

APPROVAL DRAWING

A detailed drawing of the apparatus shall be provided to the purchaser for approval before construction begins. A copy of this drawing shall also be provided to the manufacturer's representative. Upon purchaser's approval, the finalized drawing shall become a part of the total contract.

The drawing shall show, but is not limited to, such items as the chassis make and model, major components, location of lights, sirens, all compartment locations and dimensions, special suctions, discharges, etc. The drawing shall be a visual interpretation of the apparatus as it is to be supplied.

DELIVERY

Delivery of the apparatus to the customer shall remain the bidder's responsibility.

On initial delivery of the fire apparatus, a qualified and responsible representative of the contractor shall demonstrate the apparatus and provide initial instruction to representatives of the customer regarding the operation, care, and maintenance of the apparatus and equipment supplied.

VEHICLE FLUID PLATE

As required by NFPA-1901, the contractor shall affix a permanent plate in the driver's compartment specifying the quantity and type of the following fluids used in the vehicle:

A permanent plate in the driving compartment shall specify the quantity and type of the following fluids used in the vehicle:

- Engine oil
- Engine coolant
- Chassis transmission fluid
- Pump transmission lubrication fluid
- Pump primer fluid
- Drive axle(s) lubrication fluid
- Air-conditioning refrigerant
- Air-conditioning lubrication oil
- Power steering fluid
- Cab tilt mechanism
- Transfer case fluid
- Equipment rack fluid
- Air compressor system lubricant
- Generator system lubricant
- Aerial systems

EXACT BLUEPRINT WITH BID

A scale drawing of the specific apparatus being proposed shall be submitted WITH THE BID.

Bidder Complies	
Yes	No

Drawings of similar units or demo units shall not be permitted.

Bidders should be clear that this provision is requiring a SCALE drawing of the truck which is actually being bid.

The drawing shall be done at the manufacturer's facility by the manufacturer's engineering department in order to guarantee the accuracy of the drawing.

Failure to comply with this requirement shall be grounds for rejection of the bid!

Bidder Complies	
Yes	No

FAMA MEMBERSHIP

The apparatus manufacturer must be a current member of the Fire Apparatus Manufacturer's Association (FAMA).

MANUFACTURED IN UNITED STATES

The entire apparatus shall be assembled within the borders of the Continental United States to insure more readily available parts (without added costs and delays caused by tariffs and customs) and service.

AMP DRAW REPORT

The bidder shall provide with their bid proposal and at the time of delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

A written load analysis, which shall include the following:

- The rating of the alternator.
- The minimum continuous load of each component that is specified per: Applicable NFPA-1901.
- Additional loads that, when added to the minimum continuous load, determine the total connected load.
- Each individual intermittent load.

All of the above listed items shall be provided by the bidder per the applicable NFPA-1901.

COOPERATIVE PURCHASING

The Manufacturer shall be pleased to allow other public agencies to use the purchase agreement resulting from this invitation to bid unless the bidder expressly notes on the proposal form that prices are not available for tag-on.

The condition of such use by other agencies shall be that any such agency must make and pursue contact, purchase order/contract, and all contractual remedies with the successful bidder.

Such tag-ons shall be done so that the original purchasing agency has no responsibility for performance by either the manufacturer or the agency using the contract.

PRODUCTION LEVEL ELECTRICAL DRAWINGS

The manufacturer shall provide production level harness drawings for the specific unit to be built.

INSTRUCTION MANUALS - COMM CHASSIS - TWO SETS

In accordance with standard commercial practices, applicable to each vehicle (including body and special equipment) furnished under the contract, the following listed manuals and schematics, in the quantity specified, shall be provided at time of delivery of each vehicle.

The contractor shall supply at time of delivery, two (2) sets, paper copies of a complete operation and service manual covering the complete apparatus as delivered and accepted.

The manual shall contain the following:

- Descriptions, specifications, and ratings of chassis, pump (if applicable), and aerial device.

- Wiring diagrams.
- Lubrication charts.
- Operating instructions for the chassis, any major components such as a pump and any auxiliary systems.
- Instructions regarding the frequency and procedures recommended for maintenance.
- Parts replacement information.

Bidder Complies	
Yes	No

COMPLETION INFORMATION

The contractor shall supply, at the time of delivery, at least one (1) copy of the following documents.

- Owners name and address Apparatus manufacturer, model and serial number
- Chassis make, model and serial number
- Front tire size and total rated capacity in pounds
- Rear tire size and total rated capacity in pounds
- Chassis weight distribution in pounds with water and manufacturer mounted equipment, front and rear
- Engine make, model, serial number, rated horsepower, rated speed and governed speed
- Type of fuels and fuel tank capacity
- Electrical system voltage and alternator output in amps.
- Battery make, model and total capacity in cold crank amps (CCA)
- Transmission make, model, and serial number. If so equipped chassis transmission PTO(s) make, model and gear ratio
- Pump make, model, rated capacity in gallons per minute and serial number
- Pump transmission make, model, serial number and gear ratio
- Auxiliary pump make, model, rated capacity in gallons per minute and serial number
- Water tank certified capacity in gallons
- Paint manufacturer and paint number(s)
- Company name and signature of responsible company representative
- Certification of slip resistance of all stepping, standing and walking surfaces.

The pump manufacturer's certification of suction capability.

A copy of the apparatus manufacturer's approval for stationary pumping applications.

The engine manufacturers certified brake horsepower curve for the engine furnished, showing the maximum governed speed.

The pump manufacturers certification of hydrostatic test.

The third party certification of inspection and test for the fire pump.

If the apparatus has a fixed line voltage power source, the certification of the test for the fixed power source.

Weight documents from certified scale - showing actual loading on the front axle, rear axle(s) and overall vehicle (with the water tank full but without personnel, equipment and hose) shall be supplied with the complete vehicle to determine compliance with NFPA-1901.

Written load analysis and results of electrical performance tests.

The certification of water tank capacity by the tank manufacturer.

FMVSS REQUIREMENT

The chassis shall be certified by the apparatus manufacturer as conforming to all applicable Federal Motor Vehicle Safety Standards in effect at the date of contract.

This shall be attested to by the attachment of a FMVSS certification label on the vehicle by the contractor who shall be recognized as the responsible final manufacturer.

RECORDS

The successful bidder shall be responsible for preparing and maintaining a record file of parts and assemblies used to manufacture the apparatus.

These records shall be maintained in the factory of the bidder for a minimum of twenty (20) years.

File shall contain copies of any and all reported deficiencies, all replacement parts required to maintain the apparatus, and original purchase documents including specifications, contract, invoices, incomplete chassis certificates, quality control reports and final delivery acceptance documents.

Jasper County Fire-Rescue shall have access to any and all documents contained in this file upon official written request.

GENERAL CONSTRUCTION

The complete apparatus, assemblies, subassemblies, component parts, etc., shall be designed and constructed with the due consideration to the nature and distribution of the load to be sustained and to the general character of the service to which the apparatus is to be subject.

All parts of the apparatus shall be designed with a factor of safety, which is equal to or greater than that which is considered standard and acceptable for this class of equipment in firefighting service.

All parts of the apparatus shall be strong enough to withstand general service under full load.

The apparatus shall be so designed that the various parts and readily accessible for lubrication, inspection, adjustment and repair.

Bidder's specifications must meet the minimum requirements of N.F.P.A. Pamphlet #1901 and all State and Federal Department of Transportation vehicle regulations at time of sale of unit.

The apparatus shall be designed and constructed, and the equipment so mounted, with due consideration to distribution of the load between front and rear axles that all specified equipment, including a full complement of specified ground ladders, full water tank, loose equipment, and firefighters shall be carried without overloading or injuring the apparatus.

PRODUCT LIABILITY

Each bidder shall supply proof of product liability and facility insurance equal to or exceeding $30,000,000.00.

This shall be provided as part of the proposal. There will be no exceptions.

PAINT CERTIFICATION

The finish paint shall be certified by the apparatus manufacturer as conforming to all applicable Commercial Vehicle Paint Standards in effect at the date of contract.

This shall be attested to by the attachment of a certification.

PRICES & PAYMENTS

The bid price will be F.O.B. Destination, on a delivered and accepted basis at Jasper County FireRescue. Total price on the manufacturer proposal sheet will include all items listed in these specifications.
The proposal price has computed pricing less federal and state taxes. It is understood that any applicable taxes will be added to the proposed prices, unless the purchaser furnishes appropriate taxexempt forms.

NFPA CERTIFICATION

The proposed apparatus will be constructed to withstand the severe and continuous use encountered during emergency firefighting services.

The apparatus will be of the latest type, carefully designed and constructed with due consideration to the nature and distribution of the load to be sustained.

This proposal details the general design criteria of cab and chassis components, aerial device (if applicable), fire pump and related components (if applicable), water tank (if applicable), fire body, electrical components, painting, and equipment.

All items of these proposal specifications will conform to the fullest extent possible with the National Fire Protection Association Pamphlet No. 1901, latest edition, except as noted in the Statement-ofExceptions.

The manufacturer will furnish satisfactory evidence of our ability to construct, supply service parts and technical assistance for the apparatus specified.

GENERAL INFORMATION - NFPA 1901

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NFPA TREADPLATE CERTIFICATION

All stepping, standing, and walking surfaces on the body shall meet NFPA #1901 anti-slip standards.

Aluminum tread plate utilized for stepping, standing, and walking surfaces shall be NFPA embossed compliant.

Upon request by the purchaser, the manufacturer shall supply proof of compliance with this requirement.

VERTICAL TREAD PLATE - NON-EMBOSSED

The following vertical surfaces on the vehicle (if applicable) shall have non-embossed tread plate:

To include but not limited to:
- Rear of cab overlay
- Rear body overlay
- Front of body overlay
- Front pump house panel
- Custom cab step well
- Fender overlay
- Fender compartment doors
- Interior cab trim
- Upper body walkway walls

"PUMPER FIRE APPARATUS" NFPA 2016 CHAPTERS

The unit shall be designed to conform fully to the "Pumper Fire Apparatus" requirements as stated in the NFPA 1901 Standard (2016 Revision), which shall include the following required chapters as stated in this revision:

- Chapter 1 Administration
- Chapter 2 Referenced Publications
- Chapter 3 Definitions
- Chapter 4 General Requirements
- Chapter 5 Pumper Fire Apparatus
- Chapter 12 Chassis and Vehicle Components
- Chapter 13 Low Voltage Electrical Systems and Warning Devices
- Chapter 14 Driving and Crew Areas
- Chapter 15 Body, Compartments and Equipment Mounting
- Chapter 16 Fire Pumps and Associated Equipment
- Chapter 18 Water Tanks

NFPA "CHAPTER 20" FOAM SYSTEM REQUIREMENTS

Chapter 20 Foam Proportioning Systems

SAFETY SIGNS (NFPA REQUIRED)

Safety sign(s) shall be located on the vehicle at the rear step, and at any cross walkway(s), to warn personnel that riding in or on these areas while the vehicle is in motion is prohibited.

THIRD PARTY TESTING

If required by the specific chapters of NFPA-1901, the proposed unit shall be tested and certified by independent third-party inspectors.

All test work for fire pumps outlined in NFPA 1901, Edition shall be conducted.

The third-party inspectors shall provide the manufacturer with a complete written examination and test report for each inspection performed at the manufacturer's facility.

This report specifies the points of inspection and results of such examinations and tests.

The inspectors performing the test work on the units are certified to Level II in the required NDT methods, under the requirements outlined in ASNT document CP-189.

The actual person(s) performing the inspection shall present for review proof of Level II Certification in the required NDT methods.

The apparatus manufacturer shall designate, in writing, who is qualified to witness and certify these test results.

Prior to submittal to the automotive fire apparatus manufacturer, the final Report shall be reviewed by the Supervisor of Fire Equipment Services and a Registered Professional Engineer, both of whom are directly involved with the aerial device certification program.

When the unit successfully meets all the requirements outlined in NFPA 1901, current edition, the third party inspector shall issue a Certificate of Automotive Fire Apparatus Examination and Test stating the unit's compliance with NFPA- 1901.

MAXIMUM VEHICLE DIMENSIONS

Overall Length – 32’ 6”
Overall Width - 10’ 6”
Body Width – 100"
Overall Hight not to exceed - 9’ 10” empty
Rear axle center to tailboard rear – 94" Max.
Wheel Base - 195”

TREAD PLATE OVERLAY ON CAB ROOF

The cab roof shall include 3003-H22 bright aluminum embossed tread plate which is 0.08 inches thick. The tread plate shall be held in place using stainless steel fasteners and shall be sealed with silver silicone caulk around the perimeter of the tread plate and at each mounting screw.

CHASSIS

The cab and chassis shall include design considerations for multiple emergency vehicle applications, rapid transit and maneuverability. The chassis shall be manufactured for heavy duty service with the strength and capacity to support a fully laden apparatus, one hundred (100) percent of the time.

MODEL YEAR

The chassis shall have a vehicle identification number that reflects a 2023 model year or newer.

CAB AND CHASSIS LABELING LANGUAGE

The cab and chassis shall include the applicable caution, warning, and safety notice labels with text to be written in English.

APPARATUS TYPE

The apparatus shall be a pumper vehicle designed for emergency service use which shall be equipped with a permanently mounted fire pump which has a minimum rated capacity of 750 gallons per minute (3000 L/min). The apparatus shall include a water tank and hose body whose primary purpose is to combat structural and associated fires.

VEHICLE TYPE

The chassis shall be manufactured for use as a straight truck type vehicle and designed for the installation of a permanently mounted apparatus behind the cab. The apparatus of the vehicle shall be supplied and installed by the apparatus manufacturer.

VEHICLE ANGLE OF APPROACH PACKAGE

The angle of approach of the apparatus shall be a minimum of 8.00 degrees. Per NFPA 1901 Definition.

AXLE CONFIGURATION

The chassis shall feature a 4 x 2 axle configuration consisting of a single rear drive axle with a single front steer axle.

GROSS AXLE WEIGHT RATINGS FRONT

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

This front gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

GROSS AXLE WEIGHT RATINGS REAR

The rear gross axle weight rating (GAWR) of the chassis shall be 27,000 pounds.

This rear gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

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. Chassis driveline pump provisions shall include an interlock feature for automatic setting of the park brake when the vehicle is shifted into pump mode while the transmission is in neutral, and the transmission output speed translates to less than 1 mph. When the conditions are met the driver side parking brake valve shall activate. Once shifted to road mode the condition for electric automatic brake engagement is no longer present and the driver's parking brake control valve shall function normally.

WATER & FOAM TANK CAPACITY

The chassis shall include a carrying capacity of 900 gallons to 1100 gallons. The water and/or foam tank(s) shall be supplied and installed by the apparatus manufacturer.

Bidder Complies	
Yes	No

CAB STYLE

The cab shall be a custom, fully enclosed, with a minimum of 10.00 inch raised roof over the driver, officer, and crew area, designed and built specifically for use as an emergency response vehicle by a company specializing in cab and chassis design for all emergency response applications. The cab shall be designed for heavy-duty service utilizing superior strength and capacity for the application of protecting the occupants of the vehicle. This style of cab shall offer a total of four seating positions.

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

The cab interior shall be designed to afford the maximum usable interior space and attention to ergonomics with hip and legroom while seated, which exceeds industry standards. The crew cab floor shall be flat across the entire walking area for ease of movement inside the cab.

The cab shall include a driver and officer area with two (2) cab doors large enough for personnel in full firefighting gear. The cab shall also include a crew area with up to two (2) cab doors, also large enough for personnel in full firefighting gear.

The cab shall incorporate a progressive two (2) step configuration from the ground to the cab floor at each door opening.

CAB FRONT FASCIA

The front cab fascia shall include two (2) modules on each side accommodating a total of up to four (4) Hi/Low beam headlights and two (2) turn signal lights or up to four (4) warning lights. Two (2) chrome plated bezels shall be provided on each side around each set of two lamps.

CAB UNDERCOAT

There shall be an undercoating applied to the underside of the cab that provides abrasion protection, sound deadening and corrosion protection.

CAB SIDE DRIP RAIL

There shall be a drip rail along the top radius of each cab side. The drip rails shall help prevent water from the cab roof running down the cab side.

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.

The cab shall then be painted the specific color designated by Jasper County Fire-Rescue. The paint shall have a minimum thickness of 2.00 mils, followed by a clear top coat not to exceed 2.00 mils.

CAB PAINT PRIMARY/LOWER COLOR

The primary/lower paint color shall be Red preapproved by Jasper County Fire-Rescue.

CAB PAINT WARRANTY

Cab paint warranty must be included in the three (3) year bumper to bumper warranty.

CAB PAINT INTERIOR

The visible interior cab structure surfaces shall be painted with a high wear resistant finish.

CAB ENTRY DOORS

The cab shall include four (4) entry doors, two (2) front doors and two (2) crew doors designed for ease of entering and egress when outfitted with an SCBA.

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.

CAB INSULATION

The cab ceiling and walls shall include insulation. The insulation shall act as a barrier absorbing noise as well as assisting in sustaining the desired climate within the cab interior.

CAB STRUCTURAL WARRANTY

The purchaser shall receive a Cab Structure warranty to meet or exceed the three (3) year bumper to bumper warranty.

CAB TEST INFORMATION

The cab shall have successfully completed the preload side impact, static roof load application and frontal impact without encroachment to the occupant survival space when tested.

The above tests have been witnessed by and attested to by an independent third party. The test results were recorded using cameras, high speed imagers, accelerometers and strain gauges. Documentation of the testing shall be provided upon request.

DATA RECORDING SYSTEM

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

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

Each portion of the data shall be recorded at the specified intervals and stored for the specified length of time to meet NFPA 1901 guidelines and shall be retrievable by connecting a laptop computer to the VDR system. The laptop connection shall be a panel mounted female type B USB connection point, remotely mounted in the left side foot well.

LOAD MANAGEMENT SYSTEM

The apparatus load management shall be performed by the included multiplex system. The multiplex system shall also feature the priority of sequences and shall shed electrical loads based on the priority list specifically programmed.

ELECTRICAL SYSTEM WARRANTY

The purchaser shall receive an Electrical System to meet or exceed the three (3) year bumper to bumper warranty. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

ENGINE

The chassis engine shall be a diesel power rated to meet or exceed 380HP and 1150 foot pounds of torque.

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, and high idle. A circuit for J1939 data link shall also be provided at the back of the cab.

CAB ENGINE TUNNEL

The cab interior shall include an integrated engine tunnel.

DIESEL PARTICULATE FILTER CONTROLS

There shall be two (2) controls for the diesel particulate filter. One (1) control shall be for regeneration and one (1) control shall be for regeneration inhibit.

ENGINE PROGRAMMING HIGH IDLE SPEED

The engine high idle control shall maintain the engine idle at approximately 1250 RPM when engaged.

ENGINE HIGH IDLE CONTROL

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

ENGINE PROGRAMMING ROAD SPEED GOVERNOR

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

Vehicle must be able to maintain a constant speed of 68MPH.

AUXILIARY ENGINE BRAKE

Must have a Jacobs Auxiliary Engine Brake.

AUXILIARY ENGINE BRAKE CONTROL

The brake control shall be controlled through an on/off rocker switch with high, medium and low selector switch.

ELECTRONIC ENGINE OIL LEVEL INDICATOR

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

ENGINE DRAIN PLUG

The engine shall include an original equipment manufacturer installed oil drain plug.

ENGINE WARRANTY

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

REMOTE THROTTLE HARNESS

An apparatus interface wiring harness for the engine and transmission pump interlocks shall be supplied with the chassis. The harness shall include a connector for connection to a chassis pump panel harness supplied by the body builder and shall terminate in the left frame rail behind the cab for connection by the body builder. The harness shall include circuits deemed for a pump panel and shall contain circuits for a hand throttle, and a multiplexed gauge. Separate circuits shall also be included for a pump control switch, “Pump Engaged” and “OK to Pump” indicator lights, open compartment ground, start signal, park brake ground, ignition signal, master power, clean power, customer ignition, air horn solenoid switch, high idle switch and high idle indicator light. The harness shall contain interlocks that will prevent shifting to road or pump mode unless the transmission output speed translates to less than 1 mph and the transmission is in neutral. The shift to pump mode shall also require the park brake be set.

ENGINE FAN DRIVE

The engine cooling system fan shall incorporate a thermostatically controlled fan drive.

ELECTRONIC COOLANT LEVEL INDICATOR

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.

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.

ENGINE COOLANT OVERFLOW BOTTLE

A remote engine coolant overflow expansion bottle shall be provided in case of over filling the coolant system. The overflow bottle shall capture the expansion fluid or overfill rather than allow the fluid to drain on the ground.

ENGINE EXHAUST SYSTEM

The discharge shall terminate horizontally with no turn down on the right side of the vehicle ahead of the rear tires.

DIESEL EXHAUST FLUID TANK

The exhaust system shall include a molded cross linked polyethylene tank for Diesel Exhaust Fluid (DEF).

EMISSIONS SYSTEMS WARRANTY

The purchaser shall receive a Regulated Emissions Systems to meet or exceed Five (5) Years or 100,000 Miles warranty.

ALLISON EVS 3000 TRANSMISSION

The drive train shall include an Allison 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 Castrol TranSynd™ synthetic TES 295 transmission fluid which shall be utilized in the lubrication of the EVS transmission. An electronic oil level sensor shall be included with the readout located in the shift selector.

The transmission gear ratios shall be:

1st	3.49:1
2nd	1.86:1
3rd	1.41:1
4th	1.00:1
5th	0.75:1
6th	0.65:1 (if applicable)
Rev	5.03:1

TRANSMISSION MODE PROGRAMMING

The transmission, upon start-up, will select the fifth speed operation without the need to press the mode button.

TRANSMISSION FEATURE PROGRAMMING

The Allison Gen V/VI-E transmission 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 reselecting 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.

A transmission interface connector shall be provided in the cab. This package shall contain the following input/output circuits to the transmission control module. The Gen V/VI-E transmission shall include prognostic diagnostic capabilities. These capabilities shall include the monitoring of the fluid life, filter change indication, and transmission clutch maintenance.

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

ELECTRONIC TRANSMISSION OIL LEVEL INDICATOR

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

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 shall have a graphical Vacuum Florescent Display (VFD) capable of displaying two lines of text. The shift selector shall provide mode indication and a prognostic indicator (wrench symbol) on the digital display. The prognostics monitor various operating parameters and shall alert you when a specific maintenance function is required.

TRANSMISSION PRE-SELECT WITH AUXILIARY BRAKE

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

TRANSMISSION COOLING SYSTEM

The transmission shall include a water to oil cooler system located in the cooling loop between the radiator and the engine. The transmission cooling system shall meet all transmission manufacturer requirements. The transmission cooling system shall feature continuous flow of engine bypass water to maintain uninterrupted transmission cooling.

TRANSMISSION DRAIN PLUG

The transmission shall include an original equipment manufacturer installed magnetic transmission fluid drain plug.

TRANSMISSION WARRANTY

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

MIDSHIP PUMP / GEARBOX

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

MIDSHIP PUMP / GEARBOX MODEL

The midship pump/gearbox provisions shall be for a Hale QMAX pump.

PUMP SHIFT CONTROLS

One (1) air pump shift control panel shall be located on the left hand side of the engine tunnel, integrated with the shifter pod. The following shall be provided on the panel: a three (3) position control lever; an engraved PUMP ENGAGED identification light; and an engraved OK TO PUMP identification light. The pump shift control panel shall be black with a yellow border outline and shall include pump instructions. An instruction plate describing the transmission shift selector position used for pumping shall be provided and located so it can be read from the driver's position per NFPA **16.10.1.3**. The road mode shall be selected when the control lever is in the forward position and pump mode shall be selected when the control lever is in the rearward position.

The control lever center position shall exhaust air from both pump and road sides of the pump gear box shift cylinder.

PUMP SHIFT CONTROL PLUMBING

Air connections shall be provided from the air supply tank to the pump shift control valve and from the pump shift control valve to the frame mounted bracket. The frame mounted bracket shall include labeling identifying the pump and road connection points with threaded 0.25 inch NPT fittings on the solenoid for attaching the customer installed pump. The air supply shall be pressure protected from service brake system.

FUEL FILTER/WATER SEPARATOR

The fuel system shall have a Fleetguard FS20121 fuel filter/water separator 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.

A secondary fuel filter shall be included as approved by the engine manufacturer.

FUEL LINES

The fuel system supply and return lines installed from the fuel tank to the engine shall be reinforced nylon tubing rated for diesel fuel.

ELECTRIC FUEL PRIMER

Integral to the engine assembly is an electric lift pump that serves the purpose of pre-filter fuel priming.

FUEL TANK

The fuel tank shall have a minimum capacity of fifty (50) gallons.

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

The fuel tank shall be mounted below the frame, behind the rear axle. Two (2) three-piece strap hanger assemblies with "U" straps bolted midway on the fuel tank front and rear shall be utilized to

allow the tank to be easily lowered and removed for service purposes. Rubber isolating pads shall be provided between the tank and the upper tank mounting brackets. Strap mounting studs through the rail, hidden behind the body shall not be acceptable.

FUEL TANK STRAP MATERIAL

The fuel tank straps shall be constructed of ASTM A-36 steel. The fuel tank straps shall be powder coated black and then painted to match the frame components if possible.

FUEL TANK DRAIN PLUG

A 0.5 inch NPT magnetic drain plug shall be centered in the bottom of the fuel tank.

FRONT AXLE WARRANTY

The front axle shall be warranted to meet or exceed five (5) years with unlimited miles under the general service application.

FRONT WHEEL BEARING LUBRICATION

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

STEERING COLUMN/ WHEEL

The cab shall include a steering column which shall include a position tilt, and telescoping.

The steering column shall contain a horn button and self-canceling turn signal switch.

ELECTRONIC POWER STEERING FLUID LEVEL INDICATOR

The power steering fluid shall be monitored electronically and shall send a signal to activate an audible alarm and visual warning in the instrument panel when fluid level falls below normal.

POWER STEERING PUMP

The power steering system shall include an oil to air passive cooler.

FRONT AXLE CRAMP ANGLE

The chassis shall have a front axle cramp angle meet or exceed 45-degrees to the left and 44-degrees to the right.

CHASSIS ALIGNMENT

The chassis frame rails shall be measured to insure the length is correct and cross checked to make sure they run parallel and are square to each other. The front and rear axles shall be laser aligned. The front tires and wheels shall be aligned and toe-in set on the front tires by the chassis manufacturer.

REAR AXLE

The axle shall include precision forged, single reduction differential gearing, and shall have a fire service rated capacity of 27,000 pounds.

The axle shall have heavy-duty Hypoid gearing for longer life, greater strength and quieter operation. Industry-standard wheel ends for compatibility with both disc and drum brakes, and unitized oil seal technology to keep lubricant in and help prevent contaminant damage will be used.

REAR AXLE DIFFERENTIAL LUBRICATION

The rear axle differential shall be lubricated with oil.

REAR AXLE WARRANTY

The rear axle shall be warranted to meet or exceed five (5) years with unlimited miles under the general service application

REAR WHEEL BEARING LUBRICATION

The rear axle wheel bearings shall be lubricated with oil.

VEHICLE TOP SPEED

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

REAR SUSPENSION

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

TIRE INTERMITTENT SERVICE RATING

The chassis shall be rated using Intermittent Service ratings provided to the emergency vehicle market by the tire manufacturers as the basis for determining the maximum vehicle load and speed.

FRONT TIRES

The front tire stamped load capacity shall be 20,000 pounds per axle with a nominal speed rating of 68 miles per hour when properly inflated to 130 pounds per square inch.

The Intermittent Service Rating maximum speed capacity shall be 20,000 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 130 pounds per square inch.

The Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.

REAR TIRES

The rear tires shall be all-weather tread.

The rear tire stamped load capacity shall be 27,120 pounds per axle with a nominal speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch.

The Intermittent Service Rating maximum load capacity shall be 29,020 pounds per axle with a maximum speed of 75 miles per hour when properly inflated to 120 pounds per square inch.

The Intermittent Service Rating maximum speed capacity shall match the nominal speed rating.

The Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.

REAR AXLE RATIO

The rear axle ratio shall be 5.13:1.

TIRE PRESSURE INDICATOR

There shall be electronic chrome LED valve caps shipped loose for installation by the OEM which shall illuminate with a red LED when tire pressure drops 8psi provided. The valve caps are self-calibrating and set to the pressure of the tire upon installation.

FRONT WHEEL

The front wheels aluminum wheels.

REAR WHEEL

The rear wheels shall be aluminum.

BRAKE SYSTEM

A rapid build-up air brake system shall be provided. The air brakes shall include, at a minimum, 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 controlled service brake application during an unlikely event including primary air supply loss. All air reservoirs provided on the chassis shall be labeled for identification.

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

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.

PARK BRAKE

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

PARK BRAKE CONTROL

A Meritor-Wabco manual hand control push-pull style valve shall operate the parking brake.

The parking brake actuation valve shall be heavy duty mounted to the left side of the engine tunnel within easy access of the driver.

FRONT BRAKE SLACK ADJUSTERS

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

REAR BRAKE SLACK ADJUSTERS

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

FRONT BRAKE DUST SHIELDS

The front axle shall be equipped with brake dust shields.

REAR BRAKE DUST SHIELDS

The rear brakes shall be equipped with brake dust shields.

AIR DRYER

The brake system shall include an air dryer.

WABCO AIR COMPRESSOR

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

AIR GOVERNOR

An air governor shall be provided to control the cut-in and cut-out pressures of the engine mounted air compressor. The governor shall be calibrated to meet FMVSS requirements. The air governor shall be located on the air dryer bracket.

MOISTURE EJECTORS

Manual pet-cock type drain valves shall be installed on all reservoirs of the air supply system.

AIR SUPPLY LINES

The air system on the chassis shall be plumbed with color coded reinforced nylon tubing air lines.

Push to connect type fittings shall be used on the nylon tubing. All drop hoses shall include fiber reinforced neoprene covered hoses.

AIR INLET CONNECTION

An air connection for the shoreline air inlet shall be supplied.

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.

WHEELBASE

The chassis wheelbase not to exceed 195.00 inches.

FRAME PAINT

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

All powder coatings, primers and paint shall be compatible with all metals, pretreatments and primers used.

FRAME ASSEMBLY STRUCTURAL

The purchaser shall receive a Frame Assembly Structural to meet or exceed Five (5) Years warranty.

FRAME RAIL CORROSION

Purchaser shall receive a Frame Rail Corrosion (Powder Coat) to meet or exceed the 3-year bumper to bumper warranty.

FRAME COMPONENTS CORROSION

The purchaser shall receive a Frame Components Corrosion (Powder Coat) to meet or exceed the 3year bumper to bumper warranty.

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.

FRONT BUMPER EXTENSION LENGTH

The front bumper shall be extended to meet or exceed 24.00 inches ahead of the cab.

FRONT BUMPER APRON

The 24.00 inch extended front bumper shall include an apron constructed of 0.19 inch thick embossed aluminum tread plate.

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 top bumper flange.

Bidder Complies	
Yes	No

FRONT BUMPER DISCHARGE

The chassis shall include frame mounted 2.00 inch diameter plumbed pipe intended for use as a discharge trash line. Located inside the front bumper compartment.

The discharge shall pipe shall be a, 2.00 inch stainless steel schedule 10 tube. The discharge shall include a Victaulic groove for connecting to the pump and discharge hose plumbing on each end of the tube.

The apparatus manufacturer shall plumb the discharge pipe to the pump and shall provide all valves as required.

FRONT BUMPER COMPARTMENT CENTER

The front bumper shall include a compartment in the bumper apron located in the center between the frame rails which may be used as a hose well. The compartment shall include drain holes in the bottom corners to allow excess moisture to escape. The compartment shall include a cover constructed of 0.19 inch thick bright embossed aluminum tread plate.

FRONT BUMPER COMPARTMENT COVER HARDWARE

The front bumper compartment cover(s) shall include gas cylinder stays which shall hold the cover open. Each cover shall be held in the closed position via a D-ring style latch.

FEDERAL SIGNAL Q2B MECHANICAL SIREN

The front bumper shall include an electro mechanical Federal Q2B™ siren, which shall be streamlined, chrome-plated and shall produce 123 decibels of sound at 10.00 feet. The Q2B™ siren produces a distinctive warning sound that is recognizable at long distances. A unique clutch design provides a longer coast down sound while reducing the amp draw to 100 amps. The siren shall measure 10.50 inches wide X 10.00 inches high X 14.00 inches deep. The siren shall include a pedestal mount to surface mount on a horizontal surface.

MECHANICAL SIREN LOCATION

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

AIR HORNS

The front bumper shall include two (2) air horns which shall measure 21.00 inches long with a 6.00 inch round flare. The air horns shall be trumpet style with a chrome finish.

AIR HORN LOCATION

The air horns shall be recess mounted in the front bumper face, one (1) on the right side of the bumper in the inboard position relative to the right hand frame rail and one (1) on the left side of the bumper in the inboard position relative to the left hand frame rail.

AIR HORN RESERVOIR

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

ELECTRONIC SIREN SPEAKER

There shall be one (1) 100 watt speaker provided. The speaker shall include a flat mounting flange which shall be polished aluminum.

ELECTRONIC SIREN SPEAKER LOCATION

The electronic siren speaker shall be located on the front bumper face on the right side outboard of the frame rail in the far outboard position.

FRONT BUMPER TOW HOOKS

Two (2) heavy duty tow hooks, painted to match the frame components, shall be installed in the rearward position out of the approach angle area, bolted directly to the side of each chassis frame rail with grade 8 bolts.

CAB TILT SYSTEM

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

The electric-over-hydraulic lift system shall include an ignition interlock and red cab lock down indicator lamp.

It shall be necessary to activate the master battery switch and set the parking brake in order to tilt the cab. As a third precaution the ignition switch must be turned off to complete the cab tilt interlock safety circuit.

Two (2) spring-loaded hydraulic hold down hooks located outboard of the frame shall be installed to hold the cab securely to the frame. Once the hold-down hooks are set in place, it shall take the application of pressure from the hydraulic cab tilt lift pump to release the hooks.

A steel safety channel assembly, painted safety yellow shall be installed 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.

CAB TILT LIMIT SWITCH

A cab tilt limit switch shall be installed. The switch will effectively limit the travel of the cab when being tilted. The limit adjustment of the switch shall be preset by the chassis manufacturer to prevent damage to the cab or any bumper mounted option mounted in the cab tilt arc. Further adjustment to the limit by the apparatus manufacturer shall be available to accommodate additional equipment.

CAB TILT LOCK DOWN INDICATOR

The cab dash shall include a message which shall alert the driver when the cab is unlocked and ajar. The alert message shall cease to be displayed when the cab is in the fully lowered position and the hold down hooks are secured and locked to the cab mounts.

In addition to the alert message an audible alarm shall sound when the cab is unlocked and ajar with the parking brake released.

CAB WINDSHIELD

The glass utilized for the windshield shall include standard automotive tint. The left and right windshield shall be fully interchangeable thereby minimizing stocking and replacement costs.

Each windshield shall be installed using self locking window rubber.

GLASS FRONT DOOR

These windows shall have the capability to roll down completely into the door housing. This shall be accomplished using electric actuation. The left and right front door windows shall be controlled using a switch on each respective side. The driver’s side shall include a switch for each powered door window in the cab.

GLASS TINT FRONT DOOR

The windows located in the left and right front doors shall have a standard green automotive tint which shall meet or exceed seventy-five percent (75%) light transmittance.

GLASS REAR DOOR OFFICER SIDE

The rear right hand side crew door shall include a window. The window shall be a powered type and shall be controlled by a switch on the door panel and on the driver’s control panel.

GLASS TINT REAR DOOR OFFICER SIDE

The window located in the right hand side rear door shall include a standard automotive tint which shall allow seventy-five percent (75%) light transmittance.

GLASS REAR DOOR DRIVER SIDE

The rear left hand side crew door shall include a window. The window shall be a powered type and shall be controlled by a switch on the door panel and on the driver's control panel.

GLASS TINT REAR DOOR DRIVER SIDE

The window located in the left hand side rear door shall include a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.

GLASS SIDE MID OFFICER SIDE

This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include an automotive tint unless otherwise noted.

GLASS TINT SIDE MID OFFICER SIDE

The window located on the right hand side of the cab between the front and rear doors shall include a standard automotive tint which shall allow seventy-five percent (75%) light transmittance.

GLASS SIDE MID DRIVER SIDE

The cab shall include a window on the left side behind the front door and ahead of the crew door and above the wheel well. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include automotive tint unless otherwise noted.

GLASS TINT SIDE MID DRIVER SIDE

The window located on the left hand side of the cab between the front and rear doors shall include a standard automotive tint which shall allow seventy-five percent (75%) light transmittance.

CLIMATE CONTROL

The cab shall meet or exceed 57,000 BTU @ 400 CFM front overhead heater/defroster.

The cab shall also include a combination heater air-conditioning unit. This unit shall offer at least eight (8) adjustable louvers, four (4) forward facing and four (4) rearward facing, a temperature control valve and two (2) blowers offering three (3) speeds which shall be capable of circulating at least 550 cubic feet of air per minute. The unit shall be rated for 42,000 BTU/Hr of cooling and 36,000 BTU/Hr of heating.

All defrost/heating systems shall be plumbed with one (1) seasonal shut-off valve.

CLIMATE CONTROL DRAIN

The climate control system shall include a gravity drain for water management. The gravity drain shall remove condensation from the air conditioning system without additional mechanical assistance.

CLIMATE CONTROL ACTIVATION

The heating and defrosting controls shall be located with driver access.

A/C CONDENSER LOCATION

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

A/C COMPRESSOR

The air-conditioning compressor shall be an open type compressor that shall be capable of producing a minimum of 32,000 BTU at 1500 engine RPMs. The compressor shall utilize R-134A refrigerant and PAG oil.

UNDER CAB INSULATION

The underside of the cab tunnel surrounding the engine shall be lined with multi-layer insulation, engineered for application inside diesel engine compartments.

The insulation shall act as a noise barrier, absorbing noise thus keeping the decibel level in the cab well within NFPA recommendations.

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

INTERIOR TRIM FLOOR

The floor of the cab shall be covered with a multi-layer mat meeting or exceeding 0.25 inch thick sound absorbing closed cell foam with a non-slip surface. The covering shall be held in place by a pressure sensitive adhesive and aluminum trim molding. All exposed seams shall be sealed with silicone caulk matching the color of the floor mat to reduce the chance of moisture and debris retention.

INTERIOR TRIM

The cab interior shall include trim on the front ceiling, rear crew ceiling, and the cab walls. It shall be easily removable to assist in maintenance.

REAR WALL INTERIOR TRIM

The rear wall of the cab shall be trimmed with vinyl and tool board for mounting.

TRIM OFFICER SIDE DASH

The right-hand dash shall include a Mobile Data Terminal (MDT) provision.

ENGINE TUNNEL TRIM

The cab engine tunnel shall be covered with a multi-layer mat. The mat shall be held in place by pressure sensitive adhesive. The engine tunnel mat shall be trimmed with aluminum trim for an aesthetically pleasing appearance.

POWER POINT DASH MOUNT

The cab shall include a 12 volt cigarette lighter type receptacle in the cab dash to provide a power source for 12 volt electrical equipment. The cab shall also include one (1) dual universal serial bus (USB) charging receptacle in the cab dash switch panel to provide a power source for USB chargeable electrical equipment. Each dual USB receptacle shall include two ports and shall be capable of up to a 5 Volt 2.1 amp output. Port 1 is optimized for fast charging at 1 amp. Port 2 is optimized for fast charging up to 2.1 amps, when used individually. The receptacles shall be wired battery direct. **STEP TRIM**

Each cab entry door shall include a three-step entry.

CAB DOOR TRIM REFLECTIVE

The interior of each door shall include high visibility reflective tape. A white reflective tape shall be provided vertically along the rear outer edge of the door. The lowest portion of each door skin shall include a reflective tape chevron. The chevron tape shall measure 6.00 inches in height or greater.

INTERIOR GRAB HANDLE "A" PILLAR

There shall be two (2) grab handles installed inside the cab, one on each “A” post at the left and right door openings. The handles shall assist personnel in entering and exiting the cab.

INTERIOR GRAB HANDLE FRONT DOOR

Each front door shall include one (1) handle mounted horizontally on the interior door panels. The handles shall feature a textured coat finish to assist personnel entering and exiting the cab.

INTERIOR GRAB HANDLE REAR DOOR

A coated aluminum assist handle shall be provided on the inside of each rear crew door. A handle shall extend horizontally. The handle shall assist personnel in exiting and entering the cab.

INTERIOR SOFT TRIM COLOR

The cab interior soft trim surface color shall be approved by Jasper County Fire-Rescue.

INTERIOR TRIM SUN VISOR

The header shall include two (2) sun visors, one each side forward of the driver and officer seating positions above the windshield.

INTERIOR FLOOR MAT COLOR

The cab interior floor mat color shall be approved by Jasper County Fire-Rescue.

CAB PAINT INTERIOR DOOR TRIM

The inner door panel surfaces shall be painted with a durable finish. The color approved by Jasper County Fire-Rescue.

HEADER TRIM INTERIOR PAINT

The metal surfaces in the header area shall be coated with a durable finish. The color approved by Jasper County Fire-Rescue.

TRIM CENTER DASH INTERIOR PAINT

The entire center dash shall be coated with a durable finish. The color approved by Jasper County Fire-Rescue. Any accessory pods attached to the dash shall also be painted this color.

TRIM DRIVER SIDE DASH INTERIOR PAINT

The left-hand dash shall be coated with a durable finish. The color approved by Jasper County FireRescue.

TRIM OFFICER SIDE DASH INTERIOR PAINT

The right-hand dash shall be coated with a durable finish. The color approved by Jasper County FireRescue.

SWITCHE PANEL

The dash panel shall include a minimum of 12 rocker switches with indicator lights. All switches must be accessible to the driver and officer positions. The switches will control a minimum of all emergency lighting, brow lighting and scene lighting. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.

SWITCHES DRIVER SIDE

The left dash panel switches shall have indicator lights and include driver-only functions such as headlights, windshield wipers exedra. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.

SEAT BELT WARNING

A seat belt warning system, integrated with the Vehicle Data Recorder system, shall be installed for each seat within the cab. The system shall activate a seat position indicator with a seat position legend and integrated audible alarm in the switch panel.

The warning system shall activate when any seat is occupied with a minimum of 60 pounds and the corresponding seat belt remains unfastened. Once activated, the visual indicators and applicable audible alarm shall remain active until all occupied seats have the seat belts fastened.

SEAT MATERIAL

The Firefighter seats shall include a covering of extra high strength, wear resistant fabric. 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

Seat color shall be approved by Jasper County Fire-Rescue. All seats shall include red seat belts.

DRIVER SEAT

The driver's seat shall be adjustable with air suspension. The four-way seat shall feature a minimum of a 3.00 inches vertical travel air suspension and manual fore and aft adjustment with a minimum of 5.00 inches of travel. The seat shall also feature integral springs to isolate shock.

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a 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.

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

The materials used in construction of the seat shall also have successfully completed testing with regard to the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which dictates the allowable burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK DRIVER

The driver’s seat shall include a standard seat back incorporating the all belts to seat feature (ABTS). The seat back shall feature a contoured head rest.

SEAT MOUNTING DRIVER

The driver’s seat shall be installed in an ergonomic position in relation to the cab dash.

OFFICER SEAT

The officer's seat shall feature a tapered and padded seat, and cushion. The seat shall be adjustable type seat, manual fore and aft adjustment with a minimum of 5.00 inches of travel.

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a 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 this belted seating position shall be 35.00 inches.

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

SCBA SEAT BACK OFFICER

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

The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The adjustment shall be made by raising a lever and moving the top clamp vertically**.**

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the SCBA tank in place for a safe and comfortable fit in the seat back cavity. The bracket shall include a release handle which shall be integrated into the seat for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.

SEAT MOUNTING OFFICER

The officer's seat shall be installed in an ergonomic position in relation to the cab dash.

SEAT BELT ORIENTATION CREW

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

SEAT REAR FACING OUTER LOCATION

The crew area shall include two (2) rear facing crew seats, which include one (1) located directly behind the left side front seat and one (1) located directly behind the right side front seat.

CREW REAR FACING OUTER SEAT

The crew area shall include a seat in the rear facing outboard position which shall feature a tapered and padded seat, and cushion.

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a 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 be 35.00 inches.

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

SCBA SEAT BACK REAR FACING OUTER

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

The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The adjustment shall be made by raising a lever and moving the top clamp vertically**.**

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the SCBA tank in place for a safe and comfortable fit in the seat back cavity. The bracket shall include a release handle which shall be integrated into the seat for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.

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. The wiper motor shall be activated by an intermittent wiper control located within easy reach of the driver's position.

ELECTRONIC WINDSHIELD FLUID LEVEL INDICATOR

The windshield washer fluid level shall be monitored electronically.

CAB DOOR HARDWARE

The cab entry doors shall be equipped with exterior pull handles, suitable for use while wearing firefighter gloves.

All cab entry doors shall include locks which are keyed alike. The door locks shall be designed to prevent accidental lockout.

DOOR LOCKS

The cab entry doors shall include electric door locks with a minimum of three key fobs. A hidden unlock switch will be mounted on the exterior of the cab to avoid accidental lock out of the crew.

GRAB HANDLES

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

Bidder Complies	
Yes	No

REARVIEW MIRRORS

West Coast style single vision mirror heads shall be provided and installed on each of the front cab doors. The mirrors shall be mounted to the cab doors with tubular stainless steel swing away arms and the mirror heads shall be center mounted on the arms to provide rigid mounting to reduce vibration.

The flat mirrors shall measure 7.00 inches wide x 16.00 inches high. A separate lower 8.00 inch round manually adjustable convex mirror model 980-4 shall be provided below the flat mirror for a wider field of vision. The mirrors shall be manufactured with the finest quality non-glare glass.

The flat mirrors shall be remotely adjustable vertically and horizontally via four way actuation switches. The control switches shall be mounted in the cab with in easy reach of the driver.

CAB FENDER

Full width wheel well liners shall be installed on the extruded cab to limit road splash and enable easier cleaning. Each fender shall have an outer fenderette made of aluminum or stainless steel.

IGNITION

A master battery system with a keyless start ignition system shall be provided.
Each switch shall illuminate a LED indicator light on the dash when the respective switch is placed in the “ON” position.

The starter button shall only operate when both the master battery and ignition switches are in the “ON” position.

BATTERY

The single start electrical system shall include a minimum of three (3) batteries with a 210 minute reserve capacity and 4/0 welding type dual path starter cables per SAE J541.

BATTERY TRAY

The batteries shall be installed on a steel battery tray located on the chassis, securely bolted to the frame rails. The battery tray shall be coated with the same material as the frame.

The battery tray shall include drain holes in the bottom for sufficient drainage of water. A durable, nonconducting, interlocking mat made by Dri-Dek shall be installed in the bottom of the tray to allow for air flow and help prevent moisture build up. The batteries shall be held in place by non-conducting phenolic resin hold down boards.

BATTERY BOX COVER

The battery box shall include a cover which protects the top of the batteries.

BATTERY CABLE

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

The battery terminals shall not be utilized for auxiliary connections. The only acceptable auxiliary connections shall be for the cross over link from the left bank to the right bank, power for jumper studs and starter cables. All other auxiliary connections will use remote studs.

BATTERY JUMPER STUD

The starting system shall include battery jumper studs. 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 charging system shall include a 320 amp, 12 volt alternator. The alternator shall include a selfexciting integral regulator.

KUSSMAUL BATTERY CONDITIONER

A Kussmaul Auto Charge 40 LPC battery conditioner shall be supplied. The battery conditioner shall provide a 40 amp output for the chassis batteries and a 15 amp output circuit for accessory loads. The battery conditioner shall be mounted in the cab in the LH rear facing outer seating position.

KUSSMAUL BATTERY CONDITIONER DISPLAY

A Kussmaul battery conditioner display shall be supplied and mounted in a location visible from the shoreline inlet.

ELECTRICAL INLET LOCATION

An electrical inlet shall be installed on the left hand side of cab over the wheel well.

KUSSMAUL ELECTRICAL INLET

A Kussmaul 20 amp super auto-eject electrical receptacle shall be supplied. It shall automatically eject the plug when the starter button is depressed.

A single item or an addition of multiple items must not exceed the rating of the electric inlet that it's connected to.

Amp Draw Reference List:

Kussmaul 40 LPC Charger - 5 Amps
Kussmaul 40/20 Charger - 8.5 Amps
Kussmaul 80 LPC Charger - 13 Amps
Kussmaul EV-40 - 6.2 Amps
Blue Sea P12 7532 - 7.5 Amps
Iota DLS-45/IQ4 - 11 Amps
1000W Engine Heater - 8.33 Amps
1500W Engine Heater - 12.5 Amps
120V Air Compressor - 4.2 Amps 120V
Dometic HVAC - 15 Amps

ELECTRICAL INLET CONNECTION

The electrical inlet shall be connected to the battery conditioner.

ELECTRICAL INLET COLOR

The electrical inlet connection shall include a yellow cover.

HEADLIGHTS

The cab front shall include LED headlamps with separate high and low beams mounted in bright chrome bezels. Each lamp shall include a heating system that de-ices the headlight.

LED FRONT TURN SIGNALS

The front fascia shall include two (2) LED sequential arrow turn signals which shall be installed in an outboard position within the front fascia chrome bezel.

HEADLIGHT LOCATION

The headlights shall be located on the front fascia of the cab.

LED SIDE TURN/MARKER LIGHTS

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

LED MARKER AND ICC LIGHTS

In accordance with FMVSS, there shall be five (5) LED cab 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. The lights shall be amber.

HEADLIGHT AND MARKER LIGHT ACTIVATION

The headlights and marker lights shall be controlled through a rocker switch within easy reach of the driver. There shall be a dimmer switch within easy reach of the driver to adjust the brightness of the dash lights. The headlamps shall be equipped with the "Daytime Running" light feature, which shall illuminate the headlights when the ignition switch is in the "On" position and the parking brake is released.

LIGHTBAR SWITCH

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

INTERIOR OVERHEAD LIGHTS

The cab shall include a minimum of RED LED lights located over each door.

INTERIOR OVERHEAD LIGHTS ACTIVATION

Each Red LED Light shall be activated by opening the respective door.

LIGHTBAR PROVISION

There shall be one (1) light bar installed on the cab roof. The light bar shall be provided and installed by the chassis manufacturer. The light bar installation shall include a lowered mounting that shall place the light bar just above the junction box and wiring to a control switch on the cab dash.

LED 72” LIGHT BAR

The lightbar provisions shall be for one (1) LED lightbar mounted centered on the front of the cab roof. The lightbar shall be 72.00 inches in length. The lightbar shall feature a minimum of six (6) red LED light modules and two (2) clear LED light modules. The entire lightbar shall feature a clear lens. The clear lights shall be disabled with park brake engaged.

FIRETECH HIVIZ LED FRONT SCENE LIGHTS

The front of the cab shall include one (1) HiViz model FireTech FT-B-72 LED scene light installed on the brow of the cab.

The housing shall be powder coated white.

FRONT SCENE LIGHT LOCATION

There shall be one (1) scene light mounted center on the front brow of the cab.

FRONT SCENE LIGHTS ACTIVATION

The front scene lighting shall be activated by individual rocker switches for each of the three (3) separate scene lighting circuits. Each circuit shall be activated independently and shall include rocker switches labeled “Front Scene”, “Front Flood”, and “Front Spotlight”.

HIVIZ GUARDIAN ELITE SCENE LED SIDE LIGHTS

Two (2) Firetech HiViz Guardian Elite FT-GESM, LED scene lights shall be provided, (1) one on each side of the cab in a chrome plated flange.

Each light shall be 11” wide by 9” high by 3” deep, draw 10 amps, and produce 10,491 lumens.

The scene lights shall be wired through the load management system.

HIVIZ GUARDIAN ELITE SERIES LED SIDE SCENE LIGHTS

The cab shall include two (2) Firetech Guardian Elite LED scene lights FT-GESM, one (1) each side which shall be surface mounted in a chrome bezel. The lights shall provide scene lighting.

SIDE SCENE LIGHT LOCATION

The scene lighting located on the left and right sides of the cab shall be mounted rearward of the cab “B” pillar in the raised roof portion of the cab between the front and rear crew doors.

SIDE SCENE ACTIVATION

The scene lights shall be activated by two (2) rocker switches located in the switch panel, one (1) for each light, and by opening the respective side cab doors.

LED GROUND LIGHTS

Each door shall include an LED ground light mounted to the underside of the cab step below each door.

GROUND LIGHT ACTIVATION

The ground lighting shall be activated when the parking brake is set and a rocker switch located in the switch panel.

LED LOWER CAB STEP LIGHTS

The middle step located at each door shall include an LED light which shall activate with the opening of the respective door.

LED INTERMEDIATE STEP LIGHTS

The intermediate step well area at the front doors shall include a LED light. The front egress step lights shall provide visibility to the step well area for the first step exiting the vehicle. The Egress step lights shall activate with entry step lighting.

ENGINE COMPARTMENT LIGHT

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

LED DO NOT MOVE APPARATUS LIGHT

The front of the cab shall include a flashing red LED light clearly labeled "Do Not Move Apparatus". In addition to the flashing red light, an audible alarm shall be included which shall sound while the light is activated.

The flashing red light shall be located centered for greatest visibility.

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

MASTER WARNING SWITCH

A master switch shall be included in the main rocker switch panel. The switch shall be a rocker type, red in color and labeled “Master” for identification. The switch shall feature control over all devices wired through it. Any warning device switch left in the “ON” position shall automatically power up when the master switch is activated.

LED INBOARD FRONT WARNING LIGHTS

The cab front fascia shall include two (2) LED front warning lights in the left and right inboard positions. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the front fascia of the cab within a chrome bezel.

INBOARD FRONT WARNING LIGHTS COLOR

The warning lights mounted on the cab front fascia in the inboard positions shall be red.

FRONT WARNING SWITCH

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

LED INTERSECTION WARNING LIGHTS

The chassis shall include two (2) LED intersection warning lights, one (1) each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted within a chrome bezel.

INTERSECTION WARNING LIGHTS COLOR

The intersection lights shall be red.

INTERSECTION WARNING LIGHTS LOCATION

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

SIDE AND INTERSECTOR WARNING SWITCH

The side and intersector warning lights shall be controlled by a rocker switch on the switch panel. This switch shall be clearly labeled for identification.

WHELEN SIREN CONTROL HEAD

A Whelen electronic siren control head with remote amplifier shall be provided and flush mounted in the switch panel with a location specific to the customer’s needs. The siren shall feature 200-watt output, hands free mode and shall be in “standby” mode awaiting instruction. The siren shall offer radio broadcast, public address, wail, yelp, or Hi/Low tones and hands free operation which shall allow the operator to turn the siren on and off from the horn ring if a horn/siren selector switch option is also selected.

AUDIBLE WARNING DRIVER SIDE FOOT SWITCH

Two (2) foot actuated switches shall be supplied for installation in the front section of the cab for driver actuation. One (1) switch shall be wired to actuate the air horn(s) and one (1) switch the mechanical siren(s).

AIR HORN FOOT SWITCH DRIVER SIDE

The air horn foot switch shall be a Linemaster model 491-S.

AIR HORN FOOT SWITCH DRIVER SIDE LOCATION

The air horn foot switch shall be located on the left hand side accessible to the driver between the steering column and the door.

AIR HORN FOOT SWITCH DRIVER SIDE POSITION

The air horn foot switch shall be positioned inboard of any other foot switch, if applicable.

MECHANICAL SIREN FOOT SWITCH DRIVER SIDE

The mechanical siren foot switch shall be a Linemaster model 491-S.

MECHANICAL SIREN FOOT SWITCH DRIVER SIDE LOCATION

The mechanical siren foot switch shall be located on the left hand side accessible to the driver between the steering column and the door.

MECHANICAL SIREN FOOT SWITCH DRIVER SIDE POSITION

The mechanical siren foot switch shall be positioned outboard of any other foot switch, if applicable.

AUDIBLE WARNING DRIVER SIDE FOOT SWITCH BRACKET

A 30.00 degree angled foot switch bracket, wide enough to accommodate (2) foot switches, shall be installed outboard of the steering column for specified driver accessible foot switch activations.

MECHANICAL SIREN FOOT SWITCH OFFICER SIDE

The mechanical siren foot switch shall be a Linemaster model 491-S.

MECHANICAL SIREN FOOT SWITCH OFFICER SIDE LOCATION

The mechanical siren foot switch shall be located on the left-hand side of the officer floor. .

MECHANICAL SIREN FOOT SWITCH OFFICER SIDE POSITION

The mechanical siren foot switch shall be positioned inboard of any other foot switch, if applicable.

AUDIBLE WARNING OFFICER SIDE FOOT SWITCH

A foot switch wired to actuate the air horn(s) shall be supplied for installation in the front section of the cab for officer actuation.

AIR HORN FOOT SWITCH OFFICER SIDE

The air horn foot switch shall be a Linemaster model 491-S.

AIR HORN FOOT SWITCH OFFICER SIDE LOCATION

The air horn foot switch shall be on the left side officer floor outboard of any other foot switch.

MECHANICAL SIREN BRAKE/AUXILIARY ACTIVATION

The mechanical siren shall be actuated by a black push button in the switch panel on the dash. A black push button siren brake control shall be provided in the switch panel on the dash.

MECHANICAL SIREN INTERLOCK

The siren shall only be active when master warning switch is on to prevent accidental engagement.

BACK-UP ALARM

A backup alarm shall be installed at the rear of the chassis with an output level of 107 dB. The alarm shall automatically activate when the transmission is placed in reverse.

INSTRUMENTATION

An ergonomically designed instrument panel shall be provided. Each gauge shall be backlit with LED lamps. An odometer/trip odometer shall be included. The odometer shall display up to 999,999.9 miles. The trip odometer shall display 9,999.9 miles. The LCD message center screen shall be capable of custom configuration by the users for displaying certain vehicle status and diagnostic functions.

The instrument panel shall contain the following gauges:

One (1) gauge displaying vehicle speed, fuel level, and Diesel Exhaust Fluid (DEF) level. The primary scale on the speedometer shall read from 0 to 100 MPH, and the secondary scale on the speedometer shall read from 0 to 160 KM/H. The scale on the fuel and DEF level gauges shall read from empty to full as a fraction of full tank capacity. Red indicator lights in the gauge and an audible alarm shall indicate low fuel or low DEF at 1/8th tank level.

One (1) gauge displaying engine RPM, and primary and secondary air system pressures shall be included. The scale on the tachometer shall read from 0 to 3000 RPM. The scale on the air pressure gauges shall read from 0 to 150 pounds per square inch (PSI) with a red line zone indicating critical levels of air pressure. Red indicator lights in the gauge and an audible alarm shall indicate low air pressure.

One (1) gauge displaying engine oil pressure, coolant temperature, voltmeter, and transmission temperature shall be included. The scale on the engine oil pressure gauge shall read from 0 to 100 pounds PSI with a red line zone indicating critical levels of oil pressure. A red indicator light in the gauge and audible alarm shall indicate low engine oil pressure. The scale on the coolant temperature

gauge shall read from 100 to 250 degrees Fahrenheit (°F) with a red line zone indicating critical coolant temperatures. A red indicator light in the gauge and audible alarm shall indicate high coolant temperature. The scale on the voltmeter shall read from 9 to 18 volts with a red line zone indicating critical levels of battery voltage. A red indicator light in the gauge and an audible alarm shall indicate high or low system voltage. The low voltage alarm shall indicate when the system voltage has dropped below 11.8 volts for more than 120 seconds in accordance with the requirements of NFPA 1901. The scale on the transmission temperature gauge shall read from 100 to 300 degrees °F with a red line zone indicating critical temperatures. A red indicator light in the gauge and an audible alarm shall indicate a high transmission temperature.

RED INDICATORS

Stop Engine - indicates critical engine fault
Air Filter Restricted - indicates excessive engine air intake restriction
Park Brake - indicates parking brake is set
Seat Belt - indicates a seat is occupied and corresponding seat belt remains unfastened
Low Coolant - indicates critically low engine coolant
Cab Tilt Lock - indicates the cab tilt system locks are not engaged.

AMBER INDICATORS

Malfunction Indicator Lamp (MIL) - indicates an engine emission control system fault
Check Engine - indicates engine fault
Check Transmission - indicates transmission fault
Anti-Lock Brake System (ABS) - indicates anti-lock brake system fault
High exhaust system temperature – indicates elevated exhaust temperatures
Water in Fuel - indicates presence of water in fuel filter Wait
to Start - indicates active engine air preheat cycle
Windshield Washer Fluid – indicates washer fluid is low
DPF restriction - indicates a restriction of the diesel particulate filter
Regen Inhibit-indicates regeneration of the DPF has been inhibited by the operator
Range Inhibit - indicates a transmission operation is prevented and requested shift request may not occur.
SRS - indicates a problem in the supplemental restraint system
Check Message - indicates a vehicle status or diagnostic message on the LCD display requiring attention.

GREEN INDICATORS

Left and Right turn signal indicators
ATC - indicates low wheel traction for automatic traction control equipped vehicles, also indicates mud/ snow mode is active for ATC system
High Idle - indicates engine high idle is active.
Cruise Control - indicates cruise control is enabled
OK to Pump - indicates the pump is engaged and conditions have been met for pump operations
Pump Engaged - indicates the pump transmission is currently in pump gear
Auxiliary Brake - indicates secondary braking device is active

BLUE INDICATORS

High Beam indicator

AUDIBLE ALARMS

Air Filter Restriction

Cab Tilt Lock
Check Engine
Check Transmission
Open Door/Compartment
High Coolant Temperature
High or Low System Voltage
High Transmission Temperature
Low Air Pressure
Low Coolant Level
Low DEF Level
Low Engine Oil Pressure
Low Fuel
Seatbelt Indicator
Stop Engine
Water in Fuel
Extended Left/Right Turn Signal On
ABS System Fault

BACKLIGHTING COLOR

The instrumentation gauges and the switch panel legends shall be backlit using red LED backlighting.

CAMERA REAR

One (1) heavy duty box shaped HD camera shall be shipped loose for OEM installation in the body to afford the driver a clear view to the rear of the vehicle.

The camera system shall include a one-way communication device that shall be an integral part of the rear camera for the use of voice commands directly to the driver. The rear camera display shall activate when the vehicle's transmission is placed in reverse.

CAMERA DISPLAY

The camera system shall be wired to a minimum of a 7.00 inch HD monitor which shall include a color display and day and night brightness modes installed above the driver position.

COMMUNICATION ANTENNA

An antenna base, for use with an NMO type antenna, shall be mounted on the right hand front corner of the cab roof so not to interfere with light bars or other roof mounted equipment installed by chassis builder. The antenna base shall be an Antenex model MABVT8 made for either a 0.38 inch or 0.75 inch receiving hole in the antenna and shall include 17.00 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. The antenna base shall be chassis builder supplied.

COMMUNICATION ANTENNA CABLE ROUTING

The antenna cable shall be routed from the antenna base mounted on the roof to the area inside the cab approved by Jasper County Fire-Rescue.

FIRE EXTINGUISHER

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

DOOR KEYS

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

WARRANTY

Purchaser shall receive a Custom minimum of a three (3) year bumper to bumper warranty.

CHASSIS OPERATION MANUAL

There shall be two (2) digital and two (2) hard copies of the chassis operation manual provided with the chassis. The digital data shall include a parts list specific to the chassis model.

ENGINE AND TRANSMISSION OPERATION MANUALS

The following manuals specific to the engine and transmission models ordered will be included with the chassis in the ship loose items:

(1) Hard copy of the Engine Operation and Maintenance manual with USB flash drive
(1) Digital copy of the Transmission Operator's manual on USB flash drive
(1) Digital copy of the Engine Owner's manual on USB flash drive

CAB/CHASSIS AS BUILT WIRING DIAGRAMS

The cab and chassis shall include two (2) digital copies of wiring schematics and option wiring diagrams.

INTERIOR REAR WALL COMPARTMENT

The cab shall include a compartment located in the center of the rear wall of the cab. This compartment shall measure a minimum of 65.00 inches high X 36 inches wide X 18.00 inches deep. The compartment shall be accessible from the interior of the cab through an Amdor locking roll up style door.
The exterior of the compartment shall be painted match the cab interior.
One (1) adjustable shelf shall be supplied in the center rear wall compartment.

INTERIOR REAR WALL COMPARTMENT LIGHTING, RED

There shall be one (1) RED, LED strip light installed to illuminate the interior compartment. The strip light shall be approximately 42.00 inches long.

FUEL POCKET

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

A Signature 4 composite fuel pocket with a brushed stainless steel door shall be provided.

A tethered cap shall be provided as part of the assembly.

A label indicating "Ultra Low Sulfur Diesel Fuel Only" shall be provided adjacent to the fuel fill.

12 VOLT ELECTRICAL SYSTEM TESTING

The apparatus low voltage electrical system shall be tested and certified by the manufacturer. The certification shall be provided with the apparatus. All tests shall be performed with the air temperature between 0°F and 100°F.

The following three (3) tests shall be performed in order. Before each test, the batteries shall be fully charged.

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

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

The total continuous electrical load shall be activated with the engine running up to the engine manufacturers governed speed. The test duration shall be a minimum of 2 hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded due to excessive battery discharge, as detected by the system, or a system voltage of fewer than 11.7 volts DC for a 12volt system, for more than 120 seconds, shall be considered a test failure.

Following completion of the preceding tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm is activated.

The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of fewer than 11.7 volts shall be considered a test failure. The battery system shall then be able to restart the engine.

At the time of delivery, documentation shall be provided with the following information:

- Documentation of the electrical system performance test
- A written load analysis of the following;
- Nameplate rating of the alternator
- Alternator rating at idle while meeting the minimum continuous electrical load
- Each component load comprising the minimum continuous electrical load.
- Additional loads that, when added to the minimum continuous load, determine the total connected load.
- Each individual intermittent load.

POWER INVERTER 1000

1000 power Inverter will be installed in the cab to convert 12V DC battery power to 115V AC and will automatically pass through AC Inlet power when present.

HOSE BED WORK LIGHT - SWITCH

The hose bed work light shall have a protected 12-volt switch at the rear body panel.

The switch will be labeled "HOSE BED WORK LIGHTS."

CONTROL SWITCH IN CAB FOR REAR OF BODY LIGHTS

Controls shall be provided in the cab control system to turn the rear body lights on and off.

CONTROL SWITCH ON PUMP PANEL FOR REAR OF BODY LIGHTS

A switch shall be provided on the pump panel to turn the rear of body lights on and off.

CONTROL SWITCH IN CAB FOR DRIVER SIDE OF BODY LIGHTS

Controls shall be provided in the cab control system to turn the driver side of body lights on and off.

CONTROL SWITCH ON PUMP PANEL FOR DRIVER SIDE OF BODY LIGHTS

A switch shall be provided on the pump panel to turn the driver side of body lights on and off.

CONTROL SWITCH IN CAB FOR OFFICER SIDE OF BODY LIGHTS

Controls shall be provided in the cab control system to turn the officer side of body lights on and off.

CONTROL SWITCH ON PUMP PANEL FOR OFFICER SIDE OF BODY LIGHTS

A switch shall be provided on the pump panel to turn the officer side of body lights on and off.

NFPA COMPLIANT WARNING LIGHT PACKAGE

The following warning light package shall include all of the minimum warning light and actuation requirements for the current revision of the NFPA 1901 Fire Apparatus Standard.

The lighting as specified shall meet the requirements for both "Clearing Right of Way" and "Blocking Right of Way" which includes disabling all white warning lights when the apparatus is in "Blocking Right of Way" mode.

WARNING LIGHT FLASH PATTERN - NFPA FLASH PATTERN

All of the perimeter warning lights shall be set to a default NFPA compliant flash pattern as provided by the light manufacturer.

LIGHT PACKAGE ACTUATION/CONTROLS

The entire warning light package shall be actuated with a single warning light switch located on the cab switch panel. The wiring for the warning light package shall engage all of the lights required for "Clearing Right of Way" mode when the vehicle parking brake is not engaged. An automatic control system shall be provided to switch the warning lights to the "Blocking Right of Way" mode when the vehicle parking brake is engaged.

LIGHT PACKAGE NFPA CERTIFICATION

The warning light system(s) specified above shall not exceed a combined total amperage draw of 45 AMPS with all lights activated in either the "Clearing Right of Way" or the "Blocking Right of Way"

The warning light system(s) shall be certified by the light system manufacturer(s), to meet all of the requirements in the current revision of the NFPA 1901 Fire Apparatus Standard as noted in the General Requirements section of these specifications.

The NFPA required "Certificate of Compliance" shall be provided with the completed apparatus.

Any large truck as defined by NFPA shall have the lower zone warning lights mounted no higher than 62" to the optical center of the warning light from ground level. {No Exceptions}

UPPER ZONE REAR LEDS

Two (2) LED light heads shall be furnished and mounted one (1) on each side on the upper rear face of the body, facing rear.

UPPER ZONE REAR WARNING LIGHT LENS - RED

The upper zone warning lights shall include red LEDs and a red lens if available from the manufacturer. If a red lens is unavailable, a clear lens shall be included.

UPPER ZONE REAR WARNING LIGHT BEZEL - CHROME

The upper zone warning lights shall include a chrome bezel if available from the manufacturer. If a chrome bezel is unavailable, a black bezel shall be included.

UPPER ZONE DRIVER/OFFICER BODY FRONT LEDS

Two (2) LED light heads shall be furnished and mounted one (1) on each side on the upper side face, towards the front of the body, facing to each side of the unit.

UPPER ZONE DRIVER/OFFICER BODY FRONT WARNING LIGHT LENS - RED

The upper front warning lights shall include red LEDs and a red lens if available from the manufacturer. If a red lens is unavailable, a clear lens shall be included.

UPPER ZONE DRIVER/OFFICER BODY FRONT WARNING LIGHT BEZEL - CHROME

The upper zone front warning lights shall include a chrome bezel if available from the manufacturer. If a chrome bezel is unavailable, a black bezel shall be included.

UPPER ZONE DRIVER/OFFICER BODY REAR LEDS

Two (2) LED light heads shall be furnished and mounted one (1) on each side on the upper side face, towards the rear of the body, facing to each side of the unit.

The lights shall be installed with a chrome plated mounting flange.

UPPER ZONE DRIVER/OFFICER BODY REAR WARNING LIGHT LENS - RED

The upper zone rear warning lights shall include red LEDs and a red lens if available from the manufacturer. If a red lens is unavailable, a clear lens shall be included.

UPPER ZONE DRIVER/OFFICER BODY REAR WARNING LIGHT BEZEL - CHROME

The upper zone rear warning lights shall include a chrome bezel if available from the manufacturer. If a chrome bezel is unavailable, a black bezel shall be included.

LOWER ZONE REAR BODY LEDS

Two (2) LED light heads shall be provided and installed one (1) each side directly below the DOT stop, tail, turn and backup lights.

LOWER ZONE REAR WARNING LIGHT LENS - RED

The lower zone warning lights shall include red LEDs and a red lens if available from the manufacturer. If a red lens is unavailable, a clear lens shall be included.

LOWER ZONE DRIVER/OFFICER BODY MID LEDS

Two (2) LED light heads shall be provided and installed with one (1) on each side.

LOWER ZONE DRIVER/OFFICER BODY MID WARNING LIGHT LENS - RED

The lower zone mid warning lights shall include red LEDs and a red lens if available from the manufacturer. If a red lens is unavailable, a clear lens shall be included.

LOWER ZONE DRIVER/OFFICER BODY MID WARNING LIGHT BEZEL - CHROME

The lower zone mid warning lights shall include a chrome bezel if available from the manufacturer. If a chrome bezel is unavailable, a black bezel shall be included.

LOWER ZONE DRIVER/OFFICER BODY REAR LEDS

Two (2) LED light heads shall be provided and installed with one (1) on each side.

LOWER ZONE DRIVER/OFFICER BODY REAR WARNING LIGHT LENS - RED

The lower zone rear warning lights shall include red LEDs and a red lens if available from the manufacturer. If a red lens is unavailable, a clear lens shall be included.

LOWER ZONE DRIVER/OFFICER BODY REAR WARNING LIGHT BEZEL - CHROME

The lower zone rear warning lights shall include a chrome bezel if available from the manufacturer. If a chrome bezel is unavailable, a black bezel shall be included.

GROUND LIGHTS BELOW PUMP PANEL RUNNING BOARD

One (1) LED, minimally 6" long ground light with stainless steel mounting bracket, shall be provided under each side pump panel running board, two (2) total.

GROUND LIGHTS REAR BODY CORNERS

One (1) LED, minimally 6" long ground light with stainless steel mounting bracket, shall be provided under each rear body corner, two (2) total.

CAB AND BODY GROUND LIGHTS ACTIVATE AS PROVIDED

Ground light activation shall be as provided by the chassis manufacturer and shall be wired through the load management system.

Bidder Complies	
Yes	No

DUNNAGE AREA LIGHTING

Two (2) LED horizontal surface mounted lights shall be provided in the dunnage area to provide adequate illumination of this area.

These lights shall be switched in the same manner as the step lights.

COMPARTMENT LIGHT ACTIVATION

Compartment lighting shall be switched either from an integral switch as provided by the roll up door manufacturer or a magnetic proximity switch if it is a manufactured door.

COMPARTMENT LIGHTS

Each individual, equipment storage compartment shall be equipped with RED LED lights, mounted on each side of the forward (and rear) vertical door frame.

ROOF COMPARTMENT LIGHTS

Three (3) RED LED strip compartment light(s) shall be provided, to ensure proper compartment illumination.

The lights shall be mounted underneath the roof compartment door opening and shall be activated with a magnetic door switch that shall be connected to the door ajar warning circuit.

MARKER/TURN LIGHTS AT EACH SIDE OF BODY

Red, LED marker lights with integral reflectors shall be provided at the lower side rear, having one (1) on each side.

Yellow, LED side marker and turn lights shall be provided on the apparatus lower side, forward of rear axle that puts one (1) on each side, if the apparatus is 30' long or longer.

DOT MARKER LIGHTS AT REAR OF BODY

Red, LED clearance lights shall be provided on the apparatus rear upper having one (1) on each side at the outermost practical location.

Red, LED, 3-lamp identification bar will be provided on the apparatus rear center.

DOT AMBER REFLECTORS AT SIDE OF BODY

Yellow reflectors shall be provided on the apparatus body lower side, as far forward and low as practical with one (1) on each side if the apparatus is 30' long or longer.

DOT RED REFLECTORS AT REAR OF BODY

Red reflectors shall be provided on the apparatus rear with one (1) on each side at the outermost practical location.

LED LICENSE PLATE LIGHT

One (1) LED license plate light shall be provided above the mounting position of the license plate. The light shall be clear in color and shall have a chrome finish.

LED BRAKE, REVERSE, TURN W/ QUAD HOUSING

Two (2) LED red combination tail and stop lights, shall be mounted one each side at the rear of the body.

Two (2) LED amber arrow turn signal lights, shall be mounted one each side, on a vertical plane with the tail/stop lights.

Two (2) LED white back-up lights, shall be mounted one each side on a vertical plane with the turn/tail/ stop signals.

These lights shall activate when the transmission is placed in reverse gear.

Two (2) mounting flanges, installed one (1) on each side, shall be provided to mount the lights described above in one common mounting flange.

The fourth opening shall be for the lower rear warning lights.

The lights shall be mounted in order, from top to bottom, as described above.

BODY STEP LIGHTS, LED

Two (2) LED, horizontal surface, mounted body step lights shall be provided and controlled with marker light actuation.

Step lights shall be located to properly illuminate all body access steps and walkway areas and shall include a mounting gasket to provide a watertight seal.

PUMP ENCLOSURE WORK LIGHTS - LED

Two (2) lights shall be provided inside the pump enclosure, providing minimally 800 lumens each.

Each light shall have their own independent switch incorporated into the light head.

LED STRIP HOSE BED LIGHT-FRONT HOSEBED WALL

One (1) LED, strip surface mounted lights shall be mounted in the hose bed on the front wall to illuminate the hose bed area.

HIVIZ GUARDIAN ELITE SCENE LIGHTS ON REAR OF BODY

Two (2) Firetech HiViz Guardian Elite FT-GESM, LED scene lights shall be provided, (1) one on each side of the rear body panel in a chrome plated flange.

Each light shall be 11” wide by 9” high by 3” deep, draw 10 amps, and produce 10,491 lumens.

The scene lights shall be wired through the load management system.

HIVIZ GUARDIAN ELITE SCENE LIGHTS ON DRIVER SIDE OF BODY

Two (2) Firetech HiViz Guardian Elite FT-GESM, LED scene lights shall be provided.

The scene lights shall be installed, one rearward and one forward, on the driver side of the body in a chrome plated flange.

Each light shall be 11” wide by 9” high by 3” deep, draw 10 amps, and produce 10,491 lumens.

The scene lights shall be wired through the load management system.

HIVIZ GUARDIAN ELITE SCENE LIGHTS ON OFFICER SIDE OF BODY

Two (2) Firetech HiViz Guardian Elite FT-GESM, LED scene lights shall be provided.

The scene lights shall be installed, one rearward and one forward, on the officer side of the body in a chrome plated flange.

Each light shall be 11” wide by 9” high by 3” deep, draw 10 amps, and produce 10,491 lumens.

The scene lights shall be wired through the load management system.

REAR SCENE LIGHTS TO BE ACTIVATED BY REVERSE LIGHT

In addition to the cab mounted pump panel switches for the rear scene lights, the rear scene lights shall illuminate when the transmission is placed in reverse gear and the apparatus is operating as an emergency vehicle (Primary Warning switch on).

REAR TRAFFIC WARNING LIGHT

One (1) LED "Traffic Advisor", rear directional light shall be installed on the rear of the body.

The directional light shall be activated by a control module.

The control module shall be conveniently located near the driver's position.

The rear directional light shall be wired through the load management system of the unit.

SIX (6) NEMA 5-15 DUPLEX RECEPTACLES BODY COMPARTMENTS

Six (6) 120 volt, NEMA 5-15, 15 amp, duplex straight blade receptacles with a grey thermoplastic, corrosion resistant, weatherproof cover shall be installed one (1) in each L1,L2,L3,R1,R2 and R3 compartments. Each receptacle shall be wired to the shoreline receptacle and inverter. Should be mounted in the compartment as high and far forward as possible.

ONE (1) RECEPTACLE - EMS COMPARTMENT

One (1) 120 volt, NEMA 5-15, 15 amp, duplex straight blade receptacle with a grey thermoplastic, corrosion resistant, weatherproof cover shall be installed in the cab EMS compartment. This receptacle shall be wired to the shoreline connection and inverter.

WHELEN HOWLER, LOW FREQUENCY SIREN

One (1) Whelen HOWLER low frequency siren shall be provided and installed. The Howler shall use the output of a standard emergency vehicle siren and shall synthesize a low frequency vibrating signal. The Howler shall amplify this signal to drive Whelen low frequency speakers. The Howler shall incorporate the latest solid-state designs for superior reliability and sound quality. The system shall be comprised of an amplifier, two speakers, a timer, and mounting hardware. The siren shall be controlled with a two (2) position momentary switch, located on the cab dash, to allow the operator to turn the Howler on or off while the main siren is activated.

Two (2) switches will be provided for the Howler, one (1) on the driver's side and one (1) on the officer's side of the cab dash.

FIRECOM INTERCOM SYSTEM

A Firecom model # 5100D digital intercom system shall be provided in the front of the cab.

The system shall be capable of interfacing with a two-way radio system (note: an authorized two-way radio installer shall be responsible for interfacing the intercom system with the two-way radio).

The system shall have the following features:

- Single radio monitor and transmit selector switch
- Touch-pad adjustable volume and squelch
- Advanced digital signal processing noise-reduction
- Single auxiliary input/output connection
- Nominal 12v power supply
- Six (6) jacks for wired headset connections; expandable up to twelve (12) daisy-chained wired headsets

The intercom system shall include:

Two (2) UH-51 single-plug under helmet radio transmit headsets shall be furnished for the driver and officer seating locations in the cab.

The headsets shall have adjustable volume, noise-canceling electric microphone, adjustable head strap, and a flex-style boom which rotates for left or right dress.

The sets shall also have ComLeather ear seals.

Two (2) HM-10 plug in modules shall be furnished at the drivers and officer's locations in the forward area of the cab.

FIRECOM, TWO (2) HELMET HOLDER HOOKS IN FRONT OF CAB

Two (2) 108-0678-00 yellow, NFPA compliant, rubber coated steel headset hanger hooks shall be furnished in the front section of the cab to hold the driver and offer intercom headsets while not in use.

FIRECOM CONTROLLED FROM MASTER INTERCOM AND REMOTE HEAD

The Firecom shall be controlled by the 5100D master station as well as a 5100DRH remote head that shall be surface mounted in the cab as directed by the fire department.

The remote head shall have the same controls as the master base station.

FIRECOM, ONE (1) RADIO INTERFACE CABLE

One (1) radio interface cable, model # 110-5101-30 and one (1) extension cable model # 108-0086-00 shall be provided and installed from the FireCom base unit to the area of where the mobile radio base station shall be mounted.

The end of the cable that connects to the mobile radio shall be un-terminated and shall be the responsibility of the radio installer to provide and install the correct adapter to connect the cable to the mobile radio.

FIRECOM, TWO (2) UH-51 INT/RADIO HEADSETS FOR CREW

Two (2) UH-51 single-plug under helmet intercom/radio transmit headsets shall be furnished for two (2) rear jump seat locations. The intercom headsets shall have adjustable volume, noise-canceling electric microphone, adjustable head strap, and a flex-style boom which rotates for left or right dress. The sets shall also have comfortable ComLeather ear seals.

FIRECOM, TWO (2) HM-10 PLUG-IN MODULE IN REAR CREW

Two (2) HM-10 plug in modules shall be furnished in the rear crew area of the cab at the jump seat locations to accommodate the intercom headsets.

FIRECOM, TWO (2) HELMET HOLDER HOOKS IN CAB

Two (2) 108-0678-00yellow, NFPA compliant, rubber coated steel headset hanger hooks shall be furnished to hold the intercom headsets while not in use.

KNOX SYSTEM

Knox Secure 5 system with mount shall be provided, installed and associated wiring in a location on the dog box. Location provided by Jasper County Fire Rescue.

HALE QMAX-150 1500 GPM SINGLE STAGE PUMP

- HALE QMAX-150
- 1500 G.P.M.

Single Stage The pump must deliver the percentage of rated capacity at the pressure listed below:

- 100% of rated capacity at 150 P.S.I. net pump pressure
- 100% of rated capacity at 165 P.S.I. net pump pressure
- 70% of rated capacity at 200 P.S.I. net pump pressure
- 50% of rated capacity at 250 P.S.I. net pump pressure.

The pump shall be of a size and design to mount on the chassis rails of commercial and custom truck chassis and have the capacity of 1500 gallons per minute (U.S. GPM), NFPA-1901 rated performance.

The entire pump shall be manufactured and tested at the pump manufacturer's factory. The pump shall be driven by a drive line from the truck transmission. The engine shall provide sufficient horsepower and RPM to enable the pump to meet and exceed its rated performance. The entire pump both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. The pump shall be fully tested at the pump manufacturer's factory to performance specs as outlined by the latest NFPA-1901. Pump shall be free from objectionable pulsation and vibration. The pump body and related parts shall be of fine grain alloy cast iron with a minimum tensile strength of 30,000 PSI. All moving parts in contact with water shall be of high quality bronze or stainless steel. Pumps utilizing castings made of lower tensile strength cast iron are not acceptable. Pump body shall be horizontally split, on a single plane in two sections for easy removal of entire impeller assembly including wear rings and bearings from beneath the pump without disturbing piping or the mounting of the pump in chassis.

Pump shaft to be rigidly supported by three bearings for minimum deflection. One high lead bronze sleeve bearing shall be located immediately adjacent to the impeller (on side opposite the gearbox). The sleeve bearing is to be lubricated by a force fed, automatic oil lubricated design, pressure balanced to exclude foreign material. The pump shaft shall be heat-treated, electric furnace, corrosion resistant stainless steel to be super-finished under packing with galvanic corrosion (zinc foil separators in packing) protection for longer shaft life. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of gearbox.

The pump shall have one double suction impeller. The pump body shall have two opposed discharge volute cutwaters to eliminate radial unbalance. Pump impeller shall be hard, fine grain bronze of the mixed flow design, accurately machined, and individually balanced. The vanes of the impeller intake eyes shall be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower. Impeller clearance rings shall be bronze, easily renewable without replacing impeller or pump volute body, and of wrap-around double labyrinth design for maximum efficiency.

PUMP RATIO

The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine and transmission selected.

The manufacturer shall supply at time of delivery copies of the pump manufacturer's certification of hydrostatic testing, the engine manufacturer's current certified brake horsepower curve.

PUMP MOUNTS - MID-SHIP PUMPS

Extra heavy duty pump mounting brackets shall be furnished.

These shall be bolted to the frame rails in such a position to perfectly align the pump so that the angular velocity of the drive line joints shall be the same on each end of the drive shaft.

This shall assure full capacity performance with a minimum of vibration. Mounting hardware shall utilize Grade 8 bolts.

HALE MECHANICAL PUMP SEAL

The mid ship pump shall be equipped with a high quality, spring loaded, self-adjusting mechanical seal capable of providing a positive seal to atmosphere under all pumping conditions.

This positive seal to atmosphere must be achievable under vacuum conditions up to 26 Hg (draft) or positive suction pressures up to 250 PSI.

The mechanical seal assembly shall be 2 inches in diameter and consists of a carbon sealing ring, stainless steel coil spring,

Viton rubber boot, and a tungsten carbide seat with a Teflon backup seal provided.

Only one (1) mechanical seal shall be required, located on the first stage suction (inboard) side of the pump and be designed to be compatible with a one piece pump shaft.

A continuous cooling flow of water from the pump shall be directed through the seal chamber when the pump is in operation.

HALE PUMP "G" DRIVE UNIT, ALL HALE FULL CAST PUMPS

The drive unit shall be completely assembled and tested at the pump manufacturer's factory.

Pump drive unit shall be of sufficient size to withstand up to 16,000 lbs. ft. of torque of the engine in both road and pump operating conditions.

The drive unit shall be designed of ample capacity for lubrication reserve and to maintain the proper operating temperature.

The gearbox drive shafts shall be of heat treated chrome nickel steel and at least 2-3/4 inches in diameter on both the input and output drive shafts.

They shall withstand the full torque of the engine in both road and pump operating conditions.

All gears, both drive and pump, shall be of the highest quality electric furnace chrome nickel steel.

Bores shall be ground to size and teeth integrated, chrome-shaven and hardened, to give an extremely accurate gear for long life, smooth, quiet running and higher load carrying capability.

An accurately cut spur design shall be provided to eliminate all possible end thrust.

PUMP SHIFT MANUAL OVERRIDE

An emergency manual pump shift control shall be furnished on the left side pump panel which may be utilized if the air shift control does not operate.

HALE PUMP SHIFT INDICATOR LIGHTS

For automatic transmissions, three (3) green warning lights shall be provided to indicate to the operator(s) when the pump has completed the shift for Road to Pump position.

Two (2) green lights to be located in the truck driving compartment and one (1) green light on pump operator's panel adjacent to the throttle control.

For manual transmissions, one (1) green warning light shall be provided for the driving compartment.

All lights to have appropriate identification/instruction plates.

HALE THERMAL RELIEF VALVE - LIGHT AND BUZZER

A Hale Model TRV-L120 Thermal Relief Valve shall be provided on the pump.

If water temperature in the pump exceeds 120 degrees Fahrenheit, the thermal relief valve shall automatically open and discharge pump water to the ground, through a 3/8" discharge line, routed below the pump module. The TRV shall include a warning lamp and buzzer.

The thermal relief valve shall automatically close when the water temperature is lowered.

AUXILIARY ENGINE COOLER

An auxiliary cooler or heat exchanger shall be installed in the engine compartment between the engine and the chassis radiator.

The cooler shall permit the use of water from the pump for cooling the engine.

The cooling shall be done without mixing engine and pump water.

FIRE SERVICE PRESSURE GOVERNOR

The apparatus shall be equipped with a pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof.
The following continuous displays shall be provided:

- Pump discharge; shown with four daylight bright LED digits more than 1/2" high
- Pump Intake; shown with four daylight bright LED digits more than 1/2" high
- Pressure / RPM setting; shown on a dot matrix message display
- Pressure and RPM operating mode LEDs
- Throttle ready LED
- Engine RPM; shown with four daylight bright LED digits more than 1/2" high
- Check engine and stop engine warning LEDs
- Oil pressure; shown on a dual color (green/red) LED bar graph display
- Engine coolant temperature; shown on a dual color (green/red) LED bar graph display
- Transmission Temperature: shown on a dual color (green/red) LED bar graph display
- Battery voltage; shown on a dual color (green/red) LED bar graph display.

- The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and night time operation.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:

- High Battery Voltage
- Low Battery Voltage (Engine Off)
- Low Battery Voltage (Engine Running)
- High Transmission Temperature
- Low Engine Oil Pressure
- High Engine Coolant Temperature
- Out of Water (visual alarm only)
- No Engine Response. (visual alarm only)

The program features shall be accessed via push buttons located on the front of the control panel. There shall be an USB port located at the rear of the control module to upload future firmware enhancements.

Inputs to the control panel from the pump discharge and intake pressure sensors shall be electrical. The discharge pressure display shall show pressures from 0 to 600 psi. The intake pressure display shall show pressures from -30 in. Hg to 600 psi.

FIRE SERVICE PRESSURE GOVERNOR CONT'D.

The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM 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. Other 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 pressure governor, monitoring, and master pressure display shall be programmed to interface with a specific engine.

TASK FORCE TIPS #A18 SERIES INTAKE RELIEF VALVE

A Task Force Tips relief valve shall be provided.

The valve shall be adjustable from 50 to 300 psi (3 to 14 bar) with easy to see 25 psi (2 bar) increments.

The aluminum casting shall be hardcoat anodized, and powder coat finished inside and out for maximum corrosion protection.

TRIDENT REMOTE PRIMING VALVE - REAR SUCTION

An additional primer control valve shall be furnished to prime the rear suction.

The Trident Emergency products RPV (remote priming valve) shall activate using the same air that powers the AirPrime system when the coinciding panel valve is depressed.

TRIDENT "MANUAL" AIR PRIMING SYSTEM

The priming pump will be a Trident air primer system.

A push in primer handle will open the priming valve and prime the pump.

ROTARY MASTER DRAIN VALVE

A rotary type, 12 port, master drain valve shall be provided and controlled at the lower portion of the side pump panel.

The valve shall be located in pump compartment lower than the main body and connected in such a manner as to allow complete water drainage of the pump body and all required accessories.

Water shall be drained below the apparatus body and away from the pump operator.

DRAINS/BLEEDER

All lines shall drain through the master drain valve or shall be equipped with individual drain valves, easily accessible, and labeled.

Drain/bleeder valves shall be located at the bottom of the side pump module panels. All drains and bleeders shall discharge below the running boards.

SUCTION INLETS - 6” INLETS

Two (2) 6" N.S.T. suction inlets shall be provided, one on the driver side and one on the officer side pump panel.

A removable strainer shall be installed on each inlet.

SHORT NECK MAIN PUMP SUCTION INLETS

The main pump suction inlets shall be furnished with a short suction end, terminating with only the suction threads protruding through the side panel to minimize the distance an exterior appliance protrudes beyond the pump panel.

BEHIND PANEL MOUNT

All side gated inlet valves shall be recess mounted behind the side pump panels or body panels. There will be no exceptions.

6" NST INTAKE CAP – OFFICER SIDE

A 6" NST chrome plated long handle pressure vented cap shall be installed on officer side intake.

DELETE SUCTION INLET CAP DRIVER SIDE

The suction cap provided as standard equipment shall be deleted.

6" NH - 5" STORZ TFT JUMBO B.I.V. #AX1ST-NX – DRIVER SIDE INLET

One (1) 6" NH x 5" Storz Jumbo Ball Intake Valve AX1ST-NX 30° degree adapter and 5" storz cap shall be provided for the driver side main suction inlet.

6" NH - 5" STORZ TFT JUMBO B.I.V. #AX1ST-NX – OFFICER SIDE INLET

One (1) 6" NH x 5" Storz Jumbo Ball Intake Valve AX1ST-NX 30° degree adapter and 5" storz cap shall be provided for the officer side main suction inlet.

6" REAR SUCTION

A 6" N.S.T. rear suction inlet shall be provided at the rear of the vehicle, plumbed from the pump.

REAR SUCTION TO TERMINATE AT OFFICER SIDE REAR BODY PANEL

The rear suction inlet shall terminate on the rear body panel on the officer side of the body.

6" NST MALE THREADS ON REAR SUCTION

The rear suction pipe shall be furnished with 6" NSTM threads.

REAR SUCTION, PLUMBING, 5" STAINLESS STEEL PIPING

The rear inlet shall be plumbed utilizing 5", schedule 10 stainless steel piping, 45 degree elbows, and a limited number of 90 degree sweep elbows in an assembly from the pump to the rear of the vehicle.

A minimum of two (2) grooved pipe couplings shall be furnished in this assembly to allow for flex and serviceability.

6" NST X 5" STORZ KOCHEK SKE56 ADAPTER W/ CAP FOR REAR SUCTION

A 6" NST x 5" Storz Kochek SKE56R adapter and cap shall be provided for the specified rear suction.

HALE MIV BUTTERFLY VALVE FOR REAR SUCTION

The rear suction plumbing shall be fitted with a 6" Hale Master Intake Valve (MIV).

The valve shall be in the pump enclosure area with a manual override located directly on the valve actuator.

The valve body and all related components that are in contact with water shall be manufactured of fine grained, corrosion resistant bronze.

The valve housing shall incorporate a pressure relief valve, set at the pump manufacturers facility to a rating of 125 PSI.

The pressure relief valve shall provide protection for the suction hose even with the valve in the closed position.

The valve shall incorporate a NFPA compliance, large diameter hose air bleed valve, controlled at the operator's panel.

HALE MIV ELECTRIC VALVE - REAR SUCTION CONNECTION

The rear suction valve shall be operated by a twelve (12) volt DC motor, controlled form the pump operator's panel.

It shall also incorporate a manual override, mounted at the valve.

The electric control shall incorporate a placard with status lights to indicate whether the valve is in the closed, open or throttled position.

The valve shall not be able to move from fully open to fully closed in under three (3) seconds, in compliance with NFPA-1901.

2-1/2" DRIVER SIDE AUXILIARY PRIMARY SUCTION INLET FORWARD OF MAIN INLET

One (1) 2-1/2" auxiliary suction shall be provided at the driver side pump panel, to the front of the main inlet.

The 2-1/2" auxiliary suction shall terminate with a removable strainer, chrome plated 2-1/2" NST female swivel with a chrome plated plug and retaining chain.

2-1/2" AKRON #8800 S.S. BALL VALVE, DRIVER SIDE AUXILIARY PRIMARY SUCTION

An Akron Brass 2 1/2" Generation II Swing-Out Valve shall be provided for the driver's side front auxiliary suction.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

SWING CONTROL AT VALVE, DRIVER SIDE AUXILIARY PRIMARY SUCTION

A 1/4 turn swing control handle shall be provided on the driver side, front auxiliary suction valve.

2-1/2" OFFICER SIDE AUXILIARY SUCTION INLET FORWARD OF MAIN INLET

One (1) 2-1/2" auxiliary suction shall be provided at the officer side pump panel, to the front of the main inlet (if space and other components allow).

The 2-1/2" auxiliary suction shall terminate with a removable strainer, chrome plated 2-1/2" NST female swivel with a chrome plated plug and retaining chain.

2-1/2" AKRON #8800 VALVE, OFFICER SIDE FRONT AUXILIARY SUCTION

An Akron Brass 2 1/2" Generation II Swing-Out™ Valve will be provided for the officer's side front auxiliary suction. The valve will have an all-brass body with flow optimizing stainless steel ball and dual polymer seats.

SWING CONTROL AT VALVE, OFFICER SIDE AUXILIARY SUCTION

A 1/4 turn swing control handle shall be provided on the officer side auxiliary suction valve.

TANK TO PUMP

One (1) 4" tank to pump line shall be piped through the front bulkhead of the tank with a 90 degree elbow down into the tank sump.

This line shall be plumbed directly into the rear of the pump suction manifold for maximum efficiency.

A check valve shall be provided to prevent accidental pressurization of the water tank through the pump connection.

Connection from the valve to the tank shall be made by using a non-collapsible flexible rubber hose.

3" AKRON #8800 SERIES - S.S. BALL, VALVE, TANK TO PUMP

An Akron Brass 3" Generation II Swing-Out Valve shall be provided between the pump suction manifold and the water tank.

The valve shall have an all brass body with flow optimizing, stainless steel ball and dual polymer seats.

3" PUSH/PULL CONTROL FOR TANK TO PUMP

A push/pull control handle shall be located on the operator's panel with function plate.

TANK FILL LINE 2" FROM PUMP

One (1) 2" gated full flow pump to tank refill line controlled at the pump panel shall be provided. A deflector shield inside the tank shall be furnished. Tank fill plumbing shall utilize 2" high pressure hose for tank connection to accommodate flexing between components. There will be no exceptions.

2" AKRON #8800 SERIES - S.S. BALL, VALVE TANK FILL

An Akron Brass 2" Generation II Swing-Out Valve shall be provided between the pump discharge manifold and the water tank.

The valve shall have an all brass body with flow optimizing, stainless steel ball, and dual polymer seats.

PUSH/PULL CONTROL FOR TANK FILL

A push/pull control handle shall be located on the operator's panel with function plate.

DRIVER SIDE MAIN DISCHARGE #1

A discharge shall be provided and located at the driver's side pump panel.

The driver's side discharges # 1 shall terminate with NST threads, through the left panel above the main pump intake.

The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges.

2-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE DRIVER SIDE DISCHARGE #1

An Akron Brass 2 1/2" Generation II Swing-Out Valve shall be provided for the driver's side #1 discharge.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

DRIVER SIDE DISCHARGE #1 - 2-1/2" STRAIGHT NST & 30-DEGREE NST ELBOW

The discharge valve shall be equipped with a straight 2 1/2" NST adapter that shall be equipped with a 2 1/2" NST, 30-degree, chrome plated elbow.

2-1/2" NST PRESSURE VENTED CAP - DRIVER SIDE DISCHARGE #1

A 2 1/2 " NST, chrome plated pressure vented cap shall be installed on driver's side #1 discharge.

PUSH/PULL CONTROL FOR DRIVER SIDE DISCHARGE #1

The driver's side # 1 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - DRIVER SIDE DISCHARGE #1

The driver's side # 1 discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

The gauge shall have a rugged, corrosion free stainless steel case and clear scratch resistant molded crystals with captive, O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous, bronze, bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

OFFICER SIDE MAIN DISCHARGE #1

A discharge shall be provided and located at the officer's side pump panel.

The officer's side discharges #1 shall terminate with NST threads, through the officer's side panel above the main pump intake.

The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges.

4" AKRON #8840 VALVE, OFFICER SIDE DISCHARGE #1

An Akron Brass, 4" Heavy Duty, Swing-Out Valve shall be provided for the officer's side #1 discharge.

The valve shall have an all brass body with flow optimizing, flat ball, and dual polymer seats

OFFICER SIDE DISCHARGE #1 - 4" STRAIGHT NST & 30-DEGREE NST ELBOW

The discharge valve shall be equipped with a straight, 4" NST adapter that shall be equipped with a 4" NST, 30-degree, chrome plated elbow.

4" NSTF X 5" STORZ KOCHEK S37S STRAIGHT ADAPTER WITH CAP

A 4" NSTF X 5" Storz Kochek, S37S straight adapter with cap shall be provided on the officer's side # 1 discharge.

AKRON HANDWHEEL GEAR VALVE CONTROL, OFFICER SIDE DISCHARGE #1

The officer's side # 1 discharge valve shall be gated with an Akron Hand wheel controlled, inline valve.

The valve shall be controlled at the pump operator's panel with a chrome plated hand wheel and mechanical valve position indicator.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - OFFICER SIDE DISCHARGE #1

The officer's side, # 1 discharge shall be equipped with a 2.5", Innovative Controls pressure gauge.

The gauge shall have a rugged, corrosion free, stainless steel case and clear, scratch resistant, molded crystals with captive, O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous, bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished, chrome-plated, stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

OFFICER SIDE MAIN DISCHARGE #2

A discharge shall be provided and located at the officer's side pump panel.

The officer's side discharges #2 shall terminate with NST threads, through the officer's side panel above the main pump intake.

The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges.

2-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE OFFICER SIDE DISCHARGE #2

An Akron Brass, 2 1/2" Generation II, Swing-Out Valve shall be provided for the officer's side #2 discharge.

The valve shall have an all brass body with flow optimizing, stainless steel ball, and dual polymer seats.

OFFICER SIDE DISCHARGE #2 - 2-1/2" STRAIGHT NST & 30-DEGREE NST ELBOW

The discharge valve shall be equipped with a straight, 2 1/2" NST, adapter that shall be equipped with a 2 1/2" NST, 30-degree, chrome plated elbow.

2-1/2" NST PRESSURE VENTED CAP - OFFICER SIDE DISCHARGE #2

A 2 1/2" NST, chrome plated, pressure vented cap shall be installed on officer's side #2 discharge.

PUSH/PULL CONTROL FOR OFFICER SIDE DISCHARGE #2

The officer's side, #2 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - OFFICER SIDE DISCHARGE #1

The officer's side, #2 discharge shall be equipped with a 2.5", Innovative Controls, pressure gauge.

The gauge shall have a rugged, corrosion free, stainless steel case and clear, scratch resistant, molded crystals with captive, O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation, and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous, bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished, chrome-plated, stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

DRIVER SIDE HOSE BED DISCHARGE

A 2 1/2" rear hose bed discharge shall be plumbed to the upper front body panel, extending into the front of the hose bed.

DRIVER SIDE HOSE BED DISCHARGE TERMINATE AT FLOOR LEVEL FRONT

The rear hose bed discharge shall terminate just above the hosebed floor, in the driver side front of the hose bed.

2-1/2" NST MALE THREADS ON DRIVER SIDE HOSE BED DISCHARGE

The driver side hose bed discharge pipe shall be equipped with a chrome 2 1/2" NSTM thread adapter.

DRIVER SIDE HOSE BED DISCHARGE, PLUMBING, 2-1/2" STAINLESS STEEL PIPING

The driver side hose bed discharge shall be plumbed utilizing 2 1/2" schedule 10 stainless steel piping, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to the rear of the vehicle.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability.

2-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE DRIVER SIDE HOSE BED DISCHARGE

An Akron Brass 2 1/2" Generation II Swing-Out Valve shall be provided for the driver's side hose bed rear discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

PUSH/PULL CONTROL FOR DRIVER SIDE HOSE BED DISCHARGE

The driver side hose bed discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - DRIVER SIDE HOSE BED DISCHARGE

The driver's side hose bed discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

The gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

OFFICER SIDE HOSE BED DISCHARGE

A 2 1/2" rear hose bed discharge shall be plumbed to the upper front body panel, extending into the front of the hose bed.

OFFICER SIDE HOSE BED DISCHARGE TERMINATE AT FLOOR LEVEL FRONT

The rear hose bed discharge shall terminate just above the hose bed floor, in the officer's side front of the hose bed.

2-1/2" NST MALE THREADS ON OFFICER SIDE HOSE BED DISCHARGE

The officer's side hose bed discharge pipe shall be equipped with a chrome 2 1/2" NSTM thread adapter.

OFFICER SIDE HOSE BED DISCHARGE, PLUMBING, 2-1/2" STAINLESS STEEL PIPING

The officer's side hose bed discharge shall be plumbed utilizing 2 1/2" schedule 10 stainless steel piping, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to the rear of the vehicle.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability.

2-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE OFFICER SIDE HOSE BED DISCHARGE

An Akron Brass 2 1/2" Generation II Swing-Out Valve shall be provided for the hose bed officer's side rear discharge.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

PUSH/PULL CONTROL FOR OFFICER SIDE HOSE BED DISCHARGE

The officer's side hose bed discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - OFFICER SIDE HOSE BED DISCHARGE

The officer's side hose bed discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

The gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

DECK GUN DISCHARGE

A deck gun discharge shall be plumbed from the pump to an area on top of the vehicle.

The deck gun piping shall be firmly supported and braced.

DECK GUN DISCHARGE TERMINATE MIDDLE OF DUNNAGE

The deck gun discharge shall be located in the dunnage area above the pump module in the center of the vehicle.

A pedestal type, 1/4" steel plate support assembly shall be provided to stabilize deck gun plumbing below deck gun mount flange.

DECK GUN DISCHARGE TERMINATION TO MATCH DECK GUN

The deck gun discharge pipe shall terminate with a connection matching the specified deck gun model and accessories.

DECK GUN DISCHARGE OVERALL HEIGHT

Deck gun height will be limited to the critical overall apparatus height listed in the spec. To avoid excessive travel heights the monitor will be positioned as low a practical while still allowing functionality of water stream.

DECK GUN DISCHARGE, PLUMBING, 3" STAINLESS STEEL PIPING

The deck gun discharge shall be plumbed utilizing 3" schedule 10 stainless steel piping, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to the deck gun location.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability.

3" AKRON #8800 SERIES - S.S. BALL, VALVE DECK GUN DISCHARGE

An Akron Brass 3" Generation II Swing-Out Valve shall be provided for the deck gun discharge.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

ADDITIONAL 3" AKRON #8800 SERIES - S.S. BALL, VALVE DECK GUN DISCHARGE

The deck gun shall have a secondary valve provided in the deck gun plumbing.
One (1) 3”Akron, #8800 series, full flow, stainless steel ball valve with swing arm control will be provided for the deck gun discharge in the dunnage area so that the person operating the deck gun can adjust the water flow through the device. This valve will be a “Slo-Cloz” valve. The valve will be equipped with the Akron "Tork-Lok" feature.

AKRON HANDWHEEL GEAR VALVE CONTROL, DECK GUN DISCHARGE

The deck gun discharge shall be gated with an Akron Hand wheel controlled, inline valve.

The valve shall be controlled at the pump operator's panel with a chrome plated hand wheel and mechanical valve position indicator.

3" TFT MANUAL EXTEND-A-GUN (18") PIPE

To improve the operation range of the deck gun, the discharge pipe shall be outfitted with a TFT (18") Extend-A-Gun, part # XG18VL-**. The Extend-A-Gun shall be wired to the hazard light on the cab dash.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - DECK GUN DISCHARGE

The deck gun discharge shall be equipped with a 2.5" diameter Innovative Controls pressure gauge.

The gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

ELKHART #8294 "SCORPION" MANUAL DECK GUN - HAND WHEEL

An Elkhart Scorpion 8294 series monitor shall be supplied and mounted on the deck gun discharge of the unit to provide the maximum travel clearance.

The deck gun position shall be controlled with hand wheels.

ELKHART ST-195 TRIPLE STACKED TIPS

A set of Elkhart #ST-195, 3-1/2" inlet, triple stacked tips shall be provided with the monitor.

ELKHART 284-A 3-1/2" STREAM SHAPER

An Elkhart #284-A 3-1/2" stream straightener shall be provided with the monitor.

FRONT DISCHARGE

A 1 1/2" front #1 discharge shall be plumbed to the front bumper compartment of the vehicle.

1-1/2" NST CHICKSAN SWIVEL FRONT DISCHARGE - HOSE WELL ON FRONT BUMPER

The front #1 discharge shall terminate with a brass 1 1/2" NST chicksan swivel adapter in the hose well on the front bumper.

FRONT DISCHARGE, PLUMBING 2”

The manufacturer will complete the plumbing provided by the chassis manufacturer by providing 2" schedule 10 stainless steel piping, flexible hosing, 45 degree elbows, and a limited number of 90 degree sweep elbows in an assembly from the pump to the termination of the pre-plumbed piping.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability.

Automatic discharge drains shall be provided at all low points in the plumbing.

2" AKRON #8800 SERIES - S.S. BALL, VALVE FRONT DISCHARGE

An Akron Brass 2" Generation II Swing-Out Valve shall be provided for the front #1 discharge.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

PUSH/PULL CONTROL FOR FRONT DISCHARGE

The front #1 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - FRONT DISCHARGE

The front #1 discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

The gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

CROSSLAY #1

designed to be removable and constructed from brushed finish, perforated aluminum material.

CROSSLAY #1 CAPACITY - 200 FEET OF 1-3/4" HOSE

Crosslay #1 shall be designed to have a minimum total capacity of 3.5 cubic feet as required by NFPA -1901 to accommodate a minimum of 200 feet of 1-3/4" fire hose.

CROSSLAY #1 DESIGN - SINGLE STACK HOSE DESIGN

Crosslay #1 hose bed shall be designed to accommodate the fire hose in a single stack configuration.

1-1/2" NST CHICKSAN SWIVEL - CROSSLAY #1

The crosslay discharge shall terminate below the hosebed floor with a 1 1/2" NSTM chicksan swivel adapter.

The crosslay hose bed floor shall be slotted to allow the swivel to extend up through the floor, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection.

CROSSLAY #1, PLUMBING, 2" STAINLESS STEEL PIPING

The crosslay #1 discharge shall be plumbed utilizing 2" schedule 10 stainless steel piping and/or flexible hose, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to crosslay hose bed.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly, if necessary, to allow for flex and serviceability.

2" AKRON #8800 SERIES - S.S. BALL, VALVE CROSSLAY #1

An Akron Brass 2" Generation II Swing-Out Valve shall be provided for the crosslay #1 discharge.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

A crosslay hose bed shall be provided and plumbed from the pump in a transverse design, located above the pump enclosure for quick attack deployment. The crosslay hose bed flooring shall be

PUSH/PULL CONTROL CROSSLAY #1

The crosslay #1 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - CROSSLAY #1

The crosslay #1 discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

The gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

CROSSLAY #2

designed to be removable, constructed from brushed finish, perforated aluminum material.

CROSSLAY #2 CAPACITY - 200 FEET OF 2-1/2" HOSE

Crosslay #2 shall be designed to have a minimum total capacity of 3.5 cubic feet as required by NFPA-1901 to accommodate a minimum of 200 feet of 2 1/2" fire hose.

CROSSLAY #2 - SINGLE STACK HOSE DESIGN

Crosslay #2 hose bed shall be designed to accommodate the fire hose in a single stack configuration.

2-1/2" NST CHICKSAN SWIVEL - CROSSLAY #2

The crosslay discharge shall terminate above the crosslay tray with a 2 1/2" NSTM chicksan swivel adapter.

The swivel shall be positioned allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection.

CROSSLAY #2, PLUMBING, 2-1/2" STAINLESS STEEL PIPING

The crosslay #2 discharge shall be plumbed utilizing 2 1/2" schedule 10 stainless steel piping and/or flexible hose, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to crosslay hosebed.

A minimum of one(1) grooved pipe coupling shall be furnished in this assembly, if necessary, to allow for flex and serviceability.

2-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE CROSSLAY #2

An Akron Brass 2 1/2" Generation II Swing-Out Valve shall be provided for the crosslay #2 discharge.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

A crosslay hose bed shall be provided and plumbed from the pump in a transverse design, located above the pump enclosure for quick attack deployment. The crosslay hose bed flooring shall be

PUSH/PULL CONTROL CROSSLAY #2

The crosslay #2 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - CROSSLAY #2

The crosslay #2 discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

The gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

CROSSLAY #3

designed to be removable, constructed from brushed finish, perforated aluminum material.

CROSSLAY #3 CAPACITY - 200 FEET OF 1-3/4" HOSE

Crosslay #3 shall be designed to have a minimum total capacity of 3.5 cubic feet as required by NFPA -1901 to accommodate a minimum of 200 feet of 1-3/4" fire hose.

CROSSLAY #3 - SINGLE STACK HOSE DESIGN

Crosslay #3 hose bed shall be designed to accommodate the fire hose in a single stack configuration.

1-1/2" NST CHICKSAN SWIVEL - CROSSLAY #3

The crosslay discharge shall terminate below the hosebed floor with a 1 1/2" NSTM chicksan swivel adapter.

The crosslay hose bed floor shall be slotted to allow the swivel to extend up through the floor, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection.

CROSSLAY #3, PLUMBING, 2" STAINLESS STEEL PIPING

The crosslay #3 discharge shall be plumbed utilizing 2" schedule 10 stainless steel piping and/or flexible hose, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to crosslay hose bed.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly, if necessary, to allow for flex and serviceability.

2" AKRON #8800 SERIES - S.S. BALL, VALVE CROSSLAY #3

An Akron Brass 2" Generation II Swing-Out™ Valve shall be provided for the crosslay #3 discharge.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

A crosslay hose bed shall be provided and plumbed from the pump in a transverse design, located above the pump enclosure for quick attack deployment. The crosslay hose bed flooring shall be

PUSH/PULL CONTROL CROSSLAY #3

The crosslay #3 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - CROSSLAY #3

The crosslay #3 discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

The gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case. The gauge shall have black graphics on a white background.

HARD CROSS LAY COVER

A treadplate cross lay cover shall be provided. It shall be hinged at the front and securely fastened at the rear.

BOOSTER REEL DISCHARGE

A 1 1/2" booster reel discharge shall be plumbed from the pump to the booster reel.

BOOSTER REEL DISCHARGE, PLUMBING, 1" HOSE

The booster reel discharge shall be plumbed from the valve to the hose reel utilizing 1" hose. The end of the hose connected to the hose reel shall be equipped with a swivel end for ease in hose replacement.

1-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE BOOSTER REEL DISCHARGE

A 1 1/2" Akron, #8800 series, full flow, stainless steel ball valve shall be provided for the booster reel #1 discharge.

PUSH/PULL CONTROL FOR BOOSTER REEL DISCHARGE

The booster reel discharge valve shall be controlled by a push/pull handle located on the operator's panel.

BOOSTER REEL - PAINTED STEEL

One (1) painted steel electric rewind booster reel shall be furnished.

The reel shall be equipped with a one (1) inch 90 full flow swivel joint and an adjustable brake for freewheeling, drag or full lock operation.

Color shall be Red.

BOOSTER REEL LOCATED INSIDE THE REAR COMPARTMENT

The booster reel #1 shall be mounted in the lowest portion of the rear compartment.

HOSE REEL REWIND FOOT SWITCH REAR PANEL

Booster reel rewind shall be controlled by foot-operated, saddle mounted push buttons mounted on the rear panel of the body.

The booster reel circuit shall be equipped with a shielded toggle switch to act as a booster reel disconnect to avoid accidental actuation of the booster reel rewind buttons.

BOOSTER REEL HOSE, 200 FEET OF 1" HOSE

Each booster reel shall be equipped with 200' of 1" booster hose in 100' sections.

Each length shall be fitted with NST couplings.

BOOSTER REEL HOSE ROLLERS

Two (2) Vertical hose rollers of polished stainless steel and guide spools shall be placed one (1) on each side of the rear compartment opening.

FOAM SYSTEM STAINLESS PIPING - 1 INCH FROM FOAM SOURCE

All foam concentrate plumbing from the tank or auxiliary foam inlet to the foam system components shall be stainless steel and nonferrous material.

The foam system piping shall incorporate a check valve to prevent water from entering the foam tank; the discharge piping shall also include a check valve to prevent foam solution from back feeding into the discharge side of the pump.

Individual discharge piping shall be as specified for each discharge.

The complete foam system shall be tested in accordance with NFPA-1901.

FOAMPRO 2001 CLASS "A AND/OR B" FOAM SYSTEM OR EQUIVALENT

A FoamPro model 2001, electronic, fully automatic, variable speed, direct injection, discharge side foam proportioning system shall be installed in the pumping system.

The system shall be capable of handling Class "A" foam concentrates and most Class "B" foam concentrates.

The foam proportioning operation shall be based on direct measurement of water flows, and remain consistent within the specified flows and pressures.

System must be capable of delivering accuracy to within 3% of calibrated settings over the advertised operation range when installed according to factory standards.

The system shall be equipped with a digital electronic control display suitable for installation on the pump panel.

Incorporated within the control display shall be a microprocessor that receives input from the system flow meter, while also monitoring foam concentrate pump output, comparing values to ensure that the operator preset proportional amount of foam concentrate is injected into the discharge side of the fire pump.

A paddlewheel-type flow meter shall be installed in the discharge or manifold system specified to be foam capable.

A Full flow check valve shall be provided to prevent foam contamination of fire pump and water tank or water contamination of foam tank.

A 12 or 24-volt electric motor drive positive displacement foam concentrate pump, rated up to 2.5 GPM (9.5 L/min) @ 150 psi with operating pressures up to 400 psi (27.6 BAR), shall be installed in a suitable, accessible location.

The system shall draw a maximum of 40 amps @ 12 VDC or 21 amps @ 24 VDC.

A pump motor electronic driver (mounted to the base of the pump) shall receive signals from the computer control display and power the 1/2 hp (0.40 Kw) electric motor directly coupled to the concentrate pump in a variable speed duty cycle to ensure that the correct proportion of concentrate preset by the pump operator is injected into the water stream.

FOAMPRO 2001 CLASS "A AND/OR B" FOAM SYSTEM, CONT'D.

The digital computer control display located on the pump operator's panel shall enable the pump operator to perform the following control and operation functions for the foam proportioning system:

- Provide push-button control of foam proportioning rates from 0.1% to 9.9%, in 0.1% increments
- Show current flow-per-minute of water

- Show total volume of water discharged during and after foam operations are completed
- Show total amount of foam concentrate consumed
- Simulate flow rates for manual operation
- Perform setup and diagnostic functions for the computer control microprocessor
- Flash a low concentrate warning when the foam concentrate tank(s) runs low
- Flash a no concentrate warning and shut the foam concentrate pump off, preventing damage to the pump, should the foam tank(s) empty

The digital computer control display shall interface with the options listed; provide dual foam calibration and display separate totals for each foam concentrate used.

If two foam tanks are required and piped to the foam concentrate pump, either an electric dual tank valve or the manual dual tank valve shall be provided.

Components of the complete proportioning system shall include:

- Operator control and display
- Paddlewheel flow meter
- Pump and electric motor/motor driver
- Wiring harnesses
- Low-level tank switch (Switches)
- Electronic dual tank valve or manual dual tank valve (if more than one tank)
- Foam injection check valve
- Main waterway check valve

Accurate concentration proportioning can be achieved, based on the following water flows:

- 85 GPM water 3.0% concentration
- 260 GPM water 1.0% concentration
- 520 GPM water 0.5% concentration
- 1300 GPM water 0.2% concentration

Note: Multiple discharges plumbed to this system may affect performance if the flow rates are exceeded by any one discharge or the totality of multiple discharges at one time!

INJECTION SYSTEM DISCHARGE PLUMBING

The discharge piping shall be equipped with a properly sized flow meter sensor, based on the systems capabilities.

The foam system shall be plumbed to the following discharge/s through the discharge piping or manifold system:

INJECTION FOAM SYSTEM INSTALLED ON CROSSLAY #1

Crosslay #1 discharge.

INJECTION FOAM SYSTEM INSTALLED ON CROSSLAY #2

Crosslay #2 discharge.

INJECTION FOAM SYSTEM INSTALLED ON CROSSLAY #3

Crosslay #3 discharge.

FOAM SYSTEM INSTALLED ON FRONT DISCHARGE

Front discharge.

INJECTION FOAM SYSTEM INSTALLED ON DS HB #1

Drivers side hosebed discharge #1

SIDE MOUNT PUMP MODULE

The pump module shall be a self-supported structure mounted independently from the body and chassis cab.

The design must allow normal frame deflection without imposing stress on the pump module structure or side running boards. The pump module shall be securely mounted to the chassis frame rails.

PUMP MODULE MATERIAL

The pump module shall be a welded framework utilizing structural aluminum components properly braced to withstand the rigors of chassis frame flex.

SIDE MOUNT DUNNAGE AREA

A dunnage area shall be provided above the pump enclosure for equipment mounting and storage. This area shall be furnished with a removable 3/16" tread plate floor and shall be enclosed on the sides.

NOTE: The size of this storage area may vary when top mounted crosslays, booster reel(s), etc., are specified and located in this area.

RUNNING BOARD STEPS

The driver and officer running board steps shall be fabricated of 3/16" tread plate.

The outside edge on each step shall be fabricated with a double break, return flange.

The steps shall be rigidly reinforced with a heavy duty support structure.

The running boards shall not form any part of the compartment design, and shall be bolted into place with a minimum 1/2" clearance gap between any panel to facilitate water runoff.

STORAGE WELL IN OFFICERS SIDE RUNNING BOARD (FLOATING)

A floating storage well, constructed of 1/8" aluminum, shall be recessed into the officer’s side running board.

The storage well shall measure 9" deep x 9" wide x as long as possible between the running board support members.

Drain holes shall be located in the bottom corners to allow water to drain from the storage well.

The front and rear bottom corners of the well shall have an angled face to help the well slide up if it strikes an object.

The entire well shall be a "floating" style that can easily shift up if an object is struck.

TWO (2) VELCRO STRAPS ON OFFICER'S SIDE STORAGE WELL

The officer's side running board hose well shall be furnished with Velcro straps to secure the hose stored in the well.

The straps shall be attached to each side of the hose well with stainless steel footman loops.

OFFICER SIDE WELL - HOSE CAPACITY

The driver's side storage well shall have the desired capacity of:

OFFICER SIDE WELL - 25 FEET OF 5" LDH HOSE

25' of 5" LDH hose

STORAGE WELL IN DRIVERS SIDE RUNNING BOARD (FLOATING)

A floating storage well, constructed of 1/8" aluminum, shall be recessed into the driver's side running board.

The storage well shall measure 9" deep x 9" wide x as long as possible between the running board support members.

Drain holes shall be located in the bottom corners to allow water to drain from the storage well.

The front and rear bottom corners of the well shall have an angled face to help the well slide up if it strikes an object.

The entire well shall be a "floating" style that can easily shift up if an object is struck.

TWO (2) VELCRO STRAPS ON DRIVERS SIDE STORAGE WELL

The officer's side running board hose well shall be furnished with Velcro straps to secure the hose stored in the well.

The straps shall be attached to each side of the hose well with stainless steel footman loops.

DRIVER'S SIDE WELL - HOSE CAPACITY

The driver's side storage well shall have the desired capacity of:

DRIVER'S SIDE WELL - 25 FEET OF 5" LDH HOSE

25' of 5" LDH hose

SIDE MOUNT PUMP PANEL

The pump operator's control panel shall be located on the driver side of the apparatus.

The pump enclosure side panels shall be completely removable and designed for easy access and servicing.

SIDE MOUNT PANELS - 14 GAUGE BRUSHED STAINLESS STEEL

The left side operator's panel, gauge panel, right side pump panel, and right side access door shall be fabricated from 14-gauge 304L stainless steel with a #4 (150/180 grit) standard brushed finish.

VERTICALLY HINGED GAUGE PANEL - SIDE MOUNT

A full width, vertically hinged gauge access panel shall be provided at the operator's position.

Chrome plated positive locks shall be provided along with chain holders to prevent the front of the gauge panel from coming in contact with other panels when open.

Bidder Complies	
Yes	No

OFFICER SIDE VERTICALLY HINGED PUMP ACCESS DOOR

The officer's side pump panel shall be split and vertically hinged to provide complete access to the pump and plumbing on the officer's side of the pump enclosure.

The panels shall be equipped with stainless steel hinges and secured with push type locks to hold the panels closed.

The drains located on the officer's side panel shall be fastened to the lower panel, which shall be stationary.

PANEL FASTENERS

Stainless steel machine screws and lock washers shall be used to hold these panels in position.

The panels shall be easily removable to provide complete access to the pump for major service.

CAPS AND ADAPTERS SAFETY TETHER - BALL CHAIN

All applicable discharge and suction caps, plugs and adapters shall be equipped with chrome plated ball chain and secured to the vehicle.

PUMP PANEL DISCHARGE/SUCTION TRIM PLATES

A high polished trim plate shall be provided around each discharge port and suction inlet opening to allow accessibility to the respective valve for service and repairs.

DISCHARGE GAUGE TRIM BEZELS

Each individual discharge gauge shall be installed into a decorative chrome-plated mounting bezel that incorporates valve-identifying verbiage and color labels, unless manufacturer supplied otherwise.

IDENTIFICATION PLATES

Color coded identification tags shall be provided for all gauges, controls, connections, switches, inlets and outlets.

PUMP OPERATOR'S PANEL LIGHT SHIELD

The pump operator’s panel shall be equipped with a light shield that shall be the full available width of the control panel, and shall be positioned to cover the lights and prevent glare. (Note: On apparatus with lowered style crosslays, the light shield shall be from the back of the crosslays to the rear of the pump house).

The light shield shall be equipped with the following lights:

LED - LIGHT SHIELD

Two (2) 20" led strip lights.

One (1) light under the operator's panel light shield shall be actuated when fire pump is engaged in addition to the pump engaged light.

LED LIGHTS - OS PUMP PANEL

Four (4) LED illumination lights mounted in horizontal stainless steel bezels and mounting gaskets.

The lights shall be switched with the main pump panel lights.

AIR HORN CONTROL BUTTON ON PUMP PANEL

Pump panel air horn actuation button labeled "EVACUATION" in white letters with a red background.

3/4" PUMP BY-PASS COOLER ON PUMP PANEL

3/4" Pump cooler (Bypass Line).

AIR INLET/OUTLET ON RIGHT SIDE PUMP PANEL

Air inlet/outlet chuck (right side panel).

PUMP PRESSURE & VACUUM TEST PORTS AT PANEL

The pump panel shall be equipped with Vacuum Pressure test plugs to allow for test equipment to monitor pump pressure and vacuum levels.

Chrome plugs and labels shall be provided for the test ports.

PUMP CERTIFICATION - 750 GPM & UP

The pump shall be third party performance tested to meet the requirements of NFPA-1901. There will be no exceptions.

WATER TANK

The water tank shall have a capacity of 900 gallons or more, constructed from Poly material, with a lifetime warranty.

WATER TANK FILL TOWER

The tank shall have a combination vent and manual fill tower.

The fill tower shall be constructed of 1/2" PT3 polypropylene and shall be a minimum dimension of 12" x 12" outer perimeter.

The tower shall have a 1/4" thick removable polypropylene screen and a PT3 polypropylene hinged cover.

The capacity of the tank shall be engraved on the top of the fill tower lid. Inside the fill tower there shall be a combination vent/overflow pipe.

The vent overflow shall be a minimum of schedule 40 polypropylene pipe with a minimum I.D. of that is designed to run through the tank, and shall be piped to discharge water behind the rear wheels as required in NFPA 1901 so as to not interfere with rear tire traction.

WATER TANK COMBINATION OVERFLOW VENT PIPE

The fill tower shall be fitted with an integral 4" I.D. schedule 40 P.V.C. combination overflow/vent pipe running from the fill tower through the tank to a 4" coupling flush mounted into the bottom of the tank to allow water to overflow behind the chassis rear axle.

WATER TANK DRAIN PLUG

A 3" drain plug shall be provided.

NOTCH THRU TANK

A water tank notch shall be provided to accommodate rear discharge or suction plumbing to the rear of the unit.

The tank sleeve shall be provided as part of the tank assembly by the tank manufacturer to allow installation of piping.

INTEGRAL FOAM TANK, 25 GALLON TANK "A"

Included in the total capacity of the water tank, a 25 gallon or greater integral foam storage area shall be built into the water tank.

The foam tank shall have a latched fill tower, properly labeled as the foam fill point.

A valved drain shall be provided.

INNOVATIVE CONTROLS WATER TANK LEVEL GAUGE

An Ultra-Bright LED water level monitor shall be provided on the pump operator's panel.

The level gauge shall contain ten (10) high intensity LEDs on the display in a vertical pattern allowing the full, 3/4, 1/2, 1/4 and refill levels to be easily distinguished at a glance.

WATER TANK LEVEL GAUGE PRESSURE TRANSDUCER

The gauge shall use a pressure transducer installed near the bottom of the water tank to determine the correct volume in the tank.

INNOVATIVE CONTROLS WATER TANK LEVEL GAUGE

A remote relay module shall be furnished to provide outputs for large indicator lights on the side of the vehicle.

CAB WATER TANK LEVEL GAUGE

A large light water level gauge system shall be provided on both sides of the cab or body. Each side shall have one (1) LED light mounted on the cab or body as directed. A wide-angle polycarbonate diffusion lens in front of the LEDs shall produce a 180 viewing angle.

The light shall be mounted as to indicate the following water levels and shall include the following colors to indicate the water level:

- Top light with green LEDS Full tank
- Second light with blue LEDS 3/4 tank
- Third light with amber LEDS 1/2 tank
- Fourth light with red LEDS 1/4 tank

The fourth light shall burn steady red to indicate 1/4 tank and shall start to flash when the water level drops below 1/4 tank. To prevent distraction to drivers, this tank level gauge shall be wired to display only when the park brake is engaged.

FOAM TANK "A" LEVEL GAUGE

An Ultra-Bright LED foam level monitor shall be provided on the pump operator's panel.

The level gauge shall contain ten (10) high intensity LEDs on the display in a vertical pattern allowing the full, 3/4, 1/2, 1/4 and refill levels to be easily distinguished at a glance.

The display shall use a two-dimensional, two-element lens to refract the light from the LEDs to provide full 180 visibility for the level indications.

GAUGE TRANSDUCER

The gauge shall use a pressure transducer installed near the bottom of the foam tank to determine the correct volume in the tank.

HALE EZ-FILL FOAM TANK REFILL SYS - SINGLE TANK

The apparatus shall be equipped with a Hale EZ-Fill foam transfer system for refilling the on-board foam cell.

The system operates by attaching a suction hose to a pre-plumbed panel connection using a positive seal quick connect fitting.

The pickup wand is then placed in the foam concentrate container.

EZ-Fill is an easy-to-operate fixed-mount 12- or 24-volt drive 5-gpm foam tank refill pump system.

EZ-Fill features push-button smart switch technology.

Just press the “Fill” or “Flush” button for a moment and the unit shall cycle either filling the foam concentrate reservoir or running through a flush cycle.

STEPPING, STANDING, WALKING SURFACES

All stepping, standing, and walking surfaces on the body shall meet NFPA #1901 anti-slip standards. tread plate utilized for stepping, standing, and walking surfaces shall be ALCOA No Slip type. Upon request by the Purchaser, the manufacturer shall supply proof of compliance with this requirement.

100" WIDE BODY, AT LEAST 24"/12" DEEP SIDE COMPARTMENTS

The fire body shall be 100" wide to provide the maximum amount of usable hose bed and compartment space. The side body compartments shall be a minimum of 24" deep in any full depth areas and 12" deep in any split depth areas.

SWEEP-OUT COMPARTMENTS

Compartment floors shall be a sweep out design for easy cleaning.

Compartments with hinged doors shall have the door opening flanges bend down to produce the sweep-out design.

Compartments with roll-up style doors shall have the external floor flange stepped down to produce a sealing surface for the roll-up doors below the compartment floor.

The sweep out design shall also permit easy cleaning.

DRIVER FORWARD FENDER - OPEN STORAGE AREA

A storage compartment shall be inserted into the fender to provide an open storage area for customer supplied devices such as salvage tarps, rope bags, wheel chocks, etc.

The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius), and shall be 26" deep.

This storage compartment shall provide a minimum of 2.3 cubic feet of storage space.

DRIVER REARWARD FENDER - DOUBLE STORAGE SLOT

A storage compartment shall be inserted into the fender to provide a storage area for two (2) customer supplied SCBA cylinders (or fire extinguishers of similar size).

The storage area shall be sized as tall and wide as possible in the fender (minimum of 15" wide x 7-3/4" tall) and shall be 26" deep.

The compartment shall have a non-abrasive lined cradle storage area for each of the devices.

This storage compartment shall provide a minimum of 1.6 cubic feet of storage space.

OFFICER FORWARD FENDER - TRIPLE STORAGE SLOT

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer supplied SCBA cylinders (or fire extinguishers of similar size).

The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius) and shall be 26" deep.

The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices.

This storage compartment shall provide a minimum of 2.3 cubic feet of storage space.

OFFICER REARWARD FENDER - TRIPLE STORAGE SLOT

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer supplied SCBA cylinders (or fire extinguishers of similar size).

The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius), and shall be 26" deep.

The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices.

This storage compartment shall provide a minimum of 2.3 cubic feet of storage space.

FENDER STORAGE COMPARTMENTS - DOORS

The fender storage area(s) shall be enclosed by a hinged door fabricated from aluminum or steel.

The back side of the door shall have a section of Nylatron installed to protect the door surface from the items stored in the compartment.

Each door shall be tied into the compartment door ajar/do not move apparatus warning system.

Each fender storage compartment door will be equipped with door seal.

DRIVER'S SIDE COMPARTMENTATION

L1 - One (1) full height/full depth compartment, with a roll up door, shall be provided forward of the rear wheels. Compartment minimum dimensions 63" high x 56" wide x 24" deep, with a door opening of 55" high x 47" wide.

L2 - One (1) high side compartment, with a roll up door, shall be provided above the rear wheels. Compartment minimum dimensions 33” high x 52" wide by 24" deep, with a door opening of 24 1/2" high by 49 1/2" wide.

L3 - One (1) full height/full depth compartment, with a roll up door, shall be provided behind the rear wheels. Compartment minimum dimensions 63" high x 51" wide x 24" deep, with a door opening of 55" high x 47 1/2" wide.

OFFICER'S SIDE COMPARTMENTATION

R1 - One (1) full height/split depth compartment, with a roll up door, shall be provided forward of the rear wheels. Compartment dimensions 63" high x 56" wide x 24" deep in the lower 30" high area, 12" deep in the upper 33" high area, with a door opening of 55" high x 47" wide.

R2 - One (1) high side compartment, with a roll up door, shall be provided above the rear wheels. Compartment minimum dimensions 33" high x 52" wide by 12" deep, with a door opening of 24 1/2" high by 49 1/2" wide.

R3 - One (1) full height/split depth compartment, with a roll up door, shall be provided behind the rear wheels. Compartment minimum dimensions 63" high x 51" wide x 24" deep in the lower 30" high area, 12" deep in the upper 33" high area, with a door opening of 55" high x 47 1/2" wide.

ISOLATED REAR STEP COMPARTMENT

One (1) rear step compartment minimal dimension 63" high x 30" wide x 22" deep in the lower portion and 12" deep in the upper portion shall be provided with a door opening of 46" high x 28" wide.

ROLL-UP DOORS

Roll-up doors shall be provided on all compartments.

The roll-up doors shall be constructed from aluminum extruded slats which shall have a flexible seal between each slat for proper sealing of the door.

A synthetic rubber seal shall be provided at each side, top and bottom edge of the door to prevent entry of dirt into the compartment.

The door shall be equipped with a lift bar style latch mechanism which shall latch at the bottom of the door mounting extrusion.

The roll-up door assembly shall be furnished with a spring-loaded, counter balance assembly to assist in door actuation.

COFFIN COMPARTMENT, FULL DEPTH

Roof hatch style compartments shall be provided the full length of the body, on the driver's side of the body hose bed area and shall be designed as an integral extension of the lower side compartments with a painted exterior finish. Drain tubes shall be provided at each end of each side compartment which shall extend down through the lower compartments. Each side roof compartment shall extend the length of the body, which shall be evenly divided into individually accessed areas, which shall be open through from the front to the rear. The compartment depth shall extend from the ceiling area of the upper side compartments to the top of the body. The interior compartment width of each side roof compartment shall be as large as possible to accommodate the required hose bed loads. Each roof compartment shall be equipped with an overlapping, hinged lift up tread plate door. These doors shall be constructed of 3/16" aluminum tread plate with a 15 degree break on all sides. Each door shall have two (2) gas shock style stay open devices which shall also retain the door in the closed position. A chrome D-handle will be provided on each door to assist with opening and closing. Protective panels shall be applied inside the compartments to cover any exposed wiring or recessed side body lighting, provided on the unit. These panels shall reduce the overall usable compartment area in the compartments. Door opening must be a minimum of 18 Inches wide.

REAR BODY PANEL

The rear body panel shall extend the full width between the body side compartments.

This panel shall be full height from the rear step to the hose bed floor.

No part of the rear panel shall be attached to the booster tank.

Chevron striping is specified for the rear of the body therefore a smooth surface shall be utilized.

TREAD PLATE OVERLAY, FRONT OF SIDE COMPARTMENT (NON-WRAP AROUND)

The front face of the side compartments, next to the driver and officer pump panels shall be overlaid with full height tread plate protection panels.

The overlays shall cover the front face of the compartments only, they shall not wrap around to the door opening.

BODY RUB RAILS, C-CHANNEL - ALUMINUM EXTRUSION

Sacrificial extruded aluminum C-Channel style, rub rails shall be mounted at the base of the body, extending outward from the body. The rub rails shall extend the full length of the main body.

WHEEL WELL LINERS

The body wheel wells shall be provided with fully removable bolt-in fender liners. The wheel well liners shall extend from the outer wheel well body panel into the truck frame. The completely washable wheel well liners shall be designed to protect the front and rear compartments and main body supports from road salts, dirt accumulation and corrosion.

ALUMINUM OR STAINLESS FENDERETTES

The rear fenders shall be equipped with easily replaceable bolt-in aluminum or stainless fenderettes. Fenderettes must match the cab.

REAR MUD FLAPS

Heavy duty mud flaps shall be provided behind the rear wheels.

REAR STEP - TAPERED CORNER

The rear step will be fabricated from 3/16" tread plate and will be rigidly reinforced. The rear step will extend past the rear edge of the body and will be 100" wide with tapered corners.

GRAB RAILS, KNURLED TYPE

All hand rails shall be, knurled designed to meet NFPA 1901 requirements.

Molded gaskets shall be installed between the handrail stanchion castings and body surfaces to prevent electrolytic reaction between dissimilar metals and to protect paint.

Grab rails shall be provided at the following specified locations.

Additional grab rails shall be provided adjacent to any additional steps specified to comply with NFPA 1901.

TWO (2) VERTICAL RAILS ON REAR

Two (2) vertical rails shall be mounted on the rear edge of the beavertails, one (1) each side.

ONE (1) HANDRAIL, BELOW HOSE BED LEVEL

One (1) horizontal, full width handrail shall be installed on the rear, below the level of the hose bed.

HANDRAIL ABOVE PUMP PANEL, EACH SIDE

Two (2) horizontal handrails shall be mounted above each pump panel, (1) each side.

INNOVATIVE CONTROLS LIGHTED STEP(S), BODY FRONT, DRIVER SIDE

Innovative Controls large lighted folding step(s), with a textured chrome plate finish, shall be provided on driver side body front to provide NFPA compliant access (maximum 18” height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

INNOVATIVE CONTROLS LIGHTED STEP(S), BODY FRONT, OFFICER SIDE

Innovative Controls large lighted folding step(s), with a textured chrome plate finish, shall be provided on officer side body front to provide NFPA compliant access (maximum 18” height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

INNOVATIVE CONTROLS LIGHTED FOLDING STEP(S), BODY REAR, DRIVER SIDE

Innovative Controls large lighted folding step(s), with a textured chrome plate finish, shall be provided on driver side body rear to provide NFPA compliant access (maximum 18” height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

Bidder Complies	
Yes	No

INNOVATIVE CONTROLS LIGHTED FOLDING STEP(S), BODY REAR, OFFICER SIDE

Innovative Controls large lighted folding step(s), with a textured chrome plate finish, shall be provided on officer side body rear to provide NFPA compliant access (maximum 18” height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

PAINTED REAR TOW EYES, BELOW BODY

Two (2) painted tow eyes shall be furnished on the rear of the vehicle. The tow eyes shall be made from plate steel and shall be bolted directly to the chassis frame rails with grade 8 bolts. The tow eyes will extend below the body. The tow eyes shall be smooth and free from sharp edges. They will have a minimum eyelet hole of 2-1/2". The tow eyes shall be painted.

STANDARD HOSE BED

The hose bed shall be located directly above the booster tank and be free from all sharp objects such as bolts, nuts, and so on, in avoidance of damage to the fire hose. One side of the hose bed wall shall be formed from the inside wall of the coffin compartment. The other side of the hose bed wall shall be a wall to provide a mounting surface for devices such as warning and scene lights.

CUSTOMER SPECIFIED HOSEBED CAPACITY - 200' 2.5", 250' 3", 1000' 5", 200' 2.5""

The hose bed shall be designed with enough storage capacity to carry the following customer specified hose load:

- 250’ of 2.5” Hose L-Side preconnected single stack
- 250’ of 2.5” Hose dead load single stack
- 1000’ of 5” Hose
- 250’ of 2.5” Hose R-Side preconnected single stack

HOSEBED FLOORING - ALUMINUM SLATS

Flooring is to be constructed from extruded aluminum and have proper spaces for ventilation purposes. The flooring shall be smooth and free from sharp edges to avoid any hose damage. The hose bed floor shall be removable, providing access to the inner body framework.

THREE (3) - 1/4" ADJUSTABLE HOSEBED PARTITIONS

Three (3) fully adjustable 1/4" aluminum hose bed partitions shall be provided. The partition shall be easily adjustable by channels, located at the front and rear of the hose bed. The partition shall be removable for access to the booster tank.

HOSEBED COVER - TREADPLATE COVER WITH FIXED CENTER

A tread plate hose bed cover shall be mounted to the side body flanges, utilizing a full length stainless steel hinge on each side. The cover shall be constructed of 3/16” tread plate with an aluminum extrusion frame. The cover shall be supported by a fixed center partition which shall be 1-1/2" higher than the side body flanges to allow for water runoff. The handles shall be provided at the rear for lifting. Both gas springs and cables or electric lifts shall be provided to hold open the doors. The switches shall be provided on each side cover, which shall be tied to the "Do Not Move Apparatus When Light Is On" warning light in the cab. A hinged access door shall be provided over the water tank fill tower area allowing access to the fill tower when the hose bed cover is closed. The access door shall be hinged to the front to prevent the door from opening when the apparatus is in motion. The underside of the tread plate hose bed cover shall be sanded.

NOTCH IN CENTER FIXED DIVIDER

The fixed center divider will be notched at the lower rear end to allow the 5" hose to be packed around the divider.

WEBBING REAR EDGE OF TREADPLATE COVER

Two (2) inch black seat belt webbing sewn into a cargo net shall be provided at the rear of the tread plate covers. The netting shall be secured to the hose bed cover with quarter turn fasteners and to the rear body with bungee cords.

HOSE BED CONSTRUCTION

The hose bed shall be located directly above the booster tank and shall be free from all sharp objects such as bolts, nuts, etc., to avoid damage to fire hose.

The hose bed will provide approximately 141 cubic feet of hose storage area for 2 ½" or larger fire hose, exceeding NFPA 1901 minimum pumper hose storage requirements. The hose bed depth shall be 16".

The apparatus weight analysis will be based on 800' of 2 ½" and 1000' of 5" hose.

SIDE OF WATER TANK LADDER STORAGE (OFFICER SIDE)

The ground ladders will be stored vertically next to the water tank, behind the side body compartments and on the officer side of the apparatus. If possible, the ladder storage area should be enclosed, with drain holes and an access door in the pump panel for maintenance.

To secure the ground ladders, a hinged rear access door will be provided and tied into the "Do Not Move Apparatus" warning system.

BACK BOARD STORAGE SLOT WITHIN LADDER STORAGE

The ladder storage area shall be designed to accommodate storage for a backboard, the storage slot shall be sized 18" tall x 2" wide x 74" long to accommodate a standard size backboard.

The storage area shall have composite material on the bottom surface to protect the backboard.

DUO-SAFETY 900-A 24' 2-SECTION EXTENSION LADDER

A Duo-Safety series 900-A, 24', aluminum, two (2) section extension ladder shall be provided.

DUO-SAFETY 775-A 14' ROOF LADDER W/ FOLDING HOOKS

A Duo-Safety series 775-A, 14', aluminum, straight roof ladder with folding hooks shall be provided.

DUO-SAFETY 585-A 10' FOLDING ATTIC LADDER

A Duo-Safety series 585-A, 10', folding, aluminum, attic ladder shall be provided.

PIKE POLE TUBES

Two (2) pike pole tubes shall be provided.

Each holder shall be accessible from the rear of the apparatus.

Each pike pole holder shall be labeled to indicate the pike pole length.

LOCATION PIKE POLE TUBES - IN LADDER STORAGE COMPARTMENT

The pike pole tubes shall be mounted in the ladder storage compartment.

SUCTION HOSE STORAGE BEHIND ROLL-UP DOORS DRIVER'S SIDE

Two (2) suction hoses shall be located behind the doors, on the driver's side, stacked vertically. The hose storage area shall be accessed from the rear of the apparatus.

A vertically hinged smooth aluminum, finish painted to match the body, access door with thumb type latches, shall be provided on the compartments. The door shall be provided with a door switch that ties into the "Do Not Move Apparatus" warning system.

TWO (2) 10' SECTIONS OF 6" MAXI-FLEX LIGHTWEIGHT SUCTION HOSE

Two (2) 10' sections of six (6) inch Maxi-Flex (PVC) suction hose with lightweight hard coat couplings shall be furnished. Couplings shall be a storz coupling on each end with suction gaskets.

1/2 DEPTH ADJUSTABLE SHELF DESCRIPTION

Compartment shelving shall be constructed of 3/16” brush finish aluminum with a 2” upward bend at front and rear, and side supports. Shelving shall be vertically adjustable with spring nuts in aluminum strut channel.

Half depth adjustable shelves shall be located as indicated at each compartment description.

1/2 DEPTH ADJUSTABLE SHELF LOCATED R-1

Two (2) located in the right side compartment #1

1/2 DEPTH ADJUSTABLE SHELF LOCATED R-2

One (1) located in the right side compartment #2

1/2 DEPTH ADJUSTABLE SHELF LOCATED R-3

Two (2) located in the right side compartment #3

ADJUSTABLE SHELF DESCRIPTION

Compartment shelving shall be constructed of 3/16” brush finish aluminum with a 2” upward bend at front and rear, and side supports. Shelving shall be vertically adjustable with spring nuts in aluminum strut channel.

Adjustable shelves shall be located as indicated at each compartment description.

ADJUSTABLE SHELF LOCATED L-1

QTY: 3 Two (2) located in the left side compartment #1

ADJUSTABLE SHELF LOCATED L-2

One (1) located in the left side compartment #2

ADJUSTABLE SHELF LOCATED L-3

QTY: 3 Two (2) located in the left side compartment #3

ADJUSTABLE SHELF LOCATED R-1

Two (2) located in the right side compartment #1

ADJUSTABLE SHELF LOCATED REAR COMPARTMENT

One (1) located in the rear compartment

ADJUSTABLE ROLLOUT TRAY DESCRIPTION

Roll out adjustable compartment shelving shall be constructed of 3/16” brush finish aluminum with a 2” upward bend at front and rear, and side supports attached to 250# rated slides. Slide out adjustable shelving shall be vertically adjustable with spring nuts in aluminum strut channel. Slide out adjustable shelving shall have gas springs to hold in and out.

The adjustable roll-out trays shall be as indicated at each compartment description.

ADJUSTABLE ROLLOUT TRAY, LOCATED R-3

One (1) located in the right side compartment #3

PEGBOARD MATERIAL ON REAR WALL OF SPECIFIED COMPARTMENT

Six (6) 3/16" aluminum pegboard material shall be provided on the rear wall for mounting of loose equipment in the specified compartment. The pegboard material shall be 3/16" aluminum with 7/32" holes punched every square inch, allowing the fire department to tap 1/4"-20 threads for mounting of loose equipment brackets.

Pegboard material shall be located in the following compartments:

- L-1 upper
- L-2
- L-3 upper
- R-1 upper
- R-2
- R-3 upper

MISCELLANEOUS EQUIPMENT

The following equipment shall be mounted as specified or as loose equipment provided with the completed apparatus at the time of delivery:

ROAD SAFETY KITS

A road safety kit shall be furnished with the following equipment:

- 2 1/2 lb. B-C fire extinguisher
- Triangle safety reflectors.

SPANNER WRENCH SET WITH MOUNT

(4) Qty LDH Spanner wrench sets with mounts. (4 wrenches each set)
Mounting locations provided by Jasper County Fire Rescue

(3) Qty Standard spanner and hydrant wrench sets with mount. Mounting locations provided by Jasper County Fire Rescue.

IRONSLOK KIT K-5003

A Pac Trac Ironslok bracket(s) shall be installed on the Pac Trac channel with stainless steel hardware at a location specified by the customer.

SCBA CYLINDER STORAGE

A Zico SCBA bottle brackets mounted as directed by the fire department.

HAND LIGHTS

Four (4) Streamlight model 44451 orange "Fire Vulcan" C4 LED rechargeable hand light(s) and 12 volt charger shall be installed as directed by the purchaser.

Charger shall be wired to the chassis battery system.

WHEEL CHOCKS

Two (2) ZICO #SAC-44 folding wheel chocks shall be mounted forward of the rear wheels on the driver side below the side running board compartments.

ADDITIONAL ITEMS SHIPPED WITH VEHICLE

- 1 - Bag of assorted stainless steel nuts and bolts

GENERAL PAINT DESCRIPTION

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

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

Any location where the material is penetrated after painting, for the purpose of mounting steps, hand rails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment. All hardware used in mounting steps, hand rails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.

After the paint process is complete, the gloss rating of the unit shall be tested with a 20 degree gloss meter. Coating thickness shall be measured with a digital MIL gauge and the orange peel with a digital wave scan device.

GENERAL PRIMER & PREP DESCRIPTION

All exposed welds shall be ground smooth for final finishing of areas to be painted.

The compartments and doors are totally degreased and phosphatized.

After final body work is completed, grinding (36 and 80 grit), and finish sanding shall be used in preparation for priming.

GENERAL FINISH PAINT DESCRIPTION

The body shall be finish sanded and prepared for final paint.

Upon completion of final preparation, the body shall be painted utilizing the highest quality, state of the art, low V.O.C., polyurethane base paint.

Finish paint shall be applied in multiple coats to ensure proper paint coverage with a high gloss finish.

CAB PAINT FINISH

The chassis shall be painted and detailed as provided from the chassis OEM and shall meet their quality guidelines.

BODY BUFFING & FINISH

The visible and exposed areas of the body shall be buffed and detailed.

INSIDE/UNDERSIDE BODY PAINT

The inside and underside areas of the complete body assembly shall be painted black, prior to the installation of the body on the chassis or torque box.

COMPARTMENT INTERIOR FINISH

The interior of the compartments shall be finish painted with scuff resistant paint to provide a protective application over all of the compartment interior surfaces or remain clean brushed finish.

FENDER COMPARTMENT INTERIOR

The interior of the fender storage compartments (if fender compartments are specified) shall be finish painted job color.

PUMPHOUSE & PLUMBING PAINT

The pump enclosure and pump/plumbing within the pump enclosure shall be painted black.

SINGLE COLOR BODY PAINT SCHEME - RED

The body paint finish shall be a single color to match customer furnished paint codes and requirements.

PINT OF TOUCH-UP PAINT

One (1) pint of each exterior color paint for touch-up purposes shall be supplied when the apparatus is delivered to the end user.

FINALIZATION & DETAILING

Prior to delivery the vehicle, the interior and exterior be cleaned and detailed.

The finalization process detailing shall include installation of NFPA required labels, checking fluid levels, sealing and caulking required areas of the cab and body, rust proofing, paint touch-up, etc.

LETTERING ON FRONT BUMPER (COUNTY VEHICLE NUMBER)

Scotch-Lite without drop shadow lettering shall be provided on the front bumper per the fire department requirements.

The design of the lettering on the front bumper shall be designed to fit in the applicable space available.

LETTERING SIZE ON FRONT BUMPER

Lettering provided on the front bumper shall be sized as practicable to the area available for application.

LETTERING FONT ON FRONT BUMPER

The lettering shall be designed and cut with a basic block type font:

"BLOCK TYPE FONT"

LETTERING ON FRONT CAB DOORS

Scotch-Lite with drop shadow lettering shall be provided on the cab driver's and officer's doors per the fire department requirements.

The design of the lettering on the cab doors shall be designed to fit in the 496 sq. inches available.

3" LETTERING ON FRONT CAB DOORS

Lettering provided on the driver's and officer's cab doors shall be 3" high.

FRONT CAB DOOR TEXT LINE 1 - JASPER COUNTY

FRONT CAB DOOR TEXT LINE 2 - FIRE-RESCUE

FRONT CAB DOOR LETTERING TOP LINE ARCED

LETTERING ON REAR BODY

Scotch-Lite with drop shadow lettering shall be provided on the rear body panel per the fire department requirements.

The design of the lettering on the rear of the body shall be designed to fit in the 167 sq. inches available.

3" LETTERING ON REAR BODY

Lettering provided on the rear body panel shall be 3" high.

REAR BODY TEXT LINE 1 - JASPER COUNTY

REAR BODY TEXT LINE 2 - FIRE-RESCUE

BODY SIDE SHEET LETTERING

Scotch-Lite with drop shadow lettering shall be provided on the body side sheet per the fire department requirements.

The design of the lettering on the body side sheet shall be designed to fit in the 2500 sq. inches available.

6" LETTERING ON BODY SIDE SHEET

Lettering provided on the body side sheet shall be 6" high.

SIDE OF BODY TEXT LINE 1 - JASPER COUNTY

CUSTOM - MALTESE CROSS

Two (2) pair of custom Maltese crosses shall be computer generated and will be no larger than the 496 sq. inches available.

SCOTCH-LITE STRIPE

A six (6) inch high "Scotch-Lite" stripe shall be provided.

The stripe shall be applied on a minimum of 60 percent of each side of the unit, 60 percent on the rear of the unit and 40 percent on the front of the unit.

The Scotch-Lite stripe layout shall be determined by the Fire Department.

GOLD SCOTCH-LITE

The Scotch-Lite shall be yellow in color.

6" SCOTCH-LITE "Z" IN STRIPE

A six (6) inch simple "Z" effect shall be incorporated into the Scotch-Lite scheme on the body.

Final layout of this configuration shall be determined by the Fire Department.

DUAL 1" SCOTCH-LITE ACCENT ON MAIN STRIPE

A 1" high Scotch-Lite material accent stripe shall be incorporated into the Scotch-Lite scheme to border the primary Scotch-Lite stripe on the top and bottom edges.

Final layout of this configuration shall be determined by the Fire Department.

BLACK PIN STRIPE ON TOP & BOTTOM OF MAIN STRIPE

Two (2) 1/4" black vinyl pin stripes shall be incorporated into the Scotch-Lite scheme to border the primary Scotch-Lite stripe on the top and bottom edges.

Final layout of this configuration shall be determined by the Fire Department.

REAR CHEVRON STRIPING VERTICAL SURFACE

95% of the rear facing vertical surface shall be covered with alternating strips of reflective striping.

6" REAR ORALITE CHEVRON STRIPING

The striping shall be 6" Oralite reflective striping.

RED & FLUORESCENT YELLOW GREEN ORALITE V98

The Oralite V98 reflective tape shall be #12 red and #112 fluorescent yellow green in color.

FRONT BUMPER 6" ORALITE STRIPING

The front bumper chevron shall be 6" Oralite.

FRONT BUMPER RED & YELLOW GREEN ORALITE

The front bumper chevron shall be #12 red #112 fluorescent yellow green in color.

Bidder Complies	
Yes	No

WARRANTY, STARTING ON IN-SERVICE DATE

Warranty coverage by the manufacturer will begin when the customer places the unit in service. This date may not exceed 60 days from the date of delivery to the customer.

THREE (3) YEAR BUMPER TO BUMPER WARRANTY

Purchaser shall receive a bumper to Bumper Three (3) Year or 48,000 Miles warranty. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

REGULATED EMISSIONS SYSTEMS FIVE (5) YEARS OR CARB

Purchaser shall receive a Regulated Emissions Systems Five (5) Years or CARB Mileage limited warranty in accordance with, and subject to, warranty certificate RFW0140. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

ELECTRICAL ONE (3) YEAR WARRANTY

Purchaser shall receive a Electrical One (3) Year or 48,000 Miles warranty. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

BODY STRUCTURE (ALUMINUM) TEN (10) YEAR WARRANTY

Purchaser shall receive a Body Structure Ten (10) Years or 100,000 Miles warranty. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

PAINT AND FINISH (EXTERIOR CLEAR COATED) WARRANTY

Purchaser shall receive a Paint and Finish (Exterior Clear coated) Ten (10) Years warranty. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

PLUMBING AND PIPING (STAINLESS STEEL) WARRANTY

Purchaser shall receive a Plumbing and Piping (Stainless Steel) Ten (10) Years or 100,000 Miles warranty. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

PAINT FINISH WARRANTY, TEN (10) YEAR

The proposed paint finish will be warranted for a period of ten (10) years from the date of acceptance of the unit.

5 YEAR LETTERING WARRANTY

The apparatus manufacturer will provide a five (5) year warranty against defects in material and workmanship for all graphics processes.
The manufacturer continually strives to improve its products and therefore, reserves the right to make improvements or changes without incurring any obligations to make such changes or additions to equipment previously sold.

10 YEAR STAINLESS STEEL PIPING WARRANTY

Bidder Complies	
Yes	No

The proposed stainless steel plumbing will be warranted for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

LIFETIME POLY TANK WARRANTY - ALL TANKS

The proposed water tank will be warranted by the water tank manufacturer for the "Lifetime" of the unit. A copy of the manufacturer's warranty will be supplied to define additional details of the warranty provisions.

HALE FIRE PUMP WARRANTY FULL 5 YEAR LABOR

Hale Products, Incorporated ("Hale") hereby warrants to the original buyer that products manufactured by Hale shall be free of defects in material and workmanship for a period of five (5) years from the date product is first placed into service or five and one-half (5 1/2) years from date of shipment by Hale, whichever period shall be first to expire. Within this warranty, Hale will cover parts and labor for the entire warranty period.

Bidder Complies	
Yes	No

FOAM PRO 2000 SERIES STANDARD WARRANTY

The liability of FoamPro under the foregoing warranty will be limited to the repair or replacement at FoamPro's option without charge for labor or materials of any parts upon return of the entire pump, system or other product or of the particular part to the FoamPro factory within the warranty period, at the sole expense of the purchaser, which part will upon examination appear to FoamPro's satisfaction to have been defective in material and workmanship.

AKRON - 5 YEAR LIMITED WARRANTY

The limited warranty set forth here against defective materials or workmanship for a period of five (5) years will be given by Akron Brass Co. with respect to Akron Brass Co. products purchased and used in the United States and Canada respectively. All Akron valves are warranted for 10 years.

AKRON HEAVY DUTY VALVE - 10 YEAR WARRANTY

Akron Brass warrants Heavy Duty Swing-Out Valves for a period of ten (10) years after purchase against defects in material or workmanship. Akron Brass shall repair or replace any Heavy Duty Swing Out Valve which fails to satisfy this warranty.

Bidder Complies	
Yes	No

ADDITIONAL LOOSE EQUIPMENT TO BE PROVIDED BY THE DEALER

Please provide pricing for the following items. Please include pricing for each item as well as the extended price based on the quantity requested. All shipping and handling charges are to be included in the pricing.

QTY	ITEM	DESCRIPTION	PRICE	EXTENDED PRICE
11	Sprinkler shutoff tool	FSSV		
44	PAC Bracket Handlelok	1004-Y		
11	Rubber Mallet W/plastic handle			
11	Tool Kit (SAE & Metric)			
11	Utility Rope (50 ft. X 3/8)			
44	PAC Bracket Jumbo Lok	1070-Y		
22	2.5"NH female w/swivel to 5" Storz			
66	Kochek 5” Storz mounting plate	MF507		
11	Kochek Wye 2.5”NH male to 5” Storz ball valve	21K2505		
16	TFT Standpipe Wye 2.5" NH x 1.5" NH	TFT-AYG-NJ-NF		
11	Kochek Wye 2.5 NH female to 1.5 NH male Valve	26K1525		
22	4.5” female NH to 5” Storz			
22	6" NH female to 5” Storz			
44	2.5" NH male to 2.5” NH female gate valve			
66	Kochek 2.5” NH M Mounting Plate	MM2501		
11	4.5" NH female to 2.5" NH female			
44	2.5" NH(Double Female) w/swivel			
22	2.5" NH (Double Male)			
44	2.5"NH female to 1.5"NH male			
11	2.5" NH female to garden hose male			
11	2.5” NH female to 1” NH male			
16	1.5” NH female to 1” NH male			
33	Kochek 1.5” NH M Mounting plate	MM1501		
22	2.5”NH female to 2.5” male Camlock			

			Bidder Complies	
			Yes	No
22	2.5” female Camlock to 2.5” NH male			
11	Leather Hose jacket			
22	Hydrant & Spanner Wrench set w/mount			
22	Spanner wrench set			
22	LDH Spanner wrench set w/mount			
11	LDH Spanner wrench set			
11	1.5”x1.5” NH Foam Inductor 95 GPM			
44	Blue tarps(Salvage) 12x12			
33	Flat head axe 36” 6LB			
11	Pick head axe 36” 6LB			
55	Halligan Tool 30”			
22	PAC Bracket Halligan Tool Mount Kit	K5032-Y		
33	PAC Bracket IRONSLOC	K5003-Y		
11	4' Pike pole w/D handle			
88	PAC Bracket Handlelok	1004-Y		
11	Piercing nozzle w/1.5” valve & strike point			
11	Bolt cutters 36”			
11	PAC Bracket Bolt Cutter Kit	K5029-1		
11	K Tool kit w/leather pouch			
11	PAC Bracket Rectangular Mount	1046-1		
11	Elevator key set			
44	PAC Bracket Hook mount	1029		
11	2.5 gal. Water can extinguisher			
66	PAC Bracket Universal Mount	1007-3		
11	Dry Chem extinguishers 20LB			
11	Super Vac PPV Fan (DeWalt Battery) w/batteries	V16-BD-SP		
11	Dewalt 60V 3.0 Ah FLEXVOLT Chainsaw	DCCS677Z1		
22	PAC Bracket universal saw kit	K5030-Y		

			Bidder Complies	
			Yes	No
11	Dewalt FlexVolt 60V MAX Cut Off Saw kit	DCS690X2		
11	Dewalt 60V Reciprocating Saw Kit	DCS389X2		
44	PAC Bracket Universal Hanger	1019		
11	DeWalt 20-Volt Tripod Light w/Charger	DCB205CKWDCL079B		
11	Dewalt 20V MAX 1/2 in. Drill Kit 2 Batteries	DCD777C2		
11	Dewalt 12V/20V MAX Compact Task Light	DCL077B		
11	Chaps (STIHL)			
11	10' Pike pole			
11	6' New York hook W/Fork end			
11	Long spine board			
11	Herbert 3” Hose clamp			
11	Dicke Tools collapsible cone kit,(28” NFPA compliant)	CC5B		
11	Hydrant bag (24”x12”x9”)			
11	Turtle Plastics Auto X Kit A (cribbing)	Auto X tool kit A		
11	Amkus ION SPREADER - Lighted Handle	IS290LB		
11	PAC Bracket Spreader Mount	K5026FL-Y		
11	Amkus Spreader Extended Reach Tips	KS0029-KIT		
11	Amkus IC650 Cutter Lighted Handle	IC650LB		
11	PAC Bracket Cutter Mount	K5081SA-Y		
11	Amkus ION Telescoping Ram	ITR500LB		
11	PAC Bracket Ram Mount	K1022FL-Y		
11	Amkus ION FLEXVOLT 4 Bay Fast Charger	ICHRG-4FAST		
77	Amkus 60V BATTERY (9/3 AMP/HR)	AMK-IBATTFV-9		
22	Paratech Supporter X2 Vehicle Stabilizer	22-797E12E		
22	Paratech Tie Down Keys W/J-Hook	22-796161		
44	Ratchet strap 4”x20’ w/wire hook			
11	Yellow tarp Heavy Duty 10’x12’			
11	Glass Master			

			Bidder Complies	
			Yes	No
11	Red tarp(RIT) Heavy Duty 10'x12'			
11	Scott RIT Pack w/4500psi 60 min. Cylinder			
11	Scott Face Piece (RIT)	201215-05		
16	R&B Fabrication Standpipe Bag	RB-444YL		
11	Binoculars 10x42			
11	White Passports. (IMS Alliance)			
11	Red Passports. (IMS Alliance)			
11	ICS Board (IMS Alliance)			
44	Traffic vests NFPA			
44	Vulcan Clutch Vehicle Mount System 12V DC direct wire rack	44365		
11	Tire gauge (10-160 psi)			
11	Air hose 25' x 3/8"			
11	Dual Foot Truck Air Tire chuck			
11	Blackline Safety, G7C, Pumped Multi-Gas - 4 Sensors,	GCT J-G7C-P-DFOV-NA2-5Y		
11	Blackline Safety, G7C, Dock	GCT DOCK-P-NA		
11	FLIR K33	FLIR-K33		
11	FLIR In Truck Charger	T198322ACC		
11	Type III PFD (NFPA) Size small			
22	Type III PFD (NFPA) Size medium			
22	Type III PFD (NFPA) Size large			
22	Type III PFD (NFPA) Size XL			
22	Type III PFD (NFPA) Size XXL			
11	Type III PFD (NFPA) Size XXXL			
11	Clipboard w/storage (14.09 x 9.21 x 2.6)			
66	Air-Pak X3 Pro, w/ Quick Disconnect Hose,	X8814025305304		
132	CYL&VLV ASSY,CARB,45MIN,4500	804722-01		
66	Face Piece AV-3000 HT, KVLR 4 Strap	201215(size ?)		
11	Fire Scene tape (3"x1000'x3mm)			
11	Kochek Barrel strainer 6"x5" Storz	BS607		

			Bidder Complies	
			Yes	No
11	5 STZ LOW LEVEL STRAINER NPSH JET	LL5076J		
22	Brush rake w/60" handle			
11	Spade shovel w/48" fiberglass handle			
11	Square shovel w/48" fiberglass handle			
11	5 gallon Bucket-Oil Dry			
66	AR-AFFF(5 gal)			
2	FireAde Class A Foam 330 gal. Tote			
103	5" Rubber LDH Hose 100' Yellow 5"Storz			
15	5" Rubber LDH Hose 100' Red 5"Storz			
24	5" Rubber LDH Hose 25' Yellow 5"Storz			
44	1.75"x50' Snap-Tite Conquest (Bumper)	FG17X50CR15N		
80	1.75"x50' Snap-Tite Conquest (Cross lay 1)	FG17X50C15N		
80	1.75"x50' Snap-Tite Conquest (Cross lay 2)	FG17X50B15N		
80	1.75"x50' Snap-Tite Conquest (High Rise)	FG17X50G15N		
76	2.5"x50' Snap-Tite Conquest (Cross Lay 3)	FGX50R25N		
95	2.5"x50' Snap-Tite Conquest (Yard Lay)	FGX50G25N		
95	2.5"x50' Snap-Tite Conquest (Blitz)	FGX50O25N		
95	2.5"x50' Snap-Tite Conquest (Dead Load)	FGX50Y25N		
11	Akron Turbojet Nozzle 1" (13-60 gpm)	17024001		
11	Mercury Quick Attack LE-Portable Monitor	3444		
11	Mercury Monitor Mounting Bracket	470		
14	1.5"Elkhart XD Shut off w/7/8 SB (bumper)	0033XDOF-0201000200		
14	1.5" Elkhart XD Chief 150gpm @ 50psi fog	04XD010F-0101020A		
16	1.5"Elkhart XD Shut off w/7/8 SB (cross 1)	0033XDOF-0201000900		
16	1.5" Elkhart XD Chief 150gpm @ 50psi fog	04XD010F-0101090A		
16	1.5"Elkhart XD Shut off w/7/8 SB (cross 2)	0033XDOF-0201000400		
16	1.5" Elkhart XD Chief 150gpm @ 50psi fog	04XD010F-0101040A		
30	1.5"Elkhart XD Shut off w/7/8 SB (high rise)	0033XDOF-0201000600		
30	1.5" Elkhart XD Chief 150gpm @ 50psi fog	04XD010F-0101060A		

			Bidder Complies	
			Yes	No
16	1.5” Elkhart XD High Range Foam Tube	3976401		
12	2.5”Elkhart XD Shut off (cross 3)	0069XDOF-0101000200		
12	Elkhart XD Smooth Bore short 1 3/16”	000187XD-0603		
11	2.5”Elkhart XD Shut off (Engineer Comp.)	0069XD02		
11	Elkhart XD Smooth Bore short 1 3/16”	66760007		
16	SearchLite FDNY, Search Line Kit	SL75-GLO-FDNY-B		
	TOTAL			