SEDGWICK COUNTY, KANSAS
DIVISION OF FINANCE DEPARTMENT
Purchasing Department
525 N. Main, Suite 823 ~ Wichita, KS 67203
Phone: 316 660-7255 Fax: 316 383-7055
https://www.sedgwickcounty.org/finance/purchasing/requests-for-bid-and-proposal/

REQUEST FOR PROPOSAL
RFP #20-0060
TENDER TRUCK

December 7, 2020

Sedgwick County, Kansas (hereinafter referred to as "county") is seeking a firm or firms to provide a Tender truck for Sedgwick County Fire District #1. If your firm is interested in submitting a response, please do so in accordance with the instructions contained within the attached Request for Proposal. Responses are due no later than 1:45 pm CST, Tuesday, December 29, 2020.

To ensure that vendors have complete information prior to submitting a proposal, **a pre-proposal conference call has been scheduled for Thursday, December 10, 2020 at 2:00 p.m. CST. You can connect to this conference call by dialing 316-660-7271.** This meeting is **not mandatory**.

All contact concerning this solicitation shall be made through the Purchasing Section. Bidders shall not contact county employees, department heads, using agencies, evaluation committee members or elected officials with questions or any other concerns about the solicitation. Questions, clarifications and concerns shall be submitted to the Purchasing Section in writing. Failure to comply with these guidelines may disqualify the Bidder's response

Sincerely,

Britt Rosencutter
Buyer

BR/ch

Table of Contents

I. About this Document

This document is a Request for Proposal. It differs from a Request for Bid or Quotation in that the county is seeking a solution, as described on the cover page and in the following Background Information section, not a bid or quotation meeting firm specifications for the lowest price. As such, the lowest price proposed will not guarantee an award recommendation. As defined in Charter Resolution No. 68, Competitive Sealed Proposals will be evaluated based upon criteria formulated around the most important features of the product(s) and/or service(s), of which quality, testing, references, service, availability or capability, may be overriding factors, and price may not be determinative in the issuance of a contract or award. The proposal evaluation criteria should be viewed as standards that measure how well a vendor's approach meets the desired requirements and needs of the county. Criteria that will be used and considered in evaluation for award are set forth in this document. The county will thoroughly review all proposals received. The county will also utilize its best judgment when determining whether to schedule a pre-proposal conference, before proposals are accepted, or meetings with vendors, after receipt of all proposals. A Purchase Order/Contract will be awarded to a qualified vendor submitting the best proposal. **Sedgwick County reserves the right to select, and subsequently recommend for award, the proposed service(s) and/or product(s) which best meets its required needs, quality levels and budget constraints**.

The nature of this work is for a public entity and will require the expenditure of public funds and/or use of public facilities, therefore the successful proposer will understand that portions (potentially all) of their proposal may become public record at any time after receipt of proposals. Proposal responses, purchase orders and final contracts are subject to public disclosure after award. All confidential or proprietary information should be clearly denoted in proposal responses and responders should understand this information will be considered prior to release, however no guarantee is made that information will be withheld from public view.

II. Background

Sedgwick County, located in south-central Kansas, is one of the most populous of Kansas' 105 counties with a population estimated at more than 514,000 persons. It is the sixteenth largest in area, with 1,008 square miles, and reportedly has the second highest per capita wealth among Kansas' counties. Organizationally, the county is a Commission/Manager entity, employs nearly 2,500 persons, and hosts or provides a full range of municipal services, e.g. – public safety, public works, criminal justice, recreation, entertainment, cultural, human/social, and education.

III. Project Objectives

Sedgwick County, Kansas (hereinafter referred to as "county") is seeking a firm or firms to provide a Tender truck for Sedgwick County Fire District #1 in accordance with the specifications outlined.

IV. Submittals

Carefully review this Request for Proposal. It provides specific technical information necessary to aid participating firms in formulating a thorough response. Should you elect to participate, submit one (1) original **AND** one (1) electronic copy (.PDF/Word supplied on a flash drive) of the entire document with any supplementary materials to:

Britt Rosencutter
Sedgwick County Purchasing Section
525 N. Main, Suite 823
Wichita, KS 67203

SUBMITTALS are due **NO LATER THAN 1:45 pm CST, TUESDAY, DECEMBER 29, 2020**. Responses must be sealed and marked on the lower left-hand corner with the firm name and address, proposal number, and proposal due date. Late or incomplete responses will not be accepted and will not receive consideration for final award.

Proposal responses will be acknowledged and read into record at bid opening which will occur at 2:00 pm CST, on the due date. No information other than the respondent's name will be disclosed at bid opening.

V. Scope of Work

Proposals taking total exception to specifications shall not be acceptable. Proposers shall submit a detailed proposal. A letter only, even though written on a company letterhead, shall not be sufficient. Proposals shall be submitted in the same sequence as specifications for ease of evaluation, comparison and checking of compliance. Any exception to these requirements shall not be tolerated.

This document has several headings, which are in bold type and underlined. The headings should be considered a question on how the manufacturer will complete the item or how the manufacturer meets or intends to meet the qualifications set forth.

A. Sedgwick County Fire District #1 will require certain items to be used in the manufacturing of this apparatus. Under certain headings this equipment or method of construction will be noted as a specification. These specifications point out the preferred qualifications on this apparatus. Any exceptions from the preferred qualifications will require an in-depth explanation of the manufacturer's intent and purpose.

B. Any other items or options that the manufacturer deems necessary, relevant or advantageous to this apparatus can be submitted with the proposal. These items should be listed with the price of the proposed item on a separate page(s) under the header "Additional Provisions." The County reserves the right to select one (1), some or none of the options identified.

It shall be the intent of this request for proposal(s) to outline the general intent of favorable provisions for the furnishing and delivery of a complete fire apparatus. These detailed specifications cover the preferred minimum requirements as to the type of construction and test to which the apparatus shall conform, together with certain details as to finish, equipment and appliances with which the successful proposer shall conform. Minor details of construction and materials, which are not otherwise specified, are left to the discretion of the contractor. The manufacturer shall provide loose equipment only when specified by the County. Otherwise, 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.

In order to ensure fair, ethical and legal competition, neither original equipment manufacturer (OEM) or parent company of the OEM shall have ever been fined or convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market (no exception).

Proposals 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. Further, proposer shall maintain dedicated service facilities for the repair and service of products. Evidence of such a facility shall be included in the proposal.

Each proposer shall furnish satisfactory evidence of their ability to construct the apparatus specified and shall state the state and location of the factory where the apparatus is to be built. The proposer shall also show that the company is in position to render prompt service and to furnish replacement parts.

Each proposal shall be accompanied by a detailed set of Contractor's Specifications consisting of a detailed description of the apparatus and equipment proposed, and to which the apparatus furnished under contract shall conform. These specifications shall indicate size, type, model and make of all component parts and equipment.

Proposers shall also indicate in the "Yes/No" column if their proposal complies on each item (paragraph) specified. 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 exceptions shall be stated no matter how seemingly minor. Any exceptions not taken shall be assumed by the purchaser to be included in the proposal, regardless of the cost to the proposer.

	Description	Bidder Complies	
	I. SPECIFICATIONS FOR A TANKER/PUMPER Sealed bids will be received by Sedgwick County Fire District #1 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 and test to which the apparatus shall conform, together with certain details as to finish, equipment and appliances with which the successful bidder shall conform. Minor details of construction and materials, which are not otherwise specified, are left to the discretion of the contractor. The manufacturer shall provide loose equipment only when specified by the customer. 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.** 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. THE PURCHASER HAS THE RIGHT TO REJECT ANY PROPOSALS WHICH DO NOT MEET THESE SPECIFICATIONS AND IS THE SOLE DECIDER TO DEEM WHICH PROPOSAL IS IN THE BEST INTEREST OF THE PURCHASER. **EXCEPTIONS** 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 only type of fire apparatus that is acceptable at this time and all specifications herein contained are considered as minimum. Therefore exceptions to the specifications may not be accepted. Bidders shall indicate in the "yes/no" column if their bid complies on each item (paragraph) specified. 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 proposals from these manufacturer's shall be immediately rejected (no exception). Each bid shall be accompanied by a set of manufacturer's 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.** *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.*	Yes	No

The purchaser will utilize this advertised specification to compare all submitted proposals. To facilitate comparison, all 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. The purchaser's specification shall, in all cases, govern the construction of the apparatus, unless a properly documented exception or deviation was approved.

THE PURCHASER HAS THE RIGHT TO REJECT ANY PROPOSALS WHICH DO NOT MEET THESE SPECIFICATIONS AND IS THE SOLE DECIDER TO DEEM WHICH PROPOSAL IS IN THE BEST INTEREST OF THE PURCHASER.

EXCEPTIONS

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 only type of fire apparatus that is acceptable at this time and all specifications herein contained are considered as minimum. Therefore exceptions to the specifications may not be accepted.

Bidders shall indicate in the "yes/no" column if their bid complies on each item (paragraph) specified. 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. 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". Proposals that are found to have deviations without listing them or proposals taking total exceptions to these advertised specifications will be rejected (no exception). Proposals not including all exceptions is a material breach and shall result in the bid being immediately rejected (no exception).

GENERAL DESIGN AND CONSTRUCTION

The prime vehicle manufacturer shall be responsible for the overall design so that the cab, chassis, pump module, and body are all integrated and function together as a complete fire apparatus, which shall also minimize 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 cab assembly, the pumphouse module assembly, the chassis assembly, body and electrical system.
The apparatus shall be designed with 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

The design of the apparatus shall embody the latest approved automotive engineering practices. The workmanship shall be of the highest quality in its respective field. Special consideration shall be given to the following points: Accessibility of the various units which require periodic maintenance; ease of operation (including both pumping and driving), and symmetrical proportions. Construction shall be rugged and ample safety factors shall be

provided to carry the loads specified and to meet both on and off road requirements and speed conditions as set forth under Performance Tests and Requirements.

Welding shall not be employed in the assembly of the apparatus in a manner that shall prevent the ready removal of any component part for service or repair. 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 American Welding Society codes upon hire and every three (3) years thereafter.

To demonstrate the quality of the product and service, each bidder shall provide a list of at least 25 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.

DELIVERY

To insure proper break in of all components while still under warranty, **Apparatus 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.

INFORMATION REQUIRED

The manufacturer shall supply at time of delivery, complete operation and maintenance manuals covering the completed apparatus as delivered. A permanent plate shall be mounted in the driver's compartment which specifies the quantity and type of fluids required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.

SAFETY VIDEO

Documentation provided at the time of delivery shall also include an apparatus safety video, in DVD format. 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: vehicle pre-trip inspection, chassis operation, pump operation, and maintenance.

PERFORMANCE TESTS AND REQUIREMENTS

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 axles 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:

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.

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 its 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 in conjunction with 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 one hundred (100) miles of the Fire Department.

SERVICE AND WARRANTY SUPPORT (MANUFACTURER)

To provide an additional layer of service support, the successful manufacturer must also own a least two separate service facilities, one located in the northern portion of the United States to service both Canada and the northern United States and one in the south to service the southern states. 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 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 (4) 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.

SPECIFICATION BID REQUIREMENTS

Bidders shall also indicate in the "yes/no" column if their bid complies **on each item** (PARAGRAPH) specified. 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. **Proposals taking total exception to specifications shall not be acceptable.** Also, bidders shall submit a detailed proposal. A letter only, even though written on a company letterhead, shall not be sufficient. Proposals shall be submitted in the same sequence as specifications for ease of evaluation, comparison and checking of compliance. **An exception to these requirements shall not be tolerated.**

EXCEPTIONS

All exceptions shall be stated no matter how seemingly minor. Any exceptions not taken shall be assumed by the purchaser to be included in the proposal, regardless of the cost to the bidder.

GENERAL CONSTRUCTION

The apparatus shall be designed with 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.

INSURANCE PROVIDED BY BIDDER

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$2,000,000
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 and coverage shall be written on a Commercial Automobile liability form:

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

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: $3,000,000
Each Occurrence: $3,000,000
The umbrella policy shall be written on an occurrence basis and at a minimum provide excess to the bidder's General Liability and Automobile 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. Best.
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 the bid. The certificate shall show the purchaser as certificate holder.

INSURANCE PROVIDED BY MANUFACTURER

PRODUCT LIABILITY INSURANCE

The manufacturer 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 Product Liability insurance:
Each Occurrence$1,000,000
Products/Completed Operations Aggregate $1,000,000
Coverage shall be written on a Commercial General Liability form. The policy shall be written on an occurrence form. The manufacturer's policy shall include the owner as additional insured when required by written contract between the Owner and an authorized dealer.

UMBRELLA/EXCESS LIABILITY INSURANCE

The manufacturer 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:
Each Occurrence: $25,000,000
Aggregate: $25,000,000
The umbrella policy shall be written on an occurrence basis and provide excess to the manufacturer's General Liability/Products 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. Best.
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.
Manufacturer agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate shall show the purchaser as the certificate holder.

ISO COMPLIANCE

The manufacturer shall 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.

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

NFPA 2016 STANDARDS

This apparatus specification includes a commercial chassis that has not been certified to meet the requirements of NFPA 1901 by the chassis manufacturer. Although this chassis may comply with certain aspects of the standard, has not received certification from this chassis manufacturer that all criteria have been met. The body as built by the manufacturer must comply with the NFPA standards effective January of 2016.

Certification of slip resistance of all stepping, standing and walking surfaces must 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 the 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."

PUMP TEST

The rated water pump shall be tested, approved, and certified by an ISO certified independent third party testing agency at the manufacturer's expense. The test results, along with 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 an ISO certified independent third party testing agency at the manufacturer's expense. The test results shall be provided to the Fire Department at the time of delivery.

SERVICE

The bidder has service centers within the State of bidding and also has mobile service to the department location. These services will be covering the state of Kansas. You will be provided with phone numbers, contact persons and an emergency 24/7 number from the dealership. You can also contact your sales person in emergencies. You will also be provided with a 24/7 phone number to customer service from the factory level as well.

TRAINING

Training from a factory certified trainer will be provided on each unit for a maximum of 24 hours (three 8 hour shifts).

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.

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 proposal (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.

PERFORMANCE BOND

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 proposal (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.

APPROVAL DRAWING

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. 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.

ELECTRICAL WIRING DIAGRAMS

Two (2) electrical wiring diagrams, prepared for the body as it interfaces with the commercial chassis, shall be provided.

	CHASSIS The chassis shall be a Freightliner, Model M2, 112MD Conventional Chassis, supplied with the following equipment: WHEELBASE The wheelbase of the vehicle shall be no greater than 219.00". GVW RATING The gross vehicle weight rating shall be a minimum of 62,000 lbs. FRAME The frame rails shall be formed from 120,000 psi yield, heat treated alloy steel. The frame rails shall be E-coated prior to painting. FRAME LINER A 0.25" inner frame reinforcement shall be provided. The frame section properties shall be: - Section Modulus: 26.80 cubic inch, per rail - RBM: 3,217,000 in-lb., per rail - Yield Strength: 120,000 psi, per rail FRONT AXLE The front axle shall be an I-beam type, made of forged steel. It shall have a ground rating capacity of 18,000 lbs. FRONT SUSPENSION Taper leaf springs Capacity at ground: 18,000 lbs. Shock absorbers shall be provided on the front axle. FRONT AND REAR BRAKES The front and rear brakes shall be disc style brakes. TIRE BRAND The default brand of tire for the commercial chassis manufacturer for this apparatus is Michelin. However, it is understood that the commercial chassis manufacturer reserves the right to substitute brands and models of tire as may be available at the factory on the date of manufacture. They shall provide the proper tread style and weight rating for the position in which the tire is installed. TIRES, FRONT Front tires shall be 315/80R22.50, radial tires with a tread pattern suitable for the steering axle position. The capacity of the tires shall meet or exceed the rating of the axle and/or suspension. WHEELS, FRONT Wheels for the front axle shall be 22.50" x 9.00" polished aluminum disc. REAR AXLE The rear axle shall be a Meritor, Model MT-44-14X, tandem axle assembly with a capacity of 44,000 lbs. An inter-axle differential, which divides torque evenly between axles, shall be	Yes	No

provided with an indicator light mounted on the cab instrument panel. Rear axle brakes shall be disc style.

REAR AXLE RATIO

NFPA 1901, 2016 edition, section 4.15.2 requires that the maximum top speed of fire apparatus with a GVWR over 26,000 lb. shall not exceed either 68 mph or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower. NFPA 1901, 2016 edition, section 4.15.3 requires that if the combined water tank and foam agent tank on the fire apparatus exceed 1250 gallons or the GVWR of the vehicle is over 50,000 lbs., the maximum top speed of the apparatus shall not exceed either 60 mph or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower. It is the intention of the standard to improve safety by limiting the speed of all apparatus to 68 mph, and tankers or heavy apparatus to 60 mph. By requesting an exception to this requirement, the purchasing authority is consciously choosing to operate their apparatus at speeds above the limits designated as safe speeds by the NFPA Technical Committee on Fire Department Apparatus. The top speed of the apparatus as manufactured exceeds the NFPA requirements. Per fire department specification of a top speed that exceeds NFPA requirements, the apparatus shall be non-compliant to NFPA 1901 standards at time of contract execution. A rear axle ratio shall be furnished to allow the vehicle to reach an approximate top speed of 75 MPH.

SUSPENSION, REAR

Rear suspension to be a flat steel spring system with an equalizing beam design that distributes the load equally between the two (2) axles. Ground rating of the suspension to be 46,000 pounds. Axles to have 52.00" spacing. Steel beams and bronze center bushings shall be provided.

TIRES, REAR

Rear tires shall be 11R22.50 radial tires with a traction tread pattern suitable for the drive axle position. The tires shall meet or exceed the weight rating of the axle and/or suspension.

WHEELS, REAR

The rear wheels shall be 22.50" x 8.25" disc. The outer wheel shall be polished aluminum and the inner wheel shall be steel.

TIRE PRESSURE MANAGEMENT

There shall be an LED 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 10 tires. 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.

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 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 forward of the left side rear tire.

ANTI-LOCK BRAKE SYSTEM

The vehicle shall be equipped with an anti-lock braking system. The ABS shall provide anti-lock braking control on both the front and rear wheels. It shall be a digitally controlled system that utilizes microprocessor technology to 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 then shall reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system shall eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

The system shall include Automatic Traction Control (ATC). The system shall include Electronic Stability Control (ESC). When instability is detected, the ESC system shall automatically apply brakes to individual wheels (with no intervention from the driver) and may also reduce engine torque to help keep the vehicle on track.

AIR COMPRESSOR, BRAKE SYSTEM

The air compressor shall have an output of 19.0 cubic feet per minute.

AIR DRYER

An air dryer with a heater shall be provided. Other features of this air dryer include:
- Desiccant style filter
- In-line filtration system
- Automatic purge valve

AIR INLET

A single air inlet with male coupling shall be provided. It shall allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet shall be located in the driver's side cab step area. A check valve shall be provided to prevent reverse flow of air. The inlet shall discharge into the "wet" tank of the brake system. A mating female coupling shall also be provided with the loose equipment.

ENGINE

The chassis shall be powered by a Detroit Diesel electronic engine as described below:

Model:	DD13, 12.8L
Number of Cylinders:	Six (6) / In line
Bore and Stroke:	5.20" x 6.14"
Displacement:	781 cubic inches (12.8 liter)
Compression Ratio:	18.4:1
Rated Brake Horsepower:	505 HP at 1625 rpm
Torque:	1850 at 975 rpm
Governed rpm:	1900

HIGH IDLE

A high idle switch shall be provided on the instrument panel inside the cab. Activating the switch shall cause the vehicle to automatically maintain a preset engine rpm. The high idle switch 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 be labeled "OK to Engage High Idle."

ENGINE BRAKE

An engine compression brake is to be installed with the controls located within easy reach of the driver. There shall be an "On/Off" switch and also a settings switch for "High/Low" activation.

AIR INTAKE, w/EMBER SEPARATOR

The air inlet shall be equipped with a stainless steel mesh to separate water and burning embers from the air intake system such that particulate matter larger than 0.039" (1.0 mm) in diameter cannot reach the air filter element. This shall comply with NFPA 1901 and 1906 standards.

EXHAUST SYSTEM

The exhaust system shall include a diesel particulate filter (DPF) and a selective catalytic reduction (SCR) device to meet current EPA standards. The DPF and SCR shall be mounted horizontally outside of the frame rails in the right side front step area.

EXHAUST MODIFICATIONS

The exhaust shall terminate with a horizontal tailpipe and diffuser ahead of the right side rear wheels. A heat deflector shield shall be provided where the tail pipe is routed under any side compartmentation. All modifications shall be approved by the chassis engine manufacturer and/or the chassis OEM. Exhaust treatment devices shall not be altered.

COOLANT LINES

Gates Blue Stripe rubber hose shall be used for all engine coolant lines installed by the chassis manufacturer. Hose clamps shall be of a design commonly called 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.

FUEL TANK

A 50 gallon fuel tank shall be provided and mounted at the left-hand cab step. The tank shall be constructed of aluminum.

DIESEL EXHAUST FLUID TANK

A diesel exhaust fluid (DEF) tank shall be provided and mounted on the left side, below the cab. The tank shall be sized by the chassis manufacturer based on the engine provided. It shall include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.

AUXILIARY FUEL COOLING SYSTEM

A supplementary fuel cooling system shall be provided to allow the use of water from the discharge side of the pump for cooling the chassis engine fuel. The heat exchanger shall be a cylindrical type and shall be a separate unit. The cooler shall operate any time the pump is discharging water and shall be plumbed to the master drain valve.

TRANSMISSION
An Allison, model 4000 EVS, 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). To qualify for the EVS rating, the transmission shall be filled with synthetic transmission fluid. A transmission temperature gauge or warning light shall be installed on cab instrument panel.

TRANSMISSION SHIFT CONTROL
A push button shift module shall be mounted to right of driver. Shift position indicator shall be indirectly lit for after dark operation. The transmission shall be a five (5)-speed.

TRANSMISSION COOLER
An external transmission oil cooler shall be provided.

DOWNSHIFT MODE (w/engine brake)
The transmission shall be provided with an aggressive downshift mode. This shall provide earlier transmission downshifts to 2nd gear, resulting in improved engine braking performance.

DRIVELINE
Drivelines shall be a heavy duty metal tube equipped with universal joints properly sized for the application. A splined slip joint shall be provided in each driveshaft. The driveline shall be prepped by the chassis manufacturer for the installation of a mid-ship split shaft pump.

STEERING
The steering system shall be hydraulically driven. The steering column shall have an adjustable tilt and telescope feature.

BUMPER
A one (1) piece, 10.00" high, stainless steel bumper shall be attached to the front of the frame.
A 9.00" channel shall be mounted directly behind the bumper for additional strength.
The bumper shall be extended 16.00" from the front face of the cab.

GRAVEL PAN
A gravel pan, constructed of bright aluminum tread plate, 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 tread plate.

CENTER HOSE TRAY
A hose tray, constructed of aluminum, shall be placed in the center of the bumper extension. The tray shall have a capacity of 100' of 1.75" double jacket cotton-polyester hose. Black rubber grating shall be provided at the bottom of the tray. Drain holes are also provided.

CENTER HOSE TRAY COVER
A bright aluminum tread plate cover shall be provided over the center hose tray.
The cover shall be "notched" allowing the hose to be pre-connected to hose connection.
The cover shall be attached with a stainless steel hinge. A D-ring latch shall secure the cover in the closed position and a pneumatic stay arm shall hold the cover in the open position. The arm shall be center front bumper hose tray.

TOW HOOKS

	Two (2) chromed steel tow hooks shall be installed under the bumper and attached to the front frame members. The tow hooks shall be designed and positioned to allow up to a 6,000 lb. straight horizontal pull in line with the centerline of the vehicle. The tow hooks shall not be used for lifting of the apparatus. CAB A 2-door flat-roof cab shall be provided. The cab and doors shall be of an aluminum construction. The cab shall have an air suspension system for a smooth ride. **Exterior Styling** Aerodynamic hood and windshield Tinted Glass in all Windows Fiberglass hood with mounted plastic grille Single 63"x14" rear window **Interior** Black vinyl mats Forward roof mounted console Two (2) dash-mounted cup holders, right-hand and left-hand Gray Vinyl Upholstery Dual Sun visors Fresh Air Heater and Defroster Gray Vinyl Upholstery CAB GRILLE - CHROMED The cab grille shall be a chromed high impact plastic with a horizontal rib design. The headlight bezels and air intake grilles shall also have a chromed finish. The grille shall tilt with the hood. MIRRORS West Coast style heated, remote operated mirrors constructed from a molded composite material with a bright finish shall be provided. A heated 8.00" convex mirror shall be included below the primary mirrors. An auxiliary down view mirror shall be included on the passenger side. CAB ACCESS STEPS The cab access steps shall be provided by the apparatus manufacturer. The steps shall be a two (2) step design fabricated from bright aluminum tread plate. The step assembly shall enclose the area under the cab, including the DEF tank. The fuel and DEF tank fill caps shall be exposed for refueling if located under the cab. Access shall be provided to inspect the chassis batteries when located under the cab. STEP LIGHTS There shall be four (4) white LED step lights provided. There shall be one (1) light installed at each cab door, one (1) light per doorstep. In order to ensure exceptional illumination, each light shall provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light. The lights shall be activated when the adjacent door is opened. DAYTIME RUNNING LIGHTS The chassis shall be provided with daytime running lights.		

AIR CONDITIONING
An air conditioner shall be provided that is integral with heater and defroster system.

ENGINE COMPARTMENT LIGHTS
Two (2) engine compartment lights shall be installed under the engine hood, of which the switches are an integral part.

STORAGE CONSOLE
There shall be a console located between the front seats with room for map storage, the siren head and a radio. There shall be four (4) sections for map storage to the rear of the console. Each map storage section shall be approximately 4.00" wide x 13.00" long x 12.25" deep. The console shall be constructed of smooth aluminum and painted black.

SEATING CAPACITY
The seating capacity in the cab shall be two (2).

SEATING
Seating inside the cab shall consist of an air-ride driver seat and a fixed companion seat.

SEAT BELT WEB LENGTH
NFPA 14.1.3.2 and 14.1.3.3 requires effective seat belt web length for a Type 1 lap belt for pelvic restraint to be a minimum of 60 in., and a Type 2 pelvic and upper torso restraint-style seat belt assembly to be a minimum of 110 in. Per Fire Department specification of a commercial chassis, this apparatus shall have seat belts of the required length. These belts shall provide sufficient length for large firefighters in bunker gear. This apparatus shall be compliant to NFPA standards effective at time of contract execution.

SEAT BELTS
All seating positions in the cab and crew cab shall have highly visible (orange) seat belts.

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.

HAND HELD LIGHT
There shall be two (2) 12v Streamlight, Fire Vulcan, Model #44451, lights mounted Ship loose with unit. 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. Vehicle mount with 12VDC direct wire charging rack. Quick release buckle strap shall be included.

CAB INSTRUMENTS
- Engine Temperature Gauge and Warning Buzzer
- Engine Oil Pressure Gauge and Warning Buzzer
- Speedometer with Odometer
- Engine Tachometer
- Engine Hourmeter
- Fuel Level Gauge
- DEF Level Gauge and Warning Lamp
- Voltmeter: Low voltage red warning light and audible alarm

- Air Brake Pressure Gauge
- Air Restriction Indicator
- Circuit Breakers: For overload protection of electric circuits
- Ignition Switch: Keyless type

EMERGENCY SWITCH PANEL

An emergency switch panel shall be provided in the cab. The switch panel shall be located overhead and on the cab instrument panel.

"DO NOT MOVE APPARATUS" INDICATOR

A flashing red indicator light (located in the driving compartment) shall be illuminated automatically per the current edition of NFPA. The light shall be labeled "Do Not Move Apparatus If Light Is On".
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

A red "open door" indicator light shall be provided inside the cab, in clear view of the driver, to warn of an open compartment door.

WIPER CONTROL

Wiper control shall include an intermittent feature and windshield washer controls.

RADIO

An AM/FM stereo radio with weather band and Bluetooth, USB inputs, auxiliary input, and J1939 compatibility shall be provided. It shall also include two (2) speakers and a clock.

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 shall 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

The system shall also be capable of no additional functionality required. An additional input shall be included with this system. When the VDR is active, this input shall not be required.

SEAT BELT MONITORING SYSTEM

A seat belt monitoring system (SBMS) shall be provided. The SBMS shall be capable of monitoring up to six (6) 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.

VEHICLE CAMERA SYSTEM

There shall be a color vehicle camera system provided with the following:

- One (1) camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse
- One (1) camera located near the right side dump chute area, pointing outward, manual display only
- One (1) camera located near the left side dump chute area, pointing outward, manual display only

The camera images shall be displayed on a 7.00" LCD display located on the overhead console by the driver's seating position. The display shall include manual camera activation capability and audio from the rear camera only.

The following components shall be included:

- One (1) MO700136DC Display
- One (1) SV-CW134639CAI Rear camera
- Two (2) CS134404CI Side cameras
- All necessary cables

REAR CAMERA LOCATION

The rear camera shall be located under full width step.

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 silicone. 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 silicone (1890) applied completely over the metal portion of the terminal. All emergency light switches shall be mounted on a separate panel installed in the cab. A master warning light switch and individual switches to be provided to allow pre-selection of emergency lights. The light switches shall be "rocker" type with an internal indicator light to show when switch is energized. All switches shall be properly identified and mounted in a removable panel for ease in servicing. Identification of the switches shall be done by either printing or etching on the switch panel. The switches and identification shall be illuminated. 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.

BATTERY SYSTEM

A single starting battery system shall be provided consisting of three (3)-12 volt, 1000 CCA, maintenance-free, batteries. The batteries system shall have a total of 3000 cold cranking amps (CCA).

JUMP START CONNECTIONS

Positive and negative posts for jump starting shall be provided by the chassis manufacturer. They shall be frame mounted and located under the hood.

BATTERY SYSTEM MODIFICATION

Due to specific apparatus configuration requirements, the batteries shall be relocated to the cargo area by the apparatus manufacturer. An enclosure with an access panel shall protect the batteries.

MASTER BATTERY SWITCH

A master battery switch, to activate the battery system, shall be provided inside the cab within easy reach of the driver. The master battery disconnect switch shall be wired between the starter solenoid and the remainder of the electrical loads on the apparatus. A green "battery on" indicator light, visible from the driver's position, shall be provided.

BATTERY CHARGER/ AIR COMPRESSOR

There shall be one (1) Kussmaul Pump Plus 1200, Model # 52-21-1100, single-output battery charger/air compressor provided. There shall be a, Model 091-189-12, status charge center indicating the state of charge included. The automatic charger shall maintain one (1) set of batteries with a maximum output current of 40 amps. The 12 volt DC air compressor shall be installed to maintain the air system pressure when the vehicle is not in use. There shall be an auto pump timer installed between the pressure switch and the pump that shall allow the pump to run for one hour then shut down for one hour.

The battery charger shall be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger. Battery charger/compressor shall be located in the front left body compartment. The battery charger indicator shall be located in the driver's step area.

AUTO EJECT FOR SHORELINE

There shall be one (1) Kussmaul™, Model 091-55-20-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus. The shoreline inlet(s) shall include red weatherproof flip up cover(s). There shall be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting. The shoreline(s) shall be connected to the battery charger. There shall be a mating connector body supplied with the loose equipment.

There shall be a label installed near the inlet(s) that state the following:

- Line Voltage
- Current Ratting (amps)
- Phase
- Frequency

The shoreline receptacle shall be located on the driver side rear bulkhead of body.

ALTERNATOR

The alternator shall be a Delco Remy 40SI, 275 amp, quadramount, with remote battery voltage sensor.

ELECTRONIC LOAD MANAGEMENT

A Kussmaul Load Manager 2 shall be provided on the apparatus. The device is an electronic load management (ELM) system 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. Two (2) separate electrical loads shall be controlled by the load manager. The ELM shall sequentially re-energize electrical loads as the system voltage recovers.

EXTERIOR LIGHTING

Exterior lighting shall meet or exceed Federal Department of Transportation, Federal Motor Vehicle Safety Standards and National Fire Protection Association requirements in effect at time of proposal. Five (5) LED clearance and marker lights shall be installed across the leading edge of the cab.

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.

REAR CLEARANCE/MARKER/ID LIGHTING

There shall be a three (3) LED light bars 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

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 colored lenses. The lights shall be mounted in a polished combination housing. There shall be two (2) Whelen Model M6BUW, LED backup lights provided in the tail light housing.

LICENSE PLATE BRACKET

There shall be one (1) license plate bracket located below the tailboard on a removable bolt-on bracket located left side rear under body. A white LED light shall illuminate the license plate. A stainless steel light shield shall be provided over the light that shall direct illumination downward, preventing white light to the rear.

LIGHTING BEZEL

There shall be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.

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

PERIMETER SCENE LIGHTS, CAB

There shall be a Whelen, Model: 20C0CDCR, 4.00" white 12 volt DC LED light with grommet mount provided for each cab door. Lighting shall be designed to provide illumination on areas under the driver and officer riding area exits, which shall be activated automatically when the exit doors are opened and by the same means as the body perimeter lights.
The lighting shall be capable of providing illumination at a minimum level of two (2) foot-candles on ground areas within 30.00" of the edge of the apparatus in areas which personnel climb in or out of the apparatus or descend from the apparatus to the ground level.

PUMP HOUSE PERIMETER LIGHTS

There shall be two (2) Whelen®, Model 20C0CDCD, 4.00" LED 12 volt DC weatherproof lights with grommets 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) Whelen®, Model 20C0CDCD, 4.00" round LED lights with Model 2 GROMMET, grommets provided at the rear step area on the body, one (1) each side shining to the rear. The perimeter scene lights shall be activated by the parking brake is applied.

STEP LIGHTS

Four (4) white LED step lights shall be 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. 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. 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 M9LZC LED scene light(s) with chrome flange(s) installed on the side of the apparatus, passenger side high, one forward and one rear.
A control for the light(s) selected above shall be the following:

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

These lights may be load managed when the parking brake is set.

SIDE SCENE LIGHTS

There shall be two (2) Whelen®, Model M9LZC, LED scene light(s) with Model M9FC, chrome flange(s) installed on the side of the apparatus, one (1) high and forward on driver's side body and one (1) high and rearward on driver's side body.
A control for the light(s) selected above shall be the following:

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

These lights may be load managed when the parking brake is applied.

DECK LIGHTS

There shall be one (1) Whelen®, PFBP12C, LED flood light and one (1) Whelen, Model PSBP12C, LED spot light with swivel mount and chrome cover provided at the rear of the hose bed, one (1) each side. The lights shall include a switch for on/off activation.

REAR WORK AREA LIGHTS

There shall be two (2) Whelen®, part number 01-066C520-10, 3.00" x 7.00" white LED scene lights installed at the rear of the vehicle, under the tailboard, facing the rear. The lights shall have 12 white LEDs and have no internal optics. The lights shall be mounted on brackets below the truck so as to not interfere with the angle of departure. The lights shall be controlled by a switch at the driver's side switch panel and by a cup switch at the driver's side rear bulkhead.

WALKING SURFACE LIGHT

There shall be Model FRP, 4" round black 12 volt DC LED floodlight(s) with bolt mount provided to illuminate the entire designated walking surface on top of the body.
The light(s) shall be activated when the body step lights are on.

WATER TANK, 2500 GALLON POLYPROPYLENE

The tank shall be built by United Plastic Fabricating, Inc. The booster tank shall have a capacity of 2500 gallons and be constructed of polypropylene plastic. Tank to be "T" shaped to provide for deep side compartments and to serve as a large sump to limit the amount of undraftable water. The joints and seams shall be nitrogen welded inside and out. Tank to be baffled in accordance with NFPA Bulletin 1901 requirements. The baffles shall have vent openings at both the top and bottom to permit movement of air and water between compartments.

The longitudinal partitions shall be constructed of .38" polypropylene plastic and shall extend from the bottom of the tank through the top cover to allow positive welding. The transverse partitions shall extend from 4.00" off the tank bottom to the underside of the top cover. All partitions shall interlock and shall be welded to the tank bottom and sides. The tank top shall be constructed of .50" polypropylene. It shall be recessed .38" from the top of the tank and shall be welded to the tank sides and the longitudinal partitions. 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 will be sized dependent on the tank to pump plumbing shall be provided at the bottom of the water tank. The sump shall include a drain plug and the tank outlet. The tank shall be installed in a fabricated cradle assembly constructed on 3.00" x 3.00" x .25" angle iron.

Rubber cushions, .50" thick x 3.00" wide, shall be placed on all horizontal surfaces that the tank rests on. Fill tower shall be constructed of .50" polypropylene and shall be a minimum of 10.00" wide x 16.00" long. The fill tower shall be located in the center of the tank on the left side. Fill tower shall be furnished with a .25" thick polypropylene screen and a hinged cover. An overflow pipe, constructed of 6.00" schedule 40 polypropylene, shall be installed approximately halfway down the fill tower and extend through the water tank and dump to the rear of the rear axle. The water tank fill dome shall be located left side of hose bed.

WATER TANK RESTRAINT

A heavy-duty water tank restraint shall be provided.

DIRECT TANK FILL

There shall be one (1) - 4.00" gated external tank fill(s) installed and properly labeled at the rear of the water tank, located right side, with the valve installed as low as practical for easy hose connection.
Piping, for the fill, shall be routed through the rear wall of the tank and include a flow deflector to break up the stream of water entering the water tank. A 4.00" full flow ball valve with 4.00" piping and a 4.00" (M) NST chrome adapter shall be located at the inlet. A 4.00" (F) NST x 5.00" Storz hard coat aluminum 30 degree elbow adapter and 5.00" blind cap shall be provided for the tank fill.

REAR TANK DUMP

One (1) 10.00" stainless steel Newton Quick Kwik-Dump valve shall be installed at the rear through the rear body panel in the area over the tailboard. The valve shall be actuated pneumatically from one of three switches. The three (3) switches shall be located: one (1) inside the cab, one (1) at the rear of the apparatus on the left side, and one (1) at the rear of the apparatus on the right side.

SIDE TANK DUMP VALVES

Two (2) 10.00" Crane™ centerline valves shall be installed one (1) each side between the tandem axles. The valve shall have 316 stainless steel shaft, bronze disc, and Buna-N seat. The valve shall be actuated pneumatically from one (1) switch inside the cab and one (1) switch at the rear of the apparatus. A telescopic extension chute shall be included with each dump valve. These chutes shall have an air control and ID light located in the cab.

DUMP CHUTE, S/S DOORS

A dump chute door system constructed of aluminum shall be installed over each side dump chute opening. The door system shall be designed with a hinge at the top of the door to open when the chute extends and a magnet to assist in holding the door closed when the chute is not extended. Opening and closing of the door shall occur automatically when the chute extends/retracts. The exterior of the doors shall be covered with polished stainless steel.

SWITCH, MASTER FOR DUMP VALVE

One (1) master on/off switch shall be provided for the water tank dump valves. The switch shall be located at the cab instrument panel.

HOSE BED

The hose bed shall be fabricated of .125"-5052 aluminum with a nominal 38,000 psi tensile strength. The sides shall not form any portion of the fender compartments. Upper and rear edges of side panels shall have a double break for rigidity, a split tube finish shall not be acceptable. The upper inside area of the beavertails shall be covered with brushed stainless steel to prevent damage to painted surface when hose is removed. 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. Hose bed shall accommodate 1500 feet of 2.50" and 400 feet of 1.50" hose.

HOSE BED DIVIDER

One (1) adjustable hose bed divider shall be furnished for separating hose. Each divider shall be constructed of a .25" brushed aluminum sheet. Flat surfaces shall be sanded for uniform appearance, or constructed of brushed aluminum. Divider shall be fully adjustable by sliding in tracks, located at the front and rear of the hose bed. Divider shall be held in place by tightening bolts, at each end. Acorn nuts shall be installed on all bolts in the hose bed which have exposed threads.

HOSE BED HOSE RESTRAINT

The hose in the hose bed shall be restrained by a black nylon Velcro® strap at the top of the hose bed. At the rear of the hose bed, 2.00" black nylon webbing with a 1.50" x 4.00" box pattern shall attach at the top rear outside corners with 2.00" cam buckle fasteners. The webbing shall have straps connected with 2.00" cam buckle fasteners located at the rear body sheet below the hose bed.

RUNNING BOARDS

Running boards shall be fabricated of .125" bright aluminum tread plate. 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. Running boards shall be 12.75" deep and spaced .50" away from the pump panel. A splash guard shall be provided above the running board tread plate.

TAILBOARD

The tailboard shall also be constructed of .125" bright aluminum tread plate supported by a structural steel assembly. The tailboard area shall be 20.00" 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 hose bed shall be aluminum diamond-plate.

TOW EYES

There shall be a total of two (2) painted tow eyes provided and mounted directly to the chassis frame rails at the rear of the apparatus.

COMPARTMENTATION

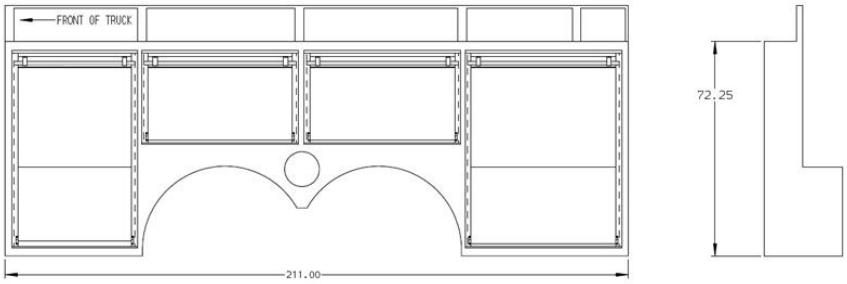
Body and compartments shall be fabricated of .125", 5052-H32 aluminum. Side compartments shall be an integral assembly with the rear fenders. Circular fender liners shall be provided for prevention of rust pockets and ease of maintenance. Side compartment flooring shall be of the sweep out design with the floor higher than the compartment door lip. The side 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 tread plate or polished stainless steel. The top of the compartment shall be covered with bright aluminum tread plate rolled over the edges on the front, rear and outward side. These covers shall have the corners welded. Side compartment covers shall be separate from the compartment tops. Front facing compartment walls shall be covered with bright aluminum tread plate. 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 is 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 shall result in a 500 lb. equipment support rating per lower front compartments. 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. 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. A design with body compartments hanging on the chassis in an unsupported fashion 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. 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. LEFT SIDE COMPARTMENTATION The left side compartmentation shall consist of four rollup door compartments. A full height, rollup door compartment ahead of the rear wheels shall be provided. The interior dimensions of this compartment shall be 44.50" wide x 67.00" high x 24.38" deep in the lower 24.75" of the compartment and 11.00" deep in the remaining upper portion. The clear door opening shall be a minimum of 38.75" wide x 57.25" high. A rollup door compartment over the forward tandem wheel shall be provided. The interior dimensions of this compartment shall be 54.38" wide x 33.13" high x 11.00" deep. The clear door opening shall be a minimum of 48.75" wide x 23.38" high. A rollup door compartment over the rear tandem wheel shall be provided. The interior dimensions of this compartment shall be 57.00" wide x 33.13" high x 11.00" deep. The clear door opening shall be a minimum of 48.75" wide x 23.38" high. A full height, rollup door compartment behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 51.75" wide x 68.00" high x 24.38" deep in the lower 25.65" of height and 11.00" deep in the remaining upper section of the compartment. The clear door opening shall be a minimum of 48.75" wide x 58.25" high.		

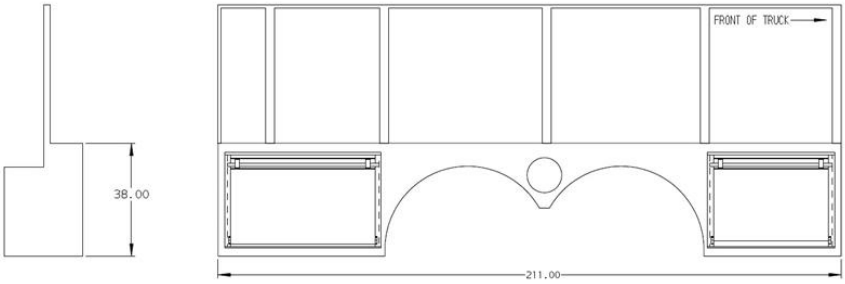


	CLEAR DOOR OPENINGS					
	AMDOR		GORTITE		ROM	
COMPARTMENT	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
Ahead of axles	39.50	57.25	38.75	58.38	38.94	58.63
Over axles	49.50	23.38	48.75	24.50	48.94	24.75
Behind axles	49.50	58.25	48.75	59.38	48.94	59.63

The interior height of the compartments shall be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments shall be measured from the back wall to the inside of the door frame. Closing of the doors shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand. Mounting provisions shall be provided between the tandem axles for a round dump valve. Access panels shall be provided in both fender wells to install or service the dump valve when required.

RIGHT SIDE COMPARTMENTATION

The right side compartmentation shall consist of two rollup door compartments. A rollup door compartment ahead of the rear wheels shall be provided. The interior dimensions of this compartment shall be 44.50" wide x 32.75" high x 24.38" deep in the lower 24.75" of the compartment and 11.00" deep in the remaining upper portion. The clear door opening shall be a minimum of 38.75" wide x 23.00" high. A rollup door compartment behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 51.75" wide x 33.75" high x 24.38" deep in the lower 25.75" of height and 10.88" deep in the remaining upper section of the compartment. The clear door opening shall be a minimum of 48.75" wide x 24.00" high.



	CLEAR DOOR OPENINGS					
	AMDOR		GORTITE		ROM	
COMPARTMENT	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
Ahead of axles	39.50	23.00	38.75	24.13	38.94	24.38
Behind axles	49.50	24.00	48.75	25.13	48.94	25.38

The interior height of the compartments shall be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments shall be measured from the back wall to the inside of the door frame. Closing of the doors shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand. Mounting provisions shall be

provided between the tandem axles for a round dump valve. Access panels shall be provided in both fender wells to service the dump valve when required.

SIDE COMPARTMENT ROLLUP DOORS

There shall be six (6) compartment doors installed on the side compartments. The doors shall be double faced, aluminum construction, anodized satin finish and manufactured by R-O-M Corporation. The slats shall be double wall box frame extrusion. The exterior surface shall be flat and the interior surface shall be concave to help loose equipment fall to the ground and prevent it from jamming the door. Between each slat shall be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments.

A non-locking liftbar to be provided for each roll-up door. The lift bar shall be located at the bottom of the door and have latches on the outer extrusion of the door frame. A ledge shall be supplied over the lift bar as additional area to aid in closing the door. Each door shall have a 4.00" counter balance to assist in lifting. A heavy-duty magnetic switch shall be used for the control of open compartment door warning lights.

REAR COMPARTMENTATION

A tool compartment shall be provided at the rear of the apparatus. The compartment shall be 26.00" wide x 8.00" high x 6.00" deep.

DROP-DOWN REAR COMPARTMENT DOOR

A drop-down door constructed of smooth aluminum with a D-handle latch shall be provided.

COMPARTMENT LIGHTING

There shall be seven (7) compartments 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 four (4) sets of tracks for mounting shelves in LS1, LS2, LS3 and LS4. These tracks shall be installed vertically to support the adjustable shelves, and shall be full height of the compartment. The tracks shall be unpainted with a natural finish.

ADJUSTABLE SHELVES

There shall be six (6) shelves with a capacity of 500 lb. provided.
The shelf construction shall consist of .188" aluminum painted spatter gray with 2.00" sides. 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 location(s) shall be in LS1 at the depth transition point, in LS2 centered between the floor and ceiling, in LS3 centered between the floor and ceiling, in LS4 centered between the floor and ceiling, in LS4 in the upper third and in LS1 in the upper third.

SLIDE-OUT FLOOR MOUNTED TRAY

There shall be three (3) floor mounted slide-out trays with 2.00" sides provided D1, D4 and P1. Each tray shall be rated for up to 200 lbs. in the extended position. The trays shall be constructed of a minimum .13" aluminum painted spatter gray. Slides shall be equipped with ball bearings for ease of operation and years of dependable service. The slides shall be

located on the sides of the tray so that the tray can be located as close to the compartment floor as possible. 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.

SCBA HOLDER

A total of two (2) Ziamatic model ULLH SCBA holder brackets. This bracket shall include a back-plate, two seats, a footplate and the model LLS ("Load & Lock") strap to hold the bottle in the bracket. The bracket seats shall be a "one size fits all" style seat and shall accommodate SCBA cylinders from the high pressure 30-minute to the high pressure 60-minute. The brackets shall be mounted front area of D3, and forward wall towards outside of P2.

CUTOUT IN PARTITION

There shall be one (1) cutout between partitions bottom 12" of partition between D2/D3 up from the floor.

VERTICAL COMPARTMENT PARTITION

One (1) partition shall be provided. The partition construction shall consist of body material painted spatter gray. Each partition shall be the full vertical height of the compartment. The location(s) shall be in LS3, 22.00" from the forward door frame.

PORTABLE TANK RACK, HYDRAULIC

A Zico Quic-Lift Model PTS-HA hydraulic rack shall be provided on the right side body compartments for a portable water tank manufactured by Fol-Da-Tank or equivalent. The rack shall be properly sized to house a 3000 gallon aluminum framed Fol-Da-Tank portable tank. The tank rack controls shall be located in such a manner to allow the operator full view of the area in which the portable tank shall be lowered. The actuator control shall have a master switch and also be interlocked to prevent operation should a compartment door, in the travel area of the rack, be in the open position. A bright finish aluminum tread plate cover shall be installed on the lowering device to protect the Fol-Da-Tank. This cover shall be installed with a Zico PTS-TCH mounting kit to allow for flexing.

RACK INTERLOCK AND NOT STOWED INDICATOR LIGHT

An interlock shall be provided to prevent operation of the 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 rack is not in the stowed position. The light shall be labeled "Rack". In addition, the "Do Not Move Apparatus" light located in the cab shall be activated when the rack is not in the stowed position.

FLASHING LIGHTS ON RACK

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

RUB RAIL

Bottom edge of the side compartments shall be trimmed with a bright aluminum extruded rub rail. Trim shall be 2.12" high with 1.38" flanges turned outward for rigidity. The rub rails shall not be an integral part of the body construction, which allows replacement in the event of damage.

BODY FENDER CROWNS

Black rubber fender crowns shall be provided around the rear wheel openings.

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 5" Storz coupling on each end. Couplings shall be hard coated aluminum.

HOSE TROUGH

One (1) trough for hard suction hose storage shall be installed on the top of the portable tank rack. The trough shall be constructed of painted smooth aluminum and use a Velcro strap at each end to contain the hose. The second hard suction trough, painted, shall be carried above the left compartment. This trough shall be V-shaped and contain chrome plated, quarter turn, spring loaded clamps. This trough shall be constructed of steel.

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 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

A total of four (4) air bottle compartments shall be provided, two (2) each side of the body. The air bottle compartment shall be in the form of a PVC round tube to accommodate different size air bottles. The inside diameter of the tube shall be approximately 7.63" in diameter x 26.00" deep. Drain holes shall be provided at the bottom of the tubes to prevent water collection. A Cast Products door with latch shall be provided to contain the air bottle.

EXTENSION LADDER

There shall be a 24' two-section aluminum Duo-Safety Series 900-A extension ladder provided.

ROOF LADDER

There shall be a 14' aluminum Duo-Safety Series 775-A roof ladder provided.

LADDER STORAGE COMPARTMENT-INTEGRAL WITH WATER TANK

Storage for ladders shall be integral within the water tank construction. This compartment shall not reduce the capacity of the water tank *unless* the addition of this compartment would cause the overall tank size to exceed the design space of the body configuration in which it is installed. In that case, the water tank capacity shall be maximized as much as practical but may be less than the capacity as stated elsewhere in this specification. The storage compartment shall be installed through the center of the water tank with access at the rear of the truck. There shall be a lift up door with stay arm device at the rear. It shall be constructed from smooth aluminum and have a pair of D-handle latches. The ladders shall be stored horizontally stacked. The ladders shall be secured from moving forward during travel.

FOLDING LADDER

One (1) 10.00' aluminum, Series 585-A, Duo-Safety folding ladder shall be installed in a U-shaped trough inside the ladder storage compartment.

10' PIKE POLE

One (1) pike pole Fire Hooks Unlimited, Model RH-10, 10' long roof hook with a steel handle shall be provided and located ladder compartment.

6 FT PIKE POLE

There shall be one (1) Fire Hooks Unlimited NY roof hook RH-6, 6 foot pike pole with steel handles and pry end provided.

PIKE POLE STORAGE

Aluminum tubing shall be used for the storage of one (1) pike pole and shall be located ladder compartment. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuff plate shall be provided. The pike pole tube shall be notched to allow a New York style pike pole to fit into the tube.

STEPS

A folding step shall be provided on the front of each fender compartment. The step shall be bright finished, non-skid with a black coating. Each 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. One (1) additional folding step shall be located one (1) on the left side front bulkhead. The step(s) shall be bright finished, non-skid with a black coating. 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.

PUMP

Pump shall be a Waterous CS, 1250 GPM, single (1) stage, fully manifolded, mid-ship 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 a 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. 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. Pump shall be equipped with a self-adjusting, maintenance-free, mechanical shaft seal.

The mechanical seal shall consist of a flat, highly polished, spring fed carbon ring that rotates with the impeller shaft. The carbon ring shall press against a highly polished stainless steel stationary ring that is sealed within the pump body. In addition, a throttling ring shall be pressed into the steel chamber cover, providing a very small clearance around the rotating shaft in the event of a mechanical seal failure. The pump performance shall not deteriorate, nor shall the pump lose prime, while drafting if the seal fails during pump operation. 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

The 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. By the use of a chain rather than gears, 50% of the sprocket shall be accepting or transmitting torque, compared to two (2) or three (3) teeth doing all the work. Drive shafts shall be 2.35" diameter hardened and ground alloy steel and supported by ball bearings. The case shall be designed 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". 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 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-PUMP

There shall be One (1) Elkhart Style 40 relief valve installed on the suction side of the pump preset at 125 psig. The relief valve shall have a working range of 75 psi to 250 psi. The 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. The relief valve pressure control shall be located behind the right side pump panel with a stainless steel access door.

PRESSURE GOVERNOR

This apparatus shall be equipped with a Class1 "Total Pressure Governor" engine/pump governor/throttle system that is connected directly to the Electronic Control Module (ECM) mounted on the engine. The "Total Pressure Governor" is to operate as a pressure sensor (regulating) governor (PSG). A special preset feature shall permit a predetermined pressure of RPM to be set. The preset pressure or RPM will be displayed on the message display of the "Total Pressure Governor". The preset shall be easily adjustable by the operator. The pressure sensor governor system shall be operable only after the vehicle parking brake has been set, the transmission is the pumping mode, and the fire pump has been engaged.

The pressure sensor governor system shall have two (2) modes of operation, pressure mode or rpm mode. When in the pressure mode, the PSG system shall automatically maintain the discharge pressure set by the operator regardless of flow (within engine/pump operating capabilities). In the rpm mode, the PSG system shall automatically maintain a set engine speed, regardless of engine load (within engine operation capabilities). A pump cavitation protection feature shall be provided which shall return the engine to idle should the pump cavitate. The pressure controller shall incorporate monitoring for engine coolant temperature, oil pressure, and battery voltage.

ESP PRIMING PUMP

Priming pump shall be a positive displacement vane type, electrically driven, and conforming to standards outlined in NFPA pamphlet #1901. One (1) priming control shall open the priming valve and start the priming motor. Primer shall be environmentally safe and self-lubricating.

IMPELLER HUB

The mid-ship pump impeller hubs shall be flame plated.

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) electronic copies. 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 VALVES WITH INTAKE RELIEF VALVE

There shall be Two (2) Task Force Tips (TFT) AX Series manually operated aluminum ball intake valve(s) provided at both sides. The inlet connection shall be 1ST (5.0" Rigid Storz) with a cap and the outlet connection shall be NX (6.0" Threaded Swivel). There shall be an eight-position adjustable 30 degree swiveling detent elbow on the inlet side of the ball intake valve. The ball intake valve shall be controlled with a NFPA compliant slow-close hand wheel. The hand wheel shall have a Standard shaft. A position indicator shall be provided to allow for a quick visualization of the status of the valve in the open, closed or transition position.

The ball intake valve shall be equipped with an adjustable pressure relief valve. The relief valve shall have a working range of 90 PSI to 300 PSI. A 3/4" TFT bleeder/drain valve shall be provided on the ball intake valve to exhaust excess air or water from the valve. For corrosion protection the aluminum casting shall have a hard coat anodized finish, with a powder coated internal and external finish. All the components facing the wet-side of the valve shall be constructed from stainless steel.

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 one (1) auxiliary inlet 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.

RIGHT SIDE INLET

There shall be one (1) auxiliary inlet with a 2.50" valve at the right 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 recessed behind the pump panel.

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.

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 4.00" heavy-duty piping and an Akron 4.00" ball valve with the handwheel 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 down into the tank sump. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing. An indicator shall be provided to show when the valve is closed. 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 2.00" 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 Two (2) discharge outlets 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. There shall be a 4.00" discharge outlet with a 3.00" valve with a 3.00" ball, installed on the right side of the apparatus, terminating with a 4.00" (M) National Standard hose thread adapter. This discharge outlet shall be actuated with a handwheel control with position indicator at the pump operator's control panel.

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 right 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 automatic drains provided at all low points of the piping.

DISCHARGECAPS/ INLET PLUGS

Chrome plated, rocker lug, caps with S/S cables shall be furnished for all discharge outlets 1.00" thru 3.00" in size, besides the pre-connected hose outlets. Chrome plated, rocker lug, plugs with S/S cables shall be furnished for all auxiliary inlets 1.00" thru 3.00" in size. The caps and plugs shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

OUTLET BLEEDER VALVE

A 0.75" bleeder valve shall be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application. 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 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. 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. The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

ADDITIONAL RIGHT SIDE OUTLET ELBOWS
The 4.00" discharge outlets, located on the right ride pump panel, shall be furnished with a 4.00" (F) National Standard hose thread x 4.00" (M) National Standard hose thread, chrome plated, 45 degree elbow with cap.

DISCHARGE OUTLET CONTROLS
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. 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. Any 3.00 inch or larger discharge valve shall be a slow-operating valve in accordance with NFPA 16.7.5.3.

DELUGE RISER
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's panel. Any 3.00 inch or larger discharge valve shall be a slow-operating valve in accordance with NFPA 16.7.5.3.

TELESCOPIC PIPING
The deluge riser piping shall include an 18.00" Task Force Model XG18 Extend-A-Gun extension. This extension shall be telescopic to allow the deluge gun to be raised 18.00" increasing the range of operation. A position sensor shall be provided on the telescopic piping that shall activate the "do not move vehicle" light inside the cab when the monitor is in the raised position.

MONITOR
A Task Force Crossfire XFC-52 monitor package shall be furnished and properly installed on the deluge riser. The monitor shall include a M-R nozzle, 10" stream straightener and quad stacked tips. The portable base unit with folding legs and a safety valve shall have (2) 2.50" female NST inlets. The monitor shall be painted as provided by monitor manufacturer.

NOZZLE
A Task Force Tips Master Stream Series M-R nozzle shall be provided. Included shall be a Task Force Tips XF-SS5 stream straightener and MST-4NJ quad stacked tips. Tip sizes shall

	be 1.38", 1.50", 1.75" and 2.0". The deluge riser Extend-a-Gun shall have provisions for direct mounting a Task Force Tips Crossfire monitor. CROSSLAY HOSE BED One (1) crosslay with 1.50" outlet shall be provided. The bed to be capable of carrying 200 feet 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. Outlet 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. The crosslay control shall be at the pump operator's panel. The center crosslay dividers shall be fabricated of .25" aluminum and shall provide adjustment from side to side. The divider shall be unpainted with a DA finish. Vertical scuff plates, 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 2.50" outlets shall be provided. This bed to be capable of carrying 200' 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. 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. 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. The remainder of the crosslay bed shall be painted job color. Stainless steel vertical scuff plates shall be provided at hose bed ends (each side of vehicle). Bottom of hose bed ends (each side) shall also be equipped with a stainless steel scuff plate. Crosslay bed flooring shall consist of removable perforated brushed aluminum. CROSSLAY/DEADLAY HOSE RESTRAINT There shall be a one (1) piece black vinyl cover provided across the top and each end of two (2) crosslay/deadlay(s) to secure the hose during travel. The vinyl top shall be attached at the front and rear of the crosslay/deadlay(s) with jacket snaps. Each vinyl end flap shall have 1.00" web straps that loop through footman loops at the bottom of the crosslay/deadlay(s) and fasten with 1.00" cam buckle fasteners. 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. Pump compartment, pump, plumbing and gauge panels shall be removable from the chassis in a single assembly. PUMP MOUNTING Pump shall be mounted to a substructure which shall be mounted to the chassis frame rail using rubber isolators. The mounting shall allow chassis frame rails to flex independently without damage to the fire pump.		

LEFT SIDE PUMP CONTROL PANELS

All pump controls and gauges shall be located at the left side of the apparatus and properly identified. Layout of the pump control panel shall be ergonomically efficient and systematically organized. The pump operator's control panel shall be removable in two (2) main sections for ease of maintenance:
The upper section shall contain sub panels for the mounting of the pump pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable). Sub panels shall be removable from the face of the pump panel for ease of maintenance. Below the sub panels shall be located all valve controls and line pressure gauges.

The lower section of the panel shall contain all inlets, outlets, and drains.
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.

IDENTIFICATION TAGS

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 directly above the corresponding discharge control tee handles and recessed within the same chrome plated casting as the rod guide for quick identification. The gauge and rod guide casting shall be removable from the face of the pump panel for ease of maintenance. The casting shall be color coded to correspond with the discharge identification tag. All remaining identification tags shall be mounted on the pump panel in chrome plated bezels. The pump panel on the right side shall be removable with lift and turn type fasteners. Trim rings shall be installed around all inlets and outlets.

PUMP PANEL CONFIGURATION

The pump panel configuration shall be arranged and installed in an organized manner that shall provide user-friendly operation.

PUMP AND GAUGE PANEL

The pump and gauge panels shall be constructed of aluminum with a painted black finish. A polished aluminum trim molding shall be provided around each panel. The right side pump panel shall be removable and fastened with swell type fasteners.

PUMP HOUSE MODIFICATIONS, NOTCHES

Due to the chassis cab and engine combination, the exhaust emissions equipment extends rearward of the back of the right side of the cab. Additionally, the fuel and DEF tank sizes and positions cause the components to extend rearward of the back of the cab on the left side. In order to maintain a reasonable gap between the back of the cab and the pump module, there shall be a notch in the right and left side lower front area of the module. These notches shall reduce the cab/pump module gap to a reasonable size.

PUMP COMPARTMENT LIGHT

A pump compartment light shall be provided inside the right side pump enclosure and accessible through a door on the pump panel. A .125" weep hole shall be provided in each light lens, preventing moisture retention. 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

THROTTLE READY GREEN INDICATOR LIGHT

There shall be a green indicator light integrated with the pressure governor and/or engine throttle installed on the pump operator's panel that is activated when the pump is in throttle ready mode.

OK TO PUMP INDICATOR LIGHT

There shall be a green indicator light installed on the pump operator's panel that is activated when the pump is in Ok to Pump mode.

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 4.00" in diameter and shall have white faces with black lettering, with a pressure range of 30.00"-0-600#. Gauge construction shall include a nylon case with adhesive mounting gasket and threaded retaining nut. 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 non-corrosive polished stainless steel or brass plugs. They shall be marked with a label. This gauge shall include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

PRESSURE GAUGES

The individual "line" pressure gauges for the discharges shall be inter-lube filled and manufactured by Class 1©. They shall be a minimum of 2.00" in diameter and shall have white faces with black lettering. Gauge construction shall include a nylon case with adhesive mounting gasket and threaded retaining nut. Gauges shall have a pressure range of 30"-0-400#. The individual pressure gauge shall be installed as close to the outlet control as practical. This gauge shall include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

WATER LEVEL GAUGE

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:

- 100 percent = Green
- 75 percent = Yellow
- 50 percent = Yellow
- 25 percent = Yellow
- Refill = Red

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. The level measurement shall be based on the sensing of head pressure of the fluid in the tank. 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.

STEP/LIGHT SHIELD

There shall be an aluminum tread plate stepping surface no less than 8.00" deep and properly reinforced to support a man's weight, installed over the pump operator's panel.

- There shall be 12 volt DC white LED lights installed under the step 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 applied. This is to afford the operator some illumination when first approaching the control panel.
- There shall be one (1) white LED, step light provided above this step. In order to ensure exceptional illumination, each step 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 step light shall be activated by the pump panel light switch.

AIR HORN SYSTEM

Two (2) Grover air horns shall be provided and located one (1) each side of the engine. 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 the loss of air, in the air brake system.

AIR HORN(s) LOCATION

The air horn(s) location shall be on the side of the engine hood.

AIR HORN CONTROL

One (1) lanyard chain pull control shall be provided. It shall be centered between the driver's and officer's seats. The chain shall split so that there is a separate chain accessible for both the driver and officer.

ELECTRONIC SIREN

A Whelen, Model: 295HFSC9, 200 watt, dual tone 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 near the overhead switches.

SIREN CONTROL

The electronic siren shall be controllable on the siren head and horn ring only. No foot switches shall be required. The driver shall have the option to control the siren or the chassis horns from the horn button by means of a selector switch located on the instrument panel.

SPEAKER

There shall be two (2) speakers provided. Each speaker shall be a Whelen®, Model SP123BM, 100-watt, flange mount speaker. Each speaker shall be connected to the siren amplifier. There shall be one (1) speaker recessed in the passenger's side and one (1) speaker recessed in the driver's side of the front bumper.

AUXILIARY MECHANICAL SIREN

A Federal Q2B® siren shall be furnished. The control solenoid shall be powered up after the emergency master switch is activated. The mechanical siren shall be mounted on the bumper deck plate. It shall be mounted on the left side. The siren mounting shall include a reinforcement plate. The mechanical siren shall be actuated by two (2) foot switches, one (1) located on the officer's side and one (1) on the driver's side. A momentary red switch shall be included in the right side overhead switch panel to activate the siren brake.

FRONT ZONE UPPER WARNING LIGHTS

There shall be a 72.00" Whelen® Rota-Beam™ lightbar mounted on the cab roof.
The lightbar shall include the following:

- One (1) red flashing in a rotating pattern LED module in the driver's side rear corner position.
- Open in the driver's side end position.
- One (1) red flashing in a rotating pattern LED module in the driver's side front corner position.
- One (1) blue flashing in a rotating pattern LED module in the driver's side first front position.
- One (1) red flashing in a rotating pattern LED module in the driver's side second front position.
- Open in the driver's side third position.
- One (1) white LED scene module in the driver's side forth position.
- One (1) white LED scene module in the passenger's side forth position.
- Open in the passenger's side third position.
- One (1) red flashing in a rotating pattern LED module in the passenger's side second front position.
- One (1) blue flashing in a rotating pattern LED module in the passenger's side first front position.
- One (1) red flashing in a rotating pattern LED module in the passenger's side front corner position.
- Open in the passenger's side end position
- One (1) red flashing in a rotating pattern LED module in the passenger's side rear corner position

There shall be clear lenses included on the lightbar. There shall be a switch in the cab on the switch panel to control the lightbar. There shall be a switch in the cab on the switch panel to control the forward facing take down lights. The red flashing LED modules in the front positions may be load managed when the parking brake is applied.

FRONT WARNING LIGHT

There shall be two (2) Whelen, Model M6** LED flashing lights provided at the front of the truck.

- The driver's side front warning light to be red.
- The passenger's side front warning light to be blue.
- The color of the lenses shall be clear.
- The lights shall be mounted with a flange.
- The lights shall be activated by a switch on the cab instrument panel.

SIDE ZONE LOWER LIGHTING

There shall be six (6) Whelen®, Model M6*C, flashing LED warning lights with chrome trim installed per the following:

- Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red.
- Two (2) lights, one (1) each side on the pump panel. The side middle lights to be red.
- Two (2) lights, one (1) each side above rear wheels. The side rear lights to be red.
- The lights shall include clear lenses.
- There shall be a switch in the cab on the switch panel to control the lights.

REAR ZONE LOWER LIGHTING

There shall be two (2) Whelen, Model M6*C, LED flashing warning lights located at the rear of the apparatus.

- The driver's side rear light to be blue
- The passenger's side rear light to be red

Both lights shall include a lens that is clear. There shall be a switch located in the cab on the switch panel to control the lights.

REAR OF HOSE BED WARNING LIGHTS

There shall be two (2) Whelen Rota-Beam, Model R316RF, 4.00" high x 7.19" wide beacons with red LED's and clear domes provided.

- One (1) shall be installed on the driver's side rear of the apparatus.
- One (1) shall be installed on the passenger's side rear of the apparatus.

There shall be a switch located in the cab on the switch panel to control the beacons. The rear warning lights shall be mounted on stainless steel brackets with all wiring totally enclosed. These brackets shall also support the rear deck lights and clearance/marker lights.

TRAFFIC DIRECTING LIGHT

There shall be one (1) Whelen® Model TAL85 46.87" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus. The lens color shall be the same color as the LED's. The control head shall be included with this installation. The control head shall be energized when the battery switch is on. The auxiliary flash not activated. This traffic directing light shall be recessed at the rear of the apparatus as high as practical.
The traffic directing light controller shall be located inside the cab within easy reach of the driver.

LOOSE EQUIPMENT

The following equipment shall be furnished with the completed unit:

- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.

NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT

The following loose equipment as outlined in NFPA 1901, 2016 edition, section 7.9.3.1, 7.9.3.2, and 7.9.4 shall be provided by the fire department.

- 200 ft (60 m) of 2.50" (65 mm) or larger fire hose
- 100 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose (if equipped with a fire pump)
- One (1) handline nozzle, 95 gpm (360 L/min) minimum (if equipped with a fire pump)
- One (1) first aid kit
- Two (2) combination spanner wrenches
- One (1) hydrant wrench

- One (1) double female adapter, sized to fit 2.50" (65 mm) or larger fire hose
- One (1) double male adapter, sized to fit 2.50" (65 mm) or larger fire hose
- One (1) rubber mallet, for use on suction hose connections (if equipped with a fire pump)
- One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, *Standard for High Visibility Public Safety Vests*, and have a five-point breakaway feature that includes two at the shoulders, two at the sides, and one 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).
- 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 equipped with pump).
- 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.
- 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 PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 7.8.2.1 requires a minimum of 20' of suction hose or 15' of supply hose. Hose is not on the apparatus as manufactured. The fire department shall provide suction or supply hose.
- One (1)-6.00" National Standard hose thread barrel strainer, chrome plated

AXE(S)

There shall be a total of One (1) axe provided. Axe shall be a flathead axe with a fiberglass handle and blade shield.

DRY CHEMICAL EXTINGUISHER

There shall be One (1) extinguisher, 20 lb. dry chemical extinguisher with an 80-B:C rating provided.

WATER EXTINGUISHER

One (1) extinguisher, 2.50 gallon pressurized water, shall be provided.

PAINT PROCESS

The exterior custom cab and/or body painting procedure shall consist of a seven (7) step finishing process. A commercial chassis paint process shall follow similar processes as determined by the chassis manufacturer. The following procedure shall be used by the apparatus manufacturer:

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 tread plate.
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 three (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. Surface Primer - The Surface Primer shall be applied to a chemically treated metal surface to provide a strong corrosion protective base coat. A minimum thickness of 2 mils of Surface Primer is applied to surfaces that require a critical aesthetic finish. The surface primer shall be a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.
4. Finish Sanding - The surface 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 base coat in all areas that have not been previously primed with the surface primer. The sealer primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when top coated.
6. Base Coat Paint - Two coats of a high performance, two component high solids polyurethane base coat shall be applied. The Base coat shall be applied to a thickness that shall achieve the proper color match. The Base coat 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 base coat color. The clear coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style doors shall be clear coated to match the body. Paint warranty for the roll-up doors shall be provided by the roll-up door manufacturer.

Specifications are written to define cyclic corrosion testing, physical strengths, durability and minimum appearance requirements must be met in order for an exterior paint finish to be considered acceptable as a quality finish. Each batch of base coat 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 is 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 are used to determine the color match.

A Delta E reading shall be used to determine a good color match within each family color. 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.

ENVIRONMENTAL IMPACT

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:

- 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 percent 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 percent. Water wash systems shall be 99.97 percent efficient.
- Water from water wash booths shall be reused. Solids shall be removed on a continual basis to keep the water clean.
- Paint wastes shall be disposed of in an environmentally safe manner.
- Empty metal paint containers shall be recycled 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.

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 the state EPA rules and regulations.

PAINT

The chassis shall be painted by the chassis manufacturer, and shall remain the commercial grade finish as provided. To ensure a good color match between the body and chassis, the apparatus manufacturer and chassis manufacturer shall have a mutually preapproved paint color program. The apparatus shall be painted candy apple red.

COMMERCIAL CHASSIS PAINT

The chassis shall be painted by the chassis manufacturer. It shall remain the color and commercial quality finish as provided. The primary color shall be candy apple red.

TWO-TONE CAB

The cab shall be painted two-tone by the apparatus manufacturer. The top portion of the cab from the bottom of the windshield up shall be painted to match #10 white or approved equal.

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly shall be painted black by the chassis manufacturer. It shall remain the commercial grade finish as provided.

COMPARTMENT LINING

There shall be six (6) interior body compartment floors, walls, and ceiling that shall be lined with a spray on textured polyurethane material. The interior lining shall be dark grey in color. The compartments to be coated are all body compartments.

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.

REFLECTIVE VINYL ON FRONT BUMPER

There shall be a reflective vinyl band provided across the front bumper.

REAR CHEVRON STRIPING

There shall be alternating chevron striping located on the rear-facing vertical surface of the apparatus. 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.

REFLECTIVE STRIPE, CAB DOORS

A white reflective stripe shall be provided on the interior of each cab door. This stripe shall be a minimum of 96.00 square inches and shall meet the NFPA 1901 requirement.

LETTERING

There shall be reflective lettering, 4.00" high, with outline and shade provided. There shall be 45 letters provided.

LETTERING

There shall be reflective lettering, 18.00" high, with outline provided. There shall be four (4) letters provided.

PAINTED PLATE(S) FOR LETTERING/NUMERALS

There shall be two (2) painted aluminum plate(s) provided for department lettering. They shall be mounted high centered one (1) each side of body and shall be large enough for lettering in size.

EMBLEM/S

There shall be two (2) reflective emblem/s, installed Cab doors, each side. Emblem/s shall be modeled after the department patch.

MANUAL, BODY PARTS ONLY

A custom parts manuals for the factory installed parts only shall be provided in USB flash drive format with the completed unit. The manual 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 manual shall be specifically written for the body model being purchased. It shall not be a generic manual for a multitude of different bodies.

SERVICE PARTS INTERNET SITE

The service parts information included in this manual 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.

MANUALS, SERVICE

Two (2) service manual supplements containing parts and service information on factory installed components shall be provided with the completed unit. The manual shall be specifically written for the unit being purchased. It shall not be a generic manual for a multitude of different units.

MANUAL, CHASSIS OPERATION

One (1) chassis operation (manufacturer's standard) shall be provided with the completed unit.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

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

CHASSIS WARRANTY

The chassis manufacturer shall provide a **three (3) year or 100,000 mile warranty.**

PAINT WARRANTY

The commercial chassis manufacturer's paint warranty shall apply to the paint on the chassis only.

CAMERA SYSTEM WARRANTY

A 54 month warranty shall be provided for the camera system**.**

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 to be provided by Allison Transmission and not apparatus builder.

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).

FIVE (5) YEAR STRUCTURAL INTEGRITY

Each new piece of apparatus shall be provided with a five (5) 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).

ROLLUP DOOR MATERIAL AND WORKMANSHIP WARRANTY

A R-O-M Corporation rollup door limited warranty shall be provided. The mechanical components of the rollup door shall be warranted against defects in material and workmanship for a period of seven (7) years. The door ajar switch shall be warranted for a period of three (3) years and all other electrical components shall be warranted for a period of one (1) year. A seven (7) year limited warranty shall be provided on painted rollup doors. A copy of the warranty certificate shall be submitted with the bid package.

PUMP WARRANTY

The Waterous pump shall be provided with a Seven (7) 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).

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).

ONE (1) YEAR MATERIAL AND WORKMANSHIP

The graphic lamination shall be provided with a one (1) year material and workmanship limited warranty. The warranty shall cover the graphic lamination as being free from defects in material, workmanship, fading, and deterioration 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.

CAB INTEGRITY

The cab has been tested to and passed the following standards:
- ECE Regulation No.29
- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.

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).** **VECHILE MUST BE DELIVERED BY 12-31-2021**		

VI. **Sedgwick County's Responsibilities**

- Provide information, as legally allowed, in possession of the county, which relates to the county's requirements or which is relevant to this project.
- Designate a person to act as the County Contract Manager with respect to the work to be performed under this contract.
- County reserves the right to make inspections at various points of the project. Contractor agrees to openly participate in said inspections and provide information to the county on the progress, expected completion date and any unforeseen or unexpected complications in the project.

VII. Proposal Terms

A. Questions and Contact Information

Any questions regarding this document must be submitted in writing to Britt Rosencutter at britt.rosencutter@sedgwick.gov by 5:00 pm CST, Tuesday, December 15, 2020. Any questions of a substantive nature will be answered in written form as an addendum and posted on the purchasing website at https://www.sedgwickcounty.org/finance/purchasing/requests-for-bid-and-proposal/ under the Documents column associated with this RFP number by 5:00 pm CST, Friday, December 18, 2020. Firms are responsible for checking the website and acknowledging any addenda on their proposal response form.

B. Minimum Firm Qualifications

This section lists the criteria to be considered in evaluating the ability of firms interested in providing the service(s) and/or product(s) specified in this Request for Proposal. Firms must meet or exceed theses qualifications to be considered for award. Any exceptions to the requirements listed should be clearly detailed in proposer's response. Proposers shall:

1. Have a minimum of 20 years' experience in providing services similar to those specified in this RFP.
2. Have an understanding of industry standards and best practices.
3. Have experience in managing projects of comparable size and complexity to that being proposed.
4. Have knowledge of and comply with all currently applicable, and as they become enacted during the contract term, federal, state and local laws, statutes, ordinances, rules and regulations. All laws of the State of Kansas, whether substantive or procedural, shall apply to the contract, and all statutory, charter, and ordinance provisions that are applicable to public contracts in the county shall be followed with respect to the contract.
5. Municipal and county government experience is desired, however, the county will make the final determination based on responses received and the evaluation process.
6. Have the capacity to acquire all bonds, escrows or insurances as outlined in the terms of this RFP.
7. Provide project supervision (as required) and quality control procedures.
8. Have appropriate material, equipment and labor to perform specified services.
9. Park only in designated areas and display parking permit (if provided).
10. Wear company uniform or ID badge for identification purposes.

C. Evaluation Criteria

The selection process will be based on the responses to this RFP. County staff will judge each response as determined by the scoring criteria below. Purchasing staff are not a part of the evaluation committee.

Component	Points
A. Responsiveness to specification	40
B. Cost	5
C. Service and Technical Support	20
D. Replacement Parts Availability	20
E. Delivery Timeframe	15
Total Possible Points	100

Assume the following cost proposals **(examples only)**

A. $50,000.00
B. $38,000.00
C. $49,000.00

Company B with a total price of $38,000.00 is the low offer. Take the low offer and divide each of the other offers into the low offer to calculate a percentage. This percentage is then multiplied by the number of points available for the cost. In this case, 10 points are allocated to cost.

A.	$38,000.00 divided by $50,000.00 =.76	.76*10	7.6 points
B.	$38,000.00 divided by $38,000.00 =1.00	1.00*10	10 points
C.	$38,000.00 divided by $49,000.00= .77	.77*10	7.7 points

Any final negotiations for services, terms and conditions will be based, in part, on the firm's method of providing the service and the fee schedule achieved through discussions and agreement with the county's review committee. The county is under no obligation to accept the lowest priced proposal and reserves the right to further negotiate services and costs that are proposed. The county also reserves the sole right to recommend for award the proposal and plan that it deems to be in its best interest.

The county reserves the right to reject all proposals. All proposals, including supporting documentation shall become the property of Sedgwick County. All costs incurred in the preparation of this proposal shall be the responsibility of the firm making the proposals. Sedgwick County reserves the right to select, and subsequently recommend for award, the proposed service which best meets its required needs, quality levels and budget constraints.

D. Request for Proposal Timeline

The following dates are provided for information purposes and are subject to change without notice. Contact the Purchasing Section at (316) 660-7255 to confirm any and all dates**.**

Distribution of Request for Proposal to interested parties	**Monday, December 7, 2020**
Pre-Proposal conference call (not mandatory) 2:00 p.m. CST	**Thursday, December 10, 2020**
Questions and clarifications submitted in writing by 5:00 pm CST	**Tuesday, December 15, 2020**
Addendum Issued by 5:00 pm CST	**Friday, December 18, 2020**
Sealed Proposal due before 1:45 pm CST	**Tuesday, December 29, 2020**
Evaluation Period	**December 29 through January 8, 2020**
Board of Bids and Contracts Recommendation	**Thursday, January 14, 2020**
Board of County Commission Award	**Wednesday, January 20, 2020**

E. Contract Period and Payment Terms

A contractual period will begin following Board of County Commissioners (BoCC) approval of the successful firm and continue through the duration of the assembly of the apparatus.

Either party may cancel its obligations herein upon thirty-day (30) prior written notice to the other party. It is understood that funding may cease or be reduced at any time, and in the event that adequate funds are not available to meet the obligations hereunder, either party reserves the right to terminate this agreement upon thirty (30) days prior written notice to the other. Payment will be remitted following receipt of monthly detailed invoice.

Payment and Invoice Provisions
https://www.sedgwickcounty.org/media/39239/payment_and_invoice_provisions.pdf

F. Insurance Requirements

Liability insurance coverage indicated below must be considered as primary and not as excess insurance. If required, contractor's professional liability/errors and omissions insurance shall (i) have a policy retroactive date prior to the date any professional services are provided for this project, and (ii) be maintained for a minimum of 3 years past completion of the project. Contractor shall furnish a certificate evidencing such coverage, with county listed as an additional insured including both ongoing and completed operations, except for professional liability, workers' compensation and employer's liability. **Certificate shall be provided prior to award of contract.** Certificate shall remain in force during the duration of the project/services and will not be canceled, reduced, modified, limited, or restricted until thirty (30) days after county receives written notice of such change. All insurance must be with an insurance company with a minimum BEST rating of A-VIII and licensed to do business in the State of Kansas **(must be acknowledged on the bid/proposal response form).**

NOTE: If any insurance is subject to a deductible or self-insured retention, written disclosure must be included in your proposal response and also be noted on the certificate of insurance.

It is the responsibility of contractor to require that any and all approved subcontractors meet the minimum insurance requirements.

Workers' Compensation:	
Applicable coverage per State Statutes	
Employer's Liability Insurance:	$500,000.00
Commercial General Liability Insurance (on form CG 00 01 04 13 or its equivalent):	
Each Occurrence	$1,000,000.00
General Aggregate, per project	$2,000,000.00
Personal Injury	$1,000,000.00
Products and Completed Operations Aggregate	$2,000,000.00
Automobile Liability:	
Combined single limit	$1,000,000.00
Umbrella Liability: Following form for both the general liability and automobile **_X__ Required / ____ Not Required** Each Claim Aggregate	 $25,000,000.00 $25,000,000.00
Professional Liability/ Errors & Omissions Insurance: **____ Required / __X__ Not Required** Each Claim Aggregate	 $1,000,000.00 $1,000,000.00
Pollution Liability Insurance: **____ Required / __X__ Not Required** Each Claim Aggregate	 $1,000,000.00 $1,000,000.00

Special Risks or Circumstances:

Entity reserves the right to modify, by written contract, these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

G. Indemnification

To the fullest extent of the law, the provider, its subcontractor, agents, servants, officers or employees shall indemnify and hold harmless Sedgwick County, including, but not limited to, its elected and appointed officials, officers, employees and agents, from any and all claims brought by any person or entity whatsoever, arising from any act, error, or omission of the provider during the provider's performance of the agreement or any other agreements of the provider entered into by reason thereof. The provider shall indemnify and defend Sedgwick County, including, but not limited to, its elected and appointed officials, officers, employees and agents, with respect to any claim arising, or alleged to have arisen from negligence, and/or willful, wanton or reckless acts or omissions of the provider, its subcontractor, agents, servants, officers, or employees and any and all losses or liabilities resulting from any such claims, including, but not limited to, damage awards, costs and reasonable attorney's fees. This indemnification shall not be affected by any other portions of the agreement relating to insurance requirements. The provider agrees that it will procure and keep in force at all times at its own expense insurance in accordance with these specifications.

H. Confidential Matters and Data Ownership

The successful proposer agrees all data, records and information, which the proposer, its agents and employees, which is the subject of this proposal, obtain access, remains at all times exclusively the property of Sedgwick County. The successful proposer agrees all such data, records, plans and information constitutes at all times proprietary information of Sedgwick County. The successful proposer agrees that it will not disclose, provide, or make available any of such proprietary information in any form to any person or entity. In addition, the successful proposer agrees it will not use any names or addresses contained in such data, records, plans and information for the purpose of selling or offering for sale any property or service to any person or entity who resides at any address in such data. In addition, the successful proposer agrees it will not sell, give or otherwise make available to any person or entity any names or addresses contained in or derived from such data, records and information for the purpose of allowing such person to sell or offer for sale any property or service to any person or entity named in such data. Successful proposer agrees it will take all reasonable steps and the same protective precautions to protect Sedgwick County's proprietary information from disclosure to third parties as with successful proposer's own proprietary and confidential information. Proposer agrees that all data, regardless of form that is generated as a result of this Request for Proposal is the property of Sedgwick County.

I. Proposal Conditions

https://www.sedgwickcounty.org/media/31338/proposal-terms-conditions.pdf

General Contract Provisions

https://www.sedgwickcounty.org/media/31337/general-contractual-provisions.pdf

Mandatory Contract Provisions

https://www.sedgwickcounty.org/media/31336/mandatory-contractual-provisions.pdf

Independent Contractor

https://www.sedgwickcounty.org/media/54780/independent-contractor-addendum.pdf

Sample Contract

https://www.sedgwickcounty.org/media/39236/sample-contract.pdf

VIII. Required Response Content

All proposal submissions shall include the following:

1. Firm profile: the name of the firm, address, telephone number(s), contact person, year the firm was established, and the names of the principals of the firm.
2. The names of the staff members who will be available for work on the contract, including a listing of their work experience.
3. The firm's relevant experience, notably experience working with government agencies.
4. At minimum, three (3) professional references, besides Sedgwick County, with email addresses, telephone numbers, and contact persons where work has been completed within the last three years.
5. A disclosure of any personal or financial interest in any properties in the project area, or any real or potential conflicts of interest with members of the Sedgwick County Board of County Commissioners or county staff.
6. A description of the type of assistance that will be sought from county staff, including assistance required from the county to lessen the costs of this project.
7. Proof of insurance meeting minimum insurance requirements as designated herein.
8. Those responses that do not include all required forms/items may be deemed non-responsive.

IX. Response Form

REQUEST FOR PROPOSAL
RFP #20-0060
TENDER TRUCK

The undersigned, on behalf of the proposer, certifies that: (1) this offer is made without previous understanding, agreement or connection with any person, firm, or corporation submitting a proposal on the same project; (2) is in all respects fair and without collusion or fraud; (3) the person whose signature appears below is legally empowered to bind the firm in whose name the proposer is entered; (4) they have read the complete Request for Proposal and understands all provisions; (5) if accepted by the county, this proposal is guaranteed as written and amended and will be implemented as stated; and (6) mistakes in writing of the submitted proposal will be their responsibility.

NAME _____

DBA/SAME _____

CONTACT_____

ADDRESS_____ **CITY/STATE**_____ **ZIP**_____

PHONE_____ **FAX**_____ **HOURS**_____

STATE OF INCORPORATION or ORGANIZATION _____

WEBSITE ADDRESS_____ **EMAIL**_____

NUMBER OF LOCATIONS_____ **NUMBER OF PERSONS EMPLOYED**_____

TYPE OF ORGANIZATION: Public Corporation _____ Private Corporation_____ Sole Proprietorship _____

Partnership_____ Other (Describe): _____

BUSINESS MODEL: Small Business _____ Manufacturer _____ Distributor _____ Retail _____

Dealer _____ Other (Describe): _____

Not a Minority-Owned Business: _____ **Minority-Owned Business:** _____ **(Specify Below)**

____African American (05) _____ Asian Pacific (10) _____ Subcontinent Asian (15) _____ Hispanic (20)

____Native American (25) _____ Other (30) - Please specify_____

Not a Woman-Owned Business: _____ **Woman-Owned Business:** _____ **(Specify Below)**

_____Not Minority -Woman Owned (50) _____ African American-Woman Owned (55) _____Asian Pacific-Woman Owned (60)

_____ Subcontinent Asian-Woman Owned (65) _____Hispanic Woman Owned (70) _____Native American-Woman Owned (75)

_____Other – Woman Owned (80) – Please specify_____

ARE YOU REGISTERED TO DO BUSINESS IN THE STATE OF KS: _____Yes _____ No

INSURANCE REGISTERED IN THE STATE OF KS WITH MINIMUM BEST RATING OF A-VIII: _____Yes _____No

ACKNOWLEDGE RECEIPT OF ADDENDA: All addendum(s) are posted to our RFQ/RFP web page and it is the vendor's responsibility to check and confirm all addendum(s) related to this document by going to www.sedgwickcounty.org/finance/purchasing.asp .

NO._____, DATED _____; NO._____, DATED_____; NO._____, DATED_____

In submitting a proposal, vendor acknowledges all requirements, terms, conditions, and sections of this document. Proposal submission format should be by order in which sections are listed throughout the document. All minimum and general requirements should be specifically addressed and detailed in proposer's response. **Exceptions to any part of this document should be clearly delineated and detailed**.

Signature_____ Title_____

Print Name_____ Dated _____