KME Panther Custom Pumper
Yakima County Fire District 1

DESIGN CLAUSE

QTY: 1

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

FAIR ETHICAL & LEGAL COMPETITION

QTY: 1

In order to ensure fair, ethical, and legal competition, neither original equipment manufacturer (OEM) nor parent company of the OEM shall have ever been fined or convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

MATERIAL & WORKMANSHIP

QTY: 1

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

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

CONTRACT ADMINISTRATOR

QTY: 1

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

APPROVAL DRAWING

QTY: 1

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

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

DELIVERY

QTY: 1

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

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

VEHICLE FLUID PLATE

QTY: 1

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

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

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

FAMA MEMBERSHIP

QTY: 1

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

MANUFACTURED IN UNITED STATES

QTY: 1

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

AMP DRAW REPORT

QTY: 1

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

A written load analysis, which shall include the following:

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

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

COOPERATIVE PURCHASING

QTY: 1

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

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

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

VEHICLE DATA PLATE DESCRIPTION

QTY: 1

The following safety signs shall be provided in the cab:

- A label displaying the maximum number of personnel the vehicle is designed to carry shall be visible to the driver.
- "Occupants will be seated and belted when apparatus is in motion" signs shall be visible from each seat.
- "Do Not Move Apparatus When Light Is On" sign adjacent to the warning light indicating a hazard if the apparatus is moved (as described in subsequent section).
- A label displaying the height, length, and GVWR of the vehicle shall be visible to driver.
- This label shall indicate that the fire department will revise the dimension if vehicle height changes while vehicle is in service.

The following information shall be on labels affixed to the vehicle:

Fluid Data

- Engine Oil
- Engine Coolant
- Chassis Transmission Fluid
- Pump Transmission Lubrication Fluid
- Pump Primer Fluid (if applicable)
- Drive Axle(s) Lubrication Fluid
- Air Conditioning Refrigerant
- Air Conditioning Lubrication Oil

TOP OF THE LINE CHASSIS - MULTIPLEX

QTY: 1

Bidders shall propose a custom-built chassis, which is "Top of the Line" and includes an integrated multiplexed electrical system.

PRECONSTRUCTION CONFERENCE

QTY: 1

The pre-construction conference will be conducted virtually at Highland Fire Department.

INSPECTION TRIPS (1)

QTY: 1

The successful bidder shall provide two (2) factory inspection trips to the apparatus manufacturer's facility.

Transportation, meals, lodging, and other requisite expenses shall be the bidder's responsibility.

ACCOMMODATIONS FOR THREE (3)

QTY: 1

Accommodations shall be for three (3) Fire Department representatives per trip.

The factory visits shall occur at the following stages of production of the apparatus:

TRIP ONE (1) AT FINAL COMPLETION

QTY: 1

Final inspection upon completion.

AIR TRANSPORTATION

QTY: 1

Travel arrangements shall be via commercial airline transportation.

The Highland Fire Department maintains the right to inspect the apparatus, within normal business hours, at any other point during construction.

Expenses incurred during non-specified inspection visits shall be the responsibility of the Highland Fire Department.

During inspection visits, the Highland Fire Department reserves the right to conduct actual performance tests to evaluate completed portions of the unit.

Testing shall be accomplished with the assistance and resources of the contractor.

COMPLETION INFORMATION

QTY: 1

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

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

If the apparatus has a fire pump or an industrial supply pump, the pump manufacturer's certification of

FMVSS REQUIREMENT

QTY: 1

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

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

RECORDS

QTY: 1

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

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

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

The Highland Fire Department shall have access to any and all documents contained in this file upon official written request.

GENERAL CONSTRUCTION

QTY: 1

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

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

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

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

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

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

PAINT CERTIFICATION

QTY: 1

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

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

PRICES & PAYMENTS

QTY: 1

The bid price will be F.O.B. Destination, on a delivered and accepted basis at the Fire Department. Total price on Cascade Fire & Safety proposal sheet will include all items listed in these specifications.

Cascade Fire & Safety has computed pricing less federal and state taxes. It is understood that any applicable taxes will be added to the proposed prices, unless the purchaser furnishes appropriate tax-exempt forms.

INSTRUCTION MANUALS - TWO (2) SETS - USB

QTY: 1

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

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

The manual shall contain the following:

- Descriptions, specifications, and ratings of chassis, pump (if applicable), and aerial device
- Wiring diagrams
- Lubrication charts
- Operating instructions for the chassis, any major components such as a pump and any auxiliary systems
- Instructions regarding the frequency and procedures recommended for maintenance
- Parts replacement information

VEHICLE TRANSPORTATION

QTY: 1

Transportation of the completed vehicle from the final manufacturing facility to the end user shall be provided.

GENERAL INFORMATION - NFPA 1901

QTY: 1

The proposed apparatus will be constructed to withstand the severe and continuous use encountered during emergency firefighting services. The apparatus will be of the latest type, carefully designed and constructed with due consideration to the nature and distribution of the load to be sustained.

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

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

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

NFPA TREADPLATE CERTIFICATION

QTY: 1

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

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

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

VERTICAL TREAD PLATE - NON-EMBOSSED

QTY: 1

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

To include but not limited to:

- Rear of cab overlay
- Rear body overlay
- Front of body overlay
- Front pump house panel
- Custom cab step well
- Fender overlay
- Fender compartment doors
- Interior cab trim
- Upper body walkway walls
- Rescue body interior (walk-In/walk through)

"PUMPER FIRE APPARATUS" NFPA 2016 CHAPTERS

QTY: 1

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

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

NFPA "CHAPTER 20" FOAM SYSTEM REQUIREMENTS

QTY: 1

Chapter 20 Foam Proportioning Systems

SAFETY SIGNS (NFPA REQUIRED)

QTY: 1

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

THIRD PARTY TESTING

QTY: 1

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

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

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

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

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

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

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

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

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

PANTHER MFD

QTY: 1

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

MODEL YEAR

The chassis shall have a vehicle identification number that reflects a 2024 model year.

COUNTRY OF SERVICE

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

The chassis will meet applicable U.S.A. federal motor vehicle safety standards per CFR Title 49 Chapter V Part 571 as clarified in the incomplete vehicle book per CFR Title 49 Chapter V Part 568 Section 4 which accompanies each chassis. The chassis manufacturer is not responsible for compliance to state, regional, or local regulations. Dealers should identify those regulations and order any necessary optional equipment from the chassis manufacturer, or their OEM needed to be in compliance with those regulations.

CAB AND CHASSIS LABELING LANGUAGE

The cab and chassis shall include the applicable caution, warning, and safety notice labels with text to be written in English. All applicable caution, warning, and safety notice labels shall be Innovative Controls brand. Where applicable to the location within the specific layout and label package of the cab and chassis, the labels shall include decorative chrome bezels. Designs shall include bezels that fit individual labels or packaged configurations of labels in certain common locations.

The following labels shall be Innovative Controls brand, each including a decorative chrome bezel (where applicable):

- Shoreline
- Aerial Stowed
- Aerial Breakers 2
- Air Conditioner
- Cab Tilt Plate

FUEL POCKET

QTY: 1

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

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

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

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

12 VOLT ELECTRICAL SYSTEM TESTING

QTY: 1

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

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

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

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

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

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

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

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

- Documentation of the electrical system performance test
- A written load analysis of the following;

DIRECT BATTERY GROUNDING STRAP

QTY: 1

Direct grounding straps shall be mounted to the following areas; frame to cab, frame to body and frame to pump enclosure.

All exposed electrical connections shall be coated with "Z-Guard 8000" to prevent corrosion.

BATTERY CHARGER/INVERTER

QTY: 1

The chassis shall be equipped with a Kussmaul Auto Power AP1500, 091-263-12-1500, fully automatic battery inverter/charger.

The unit shall contain a 55 amp, fully automatic battery charger to re-charge and maintain the chassis batteries when the shoreline connection has been made.

The unit shall also contain a built-in inverter capable of providing 1,500 watts of continuous AC power and a 4,500 watt surge capacity.

The unit shall have a built-in transfer switch capable of diverting AC power to AC loads during shoreline connection.

NEMA 5-20 DUPLEX RECEPTACLE L1 & R1

QTY: 1

Two (2) 120 volt, NEMA 5-20, 20-amp, duplex straight blade receptacles with a grey thermoplastic, corrosion resistant, weatherproof cover shall be installed on the forward wall of compartment L1 and R1.

The receptacles shall be wired to the transfer switch and be powered by the shoreline and the inverter.

NEMA 5-20 DUPLEX RECEPTACLE L3 & R3

QTY: 1

Two (2) 120 volt, NEMA 5-20, 20-amp, duplex straight blade receptacles with a grey thermoplastic, corrosion resistant, weatherproof cover shall be installed on the forward wall of compartment L3 and R3.
The receptacles shall be wired to the transfer switch and be powered by the shoreline and the inverter.

HOSE BED WORK LIGHT - SWITCH

QTY: 1

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

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

CONTROL SWITCH IN CAB FOR REAR OF BODY LIGHTS

QTY: 1

Controls shall be provided in the cab control system (or optional mechanical switch) to turn the rear of body lights on and off.

CONTROL SWITCH ON PUMP PANEL FOR REAR OF BODY LIGHT

QTY: 1

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

CONTROL SWITCH IN CAB FOR DRIVER SIDE OF BODY LIGHT

QTY: 1

Controls shall be provided in the cab control system (or optional mechanical switch) to turn the driver side of body lights on and off.

CONTROL SWITCH ON PUMP PANEL FOR DRIVER SIDE OF BODY

QTY: 1

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

CONTROL SWITCH IN CAB FOR OFFICER SIDE OF BODY LIGHT

QTY: 1

Controls shall be provided in the cab control system (or optional mechanical switch) to turn the officer side of body lights on and off.

CONTROL SWITCH ON PUMP PANEL FOR OFFICER SIDE OF BODY

QTY: 1

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

NFPA COMPLIANT WARNING LIGHT PACKAGE

QTY: 1

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

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

WARNING LIGHT FLASH PATTERN - NFPA FLASH PATTERN

QTY: 1

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

LIGHT PACKAGE ACTUATION/CONTROLS

QTY: 1

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

LIGHT PACKAGE NFPA CERTIFICATION

QTY: 1

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

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

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

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

C-UPPER, WHELEN ROTABEAM SUPER LEDS

QTY: 1

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

UPPER ZONE C WARNING LIGHT LENS - RED

QTY: 1

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

UPPER ZONE C WARNING LIGHT BEZEL - CHROME

QTY: 1

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

B/D-UPPER FRONT, COVERED BY LIGHTS IN ZONE A-UPPER

QTY: 1

The lighting requirement for this area is covered by the lights noted in Zone "A" - Upper.

B/D-UPPER REAR, WHELEN C9 SUPER LEDS

QTY: 1

Two (2) Whelen, C9 super LED light heads shall be furnished and mounted one (1) on each side on the upper side face, towards the rear of the body, facing to each side of the unit.

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

UPPER ZONE B/D REAR WARNING LIGHT LENS - RED

QTY: 1

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

UPPER ZONE B/D REAR WARNING LIGHT BEZEL - CHROME

QTY: 1

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

C-LOWER REAR, WHELEN M6 SUPER LEDS

QTY: 1

Two (2) Whelen, M6, super LED light heads shall be provided and installed one (1) each side directly below the DOT stop, tail, turn and backup lights.

LOWER ZONE C WARNING LIGHT LENS - RED

QTY: 1

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

B/D-LOWER MID, WHELEN M6 SUPER LEDS

QTY: 1

Two (2) Whelen, M6 super LED light heads shall be provided and installed with one (1) on each side.

LOWER ZONE B/D MID WARNING LIGHT LENS - RED

QTY: 1

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

LOWER ZONE B/D MID WARNING LIGHT BEZEL - CHROME

QTY: 1

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

B/D-LOWER REAR, WHELEN M6 SUPER LEDS

QTY: 1

Two (2) Whelen M6 super LED light heads shall be provided and installed with one (1) on each side.

LOWER ZONE B/D REAR WARNING LIGHT LENS - RED

QTY: 1

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

LOWER ZONE B/D REAR WARNING LIGHT BEZEL - CHROME

QTY: 1

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

GROUND LIGHTS BELOW PUMP PANEL RUNNING BOARD

QTY: 1

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

GROUND LIGHTS REAR BODY CORNERS

QTY: 1

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

BODY ELECTRICAL SYSTEM

QTY: 1

All electrical lines in the body shall be protected by automatic circuit breakers, conveniently located to permit ease of service.

Flashers, heavy solenoids and other major electrical controls shall be located in a central area near the circuit breakers.

All lines shall be color and function coded every 3", easy to identify, oversized for the intended loads and installed in accordance with a detailed diagram.

A complete wiring diagram shall be supplied with the apparatus.

Wiring shall be carefully protected from weather elements and snagging. Heavy duty loom shall be used for the entire length.

Grommets shall be utilized where wiring passes through panels.

In order to minimize the risk of heat damage, wires run in the engine compartment area shall be carefully installed and suitably protected by the installation of heat resistant shielded loom.

All electrical equipment shall be installed to conform to the latest federal standards as outlined in NFPA 1901.

DUNNAGE AREA LIGHTING

QTY: 1

Two (2) stainless steel, TecNiq Eon 3-LED horizontal surface mounted lights shall be provided in the dunnage area to provide adequate illumination of this area.

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

COMPARTMENT LIGHT ACTIVATION

QTY: 1

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

COMPARTMENT LIGHTS

QTY: 7

Each individual equipment storage compartment shall be equipped with the AMDOR Luma Bar, LED light fixture, mounted on the forward (or rearward) vertical door frame.

MARKER/TURN LIGHTS @ EA SIDE OF BODY

QTY: 1

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

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

DOT MARKER LIGHTS AT REAR OF BODY

QTY: 1

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

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

DOT AMBER REFLECTORS AT SIDE OF BODY

QTY: 1

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

DOT RED REFLECTORS AT REAR OF BODY

QTY: 1

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

TECNIQ #L10 LED LICENSE PLATE LIGHT

QTY: 1

One (1) Tecniq model #L10 LED license plate light shall be provided above the mounting position of the license plate. The license plate shall be located on the driver's side rear of body.

The light shall be clear in color and shall have a chrome finish.

WHELEN M6 LED BRAKE, REVERSE, TURN W/ QUAD HOUSI

QTY: 1

Two (2) Whelen M6 series, 4-1/8" x 6-1/2", LED red combination tail and stop lights, shall be mounted one each side at the rear of the body.

Two (2) Whelen M6 series, 4-1/8" x 6-1/2", LED amber arrow turn signal lights, shall be mounted one each side, on a vertical plane with the tail/stop lights.

Two (2) Whelen M6 series, 4-1/8" x 6-1/2", LED white back-up lights, shall be mounted one each side on a vertical plane with the turn/tail/stop signals.

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

Two (2) Whelen PLASC4V mounting flanges, installed one (1) on each side, shall be provided to mount the lights described above in one common mounting flange.

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

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

BODY STEP LIGHTS, TECNIQ EON 3 LED, ALL DEVICES

QTY: 2

Polished, stainless steel, TecNiq Eon 3-LED, horizontal surface, mounted body step lights shall be provided and controlled with marker light actuation.

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

PUMP ENCLOSURE WORK LIGHTS - TECNIQ LED

QTY: 1

Two (2) Tecniq, model #E18 lights shall be provided inside the pump enclosure, providing 800 lumens each.

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

AMDOR LED STRIP HOSE BED LIGHT-FRONT HOSEBED WALL

QTY: 1

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

HIVIZ GUARDIAN JUNIOR SCENE LIGHTS ON REAR OF BODY

QTY: 1

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

Each light shall be 7.5 wide by 5 high by 1.5 deep, draw 3.33 amps, and produce 3,000 lumens.

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

HIVIZ GUARDIAN JUNIOR SCENE LIGHTS ON DS OF

QTY: 1

Two (2) Firetech Hiviz Guardian Junior FT-GSMJR, LED scene lights shall be provided.

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

Each light shall be 7.5 wide by 5 high by 1.5 deep, draw 3.33 amps, and produce 3,000 lumens.

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

HIVIZ GUARDIAN JUNIOR SCENE LIGHTS ON OS O

QTY: 1

Two (2) Firetech Hiviz Guardian Junior FT-GSMJR, LED scene lights shall be provided.

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

Each light shall be 7.5 wide by 5 high by 1.5 deep, draw 3.33 amps, and produce 3,000 lumens.

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

REAR SCENE LIGHTS TO BE ACTIVATED BY REVERSE LIGHT

QTY: 1

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

BREAKER PANEL

QTY: 1

The generator output line conductors shall be wired from the generator output connections to a Square D, model #QO816L100DS breaker panel.

The breaker panel shall be equipped with a properly sized main breaker, using two (2) of the eight (8) spaces which leaves a total of six (6) available spaces.

The generator output conductors shall be sized to 115% of the main breaker rating and shall be installed as indicated in the wiring section.

EIGHT (8) STANDARD BREAKERS

QTY: 1

Eight (8) appropriately sized, 120 volt, circuit breakers shall be provided.

HALE QMAX-175 1750 GPM SINGLE STAGE PUMP

QTY: 1

- HALE QMAX-175
- 1750 G.P.M.

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

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

The pump shall be of a size and design to mount on the chassis rails of commercial and custom truck chassis and have the capacity of 1750 gallons per minute (U.S. GPM), NFPA-1901 rated performance.

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

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

The pump shall have one double suction impeller. The pump body shall have two opposed discharge

PUMP RATIO

QTY: 1

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

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

PUMP MOUNTS - MID-SHIP PUMPS

QTY: 1

Extra heavy duty pump mounting brackets shall be furnished.

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

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

HALE MECHANICAL PUMP SEAL

QTY: 1

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

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

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

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

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

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

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

QTY: 1

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

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

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

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

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

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

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

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

PUMP SHIFT MANUAL OVERRIDE

QTY: 1

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

HALE PUMP SHIFT INDICATOR LIGHTS

QTY: 1

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

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

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

All lights to have appropriate identification/instruction plates.

HALE THERMAL RELIEF VALVE - LIGHT AND BUZZER

QTY: 1

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

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

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

AUXILIARY ENGINE COOLER

QTY: 1

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

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

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

FIRE RESEARCH "IN CONTROL" TGA-400

QTY: 1

The apparatus shall be equipped with a Fire Research InControl series TGA400 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 5 1/2" high by 10 1/2" wide by 2" deep. The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1 3/4" from the front of the control module. Inputs for monitored information shall be from a J1939 databus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring.

The following continuous displays shall be provided:

- Pump discharge; shown with four daylight bright LED digits more than 1/2" high.
- Pump Intake; shown with four daylight bright LED digits more than 1/2" high.
- Pressure / RPM setting; shown on a dot matrix message display.
- Pressure and RPM operating mode LEDs.
- Throttle ready LED.
- Engine RPM; shown with four daylight bright LED digits more than 1/2" high.
- Check engine and stop engine warning LEDs.
- Oil pressure; shown on a dual color (green/red) LED bar graph display.
- Engine coolant temperature; shown on a dual color (green/red) LED bar graph display.
- Transmission Temperature: shown on a dual color (green/red) LED bar graph display.
- Battery voltage; shown on a dual color (green/red) LED bar graph display.
- The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and nighttime operation.

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

TASK FORCE TIPS #A18 SERIES INTAKE RELIEF VALVE

QTY: 1

A Task Force Tips relief valve shall be provided.

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

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

TRIDENT "MANUAL" AIR PRIMING SYSTEM

QTY: 1

The priming pump will be a Trident air primer system.

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

ROTARY MASTER DRAIN VALVE

QTY: 1

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

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

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

DRAINS/BLEEDER "INNOVATIVE CONTROLS" LIFT UP

QTY: 1

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

One (1) individual "Innovative Control" lift up drain valve shall be furnished for each 1-1/2" or larger discharge port and each 2-1/2" gated auxiliary suction.

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

SYNFLEX SUCTION, DISCHARGE, PRESSURE AND CONTROL LINES

QTY: 1

Small lines within the pump enclosure shall be constructed from Synflex hose.

Uses include but are not limited to such lines as priming control, gauge lines, drain lines, air control valves, pump shift, supplemental cooling, foam flush, and air bleeder valves.

SUCTION INLETS - 6” INLETS

QTY: 1

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

A removable strainer shall be installed on each inlet.

SHORT NECK MAIN PUMP SUCTION INLETS

QTY: 1

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

BEHIND PANEL MOUNT

QTY: 1

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

6" NST INTAKE CAP - DS

QTY: 1

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

6" NST INTAKE CAP - OS

QTY: 1

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

2-1/2" DS AUX PRIMARY SUCTION INLET FORWARD

QTY: 1

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

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

2-1/2" AKRON #8800 S.S. BALL VALVE, DS FRONT AUX SUCTION

QTY: 1

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

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

DS AUX INTAKE CONTROL

QTY: 1

A locking swing control handle shall be provided on the top mount control panel for the driver side front auxiliary suction valve.

2-1/2" OS AUX SUCTION INLET FORWARD

QTY: 1

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

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

2-1/2" AKRON #8800 VALVE, OS FRONT AUX SUCTION

QTY: 1

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

SWING CONTROL AT VALVE, OS AUX SUCTION

QTY: 1

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

TANK TO PUMP

QTY: 1

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

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

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

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

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

QTY: 1

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

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

3" PUSH/PULL CONTROL FOR TANK TO PUMP

QTY: 1

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

TANK FILL LINE 2" FROM PUMP - SIDE MOUNT

QTY: 1

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

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

QTY: 1

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

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

TOP MOUNT SWING CONTROL FOR TANK FILL

QTY: 1

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

DS MAIN DISCHARGE #1

QTY: 1

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

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

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

2-1/2" AKRON #8800 SERIES - S.S. BALL, DS #1

QTY: 1

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

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

DS #1 DISCH - 2-1/2" STRAIGHT NST

QTY: 1

The discharge valve shall be equipped with a straight 2 1/2" NST adapter.

2-1/2" NST PRESSURE VENTED CAP - DS DISCHARGE #1

QTY: 1

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

TOP MOUNT SWING CONTROL HANDLE - DS DISCHARGE #1

QTY: 1

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

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESS GAU

QTY: 1

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

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

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

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

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

The gauge shall have black graphics on a white background.

DS MAIN DISCHARGE #2

QTY: 1

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

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

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

2-1/2" AKRON #8800 SERIES - S.S. BALL, DS #2

QTY: 1

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

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

DS #2 DISCH - 2-1/2" STRAIGHT NST

QTY: 1

The discharge valve shall be equipped with a straight 2 1/2" NST adapter.

2-1/2" NST PRESSURE VENTED CAP - DS DISCHARGE #2

QTY: 1

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

TOP MOUNT SWING CONTROL HANDLE - DS DISCHARGE #2

QTY: 1

The driver's side # 2 discharge valve shall be controlled by a locking push/pull swing handle located on the top mount operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESS GAUGE

QTY: 1

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

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

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

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

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

The gauge shall have black graphics on a white background.

OS MAIN DISCHARGE #1

QTY: 1

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

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

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

3" AKRON #8800 SERIES - S.S. BALL, VALVE OS #1

QTY: 1

An Akron Brass, 3" Generation II, Swing-Out Valve shall be provided for the officer's side #1 discharge.

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

OS #1 DISCH - 3" STRAIGHT NST

QTY: 1

The discharge valve shall be equipped with a straight, 3" NST adapter.

3" NST PRESSURE VENTED CAP - OS DISCHARGE #1

QTY: 1

A 3" NST, chrome plated, pressure vented cap shall be installed on officer's side # 1 discharge.

TOP MOUNT SWING CONTROL HANDLE - OS DISCHARGE #1

QTY: 1

The officer's side, # 1 discharge valve shall be controlled by a locking push/pull swing handle located on the top mount, operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESS GAUGE

QTY: 1

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

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

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

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

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

The gauge shall have black graphics on a white background.

OS MAIN DISCHARGE #2

QTY: 1

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

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

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

2-1/2" AKRON #8800 SERIES - S.S. BALL, OS #2, SIDE

QTY: 1

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

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

OS #2 DISCH - 2-1/2" STRAIGHT NST

QTY: 1

The discharge valve shall be equipped with a straight, 2 1/2" NST adapter.

TOP MOUNT SWING CONTROL HANDLE - OS DISCHARGE #2

QTY: 1

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

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESS GAUGE

QTY: 1

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

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

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

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

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

The gauge shall have black graphics on a white background.

DS REAR DISCHARGE 2-1/2"

QTY: 1

A 2 1/2" NST rear discharge shall be provided at the rear of the vehicle, plumbed from the pump.

TOP MOUNT DRIVER SIDE REAR DISCHARGE 1 - SWING HANDLE

QTY: 1

The driver side rear discharge #1 will be controlled at the top mount control panel with a locking swing handle.

DS REAR DISCHARGE THROUGH TANK SLEEVE

QTY: 1

The rear discharge shall be plumbed through a pipe sleeve integrated into the water tank that shall terminate on the rear body panel, on the driver side of the body.

2-1/2" NST MALE THREADS ON DS REAR DISCHARGE

QTY: 1

The discharge shall be equipped with a 30-degree droop terminating in 2-1/2" NSTM threads.

The driver side rear discharge pipe shall be furnished with 2-1/2" NSTM threads.

DS REAR DISCHARGE, PLUMBING, 2-1/2" STAINLESS STEEL

QTY: 1

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

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

2-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE DS REAR

QTY: 1

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

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

PUSH/PULL CONTROL FOR DS REAR DISCHARGE

QTY: 1

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

2-1/2" NST DS REAR DISCHARGE PRESSURE VENTED CAP

QTY: 1

A 2 1/2" NST chrome plated pressure vented cap(s) shall be installed at the driver side rear discharge.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESS GAUGE

QTY: 1

The driver side rear discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

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

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

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

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

The gauge shall have black graphics on a white background.

TOP MOUNT DRIVER SIDE REAR DISCHARGE 2 - SWING HANDLE

QTY: 1

DS REAR DISCHARGE 2 THROUGH TANK SLEEVE @ DS REAR

QTY: 1

The rear discharge shall be plumbed through a pipe sleeve integrated into the water tank that shall terminate on the rear body panel, on the driver side of the body.

2-1/2" NST MALE THREADS ON DS REAR DISCHARGE 2

QTY: 1

The driver side rear discharge pipe shall be furnished with 2-1/2" NSTM threads.

The discharge shall be equiped with a 30 degree droop terminating in 2-1/2" NSTM threads.

DS REAR DISCHARGE 2 , PLUMBING, 2-1/2" STAINLESS

QTY: 1

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

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

2-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE DS REAR

QTY: 1

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

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

PUSH/PULL CONTROL FOR DS REAR DISCHARGE 2

QTY: 1

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

2-1/2" NST DS REAR DISCHARGE 2 PRESSURE VENTED CAP

QTY: 1

A 2 1/2" NST chrome plated pressure vented cap(s) shall be installed at the driver side rear discharge.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESS GAUGE

QTY: 1

The driver side rear discharge shall be equipped with a 2.5" diameter Innovative Controls pressure gauge.

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

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

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

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

The gauge shall have black graphics on a white background.

DECK GUN DISCHARGE

QTY: 1

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

The deck gun piping shall be firmly supported and braced.

DECK GUN DISCH TERMINATE AT CENTER TOP MOUNT PANEL

QTY: 1

The deck gun discharge shall be located in the center of the dunnage area above the pump module, centered on the pump operator's panel.

The piping shall be positioned so the deck gun appliance is accessible from the pump operator's position.

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

TOP MOUNT DISCHARGES - SWING HANDLE CONTROLS

QTY: 1

All top mount valves shall be controlled by a locking swing handle unless otherwise noted in the individual discharge below

3" NPT MALE THREADS ON DECK GUN DISCHARGE

QTY: 1

The deck gun discharge pipe shall terminate with 3" NPT threads.

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

QTY: 1

To improve the operation range of the deck gun, the discharge pipe shall be outfitted with an electric TFT (18") Extend-A-Gun RC3, part # XGA38VL-RL. The electric Extend-A-Gun shall be equipped with a up/down control. The Extend-A-Gun shall be wired to the hazard light on the cab dash.

DECK GUN DISCHARGE

QTY: 1

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

DECK GUN DISCHARGE, PLUMBING, 3" STAINLESS STEEL

QTY: 1

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

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

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

QTY: 1

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

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

PUSH/PULL CONTROL FOR DECK GUN DISCHARGE

QTY: 1

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

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESS GAUGE

QTY: 1

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

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

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

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

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

The gauge shall have black graphics on a white background.

TOP MOUNT FRONT DISCHARGE 1 - SWING HANDLE CONTROL

QTY: 1

A 1/4 turn swing control handle shall be provided on the driver side front discharge #1 valve.

#1 FRONT DISCHARGE 1-1/2"

QTY: 1

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

1-1/2" NST CHICKSAN SWIVEL @TOP OS FRONT BUMPER #1

QTY: 1

The front #1 discharge shall terminate on the top officer's side of the front bumper extension gravel shield with a chrome 1 1/2" NST chicksan swivel adapter.

#1 FRONT DISCHARGE, PLUMBING 2"

QTY: 1

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

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

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

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

QTY: 1

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

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

PUSH/PULL CONTROL FOR FRONT #1 DISCHARGE

QTY: 1

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

1-1/2" NST FRONT #1 DISCHARGEPRESSURE VENTED CAP

QTY: 1

A 1 1/2" NST chrome plated pressure vented cap shall be installed the front #1 discharge.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESS GAUGE

QTY: 1

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

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

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

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

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

The gauge shall have black graphics on a white background.

LOWER SPEEDLAY

QTY: 1

lower speedlay shall be a transverse hose bed, which shall be designed as an integral part of the pump module design, located forward of the pump above main inlet and side discharge connections.

Hose deployment shall be accomplished from either side of the apparatus.

The speedlay hose bed flooring shall be designed to be removable, constructed from brushed finish, perforated aluminum material.

STAINLESS STEEL SCUFF PLATES - LOWER SPEEDLAY

QTY: 1

The outer edge of the lower speedlay hosebed shall be trimmed stainless steel scuff plates. The scuff plate will reduce the clear opening of the speedlay on each side.

1-1/2" NST CHICKSAN SWIVEL - LOWER SPEEDLAY

QTY: 1

The lower speedlay discharge shall terminate through the rear wall of the hosebed with a 1 1/2" NSTM chicksan swivel adapter.

The hosebed rear wall shall be slotted to allow the swivel to through the wall, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection.

TOP MOUNT SPEEDLAY 1 DISCHARGE - SWING HANDLE

QTY: 1

The Speedlay # 1 discharge will be controlled at the top mount control panel with a locking swing handle.

LOWER SPEEDLAY CAPACITY - 200 FEET OF 1-3/4" HOSE

QTY: 1

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

The hose shall be loaded in a double stack configuration.

LOWER SPEEDLAY, PLUMBING, 2" STAINLESS STEEL PIPING

QTY: 1

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

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

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

QTY: 1

An Akron Brass 2" Generation II Swing-Out Valve shall be provided for the lower speedlay discharge.

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

PUSH/PULL CONTROL LOWER SPEEDLAY

QTY: 1

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

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESS GAUGE

QTY: 1

The lower speedlay discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

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

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

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

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

The gauge shall have black graphics on a white background.

MIDDLE SPEEDLAY

QTY: 1

middle speedlay shall be a transverse hose bed, which shall be designed as an integral part of the pump module design, located forward of the pump just above the lower speedlay.

Hose deployment shall be accomplished from either side of the apparatus.

The speedlay hose bed flooring shall be designed to be removable, constructed from brushed finish, perforated aluminum material.

STAINLESS STEEL SCUFF PLATES - MIDDLE SPEEDLAY

QTY: 1

The outer edge of the middle speedlay hosebed shall be trimmed stainless steel scuff plates. The scuff plate will reduce the clear opening of the speedlay on each side.

1-1/2" NST CHICKSAN SWIVEL - MIDDLE SPEEDLAY

QTY: 1

The middle speedlay discharge shall terminate through the rear wall of the hosebed with a 1 1/2" NSTM chicksan swivel adapter.

The hosebed rear wall shall be slotted to allow the swivel to through the wall, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection.

TOP MOUNT SPEEDLAY 2 DISCHARGE - SWING HANDLE

QTY: 1

The speedlay # 2 discharge will be controlled at the top mount control panel with a locking swing handle.

MIDDLE SPEEDLAY CAPACITY - 200 FEET OF 1-3/4" HOSE

QTY: 1

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

The hose shall be loaded in a double stack configuration.

MIDDLE SPEEDLAY, PLUMBING, 2" STAINLESS STEEL PIPING

QTY: 1

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

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

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

QTY: 1

An Akron Brass 2" Generation II Swing-Out Valve shall be provided for the middle speedlay discharge.

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

PUSH/PULL CONTROL MIDDLE SPEEDLAY

QTY: 1

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

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESS GAUGE

QTY: 1

The middle speedlay discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

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

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

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

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

The gauge shall have black graphics on a white background.

WALKWAY ACCESS FOR SPEEDLAY #1

QTY: 1

The hose shall be capable of being reloaded from either side of the vehicle and from access slots provided on the front of the pump module while standing in the pump module walkway.

WALKWAY ACCESS FOR SPEEDLAY #2

QTY: 1

The hose shall be capable of being reloaded from either side of the vehicle and from access slots provided on the front of the pump module while standing in the pump module walkway.

VINYL END FLAPS FOR SPEEDLAYS

QTY: 1

Vinyl coated polyester covers shall be provided on each side of the speed lays to retain hose in the speed lays.

The covers shall be secured with expandable loops sewn into the covers and hooks on the apparatus.

SPEEDLAY FLAP BLACK IN COLOR

QTY: 1

The speed lay end flap shall be black in color.

BOOSTER REEL #1

QTY: 1

BOOSTER REEL #1 DISCHARGE

QTY: 1

A 1 1/2" booster reel discharge shall be plumbed from the pump to the booster reel.

BOOSTER REEL #1 DISCHARGE, PLUMBING, 1" HOSE

QTY: 1

The booster reel discharge shall be plumbed from the valve to the hose reel utilizing 1" hose. The end of the hose connected to the hose reel shall be equipped with a swivel end for ease in hose replacement.

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

QTY: 1

A 1 1/2" Akron, #8800 series, full flow, stainless steel ball valve shall be provided for the booster reel #1 discharge.

PUSH/PULL CONTROL FOR BOOSTER REEL #1

QTY: 1

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

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESS GAUGE

QTY: 1

The booster reel discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

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

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

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

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

The gauge shall have black graphics on a white background.

BOOSTER REEL #1 - HANNAY ALUMINUM

QTY: 1

One (1) Hannay, aluminum, Super Booster, electric rewind booster reel shall be furnished.

The reel shall be equipped with a one (1) inch 90 full flow swivel joint and an adjustable brake for freewheeling, drag or full lock operation.

BOOSTER REEL #1 REEL - BELLYPAN MOUNT AT REAR OF BODY

QTY: 1

The booster reel #1 shall be mounted at the apparatus rear, in a framework mounted to the chassis frame rails.

HOSE REEL #1 REWIND REAR BODY PANEL

QTY: 1

Booster reel rewind shall be controlled by a push button on the rear body panel near the rear step compartment.

The booster reel circuit shall be equipped with a shielded toggle switch to act as a booster reel disconnect to avoid accidental actuation of the booster reel rewind button.

BOOSTER REEL #1 HOSE, 150 FEET OF 1" HOSE

QTY: 1

Each booster reel shall be equipped with 150' of 1" booster hose in (1) 100' section and (1) 50' section.

Each length shall be fitted with NST couplings.

CAPTIVE HOSE ROLLER ASSEMBLY FOR BOOSTER REEL #1

QTY: 1

A captive roller arrangement shall be provided around the perimeter of the rear opening of the hose reel storage area allowing hose to be pulled out in any direction.

BOOSTER REEL #1 NOZZLE, TASK FORCE TIPS "TFT" B-BGH

QTY: 1

One (1) TFT# B-BGH 1" pistol grip booster nozzle with a 1" NST female swivel shall be furnished for each booster reel.

FOAM SYSTEM STAINLESS PIPING - 1 INCH

QTY: 1

All foam concentrate plumbing from the tank or auxiliary foam inlet to the foam system components shall be stainless steel and nonferrous material.

The foam system piping shall incorporate a check valve to prevent water from entering the foam tank; the discharge piping shall also include a check valve to prevent foam solution from back feeding into the discharge side of the pump.

Individual discharge piping shall be as specified for each discharge.

The complete foam system shall be tested in accordance with NFPA-1901.

HALE SMART FOAM 2.1 CLASS "A" FOAM SYSTEM

QTY: 1

The apparatus shall be equipped with an automatic electronically controlled direct injection pump and discharge side foam proportioning system.
Foam proportioning operation shall be based on direct measurement of water flow, and remain consistent within the specified flows and pressures.

SYSTEM REQUIREMENTS

The complete foam proportioning system shall include the following:

- Foam Pump
- Control System
- Foam Concentrate Strainer
- Integral Check Valve/ Injector Fitting
- Flow sensor
- Control Cables
- Low Tank Level Switch
- Water Discharge Check Valves
- Documentation

A 12-volt DC powered variable-speed 2.1 gpm electronic direct-injection foam-concentrate proportioning system with a 2.1-gpm-foam concentrate pump shall be integrated into the apparatus to provide foam proportioning.

The pump shall be capable of handling most Class A foam concentrates only and be operated by a full-function panel mounted digital display.

The system shall operate via a paddlewheel flow sensor mounted in a 3-inch stainless steel double waterway check-valve manifold that includes a ½-inch chemical injection point check valve.
This double check-valve assembly is required for back flow prevention and NFPA compliance.
A single check valve assembly shall not be permitted.

The inlet of this stainless steel manifold/double check valve assembly shall be connected to the fire

INJECTION SYSTEM DISCHARGE PLUMBING

QTY: 1

The discharge piping shall be equipped with a properly sized flow meter sensor, based on the systems capabilities.

The foam system shall be plumbed to the following discharge/s through the discharge piping or manifold system:

INJECTION FOAM SYSTEM INSTALLED ON SPEEDLAY #1

QTY: 1

Speedlay #1 discharge.

INJECTION FOAM SYSTEM INSTALLED ON SPEEDLAY #2

QTY: 1

Speedlay #2 discharge

FOAM SYSTEM INSTALLED ON FRONT DISCHARGE

QTY: 1

Front discharge.

INJECTION FOAM SYSTEM INSTALLED ON HOSEREEL # 1

QTY: 1

Hose reel # 1 discharge.

PUMP INSTALLATION

QTY: 1

TOP MOUNT PUMP MODULE, PUMPER

QTY: 1

The pump module shall be a self-supported structure mounted independently from the body and chassis cab.

The design must allow normal frame deflection without imposing stress on the pump module structure or side running boards.

The pump module shall be securely mounted to the chassis frame rails.

The pump module shall incorporate a formed structure on the top front to support the top mount control panel and required mechanical control handles.

The valves shall be controlled by vertically operated swing handles.

Each handle shall be equipped with a twist-lock, easy-grip knob.

The valve control handles shall be mounted in-line.

Each valve control handle shall be connected to its respective valve via a control rod and a bell crank mechanism, if needed.

Each control rod shall consist of a linkage with pressed in threaded adapters.

Each pressure gauge shall be located directly above its respective discharge control handle and shall be clearly marked by color coded name plates.

PUMP MODULE MATERIAL

QTY: 1

The pump module shall be a welded framework utilizing structural aluminum components properly braced to withstand the rigors of chassis frame flex.

TOP MOUNT DUNNAGE AREA

QTY: 1

A dunnage area shall be provided above the pump enclosure, behind the top mount control panel, for equipment mounting and storage. This area shall be furnished with a removable 3/16" tread plate floor and shall be enclosed on the sides.

NOTE: The size of this storage area may vary when top mounted crosslays, booster reel(s), etc., are specified and located in this area.

PUMP MODULE WALKWAY

QTY: 1

There shall be a transverse walkway located at the rear of the chassis cab, ahead of the pump module.

The walkway shall be constructed of 3/16" tread plate and shall be clear and unobstructed for through traffic.

Folding step(s) shall be provided if necessary to maintain NFPA step heights. The folding steps shall match all other steps on the body. If the step is not illuminated, step lighting shall be provided.

If steps adjacent to walkway (such as commercial chassis cab access steps) provide NFPA compliant step height, folding steps shall not be provided.

A miscellaneous equipment storage compartment shall be provided at both sides of the walkway, outboard of the chassis frame rails. A ROM compartment light shall be provided and activate with the compartment door.

A vertically hinged, tread plate door with positive closure latch shall be provided on the outboard face of each compartment.

Compartments shall be ventilated.

ONE (1) HOT WATER HEATER FOR PUMP ENCLOSURE

QTY: 1

The pump enclosure shall be equipped with one (1) hot water heater which utilizes chassis engine coolant run through heater hoses to prevent freezing of pump components during pumping operations in low temperature climates.

The heater shall be switched on the pump operator's panel.

PUMP ENCLOSURE HEAT PAN

QTY: 1

A bolt-on pump heat pan fabricated from 1/8" aluminum shall be provided on the underside of the pump enclosure to act as a supplementary heating system by entrapping chassis exhaust heat during low temperature pumping operations.

The heat pan shall have a slide out, removable bottom panel which should be removed for warm weather usage.

WALKWAY WIDTH = 22"

QTY: 1

The pump house walkway shall be approximately 22" wide.

RUNNING BOARD STEPS

QTY: 1

The driver and officer running board steps shall be fabricated of 3/16" tread plate plate.

The outside edge on each step shall be fabricated with a double break, return flange.

The steps shall be rigidly reinforced with a heavy-duty support structure.

The running boards shall not form any part of the compartment design and shall be bolted into place with a minimum 1/2" clearance gap between any panel to facilitate water runoff.

TOP MOUNT PUMP PANEL - PUMPER

QTY: 1

The pump operator's control panel shall be located above the pump towards the rear of the transverse walkway area with the operator facing the rear of the apparatus to operate the pump controls. The top and side panels shall be completely removable and designed for easy access and servicing.

TOP MOUNT GAUGE PANEL - 14 GAUGE BRUSHED STAINLESS

QTY: 1

The top operator's panel shall be fabricated from 14-gauge 304L stainless steel with a #4 (150/180 grit) standard polished finish.

TOP MOUNT SIDE PANELS - 14 GA. BRUSHED STAINLESS S

QTY: 1

The left and right-side pump panel shall be fabricated from 14-gauge 304L stainless steel with a #4 (150/180 grit) standard polished finish.

HORIZONTALLY HINGED GAUGE PANEL - TOP MOUNT

QTY: 1

An angled, full width, horizontally hinged gauge access panel shall be provided at the top mount operator's position. Chrome plated positive locks shall be provided along with chain holders to secure the panel in the opened position.

DRIVER'S SIDE VERTICALLY HINGED PUMP ACCESS DOOR

QTY: 1

The driver side pump panel shall be split and vertically hinged to provide complete access to the pump and plumbing on the driver side of the pump enclosure.

The panels shall be equipped with stainless steel hinges and secured with push type locks to hold the panels closed.

The drains located on the driver side panel shall be fastened to the lower panel, which shall be stationary.

OFFICER'S SIDE VERTICALLY HINGED PUMP ACCESS DOOR

QTY: 1

The officer's side pump panel shall be split and vertically hinged to provide complete access to the pump and plumbing on the officer's side of the pump enclosure.

The panels shall be equipped with stainless steel hinges and secured with push type locks to hold the panels closed.

The drains located on the officer's side panel shall be fastened to the lower panel, which shall be stationary.

REMOVABLE ACCESS PANEL ON THE FRONT OF PUMP ENCLOSURE

QTY: 1

Two (2) removable pump access panels shall be furnished at the forward area of the pump enclosure accessed from the front when the cab is tilted.
Each access panel shall be fabricated from 1/8" tread plate.

PANEL FASTENERS

QTY: 1

Stainless steel machine screws and lock washers shall be used to hold these panels in position.

The panels shall be easily removable to provide complete access to the pump for major service.

CAPS AND ADAPTERS SAFETY TETHER - BALL CHAIN

QTY: 1

All applicable discharge and suction caps, plugs and adapters shall be equipped with chrome plated ball chain and secured to the vehicle.

PUMP PANEL DISCH./SUCTION TRIM PLATES

QTY: 1

A high polished trim plate shall be provided around each discharge port and suction inlet opening to allow accessibility to the respective valve for service and repairs.

DISCHARGE GAUGE TRIM BEZELS

QTY: 1

Each individual discharge gauge shall be installed into a decorative chrome-plated mounting bezel that incorporates valve-identifying verbiage and color labels, unless manufacturer supplied otherwise.

IDENTIFICATION PLATES

QTY: 1

Color coded identification tags shall be provided for all gauges, controls, connections, switches, inlets and outlets.

PUMP OPERATOR'S PANEL LIGHT SHIELD - TOP-MOUNT

QTY: 1

The pump operator’s panel shall be equipped with a light shield that shall be full width of the control panel and shall be positioned to cover the lights and prevent glare.

The light shield shall be equipped with the following lights:

AMDOR LUMA BAR H2O SUPER BRIGHT LED - PANEL

QTY: 1

- Three (3) 20" Amdor Luma Bar H2O super bright led strip lights.

One (1) light under the operator's panel light shield shall be actuated when fire pump is engaged in addition to the pump engaged light.

TECNIQ EON 3 LED LIGHTS - DS TOP-MOUNT

QTY: 1

- Four (4) TecNiq Eon, 3-LED illumination lights mounted in horizontal stainless-steel bezels and mounting gaskets.

The lights shall be switched with the top mount panel lights.

STEP LIGHTS FOR WALKWAY AREA - TOP MOUNT

QTY: 1

The top mount walkway shall be illuminated by the following lights:

TECNIQ EON 3 LED LIGHTS - WALKWAY TOP-MOUNT

QTY: 1

- Four (4) TecNiq Eon, 3-LED illumination lights mounted in horizontal stainless-steel bezels and mounting gaskets.

The lights shall be controlled with the marker lights.

TECNIQ EON 3 LED LIGHTS - OS TOP-MOUNT

QTY: 1

- Four (4) TecNiq Eon, 3-LED illumination lights mounted in horizontal stainless-steel bezels and mounting gaskets.

The lights shall be switched with the top mount panel lights.

PUMP HOURMETER ON PUMP PANEL

QTY: 1

Hour meter (Pump Hours).

AIR HORN CONTROL BUTTON ON PUMP PANEL

QTY: 1

Pump panel air horn actuation button labeled "EVACUATION" in white letters with a red background.

3/8" PUMP BY-PASS COOLER ON PUMP PANEL

QTY: 1

3/8" Pump cooler (Bypass Line).

PUMP PRESSURE & VACUUM TEST PORTS @ PANEL

QTY: 1

The pump panel shall be equipped with Vacuum Pressure test plugs to allow for test equipment to monitor pump pressure and vacuum levels.

Chrome plugs and labels shall be provided for the test ports.

PUMP OVERHEAT INDICATOR, MC PRODUCTS

QTY: 1

An MC Products pump overheat indicator with buzzer shall be provided on the pump operator's panel to provide a visual flashing signal before a critical pump temperature is reached.

The indicator shall be set to warn at +/- 125°F.

PUMP CERTIFICATION - 750 GPM & UP

QTY: 1

The pump shall be third party performance tested to meet the requirements of NFPA-1901. There will be no exceptions.

WATER TANK

QTY: 1

The water tank shall have a capacity of 1000 gallons, constructed from Poly material.

WATER TANK

QTY: 1

Water tank capacity may be reduced due to weight restrictions.

FILL TOWER

QTY: 1

The tank shall have a combination vent and manual fill tower.

The fill tower shall be constructed of 1/2" PT3 polypropylene and shall be a minimum dimension of 12" x 12" outer perimeter.

The fill tower shall be blue in color indicating that it is a water-only fill tower.

The tower shall have a 1/4" thick removable polypropylene screen and a PT3 polypropylene hinged cover.

The capacity of the tank shall be engraved on the top of the fill tower lid. Inside the fill tower there shall be a combination vent/overflow pipe.

The vent overflow shall be a minimum of schedule 40 polypropylene pipe with a minimum I.D. of that is designed to run through the tank and shall be piped to discharge water behind the rear wheels as required in NFPA 1901 so as to not interfere with rear tire traction.

WATER TANK

QTY: 1

The fill tower shall be fitted with an integral 6" I.D. schedule 40 PVC combination overflow/vent pipe running from the fill tower through the tank to a 6" coupling flush mounted into the bottom of the tank to allow water to overflow behind the chassis rear axle.

WATER TANK

QTY: 1

A 3" drain plug shall be provided.

THROUGH POLY WATER TANK LADDER STORAGE

QTY: 1

The ground ladders (will/shall) be stored horizontally within a sleeve in the water tank.

To secure the ground ladders, a hinged rear access door (will/shall) be provided and tied into the "Do Not Move Apparatus" warning system.

INTEGRAL FOAM TANK, 30 GAL. TANK "A"

QTY: 1

Included in the total capacity of the water tank, a 30-gallon integral foam storage area shall be built into the water tank.

The foam tank shall have a latched fill tower, properly labeled as the foam fill point.

A valved drain shall be provided.

WATER TANK LEVEL GAUGE

QTY: 1

An Innovative Controls model #3030358, Ultra-Bright LED water level monitor shall be provided on the pump operator's panel.

The level gauge shall contain ten (10) high intensity LEDs on the display in a vertical pattern allowing the full, 3/4, 1/2, 1/4 and refill levels to be easily distinguished at a glance.

The display shall use a two-dimensional, two-element lens to refract the light from the LEDs to provide full 180 visibility for the level indications.

MONSTER WATER LEVEL GAUGE AT SIDES AND REAR OF BODY

QTY: 3

Monster water level gauge modules shall be mounted at the sides of the cab or body and an additional module will be installed at the rear of the vehicle.

WATER TANK LEVEL GAUGE

QTY: 1

The gauge shall use a pressure transducer #3030376-01 installed near the bottom of the water tank to determine the correct volume in the tank.

FOAM TANK "A" LEVEL GAUGE

QTY: 1

An Innovative Controls model #3030393-01, Ultra-Bright LED foam level monitor shall be provided on the pump operator's panel.

The level gauge shall contain ten (10) high intensity LEDs on the display in a vertical pattern allowing the full, 3/4, 1/2, 1/4 and refill levels to be easily distinguished at a glance.

The display shall use a two-dimensional, two-element lens to refract the light from the LEDs to provide full 180 visibility for the level indications.

GAUGE TRANSDUCER

QTY: 1

The gauge shall use a pressure transducer installed near the bottom of the foam tank to determine the correct volume in the tank.

DIRECT TANK FILL

QTY: 1

One (1) 2-1/2" NST direct tank fill shall be provided at the rear of the body, on the officer side, as low as possible.

The direct tank fill shall be gated with a 2-1/2" Fireman's Friend (TTMA 6-bolt attachment pattern) check-type fill valve.

The fill valve shall be capable of flowing at a rate in excess of 1,000 gallons per minute and will be of a self deflecting design, requiring no additional diffusion device.

The fill valve shall be constructed of stainless steel, with a spring actuated piston-type sealing mechanism to minimize seal wear and provide positive sealing of the valve.

The fill shall be equipped with a 30-degree elbow terminating with a 2-1/2" NST female swivel connection.

TANK MODIFICATION FOR REAR SQUARE DUMP

QTY: 1

10" SQUARE NEWTON DUMP, MANUALLY OPERATED

QTY: 1

The rear of the water tank shall be equipped with a 10" Newton Stainless Steel Dump Valve, model #1060-34 with a left side mounted manual actuation lever. The dump valve setup shall be capable of discharging the water tank contents at a rate of at least 1800 G.P.M.

APPARATUS BODY DESCRIPTION

QTY: 1

The body side and compartment assemblies (will/shall) be designed and assembled to provide maximum strength and durability under all operating conditions.

Special attention (will/shall) be taken to minimize corrosion on all fabricated parts and structural members of the body. All bolt-on components (will/shall) be provided with a dissimilar metals isolation barrier to prevent electric corrosion. The body design (will/shall) also incorporate removable panels to access rear body mounts and fuel tank sending units.

The body (will/shall) be completely isolated from the cab and pump module structure.

SUPER STRUCTURE FOR ALUMINUM BODIES

QTY: 1

The body super structure shall be an all-welded configuration utilizing a combination of 6061-T6 thick walled extrusion and 6061 structural channel.

This structure shall be designed to totally support the full length and width of the body and shall be welded to the body side compartments by use of reinforcement plates to incorporate the compartments into an integral part of the body weldment.

The super structure shall be bolted to the sides of the chassis frame at four (4) points.

STEPPING, STANDING, WALKING SURFACES

All stepping, standing, and walking surfaces on the body shall meet NFPA #1901 anti-slip standards. tread plate utilized for stepping, standing, and walking surfaces shall be ALCOA No Slip type. Upon request by the Purchaser, the manufacturer shall supply proof of compliance with this requirement.

BODY SUB FRAME - ALUMINUM

QTY: 1

The body sub structure shall be an all-welded configuration utilizing a combination of 3" x 1-1/2" 6061-T6 thick walled structural tubing and 6061 structural channel.

This structure shall be designed to totally support the full length and width of the body and shall be welded to the body side compartments by use of reinforcement plates to incorporate the compartments into an integral part of the body weldment.

The sub structure shall be bolted to the sides of the chassis frame at four (4) points.

The two (2) forward mounting points shall utilize a spring mount to help isolate the body from chassis deflection.

This design shall provide storage capacity in each side compartment for a minimum of 500 lbs of equipment, and a minimum of 1000 lbs of equipment in the rear step compartment.

100" WIDE BODY

QTY: 1

The fire body shall be 100" wide to provide the maximum amount of usable hose bed and compartment space. The side body compartments shall be 29" deep in any full depth areas and 14" deep in any split depth areas.

SWEEP-OUT COMPARTMENTS

QTY: 1

Compartment floors shall be welded to the compartment walls and have a sweep out design for easy cleaning.

Compartments with hinged doors shall have the door opening flanges bend down to produce the sweep-out design.

Compartments with roll-up style doors shall have the external floor flange stepped down to produce a sealing surface for the roll-up doors below the compartment floor.

The sweep out design shall also permit easy cleaning.

BODY 3/16" ALUMINUM

QTY: 1

All compartment panels and body side sheets shall be entirely 3/16" aluminum (5052-H32). Each side compartment assembly shall be both plug welded and stitch welded to ensure proper weld penetration on all panels while avoiding the possible warping caused by a full seam weld. The side compartments shall be welded on a fixture to ensure true body dimensions of all door openings. The side compartments and body side panels are then set into a body squaring fixture where the super structure is installed, and the entire body is aligned to be completely symmetrical. The super structure is then welded to the compartment side panels and reinforcement plates are inserted which allows the compartment panels to become an integral component of the body support structure. A full seam weld shall not be used due to the applied heat which could distort sheet metal and remove the protective coating from the perimeter of the welded area. All seams shall be caulked prior to finish paint to ensure proper compartment seal.

64" WIDE FENDER - CUSTOM

QTY: 1

The body fender shall be 64" long, this shall allow for the suspension and related components to be contained within the fender, preventing any intrusion into the body compartment storage area. Bodies with notches in the front and/or rear compartment for suspension components are not acceptable. There will be no exceptions.

FENDER WITH STORAGE OPTIONS

QTY: 1

DRIVER FORWARD FENDER - TRIPLE STORAGE SLOT

QTY: 1

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer-supplied SCBA cylinders (or fire extinguishers of similar size).

The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius) and shall be 26" deep.

The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices.

This storage compartment shall provide a minimum of 2.3 cubic feet of storage space.

DRIVER REARWARD FENDER - DOUBLE STORAGE SLOT

QTY: 1

A storage compartment shall be inserted into the fender to provide a storage area for two (2) customer-supplied SCBA cylinders (or fire extinguishers of similar size).

The storage area shall be sized as tall and wide as possible in the fender (minimum of 15" wide x 7-3/4" tall), and shall be 26" deep.

The compartment shall have a non-abrasive lined cradle storage area for each of the devices.

This storage compartment shall provide a minimum of 1.6 cubic feet of storage space.

OFFICER FORWARD FENDER - TRIPLE STORAGE SLOT

QTY: 1

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer-supplied SCBA cylinders (or fire extinguishers of similar size).

The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius) and shall be 26" deep.

The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices.

This storage compartment shall provide a minimum of 2.3 cubic feet of storage space.

OFFICER REARWARD FENDER - TRIPLE STORAGE SLOT

QTY: 1

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer-supplied SCBA cylinders (or fire extinguishers of similar size).

The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius), and shall be 26" deep.

The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices.

This storage compartment shall provide a minimum of 2.3 cubic feet of storage space.

FENDER STORAGE COMPARTMENTS - PAINTED DOORS

QTY: 1

The fender storage area(s) shall be enclosed by a hinged door fabricated from the same material as the primary body construction and painted the primary body color.

The back side of the door shall have a section of Nylatron installed to protect the door surface from the items stored in the compartment.

Each door shall be tied into the compartment door ajar/do not move apparatus warning system.

Each fender storage compartment door will be equipped with 3M model #1333 rubber “D” style door seal.

ALUMINUM BODY

QTY: 1

DRIVER'S SIDE COMPARTMENTATION

One (1) full height/split depth compartment, with a roll up door, shall be provided forward of the rear wheels. Compartment dimensions 68" high x 49" wide x 29" deep in the lower 30" high area, 14" deep in the upper 38" high area, with a door opening of 64" high x 46" wide.

One (1) high side compartment, with a roll up door, shall be provided above the rear wheels. Compartment dimensions 34-5/8" high x 64" wide by 14" deep, with a door opening of 32-1/8" high by 58" wide.

One (1) full height/split depth compartment, with a roll up door, shall be provided behind the rear wheels. Compartment dimensions 68" high x 49" wide x 29" deep in the lower 30" high area, 14" deep in the upper 38" high area, with a door opening of 64" high x 46" wide.

OFFICER'S SIDE COMPARTMENTATION

One (1) full height/split depth compartment, with a roll up door, shall be provided forward of the rear wheels. Compartment dimensions 68" high x 49" wide x 29" deep in the lower 30" high area, 14" deep in the upper 38" high area, with a door opening of 64" high x 46" wide.

One (1) high side compartment, with a roll up door, shall be provided above the rear wheels. Compartment dimensions 34-5/8" high x 64" wide by 14" deep, with a door opening of 32-1/8" high by 58" wide.

One (1) full height/split depth compartment, with a roll up door, shall be provided behind the rear wheels. Compartment dimensions 68" high x 49" wide x 29" deep in the lower 30" high area, 14" deep in the upper 38" high area, with a door opening of 64" high x 46" wide.

The water tank capacity will be reduced by the size of the foam tank added.

ISOLATED REAR STEP COMPARTMENT

QTY: 1

One (1) rear step compartment 30" high x 42" wide x 26" deep shall be provided with a door opening of 27" high x 40" wide.

ROLL-UP DOORS

QTY: 1

Roll-up doors shall be provided on all compartments.

The roll-up doors shall be constructed from aluminum extruded slats which shall have a flexible seal between each slat for proper sealing of the door.

A synthetic rubber seal shall be provided at each side, top and bottom edge of the door to prevent entry of dirt into the compartment.

The door shall be equipped with a lift bar style latch mechanism which shall latch at the bottom of the door mounting extrusion.

The roll-up door assembly shall be furnished with a spring-loaded, counterbalance assembly to assist in door actuation.

All running board and high side compartments shall be equipped with roll-up doors.

PULL DOWN STRAPS FOR ALL BODY DOORS

QTY: 1

Straps to assist in closing all body doors shall be provided.

AMDOR ROLL-UP DOORS, PAINTED FINISH

QTY: 6

The roll-up doors shall be made of Amdor brand. The doors shall be painted to match the required color of the fire department.

PAINTED ROLLUP DOORS - PAINTED CURTAIN, TOP GUTTER

QTY: 6

The top gutter and side frames shall be painted to match the required color of the fire department.

PROTECTION PANELS FOR ROLL-UP DOORS

QTY: 1

A protection panels shall be provided at the top of the body exterior compartments fitted with roll-up doors.

The panels shall be installed below the roll-up area to prevent possible damage to the roll-up door by misplaced equipment.

Each protection panel shall be as offered from the door manufacturer.

ROLLUP PROTECTION PANELS ON 6 BODY DOORS

QTY: 1

Six (6) rollup door protection panels shall be installed.

PULL DOWN STRAPS FOR ROLL-UP DOORS

QTY: 6

Pull straps shall be provided for all roll-up doors.

COMPARTMENT TOPS

QTY: 1

Compartment ceilings shall be a fully welded design as part of the body construction process.

Compartment designs that do not have a welded in ceiling and utilize the stepping surface overlay as the ceiling shall not be acceptable.

The top of the welded in compartment ceiling shall be overlaid with tread plate to provide an NFPA compliant stepping surface.

REAR BODY PANEL

QTY: 1

The rear body panel shall extend the full width between the body side compartments.

This panel shall be full height from the rear step to the hose bed floor.

No part of the rear panel shall be attached to the booster tank.

The rear body panel material shall be treadplate as standard.

If Chevron striping is specified for the rear of the body, then smooth aluminum shall be utilized.

STAINLESS DOOR SILL PROTECTORS INSIDE ALL BODY

QTY: 1

A 90 deg angle door sill protector, fabricated from 18 gauge brushed finish stainless steel shall be installed on the bottom external edge of each body compartment door opening to help protect this area from paint chipping.

TREAD PLATE OVERLAY, FRONT OF SIDE COMP'TS

QTY: 1

The front face of the side compartments, next to the driver and officer pump panels shall be overlaid with full height tread plate protection panels.

The overlays shall cover the front face of the compartments only, they shall not wrap around to the door opening.

BODY RUB RAILS, C-CHANNEL - ALUMINUM EXTRUSION

QTY: 1

Sacrificial extruded aluminum C-Channel style, rub rails shall be mounted at the base of the body, extending outward from the body. The rub rails shall extend the full length of the main body.

WHEEL WELL LINERS W/ FENDERETTE

QTY: 1

Fully removable, one piece, bolt-in, aluminum rear wheel well liner and fenderette will be provided. The wheel well liners will be natural metal finish and will protect the front and rear compartments and the main body supports from damage. Wheel well liners and fenderettes which are welded in place or are only partially removable shall not be considered. {No Exceptions}

REAR MUD FLAPS

QTY: 1

Heavy duty mud flaps shall be provided behind the rear wheels.

REAR STEP 12"D X 100"W - TAPERED CORNER

QTY: 1

The rear step (will/shall) be fabricated from 3/16" tread plate plate and (will/shall) be rigidly reinforced. The rear step (will/shall) extend 12" past the rear edge of the body and (will/shall) be 100" wide with tapered corners.

The rear edge of the step (will/shall) be designed to accommodate the rear clearance lights and recessed for protection in the step reinforcement channel. The step tread plate overlay (will/shall) be bolted to the step frame for ease of replacement.

GRAB RAILS, HANSEN KNURLED STAINLESS STEEL TYPE

QTY: 1

All handrails shall be Hansen 1-1/4" outer diameter, knurled stainless steel, designed to meet NFPA 1901 requirements.

Molded gaskets shall be installed between the handrail stanchion castings and body surfaces to prevent electrolytic reaction between dissimilar metals and to protect paint.

Grab rails shall be provided at the following specified locations.

Additional grab rails shall be provided adjacent to any additional steps specified to comply with NFPA 1901.

TWO (2) VERTICAL RAILS ON REAR

QTY: 1

Two (2) vertical rails shall be mounted on the rear edge of the beavertails, one (1) each side.

ONE (1) HANDRAIL, BELOW HOSE BED LEVEL

QTY: 1

One (1) horizontal, full width handrail shall be installed on the rear, below the level of the hose bed.

HANDRAIL ABOVE PUMP PANEL, EACH SIDE

QTY: 1

Two (2) horizontal handrails shall be mounted above each pump panel, (1) each side.

PUMP HOUSE HANDRAIL, EACH SIDE - TOP MOUNT

QTY: 1

Two (2) vertical handrails shall be mounted on each side of the forward pump house.

INNOVATIVE CONTROLS LIGHTED STEP(S), BODY FRONT DRIVER SIDE

QTY: 1

Innovative Controls large lighted folding step(s), with a textured chrome plate finish, shall be provided on driver side body front to provide NFPA compliant access (maximum 18" height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

INNOVATIVE CONTROLS LIGHTED STEP(S), BODY FRONT, OFFICER SIDE

QTY: 1

Innovative Controls large lighted folding step(s), with a textured chrome plate finish, shall be provided on officer side body front to provide NFPA compliant access (maximum 18" height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

INNOVATIVE CONTROLS LIGHTED FOLDING STEP(S), BODY REAR

QTY: 1

Innovative Controls large lighted folding step(s), with a textured chrome plate finish, shall be provided on driver side body rear to provide NFPA compliant access (maximum 18" height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

PAINTED REAR TOW EYES, BELOW BODY

QTY: 1

Two (2) painted tow eyes shall be furnished on the rear of the vehicle. The tow eyes shall be made from plate steel and shall be bolted directly to the chassis frame rails with grade 8 bolts. The tow eyes will extend below the body. The tow eyes shall be smooth and free from sharp edges. They will have a minimum eyelet hole of 2-1/2". The tow eyes shall be painted.

STANDARD BED - STANDARD COMPT CAPS

QTY: 1

The hose bed shall be located directly above the booster tank and be free from all sharp objects such as bolts, nuts, and so on, in avoidance of damage to a fire hose. For added strength, the hose bed side walls shall be approximately 2" thick, providing a mounting surface for devices such as warning and scene lights. The inner hosebed side walls shall be brushed aluminum panels, which will help prevent damage to painted surfaces when the hose is deployed. The front wall shall be flanged inward 2" with a 1" downward return, providing additional rigidity to the front wall.

CUSTOMER SPECIFIED HOSEBED CAPACITY

200' OF 2.5"DJ; 200' OF 2.5"DJ; 500' OF 2.5"DJ; 1000' OF 5"LDH

QTY: 1

The hose bed shall be designed with enough storage capacity to carry the following customer specified hose load: Feet of 5" supply hose, Feet of 3" supply hose, and Feet of 2-1/2" attack hose.

HOSEBED FLOORING - ALUMINUM SLATS

QTY: 1

Flooring is to be constructed from extruded aluminum and have proper spaces for ventilation purposes. The flooring shall be smooth and free from sharp edges to avoid any hose damage. The hose bed floor shall be removable, providng access to the inner body framework.

THREE (3) - 1/4" ADJUSTABLE HOSEBED PARTITIONS

QTY: 1

Three (3) fully adjustable 1/4" aluminum hose bed partitions shall be provided. The partition shall be easily adjustable by channels, located at the front and rear of the hose bed. The partition shall be removable for access to the booster tank.

HOSEBED COVER - LOCK-N-LOAD SLIDING COVER

QTY: 1

The top of the hose bed shall have an NFPA compliant cover installed in order to secure the hose from unintentionally deploying from the top or rear. The cover shall be a polished, tread plate with a combination between a roller and lift-up style. The cover shall be strong enough to support 250 pounds over the entirety. The rear half of the cover shall be able to roll over the forward half of the cover on channel tracks and are sealed with ball bearing rollers. When rolled opened, the entire cover shall be capable of being lifted up on a stainless-steel piano hinge installed across the front of the body. The cover shall rise no less than 60 degrees in order to load the hose. The cover shall lock when closed. When unlocked the roller portion of the cover shall be capable of rolling forward and lock into the open rolled position. The lift portion shall be assisted and supported by non locking gas shocks and shall be supported by a prop rod to prevent the cover from inadvertently closing. The handles shall be installed on the end of the cover to assist with rolling and lifting. All switches shall be installed on each side of the cover, so that when the cover is opened it indicates which switches shall activate the "Do Not Move Apparatus" warning inside the cab.

An individual hinged access door shall be provided over the water tank fill tower area. This door shall be hinged at the front, preventing the door from opening while the apparatus is in motion. The door shall not latch, so that it allows the door to open in the event of over pressurization in the tank.

NETTING AT REAR EDGE OF TREADPLATE COVER

QTY: 1

Black nylon cargo netting will be provided at the rear of the tread plate hose bed cover. The netting shall be a two-piece design split vertically in the center with Velcro to secure the two pieces together. The netting shall cover the entire opening. There shall be footman loops at the bottom and buckles at the top with orange straps attached to assist in releasing the cover.

HOSE BED

QTY: 1

The hose bed shall be located directly above the booster tank and shall be free from all sharp objects such as bolts, nuts, etc., to avoid damage to fire hose.

The hose bed will provide approximately 81 cubic feet of hose storage area for 2 ½" or larger fire hose, exceeding NFPA 1901 minimum pumper hose storage requirements. The hose bed depth shall be 12".
The apparatus weight analysis will be based on 800' of 2 ½" hose unless otherwise specified. If the hose load to be carried exceeds this minimum, the purchaser must advise the manufacturer prior to contract so adequate chassis carrying capacity can be provided.

For added strength, rigidity and appearance, the hose bed side walls shall have the top edge flanged outward two (2) inches and downward one (1) inch. In a similar fashion, the top edge of the front wall shall be flanged inward two (2) inches and downward one (1) inch.

LADDER STORAGE-THROUGH POLY WATER TANK

QTY: 1

The ground ladders shall be stored horizontally within a sleeve in the water tank.

DUO-SAFETY 900-A 24' 2-SECTION EXTENSION LADDER

QTY: 1

A Duo-Safety series 900-A, 24', aluminum, two (2) section extension ladder shall be provided.

DUO-SAFETY 775-A 14' ROOF LADDER W/ FOLDING HOOKS

QTY: 1

A Duo-Safety series 775-A, 14', aluminum, straight roof ladder with folding hooks shall be provided.

DUO-SAFETY 585-A 10' FOLDING ATTIC LADDER (ALUM)

QTY: 1

A Duo-Safety series 585-A, 10', folding, aluminum, attic ladder shall be provided.

PIKE POLE TUBE(S) - PUMPERS

QTY: 2

A pike pole tube(s) shall be provided.

Each holder shall be accessible from the rear of the apparatus.

Each pike pole holder shall be labeled to indicate the pike pole length.

LOCATION PIKE POLE TUBE(S) - IN LADDER STORAGE COMPARTMENT

QTY: 2

The pike pole tube(s) shall be mounted in the ladder storage compartment.

6' FIRE HOOKS UNLIMITED FIBERGLASS PIKE POLE

QTY: 1

A 6' Fire Hooks Unlimited fiberglass handled pike pole(s) shall be provided.

10' FIRE HOOKS UNLIMITED FIBERGLASS PIKE POLE

QTY: 1

A 10' Fire Hooks Unlimited fiberglass handled pike pole(s) shall be provided.

SUCTION HOSE STORAGE UNDER TANK (1-OFFICER, 1-DRIVER)

QTY: 1

The suction hoses shall be located under the water tank. There will be one (1) on the driver side and one (1) on the officer side of the apparatus.

A vertically hinged smooth aluminum, finish painted to match the body, access door with thumb type latches, shall be provided on the compartments. The door shall be provided with a door switch that ties into the "Do Not Move Apparatus" warning system.

TWO (2) 10' SECTIONS OF 6" MAXI-FLEX LIGHTWEIGHT

QTY: 1

Two (2) 10' sections of six (6) inch Maxi-Flex (PVC) suction hose with lightweight hard coat couplings shall be furnished. Couplings shall include a long handle with a female swivel on one end and a rocker lug male on the other. All threads shall be six (6) inch N.S.T.

1/2 DEPTH ADJUSTABLE SHELF DESCRIPTION

QTY: 1

Compartment shelving shall be constructed of 3/16" brush finish aluminum with a 2" upward bend at front and rear, and side supports. Shelving shall be vertically adjustable with spring nuts in aluminum strut channel.

Half depth adjustable shelves shall be located as indicated at each compartment description.

1/2 DEPTH ADJUSTABLE SHELF(S) LOCATED R-1

QTY: 1

Located in the right-side compartment #1

1/2 DEPTH ADJUSTABLE SHELF(S) LOCATED R-3

QTY: 1

Located in the right-side compartment #3

ADJUSTABLE SHELF DESCRIPTION - RESCUE

QTY: 1

Compartment shelving shall be constructed of 3/16" brush finish aluminum with a 2" upward bend at front and rear, and side supports. Shelving shall be vertically adjustable with spring nuts in aluminum strut channel.

Adjustable shelves shall be located as indicated at each compartment description.

ADJUSTABLE SHELF(S) LOCATED L-1

QTY: 1

Located in the left side compartment #1

ADJUSTABLE SHELF(S) LOCATED L-3

QTY: 1

Located in the left side compartment #3

ADJUSTABLE SHELF(S) LOCATED R-1

QTY: 2

Located in the right-side compartment #1

ADJUSTABLE SHELF(S) LOCATED R-3

QTY: 1

Located in the right-side compartment #3

ALUMINUM STRUT CHANNEL FOR FUTURE SHELVING - RESCU

QTY: 1

Four (4) Aluminum Strut Channels shall be installed for future shelving installation in the following compartments:

ALUMINUM STRUT, LOCATED L-1

QTY: 1

Left side compartment #1

ALUMINUM STRUT, LOCATED L-3

QTY: 1

Left side compartment #3

ALUMINUM STRUT, LOCATED R-1

QTY: 2

Right side compartment #1

ALUMINUM STRUT, LOCATED R-3

QTY: 2

Right side compartment #3

250#, FLOOR MOUNTED, ROLLOUT TRAY DESCRIPTION

QTY: 1

Slide out floor mount compartment shelving shall be constructed of 3/16” brush finish aluminum with a 2" upward bend at front and rear, and side supports attached to #250 rated slides. Slide out floor mount shelving shall have gas shocks to hold the tray in and out.

Slide out floor mount shelving shall be as indicated at each compartment description.

ROLLOUT TRAY, LOCATED L-1

QTY: 1

Located in the left side compartment #1

ROLLOUT TRAY, LOCATED L-3

QTY: 1

Located in the left side compartment #3

ROLLOUT TRAY, LOCATED R-1

QTY: 1

Located in the right-side compartment #1

ROLLOUT TRAY, LOCATED R-3

QTY: 1

Located in the right-side compartment #3

SWING OUT TOOL BOARD, PAC TRAC

QTY: 1

The tool boards be constructed of PAC TRAC Dual Faced 7040 series aluminum extrusion allowing mounting of equipment on the interior and exterior of the tool boards. The tool boards be installed with a Performance Advantage Company PM-1000 Swing-Out Module Kit. Aluminum angles attach the hinge to Unistrut tracking to allow depth adjustments. A heavy-duty thumb latch be provided to secure the tool boards in the closed position.

Swing out tool boards be as indicated at each compartment description.

SWING OUT TOOL BOARD(S) LOCATED R-2

QTY: 1

Located in the right-side compartment #2

VERTICAL PULL OUT TOOL BOARD, 3/16" ALUMINUM, #250

QTY: 1

Vertical pull out tool boards shall be provided. Each tool board shall be constructed of 3/16" smooth aluminum allowing mounting of equipment on both sides of the tool boards. Each tool board shall be attached to #250 rated slides, one at the top and one at the bottom of the tool board. 3/16" aluminum angles shall attach the slides to tracking to allow horizontal adjustments. A gas shock shall be used to secure the tool board in the stored and deployed position.

Vertical pull out tool boards shall be as indicated at each compartment description.

VERTICAL PULL OUT TOOL BOARD(S) LOCATED L-1

QTY: 1

Located in the left side compartment #1

FIXED VERTICAL DIVIDERS DESCRIPTION

QTY: 1

Full height, fixed mounted, vertical compartment dividers shall be fabricated from 3/16" brushed aluminum material. The dividers shall extend the full depth of the specified compartment from the floor to the compartment ceiling.
Full height, vertical dividers shall be as indicated at each compartment description.

FIXED VERTICAL DIVIDER, LOCATED L-1

QTY: 1

Located in the left side compartment #1

GENERAL PAINT DESCRIPTION

QTY: 1

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

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

Paint process shall feature Sikkens high solid LV products and be performed in the following steps:

- Corrosion Prevention - all aluminum surfaces shall be pre-treated with the Alodine 5700 conversion coating to provide superior corrosion resistance and excellent adhesion of the base coat.
- Sikkens Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.
- Sikkens High Solid LVBT650 (Base coat) - a lead-free, chromate-free high solid acrylic urethane base coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.
- Sikkens High Solid LVBT650 (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two (2) coats shall be applied.

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

After the paint process is complete, the gloss rating of the unit shall be tested with a 20-degree gloss meter. Coating thickness shall be measured with a digital MIL gauge and the orange peel with a digital wave scan device.

GENERAL PRIMER & PREP DESCRIPTION

QTY: 1

All exposed welds shall be ground smooth for final finishing of areas to be painted.

The compartments and doors are totally degreased and phosphatized.

After final body work is completed, grinding (36 and 80 grit), and finish sanding shall be used in preparation for priming.

GENERAL FINISH PAINT DESCRIPTION

QTY: 1

The body shall be finish sanded and prepared for final paint.

Upon completion of final preparation, the body shall be painted utilizing the highest quality, state of the art, low V.O.C., polyurethane base paint.

Finish paint shall be applied in multiple coats to ensure proper paint coverage with a high gloss finish.

COMMERCIAL CAB PAINT FINISH

QTY: 1

The chassis shall be painted and detailed as provided from the chassis OEM and shall meet their quality guidelines.

BODY BUFFING & FINISH

QTY: 1

The visable and exposed areas of the body shall be buffed and detailed.

INSIDE/UNDERSIDE BODY PAINT

QTY: 1

The inside and underside areas of the complete body assembly shall be painted black using a Sikkens paint system, prior to the installation of the body on the chassis or torque box.

COMPARTMENT INTERIOR FINISH

QTY: 1

The interior of the compartments shall be finish painted with Multispec #7247 White Marble Stone scuff resistant paint to provide a protective application over all of the compartment interior surfaces.

FENDER COMPARTMENT INTERIOR

QTY: 1

The interior of the fender storage compartments (if fender compartments are specified) shall be finish painted job color.

PUMPHOUSE & PLUMBING PAINT

QTY: 1

The pump enclosure and pump/plumbing within the pump enclosure shall be painted black.

SINGLE COLOR BODY PAINT SCHEME - RED – TO BE DETERMINED

QTY: 1

The body paint finish shall be Sikkens paint system in a single color to match customer furnished paint codes and requirements.

PINT OF TOUCH-UP PAINT

QTY: 1

One (1) pint of each exterior color paint for touch-up purposes shall be supplied when the apparatus is delivered to the end user.

FINALIZATION & DETAILING

QTY: 1

Prior to delivery the vehicle, the interior and exterior be cleaned and detailed.

The finalization process detailing shall include installation of NFPA required labels, checking fluid levels, sealing and caulking required areas of the cab and body, rust proofing, paint touch-up, etc

SCOTCH-LITE STRIPE

QTY: 1

A six (6) inch high "Scotch-Lite" stripe shall be provided.

The stripe shall be applied on a minimum of 60 percent of each side of the unit, 60 percent on the rear of the unit and 40 percent on the front of the unit.

The Scotch-Lite stripe layout shall be determined by the Fire Department.

WHITE SCOTCH-LITE

QTY: 1

The Scotch-Lite shall be white in color.

6" SCOTCH-LITE "Z" IN STRIPE

QTY: 1

A six (6) inch simple "Z" effect shall be incorporated into the Scotch-Lite scheme on the body.

Final layout of this configuration shall be determined by the Fire Department.

REAR CHEVRON STRIPING

QTY: 1

50% VERTICAL SURFACE

QTY: 1

At least 50% of the rear facing vertical surface shall be covered with alternating strips of reflective striping.

6" 50% REAR ORALITE CHEVRON STRIPING

QTY: 1

The striping shall be 6" Oralite reflective striping.

RED & FLOURESCENT YELLOW GREEN ORALITE V98

QTY: 1

The Oralite V98 reflective tape shall be #12 red and #112 fluorescent yellow green in color.

MISCELLANEOUS EQUIPMENT

QTY: 1

The following equipment shall be mounted as specified or as loose equipment provided with the completed apparatus at the time of delivery:

ROAD SAFETY KITS

QTY: 1

A road safety kit shall be furnished with the following equipment:

- 2 1/2 lb. B-C fire extinguisher
- Triangle safety reflectors.

WHEEL CHOCKS

QTY: 1

Two (2) ZICO #SAC-44 folding wheel chocks shall be mounted forward of the rear wheels on the driver side below the side running board compartments.

KME WARRANTY, STARTING ON IN-SERVICE DATE

QTY: 1

Warranty coverage by KME will begin when the customer places the unit in service. This date may not exceed 60 days from the date of delivery to the customer.

The Customer must email kmeservice@kmefire.com within 60 days of delivery, or the warranty start date will default to the original delivery date.

GENERAL ONE (1) YEAR WARRANTY

QTY: 1

Purchaser shall receive a General One (1) Year or 24,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0001. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

REGULATED EMISSIONS SYSTEMS FIVE (5) YEARS OR CARB

QTY: 1

Purchaser shall receive a Regulated Emissions Systems Five (5) Years or CARB Mileage limited warranty in accordance with, and subject to, warranty certificate RFW0140. The warranty certificate is incorporated by reference into this proposal and included with this proposal or available upon request.

ELECTRICAL ONE (1) YEAR WARRANTY

QTY: 1

Purchaser shall receive a Electrical One (1) Year or 18,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0201. The warranty certificate is incorporated by reference into this proposal and included with this proposal or available upon request.

BODY STRUCTURE (ALUMINUM) TEN (10) YEAR WARRANTY

QTY: 1

Purchaser shall receive a Body Structure (Aluminum) Ten (10) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0502. The warranty certificate is incorporated by reference into this proposal and included with this proposal or available upon request.

PAINT AND FINISH (EXTERIOR CLEAR COATED) WARRANTY

QTY: 1

Purchaser shall receive a Paint and Finish (Exterior Clear coated) Seven (7) Years limited warranty in accordance with, and subject to, warranty certificate RFW0707. The warranty certificate is incorporated by reference into this proposal and included with this proposal or available upon request.

PLUMBING AND PIPING (STAINLESS STEEL) WARRANTY

QTY: 1

Purchaser shall receive a Plumbing and Piping (Stainless Steel) Ten (10) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0800. The warranty certificate is incorporated by reference into this proposal and included with this proposal or available upon request.

PAINT FINISH WARRANTY, TEN (10) YEAR

QTY: 1

The proposed paint finish will be warranted for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

5 YEAR LETTERING WARRANTY

QTY: 1

The apparatus manufacturer will provide a five (5) year warranty against defects in material and workmanship for all graphics processes. Any valid claims must be made in writing within 15 days of the determination of any defects to the manufacturer's fire apparatus. The manufacturer will at its option make any necessary repairs either at a local authorized service center or at the factory if required. The manufacturer will make the final decision as to where the repairs are to be made and any transportation cost is the owner's responsibility. The manufacturer will at its option, repair or replace any verified defects in workmanship or materials at no cost to the owner provided all the requirements of this warranty have been met.

The manufacturer will not be liable to the original purchaser or anyone else for consequential, incidental, special or direct damages, including, but not limited to, any claims for loss of profits, downtime, loss of use or inconvenience. THE COMPANY MAKES NO OTHER WARRANTY, EXPRESSED OF IMPLIED, AND SPECIFICALLY, DISCLAIMS ANY IMPLIED WARRANTY INCLUDING THE WARRANTY OF MERCHANTABILITY.

The manufacturer continually strives to improve its products and therefore, reserves the right to make improvements or changes without incurring any obligations to make such changes or additions to equipment previously sold.

1 YEAR BRIGHTWORK WARRANTY

QTY: 1

KME Fire Apparatus (KME) warrants all bright finish components used in the construction of KME Fire Apparatus against defects and workmanship provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original user-purchaser for a period of one (1) year from the date of delivery/acceptance to the original user-purchaser, whichever occurs first.

The expressed warranty excludes corrosion or degradation of bright finished components caused by damage to the component.

10 YEAR STAINLESS STEEL PIPING WARRANTY

QTY: 1

The proposed stainless-steel plumbing will be warranted for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

LIFETIME POLY TANK WARRANTY - ALL TANKS

QTY: 1

The proposed water tank will be warranted by the water tank manufacturer for the "Lifetime" of the unit. A copy of the manufacturer's warranty will be supplied to define additional details of the warranty provisions.

HALE FIRE PUMP LIMITED STANDARD WARRANTY

QTY: 1

Hale Products, Incorporated ("Hale") hereby warrants to the original buyer that products manufactured by Hale shall be free of defects in material and workmanship for a period of five (5) years from the date product is first placed into service or five and one-half (5 1/2) years from date of shipment by Hale, whichever period shall be first to expire. Within this warranty period, Hale will cover parts and labor for the first two (2) years and parts only for years three (3) through five (5).

AKRON HEAVY DUTY VALVE - 10 YEAR WARRANTY

QTY: 1

Akron Brass warrants Heavy Duty Swing-Out Valves for a period of ten (10) years after purchase against defects in material or workmanship. Akron Brass shall repair or replace any Heavy Duty Swing Out Valve which fails to satisfy this warranty.

WELDON V-MUX - VEHICLE MULTIPLEXING WARRANTY

QTY: 1

The Weldon warranty shall cover parts and labor at the Weldon service department to repair/replace a returned device. This does not reflect the labor to remove/replace any such devices, nor indicate Weldon accepts any responsibility for such removal, replacement or troubleshooting of said devices. (see attached warranty PDF for this line item)

CORROSION TREATMENT

QTY: 1

Upon apparatus completion, underside of the apparatus, from the pump enclosure-back, shall have anti corrosion film applied to help inhibit rust and the corrosion process. The semi-firm wax film shall be applied by air spray method. The film shall be applied as a minimum to the following areas: body substructure, underside of all body compartments, running board supports and rear step supports. No film shall be applied directly to the exhaust system or wheel wells.

NOTE: The film shall remain semi-firm to promote self-sealing. The film may leave a light tinted color to those areas treated.

ADDITIONAL ITEMS SHIPPED WITH VEHICLE

QTY: 1

- 1 - Bag of assorted stainless-steel nuts and bolts