

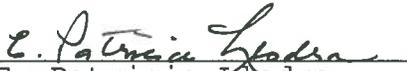
TOWN OF NEWTOWN, CONNECTICUT

INVITATION TO BID

Sealed bids will be received at the office of the Financial Director, 3 Primrose Street, Newtown, Connecticut 06470, until but no later than 11:00 am, Thursday, October 27, 2016:

Cover: PUMPER TRUCK - NEWTOWN HOOK & LADDER ENGINE 111

The Purchasing Authority of the Town of Newtown reserves the right to accept or reject any or all options, bids or proposals; to waive any technicality in any bid or part thereof, and to accept any bid deemed to be in the best interest of the Town of Newtown. The Town of Newtown is an Affirmative Action Employer-MBE/WBE are encouraged to bid. Specifications and bid documents may be obtained at www.newtown-ct.gov under the Purchasing Department.


E. Patricia Elodra
First Selectman


Robert G. Tait
Financial Director

PURCHASING AUTHORITY

TOWN OF NEWTOWN PURCHASING AUTHORITY
INSTRUCTIONS TO BIDDERS

1. Submit bids in a sealed envelope plainly marked to identify the particular bid. It is the sole responsibility of the bidder to see that the bid is in the hands of the proper authority prior to the bid opening time. Bidders may be present at the opening of the bids.
2. Withdrawals of, or amendments to bids received later than the time and date specified for bid opening will not be considered.
3. The Purchasing Authority of the Town of Newtown reserves the right to accept or reject any or all options, bids, or proposals; to waive any technicality in any bid, or part thereof, and to accept any bid deemed to be in the best interest of the Town of Newtown, Connecticut.
4. Bids may be held by the Town of Newtown for a period not to exceed sixty (60) days from the opening of the bids for the purpose of reviewing the bids and investigating the qualifications of bidders prior to the awarding of the contract.
5. Bids must be submitted on the "Sealed Bid Request" form enclosed at the end of this packet. All items must be filled in (unit cost, trade-in for each unit, etc.). Failure to comply with this requirement will automatically void the bid.
6. Trade-ins, when indicated, will be listed on the Sealed Bid Request form. The Town of Newtown reserves the right to trade all, some or none of the vehicles listed as deemed in the best interest of the Town. Bidders may submit a bid on the new vehicles with or without trade-ins or may submit bids on the trade-ins only, either individually or by lot. Trade-ins must be detailed individually as indicated on the Sealed Bid Request form. Trade-ins may be used in determining the lowest responsible bid.
7. The Town may consider proximity of the vendor's service as a factor in determining lowest price and reserves the right to award in whole or part to one or more vendors.
8. The Town agrees to pay for all equipment within thirty (30) working days after the equipment has been accepted and claim (invoice) presented.
9. Bid Security when required must be by a **certified check, letter of credit or surety bond** for five percent (10%) of the total bid, payable to the Town of Newtown. If a surety bond is enclosed, it shall be written on AIA Document A310, Bid Bond, unless otherwise provided in the Bidding Documents, and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of the Power of Attorney.
10. The Town of Newtown reserves the right to retain the bid security of Bidders to whom an award is being considered until either: (a) the Contract has been executed and bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn or (c) all bids have been rejected.

11. Prior to awarding any contract exceeding \$25,000.00 for the construction, alteration, or repair for any public building or public work, a 100% performance bond and a labor or materialmen's bond must be furnished by the person to whom the contract is awarded.
12. Performance Bond when required must be by a **certified check, letter of credit or performance bond** for one hundred percent (100%) of the total bid. When submitting a performance bond, bonds must be written on AIA Document A312, Performance Bond and Payment Bond. Both bonds shall be written in the amount of the Contract Sum.
13. The successful bidder will be required to post a Certificate of Insurance, with the Town of Newtown named as additional insured, in an amount to be determined by the Town of Newtown.

NEWTOWN HOOK & LADDER ENGINE 111 REPLACEMENT BID

INSTRUCTIONS TO BIDDERS

- 1) A 10% Bid Bond shall be required with all bids
- 2) A 100% Performance Bond shall be required of the successful bidder
- 3) All Bidders shall state the delivery date in calendar days from award of contract
- 4) Bidders shall offer prepayment discounts for 100%, 75%, 50%, and 25% prepayment options.
- 5) All bidders shall include a certificate of insurance with the bid.
- 6) Bidders shall give options for a 3 year and a 5 year full warranty
- 7) The Town of Newtown has the right to reject any and all bids for any reason deemed to be in its best interest.
- 8) Sole Source Warranty: The successful bidder shall be responsible to pick up and deliver each vehicle for any and all warranty work.
- 9) Delivery: Apparatus and/or chassis will not be driven in bad weather. Roads to be clear of ice and snow.
- 10) Performance: Vehicle shall meet or exceed the NFPA standards for the type of vehicle being bid.
- 11) Successful Bidder must have a service center within 50 miles of Newtown.
- 12) Successful bidder shall provide a minimum of 4 hours of service training at the vehicle's respective department.
- 13) The contact person for the bid shall be Rob Manna, Commission Chairman , 203-948-0830

Bidder Complies	
Yes	No

NEWTOWN HOOK AND LADDER PUMPING ENGINE

JULY 2016

Sealed bids will be received by the Town of Newtown for the furnishing of all necessary labor, equipment and material for the Fire Apparatus and other equipment as outlined in the following specifications.

INTENT OF SPECIFICATIONS

It shall be the intent of these specifications to cover the furnishing and delivery of a complete fire apparatus. These detailed specifications cover the requirements as to the type of construction, finish, equipment and tests to which the fire apparatus shall conform. Minor details of construction and materials, which are not otherwise specified, are left to the discretion of the contractor.

Images and illustrative material in this specification are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.

INSTRUCTIONS TO BIDDERS

The purchaser's standards for bidding automotive fire apparatus must be strictly adhered to, and all bid forms and questions must be complete and submitted with the bid. **Omissions and variations shall result in immediate rejection of the bid.**

Bids shall only be considered from companies that have an established reputation in the field of fire apparatus construction and have been in business for a minimum of 20 years. Furthermore, in order to insure fair, ethical, and legal competition, neither the original equipment manufacturer (O.E.M.) nor parent company of the O.E.M. shall have ever been fined or convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market (no exception).

If a bidder represents more than one fire apparatus company or brands of apparatus, they must only bid the top of the line that meets specification.

Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified.

	Bidder Complies	
	Yes	No
<p>Any apparatus manufacturer or their parent company who has had a performance bond called in the last 10 years, shall not be eligible to bid. Any bids from these manufactures shall be immediately rejected (no exception).</p> <p>Each bid shall be accompanied by a set of manufacturer's set of specifications consisting of a detailed description of the apparatus, construction methods, and equipment proposed to which the apparatus furnished under contract shall conform. These specifications shall indicate size, type, model and make of all components parts and equipment, providing proof of compliance with each and every item in the departments advertised specifications. A letter only, even though written on company letterhead, shall not be sufficient. An exception to this requirement shall not be acceptable.</p> <p>In accordance with the current edition of NFPA 1901 standards, the proposal shall specify whether the fire department or apparatus dealership shall provide required loose equipment.</p> <p>The purchaser will utilize this advertised specification to compare all submitted bid proposals. To facilitate comparison, all bid proposal specifications shall be submitted in the same sequence as the advertised specification. Any bidder who fails to submit a set of bid proposal specifications, or who photo copies and submits these specifications as their own construction details will be considered non responsive. This shall render such proposal ineligible for award.</p> <p>The purchaser's specification shall, in all cases, govern the construction of the apparatus, unless a properly documented exception or deviation was approved. Any bid indicating that the manufacturer's proposal shall supersede the purchaser's specification will be considered a complete substitute and immediately rejected.</p> <p>THE TOWN OF NEWTOWN HAS THE RIGHT TO REJECT ANY BIDS WHICH DOES NOT MEET THESE SPECIFICATIONS AND IS THE SOLE DECIDER TO DEEM WHICH BID IS IN THE BEST INTEREST OF THE TOWN.</p> <p><u>EXCEPTIONS</u></p> <p>These specifications are based upon design and performance criteria which have been developed by the fire department as a result of extensive research and careful analysis. Subsequently these specifications reflect the type of fire apparatus that is acceptable at this time and all specifications herein contained are considered as minimum.</p> <p>Bidders shall indicate in the "yes/no" column if their bid complies on each item (paragraph) specified.</p> <p>If a product brand name is specified and is commercially available to all bidders, an exception to such items is not acceptable and such bid may be rejected.</p>		

Bidder Complies	
Yes	No

Exceptions shall be allowed if they are equal to or superior to that specified and provided they are listed and fully explained on a separate page. All deviations, no matter how slight, shall be clearly explained on a separate sheet, in the bid sequence, citing the page and paragraph number(s) of the specifications, how the proposal deviation is different, how the deviation meets or exceeds the specifications and why it is necessary, and entitled "EXCEPTIONS TO SPECIFICATIONS". The buyer reserves the right to require a bidder to provide proof in each case that a substituted item is equal to that specified. The buyer shall be the sole judge in determination of acceptable substitutes.

Proposals that are found to have deviations without listing them or bids taking total exceptions to these advertised specifications would be rejected.

Bids not including all exceptions are a material breach and shall result in the bid being immediately rejected.

GENERAL DESIGN AND CONSTRUCTION

The cab, chassis, pump module, and body are to be entirely designed, assembled and painted by the prime vehicle manufacturer, which minimizes third party involvement on engineering, design, service and warranty issues.

All bidders shall provide a list of the company, manufacturing location, and engineering source for each individual major component, including but not limited to the welded cab assembly, the pumphouse module assembly, the chassis assembly, body and electrical system. Apparatus using any subcontracted cab, chassis, pump module, electrical system or body will not be acceptable.

The apparatus shall be designed with due consideration to distribution of load between the front and rear axles. Weight balance and distribution shall be in accordance with the recommendations of the National Fire Protection Association.

The bidder shall make accurate statements as to the apparatus weight and dimensions.

QUALITY AND WORKMANSHIP

All steel welding shall follow American welding Society D1.1-2004 recommendations for structural steel welding. All aluminum welding shall follow American welding Society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding shall follow American Welding Society B2.1-2000 requirements for structural welding of sheet metal. Flux core arc welding to use alloy rods, type 7000, American welding Society standards A5.20-E70T1. Employees classified as welders are tested and certified to meet the American Welding Society codes upon hire and every three (3) years thereafter. The manufacturer shall be required to have an American welding Society certified welding inspector in plant during working hours to monitor weld quality.

	Bidder Complies	
	Yes	No
<p>The manufacturer shall also be certified to operate a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International organization for Standardization (ISO) specify the quality systems that shall be established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance shall be included with the bid.</p> <p>To demonstrate the quality of the product and service, each bidder shall provide a list of at least five (5) fire departments/municipalities in the region that have bought a second time from the representing dealer. An exception to this requirement shall not be acceptable.</p> <p><u>DELIVERY</u></p> <p>Apparatus, to insure proper break in of all components while still under warranty, shall be delivered under its own power - rail or truck freight shall not be acceptable. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.</p> <p><u>MANUALS AND SERVICE INFORMATION</u></p> <p>The manufacturer shall supply at time of delivery, complete operation and maintenance manuals covering the complete apparatus as delivered. A permanent plate shall be mounted in the drivers compartment which specifies the quantity and type of fluid required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.</p> <p><u>SAFETY VIDEO</u></p> <p>Since video is much more effective than written documentation and can be replayed for new personnel and as a refresher for existing personnel, an apparatus safety video, in DVD format shall be provided at time of delivery. This video shall address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus. Safety procedures for the following shall be included on the video: vehicle pre trip inspection, chassis operation, pump operation and maintenance.</p> <p><u>PERFORMANCE TESTS AND REQUIREMENTS</u></p> <p>A road test shall be conducted with the apparatus fully loaded and a continuous run of ten (10) miles or more shall be made under all driving conditions, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts, and rear axle shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus. Vehicle shall adhere to the following parameters:</p> <p>A) The apparatus, when fully equipped and loaded, shall have not less than 25 percent nor more than 50 percent of the weight on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle.</p>		

Bidder Complies	
Yes	No

B) The apparatus shall be capable of accelerating to 35 mph from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed rpm of the engine.

C) The service brakes shall be capable of stopping a fully loaded vehicle in 35 feet at 20 mph on a level concrete highway. The air brake system shall conform to Federal Motor vehicle Safety Standards (FMVSS) 121.

D) The apparatus, fully loaded, shall be capable of obtaining a speed of 50 mph on a level concrete highway with the engine not exceeding the governed rpm (full load).

FAILURE TO MEET TEST

In the event the apparatus fails to meet the test requirements of these specifications on the first trial, second trials may be made at the option of the bidder within 30 days of the date of the first trial. Such trials shall be final and conclusive and failure to comply with these requirements shall be cause for rejection. Failure to comply with changes to conform to any clause of the specifications, within 30 days after notice is given to the bidder of such changes, shall also be cause for rejection of the apparatus. Permission to keep or store the apparatus in any building owned or occupied by the purchaser or its use by the purchaser during the above-specified period with the permission of the bidder shall not constitute acceptance.

SERVICE AND WARRANTY SUPPORT (DEALERSHIP)

TO INSURE FULL SERVICE AFTER DELIVERY, THE SELLING BIDDER/DEALERSHIP MUST BE CAPABLE OF PROVIDING SERVICE WHEN REQUIRED.

The bidder/dealership shall show that the company is in position to render prompt service and to furnish replacement parts.

Each bidder/dealership must be able to display that they are actively in the fire apparatus service business by operating a factory authorized service center and parts repository capable of satisfying the warranty service requirements and parts requirements of the vehicle(s) being purchased.

The bidder/dealership must state the location of this authorized service center. This service center must have a staff of factory-trained mechanics, well versed in all aspects of service for all major components of the apparatus. The service center must be within fifty (50) miles of the Fire Department.

SERVICE AND WARRANTY SUPPORT (MANUFACTURER)

The manufacturer shall stock 1 million parts equating to \$5,000,000 of inventory dedicated to service and replacement parts to ensure quick response and minimize down time. Furthermore, the manufacturer shall house the inventory in a dedicated facility, with a dedicated shipping area

Bidder Complies	
Yes	No

that ensures service parts are given priority. The bidder shall provide detailed documentation of service and replacement part resources.

Parts identification shall be provided to both the dealer and the Fire Department through an on line web based application for the specific truck reflected in this specification. Access will be granted using the specific VIN number of the vehicle. The online web application will provide the ability to view complete bills of materials, digital photographs, parts drawings, assembly drawings, and access to all current operation, maintenance and service publications.

The manufacturer must also maintain a 24 hour/ 7 day a week, toll free emergency hot line.

The manufacturer shall employ a staff of adequate size (a minimum of 30 personnel) specifically dedicated to providing customer support and parts for the fielded fleet of vehicles it has produced.

The manufacturer must be capable of providing both in-house and on-site service for the apparatus.

The manufacturer shall offer regional factory hands-on repair and maintenance training classes.

The manufacturer shall employ a minimum of four certified EVT technicians on staff, not only providing technical expertise in the repair of fire apparatus, but also demonstrating the commitment to service after the sale.

LIABILITY

The successful bidder shall defend any and all suits and assume all liability for the use of any patented process including any device or article forming a part of the apparatus or any appliance furnished under the contract. To ensure this will occur, the bidder shall carry the following minimum insurance.

COMMERCIAL GENERAL LIABILITY INSURANCE

The successful bidder shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of commercial general liability insurance:

Each Occurrence\$1,000,000

Products/Completed Operations Aggregate\$1,000,000

Personal and Advertising Injury\$1,000,000

General Aggregate\$5,000,000

Bidder Complies	
Yes	No

Coverage shall be written on a Commercial General Liability form. The policy shall be written on an occurrence form and shall include Contractual Liability coverage for bodily injury and property damage subject to the terms and conditions of the policy. The policy shall include Owner as an additional insured when required by written contract.

COMMERCIAL AUTOMOBILE LIABILITY INSURANCE

The successful bidder shall, during the performance of the contract keep in force at least the following minimum limits of commercial automobile liability insurance:

Each Accident Combined Single Limit:\$1,000,000

Coverage shall be written on a Commercial Automobile liability form.

UMBRELLA/EXCESS LIABILITY INSURANCE

The successful bidder shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:

Aggregate:\$25,000,000

Each Occurrence: \$25,000,000

The umbrella policy shall be written on an occurrence basis and at a minimum provide excess to the Bidder's General Liability, Automobile Liability and Employer's Liability policies.

The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.

Coverage shall be provided by a carrier(s) rated A- or better by A.M. Bests.

All policies shall provide a 30 day notice of cancellation to the named insured. The Certificate of Insurance shall provide the following cancellation clause: Should any of the above described polices be cancelled before the expiration date thereof, notice shall be delivered in accordance with the policy provisions. Bidder agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with its bid. The certificate shall show the purchaser as certificate holder.

SINGLE SOURCE MANUFACTURER

Bids shall only be accepted from a single source apparatus manufacturer. The definition of single source is a manufacturer that designs and manufactures their products using an integrated approach, including the chassis, cab weldment, cab, pumphouse (including the sheet metal enclosure, valve controls, piping and operators panel) and body being designed, fabricated and assembled on the bidder's premises. The electrical system (hardwire or multiplex) shall be both

Bidder Complies	
Yes	No

designed and integrated by the same apparatus manufacturer. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) must be from a single source manufacturer and not split between manufacturers (i.e. body, pumphouse, cab weldment and chassis). The bidder shall provide evidence that they comply with this requirement.

The bidder shall state the location of the factory where the apparatus is to be built.

NFPA 2016 STANDARDS

This unit shall comply with the NFPA standards effective January 1, 2016, except for fire department specifications that differ from NFPA specifications. These exceptions shall be set forth in the Statement of Exceptions.

Certification of slip resistance of all stepping, standing and walking surfaces shall be supplied with delivery of the apparatus.

All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points shall be identified on the customer approval print and are shown as approximate. Actual location(s) shall be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.

A plate that is highly visible to the driver while seated shall be provided. This plate shall show the overall height, length, and gross vehicle weight rating.

The manufacturer shall have programs in place for training, proficiency testing and performance for any staff involved with certifications.

An official of the company shall designate, in writing, who is qualified to witness and certify test results.

NFPA COMPLIANCY

Apparatus proposed by the bidder shall meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution. Fire department's specifications that differ from NFPA specifications shall be indicated in the proposal as "non-NFPA".

VEHICLE INSPECTION PROGRAM CERTIFICATION

To assure the vehicle is built to current NFPA standards, the apparatus, in its entirety, shall be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition of NFPA 1901. The certification

Bidder Complies	
Yes	No

includes: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus (no exception).

A placard shall be affixed in the driver's side area stating the third party agency, the date, the standard and the certificate number of the whole vehicle audit.

PUMP TEST

The pump shall be tested, approved, and certified by Underwriter's Laboratory at the manufacturer's expense. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the manufacturer's record of pump construction details shall be forwarded to the Fire Department.

GENERATOR TEST

If the unit has a generator, the generator shall be tested, approved, and certified by Underwriters Laboratories at the manufacturer's expense. The test results shall be provided to the Fire Department at the time of delivery.

BREATHING AIR TEST

If the unit has breathing air, the apparatus manufacturer shall draw an air sample from the air system and certify that the air quality meets the requirements of NFPA 1989, *Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection*.

BID BOND

All bidders shall provide a bid bond as security for the bid in the form of a 10% bid bond to accompany their bid. This bid bond shall be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond shall be issued by an authorized representative of the Surety Company and shall be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond shall include language, which assures that the bidder/principal shall give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.

Proposals received from bidders who do not manufacture the chassis shall provide a warranty that shall be issued jointly and severally by, and signed by, both the bidder and the chassis manufacturer.

If the successful bidder does not manufacture the chassis, the bidder shall supply a warranty bond, in addition to their performance bond, along with their signed contract. This warranty bond shall guarantee all terms and conditions of the Basic One (1) Year Limited Warranty and names both the bidder and chassis manufacturer as co-principals. This warranty bond shall be

	Bidder Complies	
	Yes	No
<p>issued for the contract amount and shall remain in force for a term which is consistent with the term of the Basic One (1) Year Limited Warranty.</p> <p>Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle shall apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle shall not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision shall prevail.</p> <p><u>100% PERFORMANCE BOND</u></p> <p>Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle shall apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle shall not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision shall prevail.</p> <p><u>APPROVAL DRAWING</u></p> <p>A drawing of the proposed apparatus shall be provided for approval before construction begins. The sales representative shall also have a copy of the same drawing. The finalized and approved drawing shall become part of the contract documents. This drawing shall indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.</p> <p>A "revised" approval drawing of the apparatus shall be prepared and submitted by the manufacturer to the purchaser showing any changes made to the approval drawing.</p> <p><u>DRAWING, CAB TOP VIEW</u></p> <p>On the sales drawing a top view of the cab seating shall be provided. The top view shall be a reference only of the seating in the order.</p> <p><u>DRAWING, PRELIMINARY LAYOUT, PUMP OPERATOR'S PANEL</u></p> <p>A detailed drawing, to scale, of the pump operator's panel shall be provided for the purpose of illustrating the drawing of configuration that was done previously. However, some variation may be necessary due to changes in our manufacturing processes or our product offerings. Revisions to NFPA guidelines and/or regulations may also affect our ability to match the previous unit.</p>		

Bidder Complies	
Yes	No

ELECTRICAL WIRING DIAGRAMS

Two (2) electrical wiring diagrams, prepared for the model of chassis and body, shall be provided.

CHASSIS

Chassis provided shall be a new, tilt-type custom fire apparatus. The chassis shall be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis shall be designed and manufactured for heavy-duty service, with adequate strength, capacity for the intended load to be sustained, and the type of service required. The chassis shall be the manufacturer's heavy-duty line tilt cab.

WHEELBASE

The wheelbase of the vehicle shall be no greater than 191".

GVW RATING

The gross vehicle weight rating shall be a minimum of 51,000.

FRAME

The chassis frame shall be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus.

The side rails shall have a 13.38" tall web over the front and mid sections of the chassis, with a continuous smooth taper to 10.75" over the rear axle.

Each rail shall have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040 in-lb over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 in-lb over the rear axle.

The frame rails shall be constructed of 120,000 psi yield strength heat-treated 0.38" thick steel with 3.50" wide flanges.

FRAME REINFORCEMENT

In addition, a mainframe inverted "L" liner shall be provided. It shall be heat-treated steel measuring 12.00" x 3.00" x 0.25". Each liner shall have a section modulus of 7.795 cubic inches, yield strength of 110,000 psi, and rbm of 857,462 in-lb. Total rbm at wheelbase center shall be 3,976,502 lb in-lb.

The frame liner shall be mounted inside of the chassis frame rail, beginning at the front edge of the mainframe rail and extending to the rear cab cross member.

FRONT NON DRIVE AXLE

The front axle shall be of the independent suspension design with a ground rating of 22,800 lb.

Bidder
Complies

Yes No

Upper and lower control arms shall be used on each side of the axle. Upper control arm castings shall be made of 100,000 psi yield strength 8630 steel and the lower control arm casting shall be made of 55,000 psi yield ductile iron.

The center cross members and side plates shall be constructed out of 80,000 psi yield strength steel.

Each control arm shall be mounted to the center section using elastomer bushings. These rubber bushings shall rotate on low friction plain bearings and be lubricated for life. Each bushing shall also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations.

There shall be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension.

The upper control arm shall be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load.

Camber at load shall be 0 degrees for optimum tire life.

The ball joint bearing shall be of low friction design and be maintenance free.

Toe links that are adjustable for alignment of the wheel to the center of the chassis shall be provided.

The wheel ends must have little to no bump steer when the chassis encounters a hole or obstacle.

The steering linkage shall provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase.

The axle shall have a third party certified turning angle of 45 degrees. Front discharge, front suction, or aluminum wheels shall not infringe on this cramp angle.

FRONT SUSPENSION

Front independent suspension shall be provided with a minimum ground rating of 22,800 lb.

The independent suspension system shall be designed to provide maximum ride comfort. The design shall allow the vehicle to travel at highway speeds over improved road surfaces and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment.

Each wheel shall have torsion bar type spring. In addition, each front wheel end shall also have energy absorbing jounce bumpers to prevent bottoming of the suspension.

Bidder Complies	
Yes	No

The suspension design shall be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms.

The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side.

The independent suspension shall be put through a durability test that has simulated a minimum of 140,000 miles of inner city driving.

FRONT SHOCK ABSORBERS

KONI heavy-duty telescoping shock absorbers shall be provided on the front suspension.

FRONT OIL SEALS

Oil seals with viewing window shall be provided on the front axle.

FRONT TIRES

Front tires shall be Goodyear® 425/65R22.50 radials, 20 ply G296 MSA tread, rated for 22,800 lb maximum axle load and 68 mph maximum speed.

The tires shall be mounted on Alcoa© 22.50" x 12.25" Dura-Bright® polished aluminum disc type wheels with a ten (10) stud, 11.25" bolt circle.

REAR AXLE

The rear axle shall be Meritor™, Model RS-30-185, with a capacity of 31,000 lb.

TOP SPEED OF VEHICLE

A rear axle ratio shall be furnished to allow the vehicle to reach a top speed of 65 MPH.

REAR SUSPENSION

The rear springs shall be Standens semi-elliptical, 3.00" x 52.00", 11 leaves main with a ground rating of 31,000 lb. Spring hangers shall be castings with provisions for lubrication. The grease fittings shall be 90 degree type and shall be accessible without removing the wheels or cutting any sheet metal. Two (2) top leaves shall wrap the forward spring hanger pin and the top leaf shall wrap the rear spring hanger pin on both the front and rear suspensions.

Kaiser spring pins shall be provided, with double "figure-eight" grease grooves and a layer of electroless nickel plating, 1.00 mil thick, around the entire pin. The bushing that holds the spring pin in place shall also have a grease groove.

REAR OIL SEALS

Oil seals shall be provided on the rear axle(s).

Bidder Complies	
Yes	No

AUTOMATIC CHASSIS LUBRICATION

An SKF automatic lubrication system will be provided. The lubrication will be supplied while the vehicle ignition switch is active to allow a uniform application of grease to the locations listed. The electronic control unit that forms part of the system, will activate the pump after an adjustable interval time. The unit will control and monitor pump operation and report any faults via an indicator light on the drivers dashboard of the cab. The lubrication system reservoir which requires a 15.00” wide by 14.50: high by 6.25” deep mounting area, will be located passenger side battery box on the apparatus. The unit will supply grease to the following locations at a minimum:

- TAK 4 Control arm pivots(Front Suspension)
- Steering Miter Box
- Cab Hinge Pins
- Rear Axle Slack Adjusters
- Rear Axle Brake Cam Screws
- Rear Suspension Spring Pins
- Rear Suspension Shackle Pins

DRIVER CONTROL DIFFERENTIAL LOCK (DCDL)

A rear axle shall be equipped with a driver controlled differential lock (DCDL).

The control shall be located within easy reach of the driver. An indicator light shall be provided next to the control switch.

REAR TIRES

Rear tires shall be four (4) Goodyear 315/80R22.50 radials, 18 ply "all season" Regional RHD II HCT tread, rated for 31,620 lb maximum axle load and 75 mph maximum speed.

The tires shall be mounted on Alcoa© 22.50" x 9.00" Dura-Bright® aluminum disc wheels with a ten (10) stud, 11.25" bolt circle.

TIRE BALANCE

All tires shall be balanced with Counteract balancing beads. The beads shall be inserted into the tire and eliminate the need for wheel weights.

TIRE PRESSURE MANAGEMENT

There shall be a RealWheels LED AirSecure™ tire alert pressure management system provided, that shall monitor each tire's pressure. A sensor shall be provided on the valve stem of each tire for a total of six (6) tires.

Bidder Complies	
Yes	No

The sensor shall calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor shall activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi.

Removing the cap from the sensor shall indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED shall immediately start to flash.

FRONT HUB COVERS

Stainless steel hub covers shall be provided on the front axle. An oil level viewing window shall be provided.

REAR HUB COVERS

A pair of stainless steel high hat hub covers shall be provided on rear axle hubs.

AUTOMATIC TIRE CHAINS

One (1) pair of Onspot automatic tire chains shall be provided at the rear. System shall be electric over air operated with locking switch on cab instrument panel. System to be operable at speeds up to 35 mph.

CHROME LUG NUT COVERS

Chrome lug nut covers shall be supplied on front and rear wheels.

MUD FLAPS

Mud flaps shall be installed behind the front and rear wheels of the apparatus.

WHEEL CHOCKS

There shall be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks with easy-grip handle provided.

WHEEL CHOCK BRACKETS

There shall be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets shall be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets shall be mounted below the left side rear compartment and shipped with loose equipment.

ANTI-LOCK BRAKE SYSTEM

The vehicle shall be equipped with a Meritor WABCO 4S4M, anti-lock braking system. The ABS shall provide a 4-channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology shall control the anti-lock braking system. Each wheel shall be monitored by the system. When any particular wheel begins to lockup, a signal shall be sent to the control unit. This control unit shall then reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake

Bidder Complies	
Yes	No

system shall eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

BRAKES

The service brake system shall be full air type.

The front brakes shall be Knorr/Bendix disc type with a 17.00" ventilated rotor for improved stopping distance.

The brake system shall be certified, third party inspected, for improved stopping distance.

The rear brakes shall be Meritor™ 16.50" x 8.63" cam operated with automatic slack adjusters. Dust shields cannot be provided.

AIR COMPRESSOR, BRAKE SYSTEM

The air compressor shall be a Bendix®, Model BA-921, with 15.80 cubic feet per minute output at 1,250 rpm.

BRAKE SYSTEM

The brake system shall include:

- Bendix® dual brake treadle valve with vinyl covered foot surface
- Heated automatic moisture ejector on air dryer
- Total air system capacity of 5,198 cubic inches
- Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi
- Spring set parking brake system
- Parking brake operated by a push-pull style control valve
- A parking "brake on" indicator light on instrument panel
- Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi
- A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa)

The air tank shall be primed and painted to meet a minimum 750 hour salt spray test.

To reduce the effects of corrosion, the air tank shall be mounted with stainless steel brackets (no exception).

BRAKE SYSTEM AIR DRYER

The air dryer shall be WABCO System Saver 1200 with spin-on coalescing filter cartridge and 100 watt heater.

Bidder Complies	
Yes	No

BRAKE LINES

Color-coded nylon brake lines shall be provided. The lines shall be wrapped in a heat protective loom where necessary in the chassis.

AUTOMATIC MOISTURE EJECTOR(S)

Four (4) automatic moisture ejectors, Bendix®, Model DV-2, shall be installed in the brake system.

Each moisture ejector shall be equipped with a 12-volt heater, controlled by thermostat and ignition switch.

The moisture ejector(s) shall be provided on the wet tank, primary and secondary tank and additional tank reservoirs(s).

ENGINE

The chassis shall be powered by an electronically controlled engine as described below:

Make:	Detroit™
Model:	DD13®
Power:	505 hp at 1625 rpm
Torque:	1750 lb-ft at 1075 rpm
Governed Speed:	Full Load - 1900 rpm Road/2080 rpm Parked PTO
Emissions Certification:	EPA 2016 (GHG17)
Fuel:	Diesel
Cylinders:	Six (6)
Displacement:	781 cubic inches (12.8L)
Starter:	Delco Remy 39MT™
Fuel Filters:	Dual cartridge style with check valve, water separator, and water in fuel sensor

The engine shall include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system shall give the owner or repair technician access to state of health information for various vehicle sub systems. The system shall monitor vehicle systems, engine and after treatment. The system shall illuminate a malfunction indicator light on the dash console if a problem is detected.

HIGH IDLE

A high idle switch shall be provided, inside the cab, on the instrument panel, that shall automatically maintain a preset engine rpm. A switch shall be installed, at the cab instrument panel, for activation/deactivation.

	Bidder Complies	
	Yes	No
<p>The high idle shall be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light shall be provided, adjacent to the switch. The light shall illuminate when the above conditions are met. The light shall be labeled "OK to Engage High Idle."</p> <p><u>ENGINE BRAKE</u></p> <p>A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.</p> <p>The driver shall be able to turn the engine brake system on/off and have a high, medium and low setting.</p> <p>The engine brake shall be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.</p> <p>The ABS system shall automatically disengage the auxiliary braking device when required.</p> <p><u>CLUTCH FAN</u></p> <p>A Horton® fan clutch shall be provided. The fan clutch shall be automatic when the pump transmission is in "Road" position, and fully engaged in "Pump" position.</p> <p><u>ENGINE AIR INTAKE</u></p> <p>The air intake with an ember separator shall be mounted high on the passenger side of the cab, to the front of the crew cab door. The ember separator is designed to prevent road dirt and recirculating hot air from entering the engine.</p> <p>The ember separator shall be easily accessible through a hinged stainless steel grille, with one (1) flush quarter turn latch.</p> <p><u>EXHAUST SYSTEM</u></p> <p>The exhaust system shall include a diesel particulate filter (DPF) and a selective catalytic reduction (SCR) device to meet current EPA standards. The exhaust system shall be stainless steel from the turbo to the inlet of the SCR device and shall be 5.00" in diameter. An insulation wrap shall be provided on all exhaust pipes between the turbo and SCR to minimize the transfer of heat to the cab. The exhaust shall terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser shall be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields shall be provided to isolate chassis and body components from the heat of the tailpipe diffuser.</p> <p><u>CHROME EXHAUST DIFFUSER</u></p> <p>The exhaust pipe shall be provided with a chrome exhaust diffuser on the end.</p>		

Bidder Complies	
Yes	No

RADIATOR

The radiator and the complete cooling system shall meet or exceed NFPA and engine manufacturer cooling system standards.

For maximum corrosion resistance and cooling performance, the entire radiator core shall be constructed using long life aluminum alloy. The core shall be made of aluminum fins, having a serpentine design, brazed to aluminum tubes. The tubes shall be brazed to aluminum headers. No solder joints or leaded material of any kind shall be acceptable in the core assembly. The radiator core shall have a minimum frontal area of approximately 1,352 square inches. Supply tank made of glass-reinforced nylon and a return tank of cast aluminum alloy shall be crimped on to the core assembly using header tabs and a compression gasket to complete the radiator core assembly. The radiator shall be compatible with commercial antifreeze solutions.

There shall be a full steel frame around the entire radiator core assembly. The radiator core assembly shall be isolated within the steel frame by rubber inserts to enhance cooling system durability and reliability. The radiator shall be mounted in such a manner as to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven ground. The radiator assembly shall be isolated from the chassis frame rails with rubber isolators.

The radiator assembly shall include an integral de-aeration tank permanently mounted to the top of the radiator framework, with a readily accessible remote-mounted overflow tank. For visual coolant level inspection, the radiator shall have a built-in sight glass. The radiator shall be equipped with a 15 psi pressure relief cap.

A drain port shall be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.

A heavy-duty fan shall draw in fresh, cool air through the radiator. Shields or baffles shall be provided to prevent recirculation of hot air to the inlet side of the radiator.

COOLANT LINES

Gates, or Goodyear, rubber hose shall be used for all engine coolant lines installed by the chassis manufacturer.

Hose clamps shall be stainless steel constant torque type to prevent coolant leakage. They shall react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.

	Bidder Complies	
	Yes	No
<p><u>FUEL TANK</u></p> <p>A 65 gallon fuel tank shall be provided and mounted at rear of chassis. The tank shall be constructed of unpainted stainless steel. It shall be equipped with swash partitions and a vent. To reduce the effects of corrosion, the fuel tank shall be mounted with stainless steel straps. (no exception).</p> <p>A .75" drain plug shall be provided in a low point of the tank for drainage.</p> <p>A fill inlet shall be located on the left hand side of the body and be covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only".</p> <p>A .50" diameter vent shall be provided running from top of tank to just below fuel fill inlet.</p> <p>The tank shall meet all FHWA 393.67 requirements, including a fill capacity of 95 percent of tank volume.</p> <p>All fuel lines shall be provided as recommended by the engine manufacturer.</p> <p><u>DIESEL EXHAUST FLUID TANK</u></p> <p>A 4.5 gallon diesel exhaust fluid (DEF) tank shall be provided and mounted in the driver's side body rearward of the rear axle.</p> <p>A 0.50" drain plug shall be provided in a low point of the tank for drainage.</p> <p>A fill inlet shall be provided and marked "Diesel Exhaust Fluid Only". The fill inlet shall be located adjacent to the engine fuel inlet behind a common hinged, spring loaded, polished stainless steel door on the driver side of the vehicle.</p> <p>The tank shall meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing.</p> <p>The tank shall include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.</p> <p>The stainless steel flip door for selecting between DEF fill and the diesel fill shall be spring loaded to default to covering the DEF fill.</p> <p><u>AUXILIARY FUEL PUMP</u></p> <p>An auxiliary electric fuel pump shall be added to the fuel line for priming the engine. A switch located on the cab instrument panel shall be provided to operate the pump.</p> <p><u>FUEL SHUTOFF</u></p> <p>A shutoff valve shall be installed in the fuel line, at the fuel tank.</p>		

Bidder Complies	
Yes	No

FUEL COOLER

An air to fuel cooler shall be installed in the engine fuel return line.

TRANSMISSION

An Allison 5th generation, model EVS 4000P, electronic, torque converting, automatic transmission shall be provided.

Two (2) PTO openings shall be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock).

A transmission temperature gauge with red light and buzzer shall be installed on the cab instrument panel.

TRANSMISSION SHIFTER

A six (6)-speed T-Handle shift module with the four (4) + two (2) "Mode" button shall be mounted to right of driver on console. Shift position indicator shall be indirectly lit for after dark operation.

The Allison shifter shall be a double-digit display model.

The transmission ratio shall be 1st - 3.51 to 1.00, 2nd - 1.91 to 1.00, 3rd - 1.43 to 1.00, 4th - 1.00 to 1.00, 5th - 0.75 to 1.00, 6th - 0.64 to 1.00, R- 4.80 to 1.00.

TRANSMISSION COOLER

An externally mounted Modine bar plate transmission oil cooler shall be provided using engine coolant to control the transmission oil temperature. The internal bar plates shall be constructed of stainless steel. The cooler's housing shall be constructed of 1020 steel, coated to protect from corrosion. The cooler shall be tagged with information including OEM part number, vendor serial number and date / lot code.

TRANSMISSION FLUID

The transmission shall be provided with TranSynd, or other Allison approved TES-295 heavy duty synthetic transmission fluid.

DRIVELINE

Drivelines shall be a heavy-duty metal tube and be equipped with Spicer® 1810 universal joints.

The shafts shall be dynamically balanced before installation.

A splined slip joint shall be provided in each driveshaft. The slip joint shall be coated with Glidecoat® or equivalent.

Bidder Complies	
Yes	No

STEERING

Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, shall be provided. For reduced system temperatures, the power steering shall incorporate an air to oil cooler and an Eaton, Model VN20, hydraulic pump with integral pressure and flow control. All power steering lines shall have wire braded lines with crimped fittings.

A tilt and telescopic steering column shall be provided to improve fit for a broader range of driver configurations.

STEERING WHEEL

The steering wheel shall be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.

LOGO AND CUSTOMER DESIGNATION ON DASH

The dash panel shall have an emblem containing the fire apparatus manufacturer's logo and customer name. The emblem shall have three (3) rows of text for the customer's department name. There shall be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row.

The first row of text shall be: Newtown

The second row of text shall be: Hook and Ladder

The third row of text shall be: Engine 111

BUMPER

A one (1) piece, ten (10) gauge, 304-2B type polished stainless steel bumper, minimum of 10.00" high, shall be attached to a bolted modular extension frame constructed of 50,000 psi tensile steel "C" channel mounted directly behind it to provide adequate support strength.

The bumper shall be extended 16.00" from front face of cab.

Documentation shall be provided, upon request, to show that the options selected have been engineered for fit-up and approval for this modular bumper extension. A chart shall be provided to indicate the option locations and shall include, but not be limited to, the following options: air horns, mechanical sirens, speakers, hose trays (with hose capacities), winches, lights, discharge, and suction connections.

GRAVEL PAN

A gravel pan, constructed of bright aluminum treadplate, shall be furnished between the bumper and cab face. The gravel pan shall be properly supported from the underside to prevent flexing and vibration of the aluminum treadplate.

Bidder Complies	
Yes	No

LIFT AND TOW MOUNTS

Mounted to the frame extension shall be lift and tow mounts. The lift and tow mounts shall be designed and positioned to adapt to certain tow truck lift systems.

The lift and tow mounts with eyes shall be painted the same color as the frame.

TOW HOOKS

No tow hooks are to be provided. This truck shall be equipped with a lift and tow package with integral tow eyes.

COVER

A red vinyl cover shall be provided over the bumper mounted hose tray. The cover shall be retained by bungee cord and hook fasteners.

BUMPER TRAY

A hose tray shall be placed on top of bumper extension 80.00" wide, 9.50" front to back and 3.00" high, where possible, and 2.50" where required to avoid interference with front cab items. Tray shall have capacity for 100 feet of 1.75" DJP hose. Hose shall be packed on edge.

FOG LIGHTS

There shall be two (2) Perlux, Model 06001-4 rectangular halogen fog lamps with clear lenses provided one (1) on each side recessed into the front bumper.

The fog lamps shall be switched on with the headlight switch and a separate switch that shall include an internal indicator. This switch shall be properly identified and installed on the switch panel within reach of the driver. The parking, tail, side marker and license plate lamps shall be activated by the headlamp switch prior to the activation of these fog lights. The fog lights shall be able to switch on or off independently of the low beam headlights. The front fog lights shall be reset to an off position whenever the headlight switch or the vehicle ignition switch are set to the off position. The fog lights shall be deactivated when the high beam headlights are activated, when the headlight switch is turned off or when the ignition switch is turned off.

CAB

The cab shall be designed specifically for the fire service and shall be manufactured by the chassis builder.

The cab shall be built by the apparatus manufacturer in a facility located on the manufacturer's premises (no exception).

For reasons of structural integrity and enhanced occupant protection, the cab shall be of heavy duty design, constructed to the following minimal standards.

	Bidder Complies	
	Yes	No
<p>The cab shall have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts) and rear wall areas. The A-pillar shall be constructed of solid A356-T5 aluminum. The B-pillar and C-pillar shall be constructed from 0.25" heavy wall extrusions. The rear wall shall be constructed of two (2) 4.00" x 2.00" outer aluminum extrusions and two (2) 3.00" x 2.00" inner aluminum extrusions. All main vertical structural members shall run from the floor to 6.50" x 4.875" x 0.1875" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.36" thick corner casting at each of the front corners of the roof assembly.</p> <p>The front of the cab shall be constructed of a 0.25" thick gusset plate, covered with a 0.090" front skin (for a total thickness of 0.34"), and reinforced with a 95.00" wide x 11.13" deep x 0.50" thick cross-cab support located just below the windshield. The cross-cab support shall run the full width of the cab and weld to each A-pillar, the 0.25" thick gusset plate and the front skin.</p> <p>The cab floors shall be constructed of 0.1875" thick aluminum plate and reinforced at the firewall with an additional 0.50" thick cross-floor support providing a total thickness of 0.6875" of structural material at the front floor area. The front floor area shall also be supported with one (1) 0.50" plate bolted to one (1) 0.78" plate that also provides the mounting point for the cab lift. This tubing shall run from the front of the cab to the 0.187" thick engine tunnel, creating the structure to support the forces created when lifting the cab.</p> <p>The cab shall be 94.75" wide (outside door skin to outside door skin) to maintain maximum maneuverability (no exception).</p> <p>The forward cab section shall have an overall height (from the cab roof to the ground) of approximately 103.00". The crew cab section shall have a 10.00" raised roof, with an overall cab height of approximately 113.00". The overall height listed shall be calculated based on a truck configuration with the lowest suspension weight ratings, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension shall increase the overall height listed.</p> <p>The floor to ceiling height inside the crew cab shall be 64.00" in the center and 69.25" in the outboard positions.</p> <p>The crew cab floor shall measure 40.12" from rear wall to the back side of engine tunnel.</p> <p>The engine tunnel, at the rearward highest point (knee level), shall measure 47.75" to the back wall.</p> <p>The crew cab shall be of the totally enclosed design with access doors constructed in the same manner as the driver and passenger doors.</p> <p>The cab shall be a full tilt cab style.</p>		

Bidder Complies	
Yes	No

A 3-point cab mount system with rubber isolators shall improve ride quality by isolating chassis vibrations from the cab.

INTERIOR CAB INSULATION

The cab shall include 1.50" insulation in the ceiling and side walls, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.

FENDER LINERS

Full circular inner fender liners in the wheel wells shall be provided.

WINDSHIELD

A curved safety glass windshield shall be provided with over 2,754 square inches of clear viewing area. The cab windshield shall have bright trim inserts in the rubber molding holding the glass in place. Economical windshield replacement glass shall be readily available from local auto glass suppliers.

All cab glass shall be tinted.

WINDSHIELD WIPERS

Two (2) electric windshield wipers with washer shall be provided that meet FMVSS and SAE requirements.

The washer reservoir shall be able to be filled without raising the cab.

GLOVE BOX

A glove box with a drop-down door shall be installed in the front dash panel in front of the officer's position.

ENGINE TUNNEL

Engine hood side walls shall be constructed of 0.50" aluminum. The top shall be constructed of 0.19" aluminum and shall be tapered at the top to allow for more driver and passenger elbow room.

The engine hood shall be insulated for protection from heat and sound. The noise insulation keeps the dBA level within the limits stated in the current NFPA 1901 standards.

CAB REAR WALL EXTERIOR COVERING

The entire exterior surface of the rear wall of the cab shall be painted two-tone to match the sides of the cab, with all seams finish welded.

CAB LIFT

A hydraulic cab lift system shall be provided consisting of an electric powered hydraulic pump, dual lift cylinders, and necessary hoses and valves.

	Bidder Complies	
	Yes	No
<p>The hydraulic pump shall have a manual override for backup in the event of electrical failure.</p> <p>Lift controls shall be located PS pump panel.</p> <p>The engine shall be easily accessible and capable of being removed with the cab tilted. The cab shall be capable of tilting 45 degrees and 90 degrees with crane assist.</p> <p>Cab shall be locked down by a 2-point automatic spring-loaded hook mechanism that actuates after the cab has been lowered.</p> <p>The hydraulic cylinders shall be equipped with a velocity fuse that protects the cab from accidentally descending when the control is located in the tilt position.</p> <p>For increased safety, a redundant mechanical stay arm shall be provided that must be manually put in place on the driver side between the chassis and cab frame when cab is in the raised position. This device shall be manually stowed to its original position before the cab can be lowered.</p> <p><u>Cab Lift Interlock</u></p> <p>The cab lift system shall be interlocked to the parking brake. The cab tilt mechanism shall be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism shall be disabled.</p> <p><u>GRILLE</u></p> <p>A bright finished aluminum mesh grille screen, inserted behind a bright finished grille surround, shall be provided on the front center of the cab.</p> <p><u>SCUFFPLATE</u></p> <p>A bright aluminum treadplate scuffplate shall be provided on the entire rear vertical surface of the engine tunnel.</p> <p><u>DOOR JAMB SCUFFPLATES</u></p> <p>All cab door jambs shall be furnished with a polished stainless steel scuffplate, mounted on the striker side of the jamb.</p> <p><u>SCUFFPLATES, REAR CAB CORNER GUARDS</u></p> <p>Both rear cab corners shall be furnished with a full height, polished stainless steel corner guard scuffplate. The guard shall extend 1.00" from the corner to protect paint from damage when pulling items (such as booster hose) around the cab.</p> <p><u>TRIM BAND ON CAB FACE</u></p> <p>A 10.00" band of 22 gauge polished stainless steel trim shall be installed across the front of the cab, from door hinge to door hinge. The trim band shall be centered on the headlights and</p>		

Bidder Complies	
Yes	No

applied with two-sided tape. A 0.625" self-adhesive trim strip shall be applied around the perimeter of the trim band.

SIDE OF CAB MOLDING

Chrome molding shall be provided on both sides of cab.

MIRRORS

A Moto Mirror-Plus polished mirror, 7.62" x 13.50" flat glass and a 6.62" x 6.25" convex glass shall be mounted on each side of the front cab doors. Driver and passenger side mirrors shall be heated and adjustable with remote control convenient to the driver.

DOORS

To enhance entry and egress to the cab, the forward cab doors shall be a minimum of 37.50" wide x 74.25" high. The crew cab doors shall be located on the sides of the cab and shall be constructed in the same manner as the forward cab doors. The crew cab doors shall measure a minimum of 34.88" wide x 84.25" high.

The forward cab and crew cab doors shall be constructed of extruded aluminum with a nominal material thickness of 0.125". The exterior door skins shall be constructed from 0.090" aluminum.

A flush mounted, chrome plated paddle type door handle shall be provided on the exterior of each cab door. Each door shall also be provided with an interior flush paddle handle.

The cab doors shall be provided with both interior (rotary knob) and exterior (keyed) locks as required by FMVSS 206. The locks shall be capable of activating when the doors are open or closed. The doors shall remain locked if locks are activated when the doors are opened, then closed.

A heavy duty, stainless steel, piano type hinge with a 0.38" pin and 11 gauge leaf shall be provided on all cab doors. There shall be double automotive type rubber seals around the perimeter of the door framing and door edges to ensure a weather tight fit.

A chrome grab handle shall be provided on the inside of each cab and crew cab door.

The cab steps at each cab door location shall be located inside the cab doors to protect the steps from weather elements.

DOOR PANELS

There shall be a full height polished stainless steel door panel installed on the inside of all cab doors. The cab door panels shall be removable without disconnecting door and window mechanisms.

Bidder Complies	
Yes	No

ELECTRIC OPERATED CAB DOOR WINDOWS

All four (4) cab doors shall be equipped with electric operated windows with flush mounted automotive style switches.

The drivers side lower instrument panel shall also have four (4) controls, one (1) for each door window.

There shall be an additional set of four (4) controls located on the lower center console between the driver and officer seats.

CAB STEPS

The forward cab and crew cab access steps shall be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps shall be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps shall be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps shall be a minimum 24.75" wide, and the crew cab steps shall be 21.25" wide with an 8.00" minimum depth. The inside cab steps shall not exceed 18.00" in height and be limited to two (2) steps. Three (3) step entrance designs shall not be acceptable due to safety concerns. A slip-resistant handrail shall be provided adjacent to each cab door opening to assist during cab ingress and egress.

STEP LIGHTS

For reduced overall maintenance costs compared to incandescent lighting, there shall be four (4) white LED step lights provided. The lights shall be installed at each cab and crew cab door, one (1) per step. The lights shall be located in the driver side front doorstep, driver side crew cab doorstep, passenger side front doorstep and passenger side crew cab doorstep.

In order to ensure exceptional illumination, each light shall provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light.

The lights shall be activated when the adjacent door is opened.

FENDER CROWNS

Stainless steel fender crowns shall be installed at the cab wheel openings. The fender crowns shall have a radius outside corner that allows the fender crown to extend beyond the side wall of the front tires and also allow the crew cab doors to open fully.

Bidder Complies	
Yes	No

CREW CAB WINDOWS

One (1) fixed window with tinted glass shall be provided on each side of the cab, to the rear of the front cab door. The windows shall be sized to enhance light penetration into the cab interior. The windows shall measure 17.50" wide x 21.00" high.

Windows shall also be provided along the front of the raised roof section of the cab. Two (2) windows in the slanted portion of the roof, each measuring 32.00" wide x 7.50" high.

The rear wall of the crew cab shall have two (2) windows, each being 11.29" wide x 17.95" high.

MOUNTING PLATE ON ENGINE TUNNEL

Equipment installation provisions shall be installed on the engine tunnel.

A .188" aluminum plate shall be bolted to the top surface of the engine tunnel. The plate shall be spaced off the engine tunnel 1.00" to allow for wire routing below the plate. The mounting surface shall be painted to match the cab interior.

CAB INTERIOR

The left and right side dash and center console shall be a flat faced design to provide easy maintenance and shall be constructed out of painted aluminum.

The engine tunnel shall be padded and covered with 46 ounce leather grain vinyl resistant to oil, grease and mildew.

The headliner shall be installed in both forward and rear cab sections. Headliner material shall be vinyl. A sound barrier shall be part of its composition. Material shall be installed on aluminum sheet and securely fastened to interior cab ceiling.

Forward portion of cab headliner shall provide easy access for servicing electrical wiring or for other maintenance needs without removing the entire unit.

CAB INTERIOR UPHOLSTERY

The cab interior upholstery shall be red.

CAB INTERIOR PAINT

The cab interior metal surfaces shall be painted red, vinyl texture paint.

CAB FLOOR

The cab and crew cab floor areas shall be covered with Polydamp™ acoustical floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.

The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a .25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.

	Bidder Complies	
	Yes	No
<p>The rubber floor material shall be overlaid with aluminum treadplate. The aluminum treadplate floor shall entirely cover the rubber floor material.</p> <p><u>CAB DEFROSTER</u></p> <p>There shall be a 41,000 BTU defroster in the cab located under the engine tunnel.</p> <p>The defroster ventilation shall be built into the design of the cab dash instrument panel and shall be easily removable for maintenance.</p> <p>The defroster shall have a 3-speed blower and temperature controls accessible to the driver and officer.</p> <p>The defroster ducts shall be designed to provide maximum defrosting capabilities for the front cab windows.</p> <p><u>CAB/CREW CAB HEATER</u></p> <p>Two (2) auxiliary heaters with 32,000 BTU each shall be provided in the cab. The heaters shall have a 3-speed blower and temperature controls accessible to the driver and officer. There shall also be louvers located below the rear facing seat riser and below the driver and officer positions for airflow.</p> <p>The heaters shall be mounted, one (1) within each rear facing seat riser.</p> <p><u>AIR CONDITIONING</u></p> <p>A high-performance, customized air conditioning system shall be furnished inside the cab and crew cab. A 19.10 cubic inch compressor shall be installed on the engine.</p> <p>The air conditioning system shall be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 72 degrees Fahrenheit at 50 percent relative humidity within 30 minutes. The cooling performance test shall be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours.</p> <p>A roof-mounted condenser that meets and exceeds the performance specification shall be installed on the cab roof. Mounting the condenser below the cab or body would reduce the performance of the system and shall not be acceptable. The condenser cover and mounting legs to be painted white as provided by manufacturer.</p> <p>An evaporator unit that meets and exceeds the performance specification shall be installed in the cab, located in the center of the cab ceiling over the engine tunnel. The evaporator shall include two (2) high performance cores and plenums with multiple outlets, one (1) plenum directed to the front and one (1) plenum directed to the rear of the cab.</p>		

	Bidder Complies	
	Yes	No
<p>The evaporator unit shall be provided with adjustable air outlets strategically located to direct air flow to the driver, officer and crew cab area.</p> <p>All hose used shall be class 1 type to reduce moisture ingress into the air conditioning system.</p> <p>The air conditioner refrigerant shall be R-134A and shall be installed by a certified technician.</p> <p>The air conditioner shall be controlled by a single electronic control panel. For ease of operation, the control panel shall include variable adjustment for temperature and fan control and be conveniently located on the dash in clear view of the driver.</p> <p><u>WINDOW DEFROST FANS</u></p> <p>Two (2) window defrost fans shall be mounted on the ceiling of the cab, located both fans in the center of the cab.</p> <p><u>SUN VISORS</u></p> <p>Two (2) smoked Lexan™ sun visors provided. The sun visors shall be located above the windshield with one (1) mounted on each side of the cab.</p> <p>There shall be no retention bracket provided to help secure each sun visor in the stowed position.</p> <p><u>GRAB HANDLE</u></p> <p>A black rubber covered grab handle shall be mounted on the lower portion of the driver's side cab entrance to assist in entering the cab. The grab handle shall be securely mounted to the post area between the door and steering wheel column.</p> <p>A long rubber grab handle shall be mounted on the dash board in front of the officer.</p> <p><u>ENGINE COMPARTMENT LIGHTS</u></p> <p>There shall be one (1) Whelen, Model 3SC0CDCR, 12 volt DC, 3.00" white LED light(s) with Whelen, Model 3FLANGEC, chrome flange kit(s) installed under the cab to be used as engine compartment illumination.</p> <p>These light(s) shall be activated automatically when the cab is raised.</p> <p><u>ACCESS TO ENGINE DIPSTICKS</u></p> <p>For access to the engine oil and transmission fluid dipsticks, there shall be a door on the engine tunnel, inside the crew cab. The door shall be on the rear wall of the engine tunnel, on the vertical surface.</p> <p>The engine oil dipstick shall allow for checking only. The transmission dipstick shall allow for both checking and filling.</p>		

Bidder Complies	
Yes	No

The door shall have a rubber seal for thermal and acoustic insulation. One (1) flush latch shall be provided on the access door.

MAP BOX

There shall be one (1) map box(es) with three (3) bins, open at top. The map box(es) shall be installed at final inspection. The map box(es) shall be divided into three (3) bins, each being 12.50" wide x 3.00" high x 12.00" deep. Each bin shall slant 30 degrees from horizontal. The map box(es) shall be constructed of 0.125" aluminum and shall be painted to match the cab interior.

CAB SAFETY SYSTEM

The cab shall be provided with a safety system designed to protect occupants in the event of a side roll or frontal impact, and shall include the following:

- A supplemental restraint system (SRS) sensor shall be installed on a structural cab member behind the instrument panel. The SRS sensor shall perform real time diagnostics of all critical subsystems and shall record sensory inputs immediately before and during a side roll or frontal impact event.
- A slave SRS sensor shall be installed in the cab to provide capacity for eight (8) crew cab seating positions.
- A fault-indicating light shall be provided on the vehicle's instrument panel allowing the driver to monitor the operational status of the SRS system.
- A driver side front air bag shall be mounted in the steering wheel and shall be designed to protect the head and upper torso of the occupant, when used in combination with the 3-point seat belt.
- A passenger side knee bolster air bag shall be mounted in the modesty panel below the dash panel and shall be designed to protect the legs of the occupant, when used in combination with the 3-point seat belt.
- Air curtains shall be provided in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall.
- Suspension seats shall be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event.
- Seat belts shall be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event.

FRONTAL IMPACT PROTECTION

The SRS system shall provide protection during a frontal or oblique impact event. The system shall activate when the vehicle decelerates at a predetermined G force known to cause injury to the occupants. The cab and chassis shall have been subjected, via third party test facility, to a crash impact during frontal and oblique impact testing. Testing included all major chassis and

Bidder Complies	
Yes	No

cab components such as mounting straps for fuel and air tanks, suspension mounts, front suspension components, rear suspensions components, frame rail cross members, engine and transmission and their mounts, pump house and mounts, frame extensions and body mounts. The testing provided configuration specific information used to optimize the timing for firing the safety restraint system. The sensor shall activate the pyrotechnic devices when the correct crash algorithm, wave form, is detected (no exception).

The SRS system shall deploy the following components in the event of a frontal or oblique impact event:

- Driver side front air bag
- Passenger side knee bolster air bag
- Air curtains mounted in the outboard bolster of outboard seat backs
- Suspension seats shall be retracted to the lowest travel position
- Seat belts shall be pre-tensioned to firmly hold the occupant in place

SIDE ROLL PROTECTION

The SRS system shall provide protection during a fast or slow 90 degree roll to the side, in which the vehicle comes to rest on its side. The system shall analyze the vehicle's angle and rate of roll to determine the optimal activation of the advanced occupant restraints.

The SRS system shall deploy the following components in the event of a side roll:

- Air curtains mounted in the outboard bolster of outboard seat backs
- Suspension seats shall be retracted to the lowest travel position
- Seat belts shall be pre-tensioned to firmly hold the occupant in place

SEATING CAPACITY

The seating capacity in the cab shall be six (6).

DRIVER SEAT

A H.O. Bostrom, Sierra Defender A350™, air suspension seat shall be provided in the cab for the driver. For increased convenience, the seat shall include a manual control to adjust the horizontal position. To provide flexibility for multiple driver configurations, the seat shall have a reclining back. To ensure safe operation, the seat shall be equipped with seat belt sensors in the seat cushion and belt receptacle that shall activate an alarm indicating a seat is occupied but not buckled.

The seat shall include the following features incorporated into the side roll protection system:

- Side air curtain shall be mounted integral to the outboard bolster of the seat back. The air curtain shall be covered by a decorative panel when in the stowed position.

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • A suspension seat safety system shall be included. When activated in the event of a side roll, this system shall pretension the seat belt and retract the seat to its lowest travel position. <p>The seat shall be furnished with a 3-point, shoulder type seat belt. The seat belt shall be furnished with dual automatic retractors that shall provide ease of operation in the normal seating position.</p> <p><u>OFFICER SEAT</u></p> <p>A seat shall be provided in the cab for the passenger. The seat shall be a fixed type, with no suspension. For optimal comfort, the seat shall be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat shall be equipped with seat belt sensors in the seat cushion and belt receptacle that shall activate an alarm indicating a seat is occupied but not buckled.</p> <p>The seat back shall be an SCBA back style with 5 degree fixed recline angle. The SCBA cavity shall be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity shall be accomplished by unbolting, relocating, and re-bolting it in the desired location.</p> <p>The seat shall include the following features incorporated into the side roll protection system:</p> <ul style="list-style-type: none"> • Side air curtain shall be mounted integral to the outboard bolster of the seat back. The air curtain shall be covered by a decorative panel when in the stowed position. • A seat safety system shall be included. When activated, this system shall pretension the seat belt. <p>The seat shall be furnished with a 3-point, shoulder type seat belt. The seat belt shall be furnished with dual automatic retractors that shall provide ease of operation in the normal seating position.</p> <p><u>RADIO COMPARTMENT</u></p> <p>A radio compartment shall be provided under the officer's seat.</p> <p>The inside compartment dimensions shall be 14.00" wide x 7.50" high x 14.50" deep.</p> <p>A drop-down door with a chrome plated lift and turn latch shall be provided for access.</p> <p>The compartment shall be constructed of smooth aluminum and painted to match the cab interior.</p>		

Bidder Complies	
Yes	No

REAR FACING DRIVER SIDE OUTBOARD SEAT

There shall be one (1) rear facing seat provided at the driver side outboard position in the crew cab. For optimal comfort, the seat shall be provided with 15.00" deep foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat shall be equipped with seat belt sensors in the seat cushion and belt receptacle that shall activate an alarm indicating a seat is occupied but not buckled.

The seat back shall be an SCBA back style with 5 degree fixed recline angle. The SCBA cavity shall be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity shall be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat shall include the following features incorporated into the side roll protection system:

- Side air curtain shall be mounted integral to the outboard bolster of the seat back. The air curtain shall be covered by a decorative panel when in the stowed position.
- A seat safety system shall be included. When activated, this system shall pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.

The seat shall be furnished with a 3-point, shoulder type seat belt. The seat belt shall be furnished with dual automatic retractors that shall provide ease of operation in the normal seating position.

REAR FACING PASSENGER SIDE OUTBOARD SEAT

There shall be one (1) rear facing seat provided at the passenger side outboard position in the crew cab. For optimal comfort, the seat shall be provided with 15.00" deep foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat shall be equipped with seat belt sensors in the seat cushion and belt receptacle that shall activate an alarm indicating a seat is occupied but not buckled.

The seat back shall be an SCBA back style with 5 degree fixed recline angle. The SCBA cavity shall be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity shall be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat shall include the following features incorporated into the side roll protection system:

- Side air curtain shall be mounted integral to the outboard bolster of the seat back. The air curtain shall be covered by a decorative panel when in the stowed position.
- A seat safety system shall be included. When activated this system shall pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.

Bidder Complies	
Yes	No

The seat shall be furnished with a 3-point, shoulder type seat belt. The seat belt shall be furnished with dual automatic retractors that shall provide ease of operation in the normal seating position.

FORWARD FACING CENTER SEATS

There shall be two (2) forward facing seats provided at the center position in the crew cab. For optimal comfort, the seats shall be provided with 15.00" deep foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seats shall be equipped with seat belt sensors in the seat cushion and belt receptacle that shall activate an alarm indicating a seat is occupied but not buckled.

The seat backs shall be an SCBA style with 90 degree back. The SCBA cavity shall be adjustable from front to rear in 1.00" increments to accommodate different sized SCBA cylinders. Moving the SCBA cavity shall be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seats shall include the following feature incorporated into the side roll protection system:

- A seat safety system shall be included. When activated, this system shall pretension the seat belts around the occupants to firmly hold them in place in the event of a side roll.

The seats shall be furnished with 3-point shoulder type seat belts. The seat belts shall be furnished with dual automatic retractors that shall provide ease of operation in the normal seating position.

REAR FACING OVERHEAD STORAGE COMPARTMENT

An overhead rear facing storage compartment shall be installed at the raised roof within the crew cab. The cabinet shall include one (1) liftup door with gas cylinders and two (2) quarter turn flush locks. The compartment size shall be 38.00" wide x 10.00" high x 14.00" deep at the bottom and 11.00" deep at the top. Weather stripping shall be installed around the doors. It shall be constructed of smooth aluminum and painted to match the cab interior.

Compartment Light

There shall be two (2) white Amdor, LED strip lights installed, one (1) each side of the compartment opening. The lights shall be controlled by an automatic door switch.

SEAT UPHOLSTERY

All seat upholstery shall be 46 ounce leather grain red vinyl resistant to oil, grease and mildew. The cab shall have six (6) seating positions.

AIR BOTTLE HOLDERS

All SCBA type seats in the cab shall have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket shall include an automatic spring clamp

Bidder Complies	
Yes	No

that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp shall constrain the SCBA bottle in the seat and shall exceed the NFPA standard of 9G. Bracket designs with manual restraints (belts, straps, buckles) that could be inadvertently left unlocked and allow the SCBA to move freely within the cab during an accident, shall not be acceptable.

There shall be a quantity of five (5) SCBA brackets.

SEAT BELTS

All seating positions in the cab and crew cab shall have red seat belts.

To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length shall meet or exceed the current edition of NFPA 1901 and CAN/ULC - S515 standards.

The 3-point shoulder type seat belts shall also include the ReadyReach D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location.

SHOULDER HARNESS HEIGHT ADJUSTMENT

All seating positions furnished with 3-point shoulder type seat belts shall include a height adjustment. This adjustment shall optimize the belts effectiveness and comfort for the seated firefighter.

HELMET STORAGE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided.

There is no helmet storage on the apparatus as manufactured. The fire department shall provide a location for storage of helmets.

CAB DOME LIGHTS

There shall be four (4) dual LED dome lights with black bezels provided. Two (2) lights shall be mounted above the inside shoulder of the driver and officer and two (2) lights shall be installed and located, one (1) on each side of the crew cab.

The color of the LED's shall be red and white.

The white LED's shall be controlled by the door switches and the lens switch.

The color LED's shall be controlled by the lens switch.

	Bidder Complies	
	Yes	No
<p>In order to ensure exceptional illumination, each white LED dome light shall provide a minimum of 10.1 foot-candles (fc) covering an entire 20.00" x 20.00" square seating position when mounted 40.00" above the seat.</p> <p><u>OVERHEAD MAP LIGHTS</u></p> <p>There shall be two (2) white halogen, round adjustable map lights installed in the cab:</p> <ul style="list-style-type: none"> • One (1) overhead in front of the driving position. • One (1) overhead in front of the passenger's position. <p>Each light shall include a switch on the light housing.</p> <p>The light switches shall be connected directly to the battery switched power.</p> <p><u>MAP LIGHT</u></p> <p>There shall be one (1) ROM, Model C-MAP-T-LED map light(s) with 12.00" gooseneck provided in the cab and located on the right side of the officer's side dashboard.</p> <p>There shall be a 3-position switch provided on the light(s) to allow the LED to be red/off/white.</p> <p>The light switch(es) shall be connected directly to the battery switched power.</p> <p><u>HAND HELD LIGHT</u></p> <p>There shall be six (6) Streamlight, Fire Vulcan, Model #44451, hand lights provided with a vehicle mount with 12VDC direct wire charging rack and quick release buckle strap mounted at pickup.</p> <p>Each light housing shall be orange in color and be provided with a C4, LED and two (2) "ultra bright blue tail light LEDs" The tail light LEDs shall have a dual mode of blinking or steady.</p> <p><u>HAND HELD SPOTLIGHT</u></p> <p>There shall be one (1) spotlight provided, Model Collins CL-12, with a 9 foot coil cord and momentary switch. The housing shall be made from aircraft aluminum that is black powder coated. Location of the one (1) spotlight shall be officers side dashboard, the exact mounting location will be determined at final inspection.</p> <p><u>CAB INSTRUMENTATION</u></p> <p>The cab instrument panel shall include gauges, telltale indicator lamps, control switches, alarms, and a diagnostic panel. The function of the instrument panel controls and switches shall be identified by a label adjacent to each item. Actuation of the headlight switch shall illuminate the labels in low light conditions. Telltale indicator lamps shall not be illuminated unless necessary. The cab instruments and controls shall be conveniently located within the forward cab section,</p>		

Bidder
Complies

Yes No

forward of the driver. The gauge assembly and switch panels are designed to be removable for ease of service and low cost of ownership.

GAUGES

The gauge panel shall include the following ten (10) black faced gauges with black bezels to monitor vehicle performance:

- Voltmeter Gauge (volts):
 - Low volts (11.8 VDC)
 - Amber telltale light on indicator light display with steady tone alarm
 - High volts (15.5 VDC)
 - Amber telltale light on indicator light display with steady tone alarm
- Engine Tachometer (RPM)
- Speedometer MPH
- Fuel Level Gauge (Empty - Full in fractions):
 - Low fuel (1/8 full)
 - Amber telltale light on indicator light display with steady tone alarm
- Engine Oil Pressure Gauge (PSI):
 - Low oil pressure to activate engine warning lights and alarms
 - Red telltale light on indicator light display with steady tone alarm
- Front Air Pressure Gauges (PSI):
 - Low air pressure to activate warning lights and alarm
 - Red telltale light on indicator light display with steady tone alarm
- Rear Air Pressure Gauges (PSI):
 - Low air pressure to activate warning lights and alarm
 - Red telltale light on indicator light display with steady tone alarm
- Transmission Oil Temperature Gauge (Fahrenheit):
 - High transmission oil temperature activates warning lights and alarm
 - Amber telltale light on indicator light display with steady tone alarm
- Engine Coolant Temperature Gauge (Fahrenheit):
 - High engine temperature activates an engine warning light and alarms
 - Red telltale light on indicator light display with steady tone alarm
- Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions):
 - Low fluid (1/8 full)
 - Amber telltale light on indicator light display

INDICATOR LAMPS

To promote safety, the following telltale indicator lamps shall be located on the instrument panel in clear view of the driver. The indicator lamps shall be "dead-front" design that is only visible when active. The colored indicator lights shall have descriptive text or symbols.

Bidder Complies	
Yes	No

The following amber telltale lamps shall be present:

- Low coolant
- Trac cntl (traction control) (where applicable)
- Check engine
- Check trans (check transmission)
- Air rest (air restriction)
- Driver door open
- Passenger door open
- Tower (tower raised) (where applicable)
- DPF (engine diesel particulate filter regeneration)
- HET (engine high exhaust temperature) (where applicable)
- ABS (antilock brake system)
- MIL (engine emissions system malfunction indicator lamp) (where applicable)
- Regen inhibit (engine emissions regeneration inhibit) (where applicable)
- Trans temp (transmission temperature)
- SRS (supplemental restraint system) fault (where applicable)
- DEF (low diesel exhaust fluid level)
- The following red telltale lamps shall be present:
- Ladder rack down
- Parking brake
- Stop engine

The following green telltale lamps shall be present:

- Left turn
- Right turn
- Battery on
- Ignition
- Aux brake (auxiliary brake engaged) (where applicable)

The following blue telltale lamps shall be present:

- High beam

ALARMS

Audible steady tone warning alarm: A steady audible tone alarm shall be provided whenever a warning message is present.

Bidder Complies	
Yes	No

INDICATOR LAMP AND ALARM PROVE-OUT

A system shall be provided which automatically tests telltale indicator lights and alarms located on the cab instrument panel. Telltale indicators and alarms shall perform prove-out when the ignition switch is held in the up position for three (3) to five (5) seconds to ensure proper performance.

CONTROL SWITCHES

For ease of use, the following controls shall be provided immediately adjacent to the cab instrument panel within easy reach of the driver. All switches shall have backlit labels for low light applications.

Headlight/Parking light switch: A three (3)-position maintained rocker switch shall be provided. The first switch position shall deactivate all parking and headlights. The second switch position shall activate the parking lights. The third switch shall activate the headlights.

Panel back lighting intensity control switch: A variable voltage control switch shall be provided. The switch moved in the up direction increases the panel back lighting intensity to a maximum and the switch moved in a down direction decreases the panel back lighting intensity to a minimum level.

Ignition switch: A three (3)-position maintained/momentary rocker switch shall be provided. The first switch position shall deactivate vehicle ignition. The second switch position shall activate vehicle ignition. The third momentary position shall perform prove-out on the telltale indicators and alarms when the ignition switch is held in the up position for three (3) to five (5) seconds to ensure proper performance. A green indicator lamp is activated with vehicle ignition.

Engine start switch: A two (2)-position momentary rocker switch shall be provided. The first switch position is the default switch position. The second switch position shall activate the vehicle's engine. The switch actuator is designed to prevent accidental activation.

Hazard switch shall be incorporated into the steering column.

Turn signal arm: A self-canceling turn signal with high beam headlight controls.

Windshield wiper control shall have high, low, and intermittent modes.

Parking brake control: An air actuated push/pull park brake control.

Chassis horn control: Activation of the chassis horn control shall be provided through the center of the steering wheel.

Bidder Complies	
Yes	No

CUSTOM SWITCH PANELS

The design of cab instrumentation shall allow for emergency lighting and other switches to be placed within easy reach of the operator, thus improving safety. There shall be positions for up to three (3) switch panels in the overhead console on the driver's side, up to five (5) switch panels in the engine tunnel console, and up to three (3) switch panels in the overhead console on the officer's side. All switches have backlit labels for low light applications.

High idle engagement switch: A maintained rocker switch with integral indicator lamp shall be provided. The switch shall activate and deactivate the high idle function. The "Ok To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch shall indicate when the high idle function is engaged.

"Ok To Engage High Idle" indicator lamp: A green indicator light shall be provided next to the high idle activation switch to indicate that the interlocks have been met to allow high idle engagement.

Diesel particulate filter regeneration switch (where applicable).

Diesel particulate filter regeneration inhibit switch (where applicable).

DIAGNOSTIC PANEL

A diagnostic panel shall be accessible while standing on the ground and shall be located inside the driver's side door, left of the steering column. The diagnostic panel shall allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches shall allow engine and ABS systems to provide blink codes should a problem exist. The diagnostic panel shall include the following:

- Engine diagnostic port
- Transmission diagnostic port
- ABS diagnostic port
- SRS diagnostic port (where applicable)
- Engine diagnostic switch (blink codes flashed on check engine telltale indicator)
- ABS diagnostic switch (blink codes flashed on ABS telltale indicator)

AIR RESTRICTION INDICATOR

A high air restriction warning indicator light (electronic) shall be provided.

"DO NOT MOVE APPARATUS" INDICATOR

A Whelen, Model M2R flashing red indicator light with a chrome bezel, located in the driving compartment, shall be illuminated automatically per the current NFPA requirements. The light shall be labeled "Do Not Move Apparatus If Light Is On."

Bidder Complies	
Yes	No

The same circuit that activates the Do Not Move Apparatus indicator shall not activate any alarm when the parking brake is released.

OPEN DOOR INDICATOR LIGHT

There shall be two (2) red indicator lights provided and located in clear view of the driver, warning of any open passenger or equipment compartment door(s).

- One (1) light shall indicate status of doors on the driver's side of the vehicle
- One (1) light shall indicate the status of the passenger side and rear compartment doors

CAB SWITCH PANELS

The built-in emergency light switch panel shall have a master switch plus individual switches for selective control. The switch panel shall be located in the "overhead" position above the windshield on the driver's side to allow for easy access. Switches shall be rocker type with an indicator light, of which is an integral part of the switch.

WIPER CONTROL

Wiper control shall consist of a two (2)-speed individual windshield wiper control with intermittent feature and windshield washer controls. The control shall also have a "return to park" provision, which allows the wipers to return to the stored position when the wipers are not in use.

SPARE CIRCUIT

There shall be two (2) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires shall have the following features:

- The positive wire shall be connected directly to the battery switched power.
- The negative wire shall be connected to ground.
- Wires shall be protected to 10 amps at 12 volts DC.
- Power and ground shall terminate One each side of the dashboard.
- Termination shall be with 15 amp, power point plug with rubber cover.

Wires shall be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is set.

SPARE CIRCUIT

There shall be one (1) pair of wires, including a positive and a negative, installed on the apparatus.

Bidder Complies	
Yes	No

The above wires shall have the following features:

- The positive wire shall be connected directly to the battery power.
- The negative wire shall be connected to ground.
- Wires shall be protected to 2.5 amps at 12 volts DC.
- Power and ground shall terminate center of the dashboard.
- Termination shall be a Blue Sea Systems part number 1016 dual USB charger socket.
- Wires shall be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is applied.

SPARE CIRCUIT

There shall be one (1) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires shall have the following features:

The positive wire shall be connected directly to the battery saver.

The negative wire shall be connected to ground.

Wires shall be protected to 40 amps at 12 volts DC.

Power and ground shall terminate low on the engine cover behind the officer's seat.

Termination shall be with a 10-place bus bar with screws and removable cover.

Wires shall be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is set.

SPARE CIRCUIT

There shall be one (1) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires shall have the following features:

The positive wire shall be connected directly to the ignition switched power.

The negative wire shall be connected to ground.

Wires shall be protected to 40 amps at 12 volts DC.

Power and ground shall terminate Center of the dashboard.

Termination shall be with a 10-place bus bar with screws and removable cover.

Bidder Complies	
Yes	No

Wires shall be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is set.

VEHICLE DATA RECORDER

There shall be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.

The vehicle data recorder shall be capable of recording the following data via hardwired and/or CAN inputs:

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec
- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle
- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position
- Seat Belt Buckled Status - Yes/No by Position
- Master Optical Warning Device Switch - On/Off
- Time - 24 Hour Time
- Date - Year/Month/Day

Seat Belt Monitoring System

A seat belt monitoring system (SBMS) shall be provided. The SBMS shall be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:

- Seat Occupied & Buckled = Green LED indicator illuminated
- Seat Occupied & Unbuckled = Red LED indicator with audible alarm
- No Occupant & Buckled = Red LED indicator with audible alarm
- No Occupant & Unbuckled = No indicator and no alarm

The SBMS shall include an audible alarm that shall warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.

Bidder Complies	
Yes	No

RADIO ANTENNA MOUNT

There shall be two (2) standard 1.125", 18 thread antenna-mounting base(s) installed one (1) on the left side and one (1) on the right side on the cab roof with high efficiency, low loss, coaxial cable(s) routed to the instrument panel area. A weatherproof cap shall be installed on the mount.

REAR CAMERA VIDEO

A color rear view video camera shall be located at the rear of the vehicle as close to center as possible.

Zone Defense, Model CAM-313C, camera features include:

- Waterproof and weather resistant, IP69
- Built in microphone
- 18 infrared emitters for 0 lux operation
- 120 degree lens
- 1/3 CCD

The camera shall be activated with the reverse signal. Images shall be displayed in the cab on the drivers mux display. Audio from the active camera shall be via an amplified speaker with volume control located behind the driver seat . A Federal Signal Model CAMSET70-NTSC-4B with 7" Monitor in the cab.

ELECTRICAL POWER CONTROL SYSTEM

A compartment shall be provided in or under the cab to house the vehicle's electrical power and signal circuit protection and control components. The power and signal protection and control compartment shall contain circuit protection devices and power control devices. Power and signal protection and control components shall be protected against corrosion, excessive heat, excessive vibration, physical damage and water spray.

Serviceable components shall be readily accessible.

Circuit protection devices, which conform to SAE standard, shall be utilized to protect each circuit. All circuit protection devices shall be sized to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers shall be Type-I automatic reset (continuously resetting) and conform to SAE J553 or J258. PTO power circuits shall be protected by Type III manual reset non-cycling circuit breakers conforming to SAE J553 or J258 which remain open until manually reset. When required, automotive type fuses conforming to SAE J554, J1284, J1888 or J2077 shall be utilized to protect electronic equipment.

	Bidder Complies	
	Yes	No
<p>Power control relays and solenoids shall have a direct current (dc) rating of 125 percent of the maximum current for which the circuit is protected.</p> <p>Visual status indicators shall be supplied to identify control safety interlocks and vehicle status. In addition to visual status indicators, audible alarms designed to provide early warning of problems before they become critical shall be used.</p> <p><u>VOLTAGE MONITOR SYSTEM</u></p> <p>A voltage monitor system shall be provided to indicate the status of each battery system connected to the vehicles electrical load. The monitor system shall provide visual and audio warning when the system voltage is above or below optimum levels.</p> <p><u>POWER AND GROUND STUDS</u></p> <p>There shall be two (2) studs provided in the primary power distribution center for two-way radio equipment.</p> <p>The studs shall consist of the following:</p> <p>12-volt 150-amp battery switched power</p> <p>12-volt 75-amp direct battery power</p> <p>There shall also be two (2) 12-volt ground studs located in or adjacent to the power distribution center.</p> <p><u>EMI/RFI PROTECTION</u></p> <p>The electrical system proposed shall include means to control undesired electromagnetic and radio frequency emissions. State of the art electrical system design and components shall be used to ensure radiated and conducted EMI (electromagnetic interference) and RFI (radio frequency interference) emissions are suppressed at their source.</p> <p>The apparatus proposed shall have the ability to operate in the electromagnetic environment typically found in fire ground operations. The contractor shall be able to demonstrate the EMI and RFI testing has been done on similar apparatus and certifies that the vehicle proposed meets SAE J551 requirements.</p> <p>EMI/RFI susceptibility shall be controlled by applying immune circuit designs, shielding, twisted pair wiring and filtering. The electrical system shall be designed for full compatibility with low level control signals and high powered two-way radio communication systems. Harness and cable routing shall be given careful attention to minimize the potential for conducting and radiated EMI-RFI susceptibility.</p>		

Bidder Complies	
Yes	No

ELECTRICAL

All 12-volt electrical equipment installed by the apparatus manufacturer shall conform to modern automotive practices. All wiring shall be high temperature crosslink type. Wiring shall be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers shall be provided which conform to SAE Standards. Wiring shall be color, function and number coded. Function and number codes shall be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors shall be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.

Electrical wiring and equipment shall be installed utilizing the following guidelines:

1. All holes made in the roof shall be caulked with silicon, rope caulk is not acceptable. Large fender washers, liberally caulked, shall be used when fastening equipment to the underside of the cab roof.
2. Any electrical component that is installed in an exposed area shall be mounted in a manner that shall not allow moisture to accumulate in it. Exposed area shall be defined as any location outside of the cab or body.
3. Electrical components designed to be removed for maintenance shall not be fastened with nuts and bolts. Metal screws shall be used in mounting these devices. Also a coil of wire shall be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.
4. Corrosion preventative compound shall be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections shall require this compound in the plug to prevent corrosion and for easy separation (of the plug).
5. All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.
6. All electrical terminals in exposed areas shall have silicon (1890) applied completely over the metal portion of the terminal.

All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, shall be furnished. Rear identification lights shall be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads shall be protected from damage by installing a false bulkhead inside the rear compartments.

An operational test shall be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

The results of the tests shall be recorded and provided to the purchaser at time of delivery.

Bidder Complies	
Yes	No

BATTERY SYSTEM

Six (6) 12 volt, Deka, Model 1231PMF, maintenance free group 31 batteries that include the following features, each, shall be provided:

- 1000 CCA (cold cranking amps)
- 185 reserve capacity
- High cycle
- Ref CA 1190 at 0 degrees Fahrenheit
- 185 minutes of reserve capacity
- SAE posts

BATTERY SYSTEM

There shall be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.

MASTER BATTERY SWITCH

There shall be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.

An indicator light shall be provided on the instrument panel to notify the driver of the status of the battery system.

BATTERY COMPARTMENTS

Batteries shall be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments shall be constructed of 0.188" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The battery hold-downs shall be of a non-corrosive material. All bolts and nuts shall be stainless steel.

The compartments shall include formed fit heavy duty roto-molded polyethylene battery trays with drain tubes for the batteries to sit in.

Heavy-duty battery cables shall be used to provide maximum power to the electrical system. Cables shall be color-coded.

Battery terminal connections shall be coated with anti-corrosion compound. Battery solenoid terminal connections shall be encapsulated with semi-permanent rubberized compound.

JUMPER STUDS

One (1) set of battery jumper studs with plastic color-coded covers shall be installed on the bottom of the driver's side battery box. This shall provide for easy jumper cable access.

	Bidder Complies	
	Yes	No
<p><u>BATTERY CHARGER</u></p> <p>A Kussmaul Autocharge 35/10, Model 091-35-10, single battery charger shall be provided. A bar graph display indicating the state of charge shall be provided.</p> <p>The battery saver circuit shall be capable of supplying up to 10 amps for external loads such as hand light or auxiliary radio batteries.</p> <p>The battery charger shall be wired to the 120-volt shoreline to activate automatically when power is connected.</p> <p>Battery charger shall be located in the crew cab seat riser.</p> <p>The battery charger indicator shall be located near the driver's seat riser with special bracketry.</p> <p><u>SHORELINE</u></p> <p>There shall be a 20 amp 120 volt straight blade AC shoreline inlet provided to operate the dedicated 120 volt AC circuits on the apparatus without the use of the generator.</p> <p>The shoreline inlet shall include a red flip up cover.</p> <p>The shoreline(s) shall be connected to Battery Charger/Air Compressor.</p> <p>There shall be a mating connector body supplied with the loose equipment.</p> <p>There shall be a label installed near the inlet(s) that state the following:</p> <ul style="list-style-type: none"> • Line Voltage • Current Rating (amps) • Phase • Frequency <p>The shoreline receptacle shall be located on the driver side seat riser.</p> <p><u>BATTERY SAVER FILTER(S)</u></p> <p>There shall be one (1) Kussmaul, Model 091-137, battery saver filter(s) provided. The battery saver filter(s) shall provide filtered low ripple and regulated D.C. voltage for sensitive electronic equipment.</p> <p>Each filter shall provide a maximum of three (3) amps of protection and may be wired in parallel to increase protection.</p> <p>The battery saver filter(s) shall be located as space permits based on the number necessary.</p> <p>The filters shall protect the following items: behind officers seat.</p>		

Bidder Complies	
Yes	No

ALTERNATOR

A C.E. Niehoff, model C680-1, alternator shall be provided. It shall have a rated output current of 430 amp as measured by SAE method J56. Also, it shall have a custom three (3)-set point voltage regulator, manufactured by C. E. Niehoff. The alternator shall be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

ELECTRONIC LOAD MANAGEMENT

There shall be a Kussmaul™, electronic load management (ELM) system provided that monitors the vehicles 12-volt electrical system, and automatically reduces the electrical load in the event of a low voltage condition and by doing so, ensures the integrity of the electrical system.

The ELM shall monitor the vehicle's voltage while at the scene (parking brake applied). It shall sequentially shut down individual electrical loads when the system voltage drops below a preset value. Five (5) separate electrical loads shall be controlled by the load manager. The ELM shall sequentially re-energize electrical loads as the system voltage recovers.

The (ELM) also includes sequencer function for the five (5) managed loads and two (2) additional.

HEADLIGHTS

There shall be four (4) JW Speaker®, rectangular LED lights mounted in the front quad style, chrome housing on each side of the cab grille:

- The outside light on each side shall contain a Model 8800-12V - DOT/ECE LB LED, low beam module.
- The inside light on each side shall contain a Model 8800 -12V - DOT/ECE HB LED, high beam module.

DIRECTIONAL LIGHTS

There shall be two (2) Whelen® 600 series, LED combination directional/marker lights provided. The lights shall be located on the outside cab corners, next to the headlights.

The color of the lenses shall be the same color as the LED's.

ADDITIONAL DIRECTIONAL LIGHT

There shall be two (2) Whelen, Model M6T, amber LED arrow directional lights provided locate front of cab below the headlight bezels.

Each light shall be provided with a chrome flange.

Bidder Complies	
Yes	No

INTERMEDIATE LIGHT

There shall be two (2) Weldon, Model 9186-8580-29, amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light shall double as a turn signal and marker light.

CAB CLEARANCE/MARKER/ID LIGHTS

There shall be seven (7) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations:

- Three (3) amber LED identification lights shall be installed in the center of the cab above the windshield.
- Two (2) amber LED clearance lights shall be installed, one (1) on each outboard side of the cab above the windshield.
- Two (2) amber LED marker lights shall be installed, one (1) on each side above the cab doors.

FRONT CAB SIDE DIRECTIONAL LIGHTS

There shall be two (2) Truck-Lite®, Model 19036Y, amber LED lights installed to the outside of the chrome wrap around bezel, one (1) on each side of the cab.

The lights shall activate as additional directional lights with the corresponding directional circuit.

REAR CLEARANCE/MARKER/ID LIGHTING

There shall be a three (3) LED light bar used as identification lights located at the rear of the apparatus per the following:

- As close as practical to the vertical centerline
- Centers spaced not less than 6.00" or more than 12.00" apart
- Red in color
- All at the same height

There shall be two (2) LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

- To indicate the overall width of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the rear
- All at the same height

Bidder Complies	
Yes	No

There shall be two (2) LED lights installed on the side of the apparatus used as marker lights as close to the rear as practical per the following:

- To indicate the overall length of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the side
- All at the same height

There shall be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

There shall be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

Per FMVSS 108 and CMVSS 108 requirements.

REAR FMVSS LIGHTING

The rear stop/tail and directional LED lighting shall consist of the following:

- Two (2) Whelen®, Model M6BTT, red LED stop/tail lights
- Two (2) Whelen, Model M6T, amber LED arrow turn lights

The lights shall be provided with color lenses.

Each light shall be installed separately at the rear with Whelen, Model M6FC, chrome flanges.

Two (2) Whelen Model M6BUW, LED backup lights shall be provided with a flange.

LICENSE PLATE BRACKET

There shall be one (1) license plate bracket mounted on the rear of the body.

A white LED light shall illuminate the license plate. A polished stainless steel light shield shall be provided over the light that shall direct illumination downward, preventing white light to the rear.

BACK-UP ALARM

A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse shall be provided. The device shall sound at 60 pulses per minute and

Bidder Complies	
Yes	No

automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.

CAB PERIMETER SCENE LIGHTS

There shall be four (4) Amdor LumaBar H2O, Model AY-9500-020, 20.00" white LED strip lights provided, one (1) for each cab door.

These lights shall be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.

PUMP HOUSE PERIMETER LIGHTS

There shall be two (2) Amdor LumaBar H2O, Model AY-9500-020, 20.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, one (1) each side.

The lights shall be controlled by the same means as the body perimeter lights.

BODY PERIMETER SCENE LIGHTS

There shall be two (2) Amdor LumaBar H2O™, Model AY-9500-020, 20.00" 12 volt DC LED strip lights provided at the rear step area of the body, one (1) each side shining to the rear.

The perimeter scene lights shall be activated when a switch within reach of the driver is activated.

STEP LIGHTS

There shall be four (4) Whelen®, Model PELCC, 2.25" high x 7.88" wide x 1.63" deep white 12 volt DC LED lights with angled chrome housings provided. One (1) step light shall be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard.

These step lights shall be actuated with the pump panel light switch.

All other steps on the apparatus shall be illuminated per the current edition of NFPA 1901.

SCENE LIGHTS

There shall be two (2) Whelen, Model PELCC LED scene light(s) with chrome flange(s) installed on the side of the apparatus, locate on the back of the crew cab 12" above the top of the crosslays.

A control for the light(s) selected above shall be the following:

- a switch at the passenger's side pump panel
- a switch at the driver's side pump panel

	Bidder Complies	
	Yes	No
<p>when the parking brake is applied</p> <p>no additional switch location</p> <p>These lights may be load managed when the parking brake is applied.</p> <p><u>12 VOLT LIGHTING</u></p> <p>There shall be two (2) Whelen, Model PCP3P, 12 volt DC LED combination spot/floodlight(s) installed on the apparatus.</p> <p>The painted parts of this light assembly to be white.</p> <p>The lights shall be installed on extendable poles locate on the upper front body bulkheads both sides of the b.</p> <p>The light(s) to be installed on a side body/surface mount push-up pole(s).</p> <p>The length of the outside pole to be 20.00".</p> <p>The inside pole length to be 57.00" long or as long as practical to fit in the location selected.</p> <p>The light pole(s) to be installed without handle holder(s) and with a not stowed sensor connected to the Do Not Move Truck Indicator Light in the cab.</p> <p>The lights shall be controlled by the following:</p> <ul style="list-style-type: none"> • a switch at the pump operator's panel. • a switch at the passenger's side pump panel. • no additional switch location. • no additional switch location. <p>These light(s) may be load managed when the parking brake is applied.</p> <p><u>12 VOLT LIGHTING</u></p> <p>There shall be one (1) Whelen, Model PCPSM1 *, 12 volt surface mounted LED combination spot/flood light(s) located upper DS of the cab between the window and driver's door. The lights shall be mounted with chrome flange(s).</p> <p>The light(s) selected above shall be controlled by the following:</p> <ul style="list-style-type: none"> • a switch at the driver's side switch panel • opening the driver's side cab or crew cab doors • a switch at the passenger's side switch panel • a switch at the driver's side pump panel 		

Bidder Complies	
Yes	No

These light(s) may be load managed when the parking brake is set.

12 VOLT LIGHTING

There shall be one (1) Whelen, Model PFP2P, 12 volt LED floodlight(s) with Model, PBAPEDD, pedestal mounting bracket(s) provided upper catwalk on the DS body centered.

The painted parts of this light assembly to be red number 106.

The light(s) selected above shall be controlled by the following:

a switch at the driver's side switch panel.

a switch at the passenger's side switch panel.

a switch at the pump operator's panel.

opening the driver's side cab or crew cab doors.

These light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING

There shall be one (1) Whelen, Model PCPSM1*, 12 volt surface mounted LED combination spot/flood light(s) located upper PS of the cab between the window and the Officer's door. The lights shall be mounted with chrome flange(s).

The light(s) selected above shall be controlled by the following:

- a switch at the driver's side switch panel
- opening the passenger's side cab or crew cab doors
- a switch at the passenger's side switch panel
- a switch at the driver's side pump panel

These light(s) may be load managed when the parking brake is set.

12 VOLT LIGHTING

There shall be one (1) Whelen® SlimLine™, Model PSL2B*, 12 volt LED floodlight(s) installed on the apparatus with bail brackets locate on the upper most PS body side sheet centered.

The painted parts of the light assembly to be powder coated Fire Engine red.

The light(s) selected above shall be controlled by the following:

- a switch at the driver's side switch panel
- a switch at the passenger's side switch panel
- a switch at the pump operator's panel

Bidder Complies	
Yes	No

- opening the passenger's side cab or crew cab doors

These light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING

There shall be one (1) Whelen, Model PCPSM1*, 12 volt surface mounted LED combination spot/flood light(s) located locate inboard of the tail lights above the Blue M6 lights. The lights shall be mounted with chrome flange(s).

The light(s) selected above shall be controlled by the following:

- a switch at the driver's side switch panel
- a switch at the passenger's side switch panel
- a switch at the driver's side pump panel
- no additional switch location

These light(s) may be load managed when the parking brake is set.

12 VOLT LIGHTING

There shall be one (1) Whelen® Pioneer™, Model PFP2*, 12 volt LED floodlight(s) provided on the front visor, centered.

The painted parts of this light assembly to be white.

The light(s) shall flash in a warning mode when the emergency master switch is activated, the parking brake is released and with a separate switch powered from emergency master power, included on the switch panel.

The lights shall be in a steady burning scene light mode with the following:

- a switch at the driver's side switch panel and a switch at the passenger's side switch panel
- no additional switch location
- no additional switch location

The scene light mode shall be the priority control.

These light(s) may be load managed when the parking brake is set.

DECK LIGHTS

There shall be two (2) Whelen®, Model MPPBCS, black with chrome housing 12 volt DC LED floodlights with on/off switch. Each light shall be provided with a low profile pedestal/swivel mount provided at the rear of the hose bed, one (1) each side.

The lights shall be activated by the switch included on the light(s).

Bidder
Complies

Yes No

WALKING SURFACE LIGHT

There shall be Model FRP, 4" round black 12 volt DC LED floodlight with bolt mount provided to illuminate the entire designated walking surface on top of the body.

The light shall be activated when the body step lights are on.

WATER TANK

Booster tank shall have a capacity of 1000 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated.

Tank joints and seams shall be nitrogen welded inside and out.

Tank shall be baffled in accordance with NFPA Bulletin 1901 requirements.

Baffles shall have vent openings at both the top and bottom to permit movement of air and water between compartments.

Longitudinal partitions shall be constructed of .38" polypropylene plastic and shall extend from the bottom of the tank through the top cover to allow for positive welding.

Transverse partitions shall extend from 4.00" off the bottom of the tank to the underside of the top cover.

All partitions shall interlock and shall be welded to the tank bottom and sides.

Tank top shall be constructed of .50" polypropylene. It shall be recessed .38" and shall be welded to the tank sides and the longitudinal partitions.

Tank top shall be sufficiently supported to keep it rigid during fast filling conditions.

Construction shall include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels shall be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.

A sump that is 8.00" long x 8.00" wide x 6.00" deep shall be provided at the bottom of the water tank.

Sump shall include a drain plug and the tank outlet.

Tank shall be installed in a fabricated cradle assembly constructed of structural steel.

Sufficient crossmembers shall be provided to properly support bottom of tank. Crossmembers shall be constructed of steel bar channel or rectangular tubing.

Bidder Complies	
Yes	No

Tank shall "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, shall be placed on all horizontal surfaces that the tank rests on.

Stops or other provision shall be provided to prevent an empty tank from bouncing excessively while moving vehicle.

Mounting system shall be approved by the tank manufacturer.

Fill tower shall be constructed of .50" polypropylene and shall be a minimum of 8.00" wide x 14.00" long.

Fill tower shall be furnished with a .25" thick polypropylene screen and a hinged cover.

An overflow pipe, constructed of 4.00" schedule 40 polypropylene, shall be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.

One (1) sleeve shall be provided in the water tank for a 3.00" pipe to the rear.

DIRECT TANK FILL

There shall be one (1) - 2.50" gated external tank fill(s) installed and properly labeled at the passenger's side pump panel.

Piping, for the fill, shall be routed through the front wall of the tank and include a flow deflector to break up the stream of water entering the water tank.

An electrically controlled 2.50" full flow ball valve with 2.50" piping and a 2.50" (F)NST chrome swivel shall be located at the inlet. The electric valve shall be wired to the water level indicator. When the water level falls to the half full mark, the tank fill valve shall automatically open until the tank is full.

A 2.50" chrome plated 30 degree elbow and plug with VLH automatic pressure relieving thread technology shall be provided for the tank fill.

HOSE BED

The hose bed shall be fabricated of 12-gauge galvanized steel.

The sides shall not form any portion of the fender compartments.

Standard hose bed width shall be minimum of 68.00" inside.

Upper and rear edges of side panels shall have a double break for rigidity, a split tube finish shall not be acceptable.

	Bidder Complies	
	Yes	No
<p>The upper inside area of the beavertails shall be covered with brushed stainless steel to prevent damage to painted surface when hose is removed.</p> <p>Flooring of the hose bed shall be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats shall be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation.</p> <p>Hose bed shall accommodate 300' of 3.00" hose,1000' of 5.00" hose and 300' of 3.00" hose.</p> <p><u>HOSE BED DIVIDER</u></p> <p>Two (2) adjustable hosebed dividers shall be furnished for separating hose.</p> <p>Each divider shall be constructed of a .125" brushed aluminum sheet fitted and fastened into a slotted, 1.50" diameter radiused extrusion along the top, bottom, and rear edge.</p> <p>Divider shall be fully adjustable by sliding in tracks, located at the front and rear of the hose bed.</p> <p>Divider shall be held in place by tightening bolts, at each end.</p> <p>Acorn nuts shall be installed on all bolts in the hose bed which have exposed threads.</p> <p>A cross-divider shall be provided just behind the fill tower. The divider shall be bolted to the side sheet.</p> <p><u>CUTOUT, HANDHOLD</u></p> <p>A cutout with radiused corners shall be provided at the rear of the two (2) hose bed divider(s).</p> <p><u>HOSEBED HOSE RESTRAINT</u></p> <p>A red hosebed cover shall be furnished with bungee cord and hook fasteners at the front and bungee cord and hook fasteners on the sides. There shall be seat belt buckle fasteners at the bottom of the rear body sheet below the hosebed. The flap at the rear shall be lead shot weighted.</p> <p><u>RUNNING BOARDS</u></p> <p>Running boards shall be fabricated of .125" bright aluminum treadplate.</p> <p>Each running board shall be supported by a welded 2.00" square tubing and channel assembly, which shall be bolted to the pump compartment substructure.</p> <p>Running boards shall be 12.75" deep and spaced .50" away from the pump panel.</p> <p>A splash guard shall be provided above the running board treadplate.</p>		

Bidder Complies	
Yes	No

TAILBOARD

The tailboard shall also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly.

The tailboard area shall be 16.00" deep.

The exterior side shall be flanged down and in for increased rigidity of tailboard structure.

REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL

The rear facing surfaces of the center rear wall shall be smooth aluminum.

The bulkheads, the surface to the rear of the side body compartments, shall be smooth and the same material as the body.

Any inboard facing surfaces below the height of the hosebed shall be aluminum diamondplate .

TOW BAR

A tow bar shall be installed under the tailboard at center of truck.

Tow bar shall be fabricated of 1.00" CRS bar rolled into a 3.00" radius.

Tow bar assembly shall be constructed of .38" structural angle. When force is applied to the bar, it shall be transmitted to the frame rail.

Tow bar assembly shall be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb, or a 20,000 lb straight horizontal pull in line with the centerline of the vehicle.

Tow bar design shall have been fully tested and evaluated using strain gauge testing and finite element analysis techniques.

COMPARTMENTATION

Body and compartments shall be fabricated of galvanneal steel.

Side compartments shall be an integral assembly with the rear fenders.

Circular fender liners shall be provided for prevention of rust pockets and ease of maintenance.

Compartment flooring shall be 12-gauge and of the sweep out design, with the floor higher than the compartment door lip.

The compartment door opening shall be framed by flanging the edges in 1.75" and bending out again .75" to form an angle.

Drip protection shall be provided above the doors by means of bright aluminum extrusion, formed bright aluminum treadplate, or polished stainless steel.

Bidder Complies	
Yes	No

The top of the compartment shall be covered with bright aluminum treadplate rolled over the edges on the front, rear, and outward side. These covers shall have the corners TIG welded.

Side compartment covers shall be separate from the compartment tops.

Front facing compartment walls shall be covered with bright aluminum treadplate.

All screws and bolts which protrude into a compartment shall have acorn nuts on the ends to prevent injury.

UNDERBODY SUPPORT SYSTEM

Due to the severe loading requirements of this pumper, a method of body and compartment support suitable for the intended load shall be provided.

The backbone of the support system shall be the chassis frame rails, which is the strongest component of the chassis and designed for sustaining maximum loads.

The support system shall include .375" thick steel vertical angle supports bolted to the chassis frame rails with .625" diameter bolts.

Attached to the bottom of the steel vertical angles shall be horizontal angles, with gussets welded to the vertical members, which extend to the outside edge of the body.

A steel frame shall be mounted on the top of these supports to create a floating substructure, which results in a 500 lb equipment support rating per lower compartment.

The floating substructure shall be separated from the horizontal members with neoprene elastomer isolators. These isolators shall reduce the natural flex stress of the chassis from being transmitted to the body.

The isolators shall have a broad load range, proven viability in vehicular applications, be of a fail safe design and allow for all necessary movement in three (3) transitional and rotational modes.

The neoprene isolators shall be installed in a modified V three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body.

A design with body compartments hanging on the chassis, unsupported, shall not be acceptable.

AGGRESSIVE WALKING SURFACE

All exterior surfaces designated as stepping, standing, and walking areas shall comply with the required average slip resistance of the current NFPA standards.

Bidder Complies	
Yes	No

LOUVERS

Louvers shall be stamped into compartment walls to provide the proper airflow inside the body compartments and to prevent water from dripping into the compartment. Where these louvers are provided, they shall be formed into the metal and not added to the compartment as a separate plate.

TESTING OF BODY DESIGN

Body structural analysis shall be fully tested. Proven engineering and test techniques such as finite element analysis, model analysis, stress coating and strain gauging shall be performed with special attention given to fatigue, life and structural integrity of the cab, body and substructure.

The body shall be tested while loaded to its greatest in-service weight.

The criteria used during the testing procedure shall include:

- Raising opposite corners of the vehicle tires 9.00", simulating the twisting a truck may experience when driving over a curb.
- Making a 90 degree turn while at 20 mph, simulating aggressive driving conditions.
- Driving the vehicle at 35 mph on a washboard road.
- Driving the vehicle at 55 mph on a smooth road.
- Accelerating the vehicle fully, until reaching the approximate speed of 45 mph, on rough pavement.

Evidence of actual testing techniques shall be made available upon request.

COMPARTMENTATION, DRIVER'S SIDE

A full height, vertically hinged, single door compartment ahead of the rear wheels shall be provided. The interior dimensions of this compartment shall be 44.00" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The depth of the compartment shall be calculated with the compartment door closed. The compartment interior shall be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment shall be 40.50" wide x 62.00" high.

A positive door holder shall be furnished with this compartment.

A vertically hinged, double door compartment behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 47.50" wide x 33.63" high x 25.88" deep in the lower 26.00" of the compartment and 12.00" deep in the remaining upper portion. The depth of the compartment shall be calculated with the compartment door closed. The compartment

	Bidder Complies	
	Yes	No
<p>interior shall be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment shall be 46.00" wide x 29.00" high.</p> <p>Positive door holders shall be furnished with this compartment.</p> <p><u>HARD SUCTION HOSE STORAGE</u></p> <p>One (1) fully enclosed hard suction hose compartment shall be provided through the body compartmentation and capable of storing three (3) hard suction hoses.</p> <p>The troughs shall be constructed of steel.</p> <p>A blister shall be provided into the forward compartment for the length of the hose.</p> <p>One (1) smooth aluminum door with a D-ring latch hinged along the outboard edge, shall be provided at the rear of each compartment.</p> <p><u>COMPARTMENTATION, PASSENGER'S SIDE</u></p> <p>A vertically hinged, double door compartment in the lower area ahead of the rear wheels shall be provided. The interior dimensions of this compartment shall be 44.00" wide x 47.13" high x 25.88" deep in the lower 26.00" of the compartment and 12.00" deep in the remaining upper portion. The depth of the compartment shall be calculated with the compartment door closed. The clear door opening of this compartment shall be 39.50" wide x 42.50" high.</p> <p>A positive door holder shall be furnished with this compartment.</p> <p>A broom compartment with one (1) horizontally hinged, drop-down door in the area above the rear wheels shall be provided. The interior dimensions of this compartment shall be 66.50" wide x 12.38" high x 12.00" deep. The depth of the compartment shall be calculated with the compartment door closed. The clear door opening of this compartment shall be 59.50" wide x 7.75" high. The drop-down door shall be furnished with two chain-style door holders with a plastic covering around the chain. Closing of the door shall not require releasing, unlocking, or unlatching any mechanism.</p> <p>A vertically hinged, double door compartment in the lower area behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 47.50" wide x 47.13" high x 25.88" deep in the lower 26.00" of the compartment and 12.00" deep in the remaining upper portion. The depth of the compartment shall be calculated with the compartment door closed. The clear door opening of this compartment shall be 46.00" wide x 42.50" high.</p> <p>A positive door holder shall be furnished with this compartment.</p>		

Bidder Complies	
Yes	No

DOORS, SIDE COMPARTMENT

All hinged compartment doors shall be lap style with double panel construction and shall be a minimum of 1.50" thick. To provide additional door strength a "C" section reinforcement shall be installed between the outer and interior panels.

Doors shall be provided with a closed cell rubber gasket around the surface that laps onto the body. A second heavy-duty automotive rubber molding with a hollow core shall be installed on the door framing that seals onto the interior panel, to ensure a weather resisting compartment.

All compartment doors shall have polished stainless steel continuous hinge with a pin diameter of .25" that is bolted or screwed on with stainless steel fasteners. (Hinges which are welded on shall not be acceptable.)

All door locking mechanisms shall be fully enclosed within the door panels to prevent fouling of the lock in the event equipment inside shifts into the lock area.

Doors shall be latched with recessed, polished stainless steel "D" ring handles and FMVSS approved door locking mechanisms.

To prevent corrosion caused by dissimilar metals, compartment door handles shall not be attached to outer door panel with screws. A rubber gasket shall be provided between the "D" ring handle and the door.

COMPARTMENTATION, REAR

A rollup door compartment above the rear tailboard shall be provided.

Interior dimensions of this compartment shall be 40.00" wide x 47.38" high x 25.88" deep in the lower 38.75" of height and 15.75" deep in the remaining upper portion. Depth of the compartment shall be calculated with the compartment door closed.

For a chassis with a rear mounted fuel tank, a louvered removable access panel shall be furnished on the back wall of the compartment.

Rear compartment shall be open into the rear side compartments.

Clear door opening of this compartment shall be 33.25" wide x 38.75" high.

Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.

ROLLUP DOOR, REAR COMPARTMENT

The rear compartment shall have a rollup door.

Bidder
Complies

Yes No

The door shall be double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by AMDOR™ brand rollup doors.

The door shall be constructed using 1.00" extruded double wall aluminum slats which shall feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats shall be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain shall be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats shall be mounted in reusable slat shoes with positive snap-lock securement.

Each slat shall incorporate weather tight recessed dual durometer seals. One (1) fin shall be designed to locate the seal within the extrusion. The second shall serve as a wiping seal which shall also allow for compression to prevent water ingress.

The door shall be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of rollup door shall be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A stainless steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge to be supplied over lift bar for additional area to aid in closing the door. The lift bar shall be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers shall include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded rollup door wear components shall be constructed of Type 6 nylon.

The door shall have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door (garage door style) shall not acceptable.

The header for the rollup door assembly shall not exceed 4.00".

A heavy-duty magnetic switch shall be used for control of open compartment door warning lights.

DOOR GUARD

There shall be one (1) compartment door that shall include a guard/drip pan designed to protect the rollup door from damage when in the retracted position and contain any water spray. The guard shall be fabricated from stainless steel and installed rear compartment.

Bidder Complies	
Yes	No

SCUFFPLATE ON INTERIOR OF COMPARTMENT DOOR(S)

The eight (8) compartment doors shall include a polished stainless steel scuffplate to cover the entire width and height on the inside panel of each door pan.

Scuffplate shall be located all lap compartment doors.

COMPARTMENT LIGHTING

There shall be seven (7) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips shall be centered vertically along each side of the door framing. There shall be two (2) light strips per compartment. The dual light strips shall be in all body compartment(s).

Any remaining compartments without light strips shall have a 6.00" diameter Truck-Lite, Model: 79384 light. Each light shall have a number 1076 one filament, two wire bulb.

Opening the compartment door shall automatically turn the compartment lighting on.

MOUNTING TRACKS

There shall be six (6) sets of tracks for mounting shelf(s) in D3, D2, D1, R1, P1 and P3. These tracks shall be installed vertically to support the adjustable shelf(s), and shall be full height of the compartment. The tracks shall be painted to match the compartment interior.

ADJUSTABLE SHELVES

There shall be six (6) shelves provided to be determined at plan review. The shelf construction shall consist of .188" aluminum painted to match the compartment interior. A capacity rating shall not be available on this item due to a reduced side height being less than 2.00". Each shelf shall be infinitely adjustable by means of a threaded fastener, which slides in a track.

The shelves shall be held in place by .12" thick stamped plated brackets and bolts.

The side height of the shelf/shelves shall be as follows:

- Front: 2.00" high
- Rear: 2.00" high
- Left & Right Sides: 2.00" high

SLIDE-OUT FLOOR MOUNTED TRAY

There shall be two (2) floor mounted slide-out tray(s) provided.

Each tray shall have 2.00" high sides and a minimum capacity rating of 500 lb in the extended position.

Each tray shall be constructed of aluminum painted spatter gray

	Bidder Complies	
	Yes	No
<p>There shall be two undermount-roller bearing type slides rated at 250lb each provided. The pair of slides shall have a safety factor rating of 2.</p> <p>To ensure years of dependable service, the slides shall be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.</p> <p>To ensure years of easy operation, the slides shall require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file shall have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance shall be provided upon request.</p> <p>Automatic locks shall be provided for both the "in" and "out" positions. The trip mechanism for the locks shall be located at the front of the tray for ease of use with a gloved hand.</p> <p>The location(s) shall be D3 and R1.</p> <p><u>PLYWOOD LINING</u></p> <p>Plywood shall be installed on the back wall of one (1) compartments. The locations are locate in the upper section of compartment D2.</p> <p>The plywood shall be high quality .75" marine grade without any patches. Stainless steel retainers shall be used to mount the plywood. The plywood shall be sanded to a smooth finish and receive no less than three (3) coats of varnish. All edges shall be varnished.</p> <p><u>RUB RAIL</u></p> <p>The bottom edge of the side compartments shall be trimmed with a bright stainless steel rub rail. The rub rail shall be 2.00" high and extend 1.00" away from the body, with slanted ends to provide a pleasing appearance.</p> <p>These rub rails shall not be an integral part of the body construction, which allows replacement in the event of damage.</p> <p><u>BODY FENDER CROWNS</u></p> <p>Stainless steel fender crowns shall be provided around the rear wheel openings. These fender crowns must be wide enough to prevent splashing onto the body from the specified tires.</p> <p>A rubber welting shall be provided between the body and the crown to seal the seam and restrict moisture from entering.</p> <p>A dielectric barrier shall be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.</p>		

Bidder Complies	
Yes	No

HARD SUCTION HOSE

Two (2) lengths of 6.00" clear corrugated PVC hard suction hose, 10' in length, shall be provided. The hose shall be equipped with a long handle female coupling on one (1) end and a rocker lug male coupling on the other end. Couplings shall be hard coated aluminum.

HARD SUCTION HOSE

Two (2) lengths of 6.00" clear corrugated PVC hard suction hose, 5.00' in length, shall be provided. The hose shall be equipped with a long handle female coupling on one (1) end and a rocker lug male coupling on the other end. Couplings shall be hard coated aluminum.

HANDRAILS

The handrails shall be 1.25" diameter anodized aluminum extrusion, with a ribbed design, to provide a positive gripping surface.

Chrome plated end stanchions shall support the handrail. Plastic gaskets shall be used between end stanchions and any painted surfaces.

Drain holes shall be provided in the bottom of all vertically mounted handrails.

Handrails shall be provided to meet NFPA 1901 section 15.8 requirements. The handrails shall be installed as noted on the sales drawing.

HANDRAILS

One (1) vertical handrail, not less than 29.00" long, shall be located on each rear beavertail.

- One (1) full width horizontal handrail shall be provided below the hose bed at the rear of the apparatus.

AIR BOTTLE STORAGE (TRIPLE)

A quantity of three (3) air bottle compartments designed to hold (3) air bottles up to 7.25" in diameter x 26.00" deep shall be provided on the driver side forward of the rear wheels, on the passenger side forward of the rear wheels and on the passenger side rearward of the rear wheels. A polished stainless steel door with a chrome plated flush lift & turn latch shall be provided to contain the air bottle. A dielectric barrier shall be provided between the door hinge, hinge fasteners and the body sheet metal.

Inside the compartment, black Dura-Surf friction reducing material shall be provided.

Bidder Complies	
Yes	No

AIR BOTTLE COMPARTMENT STRAP

A strap shall be provided in the air bottle compartment(s) to help contain the air bottles when the vehicle is parked on an incline. The strap shall wrap around the neck and attach to the wall of the compartment.

EXTENSION LADDER

There shall be a 24' two-section aluminum Alcolite PEL-24 extension ladder provided.

ROOF LADDER

There shall be one (1) 14' aluminum, Alcolite PRL-14 roof ladder(s) provided. The ladder(s) shall have roof hooks on both ends.

LADDER RACK

Ground ladders shall be mounted above right side of body compartments in a Zico Quic-Lift electric ladder lowering system. The ladder rack mounts shall be powered by two (2), 12-volt electric actuators.

The electric controls shall be located in such a manner to allow the operator full view of the area in which the ladders shall be lowered.

The electric actuator control shall have a master switch and be interlocked to prevent operation should a compartment door, in the travel area of the ladder bracket, be in the open position.

LADDER RACK INTERLOCK AND NOT STOWED INDICATOR LIGHT

An interlock shall be provided to prevent operation of the ladder rack unless the apparatus parking brake has been activated.

A steady red indicator light shall be located on the cab instrument panel and illuminated when the ladder rack is not in the stowed position. The light shall be labeled "Ladder Rack". In addition, the "Do Not Move Apparatus" light located in the cab shall be activated when the ladder rack is not in the stowed position.

LIGHTS, FLASHING, LADDER RACK

Flashing amber lights facing the front and rear shall be provided on the ladder rack and activated whenever the rack is in the down position.

FOLDING LADDER

One (1) 10.00' aluminum, Alcolite FL-10 folding ladder shall be installed on top of the right side compartment.

Bidder Complies	
Yes	No

6' PIKE POLE

ONE (1) PIKE POLE, FIRE HOOKS UNLIMITED, MODEL RH6, 6' LONG ROOF HOOK, WITH A STEEL HANDLE AND CHISEL END SHALL BE PROVIDED AND LOCATED IN THE PIKE POLE STORAGE TUBES.

8' PIKE POLE

One (1) Fire Hooks Unlimited, Model TAL-8, 8' long hook, with a steel handle and chisel end shall be provided and located in the pike pole storage tubes

PIKE POLE STORAGE

Aluminum tubing shall be used for the storage of two (2) pike poles and shall be located in ladder storage compartment and on the top of the passenger side compartments. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate shall be provided.

STEP

A folding step shall be provided on the driver side front bulkhead. The step shall be a bright finished, non-skid step with a luminescent coating that is rechargeable from any light source and can hold a charge for up to 24 hours. The step shall incorporate an LED light to illuminate the stepping surface. The step can be used as a hand hold with two openings wide enough for a gloved hand.

REAR FOLDING STEPS

Bright finished, non-skid folding steps with a black coating shall be provided at the rear. Each step shall incorporate an LED light to illuminate the stepping surface. The steps can be used as a hand hold with two openings wide enough for a gloved hand.

SLIDE-OUT PLATFORM

One (1) slideout platform shall be provided locate at the DS pump panel. The capacity rating shall be 500 lbs in the extended position. Automatic locks shall be provided for both the "in" and "out" positions. The trip mechanism for the locks shall be located at the front of the tray for ease of use with a gloved hand.

There shall be an On Scene Solutions Access white 12 volt DC LED light provided to illuminate the ground area.

Two (2) additional folding steps shall be located front of body DS. The step(s) shall be bright finished, non-skid, with a luminescent coating. The luminescent coating is rechargeable from any light source and can hold a charge for up to 24 hours. Each step shall incorporate an LED light to illuminate the stepping surface. The step(s) can be used as a hand hold with two openings wide enough for a gloved hand.

Bidder Complies	
Yes	No

PUMP

Pump shall be a Waterous CSU, 1500 gpm single (1) stage midship mounted centrifugal type.

Pump shall be the class "A" type.

Pump shall deliver the percentage of rated discharge at pressures indicated below:

- 100% of rated capacity at 150 psi net pump pressure.

-70% of rated capacity at 200 psi net pump pressure.

-50% of rated capacity at 250 psi net pump pressure.

Pump body shall be close-grained gray iron, bronze fitted, and horizontally split in two (2) sections for easy removal of the entire impeller shaft assembly (including wear rings).

Pump shall be designed for complete servicing from the bottom of the truck, without disturbing the pump setting or apparatus piping.

Pump case halves shall be bolted together on a single horizontal face to minimize chance of leakage and facilitate ease of reassembly. No end flanges shall be used.

Discharge manifold of the pump shall be cast as an integral part of the pump body assembly and shall provide a minimum of three (3) 3.50" openings for flexibility in providing various discharge outlets for maximum efficiency.

The three (3) 3.50" openings shall be located as follows: one (1) outlet to the right of the pump, one (1) outlet to the left of the pump, and one (1) outlet directly on top of the discharge manifold.

Impeller shaft shall be stainless steel, accurately ground to size. It shall be supported at each end by sealed, anti-friction ball bearings for rigid precise support. Impeller shall have flame plated hubs assuring maximum pump life and efficiency despite any presence of abrasive matter in the water supply.

Bearings shall be protected from water and sediment by suitable stuffing boxes, flinger rings, and oil seals. No special or sleeve type bearings shall be used.

Stuffing boxes shall be of the conventional two (2) piece, split-gland type, to permit adjustment or replacement of Grafoil packing without disturbing the pump. Water shall be fed into stuffing box lantern rings for proper lubrication and cooling when the pump is operating.

Lantern rings shall be located at the inner ends of the stuffing boxes, to avoid having to remove them when replacing pump packing.

Bidder Complies	
Yes	No

Wear rings shall be bronze and easily replaceable to restore original pump efficiency and eliminate the need to replace the entire pump casing due to wear.

PUMP TRANSMISSION

Pump transmission shall be made of a three (3) piece, aluminum, horizontally split casing. Power transfer to pump shall be through a high strength Morse HY-VO silent drive chain.

Drive shafts shall be a minimum of 2.35" diameter hardened and ground alloy steel. All shafts shall be ball bearing supported. The case shall be designed as to eliminate the need for water cooling.

PUMPING MODE

An interlock system shall be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system shall be designed to allow stationary pumping only.

AIR PUMP SHIFT

Pump shift engagement shall be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab. A manual back-up shift control shall also be located on the left side pump panel.

Two (2) indicator lights shall be provided adjacent to the pump shift inside the cab. One (1) green light shall indicate the pump shift has been completed and be labeled "pump engaged". The second green light shall indicate when the pump has been engaged, and that the chassis transmission is in pump gear. This indicator light shall be labeled "OK to pump".

Another green indicator light shall be installed adjacent to the hand throttle on the pump panel and indicate either the pump is engaged and the road transmission is in pump gear, or the road transmission is in neutral and the pump is not engaged. This indicator light shall be labeled "Warning: Do not open throttle unless light is on".

The pump shift shall be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements.

The pump shift control in the cab shall be illuminated to meet NFPA requirements.

TRANSMISSION LOCK-UP

The direct gear transmission lock-up for the fire pump operation shall engage automatically when the pump shift control in the cab is activated.

AUXILIARY COOLING SYSTEM

A supplementary heat exchange cooling system shall be provided to allow the use of water from the discharge side of the pump for cooling the engine water. Heat exchanger shall be cylindrical

Bidder Complies	
Yes	No

type and shall be a separate unit. It shall be installed in the pump or engine compartment with the control located on the pump operator's control panel. Exchanger shall be plumbed to the master drain valve.

INTAKE RELIEF VALVE

An Elkhart relief valve shall be installed on the suction side of the pump preset at 125 psig.

Relief valve shall have a working range of 75 psig to 250 psig.

Outlet shall terminate below the frame rails with a 2.50" National Standard hose thread adapter and shall have a "do not cap" warning tag.

Control shall be located behind an access door at a side pump panel.

PRESSURE CONTROLLER

A Fire Research, INCONTROL Model TGA400 pressure governor shall be provided.

A pressure transducer shall be installed in the water discharge manifold on the pump.

The display panel shall be located at the pump operator's panel.

PRIMING PUMP

The priming pump shall be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of NFPA 1901.

All wetted metallic parts of the priming system are to be of brass and stainless steel construction.

One (1) priming control shall open the priming valve and start the pump primer. The control shall have a three position switch for automatic, off or test. In the sentry mode (automatic) the primer shall sense when the pump losses discharge pressure and start the pump primer. The primer shall automatically stop once the pump has pressure.

One (1) additional priming valve shall be plumbed to the the front suction piping. The additional control shall be located at the pump operator's panel.

THERMAL RELIEF VALVE

A Hale TRV120-L thermal protection device shall be included on the pump that monitors pump water temperature and opens to relieve water to cool the pump when the temperature of the pump water exceeds 120 Degrees F (49 C).

The thermal protection device shall include a red warning light and audible alarm. The warning light with a test switch shall be mounted on the pump operator panel.

Bidder Complies	
Yes	No

The discharge line shall be 3/8 inch diameter tubing plumbed to water tank.

PUMP MANUALS

There shall be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals shall be provided by the pump manufacturer in the form of two (2) CDs. Each manual shall cover pump operation, maintenance, and parts.

PLUMBING, STAINLESS STEEL AND HOSE

All inlet and outlet lines shall be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's shall be equipped with brass or stainless steel couplings. All stainless steel hard plumbing shall be a minimum of a schedule 10 wall thickness.

Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping shall be equipped with victaulic or rubber couplings.

Plumbing manifold bodies shall be ductile cast iron or stainless steel.

All piping lines are to be drained through a master drain valve or shall be equipped with individual drain valves. All drain lines shall be extended with a hose to drain below the chassis frame.

All water carrying gauge lines shall be of flexible polypropylene tubing.

All piping, hose and fittings shall have a minimum of a 500 PSI hydrodynamic pressure rating.

MAIN PUMP INLETS

A 6.00" pump manifold inlet shall be provided on each side of the vehicle. The suction inlets shall include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

MAIN PUMP INLET CAP

The main pump inlets shall have National Standard Threads with a long handle chrome cap.

The cap shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

INLET BUTTERFLY VALVE

There shall be One (1) butterfly valve provided on the passenger's side main pump inlet(s).

The 6.00" Jamesbury inlet valve shall be recessed behind the pump panel with a stainless steel trim ring around the opening.

Bidder
Complies

Yes No

A built-in, adjustable pressure relief valve and a 3/4" bleeder valve shall be provided on the inlet side of the valve.

There shall be an Akron electric valve controllers provided at the pump panel. The controller unit shall be of true position feedback design, requiring no clutches in the motor or current limiting. The controller shall be completely sealed with two (2) button open and close valve position capability and a full color LCD display with backlight.

The electric actuator shall be furnished with a manual over ride accessible at the pump panel.

PUMP SUCTION TUBE

The driver side suction tube on the mid-ship pump shall have a short suction tube to allow for installation of an adapter without excessive overhang.

No suction tube shall be provided on the passenger side pump panel.

VALVES

All ball valves shall be Akron® Brass in-line valves. The Akron valves shall be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.

Valves shall have a **ten (10) year** warranty.

LEFT SIDE INLET

There shall be two (2) auxiliary inlets with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.

The auxiliary inlet shall be provided with a strainer, chrome swivel and plug.

The location of the valve for the two (2) inlets shall be behind the pump panel.

ANODE, INLET

A pair of sacrificial zinc anodes shall be provided in the water pump inlets to protect the pump from corrosion.

ANODE, INLET

A sacrificial zinc anode shall be provided in the water pump inlet to protect the pump from corrosion.

INLET CONTROL

The side auxiliary inlet(s) shall incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism shall indicate the position of the valve.

Bidder Complies	
Yes	No

FRONT INLET

A 6.00" inlet front inlet that extends through the front bumper shall be provided. It shall be furnished with die cast zinc screens at the opening. The plumbing for the unit shall be 5.00" stainless steel pipe and a 5.00" butterfly valve. Only radius elbows shall be used in the piping, no mitered joints.

Drains shall be furnished in all the low points of piping and have .75" valves with swing handle.

A bleeder valve shall be located at the threaded connection.

The front inlet shall be located on the right side of the bumper extension.

FRONT INLET CONTROL

The front inlet shall be gated with the control located at the pump operator's panel. The valve operating mechanism shall indicate the position of the valve or an indicator shall be provided to show when the valve is closed.

There shall be an Akron 9323 electric valve controller provided. The controller unit shall be of true position feedback design, requiring no clutches in the motor or current limiting. The controller shall be completely sealed with two (2) button open and close valve position capability and a full color LCD display with backlight.

A manual override shall be provided on the valve. A stainless steel door located on the passenger side pump panel shall be provided for access to the manual override.

A momentary toggle switch shall be provided behind the stainless steel access door near the manual override. The switch shall cut off power to the valve to allow for manual valve actuation.

INTAKE RELIEF VALVE

An intake relief valve, preset at 125 psig, shall be installed on the inlet side of the valve.

Relief valve shall have a working range of 75 psig to 250 psig.

Outlet shall terminate below the frame rails.

FRONT INLET CAP

The front inlet shall have National Standard hose threads with a long handle cap.

The cap shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

The cap shall be fabricated from brass material.

Bidder Complies	
Yes	No

The piping for the front suction shall extend through the front bumper and terminate with a chrome plated National Standard hose thread adapter.

INLET BLEEDER VALVE

A 0.75" bleeder valve shall be provided for each side gated inlet. The valves shall be located behind the panel with a swing style handle control extended to the outside of the panel. The handles shall be chrome plated and provide a visual indication of valve position. The swing handle shall provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders shall be routed below the chassis frame rails.

TANK TO PUMP

The booster tank shall be connected to the intake side of the pump with heavy duty piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. Tank to pump line shall run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing.

A check valve shall be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

TANK REFILL

A 1.50" combination tank refill and pump re-circulation line shall be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.

LEFT SIDE DISCHARGE OUTLETS

There shall be one (1) discharge outlet with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

RIGHT SIDE DISCHARGE OUTLETS

There shall be one (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

FRONT DISCHARGE OUTLET

There shall be one (1) 1.50" discharge outlet piped to the front of the apparatus and located on the top of the left side of the front bumper.

Plumbing shall consist of 2.00" piping and flexible hose with a 2.00" ball valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe shall be used in the plumbing where appropriate. The piping shall terminate with a 1.50" NST with 90 degree stainless steel swivel.

There shall be Trident swing handle drains provided at all low points of the piping.

Bidder Complies	
Yes	No

REAR DISCHARGE OUTLET

A 4.00" discharge outlet shall be located at the rear of the hose bed, on passenger's side. The discharge outlet shall be plumbed with 4.00" pipe and gated with a Waterous 3.50" valve controlled at the pump operator's panel by means of a handwheel.

An indicator shall be provided to show when the valve is in the closed position.

FRONT OF HOSE BED DISCHARGE OUTLET

There shall be one (1) discharge outlet discharge(s) piped to the front of the hose bed and located drivers side hose bed. Plumbing shall consist of 2.50" piping with a 2.50" full-flow ball valve controlled at the pump operator's panel. The discharge(s) shall terminate with a 2.50" (M) National Standard hose thread adapter.

DISCHARGE CAPS

Chrome plated, rocker lug, caps with chains shall be furnished for all side discharge outlets.

The caps shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

OUTLET BLEEDER VALVE

A .75", swing handle, bleeder valve shall be provided for each outlet 1.50" or larger except the deluge and the front bumper discharge (if equipped).

The valves shall be located behind the panel with a swing style handle control extended to the outside of the side pump panel. The handles shall be chrome plated with visual indication of valve position. The swing handle shall provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders shall be located at the bottom of the pump panel. They shall be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders shall be routed below the chassis frame rails.

LEFT SIDE OUTLET ELBOWS

The 2.50" discharge outlets located on the left side pump panel shall be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

RIGHT SIDE OUTLET ELBOWS

The 2.50" discharge outlets located on the right side pump panel shall be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

	Bidder Complies	
	Yes	No
<p>The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).</p> <p><u>REAR OUTLET ELBOWS</u></p> <p>The rear 4.00" outlet(s) shall be furnished with a 4.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with Storz adapter. The adapter shall be 5.00" Storz by 2.50" MNST with a cap and vinyl cable.</p> <p>Elbows with adapters shall be provided for one (1) discharge outlet.</p> <p><u>DISCHARGE OUTLET CONTROLS</u></p> <p>The discharge outlets shall incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism shall indicate the position of the valve.</p> <p>If a handwheel control valve is used, the control shall be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel.</p> <p><u>DELUGE RISER</u></p> <p>A 3.00" deluge riser shall be installed above the pump in such a manner that a monitor can be mounted and used effectively. Piping shall be installed securely so no movement develops when the line is charged. The riser shall be gated and controlled at the pump operator panel.</p> <p><u>TELESCOPIC PIPING</u></p> <p>The deluge riser piping shall include a 18.00" Elkhart Electrically Actuated Extender.</p> <p>This extension shall be telescopic to allow the deluge gun to be raised 18.00" increasing the range of operation.</p> <p>A control shall be mounted on the pump operators panel to actuate the Extender. The wiring shall include a "Do not move vehicle" light inside the cab when the monitor is in the raised position.</p> <p>The deluge riser shall have male National Pipe Threads for mounting the monitor.</p> <p><u>CROSSLAY HOSE BEDS</u></p> <p>Two (2) crosslays with 1.50" outlets shall be provided. Each bed to be capable of carrying 200' of 1.75" double jacketed hose and shall be plumbed with 2.00" i.d. pipe and gated with a 2.00" quarter turn ball valve.</p> <p>Outlets to be equipped with a 1.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus.</p> <p>The crosslay controls shall be at the pump operator's panel.</p>		

Bidder Complies	
Yes	No

The center crosslay dividers shall be fabricated of 0.25" aluminum and shall provide adjustment from side to side. The divider shall be unpainted with a brushed finish.

Vertical scuffplates, constructed of stainless steel shall be provided at the front and rear ends of the bed on each side of vehicle.

Crosslay bed flooring shall consist of removable perforated brushed aluminum.

2.50" CROSSLAY HOSE BED

One (1) crosslay with a 2.50" outlet shall be provided. The bed to be capable of carrying 200 feet of 2.50" double jacketed hose and shall be plumbed with 2.50" i.d. pipe and gated with a 2.50" quarter turn ball valve.

The outlet to be equipped with a 2.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus.

The crosslay control shall be at the pump operator's panel.

If needed, the center crosslay dividers shall be a pan style, fabricated of .090 aluminum and shall provide adjustment from side to side. The divider shall be painted job color.

The remainder of the crosslay bed shall be painted job color.

Crosslay bed flooring shall consist of removable perforated brushed aluminum.

CROSSLAY/DEADLAY HOSE RESTRAINT

Elastic netting shall be provided across the top and ends of two (2) crosslay/deadlay opening(s) to secure the hose during travel. The netting shall be permanently attached at the top center of the crosslay/deadlay bed and removable on each end.

CROSSLAY 9.00" LOWER THAN STD

The crosslays shall be lowered 9.00" from standard.

FOAM SYSTEM

A foam system shall not be required on this apparatus.

PUMP COMPARTMENT

The pump compartment shall be separate from the hose body and compartments so that each may flex independently of the other. It shall be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards.

The pump compartment shall be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist.

Bidder
Complies

Yes No

Pump compartment, pump, plumbing and gauge panels shall be removable from the chassis in a single assembly.

PUMP CONTROL PANELS (SIDE CONTROL)

All pump controls and gauges shall be located at the left (driver's) side of the apparatus and properly marked.

The pump panel on the right (passenger's) side is removable with lift and turn type fasteners. The left (driver's) side is fastened with screws.

The control panels shall be 45.00" wide.

The gauge and control panels shall be two (2) separate panels for ease of maintenance.

Polished stainless steel trim collars shall be installed around all inlets and outlets.

All push/pull valve controls shall have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods shall be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls shall be capable of locking in any position. The control rods shall pull straight out of the panel and shall be equipped with universal joints to eliminate binding.

The identification tag for each valve control shall be recessed in the face of the tee handle.

All discharge outlets shall have color coded identification tags, with each discharge having its own unique color. Color coding shall include the labeling of the outlet and the drain for each corresponding discharge.

All line pressure gauges shall be mounted in individual chrome plated castings with the identification tag recessed in the casting below the gauge. All remaining identification tags shall be mounted on the pump panel in chrome plated bezels. Mounting of the castings and identification bezels shall be done with a threaded peg cast on the back side of the bezel or screws.

PUMP PANEL CONFIGURATION

The pump panel configuration shall be neat and orderly.

PUMP AND GAUGE PANEL

The pump and gauge panels shall be constructed of aluminum with a painted FormCoat black finish. A polished aluminum trim molding shall be provided around each panel.

The passenger's side pump panel shall be removable and fastened with swell type fasteners.

On the front of the pump house structure, provisions shall be provided for access to the pump.

Bidder Complies	
Yes	No

PUMP COMPARTMENT LIGHT

There shall be one (1) Whelen®, Model 3SC0CDCR, 3.00" white 12 volt DC LED light(s) with Whelen, Model 3FLANGEC, flange(s) installed in the pump compartment.

There shall be a switch accessible through a door on the pump panel included with this installation.

Engine monitoring graduated LED indicators shall be incorporated with the pressure controller.

Also provided at the pump panel shall be the following:

- Master Pump Drain Control

AIR HORN SWITCH

An air horn control switch shall be provided at the pump operator's control panel. This switch shall be red and properly labeled. The button shall be located within easy reach of the operator in the electrical switch panel.

VACUUM AND PRESSURE GAUGES

The pump vacuum and pressure gauges shall be liquid filled and manufactured by Class 1 Incorporated ©.

The gauges shall be a minimum of 6.00" in diameter and shall have white faces with black markings, with a pressure range of 30.00" 0-400 psi.

The pump pressure and vacuum gauges shall be installed adjacent to each other at the pump operator's control panel.

Test port connections shall be provided at the pump operator's panel. One (1) shall be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They shall have 0.25 in. standard pipe thread connections and polished stainless steel plugs. They shall be marked with a label.

PRESSURE GAUGES

The individual "line" pressure gauges for the discharges shall be interlube filled and manufactured by Class 1©.

The gauges shall be a minimum of 3.00" in diameter and shall have white faces with black markings.

Gauge construction shall include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

Gauges shall have a pressure rating of 0-300 psi.

	Bidder Complies	
	Yes	No
<p>The individual pressure gauge shall be installed as close to the outlet control as practical.</p> <p>This gauge shall include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.</p> <p><u>WATER LEVEL GAUGE</u></p> <p>There shall be an electronic water level gauge provided on the operator's panel that registers water level by means of five (5) colored LED lights. The lights shall be durable, ultra-bright five (5) LED design viewable through 180 degrees. The water level indicators shall be as follows:</p> <ul style="list-style-type: none"> • 100 percent = Green • 75 percent = Yellow • 50 percent = Yellow • 25 percent = Yellow • Refill = Red <p>The light shall flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights shall flash sequentially when the water tank is empty.</p> <p>The level measurement shall be based on the sensing of head pressure of the fluid in the tank.</p> <p>The display shall be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design shall provide complete protection from water and environmental elements. An industrial pressure transducer shall be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level.</p> <p><u>WATER LEVEL GAUGE</u></p> <p>A water level gauge system shall be provided locate on the upper sides of the crew cab. Each system shall be provided with four (4) Whelen 50*02Z*R Linear LED lights with chrome flanges. The total quantity of water level gauge systems to be provided shall be two (2).</p> <p>The lights shall be mounted and indicate the following:</p> <ul style="list-style-type: none"> • The top green light with green lens - water level full. • Next blue light with blue lens - water level 3/4 full. • Next amber light with amber lens - water level 1/2 full • Bottom red light with red lens - water level 1/4 full when on solid and shall flash when empty. 		

Bidder Complies	
Yes	No

The above system shall function similar to the standard five (5) light at the pump panel. The system shall activate parking brake is applied.

LIGHT SHIELD

There shall be a polished, 16 gauge stainless steel light shield installed over the pump operator's panel.

- There shall be 12 volt DC white LED lights installed under the stainless steel light shield to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights shall be activated by the pump panel light switch. Additional lights shall be included every 18.00" depending on the size of the pump house.
- One (1) pump panel light shall come on when the pump is in ok to pump mode.

There shall be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel.

There shall be a green pump engaged indicator light activated on at the operator's panel when the pump is shifted into gear from inside the cab.

ADDITIONAL LIGHT SHIELD

An additional polished, 16 gauge stainless steel light shield shall be provided above passenger's side pump panel.

- There shall be 12 volt DC white LED lights installed under the light shield to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights shall be activated by the pump panel light switch. Additional lights shall be included every 18.00" depending on the size of the pump house.

MICROPHONE & SPEAKER COMPARTMENT

A microphone and speaker compartment with a polished stainless steel door shall be furnished on/in the rear of the DS crew cab below the height of the crosslays. Compartment size shall be 12.00" high x 9.00" wide x 6.00" deep.

AIR HORN SYSTEM

There shall be two (2) Grover air horns recessed in the front bumper. The horn system shall be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve shall be installed in-line to prevent loss of air in the air brake system.

Bidder Complies	
Yes	No

Air Horn Location

The air horns shall be located on each side of the bumper, just outside of the frame rails.

AIR HORN CONTROL

Two (2) lanyard rope pull controls shall be provided, one (1) within reach of the driver and one (1) within reach of the officer.

ELECTRONIC SIREN

A Whelen®, Model 295SLSA1, electronic siren with noise canceling microphone shall be provided.

This siren to be active when the battery switch is on and that emergency master switch is on.

Siren head shall be located on a swivel bracket mounted on the headliner so that it is accessible to both the driver and officer. The swivel bracket shall be capable of rotating a minimum of 180 degrees.

The electronic siren shall be controlled on the siren head only. No horn button or foot switches shall be required.

SPEAKER

There shall be one (1) speaker, Whelen, Model: SA31I01, 100-watt under mount speaker mounted behind the front bumper. Each speaker shall be mounted behind the front bumper so it is not visible below the bumper.

Each speaker shall be connected to the siren amplifier.

AUXILIARY MECHANICAL SIREN

There shall be one (1) Federal, Model Q2B, mechanical siren furnished. A siren brake button shall be installed on the switch panel.

The control solenoid shall be powered up after the emergency master switch is activated and shall be interlocked to the parking brake so that the siren cannot be accidentally activated when the parking brake is applied.

The mechanical siren shall be recessed in the front bumper in the center. The siren shall be supported by the bumper framework.

MECHANICAL SIREN CONTROL

The mechanical siren shall be actuated by a push button located on the officer's side instrument panel and by a foot switch on the driver's side.

Bidder Complies	
Yes	No

FRONT ZONE UPPER WARNING LIGHTS

There shall be one (1) 60.00" Whelen Freedom IV Roto-Beam LED lightbar mounted on the cab roof.

The lightbar shall be configured with LED light modules specified by the Newtown H&L apparatus committee.

There shall be clear lenses.

There shall be a switch installed in the cab on the switch panel to control this lightbar.

The two (2) white flashing LED modules shall be disabled when the parking brake is applied.

The two (2) red flashing LED modules in the front positions may be load managed when the parking brake is applied.

WARNING LIGHTS (CAB FACE)

There shall be four (4) Whelen Model 6RB**, 4.19" long x 6.57" long x 3.44" deep LED flashing in a rotating pattern lights installed on the cab face above the headlights mounted in a common bezel.

- The driver's side front outside warning light to be red.
- The driver's side front inside warning light to be blue.
- The passenger's side front inside warning light to be red.
- The passenger's side front outside warning light to be blue.

All four (4) lights shall include a lens that is clear.

There shall be a switch in the cab on the switch panel to control the lights.

The inside lights may be load managed if colored or disabled if white, when the parking brake is applied.

HEADLIGHT FLASHER

The high beam headlights shall flash alternately between the left and right side.

There shall be a switch installed in the cab on the switch panel to control the high beam flash. This switch shall be live when the battery switch and the emergency master switches are on.

The flashing shall automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.

Bidder Complies	
Yes	No

SIDE ZONE LOWER LIGHTING

There shall be six (6) Whelen®, flashing LED warning lights with chrome trim located in the following positions:

- Two (2) Model M6V2**, 4.31" high x 6.75" long x 2.25" deep lights with a combination of warning LEDs and scene LEDs installed one (1) each side on the bumper extension. The side front lights to be red.
- Two (2) Model M6**, 4.31" high x 6.75" long x 1.38" deep lights with warning LEDs installed over the front wheel well. The side middle lights to be red.
- Two (2) Model M6**, 4.31" high x 6.75" long x 1.38" deep lights with warning LEDs installed in the rear wheel wells. The side rear lights to be red.

The lenses over the warning LEDs shall be clear.

There shall be a switch in the cab on the switch panel to control the flashing warning lights.

The scene LEDs shall be activated with the corresponding signal light activation, cab and crew cab door opening and DS and PS scene light switch.

INTERIOR CAB DOOR WARNING LIGHTS

There shall be four (4) Whelen, Model M2*, LED flashing warning lights with Whelen, Model M2FC, chrome flange provided, one (1) on each cab and crew cab door pan.

The color shall be red.

Each light shall include a lens color that is clear.

Each light shall be activated by the door jam switch of the associated door.

REAR ZONE LOWER LIGHTING

Two (2) Whelen, Model M6* LED flashing warning lights with bezels shall be located at the rear of the apparatus.

The driver's side rear light to be red.

The passenger's side rear light to be red.

Both lights shall include a lens that is the same color as the LED's.

There shall be a switch located in the cab on the switch panel to control the lights.

REAR BODY WARNING LIGHTS

There shall be two (2) Whelen®, Model M9*, LED flashing warning light(s) with chrome flange provided above the taillights.

Bidder Complies	
Yes	No

The color of these light(s) shall be one (1) red light on the left side and one (1) amber light on the right side.

These light(s) shall be controlled with the rear upper warning switch.

These light(s) shall include a lens that is the same color as the LED's.

WARNING LIGHTS (REAR)

There shall be two (2) Whelen Model M9* LED flashing warning light(s) with bezel(s) provided One (1) light each side high on the rear bulkheads.

The color of these light(s) shall be red.

These light(s) shall be controlled with the rear lower warning switch.

These light(s) shall include a lens that is the same color as the LED's.

REAR OF HOSEBED WARNING LIGHTS

There shall be two (2) Whelen, Model B63M7**, LED Rota-Beam, beacons with Model M7**, lower LED flashing lights provided in a single polished aluminum housing at the rear of the truck.

There shall be one (1) installed on the driver's side with the lower light to the rear:

- The driver's side beacon to include red LED's.
- The rear lower light on the driver's side to be amber.

There shall be one (1) installed on the passenger's side with the lower light to the rear:

- The passenger's side beacon to include amber LED's.
- The rear lower light on the passenger's side to be red.

The color of the lenses for all the LED's to be clear.

There shall be a switch located in the cab on the switch panel to control the lights.

The lower light may be load managed when the parking brake is applied.

The rear warning lights shall be mounted on stainless steel brackets with all wiring totally enclosed. These brackets shall also support clearance/marker lights. The rear deck lights shall be mounted on the beavertail flange to keep the overall height as low as possible.

TRAFFIC DIRECTING LIGHT

There shall be one (1) Whelen model TANF65, 34.00" long x 2.35" high x 2.38" deep, amber LED traffic directing light installed at the rear of the apparatus.

	Bidder Complies	
	Yes	No
<p>The Whelen model TACTLD1 control head shall be included with this installation.</p> <p>The auxiliary warning mode shall be activated with the control head only.</p> <p>This traffic directing light shall be recessed at the rear of the apparatus as high as practical.</p> <p>The traffic directing light control head shall be located within a heavy duty swivel bracket centered between the driver and passenger.</p> <p>This swivel bracket shall enable the driver access as well as the passenger.</p> <p><u>POWER OUTLET STRIP</u></p> <p>There shall be three (3) Sentrex Model M620BZLS 18.00" long x 2.00" wide x 1.75" thick, surge protected receptacle strip(s) with six (6) 20 amp 120 volt AC straight blade receptacles provided low on the engine cover behind the driver's seat, and one each in compartments D3 and P3 exact locations to be provided at plan review..</p> <p>The strip(s) selected shall be powered from the shoreline inlet through a receptacle located adjacent to the strip(s).</p> <p>There shall be a label installed near the strip(s) that state the following:</p> <ul style="list-style-type: none"> • Line Voltage • Current Rating (amps) • Phase • Frequency • Power Source <p><u>LOOSE EQUIPMENT</u></p> <p>The following equipment shall be furnished with the completed unit:</p> <p>- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit</p> <p><u>NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT</u></p> <p>The following loose equipment as outlined in NFPA 1901, 2016 edition, section 5.9.3 and 5.9.4 shall be provided by the fire department.</p> <ul style="list-style-type: none"> • 800 ft (60 m) of 2.50" (65 mm) or larger fire hose. • 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose. • One (1) handline nozzle, 200 gpm (750 L/min) minimum. • Two (2) handline nozzles, 95 gpm (360 L/min) minimum. 		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • One (1) smoothbore of combination nozzle with 2.50" shutoff that flows a minimum of 250 gpm. • One (1) SCBA complying with NFPA 1981 for each assigned seating position, but not fewer than four (4), mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer. • One (1) spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s). • One (1) first aid kit. • Four (4) combination spanner wrenches. • Two (2) hydrant wrenches. • One (1) double female 2.50" (65 mm) adapter with National Hose threads. • One (1) double male 2.50" (65 mm) adapter with National Hose threads. • One (1) rubber mallet, for use on suction hose connections. • Two (2) salvage covers each a minimum size of 12 ft x 14 ft (3.7 m x 4.3 m). • One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, <i>Standard for High Visibility Public Safety Vests</i>, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front. • Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band. • Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities. • One (1) automatic external defibrillator (AED). • Four (4) ladder belts meeting the requirements of NFPA 1983, <i>Standard on Fire Service Life Safety Rope and System Components</i> (if equipped with an aerial device). • If the supply hose carried does not use sexless couplings, an additional double female adapter and double male adapter, sized to fit the supply hose carried, shall be carried mounted in brackets fastened to the apparatus. • If none of the pump intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side shall be carried. Any intake connection larger than 3.00" (75 mm) shall include a pressure relief device that meets the requirements of 16.6.6. • If the apparatus does not have a 2.50" National Hose (NH) intake, an adapter from 2.50" NH female to a pump intake shall be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake. 		

Bidder Complies	
Yes	No

- If the supply hose carried has other than 2.50" National Hose (NH) threads, adapters shall be carried to allow feeding the supply hose from a 2.50" NH thread male discharge and to allow the hose to connect to a 2.50" NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake.

SOFT SUCTION HOSE

There shall be no soft suction hose provided.

- One (1)-6.00" National Standard hose thread barrel strainer, chrome plated

DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 5.9.4 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus.

The extinguisher is not on the apparatus as manufactured. The fire department shall provide and mount the extinguisher.

WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 5.9.4 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus.

The extinguisher is not on the apparatus as manufactured. The fire department shall provide and mount the extinguisher.

FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) flathead axe mounted in a bracket fastened to the apparatus.

The axe is not on the apparatus as manufactured. The fire department shall provide and mount the axe.

PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus.

The axe is not on the apparatus as manufactured. The fire department shall provide and mount the axe.

PAINT

The exterior custom cab and body painting procedure shall consist of a seven (7) step finishing process as follows:

Bidder Complies	
Yes	No

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body shall be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces shall be removed and sanded to a smooth finish. Exterior seams shall be sealed before painting. Exterior surfaces that shall not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.
2. Chemical Cleaning and Pretreatment - All surfaces shall be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces shall be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces shall be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion. A final pure water rinse shall be applied to all metal surfaces.
3. Surfacer Primer - The Surfacer Primer shall be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.
4. Finish Sanding - The Surfacer Primer shall be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.
5. Sealer Primer - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.
6. Basecoat Paint - Two coats of a high performance, two component high solids polyurethane basecoat shall be applied. The Basecoat shall be applied to a thickness that shall achieve the proper color match. The Basecoat shall be used in conjunction with a urethane clear coat to provide protection from the environment.
7. Clear Coat - Two (2) coats of Clear Coat shall be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors shall be Clear Coated to match the body. Paint warranty for the roll-up doors shall be provided by the roll-up door manufacture.

Each batch of basecoat color shall be checked for a proper match before painting of the cab and the body. After the cab and body are painted, the color shall verified again to make sure that it matches the color standard. Electronic color measuring equipment shall be used to compare the color sample to the color standard entered into the computer. Color specifications shall be used to determine the color match. A Delta E reading shall be used to determine a good color match within each family color.

	Bidder Complies	
	Yes	No
<p>All removable items such as brackets, compartment doors, door hinges, and trim shall be removed and separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly shall be finish painted before assembly.</p> <p>The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T.standard in critical areas. These requirements must be met in order for the exterior paint finish to be considered acceptable. The manufacture's written paint standards shall be available upon request.</p> <p>The cab shall be two-tone, with the upper section painted #10 white along with a shield design on the cab face and lower section of the cab and body painted Red # 106.</p> <p><u>PAINT - ENVIRONMENTAL IMPACT</u></p> <p>Contractor shall meet or exceed all current State regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water and soil. Controls shall include the following conditions:</p> <ul style="list-style-type: none"> • Topcoats and primers shall be chrome and lead free. • Metal treatment chemicals shall be chrome free. The wastewater generated in the metal treatment process shall be treated on-site to remove any other heavy metals. • Particulate emission collection from sanding operations shall have a 99.99% efficiency factor. • Particulate emissions from painting operations shall be collected by a dry filter or water wash process. If the dry filter is used, it shall have an efficiency rating of 98.00%. Water wash systems shall be 99.97% efficient • Water from water wash booths shall be reused. Solids shall be removed on a continual basis to keep the water clean. • Paint wastes are disposed of in an environmentally safe manner. • Empty metal paint containers shall be to recover the metal. • Solvents used in clean-up operations shall be recycled on-site or sent off-site for distillation and returned for reuse. <p>Additionally, the finished apparatus shall not be manufactured with or contain products that have ozone depleting substances. Contractor shall, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his State EPA rules and regulations.</p>		

Bidder Complies	
Yes	No

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly shall be painted to match the lower job color before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components that are included with the chassis frame assembly that shall be painted are:

- Frame rails
- Frame liners
- Cross members
- Axles
- Suspensions
- Steering gear
- Battery boxes
- Bumper extension weldment
- Frame extensions
- Body mounting angles
- Rear Body support substructure (front and rear)
- Pump house substructure
- Air tanks
- Fuel tank
- Castings
- Individual piece parts used in chassis and body assembly

Components treated with epoxy E-coat protection prior to paint:

- Two (2) C-channel frame rails
- Two (2) frame liners

The E-coat process shall meet the technical properties shown.

COMPARTMENT INTERIOR PAINT

The interior of compartmentation shall be painted with a gray spatter type paint.

REFLECTIVE STRIPES

Three (3) reflective stripes shall be provided across the front of the vehicle and along the sides of the body. The reflective band shall consist of a 1.00" white stripe at the top with a 1.00" gap then a 6.00" white stripe with a 1.00" gap and a 1.00" white stripe on the bottom.

Bidder Complies	
Yes	No

REFLECTIVE, CAB FACE, BELOW GRILLE

The reflective band provided on the cab face shall be between the front grille and the front bumper.

REAR CHEVRON STRIPING

There shall be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, shall be covered.

The colors shall be red and fluorescent yellow green diamond grade.

Each stripe shall be 6.00" in width.

This shall meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface shall be covered with chevron striping.

CAB DOOR REFLECTIVE STRIPE

A 6.00" x 16.00" ruby red reflective stripe shall be provided across the interior of each cab door. The stripe shall be located approximately 1.00" up from the bottom, on the door panel.

This stripe shall meet the NFPA 1901 requirement.

CAB STRIPE

There shall be a reflective stripe on each side of the cab, low and over the fender.

LETTERING

The lettering shall be totally encapsulated between two (2) layers of clear vinyl.

LETTERING

Sixty-one (61) to eighty (80) genuine gold leaf lettering, 3.00" high, with highlight and double shade shall be provided.

E-COATING OF STEEL COMPONENTS

The following components shall be treated with an epoxy E-coat to provide resistance to corrosion and chemicals:

- Cross members
- IFS weldments (side plates and side plate interconnecting structure members) (if applicable)
- Torsion bar anchor weldments (if applicable)
- Battery boxes
- Bumper extension weldment
- Frame extensions
- Body mounting angles
- Rear body support weldment

Bidder Complies	
Yes	No

Under body support weldments (front and rear)
 Pump house substructure (walkway if applicable)

The following components shall not be e-coated:

- Air tanks
- Fuel tank
- Castings
- Individual piece parts used in chassis and body assembly

The e-coated parts shall have a Red top coat as well to provide an additional layer of protection and provide a consistent finish.

FIRE APPARATUS PARTS CD MANUAL

There shall be two (2) custom parts manuals for the complete fire apparatus provided in CD format with the completed unit.

The manuals shall contain the following:

- Job number
- Part numbers with full descriptions
- Table of contents
- Parts section sorted in functional groups reflecting a major system, component, or assembly
- Parts section sorted in alphabetical order
- Instructions on how to locate parts

The manuals shall be specifically written for the chassis and body model being purchased. It shall not be a generic manual for a multitude of different chassis and bodies.

SERVICE PARTS INTERNET SITE

The service parts information included in these manuals are also available on the factory website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

CHASSIS SERVICE CD MANUALS

There shall be two (2) CD format chassis service manuals containing parts and service information on major components provided with the completed unit.

The manual shall contain the following sections:

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • Job number • Table of contents • Troubleshooting • Front Axle/Suspension • Brakes • Engine/Tires • Wheels • Cab • Electrical, DC • Air Systems • Plumbing • Appendix <p>The manual shall be specifically written for the chassis model being purchased. It shall not be a generic manual for a multitude of different chassis and bodies.</p> <p><u>CHASSIS OPERATION CD MANUALS</u></p> <p>There shall be two (2) CD format chassis operation manuals provided.</p> <p><u>ONE (1) YEAR MATERIAL AND WORKMANSHIP</u></p> <p>Each new piece of apparatus shall be provided with a minimum one (1) year basic apparatus material and workmanship limited warranty. The warranty shall cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>ENGINE WARRANTY</u></p> <p>A Detroit Diesel five (5) year limited engine warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.</p> <p><u>STEERING GEAR WARRANTY</u></p> <p>A Sheppard three (3) year limited steering gear warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.</p> <p><u>FIFTY (50) YEAR STRUCTURAL INTEGRITY</u></p> <p>The chassis frame shall be provided with a fifty (50) year material and workmanship limited warranty. The warranty shall cover the chassis frame as being free from defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p>		

Bidder Complies	
Yes	No

FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

Independent front suspension shall be provided with a **three (3) year** material and workmanship limited warranty. The manufacturer's warranty shall provide that the independent front suspension and steering gears be free from any defect related to material and workmanship on the portion of the apparatus built by the manufacturer that would arise under normal use and service. A copy of the warranty certificate shall be submitted with the bid package (no exception).

REAR AXLE TWO (2) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor™ Axle **two (2) year** limited warranty shall be provided.

ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor Wabco™ ABS brake system **three (3) year** limited warranty shall be provided.

TEN (10) YEAR STRUCTURAL INTEGRITY

The new cab shall be provided with a **ten (10) year** material and workmanship limited warranty. The warranty shall cover such portions of the cab built by the manufacturer as being free from structural failures caused by defects in material and workmanship that would arise under normal use and service.

A copy of the warranty certificate shall be submitted with the bid package (no exception).

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

Each new piece of apparatus shall be provided with a **ten (10) year** pro-rated paint and corrosion limited warranty on the apparatus cab. The warranty shall cover painted exterior surfaces of the body to be free from blistering, peeling, corrosion, or any other adhesion defect caused by defective manufacturing methods or paint material selection that would arise under normal use and service.

A copy of the warranty certificate shall be submitted with the bid package (no exception).

COMPARTMENT LIGHT WARRANTY

A ten (10) year material and workmanship limited warranty shall be provided for the 12 volt DC LED strip lights. The warranty shall cover the LED strip lights to be free from defects in material and workmanship that would arise under normal use.

A copy of the warranty certificate shall be submitted with the bid package (no exception).

TRANSMISSION WARRANTY

The transmission shall have a **five (5) year/unlimited mileage** warranty covering 100 percent parts and labor. The warranty is to be provided by Allison Transmission and not the apparatus builder.

Bidder Complies	
Yes	No

TRANSMISSION COOLER WARRANTY

The transmission cooler shall carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty shall also be in effect for the first three (3) years of the warranty coverage and shall not exceed \$10,000 per occurrence. A copy of the warranty certificate shall be submitted with the bid package.

WATER TANK WARRANTY

The UPF poly water tank shall be provided with a lifetime material and workmanship limited warranty.

A copy of the warranty certificate shall be submitted with the bid package (no exception).

TEN (10) YEAR STRUCTURAL INTEGRITY

Each new piece of apparatus shall be provided with a **ten (10) year** material and workmanship limited warranty on the apparatus body. The warranty shall cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.

A copy of the warranty certificate shall be submitted with the bid package (no exception).

ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY

An AMDOR roll-up door limited warranty shall be provided. The roll-up door shall be warranted against manufacturing defects for a period of **ten (10) years**. A **five (5) year** limited warranty shall be provided on painted roll up doors.

A copy of the warranty certificate shall be submitted with the bid package.

PUMP WARRANTY

The Waterous pump shall be provided with a **five (5) year** material and workmanship limited warranty.

A copy of the warranty certificate shall be submitted with the bid package (no exception).

TEN (10) YEAR PUMP PLUMBING WARRANTY

The stainless steel plumbing components and ancillary brass fittings used in the construction of the water/foam plumbing system shall be warranted for a period of **ten (10) years or 100,000 miles**. This covers structural failures caused by defective design or workmanship, or perforation caused by corrosion, provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original purchaser for a period of ten years from the date of delivery.

A copy of the warranty certificate shall be submitted with the bid package (no exception).

Bidder Complies	
Yes	No

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

Each new piece of apparatus shall be provided with a **ten (10) year** pro-rated paint and corrosion limited warranty on the apparatus body. The warranty shall cover painted exterior surfaces of the body to be free from blistering, peeling, corrosion, or any other adhesion defect caused by defective manufacturing methods or paint material selection that would arise under normal use and service.

A copy of the warranty certificate shall be submitted with the bid package (no exception).

THREE (3) YEAR MATERIAL AND WORKMANSHIP

The gold leaf lamination shall be provided with a **three (3) year** material and workmanship limited warranty. The warranty shall cover the gold leaf lamination as being free from defects in material and workmanship that would arise under normal use and service.

A copy of the warranty certificate shall be submitted with the bid package (no exception).

THREE (3) YEAR EXTENDED

Each new piece of apparatus shall be provided with a **three (3) year** basic apparatus material and workmanship limited warranty on the chassis. The manufacturer's warranty shall provide for repairs to correct any defect related to material and workmanship on the portion of the apparatus built by the manufacturer that would arise under normal use and service. A copy of the warranty certificate shall be submitted with the bid package (No Exception).

THREE (3) YEAR EXTENDED

Each new piece of apparatus shall be provided with a **three (3) year** basic apparatus material and workmanship limited warranty on the apparatus body. The manufacturer's warranty shall provide for repairs to correct any defect related to material and workmanship on the portion of the apparatus built by the manufacturer that would arise under normal use and service. A copy of the warranty certificate shall be submitted with the bid package (No Exception).

VEHICLE STABILITY CERTIFICATION

The fire apparatus manufacturer shall provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification shall be provided at the time of bid.

ENGINE INSTALLATION CERTIFICATION

The fire apparatus manufacturer shall provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification shall be provided at the time of bid.

Bidder Complies	
Yes	No

POWER STEERING CERTIFICATION

The fire apparatus manufacturer shall provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification shall be provided at the time of bid.

CAB INTEGRITY CERTIFICATION

The fire apparatus manufacturer shall provide a cab crash test certification with this proposal. The certification states that the cab must meet or exceed the requirements below:

- European Occupant Protection Standard ECE Regulation No.29
- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks
- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks
- Roof Crush

The cab shall be subjected to a roof crush force of 100,000 lb. This value shall be 450 percent of the ECE 29 criteria, which must be equivalent to the front axle rating up to a maximum of ten (10) metric tons.

- Side Impact

The cab shall be subjected to dynamic preload with a 13,275-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of energy. This test shall closely represent the forces a cab shall see in a rollover incident.

- Frontal Impact

The cab shall withstand a frontal force produced from 65,200 ft-lb of energy using a swing-bob type platen.

The same cab shall withstand all tests without any measurable intrusion into the survival space of the occupant area.

There shall be no exception to any portion of the cab integrity certification. Nonconformance shall lead to immediate rejection of bid.

CAB DOOR DURABILITY CERTIFICATION

Robust cab doors help protect occupants. Cab doors shall survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder shall certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

Bidder Complies	
Yes	No

WINDSHIELD WIPER DURABILITY CERTIFICATION

Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers shall survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 *Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles*. The bidder shall certify that the wiper system design has been tested and that the wiper system has met these criteria.

ELECTRIC WINDOW DURABILITY CERTIFICATION

Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design shall complete 30,000 complete up-down cycles and still function normally when finished. The bidder shall certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.

SEAT BELT ANCHOR STRENGTH

Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design shall withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder shall certify that each anchor design was pull tested to the required force and met the appropriate criteria.

SEAT MOUNTING STRENGTH

Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design shall be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder shall certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

CAB DEFROSTER CERTIFICATION

Visibility during inclement weather is essential to safe apparatus performance. The defroster system shall clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder shall certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

CAB HEATER CERTIFICATION

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. The cab heaters shall warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder shall certify that a substantially similar cab has been tested and has met these criteria.

Bidder Complies	
Yes	No

CAB AIR CONDITIONING PERFORMANCE CERTIFICATION

Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system shall cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 72 degrees Fahrenheit in 30 minutes. The bidder shall certify that a substantially similar cab has been tested and has met these criteria.

AMP DRAW REPORT

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

The manufacturer of the apparatus shall provide the following:

- Documentation of the electrical system performance tests.
- A written load analysis, which shall include the following:
 - The nameplate rating of the alternator.
 - The alternator rating under the conditions specified per:
 - Applicable NFPA 1901 or 1906 (Current Edition).
 - The minimum continuous load of each component that is specified per:
 - Applicable NFPA 1901 or 1906 (Current Edition).
 - 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 or 1906 (Current Edition).

Bidder Complies	
Yes	No

OPTIONS LIST

Please supply individual prices for each of the following:

- 1- ELK400020 Elkhart Chief 1 ½” Nozzle
- 1- ELKB375AT 1 ½” Ball Shutoff 7/8” Smooth Bore NST
- 1- ELK187A Handline Tip 7/8”
- 1- ELKDB375AT 2 ½” Ball Shut Off
- 1- ELK1936 Bresnan Distributor Nozzle
- 1- ELKB98AX5X25 2 way Siamese 5” F NH by (2) 21/2” FNH
- 1- Key Hose KEYDP17100050NPSH Combat Ready 1 ¾” by 50’ NPSH 1000’ Color TBD
- 1- Key Hose KEYDP25100050NPSH Combat Ready 2 ½” by 50’, NPSH 600’ Color TBD
- 2- Fire Hooks Unlimited 30” Pro Bar
- 1- Fire Hooks Unlimited Hydra Ram II
- 2- Fire Hooks Unlimited Force Axe, 8lb
- 1- Fire Hooks Unlimited 8lb Pick Head Axe, FG Handle
- 1- Fire Hooks Unlimited Saw, FD 760 12” Fire Rescue Saw w/ Carbide Tip Blade
- 1- MSA 10173120 E6000 + w/laser, w/truck kit. Battery, lanyard, 5 yr warranty
- 2- Kocheck 2.5” double female KOC35R2525
- 2- Kocheck 2.5” double male KOC36R2525
- 1- Kocheck 2.5” F NH by 1.5” M NH
- 1- Kocheck 5” Storz by 2.5” M NH
- 1- TFT Blitzfire Package TFTXXC42
- 1- TFT Pro Pak w/ 1 ½” angled NH TFTUM12NF
- 1- TFT Pro Pak Mounting Bracket UM12
- 1- Velocity Little Giant Ladder ALS15417001
- 1- Draeger X-AM2500 4 gas meter
- 1- Physio Control Life Pak 1000 AED
- 2- Scott Safety 5.5 SCBA w/ spare cylinder. Reference specs of current H&L model
- 1- Hurst SC 250E2 Combi Tool
- 1- Road Safety Kit of 2 ½” B-C Extinguisher & Triangle Safety Reflectors
- 2- Class One Flowminders

- 11- Colored Discharge Bezels

**TOWN OF NEWTOWN
SEALED BID REQUEST**

BID OPENING DATE: Thursday, October 27, 2016

TIME: 11:00 am

LOCATION: Finance Dept., Newtown Municipal Center, 3 Primrose Street, Newtown, CT 06470

BID TITLE: PUMPER . TRUCK-NEWTOWN HOOK & LADDER CO.-ENGINE 111

SECURITY REQUIRED: Ten Percent (10%) Bid Security. One Hundred percent (100%) Performance & Employees and Materialmen Security

DATED IN NEWTOWN: September 26, 2016

BID SECURITY \$

(CERTIFIED CHECK, LETTER OF CREDIT OR BID BOND)

PLEASE NOTE: ONE (1) ORIGINAL AND ONE (1) COPY OF SEALED BID MUST BE SUBMITTED.

Is your company a MBE/WBE business: _____
(YES) (NO)

TOTAL BASE BID: \$ _____

NOTE: Please attach list of alternates with pricing.

COMPANY

SIGNATURE

ADDRESS

SIGNED BY (Print or Type)

ADDRESS 2

TITLE

ADDRESS 3

FAX NO.

TELEPHONE NO.

DATE

TAX ID NUMBER

E-MAIL (Please include for our records)